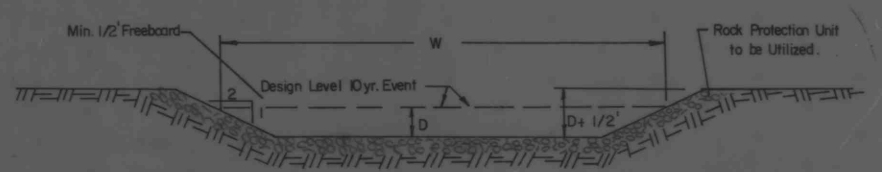


HAAG 1"=400' PERMIT MAP

U-1

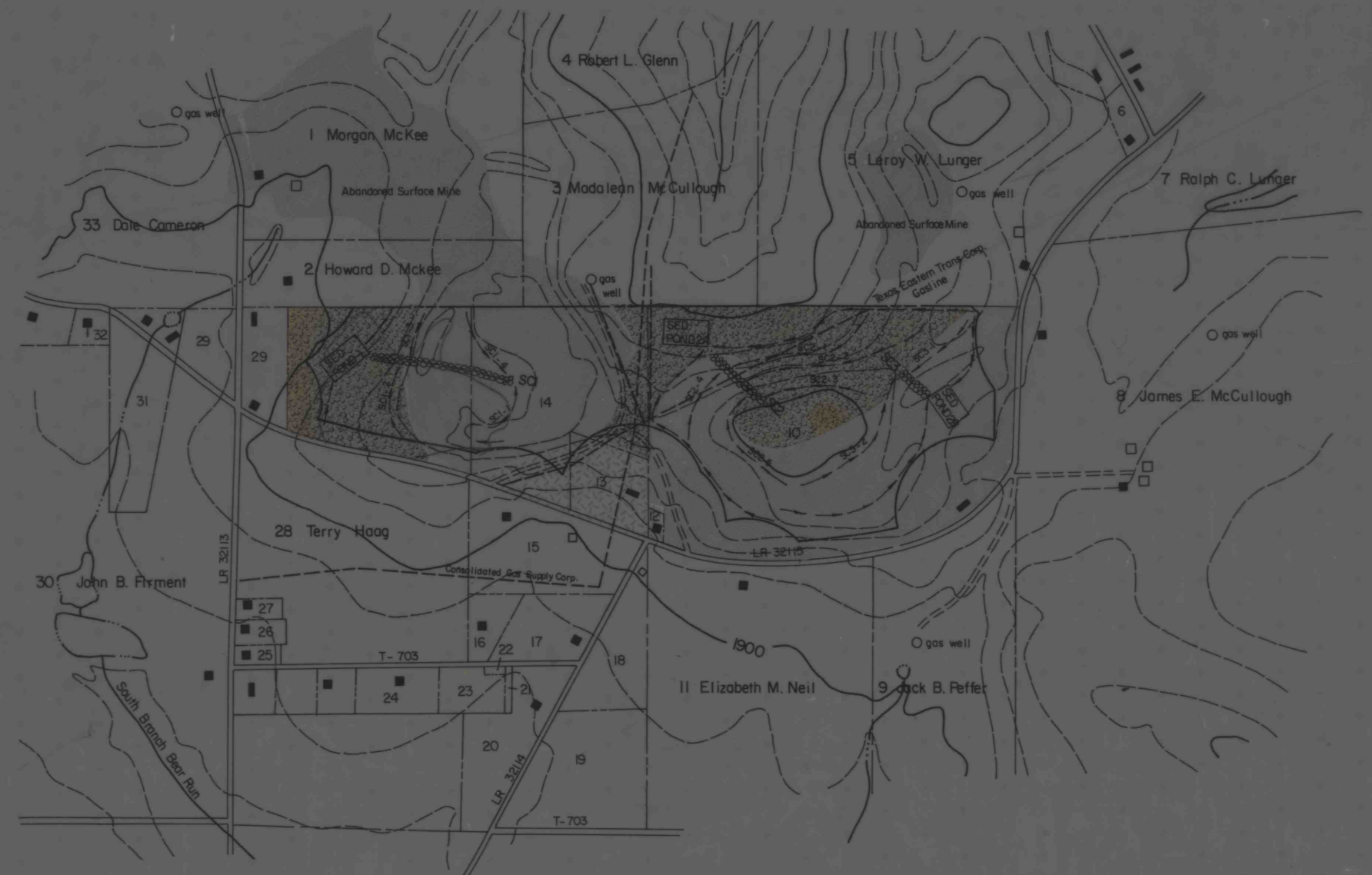
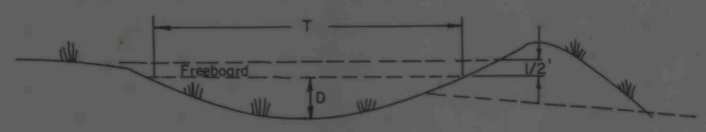
STABILIZED CHANNELS FOR POST-MINING DIVERSION OUTLETS

