

# Mason Dixon Deep Mine Complex

## Deep Mine and Associated Surface Facilities

Wolfpen Knob Development Company  
CONSOL Energy, Inc.  
Pittsburgh, Pennsylvania



# Mason Dixon Complex Summary

- The operation will be a longwall mining operation with associated coal processing facilities located in the Battelle District of Monongalia County, West Virginia
- The mine will extract and process coal from the Pittsburgh Coal Seam.
- Project life is currently anticipated to be 30 years

# Mason Dixon Complex Summary

- Estimated to provide employment for 520 direct employees of which 90% are anticipated to be residents of West Virginia
- Estimated direct payroll of \$41.6 MM per year or \$1.5 B throughout the life of the project
- Estimated to produce another 2,600 indirect jobs in the local economy, resulting in additional indirect wages of \$102 MM dollars through upstream and downstream services

# Mason Dixon Complex Summary

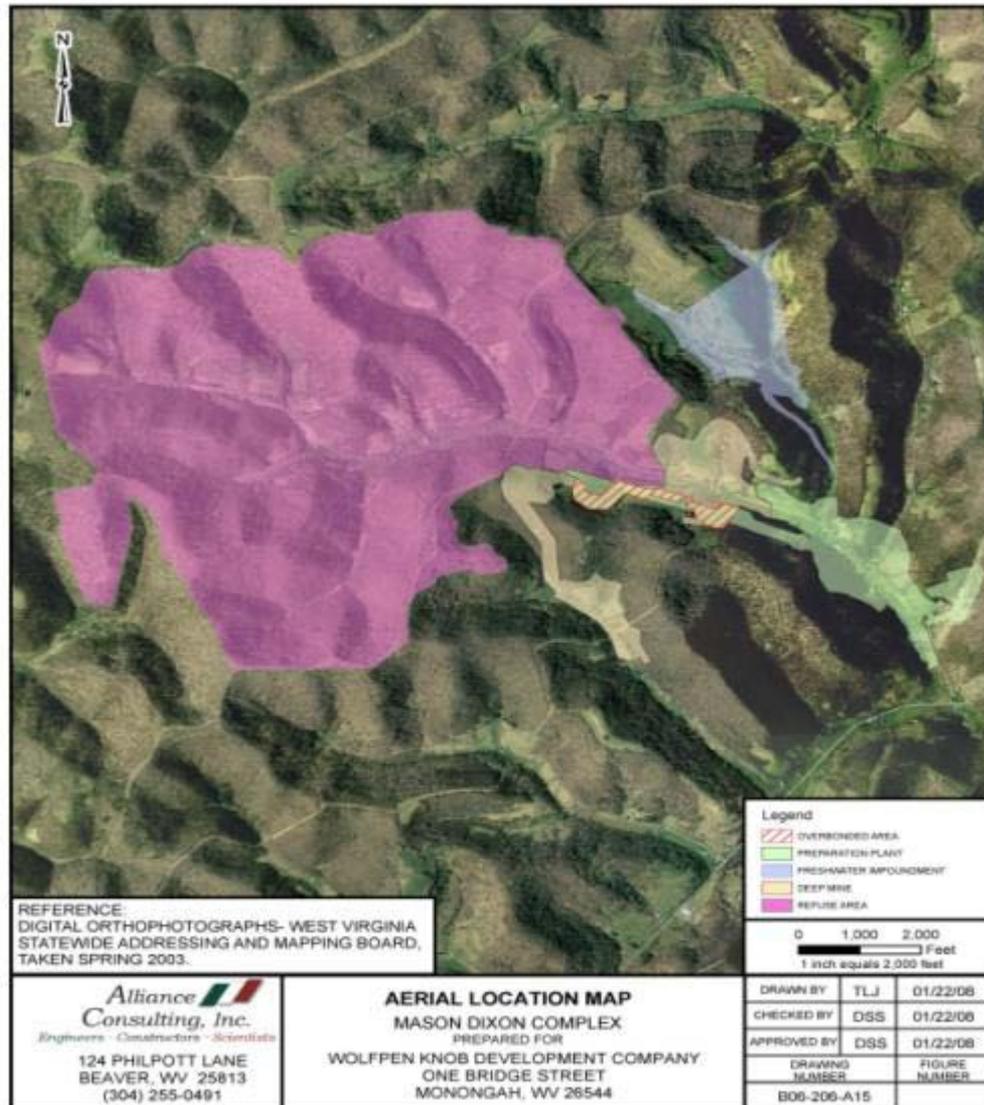
- Anticipated to pay approximately \$3.25 MM annually in property taxes or \$99.8 MM throughout the life of the project
- Anticipated to pay approximately \$70 MM annually in severance taxes or \$2.1 B throughout the life of the project
- Due to construction timeframes the project is proposed to be constructed in phases with the Preparation Plant and Deep Mine being constructed in Phase I, the Coal Refuse Disposal Area in Phase II and the Freshwater Impoundment as Phase III

