

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF RESOURCES MANAGEMENT

DRILLING PROJECT
DEER & TOBY CREEK WATERSHEDS

CLARION COUNTY PENNSYLVANIA

CONTRACT NO. SL 191-0-101.5

DRAWING INDEX

COVER SHEET	1 of 4
PLAN OF DRILL SITES	2 of 4
PLAN OF DRILL SITES	3 of 4
DETAIL OF DRILL LOCATIONS	4 of 4

MILTON J. SHAPP

GOVERNOR

MAURICE K. GODDARD

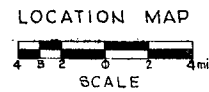
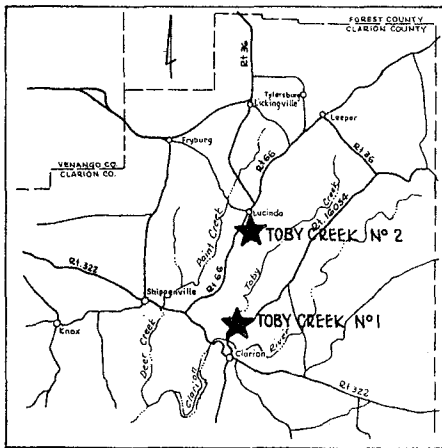
SECRETARY OF ENVIRONMENTAL RESOURCES

Prepared By
GWIN, DOBSON & FOREMAN, INC.

Consulting Engineers
Altoona Pennsylvania

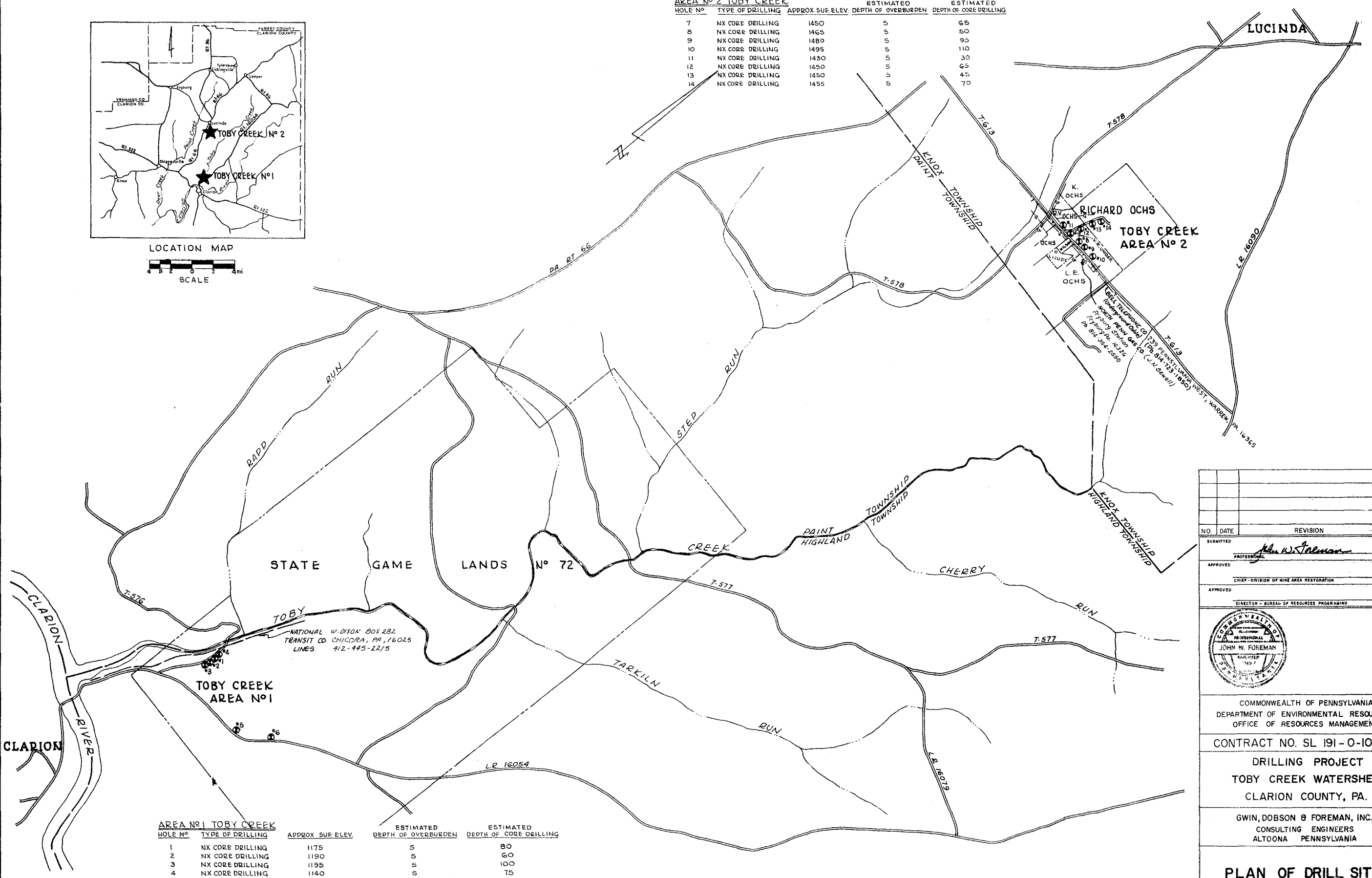
APPROVED

C.H. McCONNELL, DEPUTY SECRETARY DATE
FOR RESOURCES MANAGEMENT



AREA No 2 TOBY CREEK

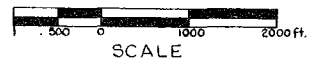
HOLE No	TYPE OF DRILLING	APPROX. SUP. ELEV.	ESTIMATED DEPTH OF OVERBURDEN	ESTIMATED DEPTH OF CORE DRILLING
7	NX CORE DRILLING	1450	5	65
8	NX CORE DRILLING	1465	5	95
9	NX CORE DRILLING	1480	5	110
10	NX CORE DRILLING	1495	5	30
11	NX CORE DRILLING	1430	5	65
12	NX CORE DRILLING	1450	5	45
13	NX CORE DRILLING	1450	5	70
14	NX CORE DRILLING	1455	5	



