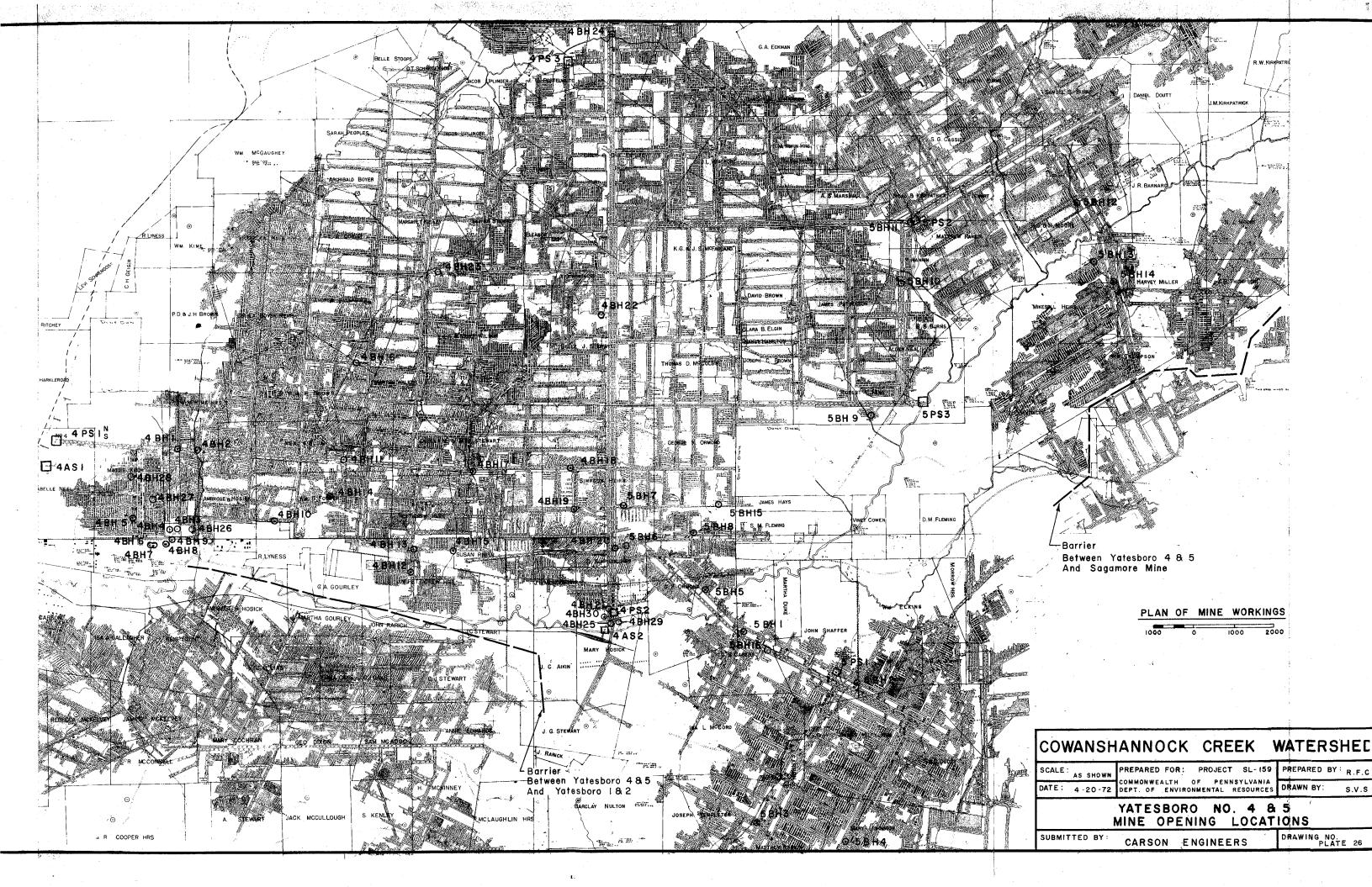
General Discussion

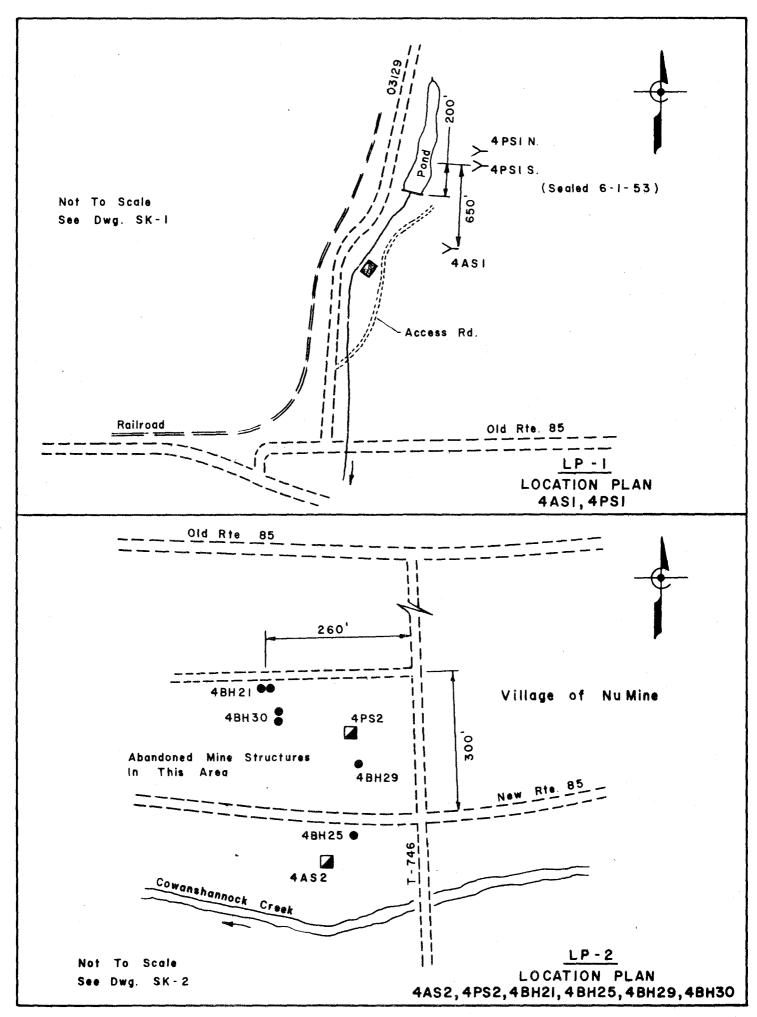
This appendix contains material which is relevant to the analysis of physical conditions of surface relations given in sections of the main body of the report.

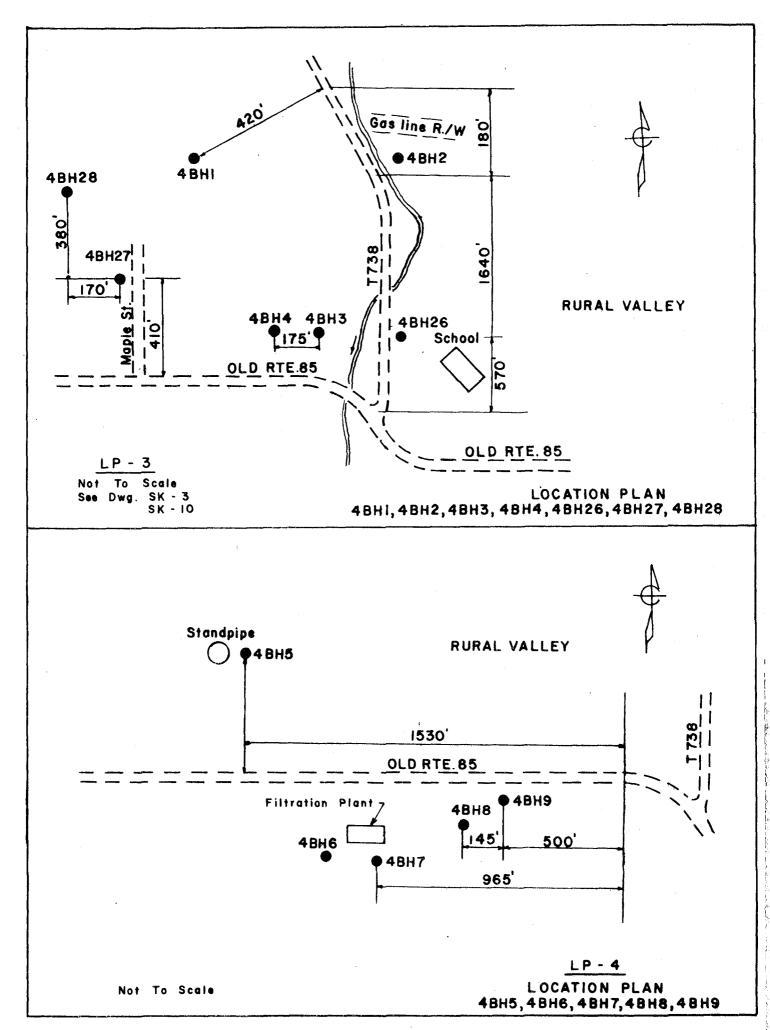
On July 25, 1970, a field reconnaissance was conducted by the Principal, Project Engineer, Field Engineer, and three crew members, of the Yatesboro 4 and 5 mine complex area to permit a working knowledge by all concerned with the Quick Start Project, Established during this initial investigation were points of reference for horizontal control, location of 4BH14 and 4BH15, USGS Bench Marks for vertical control, springs, creeks, ponds, outcroppings, and other mine openings and investigations were made for signs of the mine water level and ground water table. Initial contact was made by the Principal with the R&P Coal Company and other federal, state, and local agencies having data pertinent of the Quick Start Project, introducing the Project Engineer as the official liaison for the gathering and control of information. Henceforth, a two man field crew conducted the search' for the various bore holes, air shafts, and portal shafts that were very pertinent to the progress of this project. These locations are scattered throughout the entire complex of the mine area and many are virtually inaccessible, being covered with brush, etc. Many of the points were found by using old, small scale maps which showed the approximate location of the aforesaid points, these maps were than correlated to our horizontal control system and proximity to roads and streams in the area; this in conjunction with measurements and offset lines from the information at hand enabled us to locate these points.

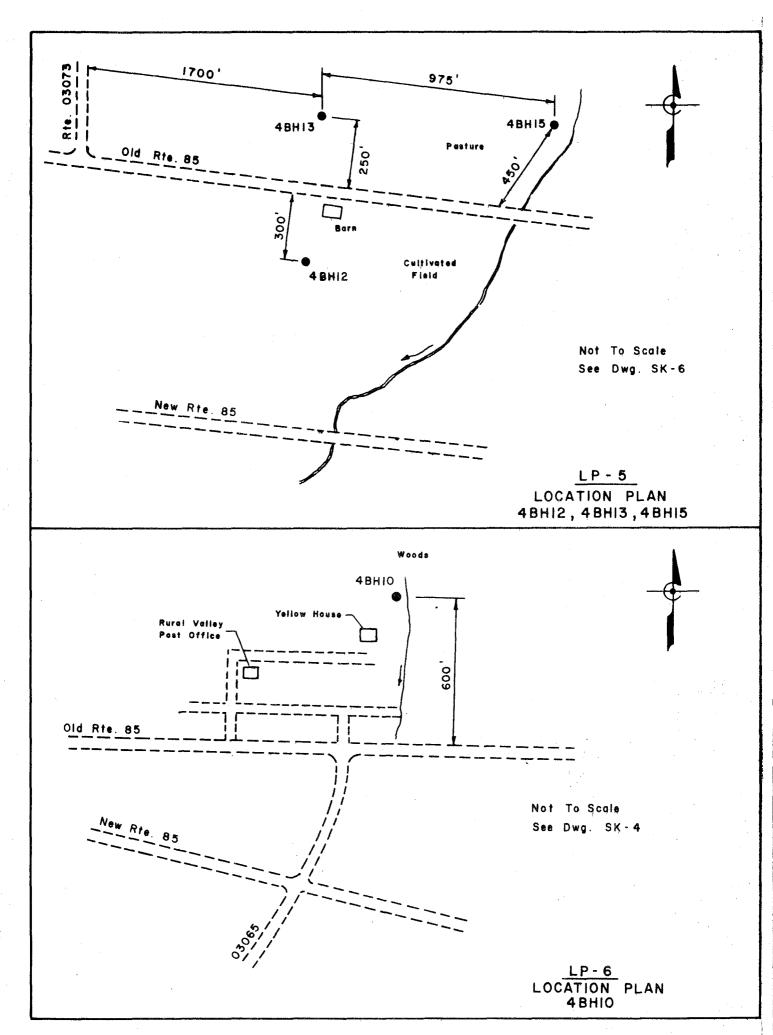
Upon locating the points, they were staked, marked with flags, and photos were taken on the site. Individual sketches were made showing landmarks and measured field distances for each point. Vertical control for all mine openings was established via field measurements and all elevations were adjusted to USGS elevations.

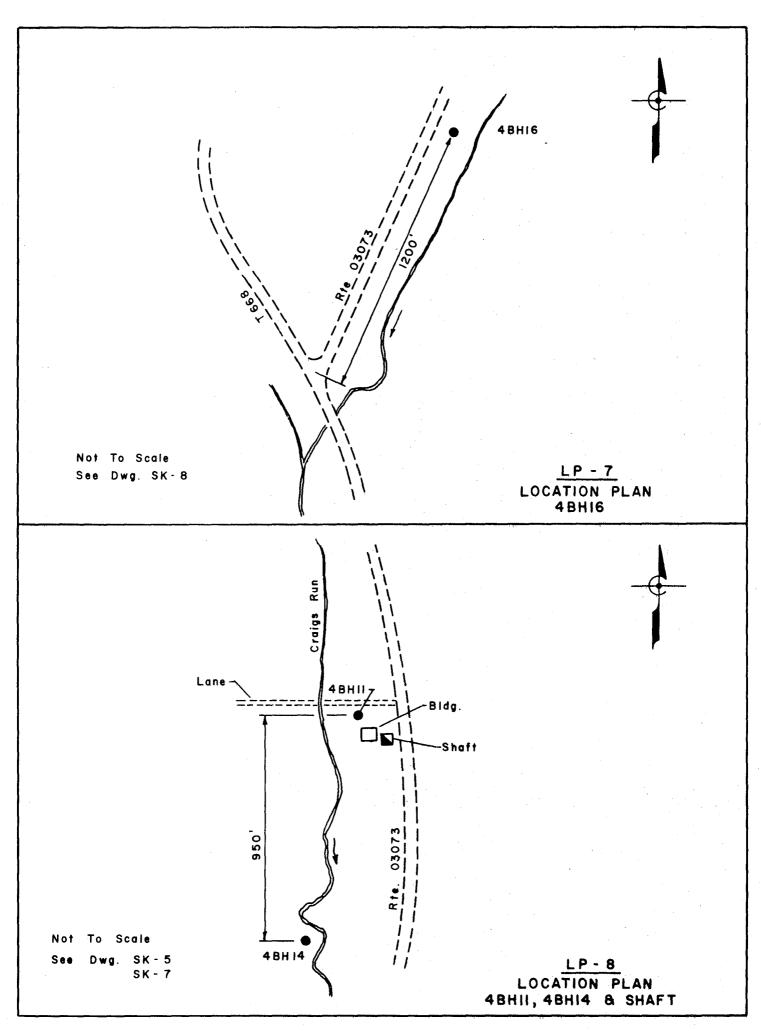
Properties where proposed and possible work is contemplated are catalogued in the appendix by cross reference to bore holes, mine openings, and areas where minimal overburden is encountered, It is intended that easements for investigations and construction be obtained from all property owners listed on these drawings even though all the properties are not included in the recommendations section of the study. Easements for all properties is recommended in the event that they may be required because the properties are located in critical areas of the study and delays may be avoided by obtaining the easements now. All property drawings are referenced to deed books, and pages, found in the Armstrong County Courthouse at Kittanning, Pennsylvania.

