United States Department of the Interior
Office of Surface Mining Reclamation and Enforcement

Hurricane Creek Mine #2
OSMRE Permit Application 3341
Environmental Assessment
July 07, 2025

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OSMRE has considered the potential environmental impacts of this proposed action in compliance with the National Environmental Policy Act (NEPA), and this environmental assessment represents OSMRE's good-faith effort to prioritize documentation of the most important considerations required by NEPA within the congressionally mandated page and time limits, and the Department's determination that this project is eligible for alternative arrangement for NEPA compliance to address the National Energy Emergency (Jan. 20, 2025). This prioritization reflects OSMRE's expert judgment and any considerations addressed briefly or left unaddressed were, in OSMRE's judgment, comparatively not of a substantive nature that meaningfully informs the consideration of potential environmental effects and the resulting decisions on how to proceed.

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TABLE OF CONTENTS

List of Figures iii
List of Tables iii
Abbreviations and Acronyms iv
CHAPTER 1. PURPOSE AND NEED 1
1.1 Purpose and Need 1
1.2 Agency Authority and Actions 1
1.3 Background 2
1.4 Public Involvement, Consultation, and Coordination 5
1.4.1 Public Involvement 5
1.4.2 Tribal Consultation and Section 106 National Historic Preservation Act (NHPA) Compliance 5
1.4.3 U.S. Fish & Wildlife Service Consultation 5
1.5 Issues Identified for Detailed Analysis 6
1.6 Resources Considered, but Eliminated from Detailed Analysis 6
CHAPTER 2. PROPOSED ACTION AND ALTERNATIVES 9
2.1 Introduction 9
2.2 Proposed Action 9
2.2.1 Mining Methods 10
2.2.2 Transportation Plan 10
2.2.3 Sediment Basins 10
2.2.4 Toxic Material Handling Plan 11
2.2.5 Mine Facilities 11
2.2.6 Remining/Previously Mined Areas 12
2.2.7 Reclamation 12
2.2.8 Coal 12
2.3 DESCRIPTION OF ALTERNATIVES 14
2.3.1 No Action Alternative 14
2.3.2 Alternatives Considered but Not Considered Further 14
Chapter 3. Affected Environment 14
3.1 General Setting: 14
3.1.1 Hydrology/Water 14
3.1.2 Vegetation 22

3.1.3 Soils 24
3.1.4 Fish and Wildlife Resources 26
3.1.5 Air Quality 27
3.1.6 Noise 35
3.1.7 Topography 36
3.1.8 Socioeconomic Impacts 37
Chapter 4. Environmental Impacts 38
4.1 Hydrology/Water 38
Proposed Action 38
No Action Alternative 39
4.2 Vegetation 39
Proposed Action 39
No Action Alternative 41
4.3 Soils 41
Proposed Action 41
No Action Alternative 42
4.4 Fish and Wildlife Resources 42
Proposed Action 42
No Action Alternative 46
4.5 Air quality 46
Proposed Action 46
No Action Alternative 51
4.6 Noise 51
Proposed Action 51
No Action Alternative 53
4.7 Topography 53
Proposed Action 53
No Action Alternative 54
4.8 Socioeconomic Impacts 54
Proposed Action 54
No Action Alternative 54
4.9 Reasonably Foreseeable Actions 55
CHAPTER 5. COORDINATION 56

LITERATURE CITED/REFERENCED
..... 58

LIST OF FIGURES

Figure 1. Permit Area for Proposed Permit 3341
Figure 2. Previous Mining and Disturbance Areas (Remining)
Figure 3. Location and Operational Map of the Hurricane Creek Mining, LLC, Mine No. 2
Figure 4. Previous Surface Mining Disturbance with Potential New Disturbances from Current and Pending permits in the CIA 10, Subarea 4 Watershed
Figure 5. Vegetation/Landcover Map
Figure 6. Soil Types within the Proposed Permit Area
Figure 7. $PM_{2.5}$ Concentrations at Middlesborough KY Airport
Figure 8. Ozone Concentrations at Middlesborough KY Airport
Figure 9. Ozone Concentrations at Speedwell, Tennessee
Figure 10. $PM_{2.5}$ Concentrations at Kingsport-Bristol- Bristol, TN-VA
Figure 11. Ozone Concentrations at Kingsport-Bristol- Bristol, TN-VA
Figure 12. Declining National Air Pollutions Emission Concentration Averages
Figure 13. Declining National Air Pollutions Emissions, in Million Ton
Figure 14. Rosewind Plot for Permit Area

LIST OF TABLES

Table 1. Permitted Acres
Table 2. Resources Considered, but Eliminated from Detailed Analysis
Table 3. Soil Types within the Proposed Permit Area
Table 4. National Ambient Air Quality Standards
Table 5. National Trends-Percent Change in Ambient Air Quality from 1980 to 2023
Table 6. Vegetation of Proposed Surface Disturbance Area (NLCD 2021)

ABBREVIATIONS AND ACRONYMS

ACHP	Advisory Council on Historic Preservation
BMP	Best Management Practice
BA	Biological Assessment
BO	Biological Opinion
CAA	Clean Air Act
CAP	Critical Air Pollutants
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHIA	Cumulative Hydrologic Impact Assessment
CIA	Cumulative Impact Area
CO	Conference Opinion
CWA	Clean Water Act
dBA	A-weighted decibels
DPM	Diesel Particulate Matter
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FWS	U.S. Fish and Wildlife Service
FONSI	Finding of No Significant Impact
HCM	Hurricane Creek Mining, LLC
HRP	Hydrologic Reclamation Plan
KO	Knoxville Office
LFO	Lexington Field Office
LIWA	Local Interagency Working Agreement
NAAQS	National Ambient Air Quality Standards

NEPA	National Environmental Policy Act
NLCD	National Land Cover Database
NPDES	National Pollutant Discharge Elimination System
OSMRE	Office of Surface Mining Reclamation and Enforcement
PEP	Protection and Enhancement Plan
PHC	Probable Hydrologic Consequences
PM	Particulate Matter
PSD	Prevention of Significant Deterioration
RPM	Reasonable and Prudent Measures
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMCRA	Surface Mining Control and Reclamation Act of 1977
T&C	Terms and Conditions
TDEC	Tennessee Department of Environment and Conservation
TMDL	Total Maximum Daily Load
TMHP	Toxic Materials Handling Plan
TMI	Tennessee Macroinvertebrate Scores
TPY	Tons Per Year
TSP	Total Suspended Particulate
TSS	Total Suspended Solids
TVA	Tennessee Valley Authority
TWRA	Tennessee Wildlife Resources Agency
USDOI	United States Department of the Interior
USFS	United States Forest Service

CHAPTER 1. PURPOSE AND NEED

1.1 Purpose and Need

The purpose of the Proposed Action is to evaluate Hurricane Creek Mining, LLC's (HCM) proposed surface coal mining and reclamation operation for Mine #2. Under the Surface Mining Control and Reclamation Act of 1977 (SMCRA), the Office of Surface Mining Reclamation and Enforcement (OSMRE) is the regulatory authority that issues and administers surface mining permits in Tennessee. As the regulatory authority, OSMRE must evaluate the environmental effects resulting from the Proposed Action and decide whether to approve HCM's permit.

The need for this action is to provide HCM with the opportunity to exercise its rights to access and mine coal reserves located within Mine #2 pursuant to all requirements of SMCRA and the federal regulations.

1.2 Agency Authority and Actions

This environmental assessment (EA) has been prepared by OSMRE in accordance with the National Environmental Policy Act (NEPA) to analyze the potential impacts of HCM's proposed surface and auger/highwall mining and reclamation operation. This document discloses the direct and indirect environmental impacts that would result from the Proposed Action and a No Action alternative. An application for the proposed permit was originally submitted to OSMRE by HCM on February 27, 2023. OSMRE conducted a site visit on September 26, 2023. OSMRE determined that the application was administratively complete on August 3, 2023, and, after a thorough review process that involved some modifications to the application, technically acceptable on November 13, 2024. On May 12, 2025, HCM submitted a request to the Department of the Interior (Department or USDOI) to use the Department's Alternative Arrangements for NEPA Compliance. HCM's request was approved by the Acting Assistant Secretary for Land and Minerals Management on June 23, 2025.

Executive Order (EO) 14154, *Unleashing American Energy* (Jan. 20, 2025), and the Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to NEPA, 42 U.S.C. §§ 4321 *et seq*. Further, such Order and Memorandum repeal EOs 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because EOs 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. On April 23, 2025, the Council on Environmental Quality (CEQ) authorized the Department to use alternative arrangements for projects that respond to the national energy emergency declared in EO 14156, *Declaring a National Energy Emergency* (Jan. 20, 2025), and the Department subsequently adopted alternative arrangements for qualifying projects to comply with NEPA. *See* "Alternative Arrangements for Compliance with the National Environmental Policy Act amid the National Energy Emergency," April 23, 2025.

OSMRE verifies that it has complied with the requirements of NEPA, consistent with the President's January 2025 Order and Memorandum and the Department's regulations implementing NEPA at 43 C.F.R. part 46, as amended on July 3, 2025, NEPA Handbook, 516 DM 1, effective June 30, 2025, the Department's Alternative Arrangements for NEPA Compliance, and other applicable guidance and policy documents.

Pursuant to SMCRA, HCM must obtain a permit from OSMRE to conduct the proposed surface coal mining and reclamation operations. OSMRE has developed this EA to assist in the agency's decision-making process on the issuance of a permit to conduct surface coal mining and reclamation operations at Mine #2 in accordance with SMCRA, while ensuring that adverse environmental impacts are minimized.

The proposed mine site was mined at various times from the 1950s through 2010. Some of this mining took place before SMCRA's enactment in 1977 ("pre-law"), and these areas were not generally reclaimed to the standards later enacted in SMCRA. Additional mining took place after SMCRA's enactment; these operations were authorized, regulated, and reclaimed under Title V of SMCRA. Approximately 346.55 acres remain impacted by pre-law mining, including areas where spoil material was dumped into downslope areas, existing roads, and approximately 6.5 miles of exposed pre-law highwall within the proposed permit boundary. Although little or no reclamation occurred on many of these pre-law areas, natural succession has largely reverted them to a vegetated condition.

Table 1. Permitted Acres

Permit Area Breakdown	**Acreage**
Total Permit Area	635.17
Types of Mining Disturbance	**Acreage**
Remining Area	346.55
New Disturbance Area	211.82
Total Surface Disturbance	635.17
Potential Auger Mining Area (underground only)	289.54
Total Affected Area	924.71
Surface Disturbance (Permit Area)	**Acreage**
Poplar Lick/Sterling Seam Disturbance	290.25
Stray Seam Disturbance	268.12
Existing Access Roads	66.3
Ponds and Conveyances Outside of Cut Sequence	10.5
Total	**635.17**