Identification	Effective Length ft.	Slope %	(W) Width	(D) Depth	Rock Protection Unit	Required cfs 10 Year Event	Anticipated Velocity ft./sec.
SC1	700	8	8	3/4	2	55	7.7
SC2	340	24	8	1/2	3	50	10.5
SC3	180	6	6	3/4	2	35	6.4



STABILIZED CHANNELS FOR POST-MINING DIVERSION DITCHES

Identification	Slope %	Desired Velocity fps	Design Velocity fps	(T) Top Width ft.	(D) Depth ft.	Retardant	Required Q cfs 10 Year Event	Feeds Stabilized Channel No.
SC1-1	1 1/2	≤ 3	3.0	10	2.2	D	≤ 15	SC1
SC1-2								SC1
SC1-3								SC1
SC1-4								SC1
SC2-1								SC2
SC2-2								SC2
SC2-3								SC2
SC2-4								SC2
SC2-5								SC2
SC3-1								SC3
SC3-2								SC3



LEGEND

- MINE DRAINAGE PERMIT 81.5 acres
- BARRIER ZONES
- OCCUPIED DWELLINGS
- KEY TO INDIVIDUAL PROPERTY OWNERS
- PROPERTY LINE
- PREVIOUSLY SURFACE MINED AREAS
- STABILIZED CHANNEL
- FINAL DIVERSION DITCH DRAINAGE PATTERN
- POSTMINING SEDIMENTATION & EROSION CONTROL (To remain until the bond which would eliminate the requirements for ponds has been released.)
- FORESTLAND IF AFFECTED - RETURNED TO FORESTLAND
- PREVIOUSLY SURFACE MINED IF AFFECTED RETURNED TO FORESTLAND
- RESIDENTIAL - UNAFFECTED
- FORESTLAND IF AFFECTED - RETURNED TO PASTURELAND
- PREVIOUSLY SURFACE MINED IF AFFECTED RETURNED TO PASTURELAND

INDEX TO SMALL PARCEL OWNERS

- 6 Gay Bowers
- 10 M.N.B.P. Coal Company
- 12 James B. Bowers
- 13 Richard L. Bubbs
- 14 Frederick Lockard
- 15 Joel Brooks
- 16 David L. Brooks
- 17 Terry C. Haag
- 18 Frederick Lockard
- 19 Ray Bowers
- 20 James D. Brooks
- 21 Mary B. Bathe
- 22 Richard Bubbs
- 23 M.E. Cemetery
- 24 James M. Jenary
- 25 Frederick Lockard
- 26 Clyde Haag
- 27 Kathryn L. Green
- 29 Helen Greenwalt
- 31 William G. States
- 32 Steffy Chapel Church

VAPCO ENGINEERING
PUNXSUTAWNEY, PENNSYLVANIA

APPROVED: _____
DATE: _____

APPROVED: _____
DATE: _____

APPROVED: _____
DATE: _____

REG. NO. 25446 - E

PROPOSED SURFACE MINE
P&N COAL CO. INC.
HAAG MINE
Banks Twp. Indiana Co.

EXHIBIT 18

LAND USE
&
RECLAMATION
MAP

DRAWN BY BL
CHECKED BY SH
DATE 9-1-83
SCALE 1"=400'
FILE NO. "R"