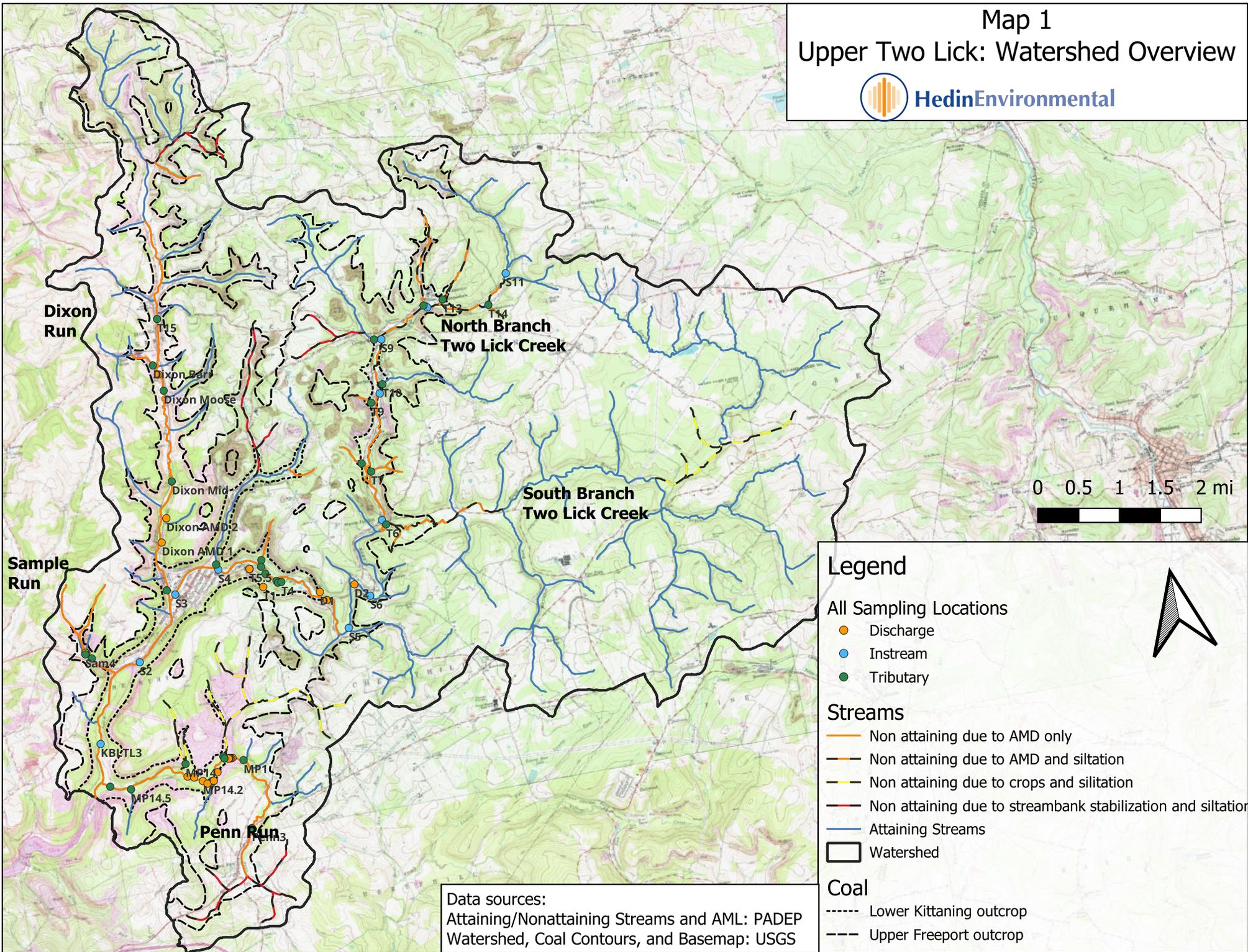


# Map 1 Upper Two Lick: Watershed Overview



## Legend

### All Sampling Locations

- Discharge
- Instream
- Tributary

### Streams

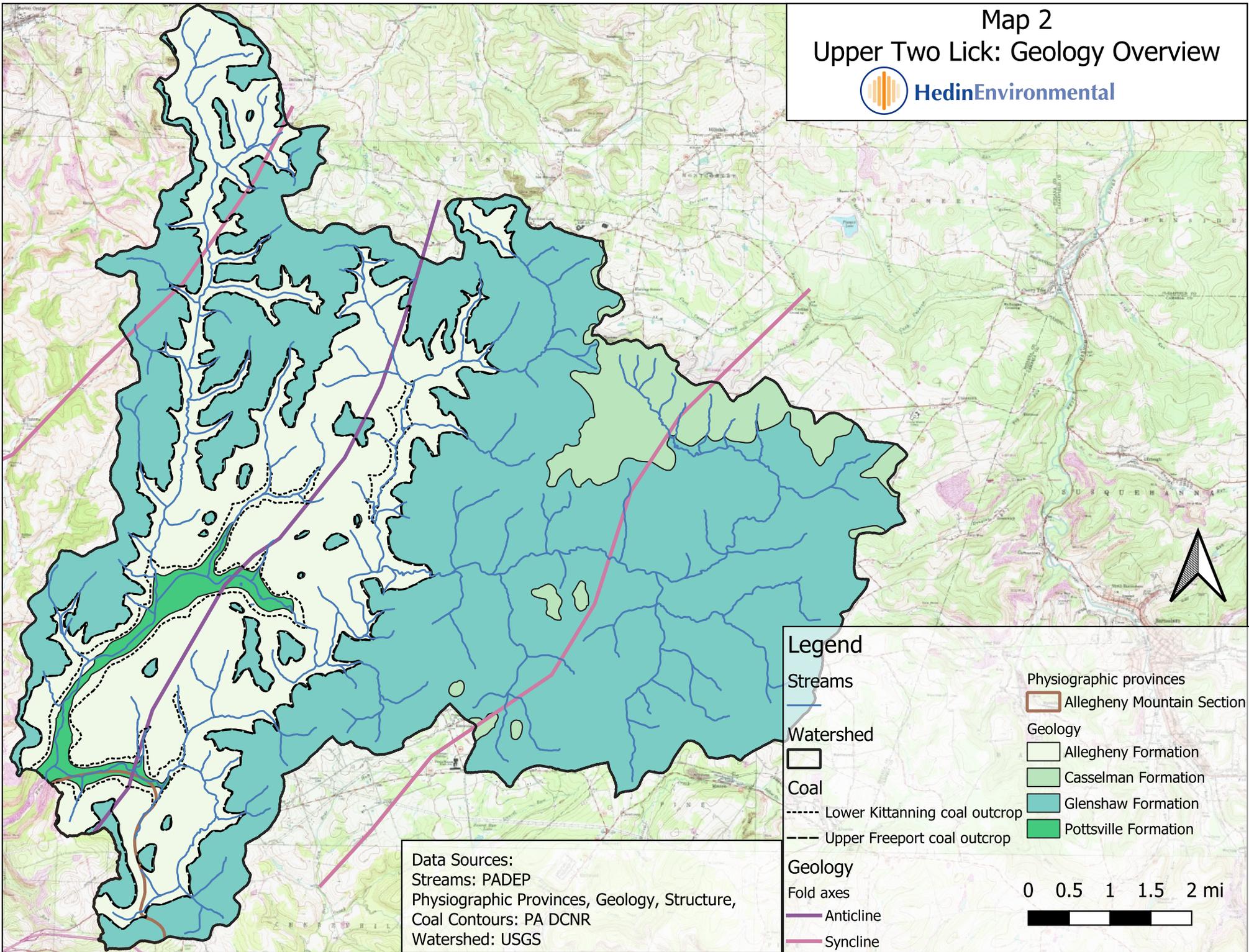
- Non attaining due to AMD only
- Non attaining due to AMD and siltation
- Non attaining due to crops and siltation
- Non attaining due to streambank stabilization and siltation
- Attaining Streams
- Watershed