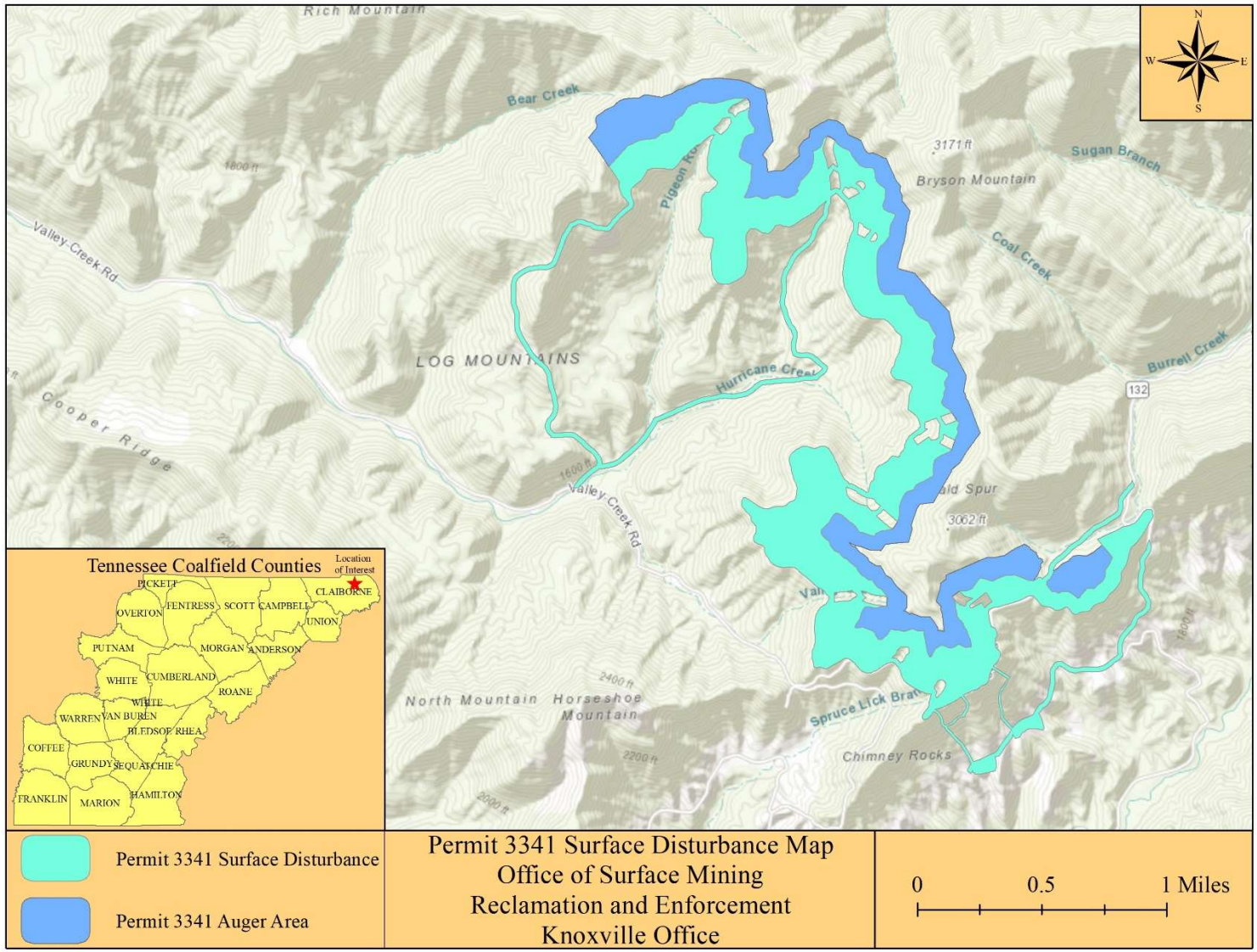
1.3 Background

HCM proposes to operate a surface coal mine and reclamation operation using auger, highwall, and contour methods. They propose to recover coal from the Poplar Lick, Sterling, and Stray seams (which correlate with the Pioneer and possibly Craig seams used by the Tennessee Geological Survey (Luther, 1959) for other portions of the coalfield). The operation is located on Bryson Mountain, approximately 5.0 miles southeast from the junction of Valley Creek Road with TN Route 90 at a latitude of 36° 32' 18"N and longitude of 83° 50' 48"W as shown in Figure 1. The thickness and number of potential mineable seams vary significantly across the permit area. There is a total of up to 6 Stray seams, 2 Sterling seams, and 2 Poplar Lick seams located throughout the permit area ranging in thickness from less than 12 inches to over 48

inches. Auger or thin seam mining would occur on any seams that are thick enough to support the operation. The HCM permit would include 635.17 acres consisting of mining areas, sediment control structures, and access roads. The mine plan also includes an additional 289.54 acres of potential auger/thin seam mining areas for a total affected area of 924.71 acres. Approximately 454 acres of coal would be removed by using contour surface mining techniques. Up to an additional 555 acres of coal could potentially be recovered using auger or thin-seam mining techniques, which does not create additional surface disturbances. The proposed mining is anticipated to last 5 years with an estimated annual production of 360,000 tons of coal and a total production of 1.8 million tons. A total of 10 years is assumed for the completion of both mining and reclamation liabilities, which includes bond release and OSMRE jurisdiction being terminated. Approximately 346.5 acres is considered as previously disturbed; these remined areas would be reclaimed to SMCRA standards as part of this proposed operation.

Under the proposed reclamation plan, the postmining land use would be undeveloped forest land and wildlife habitat at the request of the landowner. All ponds would be reclaimed to wetland areas and roadways would be retained as permanent facilities for access and for wildlife enhancement efforts. The land use would be achieved by planting vegetative species conducive for food sources and protective cover for wildlife.

Figure 1. Permit Area for Proposed Permit 3341



1.4 Public Involvement, Consultation, and Coordination

1.4.1 Public Involvement

The applicant, surface owner, and relevant state and federal agencies conducted a site visit on September 26, 2023, to address outstanding issues and concerns. Notice of the proposed permit and the opportunity for public comment was published in the *Claiborne Progress* newspaper from August 9, 2023, through August 30, 2023. OSMRE did not receive any public comments or requests for a public site visit. The Tennessee Department of Environment and Conservation (TDEC) held a public hearing on the proposed issuance of the National Pollution Discharge Elimination System (NPDES) permit and proposed Aquatic Resource Alteration Permit on January 9, 2024, at Cove Lake State Park in Caryville, Tennessee. Public comments from the January 9 hearing were addressed separately by TDEC as part of its permitting process, but OSMRE also considered those comments in the development of this EA. All comments received about the proposed operation and reclamation plan were given serious consideration during the technical review process.

1.4.2 Tribal Consultation and Section 106 National Historic Preservation Act (NHPA) Compliance

The Tennessee Historical Commission, which is the State Historic Preservation Office (SHPO) for Tennessee, was consulted for this project. In a letter dated June 6, 2023, the SHPO determined that no National Register listed or eligible Historic Properties exist within the area of potential effects.

In addition, the Cherokee Nation, Coushatta Tribe of Louisiana, Eastern Band of Cherokee Indians, the Muscogee (Creek) Nation, Shawnee Tribe, Eastern Shawnee Tribe of Oklahoma, and the Absentee-Shawnee Tribe of Indians in Oklahoma were all notified and given the opportunity to request consultation on the Proposed Action. No comments or consultation requests were received.

1.4.3 U.S. Fish & Wildlife Service Consultation

Under the provisions of section 7(a)(2) of the Endangered Species Act (ESA) of 1973, a Federal agency that carries out, permits, licenses, funds, or otherwise authorizes an activity, must consult with the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service, as appropriate, to ensure that the Proposed Action is not likely to jeopardize the continued existence of any species listed under the ESA or result in the destruction or adverse modification of designated critical habitat. OSMRE developed a Biological Assessment (BA) through the FWS Information for Planning and Consultation (IPaC) planning tool, submitted it to the FWS on November 13, 2024, and requested formal consultation on three species that it determined the Proposed Action "may affect" and is "likely to adversely affect." The FWS issued its Biological Opinion/Conference Opinion on May 2, 2025. The Biological Opinion and the Conference Opinion addressed the effects to the federally threatened blackside dace, endangered northern long-eared bat, and proposed endangered tricolored bat. It also included an Incidental Take Statement, conservation measures to avoid and minimize impacts to the three species and to promote their recovery, and notification procedures for situations that may require follow-up responses.

1.5 Issues Identified for Detailed Analysis

Site-specific resource concerns were identified by the OSMRE, various state and federal agencies, and the public through the preliminary review process conducted during the scoping period. OSMRE focused the analysis in this EA on the primary issues related to the Proposed Action (Hydrology/Water Resources; Vegetation; Soils; Threatened, Endangered, Proposed, or Candidate Species; Air Quality and Noise; Topography, and Socioeconomics); these issues are analyzed in detail in Chapter 4. The FWS determined that the Proposed Action could result in tree removal suitable for bat roosting habitat and noise/vibration and lighting effects that would result in incidental take of northern long-eared bats and tricolored bats, if listed. It also determined that an incidental take of blackside dace could occur in 9.8 miles of streams in the watershed. The take is authorized for OSMRE until such time as the agency no longer maintains regulatory authority or jurisdiction.

1.6 Resources Considered, but Eliminated from Detailed Analysis

Site-specific resource concerns were identified by OSMRE and the public through the preliminary review process conducted during the scoping period. Rationale for each resource eliminated from detailed analysis is provided in the table below.

Table 2. Resources Considered, but Eliminated from Detailed Analysis

Resource/Issue	Rationale for Determination
Cultural/Historic	The Tennessee Historical Commission, which is the SHPO, was consulted for this project. The Advisory Council on Historic Preservation (ACHP) codified procedures for carrying out section 106 of the National Historic Preservation Act (NHPA) review in 36 CFR part 800. In a letter dated June 6, 2023, SHPO concluded that there are no properties listed or eligible for listing on the National Register of Historic Places would be affected by the proposed project. Additionally, the Cherokee Nation, Coushatta Tribe of Louisiana, Eastern Band of Cherokee Indians, the Muscogee (Creek) Nation, the Shawnee Tribe, the Eastern Shawnee Tribe of Oklahoma, and the Absentee-Shawnee Tribe of Indians of Oklahoma were contacted. No comments or requests for consultation were received. Because of this, OSMRE concluded that there would be no effects to historic or cultural resources from the Proposed Action. If, during the surface mining operation, previously unidentified cultural resources are discovered, the permit would require the permittee to ensure that the site(s) is/are not disturbed and to notify OSMRE's Knoxville Office (KO). KO, after consultation with SHPO and signatory agreement parties, if any, will inform the permittee of the required actions to be taken to prevent and minimize adverse impacts.
Prime Farmlands	OSMRE reviewed the USDA NRCS Web Soil Survey and found that no Prime Farmland was identified within the proposed permit area. Therefore, no effects to prime farmlands would occur because of the Proposed Action. Other potential effects to soils are identified in Section 3.1.3 & 4.3.

Resource/Issue	Rationale for Determination
Recreation/Tourism	The surface land within the proposed permit area is privately owned and not currently available for public use or recreation. The surface owner has indicated that recreation would be allowable after the proposed permit is complete. The surface rights owner has plans to promote habitat for wildlife as well. Therefore, no impacts to existing recreation/tourism resources are expected as a result of the Proposed Action.
Adequate Bond	OSMRE uses full cost bonding to ensure adequate funds are available to complete reclamation should the operator not complete the obligations of the approved permit. This bond is calculated on the "worst case" or maximum disturbance scenario so that adequate funds would be available in accordance with SMCRA (30 CFR part 800).
Public Health and Safety - Roads	Maintenance of public roads outside of the proposed permit area typically falls to the jurisdiction of the responsible government entity whether county, state, or federal. OSMRE does not have the authority to require a bond for the county road or to install rumble strips on a public road. State law requires all trucks to be covered when hauling on public roads. HCM may perform road maintenance along both the Fork Ridge and Valley Creek Roads, which would generally include watering to suppress dust and possible regrading of graveled sections of roadway. Truck traffic resulting from this operation is anticipated to result in between 18 to 20 roundtrips per day (approximately 25 miles roundtrip), which is considered to have only a minor impact compared with the overall traffic along this route. Transportation and air quality associated with these roadways is described in Sections 2.2.2 and 3.1.5 of the EA. All roads within the proposed permit area are existing and were constructed for previous operations, including logging and mining roads, which will be upgraded and left at the request of the surface owner for future recreation access plans.
Land Use	The proposed permit area is private land. The surface is owned by CF Ataya LLC (The Nature Conservancy). No public use is allowed currently. Most of the haul road system the applicant proposes to use was created by prior mining activities and has been in existence for many years. The existing haul roads have been used at various times over the years for hauling coal and timber from this area as well as providing general access to the area. The surface owner has future plans that benefit wildlife and pollinators. It is also likely that recreation would be allowed when reclamation is complete.

NEPA requires federal agencies to disclose to the public the potential environmental impacts of projects they authorize. NEPA also requires agencies to consider and analyze reasonable alternatives to projects that are proposed. Finally, NEPA requires agencies to decide whether the analyzed action would significantly impact the environment. Because approval of this permit is a major federal action under NEPA and OSMRE did not believe the reasonably foreseeable

environmental effects from the Proposed Action were likely to be significant, OSMRE prepared this EA. An EA is a concise public document that analyzes the environmental effects of the Proposed Action and one or more alternatives. After review of the EA, the agency will either issue a finding of no significant impact (FONSI), if the EA supports a conclusion that the Proposed Action does not have the potential to cause significant environmental effects, or prepare an environmental impact statement.

CHAPTER 2. PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

This chapter provides background information on existing conditions at the HCM Mine #2 and describes each alternative. OSMRE identified reasonable alternatives that are technically and economically feasible, meet the purpose and need for the Proposed Action, are within the jurisdiction of OSMRE, and meet the goals of the applicant.

2.2 Proposed Action

The location of the proposed HCM Mine #2 is in Claiborne County, Tennessee—approximately 6.5 miles southwest of Middlesboro, Kentucky and 5.5 miles east of Clairfield, Tennessee. It is located near the head of Valley Creek, Spruce Lick Branch, and Burrell Branch on the western slopes of Bryson Mountain as shown in Figure 1. WPP, LLC (c/o Natural Resource Partners) owns all the mineral rights within the proposed mine site. The proposed mine site is in the Clear Fork and Yellow Creek drainage watersheds, which are part of the Cumberland River drainage basin. Valley Creek, Tackett Creek and Bennetts Fork are the primary receiving streams receiving the discharges from this permit.