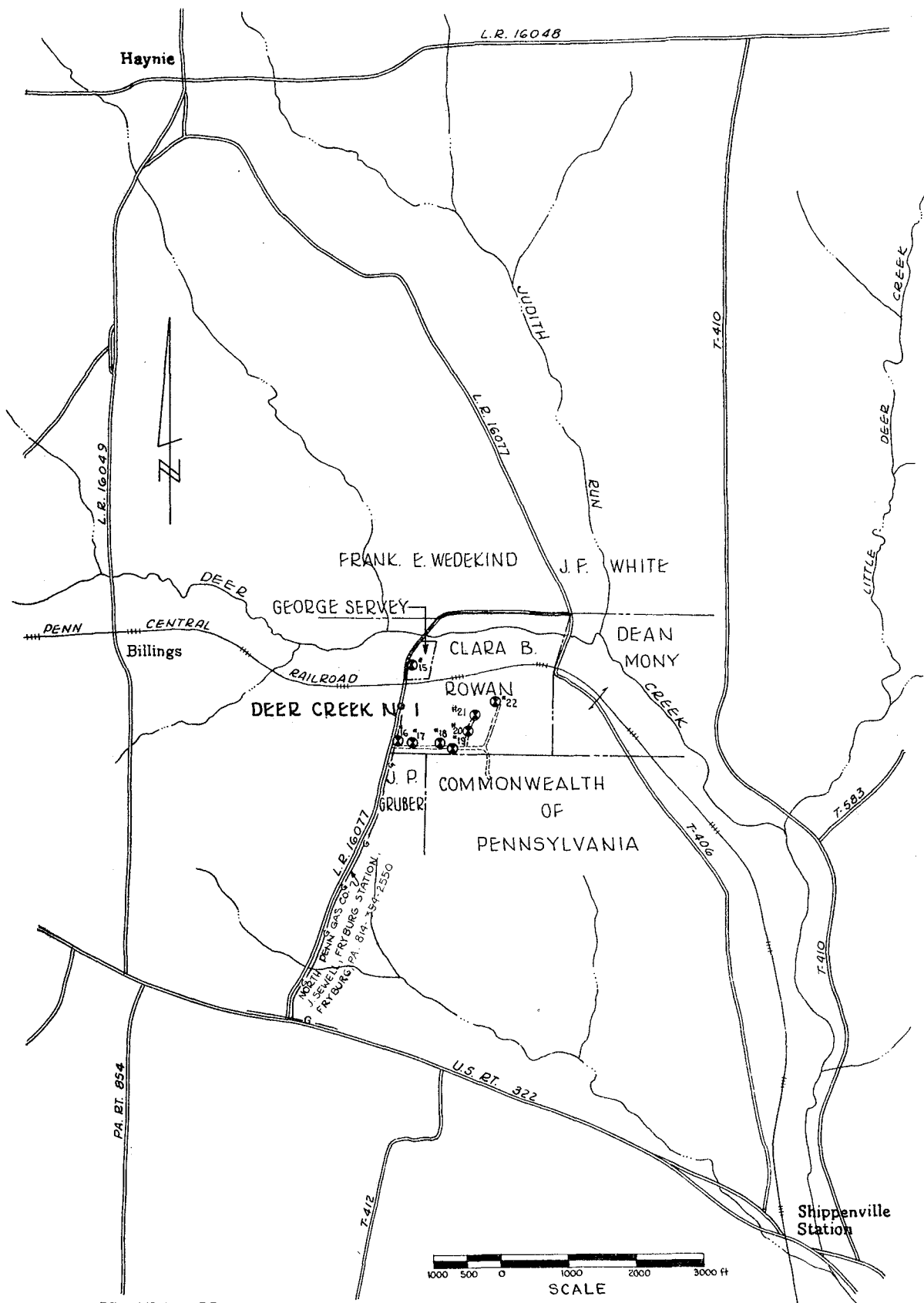
NATIONAL W. DIXON BOX 282
TRANSIT CO. CHICORA, PA. 16025
LINES 412-445-2215

AREA No 1 TOBY CREEK

HOLE No	TYPE OF DRILLING	APPROX. SUP. ELEV.	ESTIMATED DEPTH OF OVERBURDEN	ESTIMATED DEPTH OF CORE DRILLING
1	NX CORE DRILLING	1175	5	80
2	NX CORE DRILLING	1190	5	60
3	NX CORE DRILLING	1195	5	100
4	NX CORE DRILLING	1140	5	75
5	NX CORE DRILLING	1420	5	325
6	NX CORE DRILLING	1485	5	420

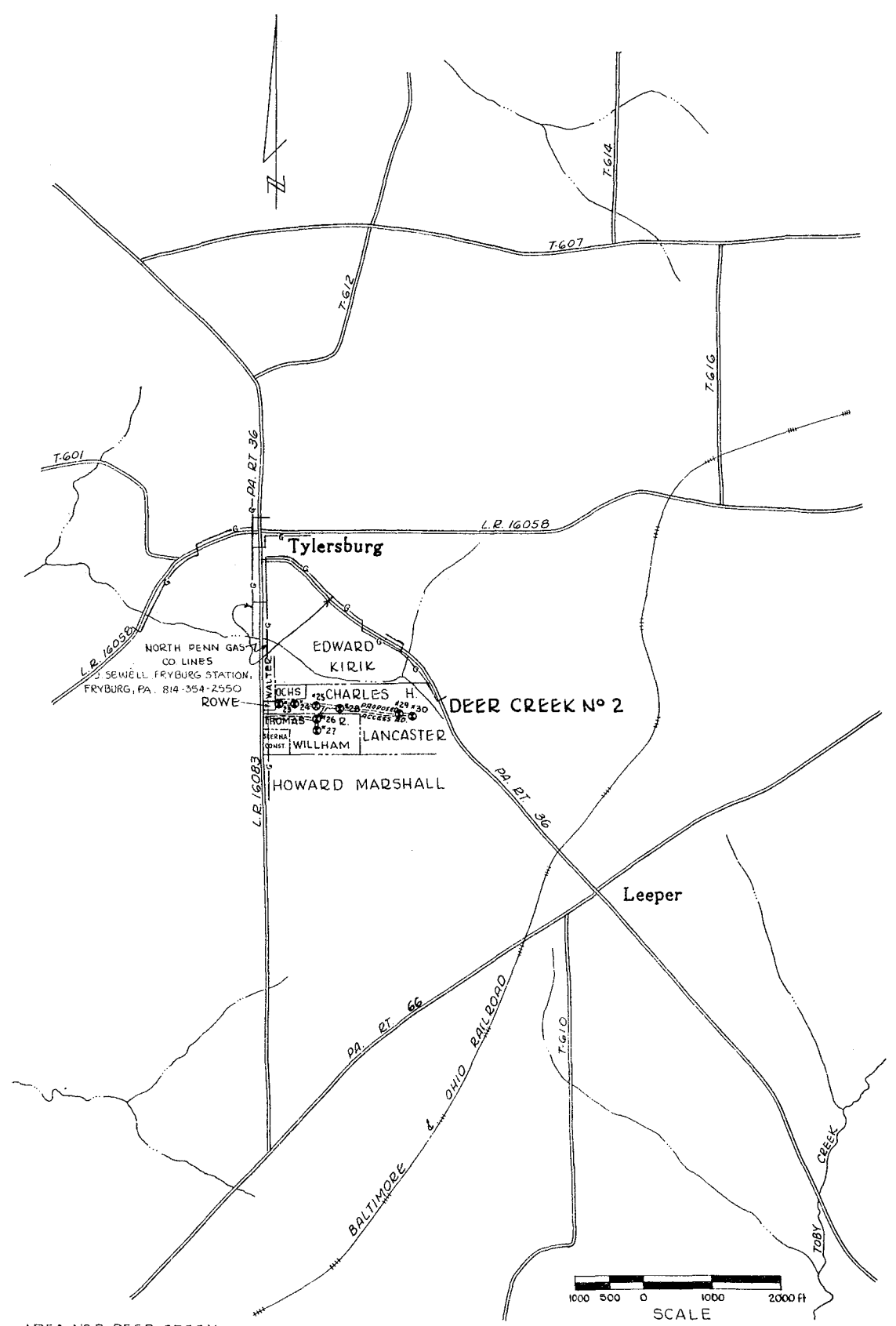


NO.	DATE	REVISION	APPR.
SUBMITTED			
APPROVED <i>John W. Foreman</i>			
PROFESSIONAL			
CHIEF - DIVISION OF MINE AREA RESTORATION			
APPROVED			
DIRECTOR - BUREAU OF RESOURCES PROGRAMING			
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES OFFICE OF RESOURCES MANAGEMENT CONTRACT NO. SL 191-0-101.5 DRILLING PROJECT TOBY CREEK WATERSHED CLARION COUNTY, PA. GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA PENNSYLVANIA			
PLAN OF DRILL SITES			
DRAWN BY L.B.B.	DATE	DRAWING NO.	
CHECKED BY	SCALE		2 of 4