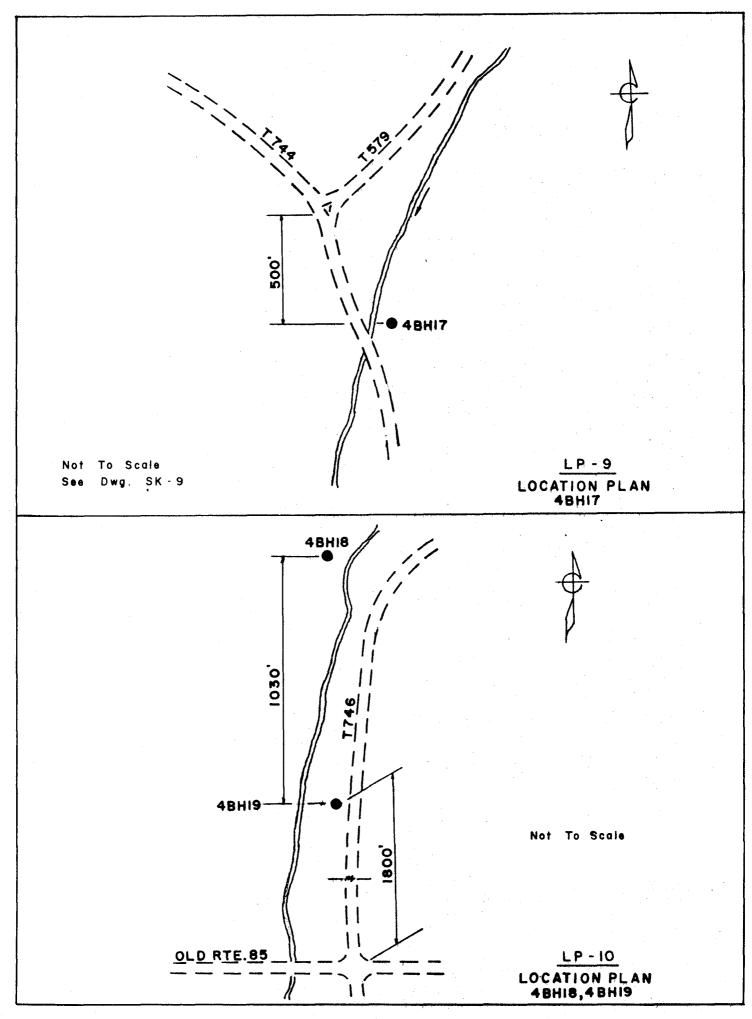


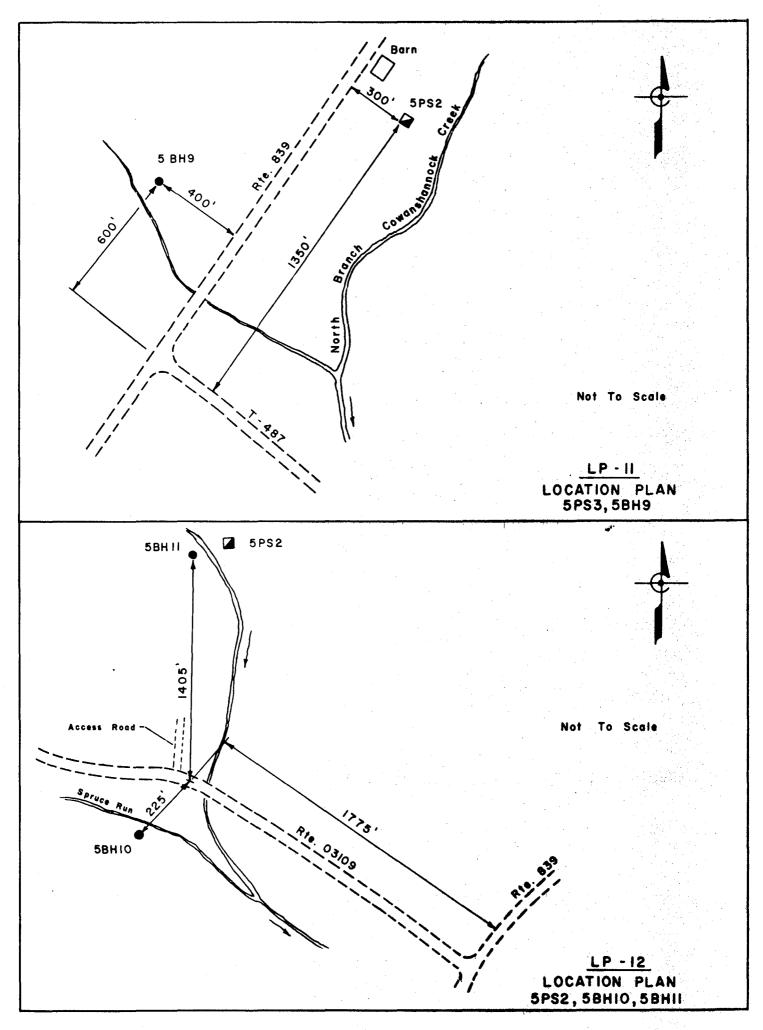


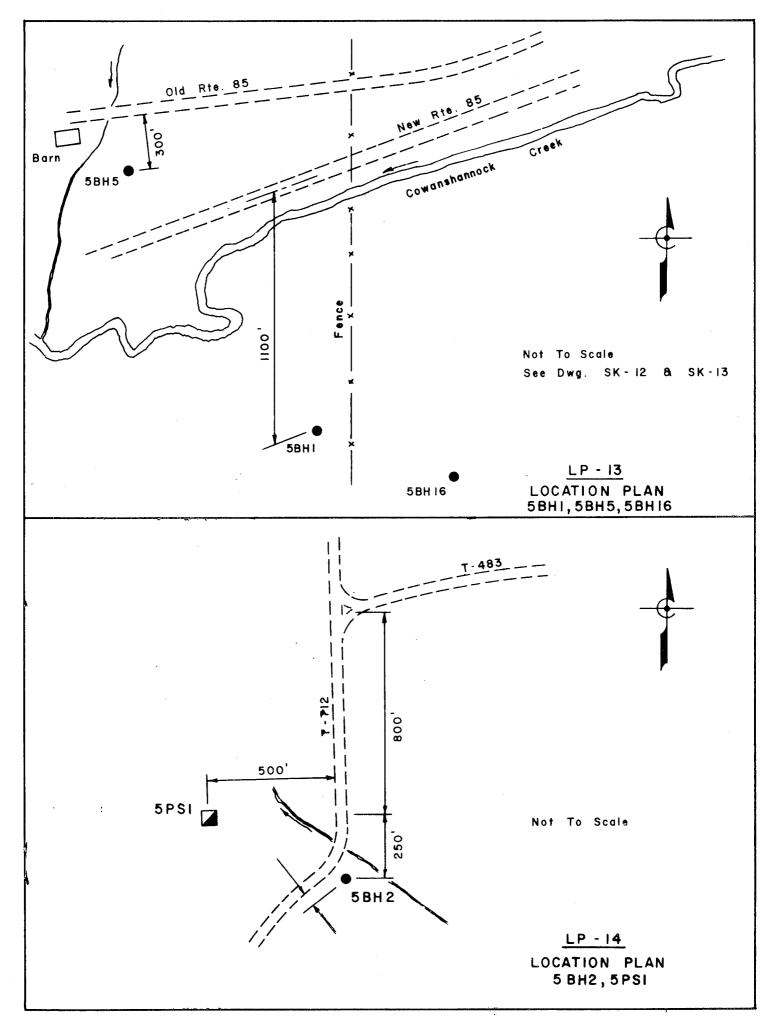


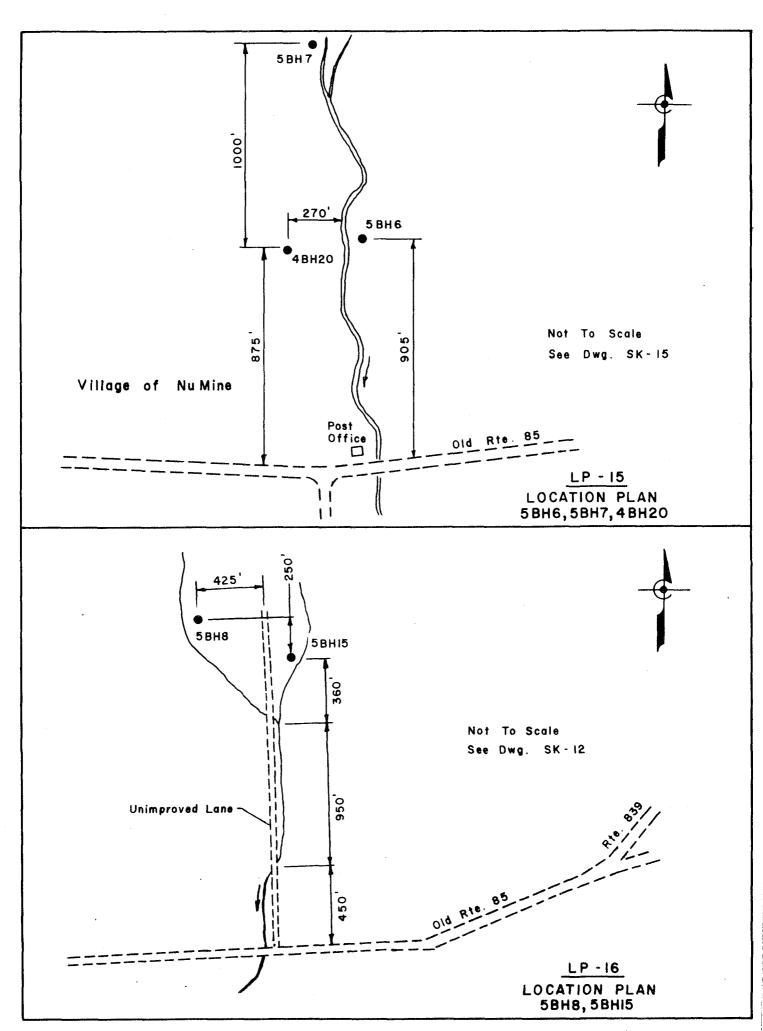


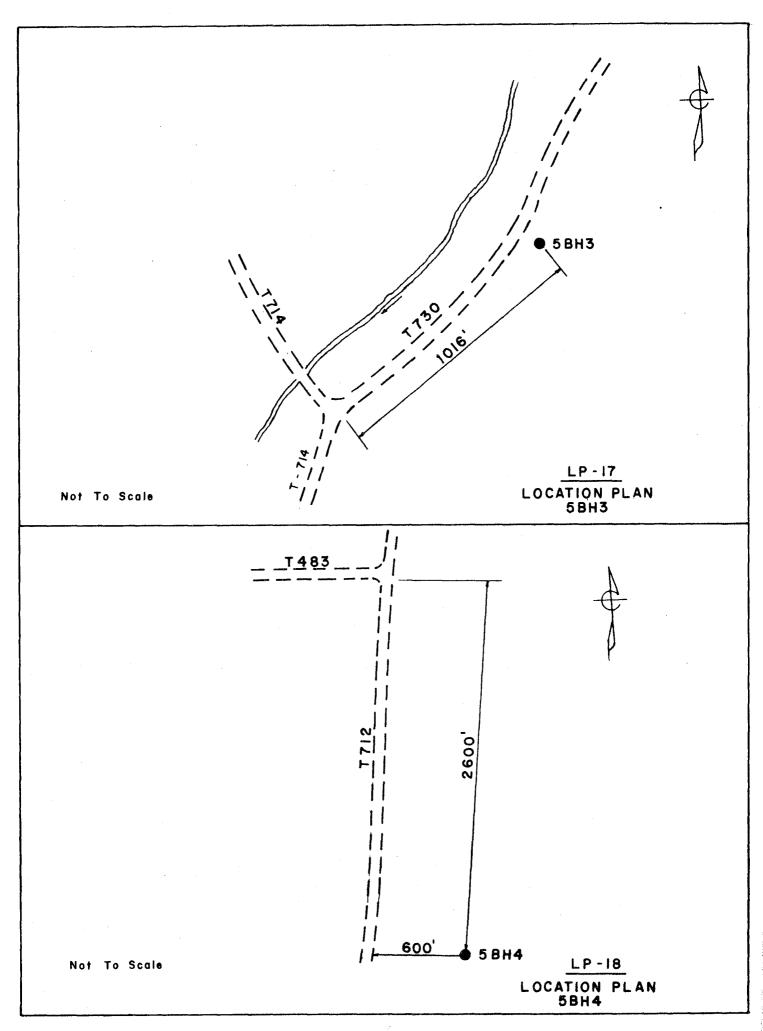


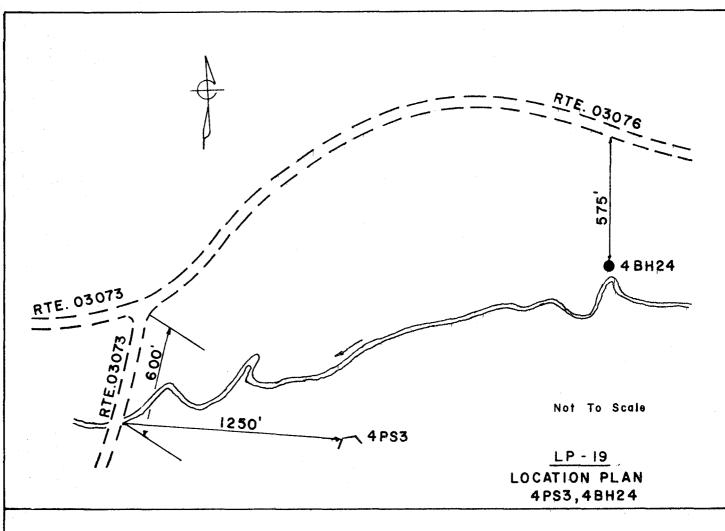


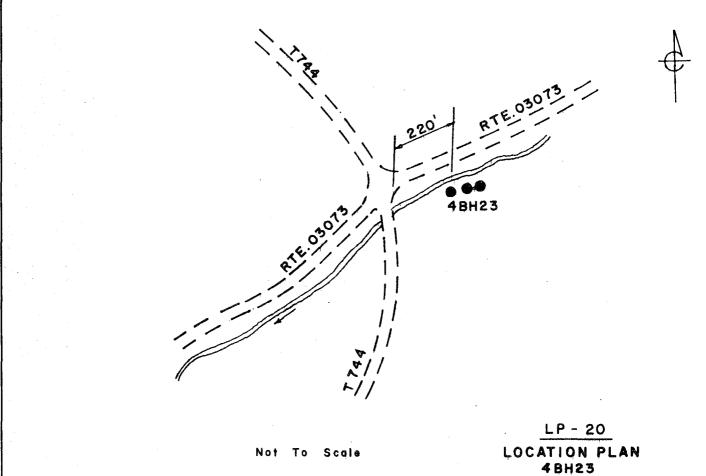


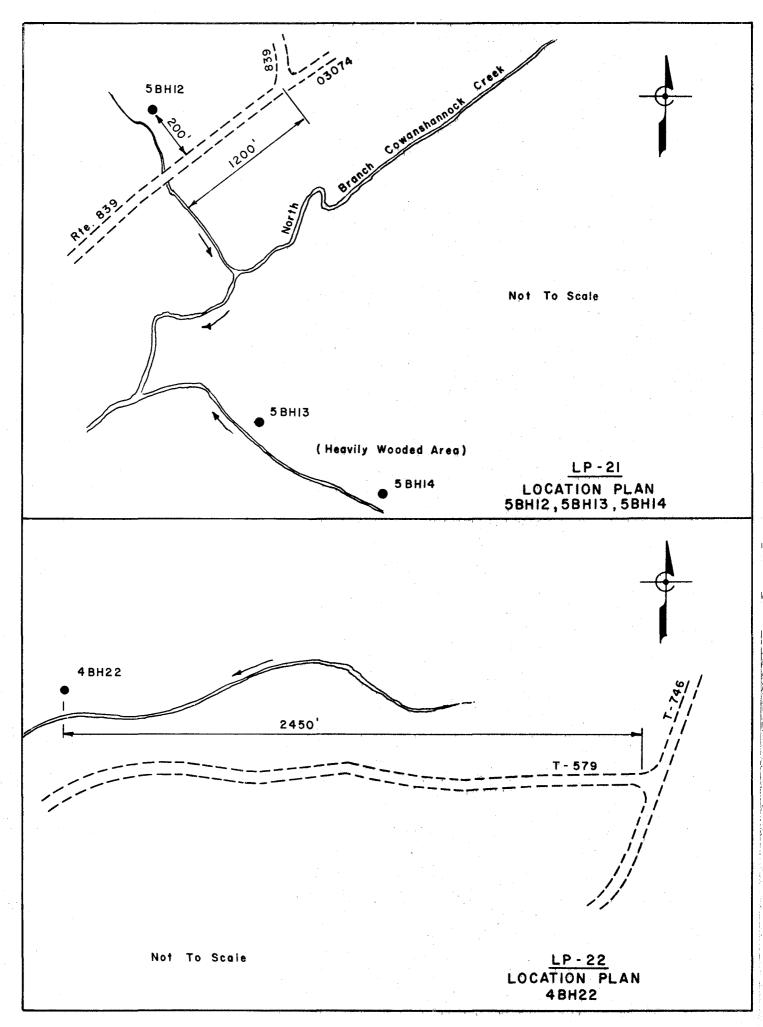


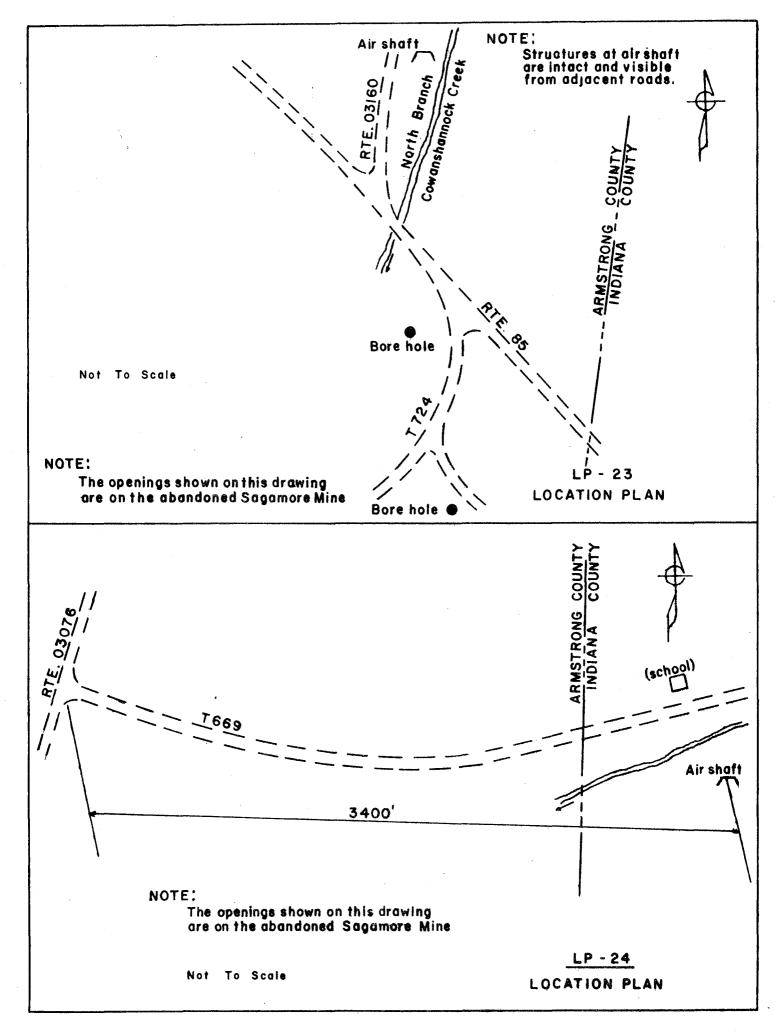