The applicant plans to disturb the entire proposed permit area of 635 acres during the 10-year life of the operation, although existing roadways are included in that acreage. With the initiation of the proposed mining operation, existing roads would be improved, and sediment basins and associated diversion ditches would be constructed to control surface runoff. Once basin and ditch construction are completed in an area, all vegetation would be removed, topsoil/growth medium salvaged for future redistribution, and the area would be configured to allow for drilling and blasting of the materials overlying the coal seam. When blasting has loosened the in-situ rock, the spoil materials overlying the coal seam would be excavated and the exposed coal seam removed. The disturbed areas within the proposed permit area, except for the haul roads and the sediment basins, would be backfilled and regraded using all reasonably available spoil. Spoil materials generated in association with the proposed mining operation would be of sufficient quantity to eliminate all new highwalls created during the proposed mining operation. However, there may not be sufficient spoil to fully reclaim portions of highwall that were left in an unreclaimed condition before the passage of SMCRA (48 FR 41720). Once backfilled, the reclaimed areas would then be revegetated with a seed mixture capable of producing a permanent, diverse, effective groundcover, and vegetation and tree establishment. The proposed postmining land use would be undeveloped and fish/wildlife habitat. The haul roads would remain as permanent structures, and sediment basins would be converted to wetlands.

OSMRE may approve the permit application upon finding that the proposed operation, as modified through the technical review process, would meet the requirements of SMCRA and the Federal Program for Tennessee. The technical review process resulted in OSMRE issuing three notices of deficiencies during the administrative and technical review period.

During the review period, the applicant modified the initial permit application and provided sufficient information to address all items cited during the review process. Additionally, other state and federal agency or group concerns were also addressed and are included within the

Proposed Action. These items include: increasing stream buffer zones distances; modified culvert sizing and use of bottomless culverts at road crossings; incomplete information on migratory birds and wetlands; insufficient geologic information; insufficient geochemical analysis to assess the potential for acid mine drainage; incomplete and/or inconsistent surface water and ground water data; the need for additional drainage control measures; insufficient backfilling and grading information; incomplete toxic materials handling plan; and the need for changes to and additional information on topsoil handling, land use, protection and enhancement plan, and revegetation.

2.2.1 Mining Methods

The Proposed Action includes remining of the Sterling, Poplar Lick, and Stray coal seams. HCM would employ surface contour mining (i.e., excavation on the side of the mountain) and auger/highwall mining methods.

Surface contour methods involve excavation of coal from the side of the mountain, following the coal along the contour and moving around the mountain. Auger/highwall methods extract coal by drilling horizontal holes into the exposed coal outcrops along the highwalls with rotary shafts and hydraulic rams, moving along the length of the highwall.

2.2.2 Transportation Plan

Access to this site is provided by existing roads that would be enhanced for safe use and dust suppression. The surface rights are owned by The Nature Conservancy, which plans to harvest timber and manage these lands using the upgraded roads after reclamation.

Coal transportation is planned to travel by truck from the permit site to Hurricane Creek Preparation Plant (Kentucky DMRE Permit Number 8078101) in Middlesboro, KY. Initial mining would start near Big Coal Gap, and coal would be hauled on Fork Ridge Road and Kentucky State Highway 186. As mining progresses to the west, coal could be hauled downslope to the Valley Creek Road and back to Fork Ridge Road rather than following the mine bench back to Big Coal Gap. The preparation plant would then clean and process the coal to remove dirt, rock, ash, sulfur, and other unwanted materials. It is estimated that 18-20 coal trucks per day would travel roundtrip from the proposed permit area to the Middlesboro, KY Preparation Plant. At this time, it is unknown where the coal would be sold and transported after processing because the type of coal mined from this area is considered a specialty market, although it can also be used as thermal coal.

2.2.3 Sediment Basins

The drainage and sediment control plan designed for this site includes 28 sediment basins that have been designed to meet NPDES effluent limits for suspended solids. The sediment basins would also be monitored in accordance with the NPDES limits for the site, including a suspended solids limitation of 70 milligrams per liter for a daily maximum and 35 milligrams per liter for a monthly average unless the discharge is a result of a direct precipitation, at which time the alternative storm water effluents can be applied if the operator demonstrates that precipitation occurred. All runoff from the proposed surface disturbances would be routed through sediment control structures. Access and haul road sediment would be minimized by using durable rock surfacing, sediment sumps, and regular maintenance. Implementation of this proposed drainage and sediment control on the surface mine bench and roadways should significantly reduce the

amount of sediment leaving the site and be protective of the receiving streams and the aquatic ecosystem. The sediment basins are proposed to be reclaimed as wetlands, with the areas adjacent to the wetlands planted with native trees, following the range-wide Indiana Bat Protection and Enhancement Plan (PEP) Guidelines. The overall design of the project area and the protective measures included in the PEP in the Proposed Action was specifically developed to minimize potential impacts to the blackside dace or their habitat in Valley Creek, Spruce Lick Branch, and Tackett Creek.

2.2.4 Toxic Material Handling Plan

Potential acid-forming and toxic-forming earthen materials and coal wastes have been identified as part of the geologic sampling and testing program. Some of the more acidic materials are associated with the Poplar Lick coal seam, and additional drilling and testing in advance of mining is required as part of the toxic material handling plan to better identify any zones that require material handling or treatment. Selenium-bearing zones have already been identified and are primarily located immediately above and below the various coal seams proposed for mining. The operator proposes to segregate the immediate 5 feet of material above and below each coal seam and isolate it in the backfill away from surface and ground water sources. Coal cleanings and waste materials would be transported to the Hurricane Creek Preparation Plant in Middlesboro for disposal. Acidic zones would either be blended with more alkaline spoils or treated with agricultural lime to achieve neutralization.

Non-coal and combustible materials would be placed and stored in a controlled manner at various locations within the permit area. All lubricants, fuels, paints, and welding gases would be stored in their original containers. Diesel fuel and gas storage tanks are sled mounted which allow them to be moved as mining advances. Tanks would be placed in lined containment structures capable of holding any leakage should it occur. Final disposal of all non-coal mine wastes would be in a state approved solid waste disposal area.

2.2.5 Mine Facilities

Mine facilities would consist of a mine office, explosive storage, equipment parts storage, and reclamation supply storage. The mine office would likely be a small portable trailer 12' x 60' or equivalent. Explosives storage magazines would be constructed of metal and wood or other MSHA compliant construction and would be located at the prescribed distances from the active mining. Typical locations are shown on the Mining Operations Map; however, other locations may be used. Equipment parts storage, reclamation supply storage, etc., would likely use tractor-pulled 8' x 50' utility trailers or equivalent. These storage units would be mobile and would be located at various locations as needed throughout the permit area.

Following completion of coal removal, these facilities would be removed when the intended uses are no longer required. Removal of mine facilities would be the responsibility of the permittee, unless said facilities are provided by a leasing company. This could include such things as explosives storage, reclamation supply, fuel tanks, and equipment parts supply. All facilities supplied by leasing companies would be the responsibility of and would be removed by the leasing company.

2.2.6 Remining/Previously Mined Areas

Approximately 346 acres of the proposed mining area are lands affected by surface coal mining operations prior to August 3, 1977, that have not been reclaimed to SMCRA standards, including approximately 230 acres impacted by coal removal on the Sterling and Stray seams. Other portions of the proposed operation include areas that were previously mined under SMCRA; some of this mining occurred in unreclaimed pre-law areas. Under SMCRA, where a surface coal mining operation proposes to remine a pre-law areas, complete reclamation is required wherever possible and operations must use all reasonably available spoil materials to reclaim to the extent possible where abandoned pre-law highwalls existed. The remaining previously disturbed acreage is from overcast spoils and road disturbances and approximately 6.5 miles of unreclaimed highwall at numerous locations within the proposed permit boundary (Figure 2). These past coal mining operations constitute a large portion of the proposed disturbed area under this permit. Although little or no reclamation occurred on areas that were mined in the 1950s, 1960s, and early 1970s, these areas have, through natural succession, largely reverted to a vegetated condition.

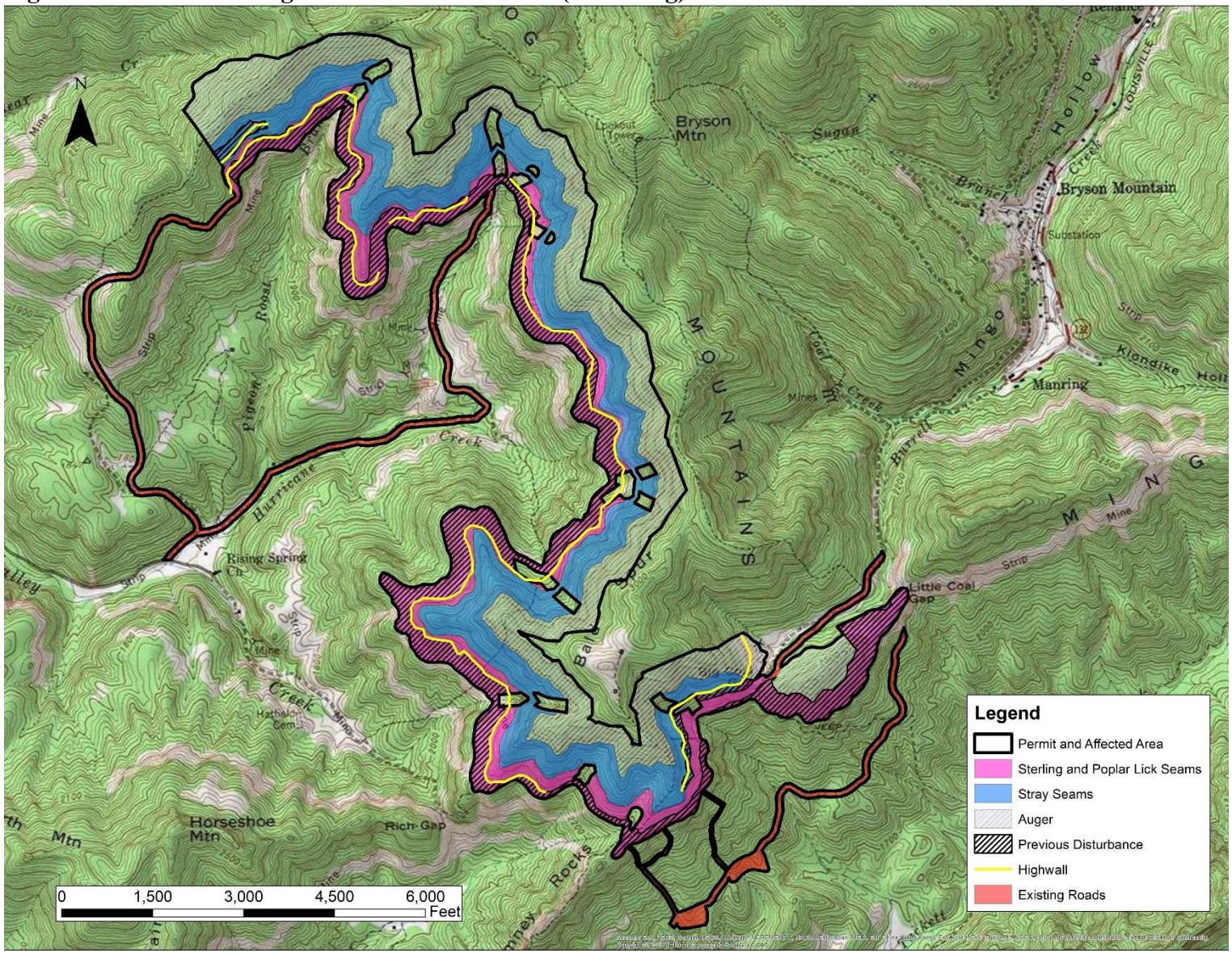
2.2.7 Reclamation

The proposed mining and reclamation plans would restore the natural drainage pattern within the mine area. During reclamation of the mine site, the surface mined areas would be replanted with a mixture of tree seedlings with exfoliating bark following the Indiana Bat PEP Guidelines. To achieve the proposed postmining land use of undeveloped land with forestry and wildlife habitat, the reclamation plan calls for planting grasses, legumes, and trees favorable for wildlife in a pattern to create diversified habitats and food plots, along with leaving brush piles and rock piles to provide nesting areas and habitat. Revegetation would comply with the Appalachian Regional Reforestation Initiative Forestry Reclamation Approach (OSMRE 2017). All haul roads would remain after mining. Sediment basins would be modified to wetland areas in accordance with State of TN regulations.