# Associated Permits

- Mason Dixon Deep Mine – 119.89 ac.
  - Permit No.U-2008-08
- Mason Dixon Preparation Plan – 127.66 ac.
  - Permit No. 0-2009-08
- Mason Dixon Coal Refuse Disposal Facility – 1,372.28 ac.
  - Permit No. O-2013-09
- Mason Dixon Freshwater Impoundment – 124.00 ac.
  - Permit No. 0-2003-09
- Vaughan Rail Line

# Proposed Project Area

## Project Overview – Permit Areas

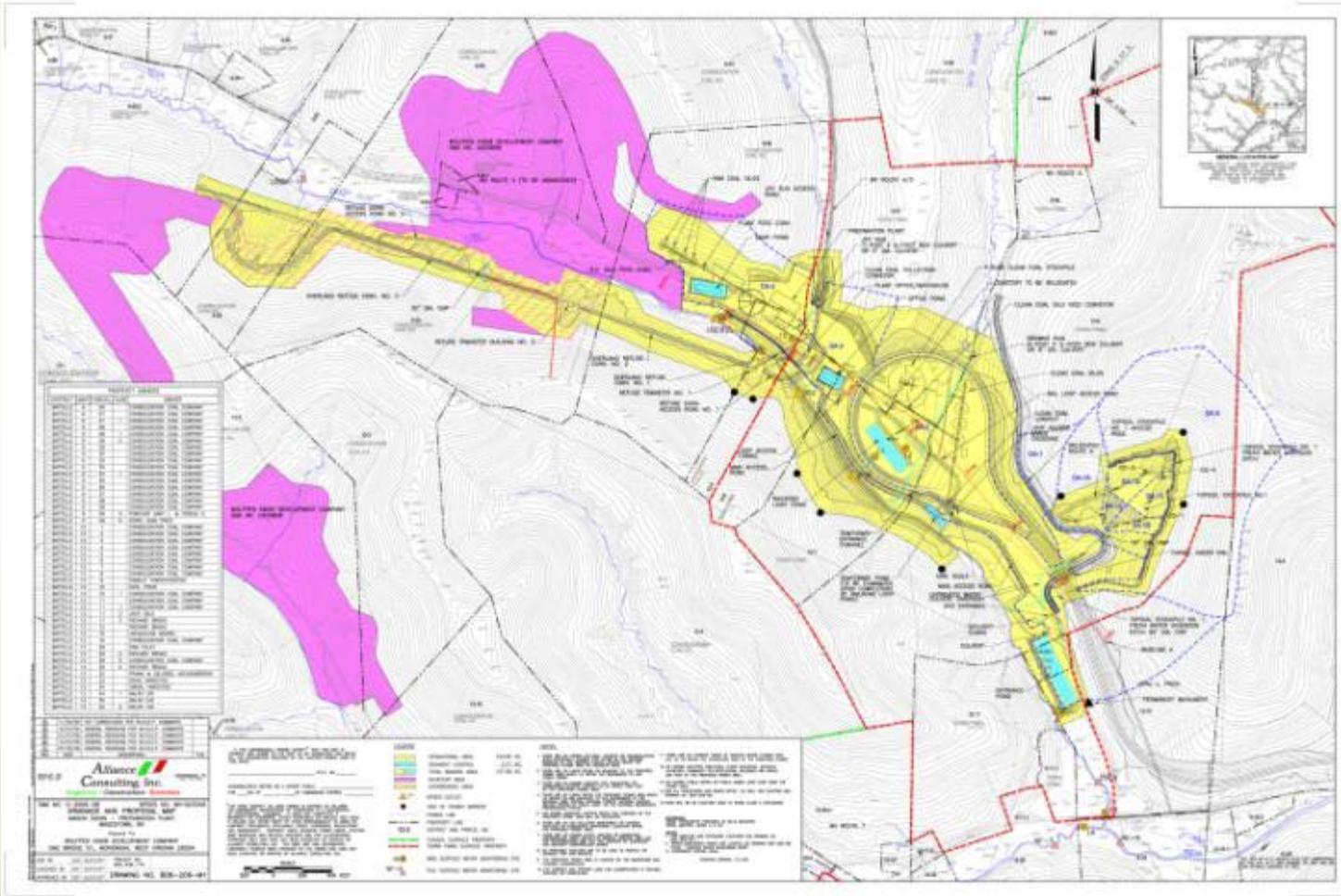


**Alliance Consulting, Inc.**  
Engineers - Constructors - Scientists  
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BEAVER, WV 25813  
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**AERIAL LOCATION MAP**  
MASON DIXON COMPLEX  
PREPARED FOR  
WOLFFEN KNOB DEVELOPMENT COMPANY  
ONE BRIDGE STREET  
MONONGAH, WV 26544

