

Figures – Section 4906-13-04

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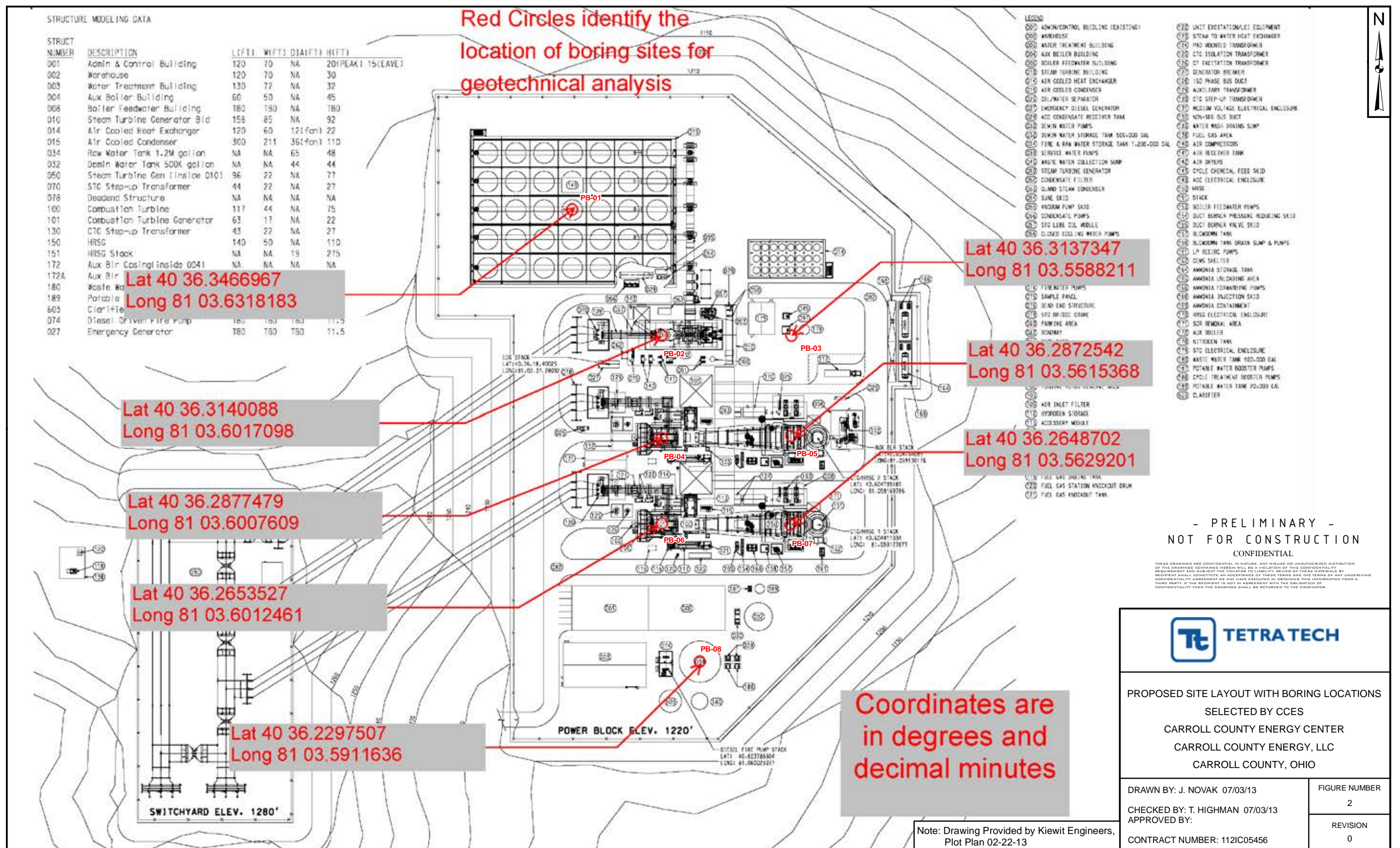


Source: CESO, Inc.