2.2.8 Coal

The Poplar Lick, Sterling, and Stray seams contain both specialty market and thermal use coal. The primary uses of the specialty market coal are steel making and special industrial use (including the potential for extraction of rare earth metals or trace minerals). A rare earth and critical element facility in Roxanna, Kentucky, is currently being constructed by Kingdom Coal for processing various seams in eastern Kentucky. Other potential uses are gasification and chemical extraction. which has previously occurred at the Tennessee Eastman facility in Kingsport, Tennessee. However, coal from these seams can be blended with low grade coal for generating electricity.

Figure 2. Previous Mining and Disturbance Areas (Remining)



2.3 DESCRIPTION OF ALTERNATIVES

Alternatives in a NEPA analysis should present the environmental impacts of the Proposed Action and any reasonable alternatives in a comparative format based on the information and analysis presented on the affected environment and environmental consequences.

2.3.1 No Action Alternative

Under the No Action Alternative, OSMRE would not approve the permit application upon finding that the proposed operation would not meet the requirements of SMCRA and the Federal Program for Tennessee. No mining would occur, and no additional reclamation would be done in the pre-law areas at this time. Because no coal mining would be authorized under SCMRA, it is unlikely that the pre-law abandoned mine features would be reclaimed in the foreseeable future.

2.3.2 Alternatives Considered but Not Considered Further

OSMRE considered an enhanced mining and coal recovery alternative to maximize coal recovery on all seams within the affected area. Such an alternative would require recovery of all coal as originally proposed in the previously approved Appolo Fuels, Inc. and the Middlesboro Mining Operations permits (OSMRE Permit Nos. 3264 and 3296) for the Sterling and Strays operation and would result in an additional 1.8 million tons of coal recovery over the life-of-mine operations. The overall impacts to both the natural and human environment would be similar although slightly elevated above those in the proposed alternative as it would result in more equipment and vehicle activity to produce the additional coal. Because of reduced demand for coal and increased cost of remining, this alternative, while technically feasible, was not considered economically feasible and, therefore, was not pursued.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 General Setting:

Resources or environmental components that may be affected by the proposed project in chapter 1.5 are discussed below:

3.1.1 Hydrology/Water

3.1.1.1 Operational Background and Description of the Cumulative Impact Area

Cumulative Impact Area (CIA) 10 encompasses the entire Tennessee portion of the Clear Fork watershed and is part of the much larger Upper Cumberland River drainage basin, which is defined by the Hydrologic Unit Code (HUC) 05130101. The Upper Cumberland HUC 05130101 drains an area of approximately 2575 square miles. To better assess and monitor the impacts of the surface coal mining activities within the CIA, OSMRE subdivided the Tennessee portion of this drainage basin into 21 increments or subwatersheds. The proposed mining operation is in the CIA 10, Subarea 01A, 02B, and 09 watersheds, which comprise the upper portions of Clear Fork, Tackett Creek, and Bennetts Fork along with their tributaries. The watersheds at these Subarea trendstations drain an area of approximately 27.8, 15.9, and 12.2 square miles, respectively.

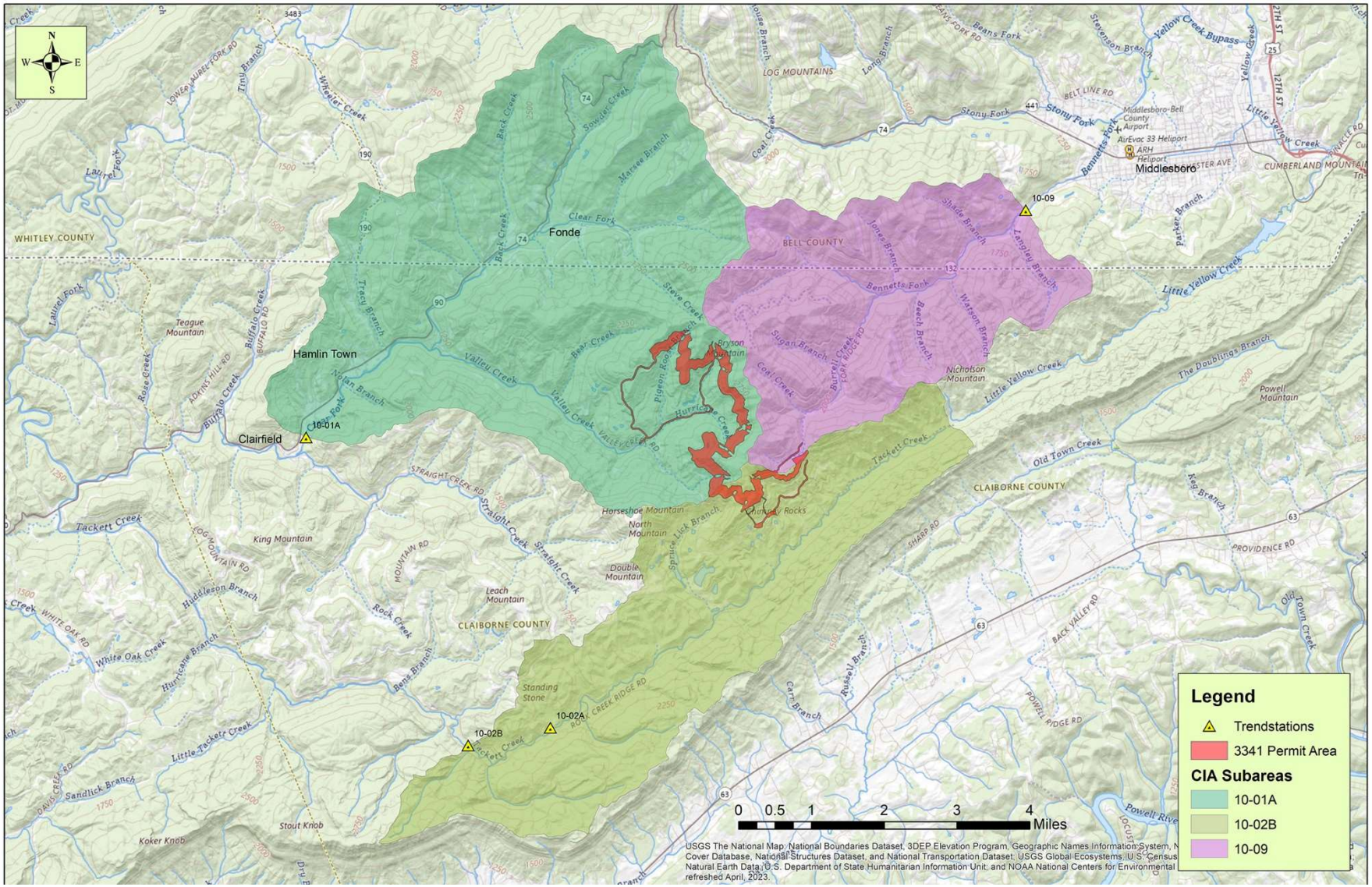
A Cumulative Hydrologic Impact Assessment (CHIA) (OSMRE 2025) was developed for the proposed permit to identify potential hydrologic impacts that are occurring, or could be caused by or resulting from, any existing or proposed permitting activity within these watersheds. This CHIA is based on available information for currently existing and anticipated mining operations

within the CIA 10, Subarea watersheds. Figure 3 shows the location of the proposed mine site in relation to the CIA subareas.

The majority of the proposed Mine No. 2 permit would drain into the CIA 10, Subarea 01A watershed, which encompasses portions of Clear Fork and Valley Creek upstream of Clairfield, Tennessee. The other watershed that would receive drainage from the proposed operation is Tackett Creek, which comprises the CIA 10, Subarea 02B. Tackett Creek flows into Clear Fork approximately 4.6 miles downstream of the CIA 10, Subarea 01A. Only a small portion of the proposed permit area would drain to the CIA 10, Subarea 09 watershed and discharge to Burrell Branch, which flows into Bennetts Fork and Yellow Creek to ultimately discharge into the Cumberland River near Pineville, Kentucky.

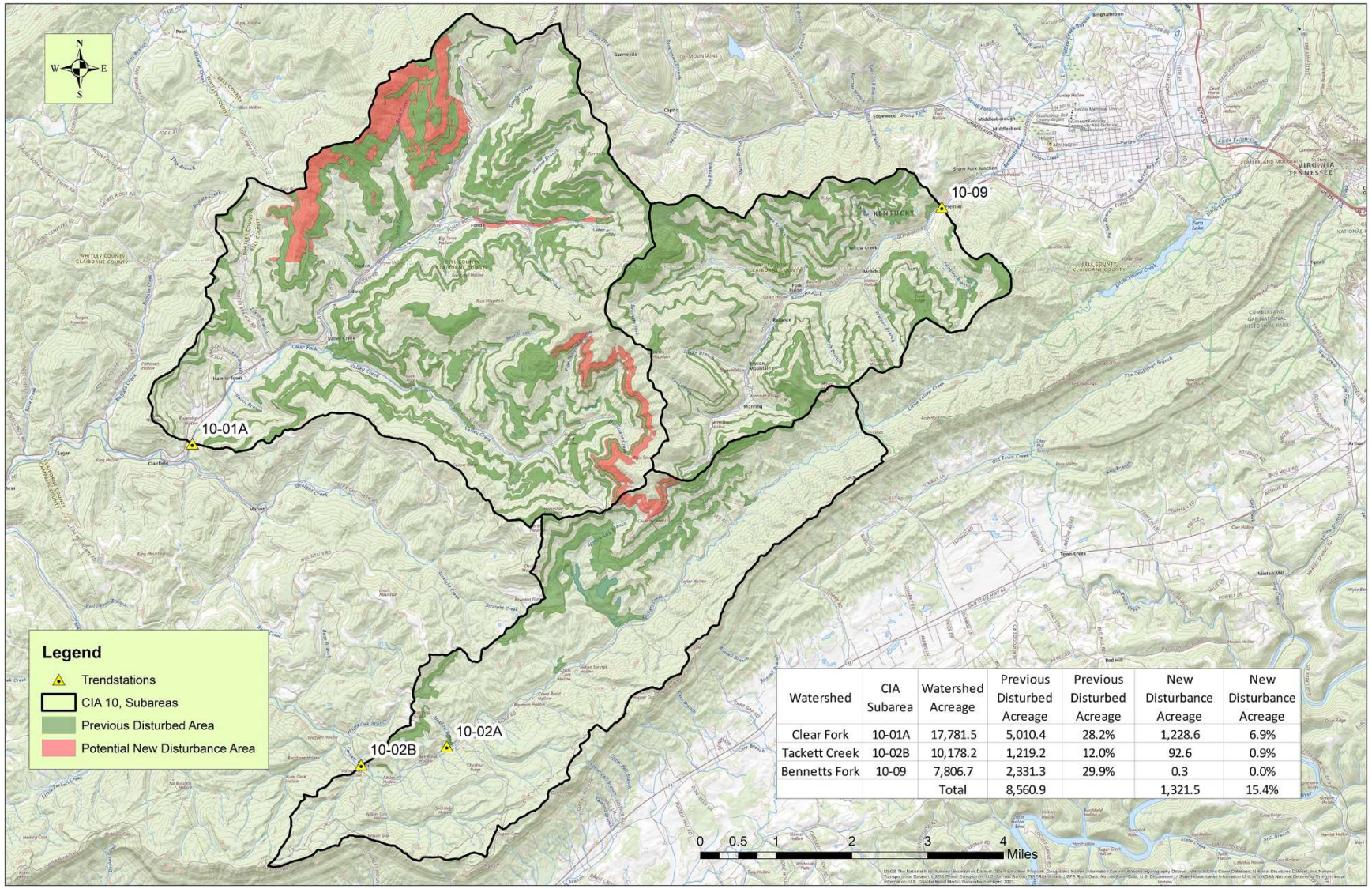
The proposed permit area would consist of two sets of mining benches with a maximum open or exposed cut on each bench not to exceed 1,500 linear feet. Mining would occur on the existing Sterling bench and go down to recover the Poplar Lick seam, which typically is approximately 40 feet lower in elevation. The Sterling seam has already been extensively mined by both surface and underground mining operations, so the amount of actual new disturbance and coal recovery is somewhat questionable, but the maximum Sterling and Poplar Lick bench disturbance is estimated at approximately 290 acres. The Stray seams are largely unmined and could generate up to approximately 268 acres of disturbance if all seams were recovered. However, the amount of actual mining and coal recovery on these seams would depend on coal thickness as the seams are highly variable across the permit area. A maximum mining disturbance on these two benches is estimated at approximately 558 acres if all coal seams were taken. Augering or thin-seam mining would occur on any seam that was of adequate thickness to allow additional coal recovery.