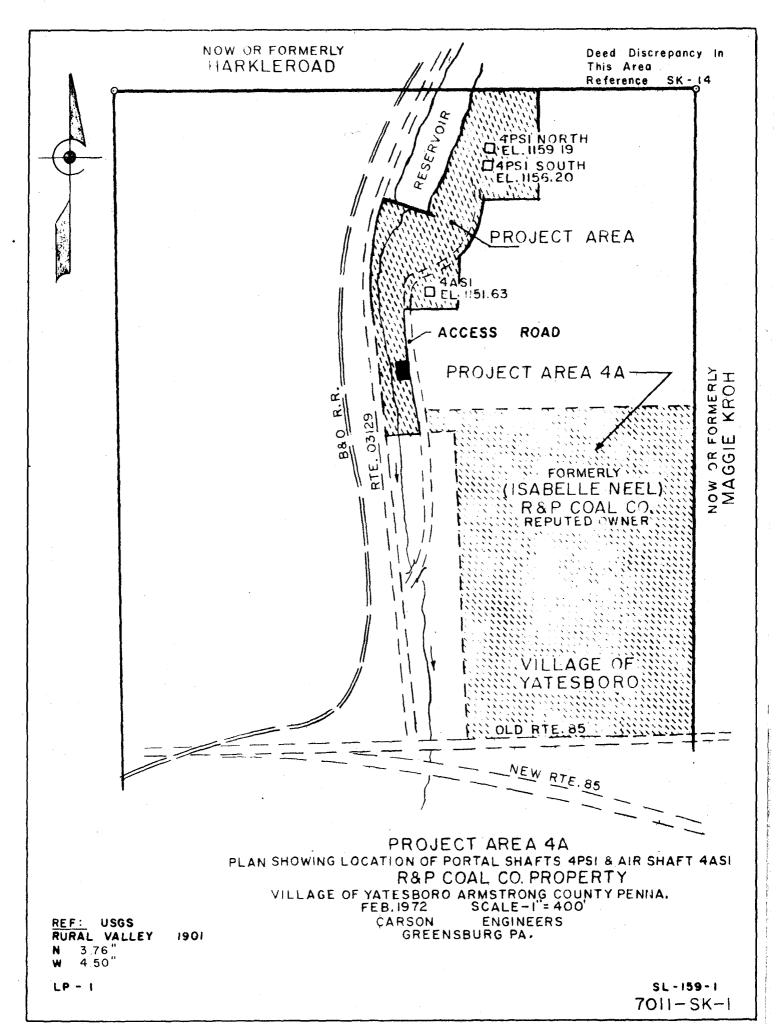




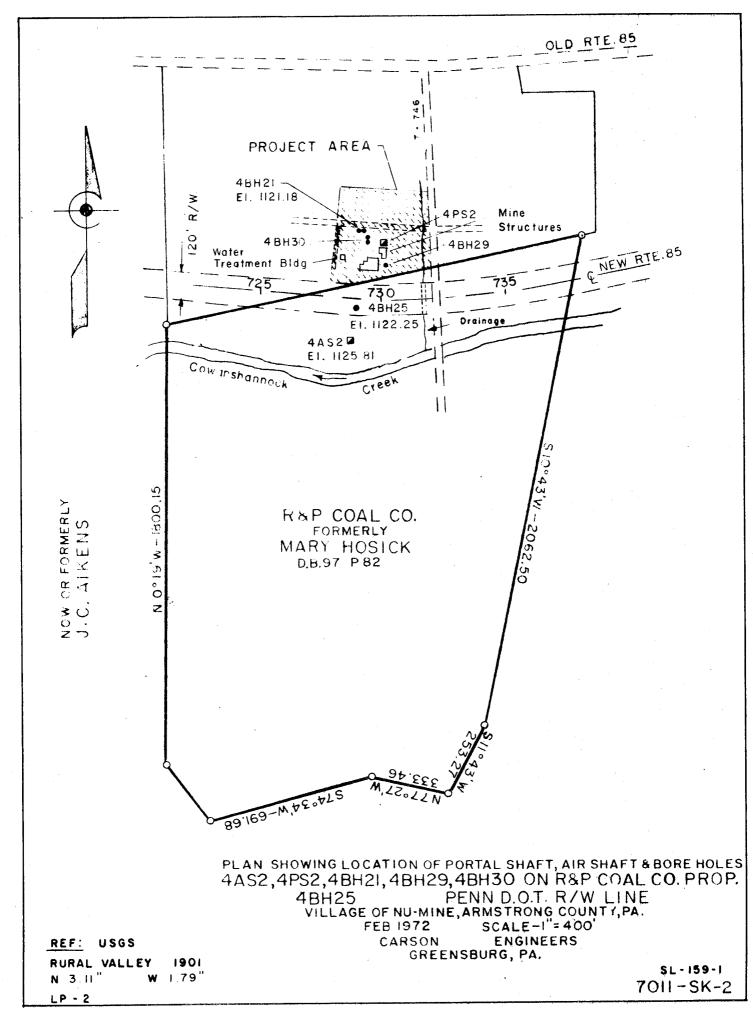


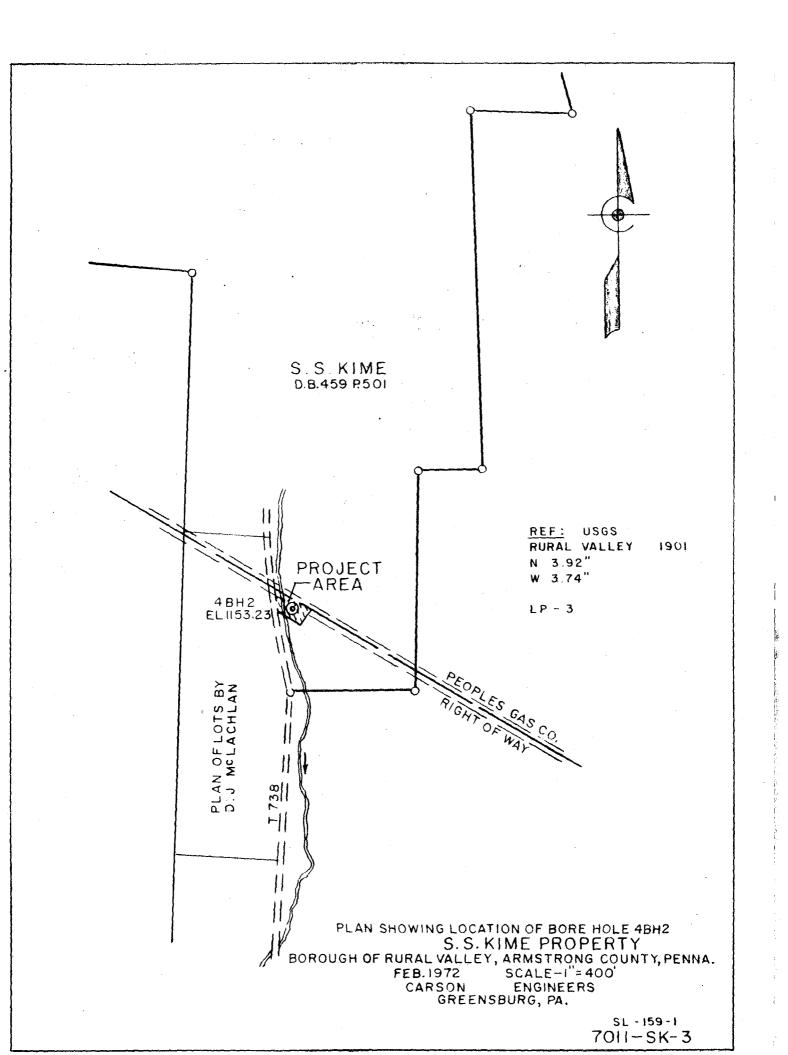


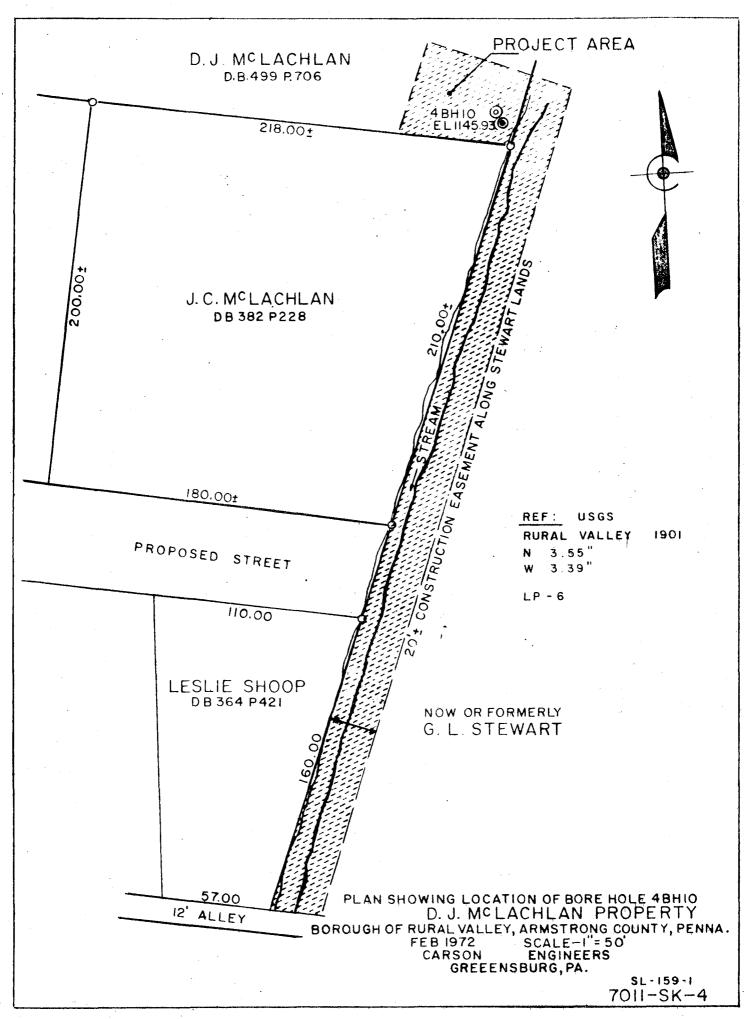


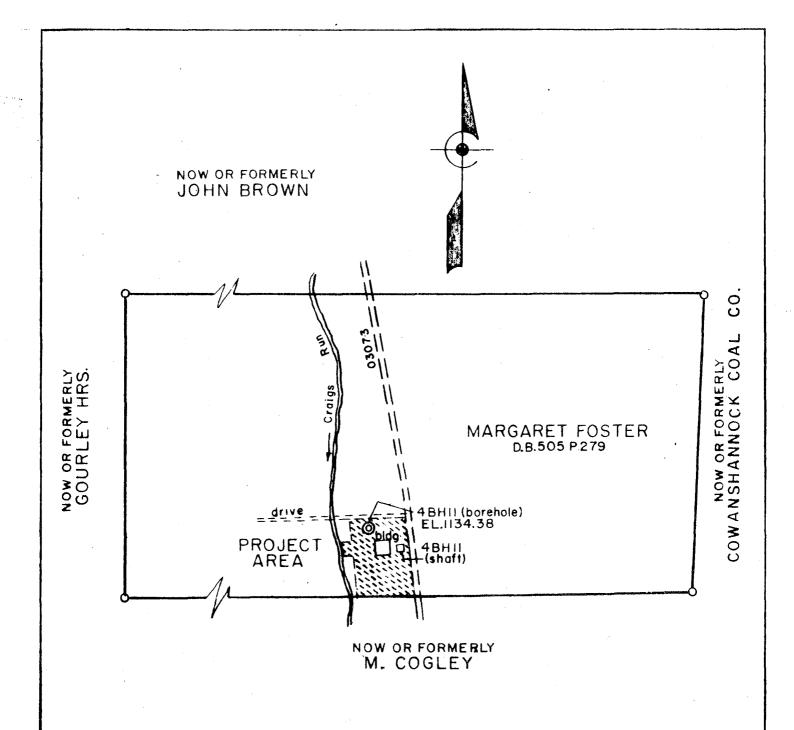


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PLAN SHOWING LOCATION OF BORE HOLE & SHAFT AT 4 BHII

MARGARET FOSTER PROPERTY

COWANSHANNOCK TWP. ARMSTRONG COUNTY, PA.