### Coal

- Lower Kittanning outcrop
- Upper Freeport outcrop

Data sources:  
 Attaining/Nonattaining Streams and AML: PADEP  
 Watershed, Coal Contours, and Basemap: USGS

# Map 2 Upper Two Lick: Geology Overview



Data Sources:  
Streams: PADEP  
Physiographic Provinces, Geology, Structure,  
Coal Contours: PA DCNR  
Watershed: USGS

**Legend**

Streams  
Watershed  
Coal  
Lower Kittanning coal outcrop  
Upper Freeport coal outcrop

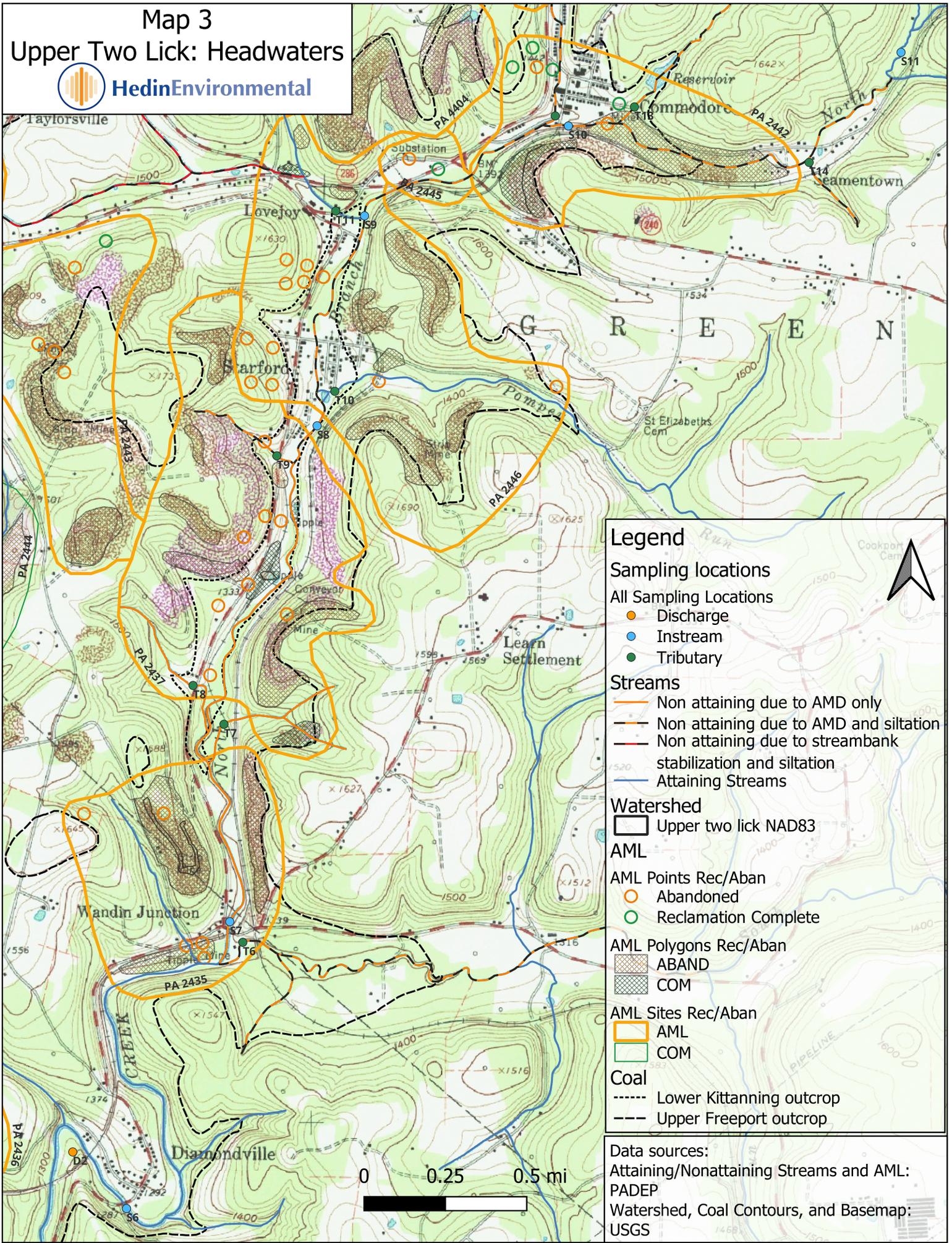
**Geology**  
Fold axes  
Anticline  
Syncline