Figure 04-1 Site Survey Map

Carroll County Energy
Carroll County, Ohio



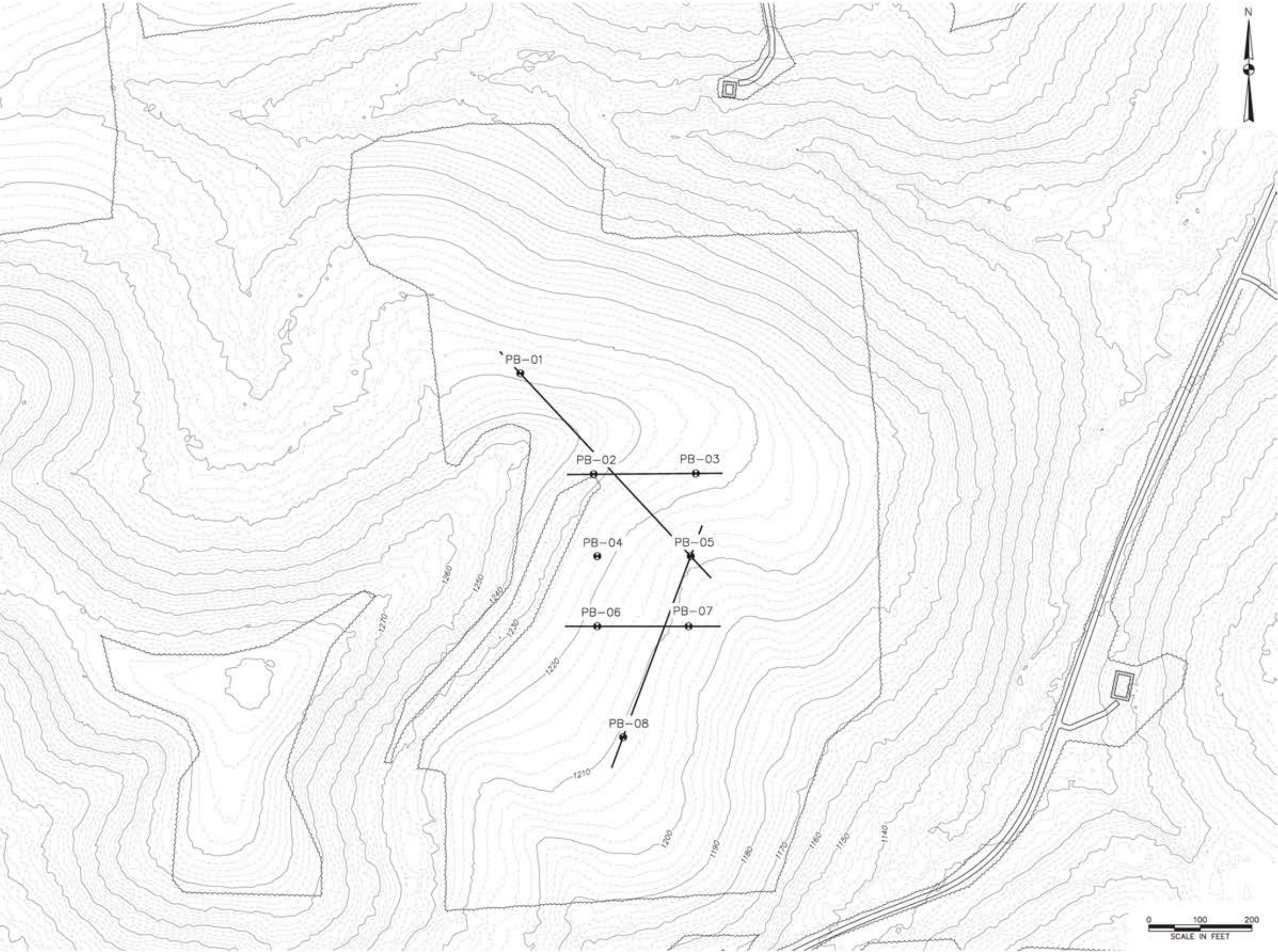


Figure 04-4a Geological Cross-Section

Carroll County Energy
Carroll County, Ohio

TERMINOLOGY FOR ROCK DESCRIPTION

HARDNESS OF ROCK	
HARDNESS	FIELD TEST
VERY HARD	MANY BLOWS WITH GEOLOGIC HAMMER REQUIRED TO BREAK INTACT SPECIMEN DOES NOT LEAVE A GROOVE ON THE ROCK SURFACE WHEN SCRATCHED WITH KNIFE.
HARD	HAND HELD SPECIMEN BREAKS WITH HAMMER END OF PICK UNDER MORE THAN ONE BLOW. LEAVES A FAINT GROOVE WHEN SCRATCHED WITH KNIFE.
MEDIUM HARD	CAN JUST BE SCRAPED OR PEELED WITH KNIFE.
SOFT	LEAVES A DEEP GROOVE WITH BROKEN EDGE.
VERY SOFT	CAN BE SCRATCHED WITH FINGERNAIL.

WEATHERING CLASSIFICATION OF ROCK	
GRADE	DIAGNOSTIC FEATURES
FRESH	NO VISIBLE SIGN OF DECOMPOSITION OR;
SLIGHTLY WEATHERED	SLIGHT DISCOLORATION INWARDS FROM OPEN FRACTURES, OTHERWISE SIMILAR TO FRESH
MODERATELY WEATHERED	DISCOLORATION THROUGHOUT. WEAKER MINERALS SUCH AS FELDSPAR DECOMPOSED. STRENGTH SOMEWHAT LESS THAN FRESH ROCK BUT CORES CANNOT BE BROKEN BY HAND OR SCRAPED BY KNIFE. TEXTURED PRESERVED.
HIGHLY WEATHERED	MOST MINERALS SOMEWHAT DECOMPOSED. SPECIMENS CAN BE BROKEN BY HAND WITH EFFORT OR SHAVED WITH KNIFE. CORE STONES PRESENT IN ROCK MASS. TEXTURE BECOMING INDISTINCT BUT FABRIC PRESERVED.
COMPLETELY RESIDUAL SOIL	MINERALS DECOMPOSED TO SOIL BUT FABRIC ADVANCED STATE OF DECOMPOSITION RESULTING IN PLASTIC SOILS. ROCK FABRIC AND STRUCTURE COMPLETELY DESTROYED. LARGE VOLUME CHANGE.