FEB. 1972 SCALE-I"= 400'

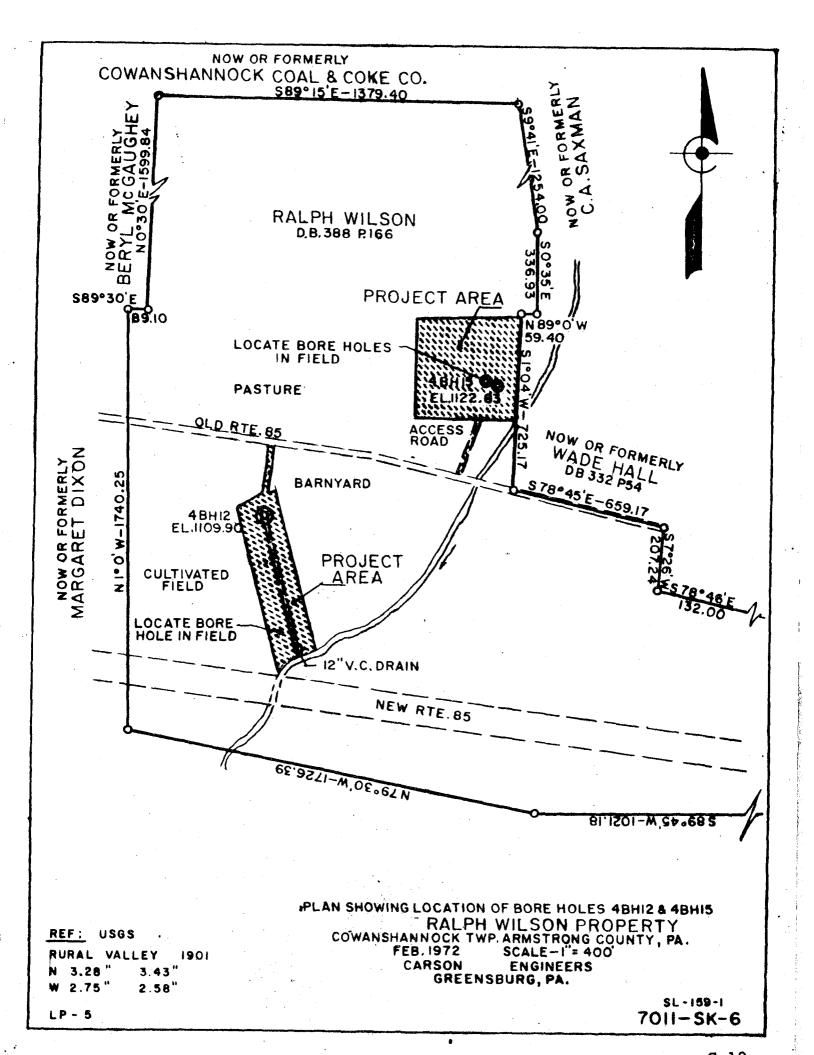
CARSON ENGINEERS

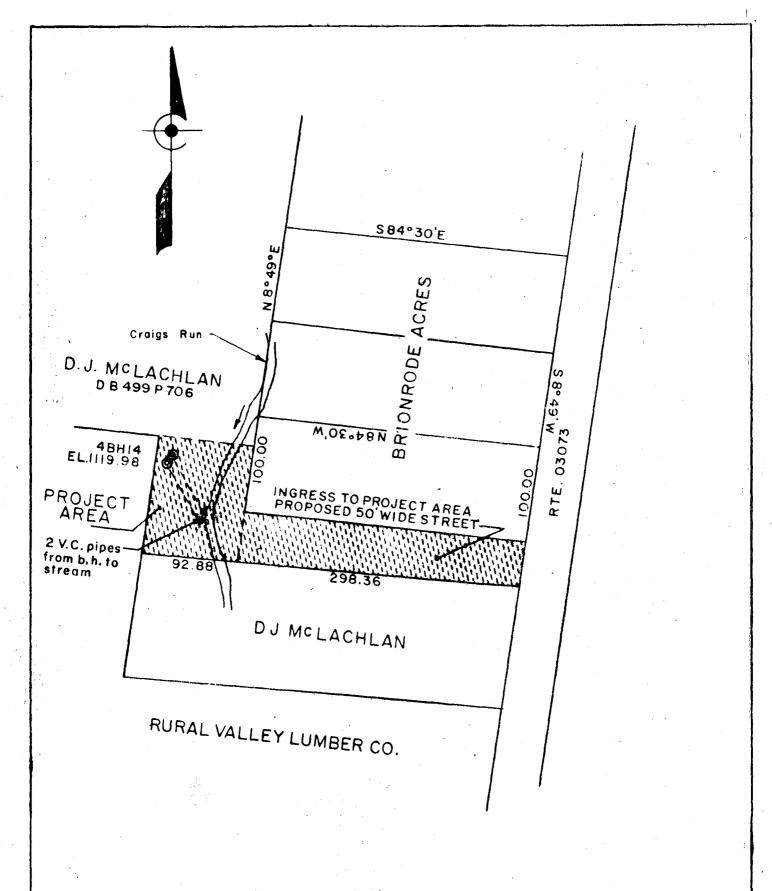
GREENSBURG, PA.

REF: USGS RURAL VALLEY 1901 N 3.85" W 3.05"

LP - 8

\$L-159-1 7011-SK-5





REF: USGS RURAL VALLEY 1901 N 3.65" W 3.17"

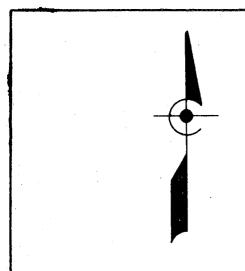
LP - 8

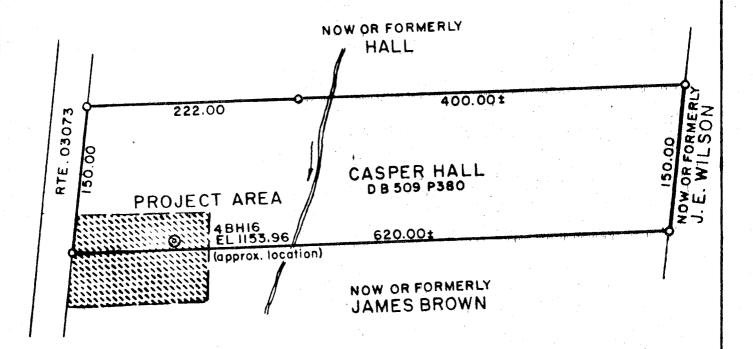
PLAN SHOWING LOCATION OF BOREHOLE 4BH14
D.J. MCLACHLAN PROPERTY

BOROUGH OF RURAL VALLEY, ARMSTRONG COUNTY, PENNA.
FEB. 1972 SCALE-1'=100'

CARSON ENGINEERS
GREENSBURG, PA.
SL-159-1

7011-SK-7



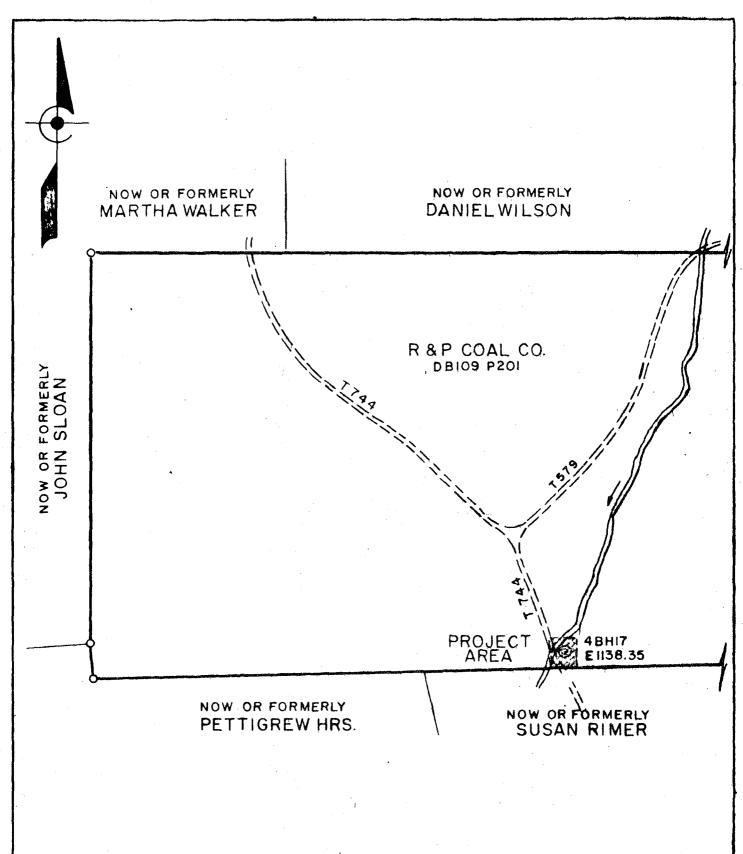


REF: USGS RURAL VALLEY 1901 N 4.20" W 3.05"

LP - 7

CASPER HALL PROPERTY
COWANSHANNOCK TWP. ARMSTRONG COUNTY, PA.
MAR. 1972 SCALE-I'= 100'
CARSON ENGINEERS
GREENSBURG, PA.

\$L-159-1 7011-SK-8

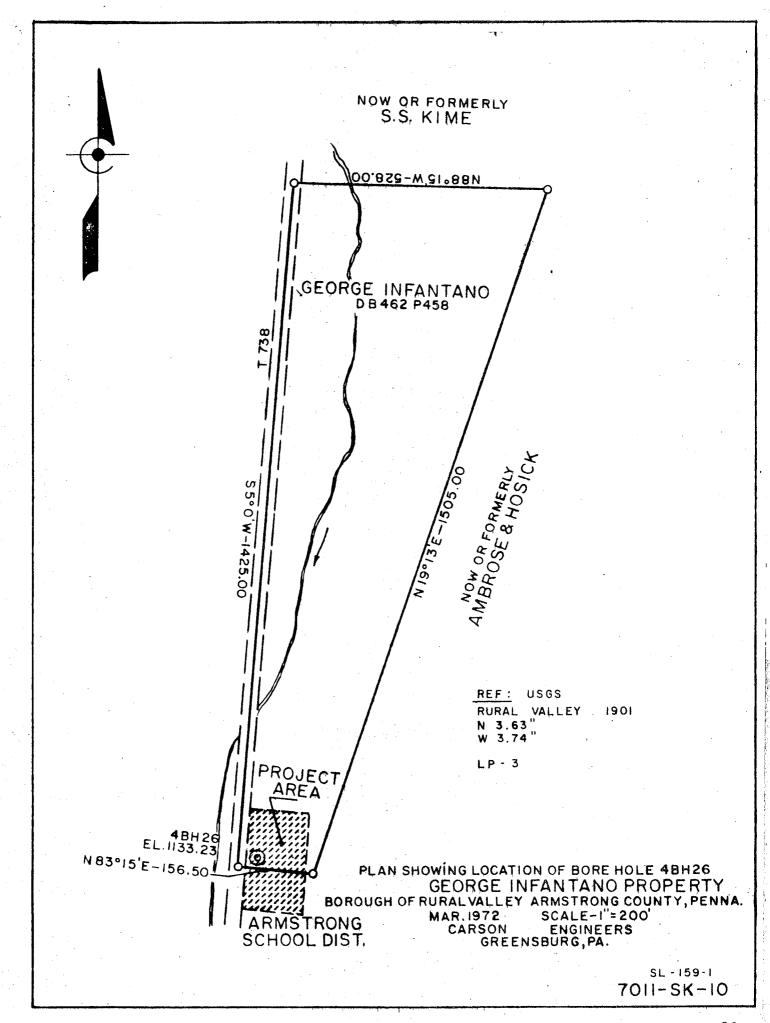


REF: USGS RURAL VALLEY N 3.70" 1901 W 2.43

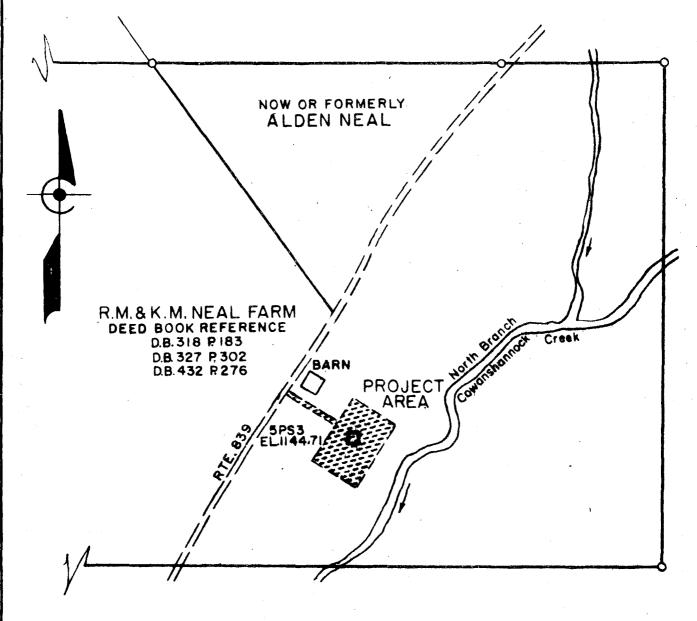
LP - 9

PLAN SHOWING LOCATION OF BORE HOLE 4BHI7 R&P COAL CO, PROPERTY COWANSHANNOCK TWP, ARMSTRONG COUNTY, PA. MAR.1972 SCALE-1"=400' CARSON ENGINEERS GREENSBURG, PA.