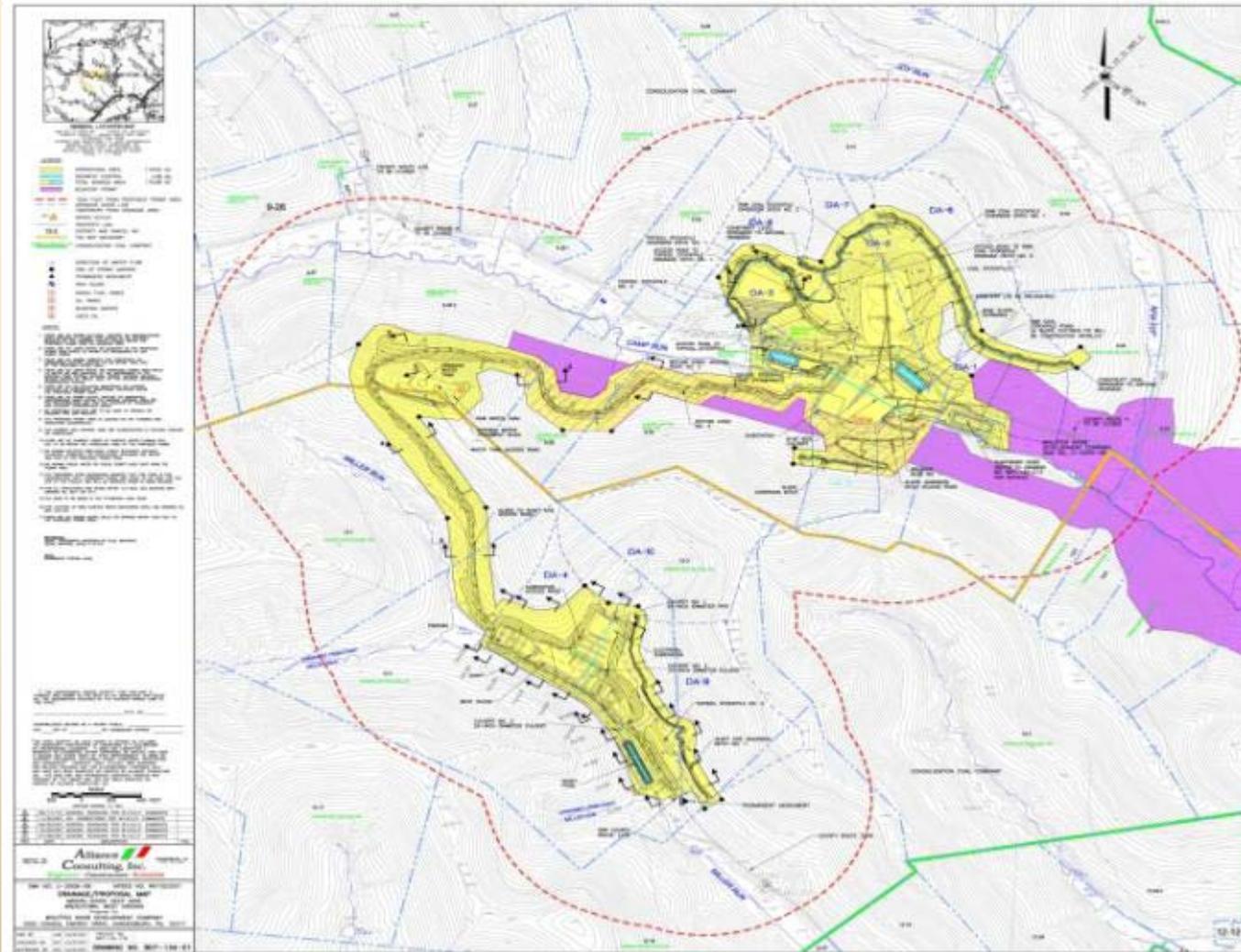
# Proposed Project Area

## Preparation Plant



# Proposed Project Area

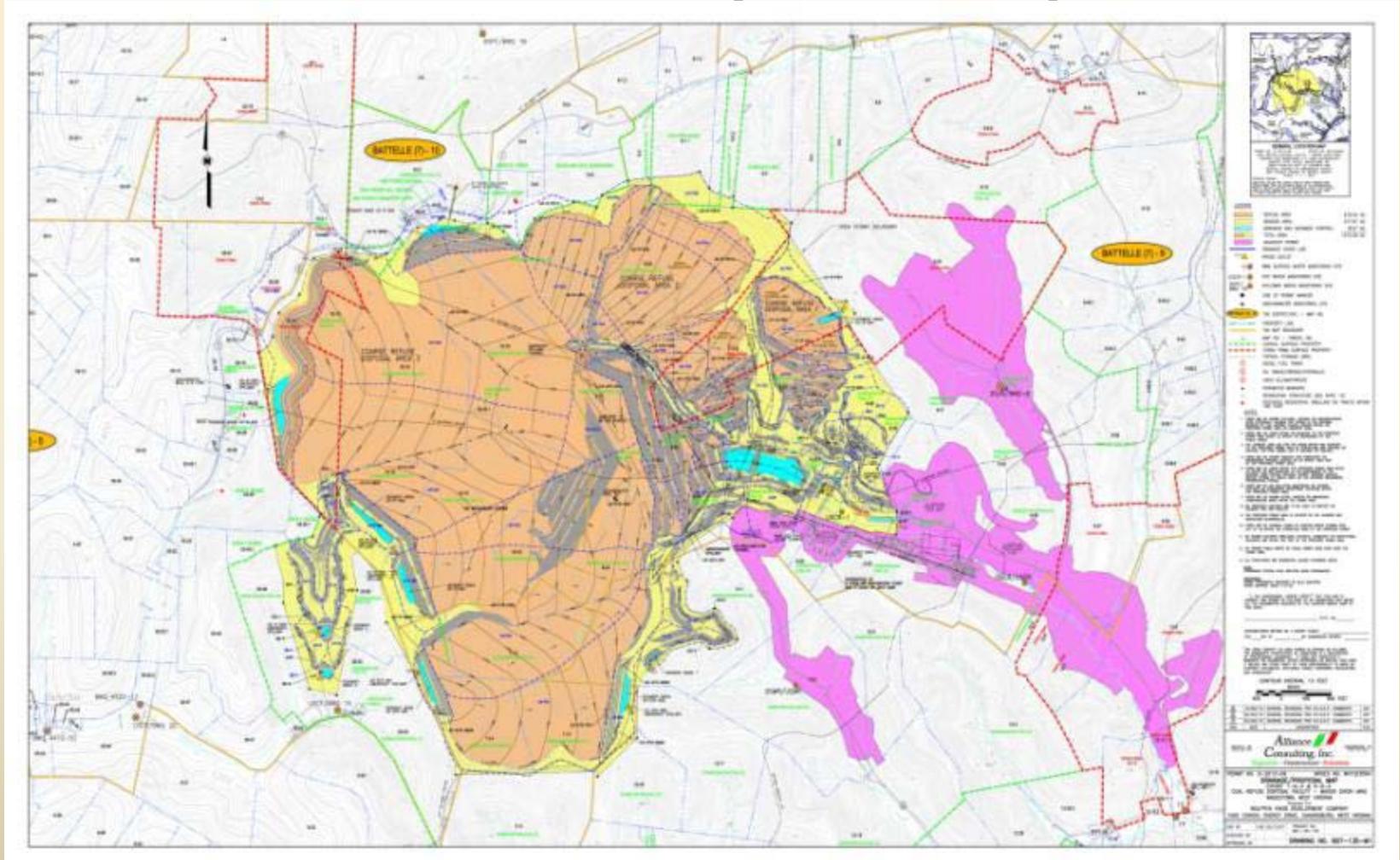