**Physiographic provinces**  
Allegheny Mountain Section

**Geology**  
Allegheny Formation  
Casselman Formation  
Glenshaw Formation  
Pottsville Formation

0 0.5 1 1.5 2 mi

# Map 3 Upper Two Lick: Headwaters



### Legend

**Sampling locations**

- All Sampling Locations
- Discharge
- Instream
- Tributary

**Streams**

- Non attaining due to AMD only
- Non attaining due to AMD and siltation
- Non attaining due to streambank stabilization and siltation
- Attaining Streams

**Watershed**

- Upper two lick NAD83

**AML**

**AML Points Rec/Aban**

- Abandoned
- Reclamation Complete

**AML Polygons Rec/Aban**

- ▨ ABAND
- ▨ COM

**AML Sites Rec/Aban**

- ▭ AML
- ▭ COM

**Coal**

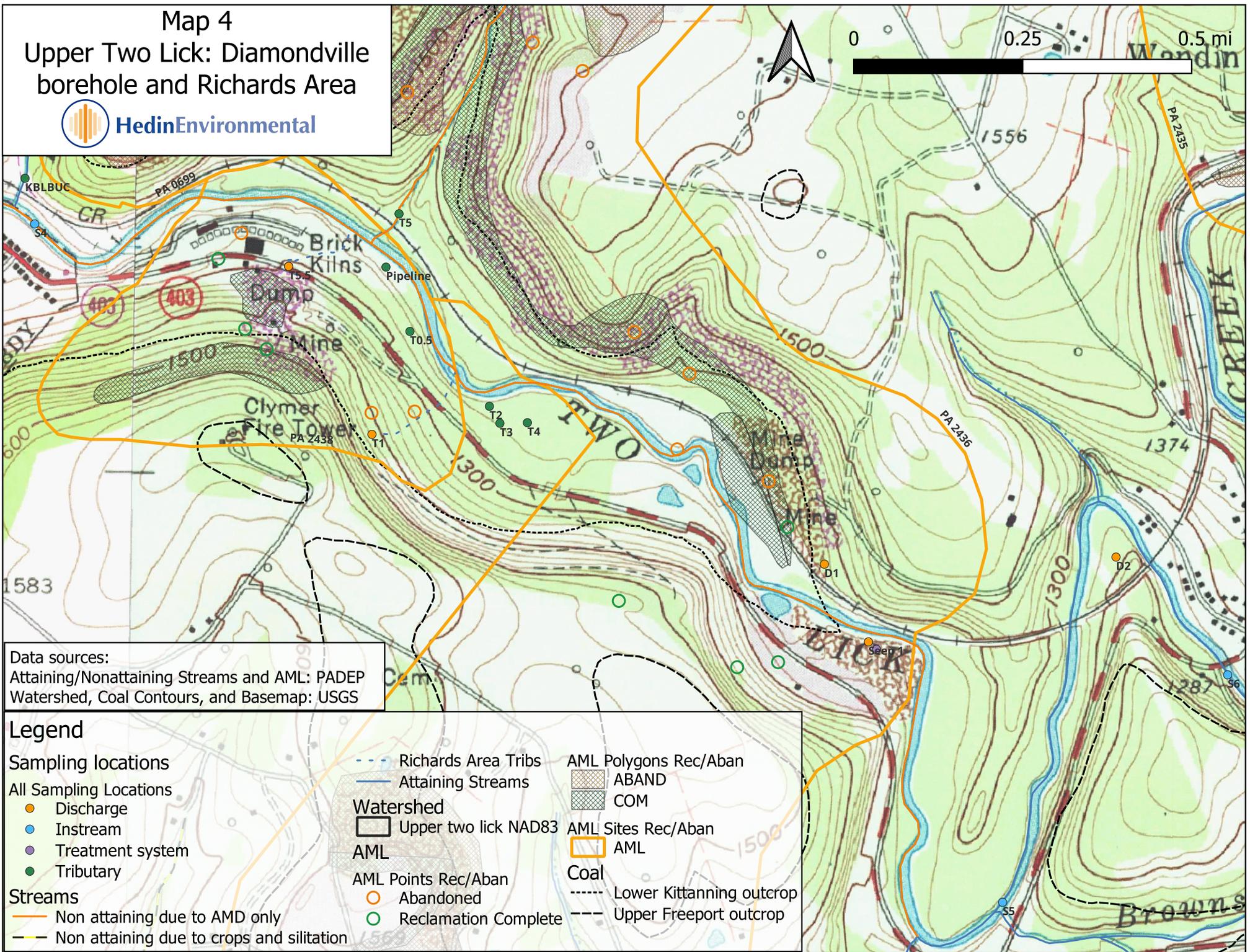
- - - Lower Kittanning outcrop
- - - Upper Freeport outcrop