> SL -159-1 7011-SK-9





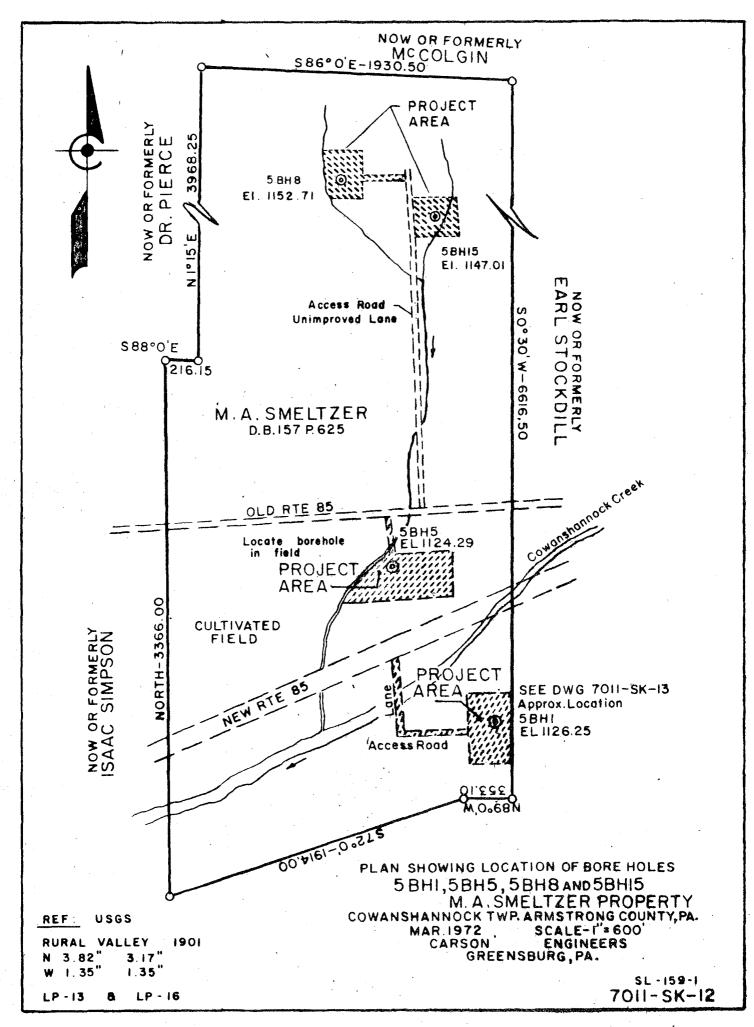


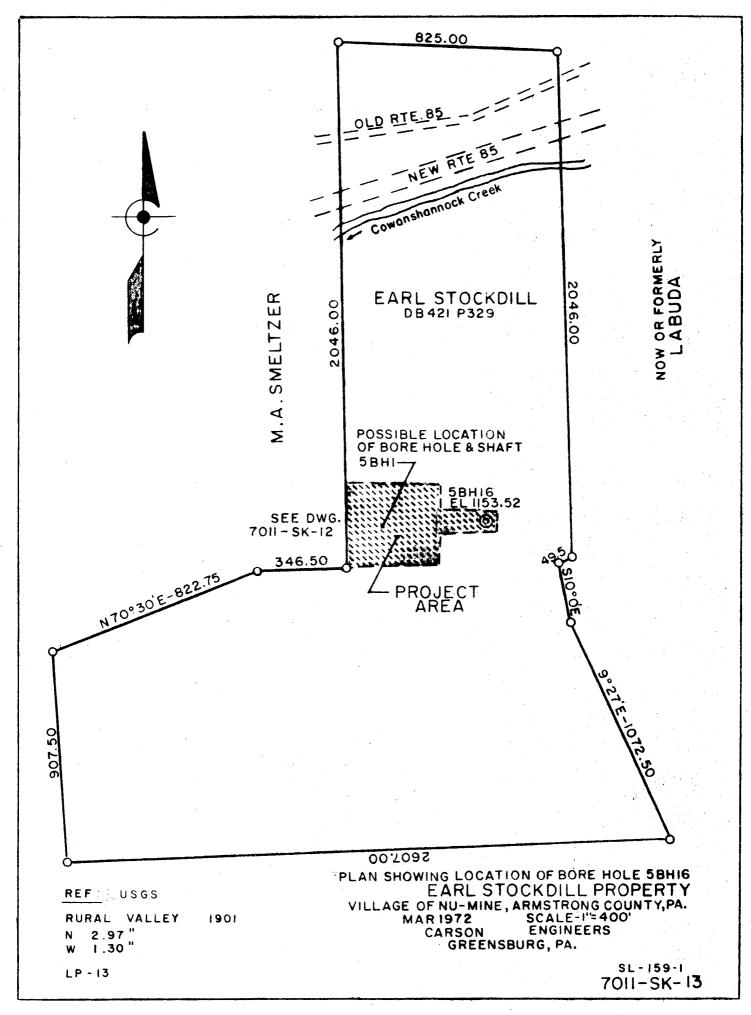
REF: USGS RURAL VALLEY 1901 N 3.96" W 44

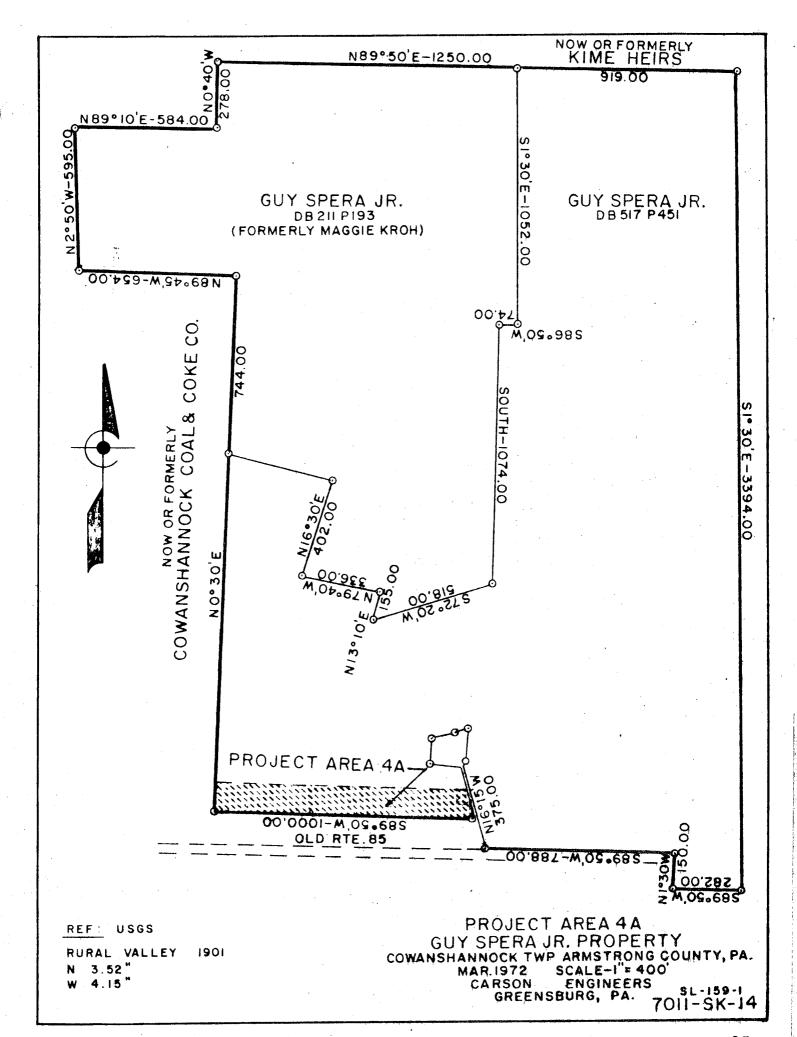
LP - 11

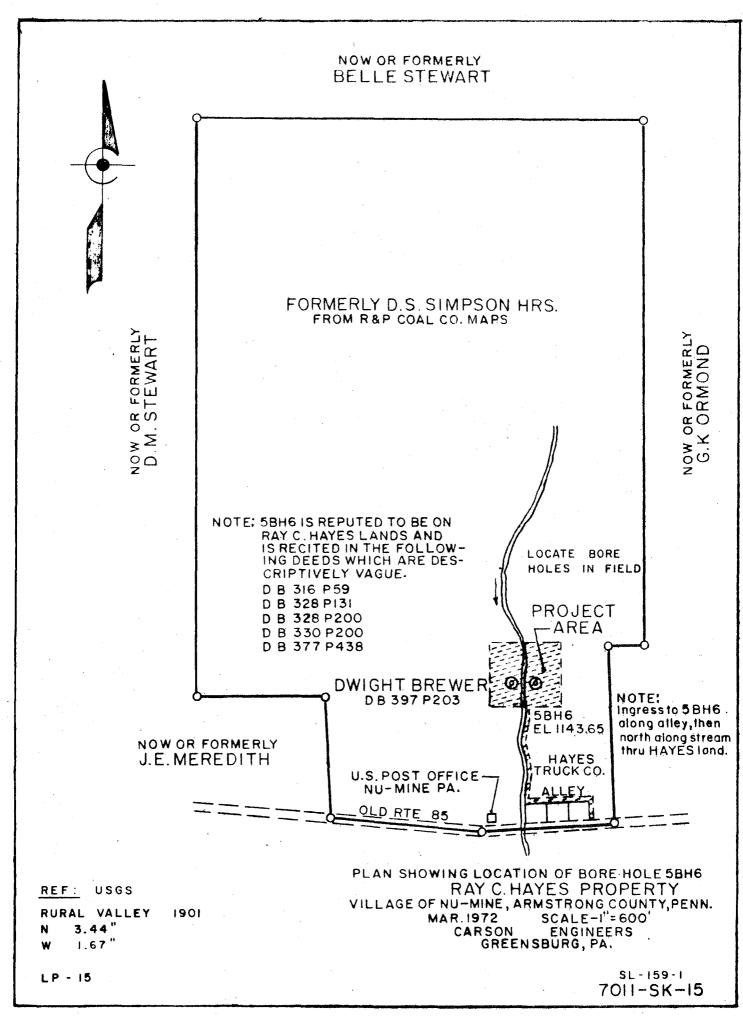
PLAN SHOWING LOCATION OF PORTAL SHAFT 5PS3
R.M. & K.M. NEAL PROPERTY
COWANSHANNOCK TWP. ARMSTRONG COUNTY, PA
MAR. 1972 SCALE—I"= 400'
CARSON ENGINEERS
GREENSBURG, PA.