BEDDING AND DISCONTINUITY SPACING OF ROCK		
DETAILED DESCRIPTION		
DESCRIPTION FOR STRUCTURAL FEATURES: BEDDING OR FOLIATION	SPACING	DESCRIPTION FOR JOINTS, FAULTS OR OTHER FRACTURES
VERY THICKLY (BEDDED, FOLIATED, OR BANDED)	>6'	VERY WIDELY (FRACTURED OR JOINTED)
THICKLY	2"-6"	WIDELY
MEDIUM	6"-24"	MEDIUM
THINLY	2 1/2"-8"	CLOSELY
VERY THINLY	3/4"-2 1/2"	VERY CLOSELY
INTENSELY LAMINATED	1/4"-3/4"	EXTREMELY CLOSE
VERY INTENSELY LAMINATED	<1/4"	

ENGINEERING CLASSIFICATION FOR USE IN SITU ROCK QUALITY

RQD %	ROCK MASS QUALITY
90-100	EXCELLENT
75-90	GOOD
50-75	FAIR
25-50	POOR
0-25	VERY POOR

NOTE:
THE DEPTH AND THICKNESS OF GEOLOGIC CONDITIONS ON THIS GEOLOGIC CROSS SECTION ARE GENERALIZED FROM THE TEST BORING INFORMATION. INFORMATION ON SUBSURFACE CONDITIONS EXISTS ONLY AT THE TEST BORING LOCATION AND SUBSURFACE CONDITIONS MAY DIFFER BETWEEN THE TEST BORING LOCATIONS.

TERMINOLOGY FOR SOIL DESCRIPTION

CONSISTENCY OF COHESIVE SOILS		
CONSISTENCY	BLOWS/FT	UNCONFINED COMPRESSIVE STRENGTH T.S.F.
VERY SOFT	<2	<0.25
SOFT	2-4	0.25-0.50
MEDIUM STIFF	4-8	0.50-1.0
STIFF	8-15	1-2
VERY STIFF	15-30	2-4
HARD	>30	>4

DENSITY OF GRANULAR SOILS	
DESIGNATION	BLOWS/FT
VERY LOOSE	0-4
LOOSE	5-10
MEDIUM DENSE	11-30
DENSE	31-50
VERY DENSE	>50

STANDARD PENETRATION RESISTANCE (SPT) IS THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2 INCH OD SPLIT SPOON SAMPLER INTO THE SOIL USING A 140 LB HAMMER FALLING FREELY THROUGH 30 INCHES. THE SAMPLE IS DRIVEN 18 INCHES AND THE COMBINED NUMBER OF BLOWS FOR THE LAST TWO 6 INCH INTERVALS IS DESIGNATED AS STANDARD PENETRATION RESISTANCE (SPT N-VALUES).