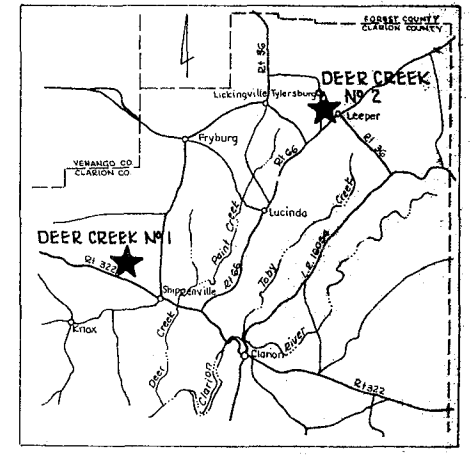
AREA NO. 1 DEER CREEK

HOLE NO.	TYPE OF DRILLING	APPROX. SURF. ELEV.	ESTIMATED DEPTH OF OVERBURDEN	ESTIMATED DEPTH OF CORE DRILLING
15	NX CORE DRILLING	1360	5	55
16	NX CORE DRILLING	1435	5	75
17	NX CORE DRILLING	1440	5	135
18	NX CORE DRILLING	1450	5	70
19	NX CORE DRILLING	1460	5	155
20	NX CORE DRILLING	1470	5	165
21	NX CORE DRILLING	1450	5	70
22	NX CORE DRILLING	1430	5	95



AREA NO. 2 DEER CREEK

HOLE NO.	TYPE OF DRILLING	APPROX. SURF. ELEV.	ESTIMATED DEPTH OF OVERBURDEN	ESTIMATED DEPTH OF CORE DRILLING
23	NX CORE DRILLING	1550	5	35
24	NX CORE DRILLING	1550	5	35
25	NX CORE DRILLING	1555	5	35
26	NX CORE DRILLING	1570	5	30
27	NX CORE DRILLING	1590	5	75
28	NX CORE DRILLING	1555	5	40
29	NX CORE DRILLING	1550	5	30
30	NX CORE DRILLING	1555	5	40



LOCATION MAP
SCALE 4 3 2 1 0 4 MI

NO.	DATE	REVISION	APPR.
SUBMITTED			
APPROVED			
APPROVED			



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF RESOURCES MANAGEMENT

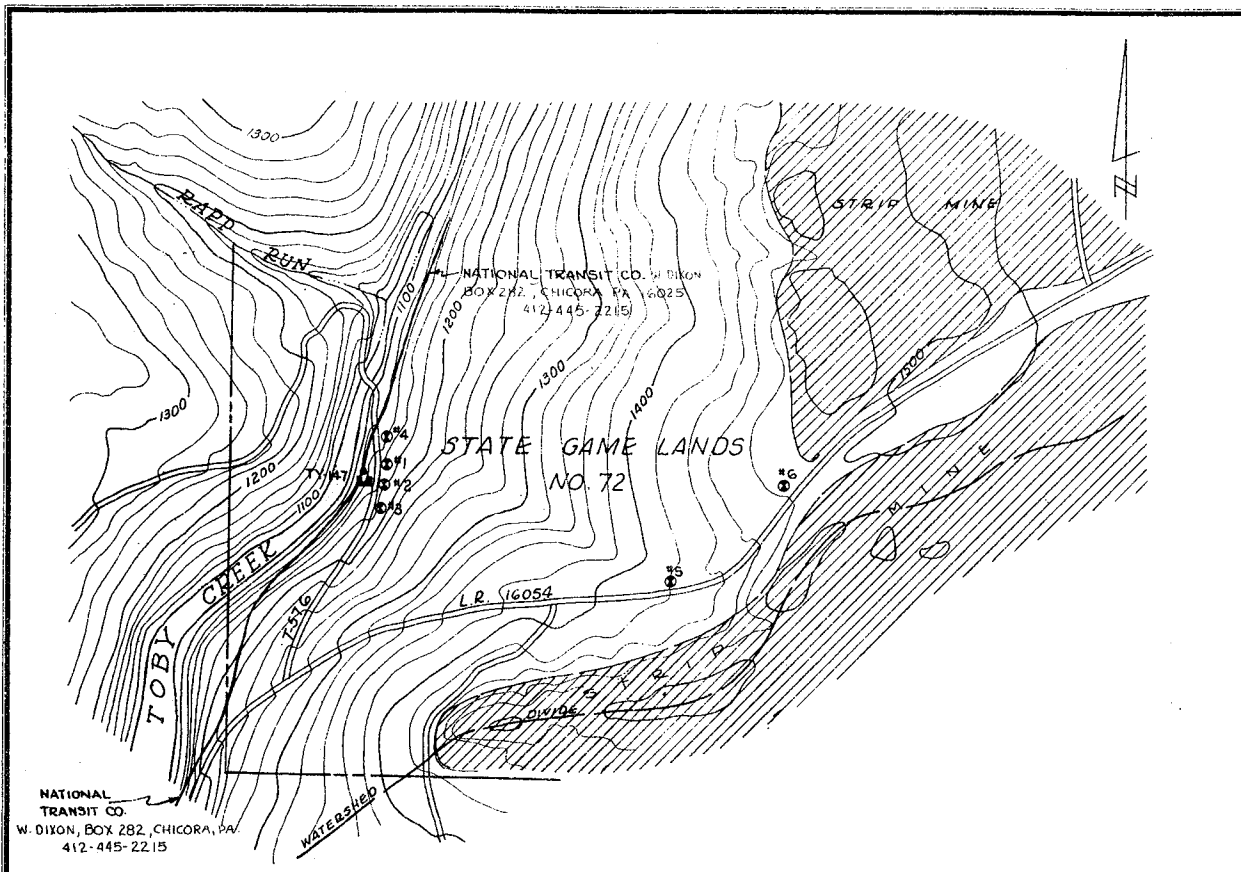
CONTRACT NO. SL 191-0-101.5

DRILLING PROJECT
DEER CREEK WATERSHED
CLARION COUNTY, PA.