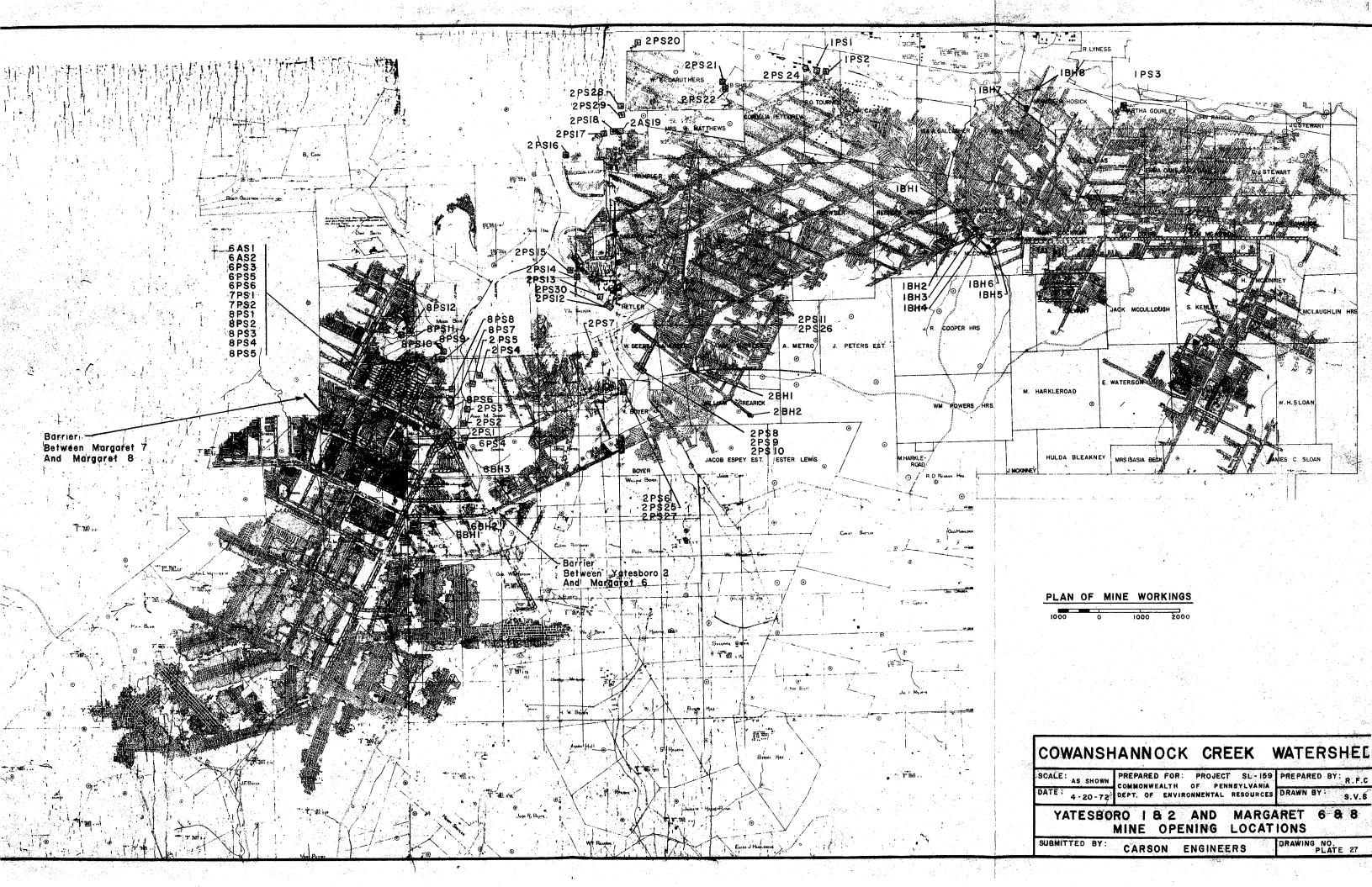
SL-159-1 7011-SK-11

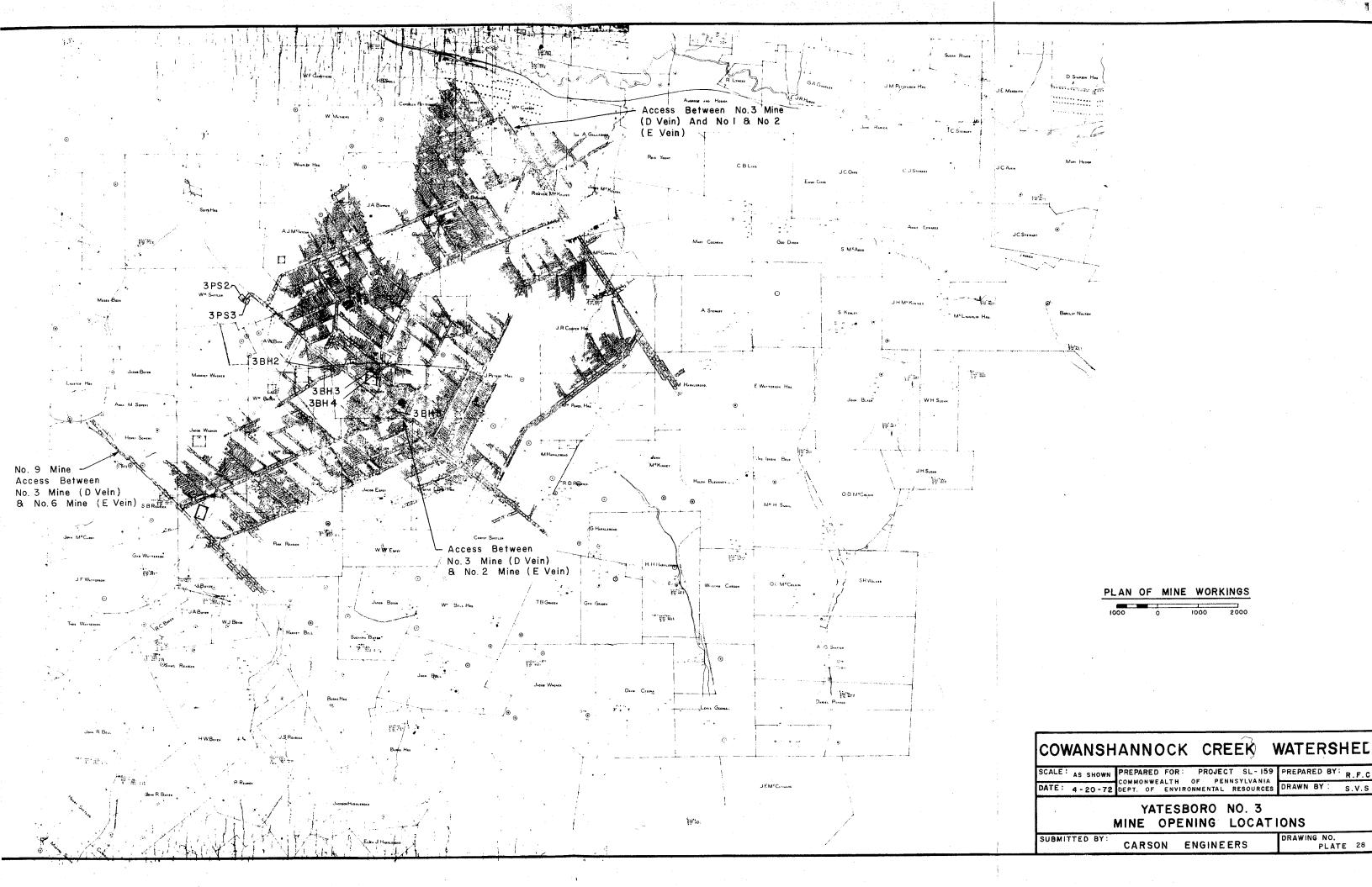


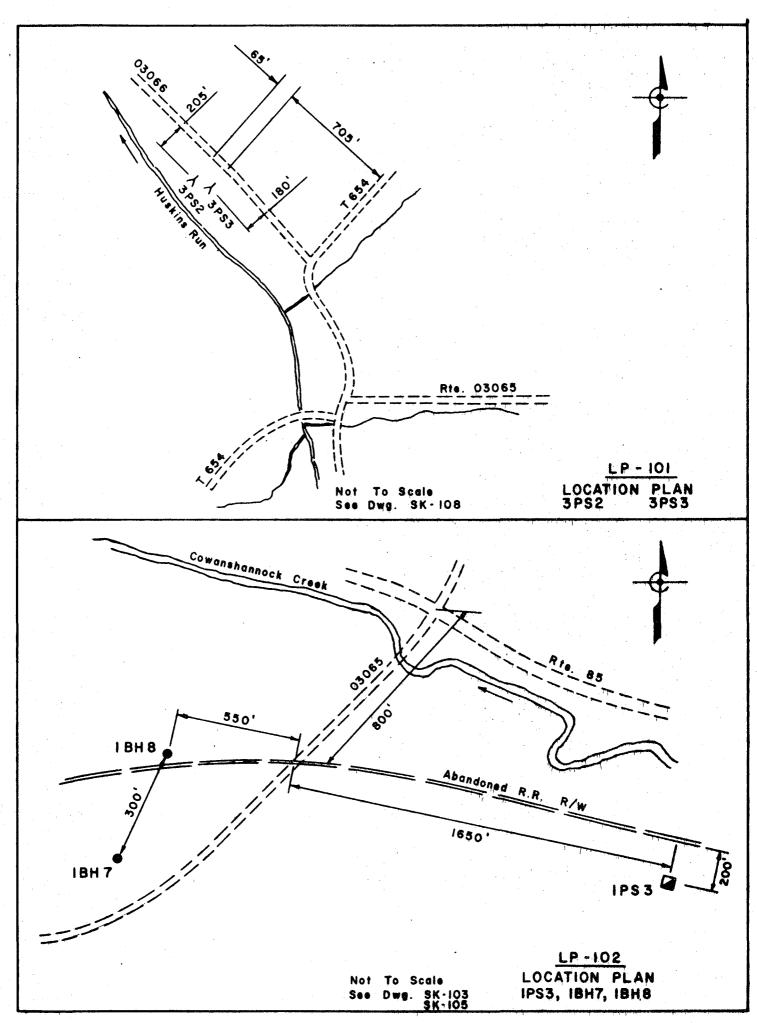


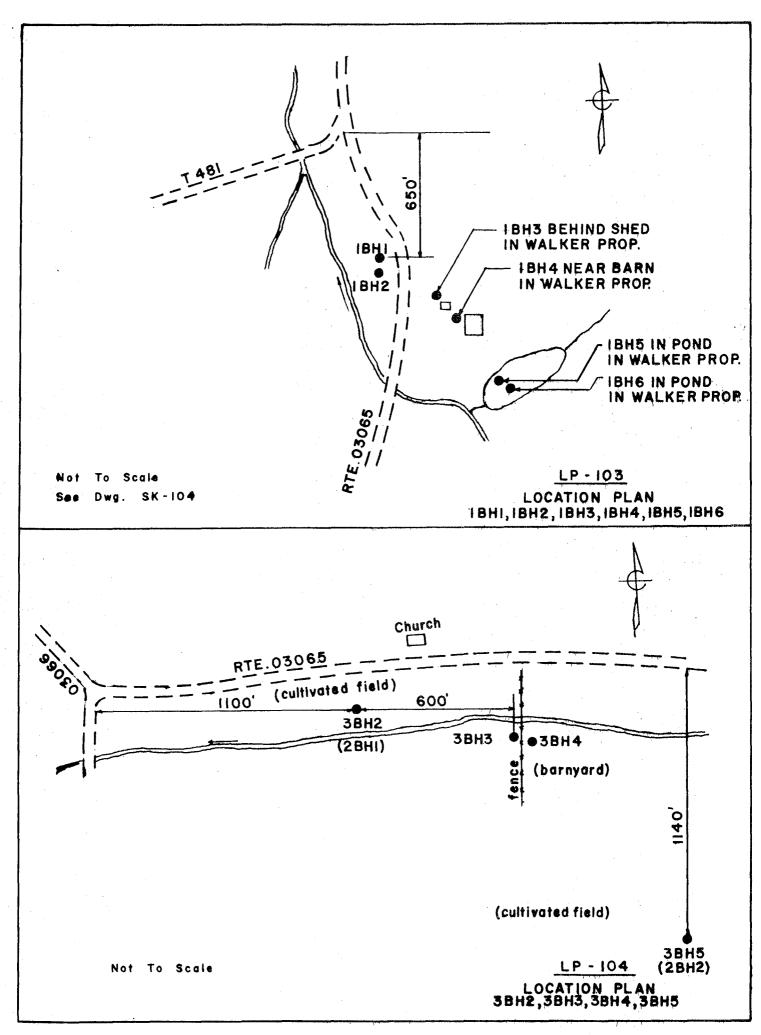


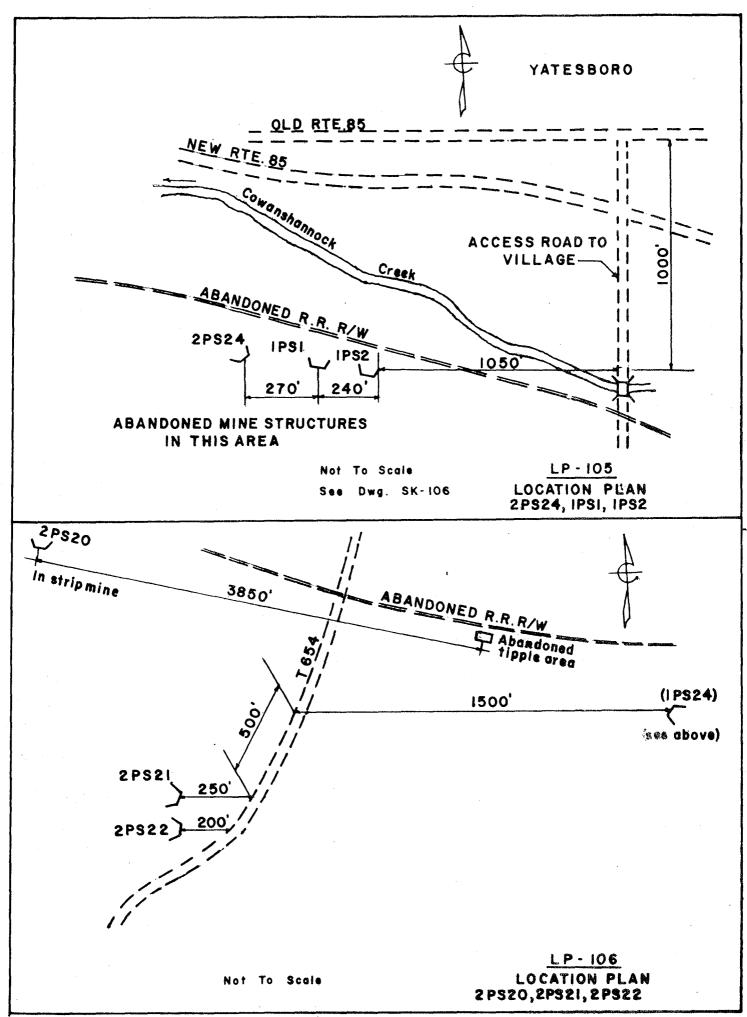


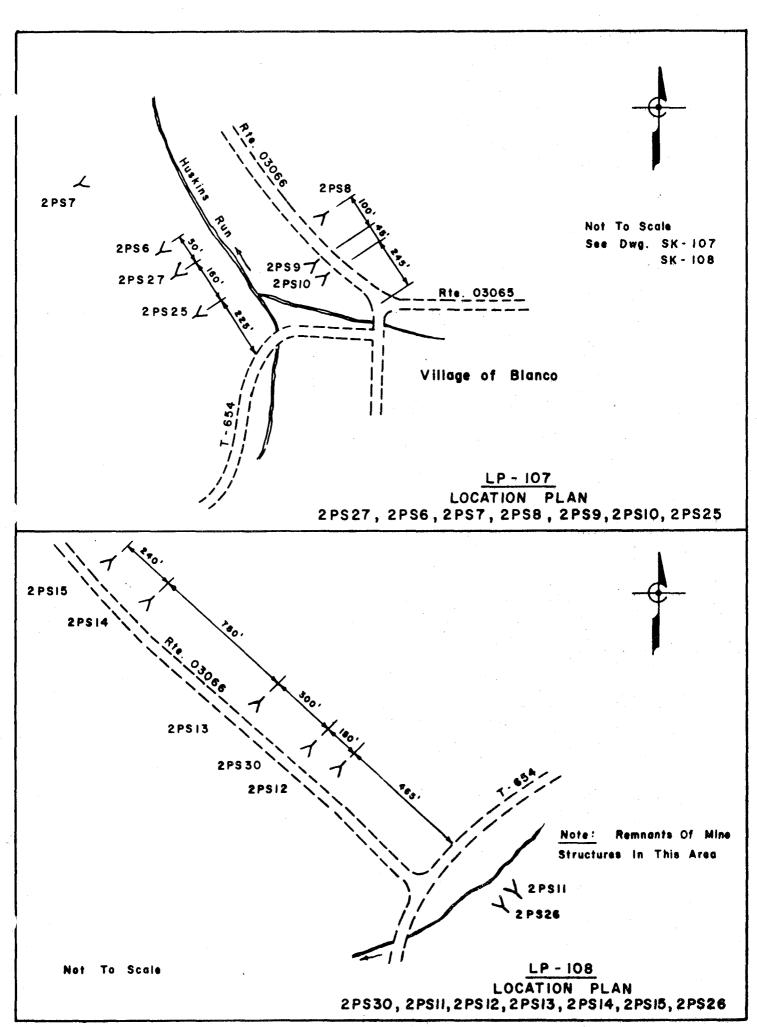


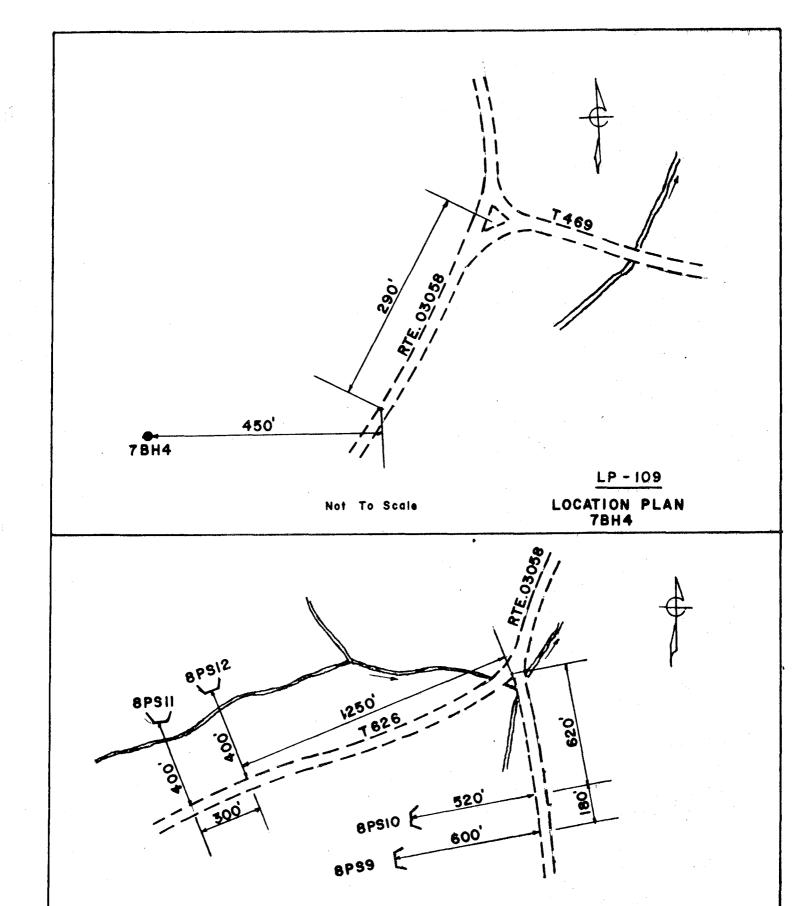




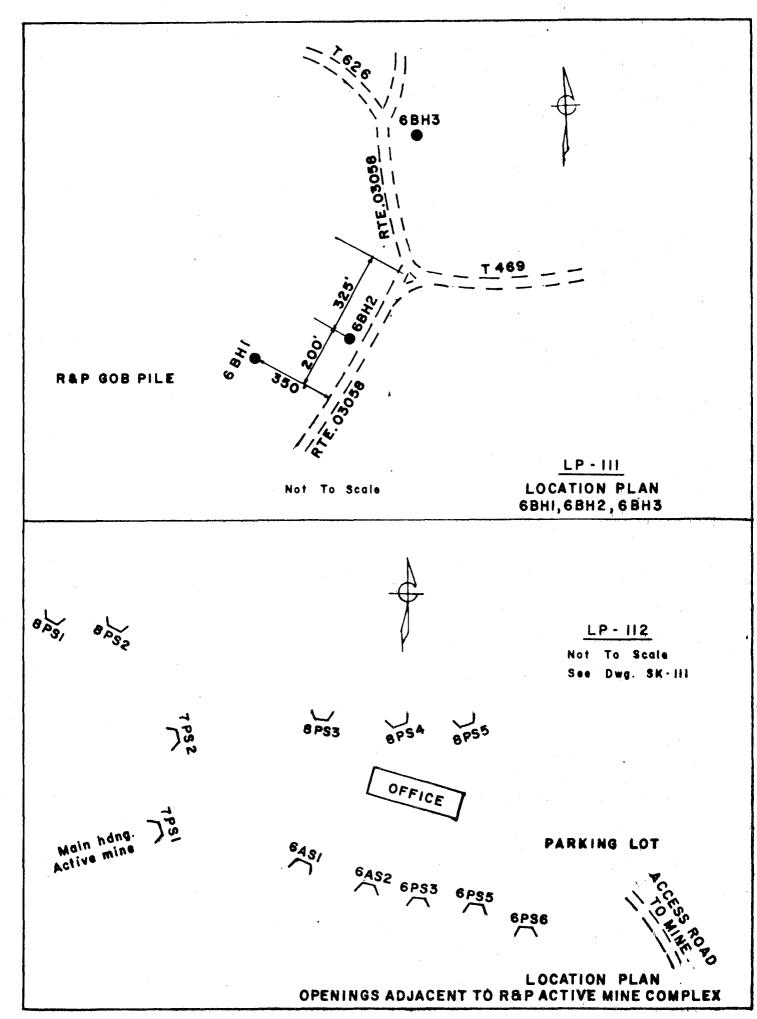


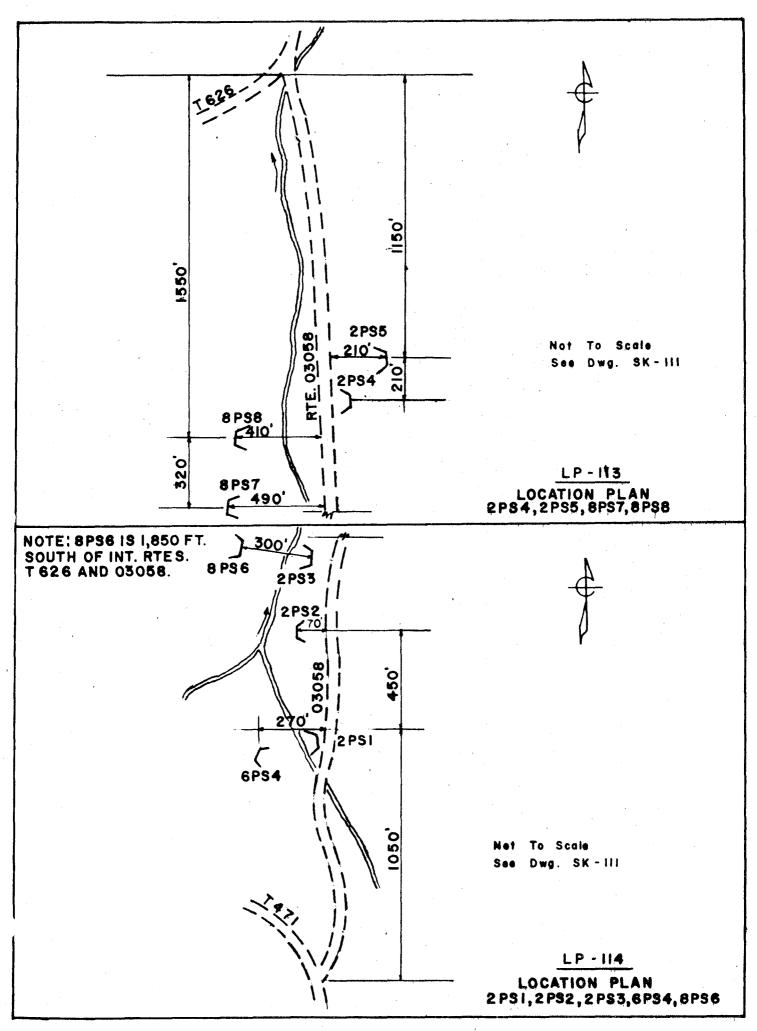


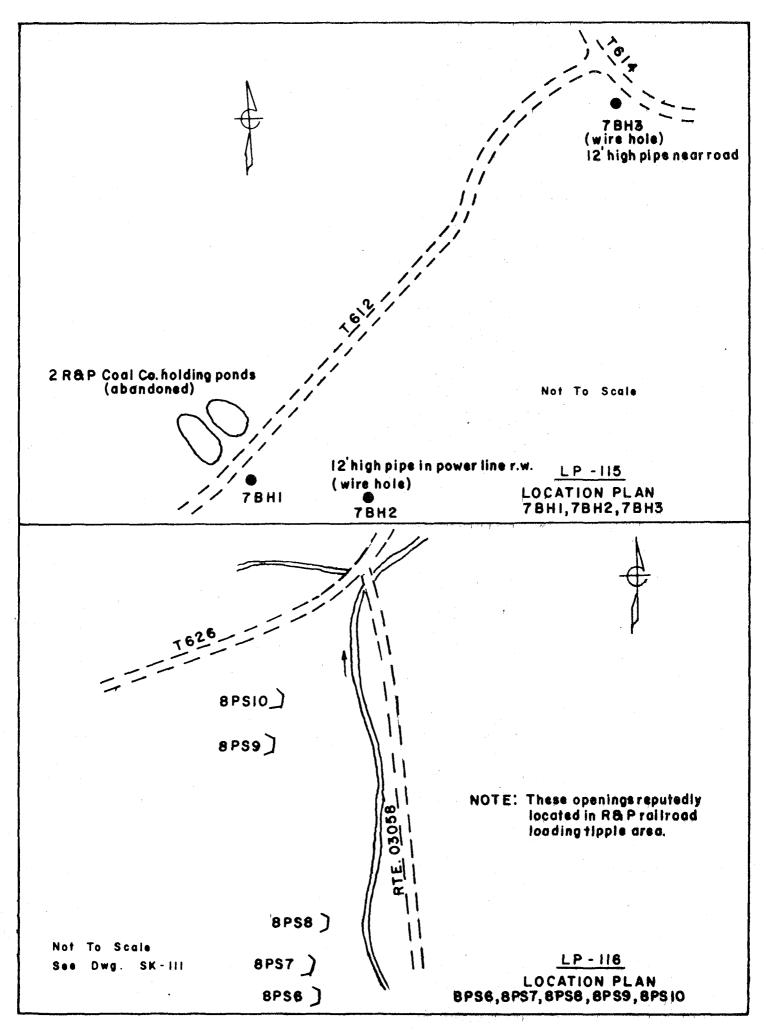


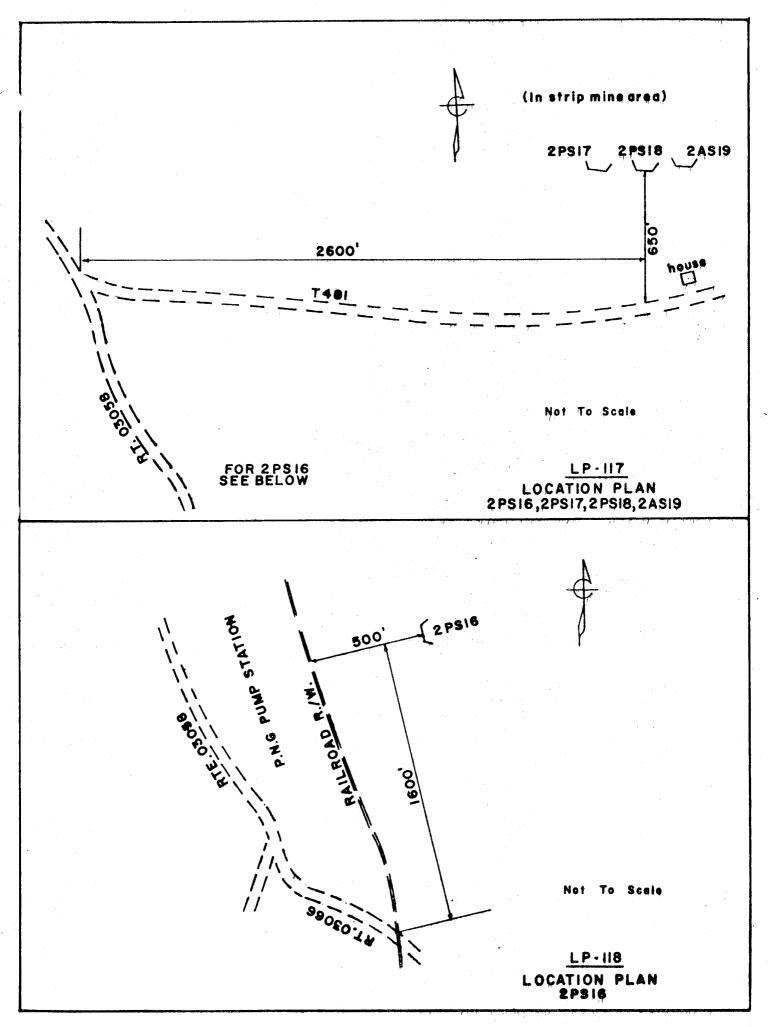