## Deep Mine





# Proposed Project Area

## Coal Refuse Disposal Facility



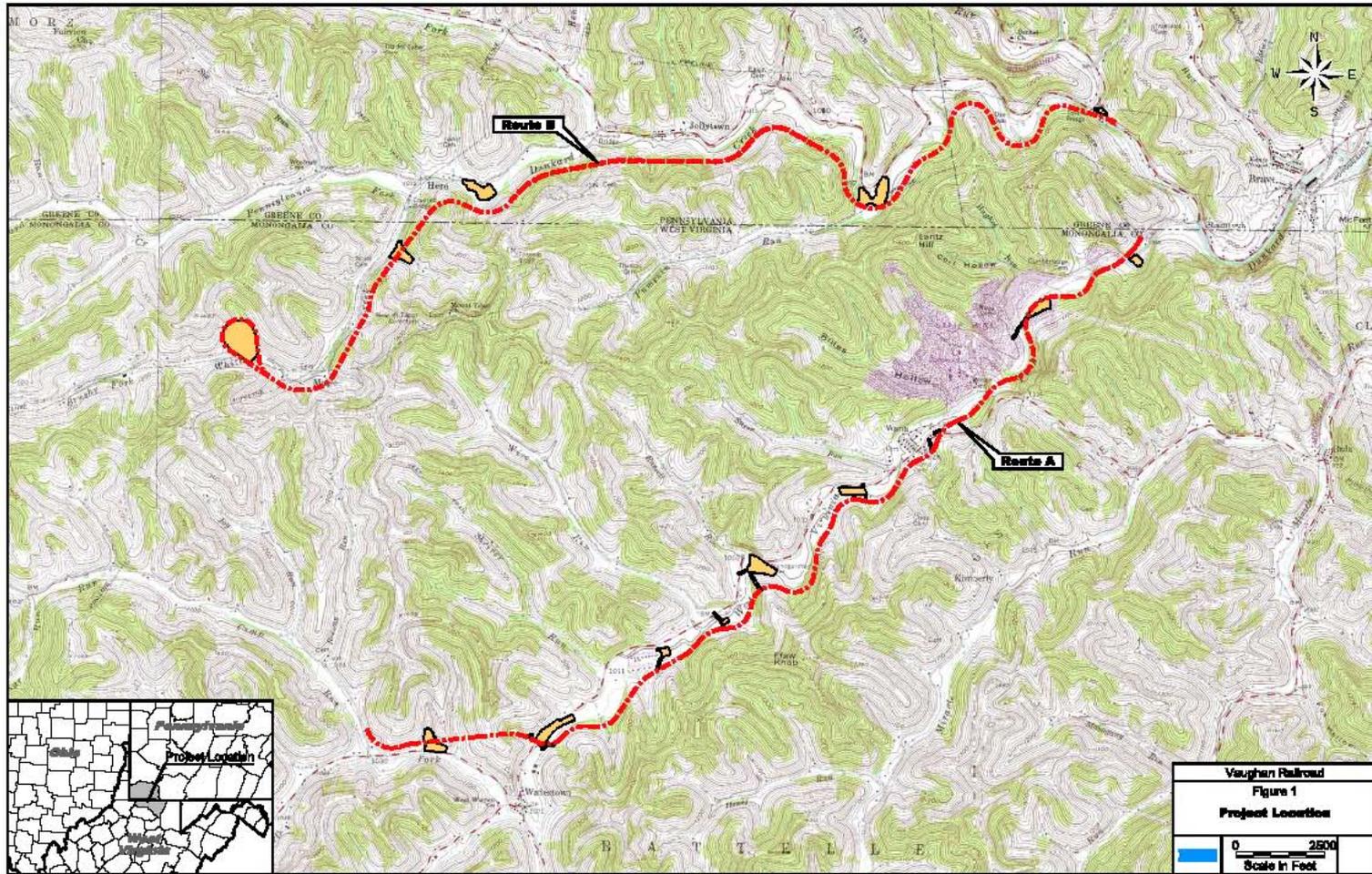
# Proposed Project Area

## Vaughan Rail Line

Vaughan Railroad Company, a subsidiary of CONSOL Energy, Inc. (CONSOL), collected and documented baseline environmental conditions based on two conceptual designs, Route A and Route B