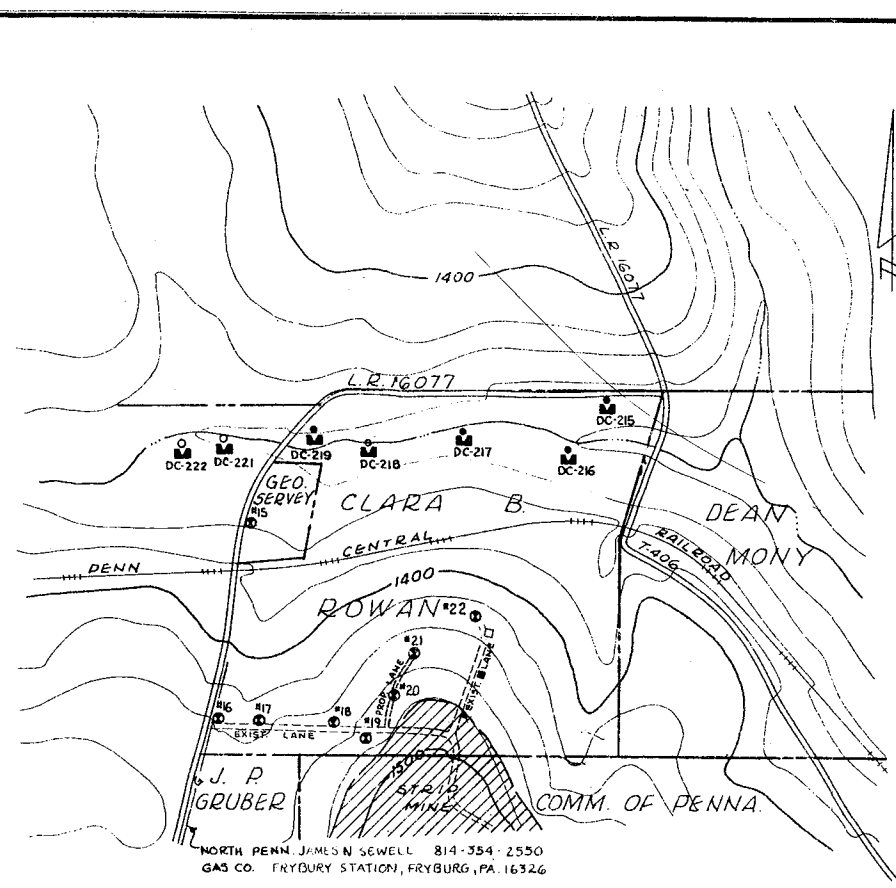
GWIN, DOBSON & FOREMAN, INC.
CONSULTING ENGINEERS
ALTONA, PENNSYLVANIA

PLAN OF DRILL SITES

DRAWN BY L.B.R.	DATE	DRAWING NO.
CHECKED BY	SCALE	3 of 4



AREA No 1 TOBY CREEK



AREA No 1 DEER CREEK

UTILITIES LIST

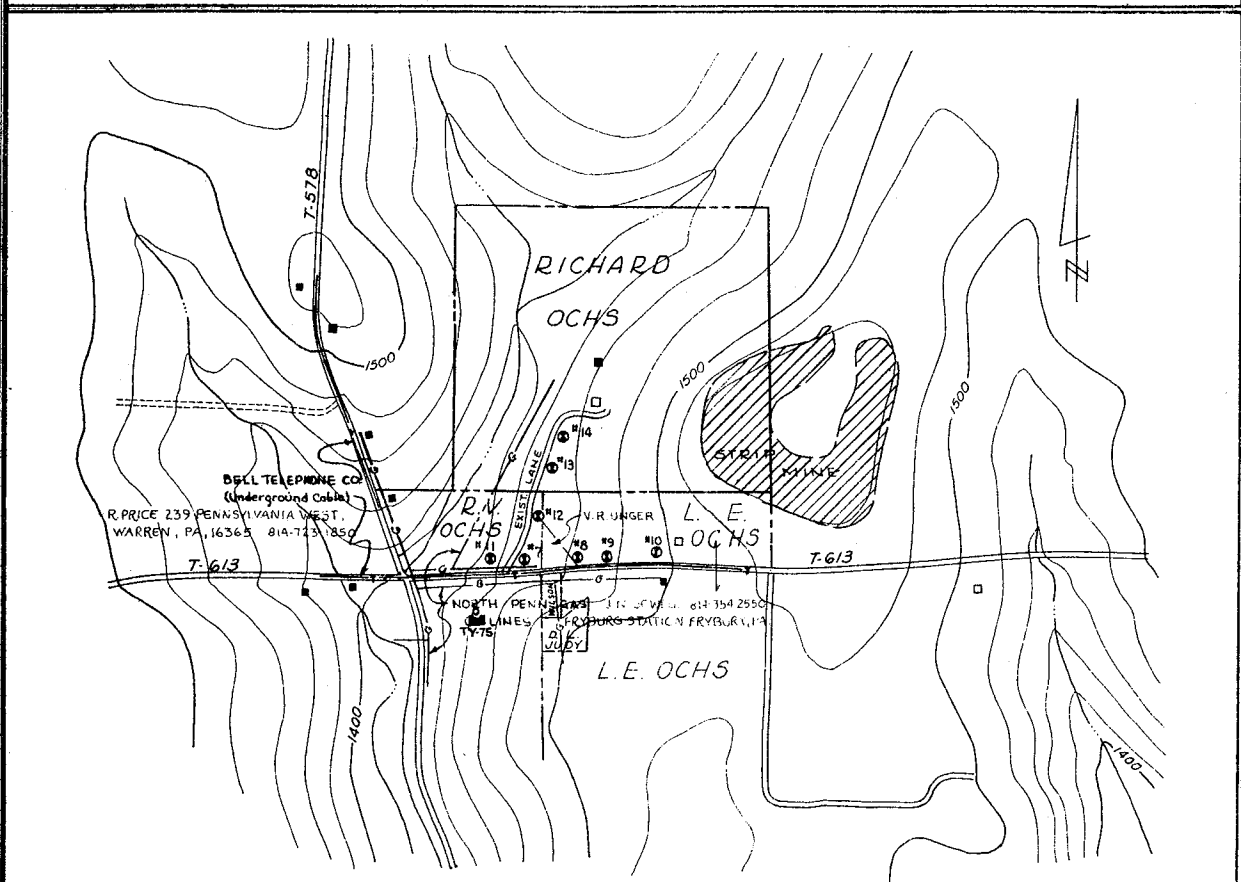
AREA 1 TOBY CREEK
NATIONAL TRANSIT CO.
W. DIXON
BOX 282
CHICORA, PA. 16025
Ph 412-445-2215

AREA 2 TOBY CREEK
BELL TELEPHONE CO.
R. PRICE
239 PENNSYLVANIA WEST
WARREN, PA. 16365
Ph 814-723-1850

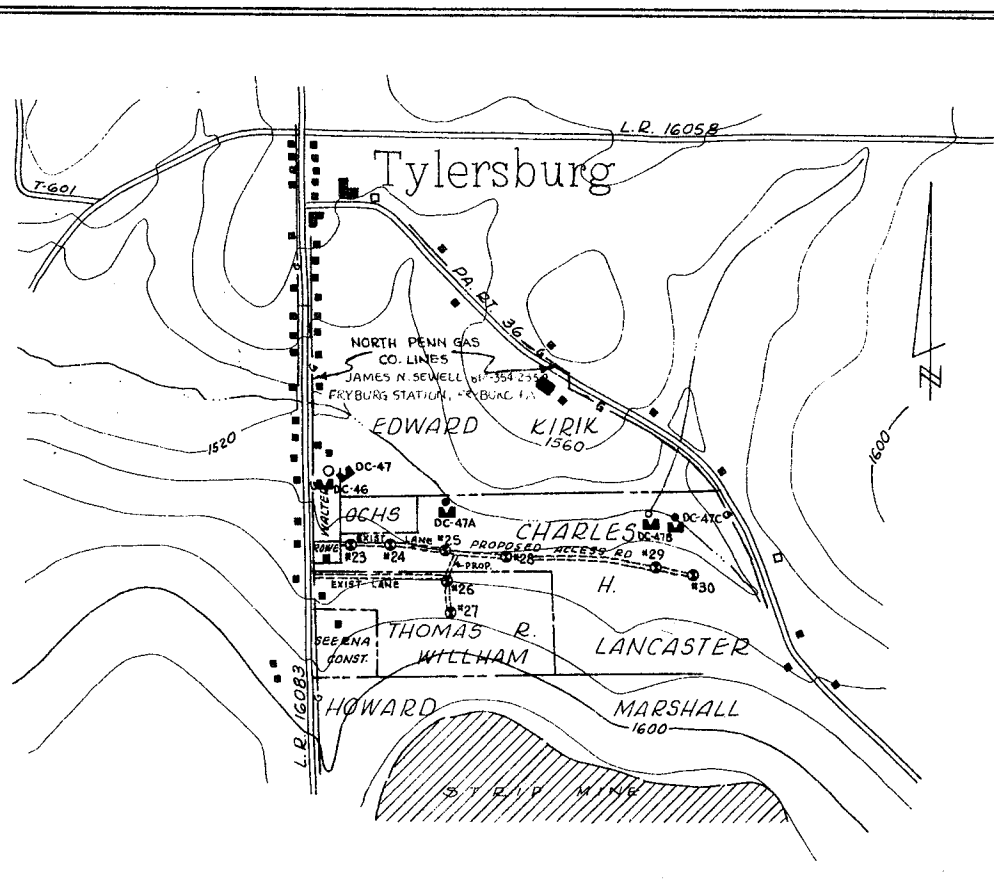
NORTH PENN. GAS CO.
J. N. SEWELL
FRYBURG STATION
FRYBURG, PA. 16326
Ph 814-354-2550