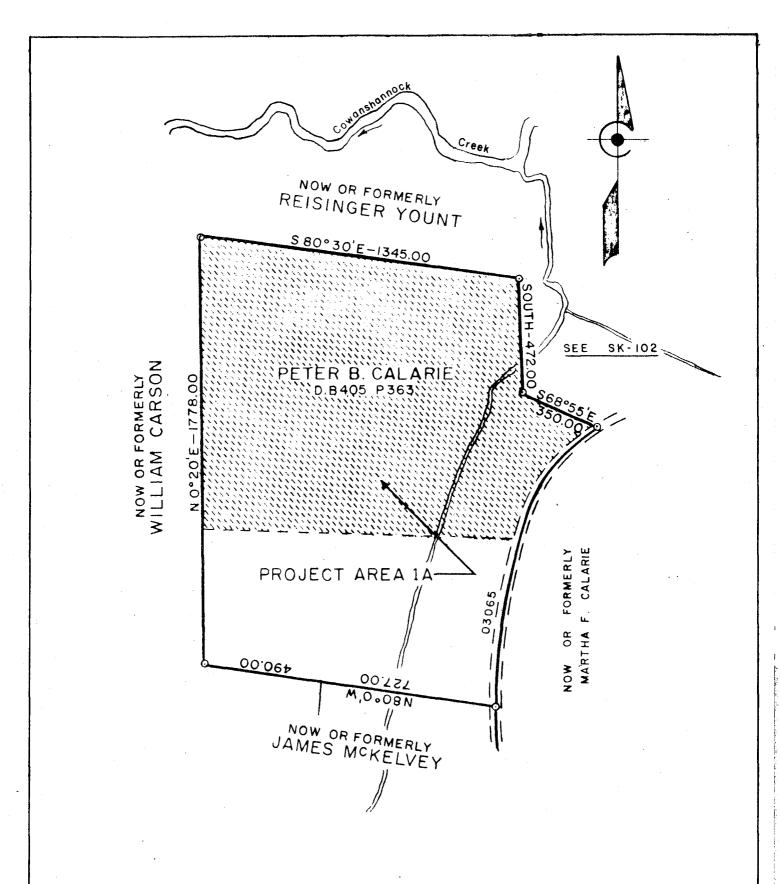
Not To Scale See Dwg. SK - IIO SK - III LP-110 LOCATION PLAN 8P39, 6P310, 6P311, 8P312





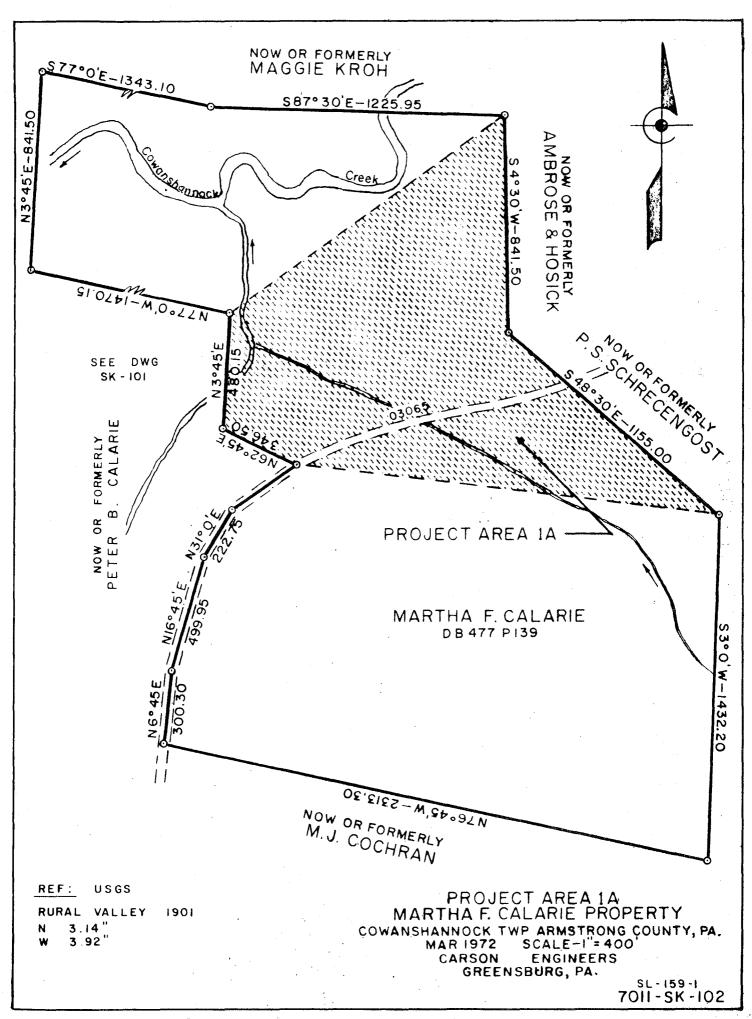


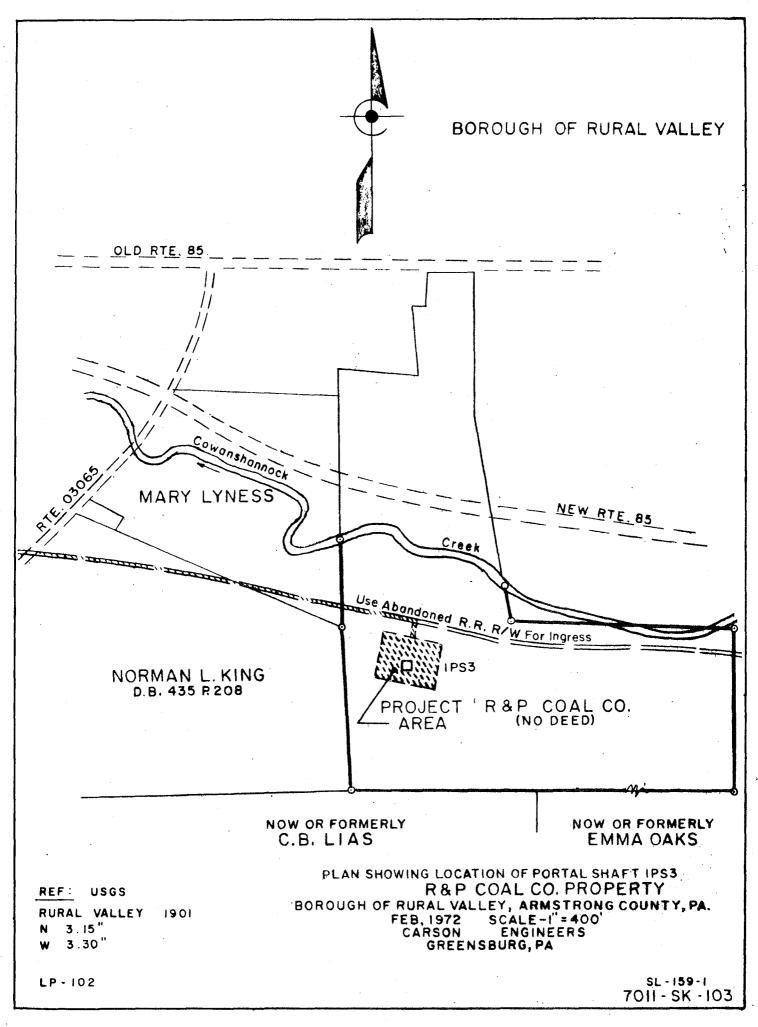


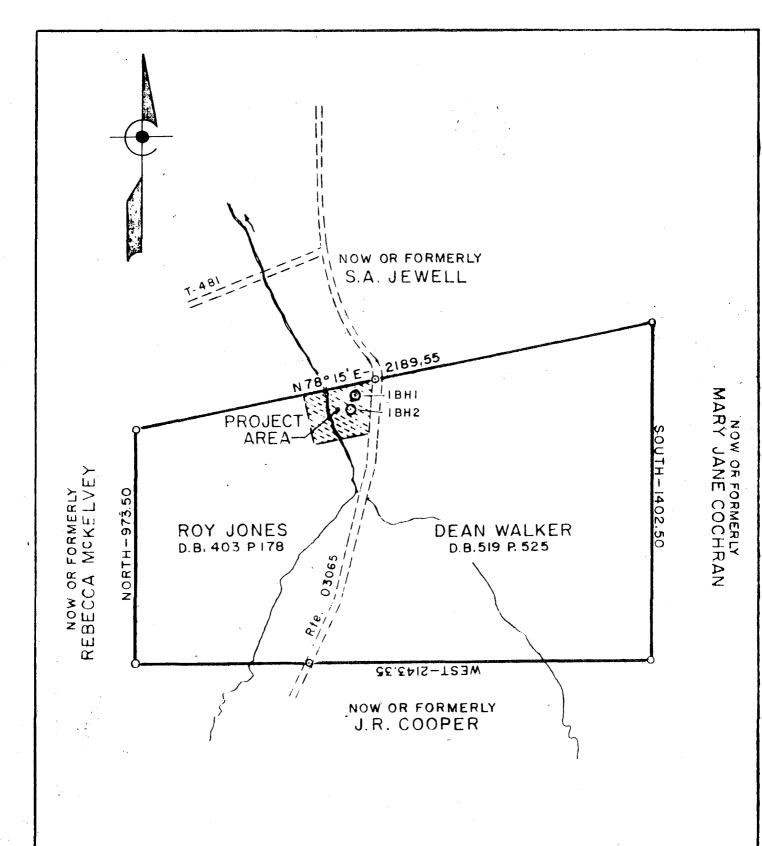


REF: USGS
RURAL VALLEY 1901
N 3.11"
W 4.00"

PROJECT AREA 1A
PETER B. CALARIE PROPERTY
COWANSHANNOCK TWP ARMSTRONG COUNTY, PA.
MAR 1972 SCALE-1"= 400
CARSON ENGINEERS
GREENSBURG, PA.