Figure 3. Location and Operational Map of the Hurricane Creek Mining, LLC, Mine No. 2



The total of all historical mining-related disturbances within the CIA 10 Subareas is estimated at approximately 8,561 acres or 23.9 percent of all the CIA Subarea watershed area. This estimate was based on U.S. Geological Survey topographic maps, interpretation of digital orthophotographs, available satellite or aerial imagery, and ground surface mapping using LiDAR data. The Bennetts Fork subwatershed (CIA 10, Subarea 09) has experienced the most disturbance as nearly 30 percent of the watershed has been previously disturbed by surface mining activities. Additional new disturbance under this proposed permitting action by HCM would not significantly increase this value as all but about 1 acre has already been previously disturbed. The Clear Fork subwatershed (CIA 10, Subarea 01A) has similarly been disturbed as approximately 28 percent or 5,010 acres of the watershed has been previously affected by surface mining activities. However, this could increase to approximately 6,239 acres or 35 percent under the proposed HCM permit and if the permitted, but currently undisturbed mining areas in Kentucky within this watershed, were developed. The Tackett Creek subwatershed (CIA 10, Subarea 02B) has had approximately 1,219 acres or 12 percent of its area subjected to mining-related disturbances. The proposed HCM permit would increase these disturbances by 92.6 acres or about 1 percent. Figure 4 shows all previous mining disturbances along with the any potential and proposed mining disturbances that could occur within the CIA Subarea watersheds. Additional information and descriptions of all current and existing permits within the CIA watersheds is provided in the CHIA document, which is included with the decision document files.

Figure 4. Previous Surface Mining Disturbance with Potential New Disturbances from Current and Pending permits in the CIA 10, Subarea 4 Watershed



Watershed	CIA Subarea	Watershed Acreage	Previous Disturbed Acreage	Previous Disturbed Acreage	New Disturbance Acreage	New Disturbance Acreage
Clear Fork	10-01A	17,781.5	5,010.4	28.2%	1,228.6	6.9%
Tackett Creek	10-02B	10,178.2	1,219.2	12.0%	92.6	0.9%
Bennetts Fork	10-09	7,806.7	2,331.3	29.9%	0.3	0.0%
		Total	8,560.9		1,321.5	15.4%

3.1.1.2 ARAP and Stream Buffer Zones

The original site visits to determine Jurisdictional Waters (JD) of the State and the United States were made on January 25 and 28, 2011 and February 2, 2011, as part of the Appolo Fuels, Inc., Sterling and Strays permit application (OSMRE Permit No. 3264). A subsequent updated Hydrologic Determination (HD) application was submitted to the TDEC on May 25, 2023, with a follow-up inspection on June 29, 2023, to review potentially discrepancies between the new HD and previous TDEC evaluations from 2009 and 2011 for this same area (https://dataviewers.tdec.tn.gov/dataviewers/r/tdec_reports/f11776/site-details?p8_site_id=175892&clear=RR,8). Likewise, OSMRE conducted a premine site visit on September 26, 2023, which also included representatives from TDEC, The Nature Conservancy, the Tennessee Wildlife Resources Agency, the FWS, and HCM representatives.

During these site visits, a determination of jurisdictional waters of the State of Tennessee and the United States was made. It was also determined that a few small wetland areas and numerous road crossings or stream encroachments were proposed. Because of the numerous wetland and streams areas involved, an individual ARAP and 404 application was required to cover all areas identified in these JD site visits. In the CIA10, Subarea 01A and 2B watersheds, approximately 1,260 linear feet of ephemeral, intermittent, and perennial stream channels would be temporarily affected to facilitate road crossings at both the Sterling and Stray bench levels. The CHIA provides the locations of these wetland areas and stream reaches, which could be potentially affected in addition to the locations of required buffer zones. The JD and ARAP include appropriate findings and mitigation efforts associated with these activities.

3.1.1.3 Baseline Geologic and Hydrologic Conditions

The proposed permit area and the entire CIA 10, Subarea 01A, 02B, and 09 watersheds are located within the Cumberland Fault Block of the Tennessee coalfields (Luther, 1959). This feature is part of a large overthrust sheet that has followed a northwestern displacement of approximately 10 miles and a 500-foot vertical displacement above its relative position with other areas of the Cumberland Plateau. The surface strata of the Clear Fork and Tackett Creek watersheds represent portions of the Lower and Middle Pennsylvanian age Breathitt Formation. Coal seams to be mined include the Poplar Lick, Sterling, and the Strays. Some potential acid-forming and selenium-producing zones have been identified and would be handled by encapsulation or taken to the coal processing plant with the coal.

The groundwater system of the proposed permit and adjacent areas is relatively simple and typical for the Cumberland Block of the Tennessee coalfield. Groundwater essentially moves from topographic highs (ridge tops) to topographic lows (valley bottoms) following a stair-stepping course along geologic fractures, where it recharges to area streams. However, abandoned underground mine workings throughout these watersheds have the potential to intercept this water and redirect it through the workings to form discharges at the former entries. The nearest potential groundwater users are located approximately 2 miles from the proposed mining area and 900 feet lower in elevation.

The overall groundwater quality is relatively good with an overall net-alkaline, neutral pH, and with generally low concentrations of iron and manganese. The only exception is a discharge from

a seep, which is from an abandoned underground mine adit (a horizontal opening leading into an underground mine for the purpose of access or drainage) on the Sterling seam. Here the pH averaged 3.19 with iron concentrations of 4.16 mg/L and manganese concentrations of 1.65 mg/L. Other seeps, also from abandoned mine adits in the Sterling seam, show alkaline water with a pH averaging between 6.85 and 7.4 and low concentrations of iron (0.07 to 0.13 mg/L) and manganese (0.01 to 0.03 mg/L). Sulfates throughout the groundwater CIA average around 231 mg/L with total dissolved solids averaging 434.8 mg/L. Selenium concentrations that were above the criterion continuous concentration of 0.0031 mg/L for protection of fish and aquatic life were reported at 3 groundwater monitoring stations. Seep 19 is in abandoned spoils associated with the Sterling seam and reported a concentration of 0.009 mg/L on one occasion. All other samples were reported below detection limits. Likewise, Seep 22 reported selenium of 0.017 mg/L and Seep 25 reported selenium of 0.011 mg/L on one occasion. These seeps are on old mine spoils associated with the Buckeye Springs seam. All other samples reported below laboratory detection limits. Complete water quality data is provided in the CHIA document for this proposed permit.

HCM provided surface water quality data from 20 different monitoring stations for the purpose of establishing background hydrologic conditions in the various receiving streams adjacent to the mine site. Data shows the existing conditions in all these receiving streams are strongly buffered with very little acidity and high alkalinity. All of these monitoring points show net alkaline water with neutral pH averaging between 6.9 and 8.2. Acidity values were typically reported below detection limits at <10 mg/L as CaCO3. The highest acidity reported was 58 mg/L at SWIM-15 but was still considered net alkaline as the pH was reported as 7.5 and total alkalinity was 87 mg/L. Overall alkalinity values ranged between an average of 70.7 to 278.5 mg/L as CaCO3. The pH value was always within TDEC water quality criteria for protection of fish and aquatic life which is between 6 and 9 for wadable streams.

Average specific conductance values ranged between 283 µS/cm and 1087 µS/cm for all stations. The highest specific conductance values reported were collected near the mouth of Spruce Lick Branch in the Tackett Creek watershed. This stream is affected by a significant amount of abandoned mine lands on the Mingo coal seam along with multiple coal refuse fills associated with the Consolation Coal Company, Camp Complex that has received bond release. Specific conductance in Tackett Creek averaged around 440 µS/cm upstream of the proposed operation and around 600 µS/cm downstream of Spruce Lick Branch, which is the lowest discharge from the proposed mine site. Iron and manganese concentrations were low throughout the watershed averaging less that one mg/L except for upper Spruce Lick Branch, which had an average iron of 3.21 mg/L. However, the average iron was skewed by sampling conducted during a precipitation event that had high suspended solids concentrations of 556 mg/L. Dissolved iron remained low with average concentrations of only 0.26 mg/L.

Other water quality data from Hurricane Creek, Pigeon Roost Branch, and Valley Creek exhibited similar water quality with average specific conductivity averaging between 350 µS/cm and 500 µS/cm. Total iron and manganese values were low except for samples that had high suspended solids that contributed to elevated iron. Dissolved iron and total manganese values

were always well below 1 mg/L. Complete water quality data and summaries are included in the CHIA evaluation document.

3.1.1.4 PHC and HRP issues

The primary concerns identified in the determination of Probable Hydrologic Consequences (PHC) and the Hydrologic Reclamation Plan (HRP) were associated with the control of sediment, handling of potential acid-forming and selenium-producing strata, increase in flooding potential, and the interception of underground mine workings, which could act as flow paths for ground water. The proposed mine plan was designed to address, minimize, and control the effects resulting from each of these potential impacts. Most potential acid-forming or selenium producing strata is directly associated with or adjacent to the coal seams proposed for extraction. Such materials are to be transported with the coal to the Hurricane Creek Preparation Plant in Bell County, Kentucky, and disposed in accordance with the approved waste disposal plans for the refuse area or would be segregated and placed in disposal pods in the backfill. Roadways are all currently existing and would be upgraded to minimize sediment loading and to direct runoff through sumps and culverts. No increase in flooding potential from this operation were anticipated, and no potentially affected surface water and groundwater users were identified.

3.1.1.5 Antidegradation

All the CIA Subareas for this permit application are listed as part of the EPA approved Total Maximum Daily Load (TMDL) for the Clear Fork of the Cumberland River Watershed (TDEC, 2009) for siltation and E. Coli (TDEC, 2007). Two stream reaches within the CIA 10 Subareas are listed as being “Not Supporting” under the recent TDEC and EPA 2024 303(d) list (TDEC, 2024a). These include Bennetts Fork (CIA 10-09) downstream of the confluence of Cabin Hollow and Tackett Creek (CIA 10-02B) downstream of the confluence of Meadow Branch. All other streams in the CIA watersheds are considered as fully supporting for fish and aquatic life. Approximately 4.17 miles of Bennett Fork from Cabin Hollow to the Kentucky State line are not fully supporting their designated uses because of siltation. The cause of these impairments has been listed by TDEC as resulting from impacts of highways, roads, and bridges; permitted and abandoned mining discharges; and infrastructure (new construction). Approximately 5.29 miles of Tackett Creek between Meadow Branch and Little Tackett Creek are also not fully supporting their designated uses because of siltation, which is attributed to silvicultural (logging) activities.

Other than siltation, and associated Total Suspended Solids (TSS), all receiving streams in the approved NPDES permit have available parameters for all other pollutants of concern except for selenium (TDEC, 2024b). A water quality-based effluent limitation is incorporated into the NPDES permit for selenium, which requires the applicant to meet in-stream water quality criteria at the discharges from each pond for selenium.