PROPORTIONS	
TRACE	0-10%
LITTLE	11-20%
SOME	21-35%
AND	35-50%

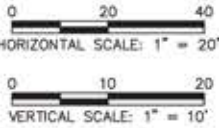
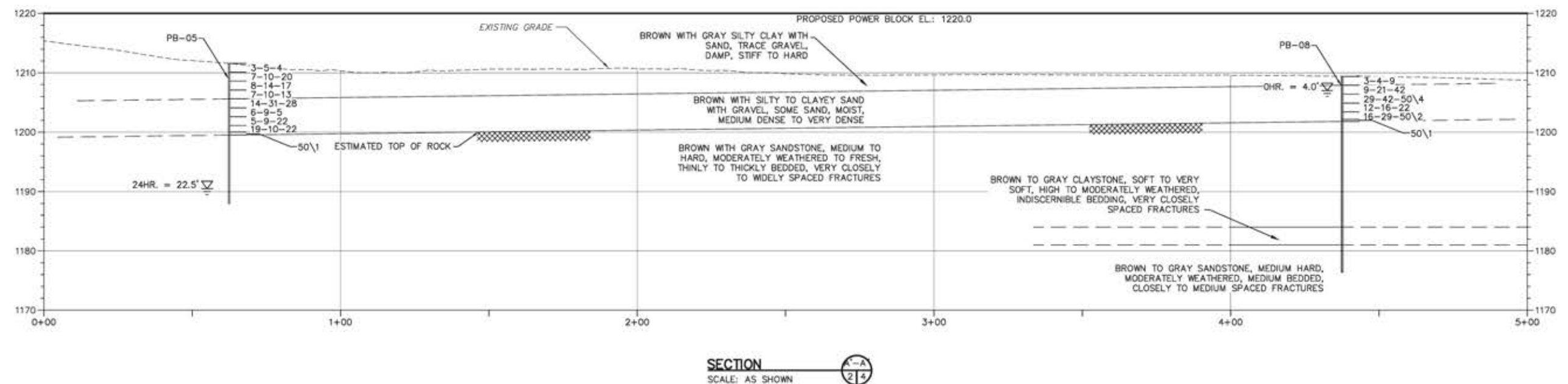
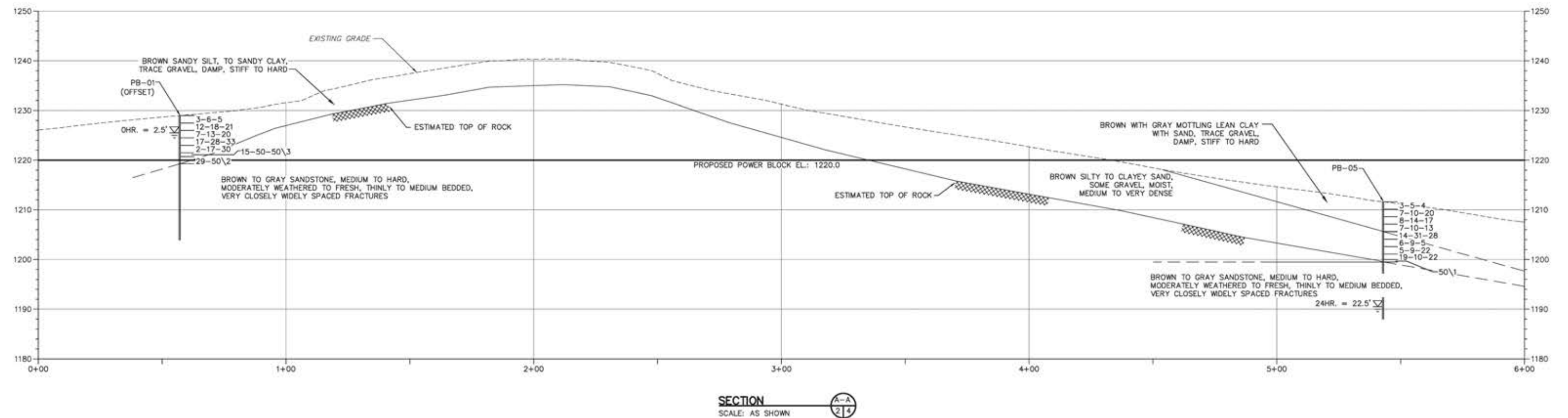
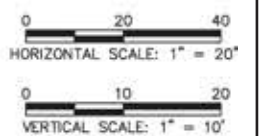


Figure 04-4b Geological Cross-Section



NOTE:

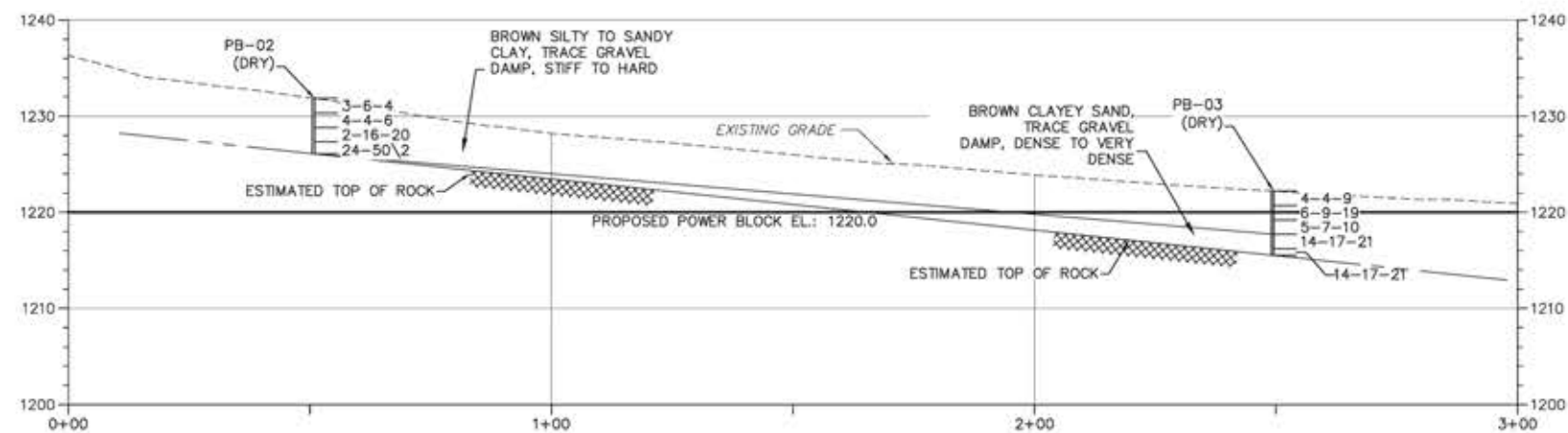
THE DEPTH AND THICKNESS OF GEOLOGIC CONDITIONS ON THIS GEOLOGIC CROSS SECTION ARE GENERALIZED FROM THE TEST BORING INFORMATION. INFORMATION ON SUBSURFACE CONDITIONS EXISTS ONLY AT THE TEST BORING LOCATION AND SUBSURFACE CONDITIONS MAY DIFFER BETWEEN THE TEST BORING LOCATIONS.