# Proposed Project Area

## Vaughan Rail Line



# Proposed Project Area

## Vaughan Rail Line

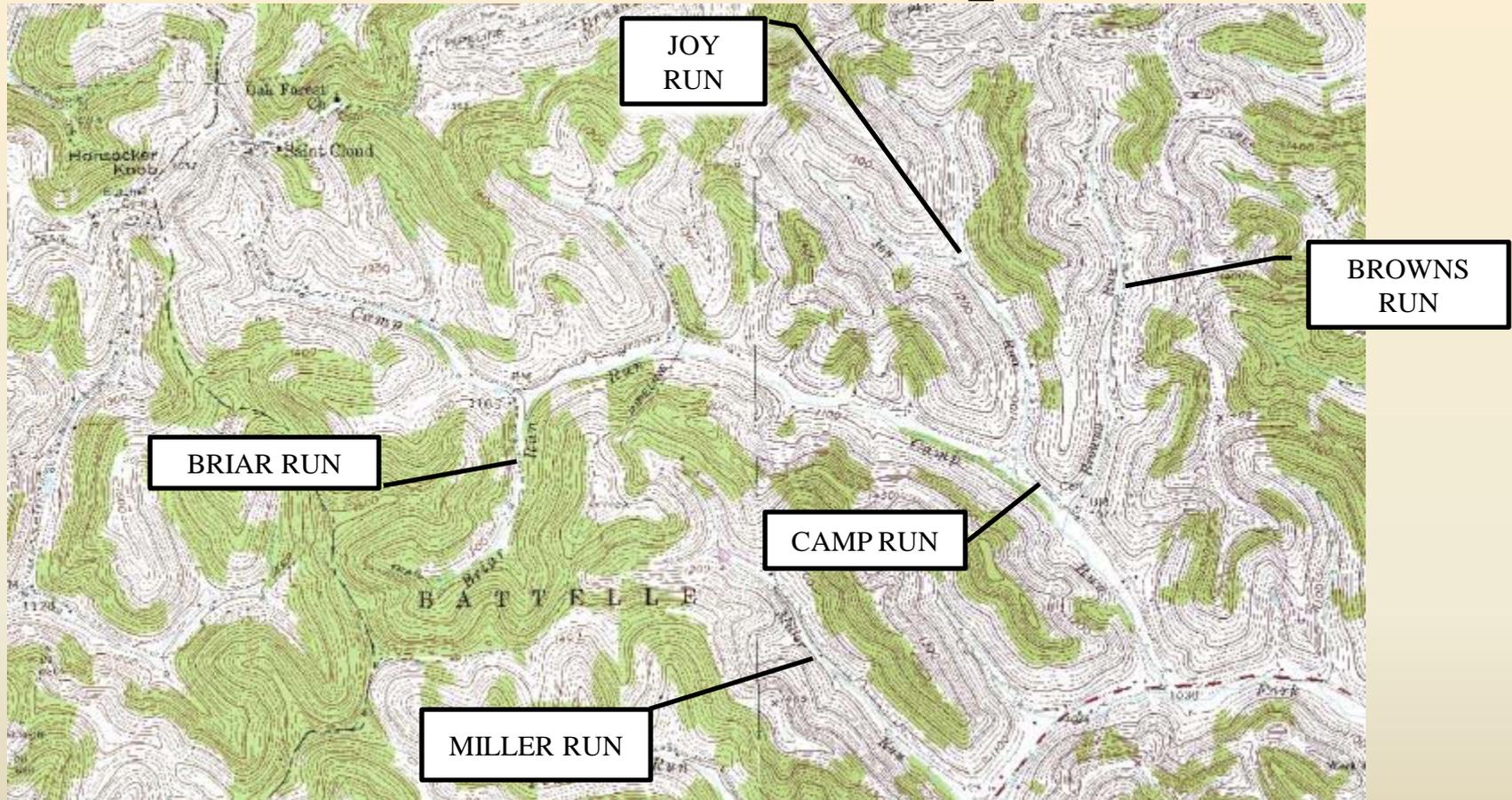
- Route A is 5.6 miles long, parallels the West Virginia (WV) Fork of Dunkard Creek, and occurs entirely within Monongalia County, West Virginia.
- Route B is 5.7 miles long (plus an additional 0.7 mile of loop track) and primarily parallels the Pennsylvania (PA) Fork of Dunkard Creek. Route B begins in Greene County, Pennsylvania and extends into Monongalia County, West Virginia.
- The Route A study area totals 196 acres, while the Route B study area totals 253 acres.
- Each study area is predominately 250 feet wide, but widens in certain sections to accommodate cut and fill grading restraints.

# 404/401 Application Status

- The US Army Corps of Engineers Jurisdictional Determination (JD) field verification was completed for the mine areas in November 2008
- JD approval received
- 401 Application was submitted on June 11<sup>th</sup> 2009.
- JD Field verification for the rail routes was completed in the Fall of 2011.



# Jurisdictional Impacts



Five named watersheds will be impacted by the proposed project Camp Run, Browns Run, Briar Run Joy Run and Miller Run.

# Jurisdictional Impacts

	Permanent -Int/Per	Permanent Ephemeral	Temporary Int/Per	Temporary Ephemeral	Wetlands
Mason Dixon Deep Mine	3,728	714	0	0	1.13
Mason Dixon Preparation Plant	7,015	1,498	0	0	1.01
Mason Dixon Refuse Disposal Facility	38,402	23,325	0	0	5.22
Mason Dixon Fresh Water Impoundment	9,056	2,074	0	0	2.06
Total	58,201	27,611	0	0.00	9.42

No temporary impacts accounted for due to the projected life of the operation

The coal refuse disposal facility results in the majority of jurisdictional impacts representing approximately 72% of total stream impacts and 55% of the total wetland impacts.