Spruce Lick Branch upstream of the Consol freshwater lake impoundment, Tackett Creek upstream of the confluence with Spruce Lick Branch, and Bennetts Fork from the Kentucky State line to the headwaters are all considered Exceptional Tennessee Waters based on the occurrence and subsequent identification of blackside dace. Likewise, Hurricane Creek from the confluence with Pigeon Roost to the origin, including its tributaries, is considered Exceptional Tennessee Waters because of its exceptional biological diversity. As a result of this designation,

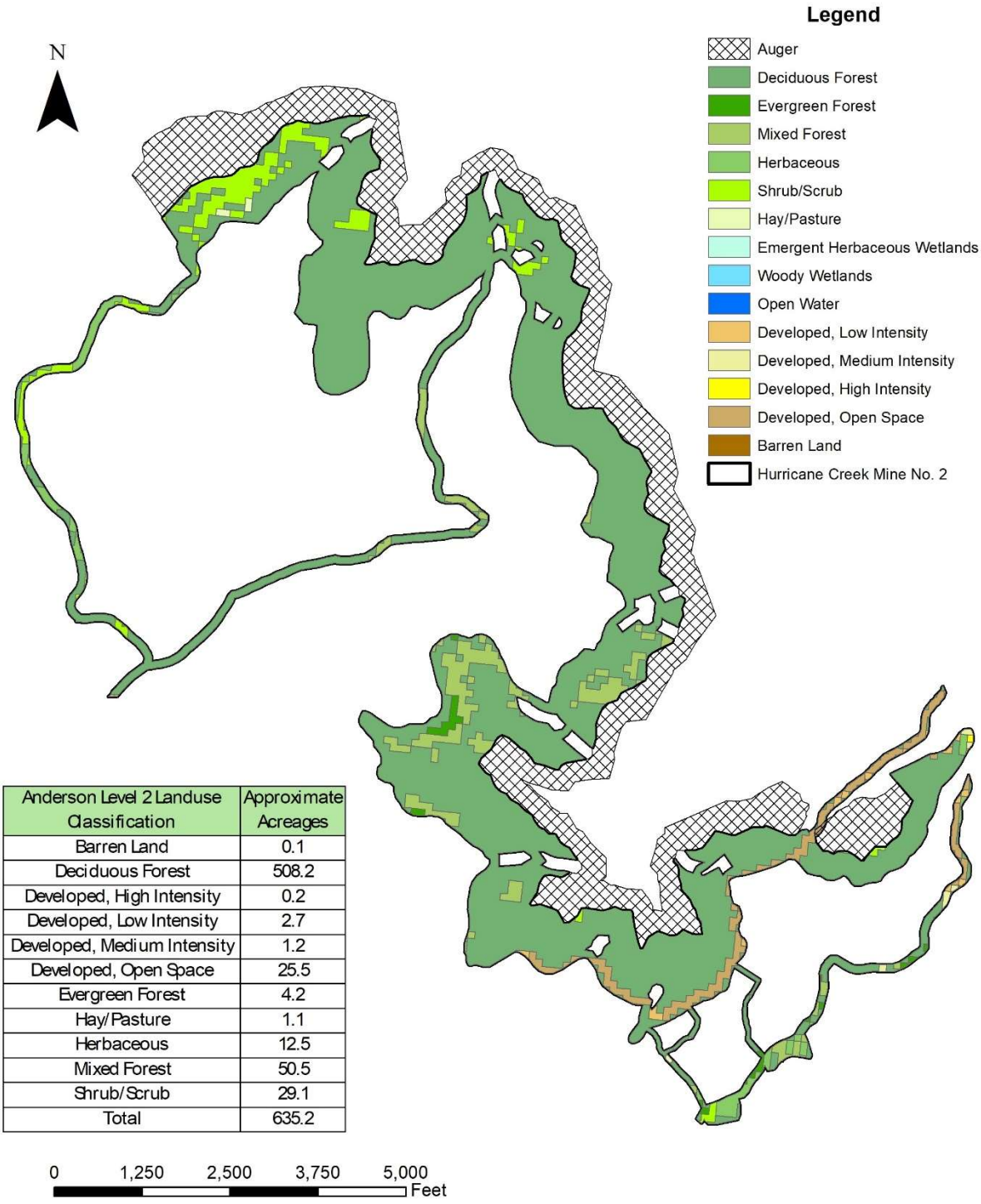
TDEC cannot allow any degradation of these streams above “de minimis” unless it makes the appropriate determination that a change is justified as a result of necessary economic or social development and would not interfere with or become injurious to any classified uses existing in such waters as required by section 400-40-03-.06(4)(d)(1) of the Water Quality Board Rules (TDEC, 2024b). This determination is included as part of the CHIA document.

3.1.2 Vegetation

The vegetative cover type of the previously unmined areas surrounding the proposed permit area is mixed mesophytic forest. The forest canopy is mostly composed of various species of both red and white oaks, hickories, yellow poplar, red maple, and yellow pine. The understory includes stands of laurel and rhododendron, particularly along the streams in the vicinity of the proposed mine site, sourwood, dogwood, sassafras, oaks, hickories, and numerous shrubs and berry plants. The previously mined or disturbed portions of the proposed permit area are currently supporting a vegetative cover comprised of various herb and early successional woody species.

The primary land use based on the National Land Cover Database (NLCD) within the proposed permit area is best defined as deciduous or mixed forest (Figure 5) cover with lesser amounts of scrub and developed open space, which is attributable to various road areas. The vast majority of the proposed haul roads that would provide access between the proposed mine site and the public roads are existing structures that were left in place because of previous mining activities.

Figure 5. Vegetation/Landcover Map (2021 NLCD)



Anderson Level 2 Landuse Classification	Approximate Acreages
Barren Land	0.1
Deciduous Forest	508.2
Developed, High Intensity	0.2
Developed, Low Intensity	2.7
Developed, Medium Intensity	1.2
Developed, Open Space	25.5
Evergreen Forest	4.2
Hay/Pasture	1.1
Herbaceous	12.5
Mixed Forest	50.5
Shrub/Scrub	29.1
Total	635.2

3.1.3 Soils

The USDA NRCS Web Soil Survey was reviewed for this project (Table 3, Figure 6). Approximately 1 acre of Philo fine sandy loam (Pf) was mapped as potential Prime Farmland soil but is located in the valley floor of Hurricane Creek and is subject to flooding and has been previously disturbed by roadway construction. No other Prime Farmland was identified. No effects to prime farmlands would occur because of the Proposed Action.

Table 33. Soil Types within the Proposed Permit Affected Area

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Farmland Classification
Ha	Hartsells (Muskingum) stony fine sandy loam (st-l)	1.05	0.11%	No
Js	Jefferson stony fine sandy loam (cb-fsl)	0.11	0.01%	No
Jsx	Jefferson stony fine sandy loam, sloping phase (cb-fsl)	3.39	0.37%	No
Md	Mine dumps (Bethesda)	1.38	0.15%	No
Mf	Muskingum stony fine sandy loam (st-l)	899.06	97.22%	No
Mfd	Muskingum stony fine sandy loam, deep phase (st-l)	15.91	1.72%	No
Pf	Philo fine sandy loam (sl)	1.07	0.12%	Yes, if not subject to flooding
Ps	Philo stony fine sandy loam (Potomac cb-fsl)	0.08	0.01%	No
ScM	Stony colluvium: muskingum soil material	2.66	0.29%	No
Total		924.71	100.00%	

Figure 6. Soil Types within the Proposed Permit Affected Area

3.1.4 Fish and Wildlife Resources

The diversity of the wildlife habitat within the proposed mine site and adjacent areas has likely been impacted by logging and coal mining activities that occurred between the 1950s and the present. Riparian areas, vegetated areas adjacent to bodies of water, are located within the areas adjacent to the proposed mine site. These zones of integration, ecotones, enhance diversity by providing subtle change from one vegetative type to another. These ecotones support wildlife species from the distinct vegetative communities as well as adaptable species that tend to colonize such transitional zones.

3.1.4.1 Mammals

Mammals within the proposed mine site and surrounding area consist primarily of upland forest species, such as, but not limited to, white-tail deer, turkey, raccoon, bobcat, eastern gray squirrel, eastern cottontail rabbit, red and gray fox, opossum, striped skunk, and numerous small mammals. A review of the Audubon's web site revealed that there were no Important Bird Areas identified within the project area; however, there are important areas in Campbell County at higher elevations as part of the Cumberland Plateau Forest Block Complex for Cerulean warbler and Golden-winged warbler. Different species of birds, reptiles, amphibians, and fish inhabit the proposed permit area. The Tennessee Wildlife Resource Agency (TWRA) website contains a full list of species that occur in Tennessee.

3.1.4.2 Birds

Various species of birds inhabit the proposed permit area. The TWRA website contains a full list of species that occur in Tennessee. The PEP requirements to only allow tree cutting from Oct 15 – March 31, annually, provides protections for tree nesting birds.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, must follow appropriate regulations and implement required avoidance and minimization measures, as described in the various TWRA links on this page. The data provided at the TWRA website indicates that no eagles have been observed in this area.

3.1.4.3 Reptiles and Amphibians

Various species of reptiles and amphibians inhabit the proposed permit area. The TWRA website contains a full list of species that occur in Tennessee.

3.1.4.4 Fisheries

Various species of fish inhabit the proposed permit area. The TWRA website contains a full list of species that occur in Tennessee.

3.1.4.5 Bats

Previous surveys for an overlapping permit that has had little disturbance were conducted per FWS requirements at that time in 2007 and 2011 (Copperhead 2007 & 2011). The 2007 mist net survey consisted of 24 net nights over 4 days at 6 locations. The surveys detected the northern long-eared bat but did not detect the Indiana or gray bat. The 2011 survey of both passive and

mist net surveys also failed to detect the Indiana or gray bat but detected the northern long-eared bat, which was not federally listed at that time. In 2019, FWS issued an updated version of its Range-wide Indiana Bat Survey Guidelines that significantly changed since these original surveys were completed. To better analyze potential effects to federally listed bats, OSMRE conducted passive surveys in accordance with the 2019 survey guidelines. These surveys detected the Indiana bat at one site and the gray bat at one sediment basin. These surveys failed to identify the northern long-eared bat. Other non-federally listed bats were also detected (OSMRE 2019). For a list of species commonly found in Tennessee, see the Tennessee Bat Working Group website.

3.1.5 Air Quality

The proposed mining area has a 6-mile area of influence surrounding the application area. The air quality regulations applicable are Tennessee's air quality plan, referred to as the State Implementation Plan (SIP). This proposed permit's emissions are not likely to have any significant effects to the local or regional environment air quality.

Under the Clean Air Act (CAA), the EPA approved the Tennessee SIP, which became effective on September 16, 2021. The SIP cites the National Ambient Air Quality Standards (NAAQS), Tennessee Ambient Air Quality Standards, and Prevention of Significant Deterioration (PSD). Additional air quality regulations applicable to surface coal mining include the New Source Performance Standards, Hazardous Air Pollutants (HAPs), Mercury and Air Toxics Standards, and the Tennessee Federal Program Application 3341 (30 CFR parts 700-870 and 942). These standards are focused on both human health and environmental effects at both ground level and atmospheric levels due to stationary sources and motor vehicle engines. In addition, the composition of fuels regulated under the CAA for nonroad diesel engines and gasoline engines.

The SIP requires clean air permits for each Tennessee Title 4 Operating Permit (TCA Title 4, Chapter 5, 1200-03-09), requiring companies that have stationary operations involving a major air contaminant source or a non-major air contaminant source that the EPA has declared subject to 40 CFR Chapter I (c) part 70. This would include: (1) Facilities with the potential to emit 10 tons per year (TPY) of any HAP, 25 TPY of any combination of HAPs, or 100 TPY of any regulated air pollutant; (2) Facilities subject to acid rain requirements under Title IV of the Clean Air Act; (3) Facilities with lower TPY limits in non-attainment areas; and (4) Facilities required to obtain a Title V operating permit by federal regulation (such as some landfills). Coal mine operations are not classified as stationary facilities. As such, coal mine operations do not require any state or federal air quality permits. Additionally, the coal mining industry is not listed within the Federal Standards for Hazardous Air Pollutants (40 CFR part 63), National Emission Standards for any potential emission from a coal mine permit. Also, the coal mining industry is not listed within the Federal New Source Performance Standards for new stationary sources, 40 CFR part 63, national emission standards for any potential emission from a coal mine permit.

Criteria Air Pollutants (CAPs) are six common air pollutants that are regulated by the EPA. The six pollutants with Air Quality Standards are shown in Table 4. States must demonstrate they meet these standards to be considered in attainment.

Table 4. National Ambient Air Quality Standards (EPA, 2025)

Pollutant		Primary/ Secondary	Averaging Time	National Standard	Form
Carbon Monoxide (CO)		Primary	8-hour	9 ppm	Not to be exceeded more than once a year
			1-hour	35 ppm	
Lead		Primary and secondary	Rolling 3-month average	0.15 $\mu g/m^3$	Not to be exceeded
Nitrogen Dioxide (NO_2)		Primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentration, averaged over 3 years
		Primary and secondary	Annual	53 ppb	Annual Mean
Ozone		Primary and secondary	8-hour	0.070 ppm	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	Primary	Annual	12 $\mu g/m^3$	Annual mean, averaged over 3 years
		Secondary	Annual	15 $\mu g/m^3$	Annual mean, averaged over 3 years
		Primary and Secondary	24-hour	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	Primary and secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: https://www.epa.gov/criteria-air-pollutants/naaqs-table as of June 16, 2020
$\mu g/m^3$ = micrograms per cubic meter of air
ppm = parts per million, ppb = parts per billion

Air quality is determined by measuring ambient concentrations of air pollutants at ground level and atmospheric altitudes. However, no such monitoring is required by the State of Tennessee SIP or the Commonwealth of Kentucky for coal mining facilities or related facilities. Under the CAA, there are three ways to classify or "designate" an area's air quality:

- Attainment — meeting an air quality standard
- Nonattainment — not meeting an air quality standard
- Unclassifiable — not enough information to determine whether an area meets or doesn't meet an air quality standard

Local Emission Trends

There is limited baseline data currently being captured for these emissions by the State of Tennessee, the Commonwealth of Kentucky, and the EPA. Each State SIP establishes the minimum monitoring requirements for every state. The closest stations to the proposed permit area are at Middlesbrough (Middlesboro), KY, Kingsport, TN, and Speedwell, TN. The only two parameters being captured consistently at these stations are ozone and $PM_{2.5}$. However, the Speedwell, TN station only monitors ground level ozone. The other CAP pollutants listed in Table 4 are not monitored as outlined in the State SIP.