REF: USGS RURAL VALLEY 1901 N 2 54" W 4 02"

LP - 103

PLAN SHOWING LOCATION OF BORE HOLES IBHI AND IBH2

ROY JONES PROPERTY

COWANSHANNOCK TWP ARMSTRONG COUNTY, PA.

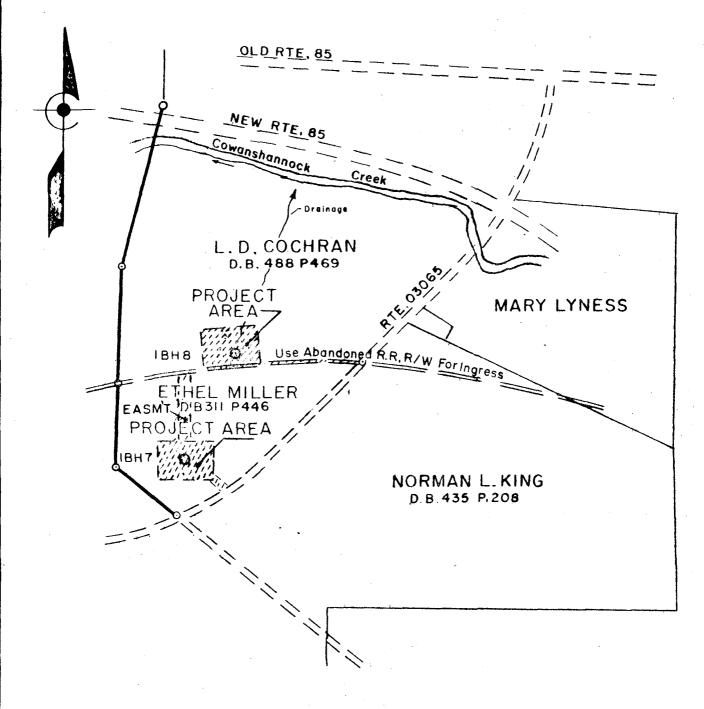
FEB. 1972 SCALE—I"= 400'

CARSON ENGINEERS

GREENSBURG. PA.

SL - 159-1 7011 - SK - 104

BOROUGH OF RURAL VALLEY



REF. USGS

RURAL VALLEY 1901

N 3.17"

W 3.72"

LP - 102

PLAN SHOWING LOCATION OF BORE HOLES IBH7 & IBH8

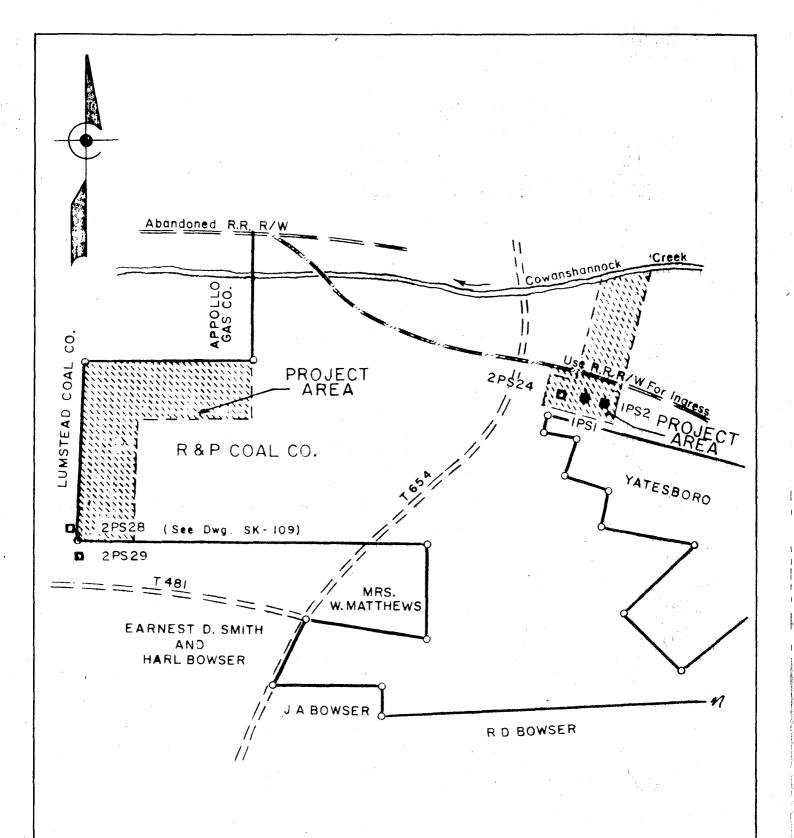
MILLER & COCHRAN LANDS

BOROUGH OF RURAL VALLEY, ARMSTRONG COUNTY, PA.

FEB. 1972 SCALE-1"=400'

CARSON ENGINEERS

GREENSBURG, PA.



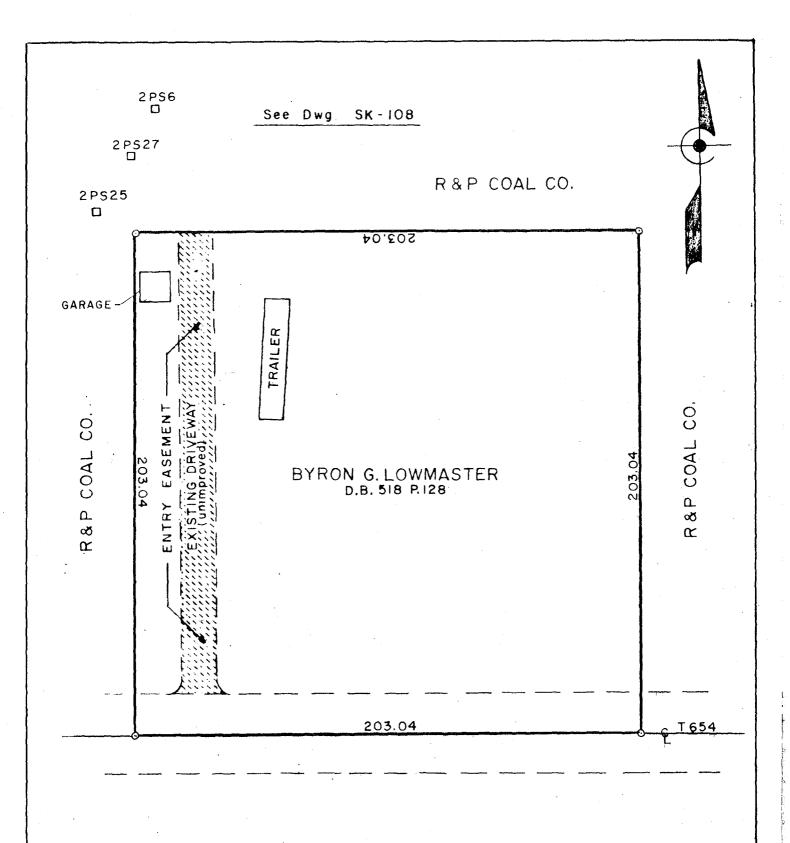
REF: USGS

RURAL VALLEY N 3.37" 1901

W 4.90"

LP-105

PLAN SHOWING LOCATION OF PORTAL SHAFTS IPSI, IPS2, 2PS24, 2PS28, 2PS29 R&P COAL CO. PROPERTY COWANSHANNOCK TWP. ARMSTRONG, COUNTY, PA.
MAR 1972 SCALE-1"= 800' ARSON ENGINEERS GREENSBURG, PA. CARSON



REF: USGS RURAL VALLEY 1901 N 1.81" W 5.67"

LF - 107

PLAN SHOWING EASEMENT TO PORTAL SHAFTS

2PS 25, 2PS 27 & 2PS 6

BYRON G LOWMASTER PROPERTY

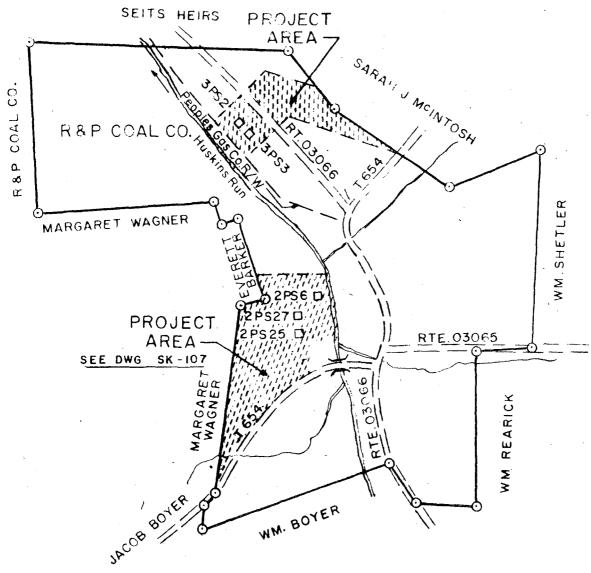
COWANSHANNOCK TWR ARMSTRONG COUNTY, PA.

FEB. 1972 SCALE-1 7 40

CARSON ENGINEERS

GREENSBURG, PA.





REF: USGS RURAL VALLEY 1901 N 2.14" W 5.76"

LP-101 & LP-107

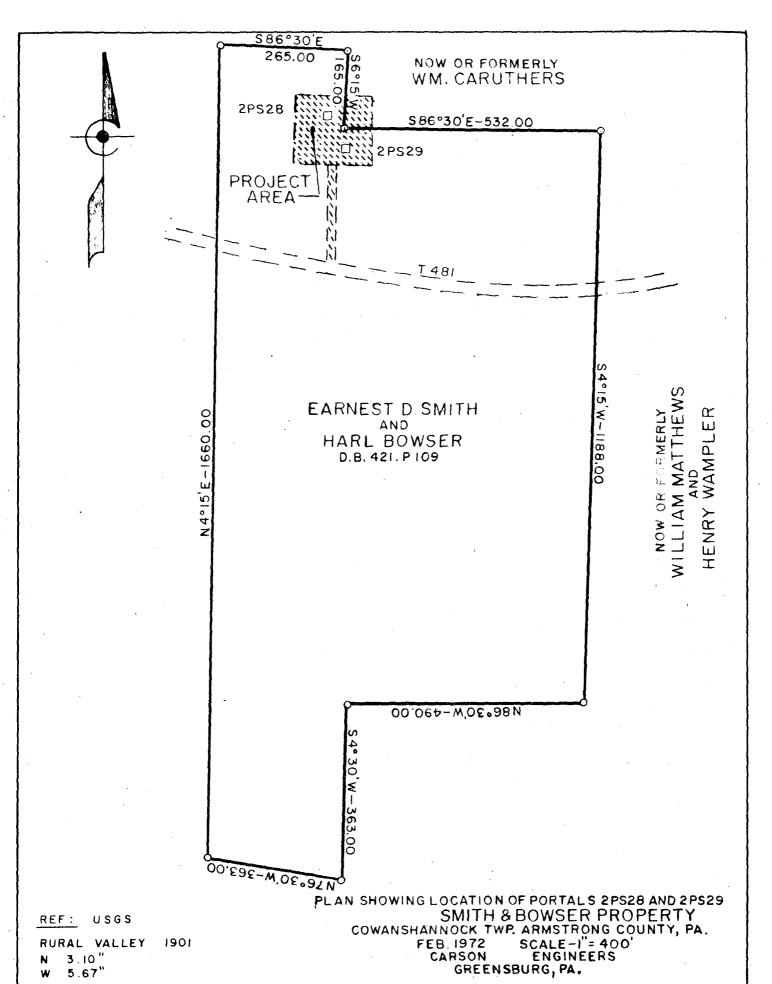
PLAN SHOWING LOCATION OF PORTAL SHAFTS
3 PS2, 3 PS3, 2 PS25

R&P COAL CO. PROPERTY

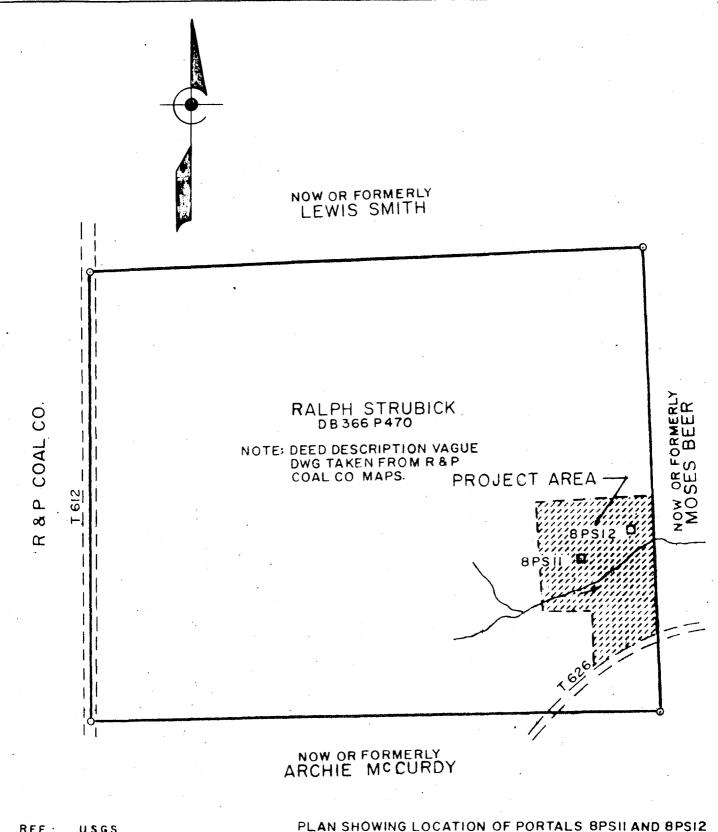
COWANSHANNOCK TWP. ARMSTRONG COUNTY, PA.

MAR 1972 SCALE-1"=800'

CARSON ENGINEERS
GREENSBURG, PA.



See Dwg. SK-106



REF: USGS RURAL VALLEY 1901 N 2.09" W 6.75"

LP - 110

PLAN SHOWING LOCATION OF PORTALS BPSII AND BPSI2

RALPH STRUBICK PROPERTY

COWANSHANNOCK TWP. ARMSTRONG COUNTY, PA.

MAR. 1972 SCALE I"= 400'

CARSON ENGINEERS

GREENSBURG, PA.