# Existing Land Uses

- Nearly 26% of the project area has served and still serves as residential area and farmland/pastureland. Therefore impacts consistent with grazing (hoof shear) and farming (limited or impacted riparian zone, sediment loading) can be observed throughout the property. The remaining 74%, is currently forested, although in second or third growth cycles similar to most of the state. The forested acreage is found primarily along ridgetop areas with residential and agricultural land uses occurring in valley bottoms.

# Biological Surveys

- Fish Surveys
- Benthic Surveys
- Bat Surveys
- Mussel Surveys
- Habitat Surveys



Baseline surveys were completed during the field seasons of 2006 and 2007 by Civil and Environmental Consultants, Inc. Baseline surveys are anticipated to be re-sampled in 2012.

No Threatened or Endangered Species were documented by any of the completed biological surveys.

# Habitat Summaries

- Habitat Parameters for ALL sites was found to be in the sub optimal range based upon the RBP Protocol (USEPA 1999)
  - Optimal 166-200
  - Sub Optimal 113-165
  - Marginal 60-112
  - Poor 0-59





# Fisheries Survey

- A total of 1,761 individual fish captured.
- Overall fish populations are impaired
  - Average IBI of 30, no sites above impairment limit
- A total of 6 intolerant fish species, 25 individuals identified (primarily *Notropis* and *Etheostoma*) This represented approximately 1.4 % of the total population. All intolerant species were captured in either North Fork or the downstream reaches of Camp Run. No intolerant species were captured in any area to be directly impacted



# Benthic Survey

- North Fork - Average WVSCI 73
  - Camp Run – Average WVSCI 70
  - Briar Run – WVSCI 92
  - Joy Run – WVSCI 74
  - Browns Run - WVSCI 78
- Benthic Sites on average were found to be “comparable” to reference streams



# Mussel Survey

Camp Run and North Fork of Dunkard Creek were surveyed in August 2007

Two species of mussels were identified

– Creeper Mussel (10 individuals identified)

- (*Strophitus undulatus*)

– Fatmucket Mussel (5 individuals identified)

- (*Lampsilis siliquoidea*)



Creeper Mussel

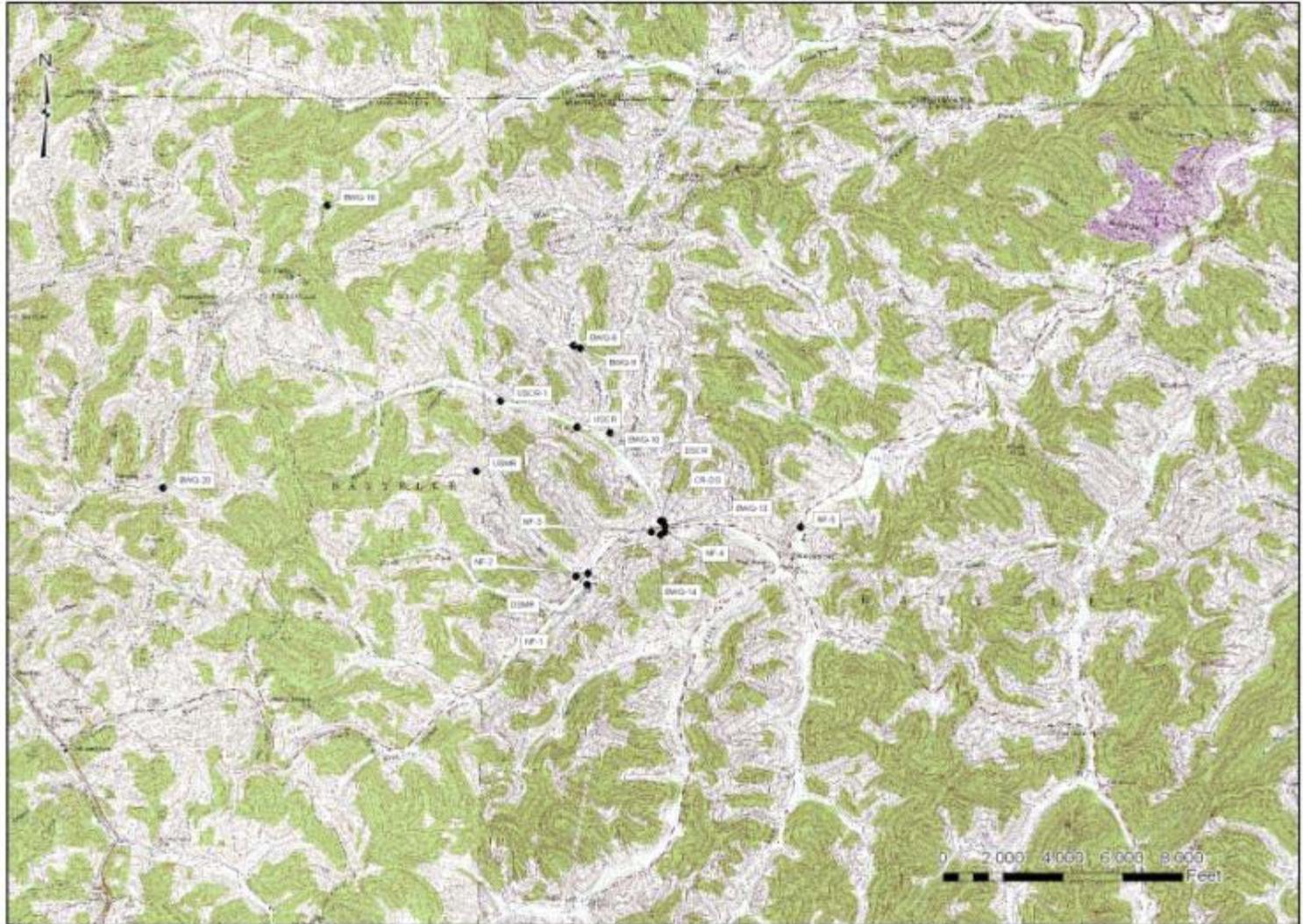
None of the identified mussels are considered a species of concern, “Category 1” or “Endangered Species”