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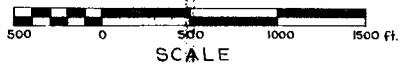
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NORTH PENN. GAS CO.
J. N. SEWELL
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FRYBURG, PA. 16326
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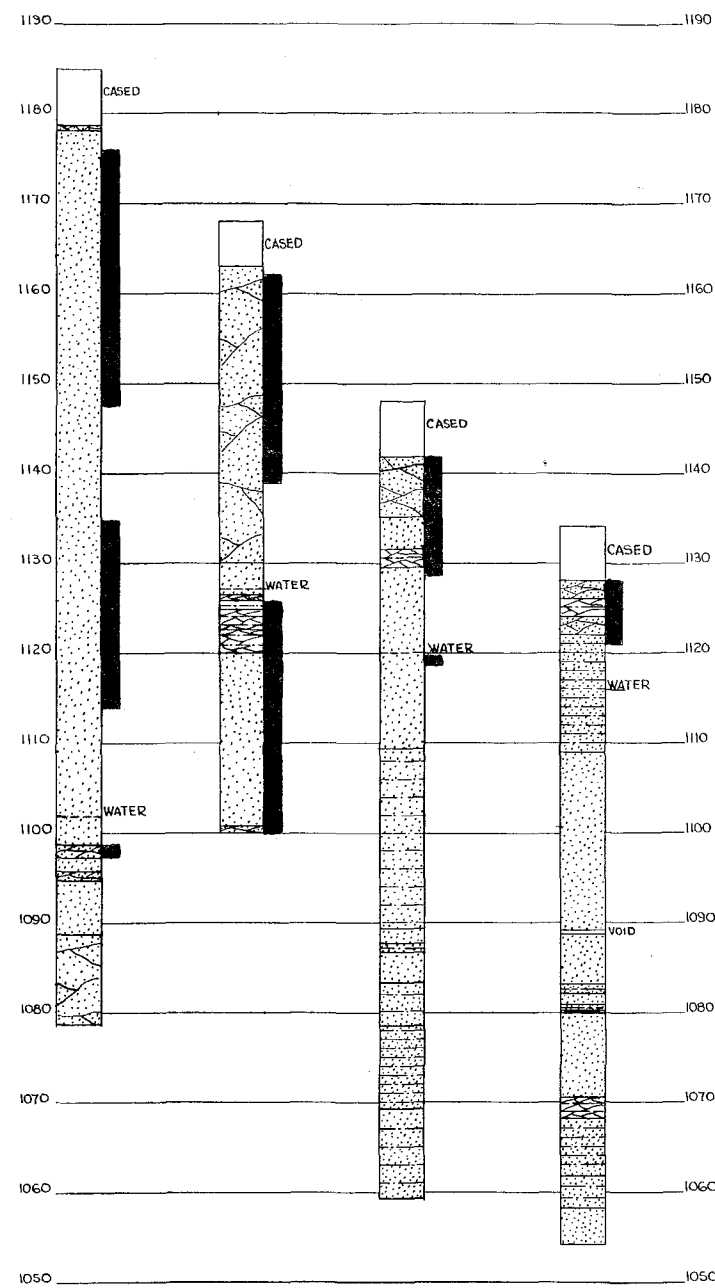
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AREA No 2 DEER CREEK

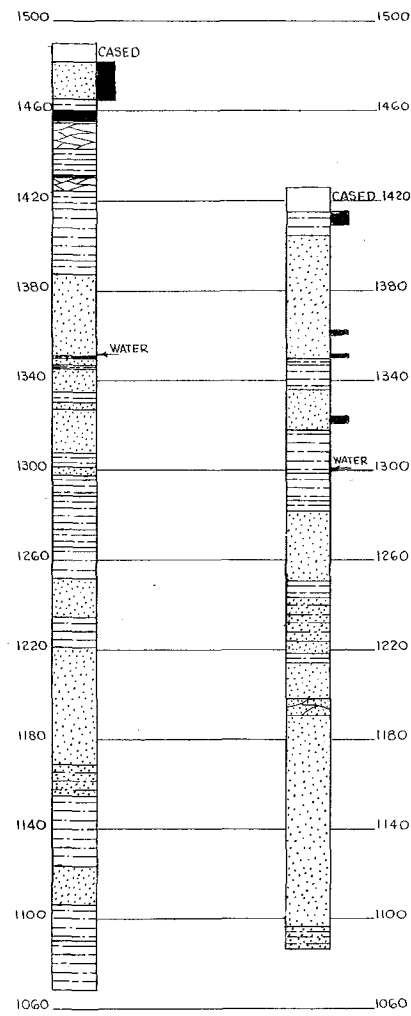


NO.	DATE	REVISION	APPR.
SUBMITTED			
APPROVED: <i>John W. Foreman</i>			
APPROVED: CHIEF DIVISION OF MINE AREA RESTORATION			
APPROVED: DIRECTOR - BUREAU OF RESOURCES PROGRAM			
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES OFFICE OF RESOURCES MANAGEMENT			
CONTRACT NO. SL 191-0-101.5 DRILLING PROJECT TOBY & DEER CREEK WATERSHEDS CLARION COUNTY, PA.			
GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA, PENNSYLVANIA			
DETAIL OF DRILL LOCATIONS			
DRAWN BY	DATE	DRAWING NO.	
L.B.B.		4 of 4	
CHECKED BY	SCALE		