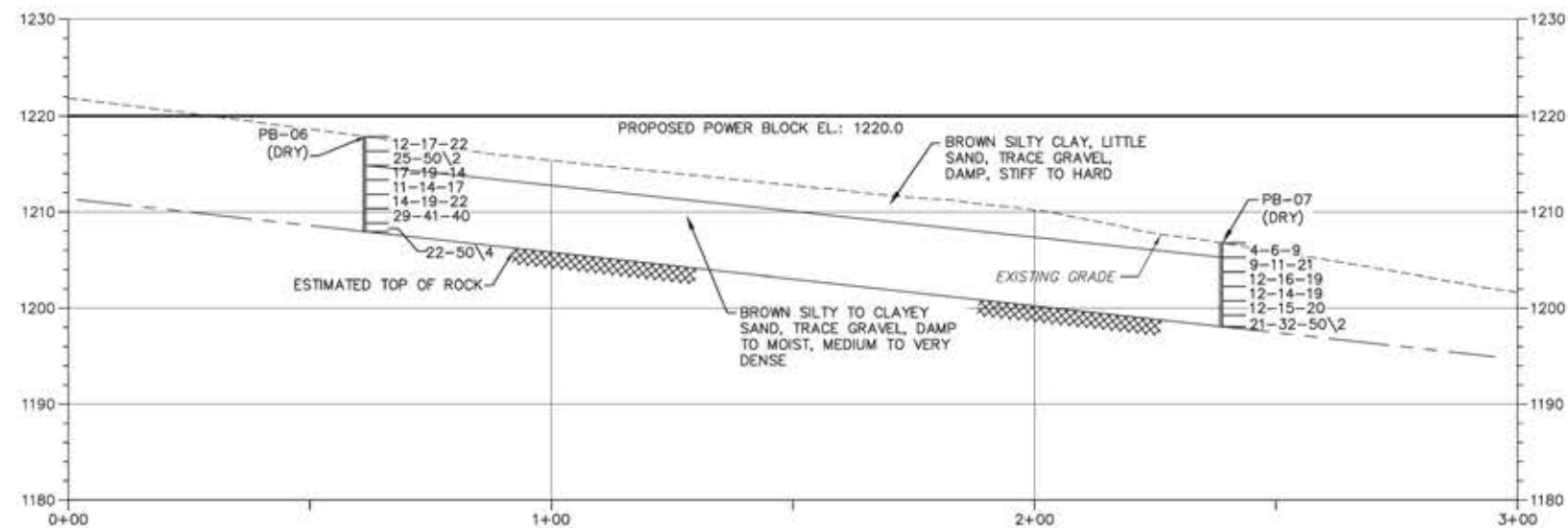
Carroll County
ENERGY

Figure 04-4c Geological Cross-Section

Carroll County Energy
Carroll County, Ohio



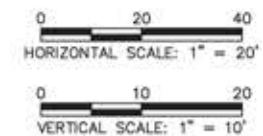
SECTION B-B
SCALE: AS SHOWN



SECTION C-C
SCALE: AS SHOWN

NOTE:

THE DEPTH AND THICKNESS OF GEOLOGIC CONDITIONS ON THIS GEOLOGIC CROSS SECTION ARE GENERALIZED FROM THE TEST BORING INFORMATION. INFORMATION ON SUBSURFACE CONDITIONS EXISTS ONLY AT THE TEST BORING LOCATION AND SUBSURFACE CONDITIONS MAY DIFFER BETWEEN THE TEST BORING LOCATIONS.