The State of Tennessee is classified as unclassifiable/attainment (EPA, Green Book, 2025), except for the Johnson City-Kingsport area where the NAAQS SO_2 standard is exceeded around an area encompassing the B-253 powerhouse having a 3-kilometer radius. The Hurricane Creek proposed mining area is in Claiborne County, TN and designated "unclassifiable/attainment," which means only Ozone and $PM_{2.5}$ are being monitored in this area by the state.

The Figures 7-12 show stations nearest the Hurricane Creek permit area demonstrate a long-term trend on attainment and the decreasing trend of those parameters monitored.

Figure 7. $PM_{2.5}$ Concentrations at Middlesborough KY Airport

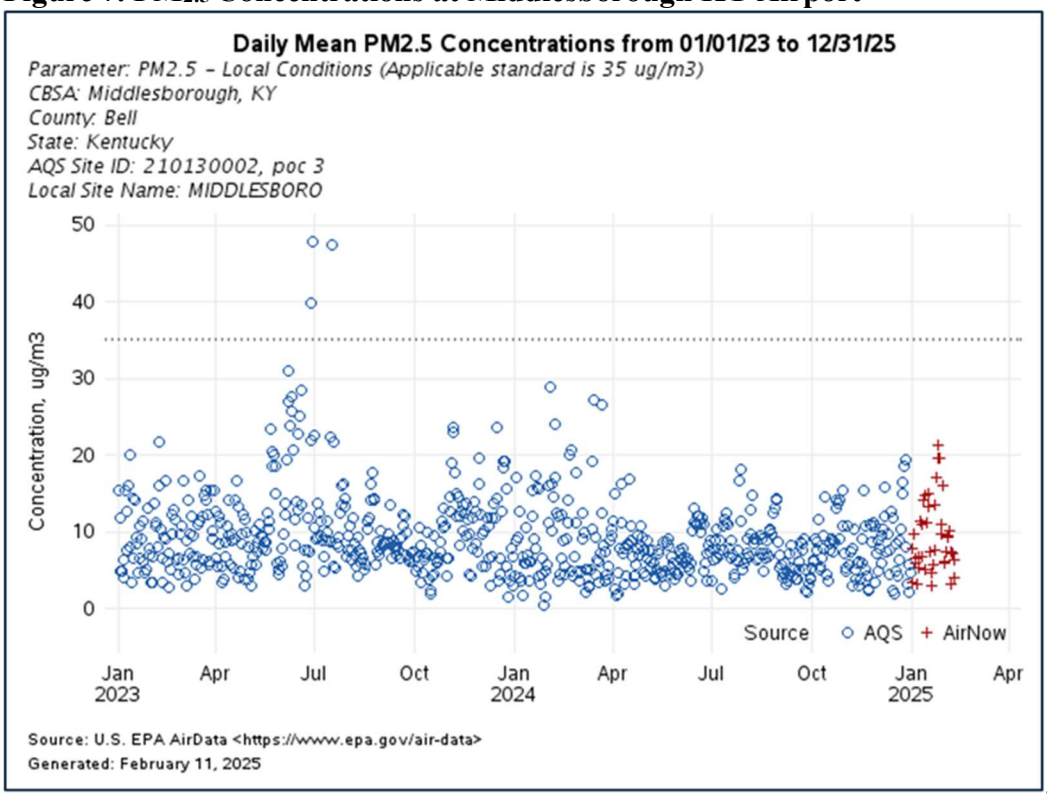


Figure 8. Ozone Concentrations at Middlesborough KY Airport

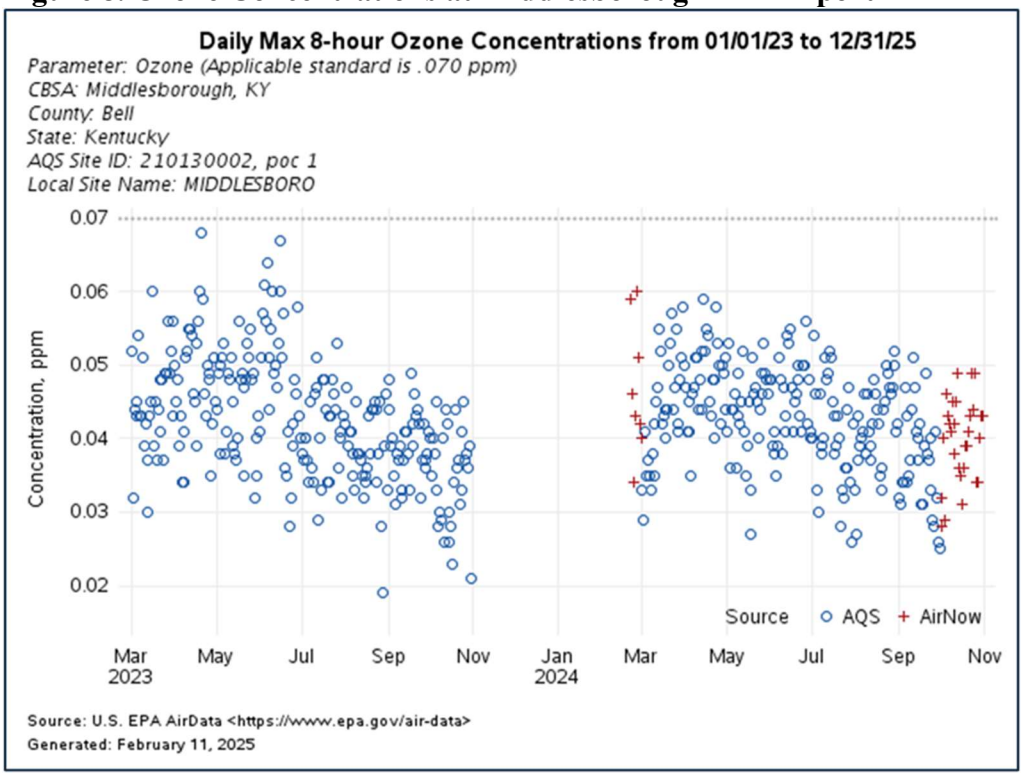


Figure 9. Ozone Concentrations at Speedwell, TN

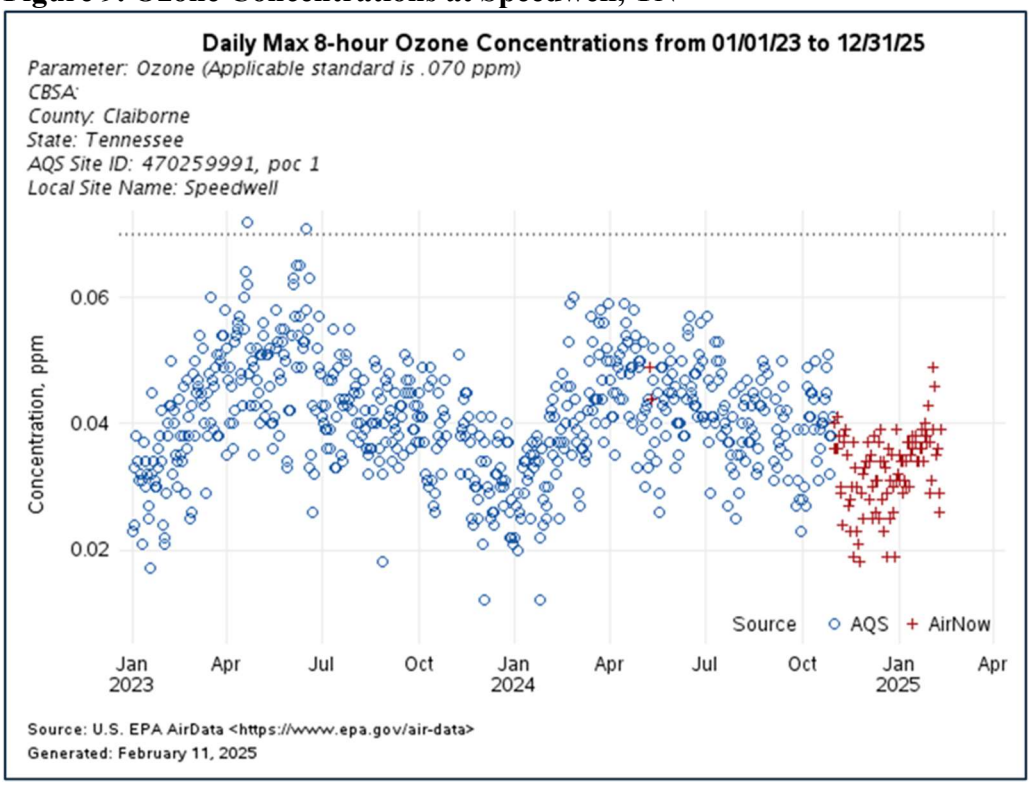


Figure 10. $PM_{2.5}$ Concentrations at Kingsport-Bristol- Bristol, TN-VA.

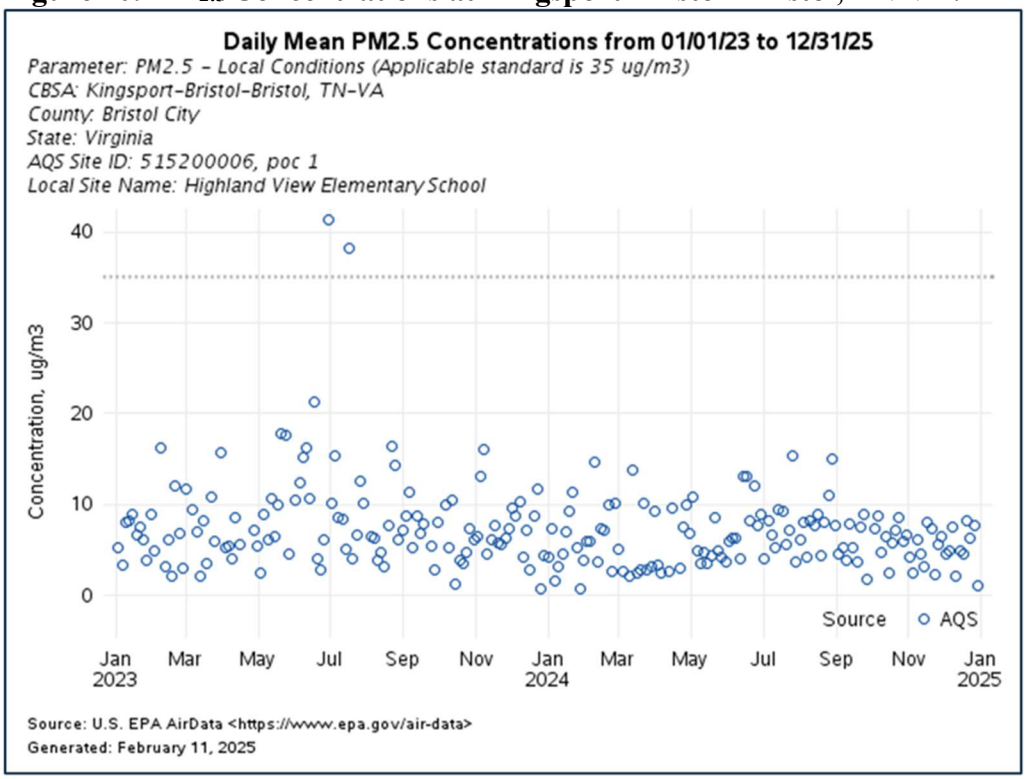
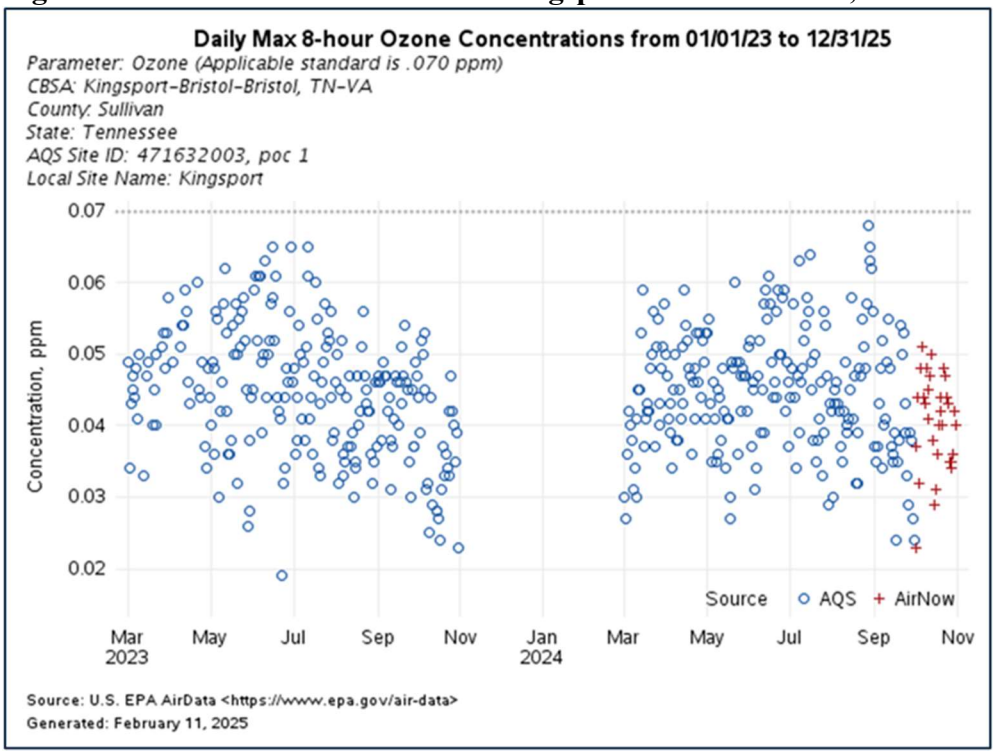


Figure 11. Ozone Concentrations at Kingsport-Bristol- Bristol, TN-VA



National Air Pollution Trends (CAPs)

EPA states: "Nationally, concentrations of air pollutants have dropped significantly since 1990, as shown in Table 5, and despite increases in air concentrations of pollutants associated with fires (carbon monoxide, particle pollution, and ozone), national average air quality concentrations remain below the current, national standards."