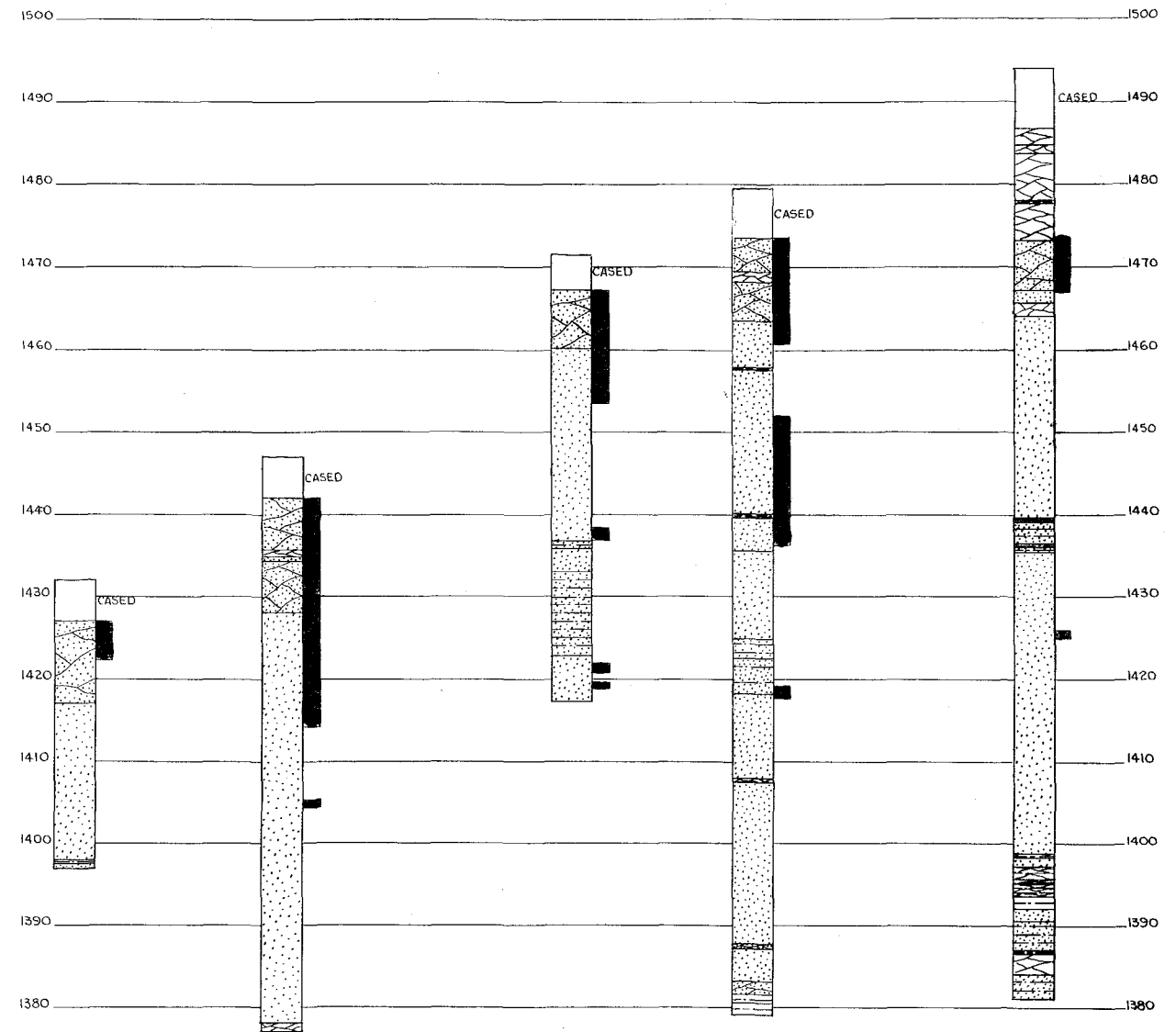
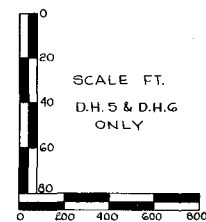


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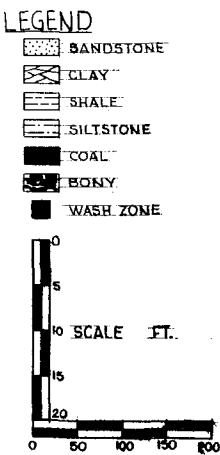


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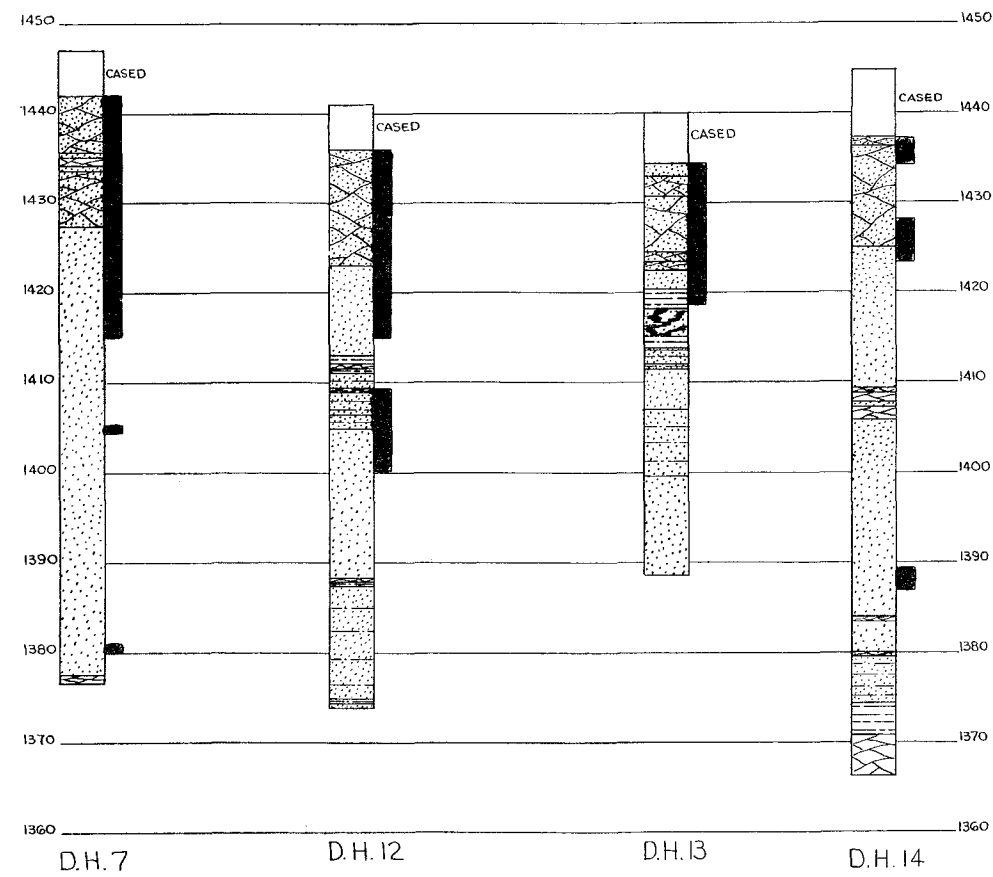
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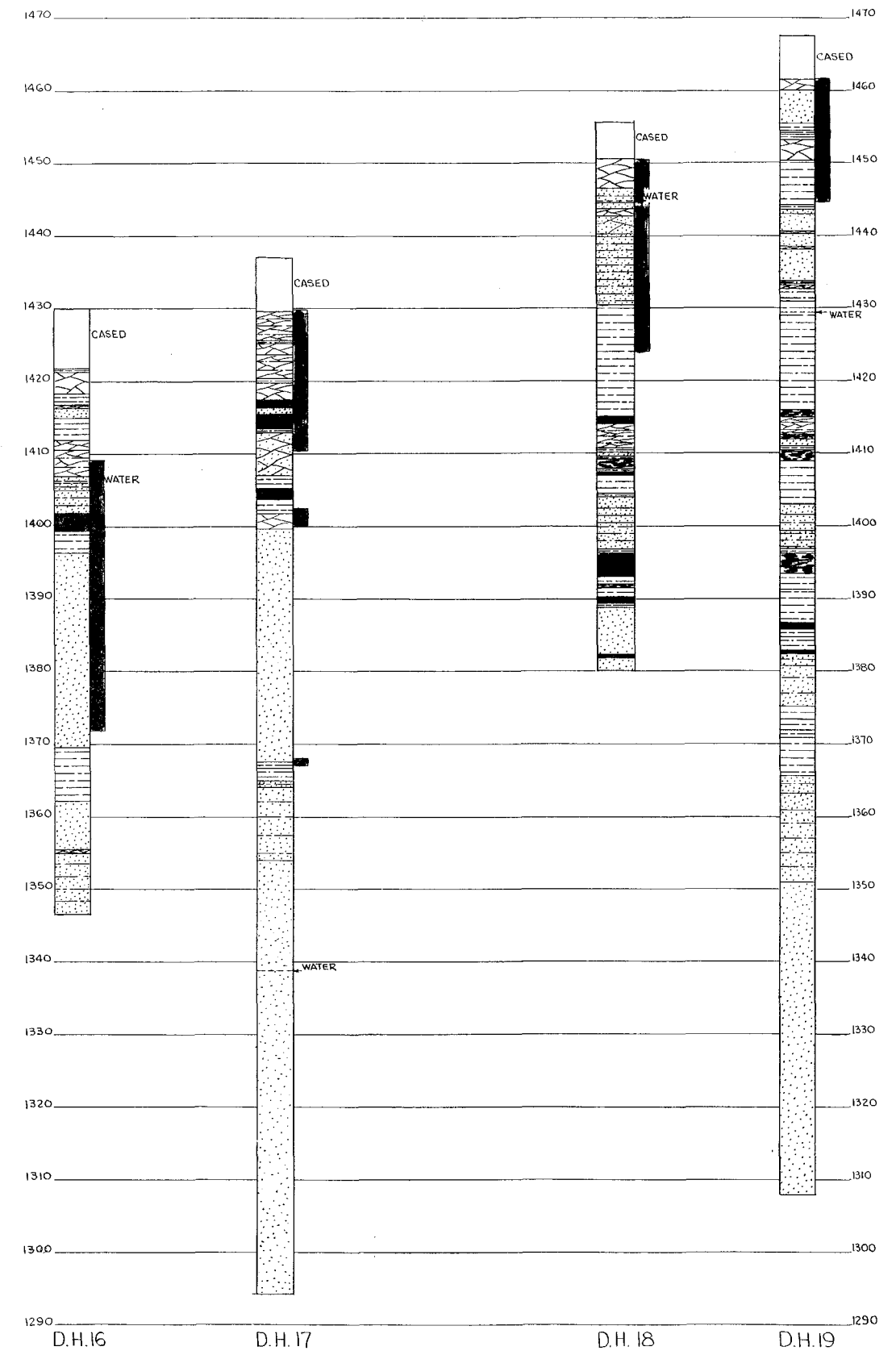


COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF RESOURCES MANAGEMENT
CONTRACT NO. SL 191-0-101.5
DRILLING PROJECT
TOBY & DEER CREEK WATERSHED
CLARION COUNTY, PA.
DRILL LOGS

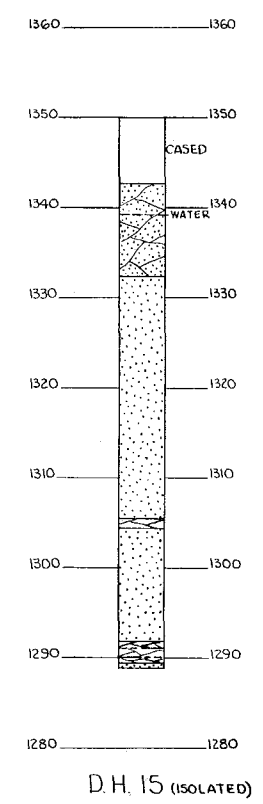
SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA, PENNSYLVANIA	SHEET NO. 1 of 4
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AREA NO 2 TOBY CREEK



AREA NO 1 DEER CREEK



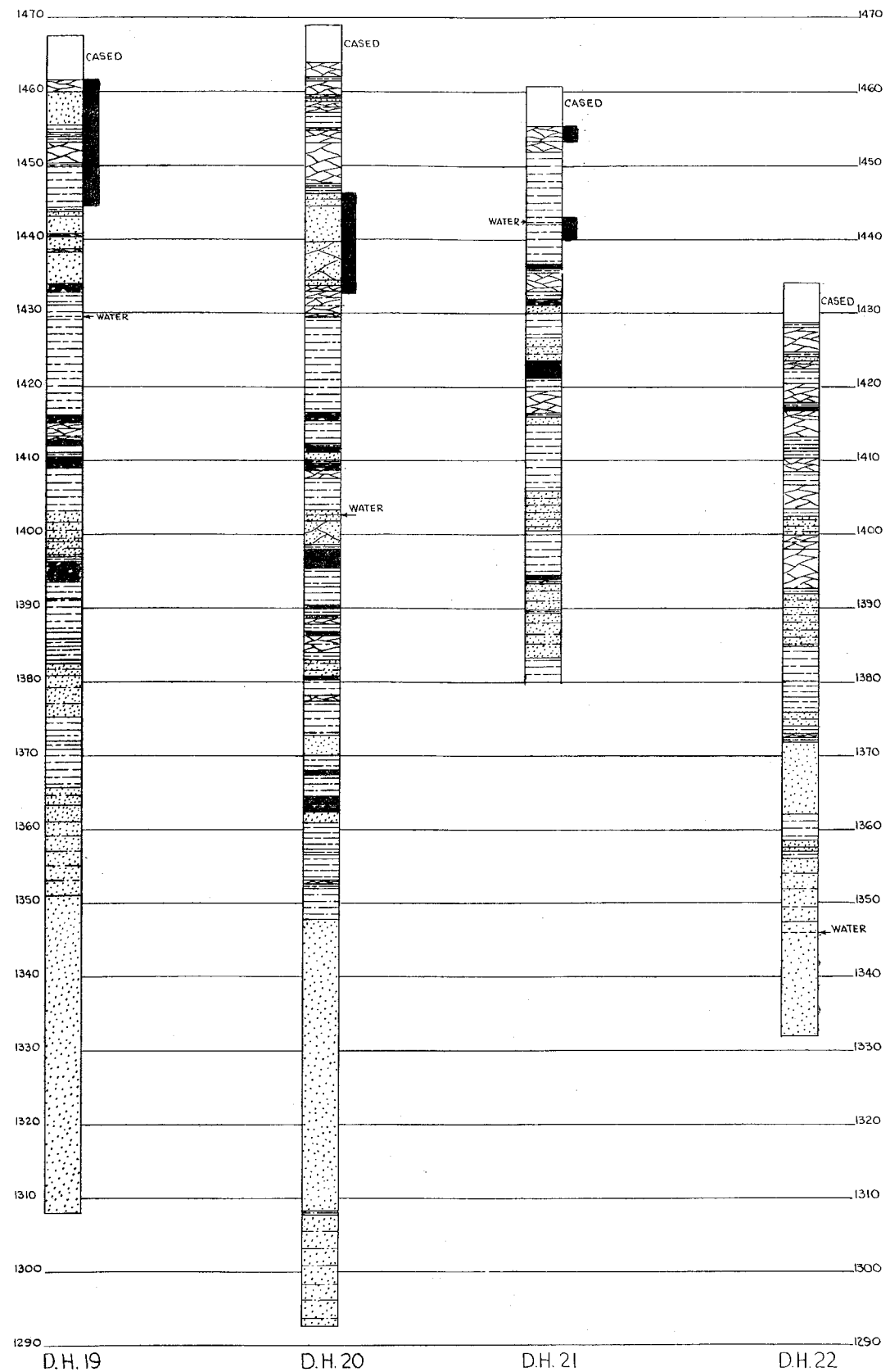
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- SANDSTONE
- CLAY
- SHALE
- SILTSTONE
- COAL
- BONY
- WASH ZONE