# Bat Survey

- Survey was completed in June and July 2006
  - A total of 224 bats ( 6 species) were captured. None listed as Threatened or Endangered
- Site will be re-surveyed in 2012



# Baseline Water Quality



# Baseline Water Quality

<u>PARAMETER</u>	DSCR	USCR-1	US CR (New)	NF-1	NF-2	NF-3	NF-4	NF-5	MR-US	MR-DS	BWQ-8	BWQ-18	BWQ-19	BWQ-20	BWQ-13	BWQ-14	BWQ-9	BWQ-10	USMR	
	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	(mean)	
pH	7.08	7.14	7.20	6.96	7.01	7.28	7.14	7.83	7.02	6.79	7.67	7.39	7.37	8.69	7.68	7.77	7.48	7.54	7.02	
Flow	376.90	446.45	533.01	382.94	429.88	416.61	712.55	2027.13	21.93	47.92	18.13	16.27	6.26	35.30	436.99	851.13	22.30	58.24	21.93	
Total Hot Acidity	-31.60	-47.00	-56.00	-67.60	-66.60	-60.40	-58.20	-170.80	-40.60	-42.80										-40.60
Mineral Acidity													0.00	0.00						
Total Alkalinity	60.50	51.33	56.17	72.33	69.17	70.33	68.83	200.83	49.33	51.00			68.00	66.00						49.33
Total Iron	0.34	0.20	0.18	0.31	0.31	0.19	0.10	0.31	0.54	0.31	0.63	0.18	0.50	0.42	0.37	0.45	0.34	0.29	0.54	
Total Manganese	0.11	0.10	0.06	0.12	0.12	0.09	0.12	0.16	0.19	0.28	0.06	0.04	0.06	0.11	0.13	0.07	0.16	0.14	0.19	
Total Suspended Solids	7.60	23.00	7.00	13.80	31.33	11.67	8.33	21.60	36.80	9.50			3.00	1.00						36.80
Total Dissolved Solids	138.00	23.00	98.00	144.00	128.50	141.00	142.00	1733.50	1330.50	93.50			110.00	103.00						1330.50
Specific Conductance	213.00	183.67	212.67	233.83	231.83	236.33	225.33	1787.83	183.67	148.67			160.00	163.00						183.67
Sulfates	20.00	18.17	18.40	19.17	21.83	25.33	23.00	406.50	14.67	16.33			11.00	17.00						14.67
Selenium																				
Aluminum	0.12	0.07	0.07	0.26	0.16	0.10	0.22	0.12	0.26	0.09	0.45	0.16	0.38	0.26	0.29	0.19	0.11	0.22	0.26	
Dissolved Al	35.50	4.30	17.50	23.80	20.40	31.30	25.50	7.20	4.90	7.70			0.08	0.07	0.09	0.07		0.08	4.90	
Turbidity	108.00	85.33	108.67	101.33	107.50	106.00	115.00	257.50	90.17	79.83		7.20	20.62	4.58						90.17
Temperature	15.90	11.78	12.03	13.76	15.00	14.94	15.80	16.90	13.34	13.84	14.67	4.17	8.00	11.27	15.67	14.25	13.60	15.92	13.34	

Averages above are based upon a minimum of 6 sampling events with a maximum of 13 sampling events.

# Mitigation Options

We are currently in the process of identifying suitable mitigation sites.