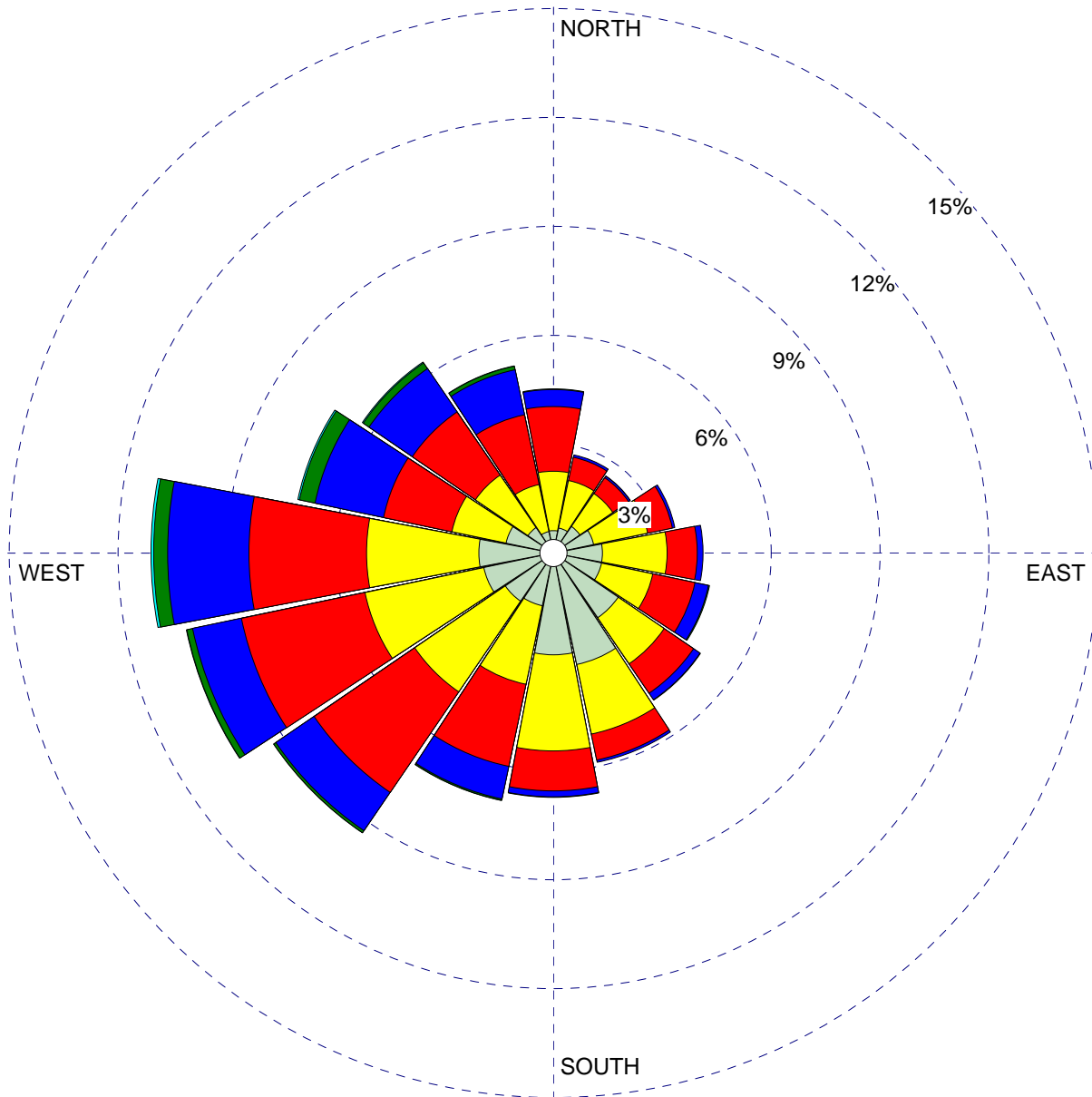


WIND ROSE PLOT:

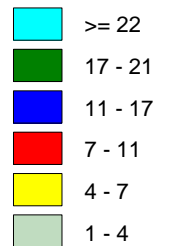
Station #94823 - PITTSBURGH/WSCOM 2 AIRPORT, PA

DISPLAY:

**Wind Speed
Direction (blowing from)**



**WIND SPEED
(Knots)**



Calms: 4.33%

Carroll County
ENERGY

**Figure 04-5
Wind Rose**

Carroll County Energy
Carroll County, Ohio

DATA PERIOD:

Start Date: 1/1/2008 - 00:00
End Date: 12/31/2012 - 19:00

COMPANY NAME:

Carroll County Energy LLC

MODELER:

RLK

CALM WINDS:

4.33%

TOTAL COUNT:

43766 hrs.