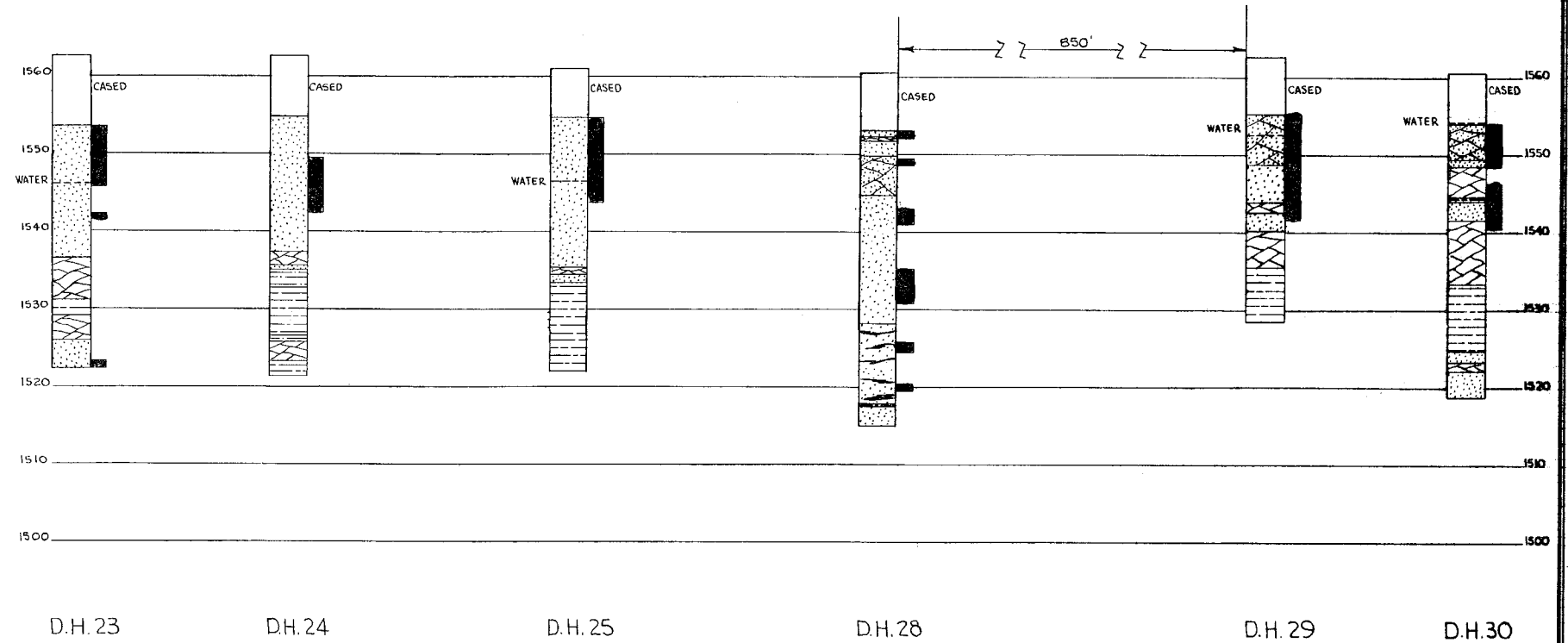
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COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL RESOURCES
 OFFICE OF RESOURCES MANAGEMENT
 CONTRACT NO. SL 191-C-1015
 DRILLING PROJECT
 TOBY & DEER CREEK WATERSHED
 CLARION COUNTY, PA.
 DRILL LOGS

SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA · PENNSYLVANIA	SHEET NO. 2 of 4
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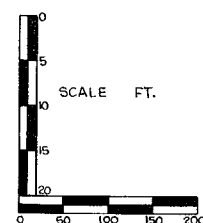
AREA NO 1 DEER CREEK



AREA NO 2 DEER CREEK

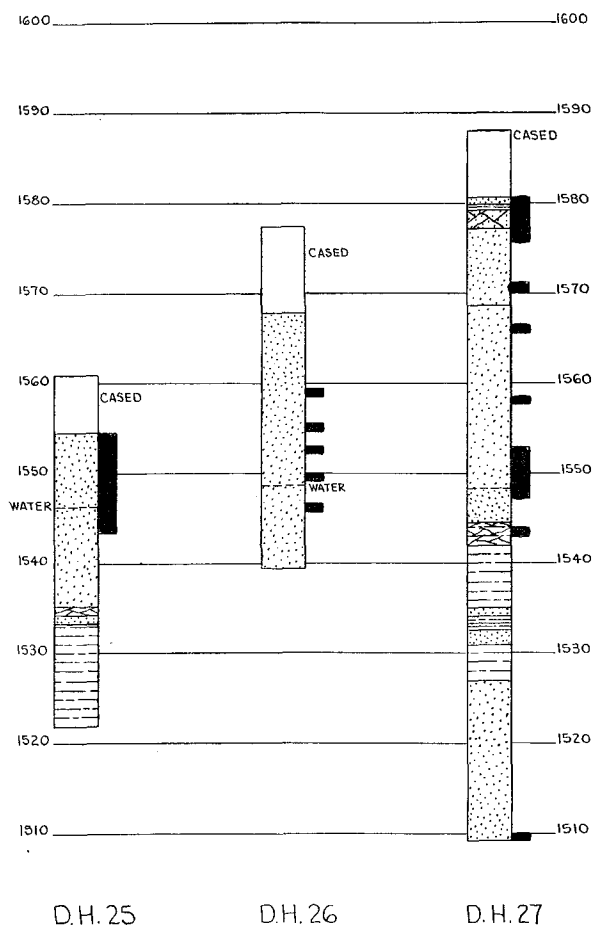
LEGEND

- SANDSTONE
- CLAY
- SHALE
- SILTSTONE
- COAL
- BONY
- WASH ZONE



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF RESOURCES MANAGEMENT
CONTRACT NO SL 191-O-101.6
DRILLING PROJECT
TOBY & DEER CREEK WATERSHED
CLARION COUNTY, PA.
DRILL LOGS

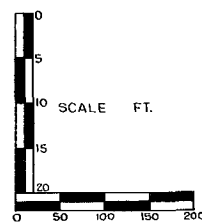
SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA - PENNSYLVANIA	SHEET NO. 3 of 4
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AREA NO 2 DEER CREEK

LEGEND

- SANDSTONE
- CLAY
- SHALE
- SILTSTONE
- COAL
- BONY
- WASH ZONE



COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES OFFICE OF RESOURCES MANAGEMENT CONTRACT NO SL 191-O-101.5 DRILLING PROJECT TOBY & DEER CREEK WATERSHED CLARION COUNTY, PA. DRILL LOGS		
SCALE AS SHOWN	GWIN, DOBSON & FOREMAN, INC. CONSULTING ENGINEERS ALTOONA, PENNSYLVANIA	SHEET NO. 4 of 4