Data sources:  
 Attaining/Nonattaining Streams and AML:  
 PADEP  
 Watershed, Coal Contours, and Basemap:  
 USGS

# Map 4

## Upper Two Lick: Diamondville borehole and Richards Area



Data sources:  
 Attaining/Nonattaining Streams and AML: PADEP  
 Watershed, Coal Contours, and Basemap: USGS

### Legend

#### Sampling locations

- All Sampling Locations
- Discharge
- Instream
- Treatment system
- Tributary

#### Streams

- Non attaining due to AMD only
- Non attaining due to crops and siltation

- - - Richards Area Tribs
- Attaining Streams

#### Watershed

- Upper two lick NAD83
- AML
- AML Points Rec/Aban
- Abandoned
- Reclamation Complete

- AML Polygons Rec/Aban
- ▨ ABAND
- ▨ COM

- AML Sites Rec/Aban
- AML

#### Coal

- - - Lower Kittanning outcrop
- - - Upper Freeport outcrop

# Legend

## Sampling locations

### All Sampling Locations

- Discharge
- Instream
- Tributary

## Streams

- Non attaining due to AMD only

- Non attaining due to crops and siltation
- - Richards Area Tribs
- Attaining Streams
- ▭ Watershed
- Coal
  - - - Lower Kittanning Coal
  - - - Upper Freeport Coal

# Map 5 Upper Two Lick: Richards Area Mine Maps



0 0.25 0.5 mi



Data Sources:  
Attaining/Nonattaining Streams and AML: PADEP  
Watershed, Coal Contours, and Basemap: USGS  
Mine map: PADEP via PASDA

# Map 6 Upper Two Lick: Dixon Run



## Legend

### Sampling locations

#### All Sampling Locations

- Discharge
- Instream
- Tributary

### Streams

- Non attaining due to AMD only
- Non attaining due to streambank stabilization and siltation
- Attaining Streams