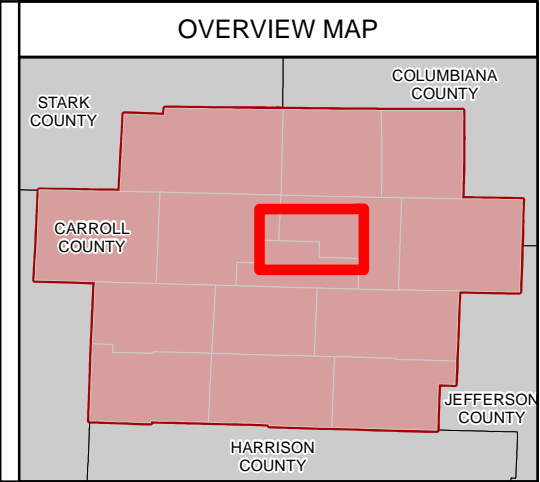
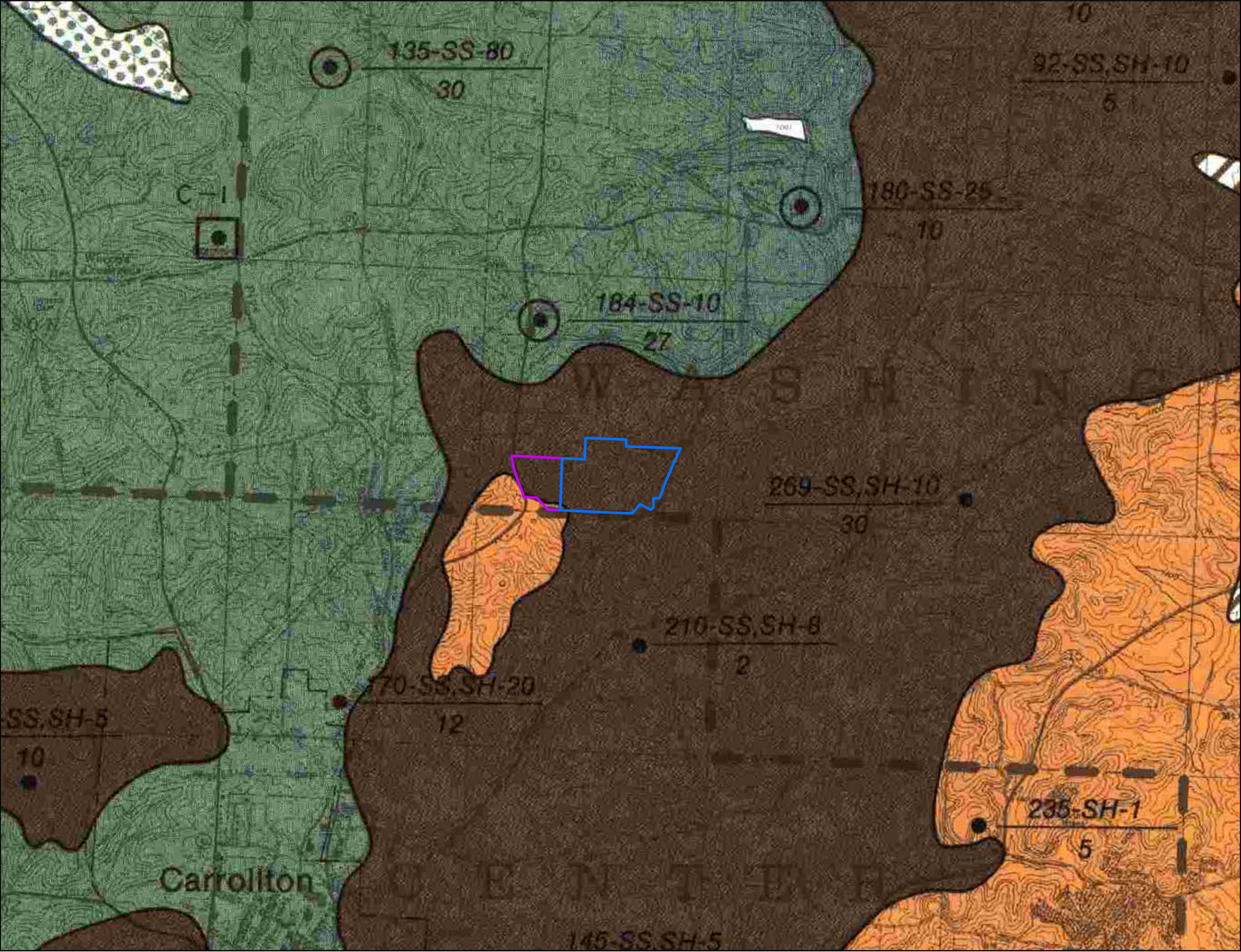
AVG. WIND SPEED:

6.64 Knots

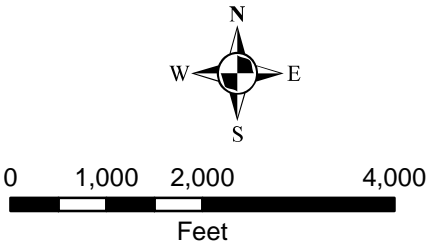
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PROJECT NO.:

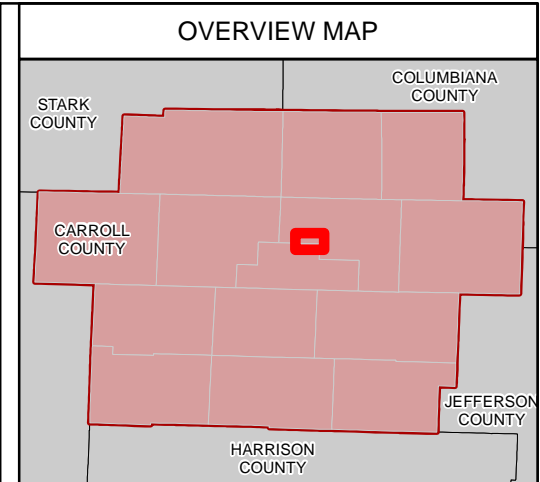
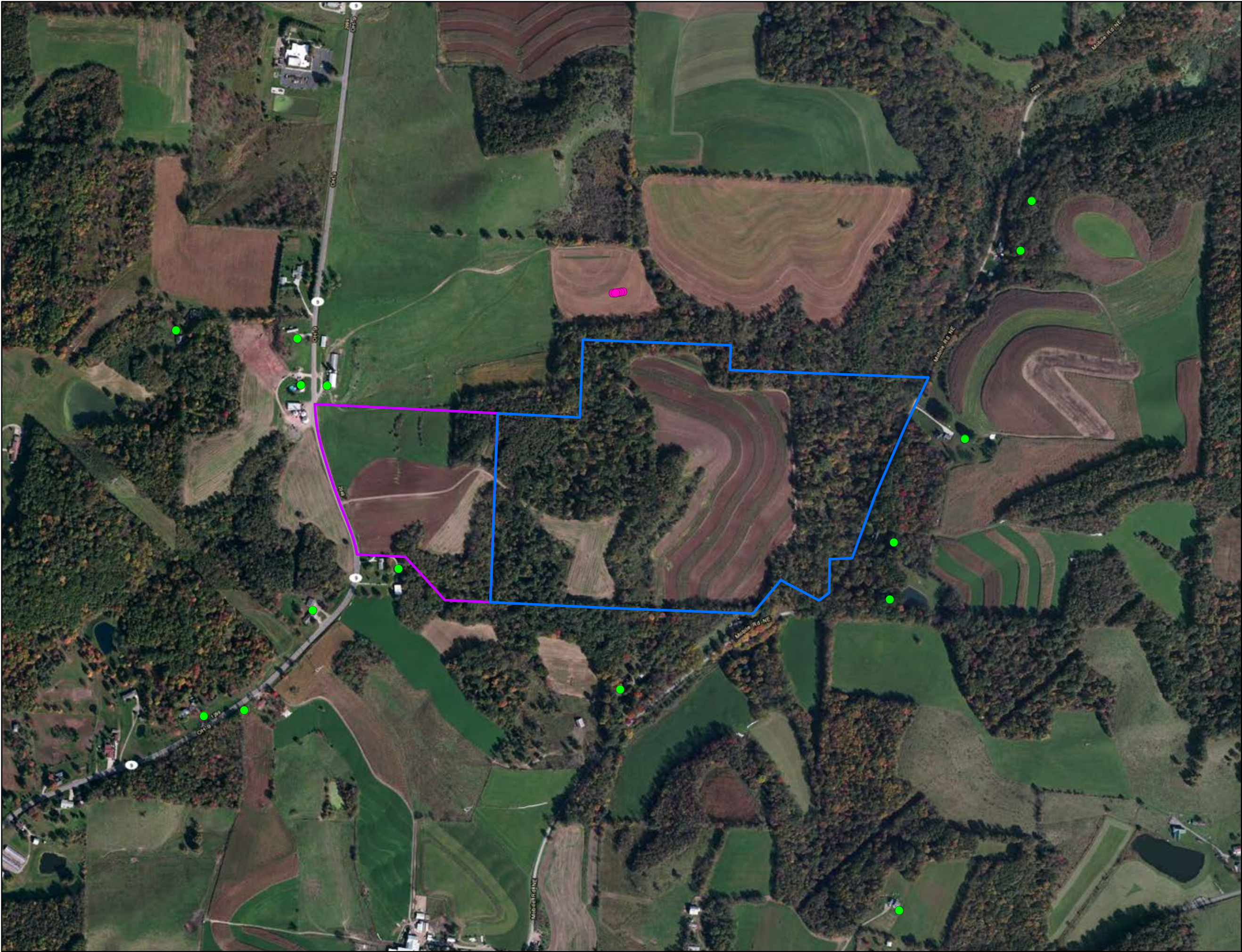


- Legend**
- Construction Laydown Area
 - Facility Site
 - Areas in Which Yields of 10 to 25 Gallons Per Minute May Be Developed
 - Areas in Which Yields of 3 to 10 Gallons Per Minute May Be Developed
 - Areas in Which Yields Seldom Exceed 3 Gallons Per Minute



**Figure 04-6
Aquifer Information**

Carroll County Energy
Carroll County, Ohio



Legend

- REX Gas Well
- Gas Well
- Water Well
- Stream
- Wetlands
- Facility Site
- Construction Laydown Area

NOTES:

1. Water well locations provided by the Ohio Department of Natural Resources.
2. No gas wells exist in proximity to the Facility Site.
3. No Water Source Protection Areas exist in proximity to the Facility Site.

Figure 04-7 Water Wells, Oil and Gas Wells and Drinking Water Source Protection Areas

Carroll County Energy
Carroll County, Ohio

This foregoing document was electronically filed with the Public Utilities

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in

Case No(s). 13-1752-EL-BGN

Summary: Application Figures 04-1 through 04-7. electronically filed by Ms. Miranda R Leppla
on behalf of Carroll County Energy LLC