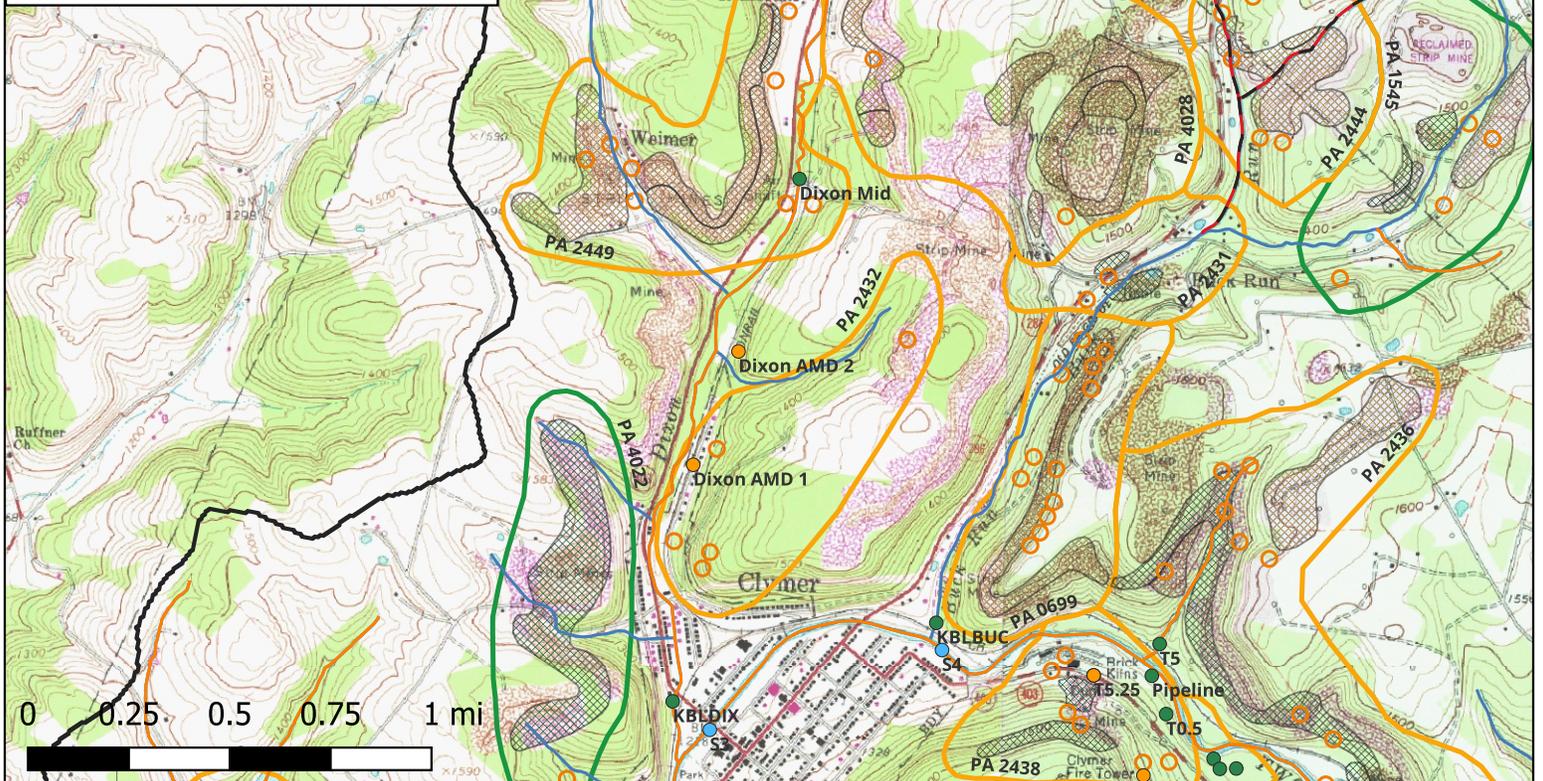
### Watershed

### AML

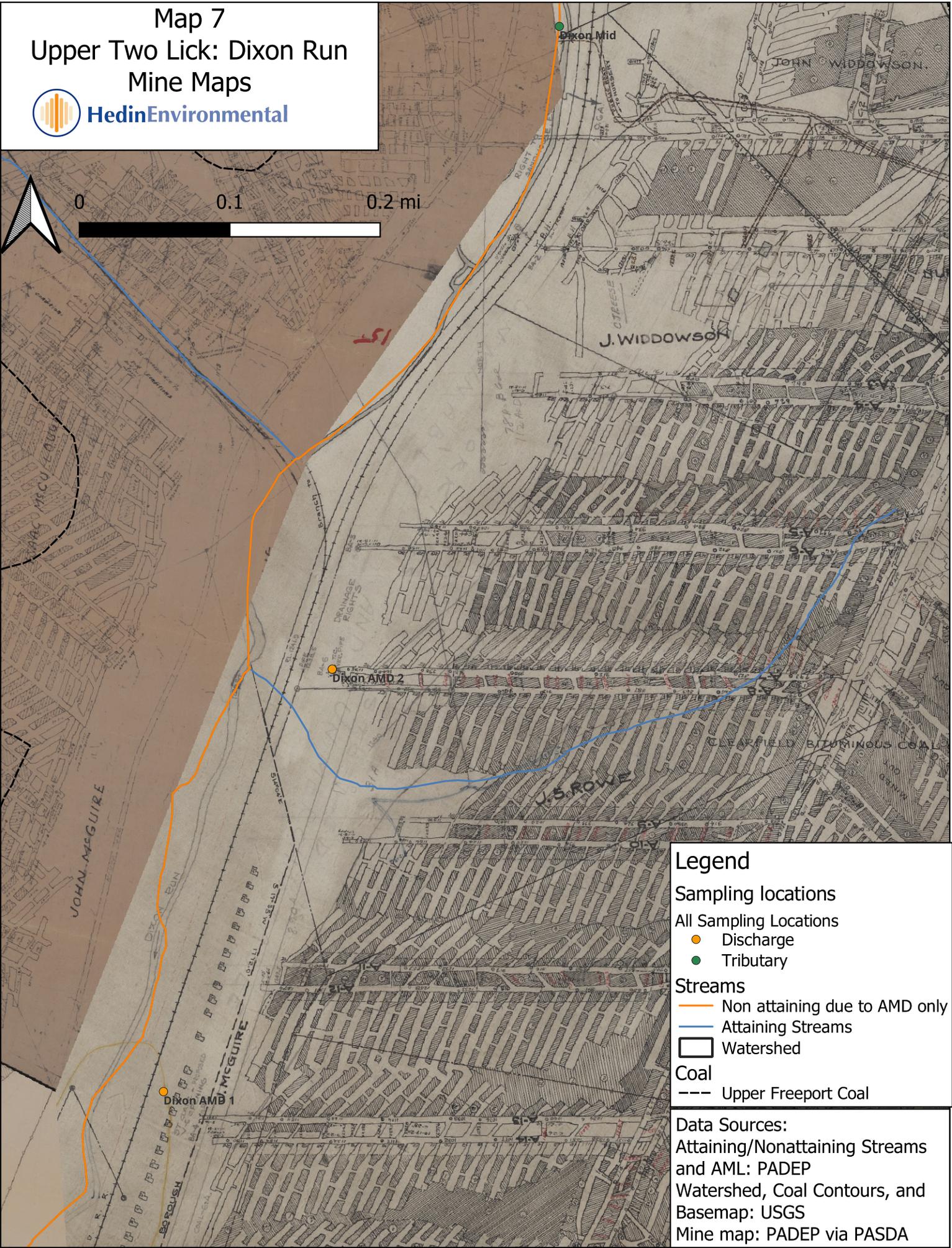
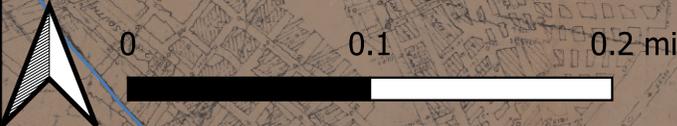
- AML Points
- AML Polygons Rec/Aban
  - ABAND
  - COM
- AML Sites Rec/Aban
  - AML
  - COM

### Data Sources:

Attaining/Nonattaining Streams and AML: PADEP  
Watershed and Basemap: USGS



# Map 7 Upper Two Lick: Dixon Run Mine Maps



**Legend**

**Sampling locations**

- All Sampling Locations
- Discharge
- Tributary

**Streams**

- Non attaining due to AMD only
- Attaining Streams
- Watershed

**Coal**

- Upper Freeport Coal

**Data Sources:**  
 Attaining/Nonattaining Streams and AML: PADEP  
 Watershed, Coal Contours, and Basemap: USGS  
 Mine map: PADEP via PASDA