Table 5. National Trends-Percent Change in Ambient Air Quality from 1980 to 2023

(Source: https://www.epa.gov/air-trends/air-quality-national-summary#emissions-trends)

- Carbon Monoxide (CO) 8-Hour, 79%
- Lead (Pb) 3-Month Average, ↓ 87% (from 2010)
- Nitrogen Dioxide (NO_2) Annual, ↓ 62%
- Nitrogen Dioxide (NO_2) 1-Hour, ↓ 55%
- Ozone (O_3) 8-Hour, ↓ 18%
- Particulate Matter 10 microns (PM_{10}) 24-Hour, ↓ 29%
- Particulate Matter 2.5 microns ($PM_{2.5}$) Annual, ↓ 37% (from 2000)
- Particulate Matter 2.5 microns ($PM_{2.5}$) 24-Hour, ↓ 29% (from 2000)
- Sulfur Dioxide (SO_2) 1-Hour, ↓ 92%
- Numerous hazardous air pollutants, or air toxics, have declined ↓ with percentages varying by pollutant

Figure 12. Declining National Air Pollutions Emission Concentration Averages

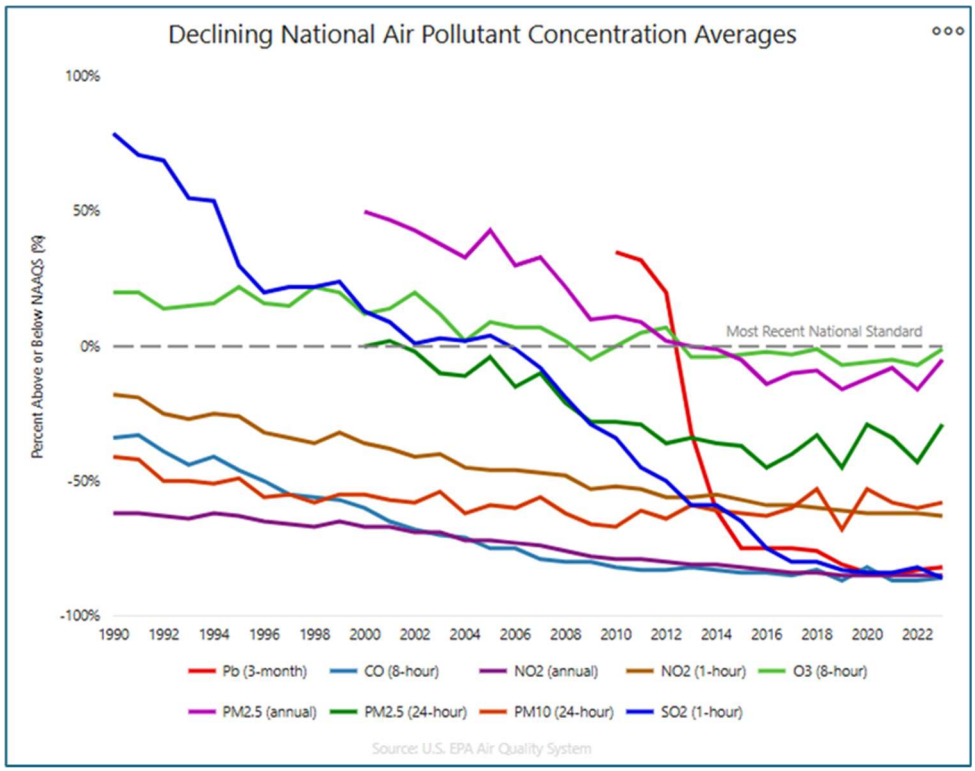


Figure 13. Declining National Air Pollutions Emissions, in Million Tons

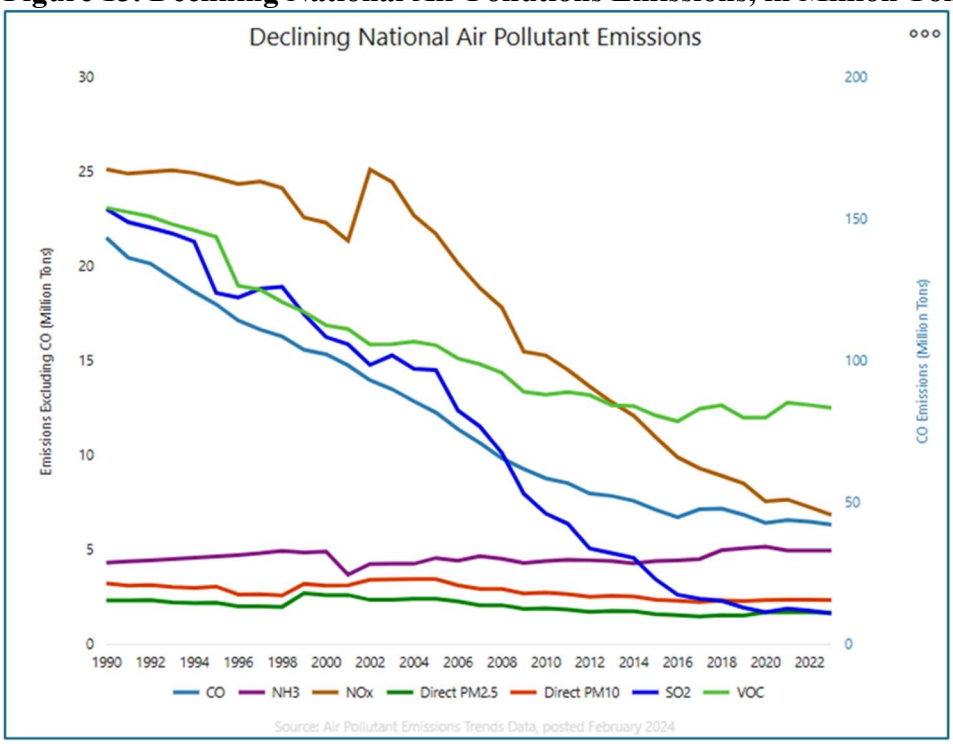


Figure 13 shows the reduction through time of CAPs and greenhouse gases listed in Table 5 since 1990. According to the EPA, "air quality concentrations can vary year to year, influenced not only by stationary pollution emissions, but also by natural events, such as dust storms and wildfires, and variations in weather."

Analysis of Permit Area or Affected Area

The geographic area considered for analysis of potential ground level air quality impacts because of proposed mine site emission is delineated by a 6-mile radius around the Hurricane Creek proposed permit area. This area also encompasses Middlesboro, Kentucky, with particular emphasis on areas within the path of the predominant wind direction due to fugitive emissions.

Tennessee and Campbell County Meteorological Patterns

Tennessee's central location in the southeast exposes it to warm and humid air from the Gulf of America and hot and cold air masses from the interior of North America.

Tennessee's climate is characterized by moderately large variations in temperature and abundant precipitation. For most of the state, summers are warm and humid, while winters are cool with occasional episodes of very cold arctic air. Temperatures decrease across the state as elevation increases, averaging a 3°F decline per 1,000 feet increase in elevation. The higher elevations of the state, such as the Cumberland Plateau (average elevation of 2,000 feet) and the Smoky Mountains (peaks up to 6,000 feet), have noticeably lower average temperatures compared to the Great Valley of East Tennessee (slopes from 1,500 feet in the north to 700 feet in the south). Average (1991–2020 normals) minimum temperatures in January range from 22°F in Mountain City to 33°F in Memphis. Average high temperatures in the summer vary between 85°F and 90°F in western and central Tennessee and between 80°F and 85°F in the eastern portion of the

state. Historical observed extreme temperatures for the state range from −32°F in Mountain City in the winter of 1917 to 113°F in Perryville in the summer of 1930. The long-term average annual precipitation is 52.2 inches. The prevailing westerly winds are found between 30°N and 60°N, and these prevailing winds have a significant impact on the climate of Tennessee.

Winds are primarily out of the south and southwest during the summer and from the northwest during the winter. Annual precipitation varies widely from year to year. Since 2010, precipitation has been above the long-term average (CISESS & NOAA NCEI).

Mine Site: Area of influence

The proposed mining area lies on the Northeast side of Valley Creek. The Mining Sequence plan map indicates 46 cuts would be mined between Sterling and the Stray seams. Each cut would be 1,500 feet in length. The surface mining includes the Stray, Sterling, and Poplar Lick coal seams lying between the elevations of 2,220 feet above mean sea level (amsl) and 2,500 feet amsl. However, the Poplar Lick seam would only be auger mined after the surface mining of the Stray and Sterling seams have been completed.

The predominate wind direction/speed at Clairfield, TN is approximately 2.7 mph from the south with Clairfield being within 6.0 miles west of the mine site. However, at the Middlesboro-Bell County Airport, which is located approximately 6.5 miles northeast of the mine site, the predominate wind direction/speed is from the south southwest at approximately 2.7 mph. Both areas are potential receptors of mine site ambient air impacts. Clairfield lays at an elevation of approximately 1,110 feet amsl. Middlesboro, Kentucky, lays at an elevation of approximately 1,143 feet amsl. Both these locations lay significantly below the mine site's potential emissions.

3.1.6 Noise

Noise is unwanted or unwelcome sound, usually caused by human activity and added to the natural acoustic setting of a locale. It is further defined as sound that disrupts normal activities or that diminishes the quality of the environment. Community response to noise is dependent on the intensity of the sound source, its duration, the proximity of noise-sensitive land uses, and the time of day the noise occurs (i.e., higher sensitivities would be expected during the quieter overnight periods).

Sound is measured in units of decibels (dB) on a logarithmic scale. The "pitch" (high or low) of the sound is a description of frequency, which is measured in Hertz (Hz). Most common environmental sounds are a composite of sound energy at various frequencies. The normal human ear can usually detect sounds that fall within the frequencies from 20 Hz to 20,000 Hz. However, humans are most sensitive to frequencies between 500 Hz to 4,000 Hz.

Given that the human ear cannot perceive all pitches or frequencies in the sound range, sound level measurements are typically weighted to correspond to the limits of human hearing. This adjusted unit of measure is known as the A-weighted decibel (dBA). A noise change of 3 dBA or less is not normally detectable by the average human ear. An increase of 5 dBA is generally readily noticeable by anyone, and a 10-dBA increase is usually felt to be "twice as loud" as before.

Noise levels continuously vary with location and time. In general, noise levels are high around major transportation corridors along highways, railways, airports, industrial facilities and construction activities. Sound spreads out as it travels from the source, and the sound pressure level diminishes with distance. In addition to distance attenuation, the air absorbs sound energy; atmospheric effects (wind, temperature, precipitation) and terrain/vegetation effects also influence sound propagation and attenuation over distance from the source. An individual's sound exposure is determined by measurement of the noise that the individual experiences over a specified time interval.

In areas removed from on-going mining, oil/gas, or logging operations, the auditory (sound) aesthetic qualities of the mining area are generally expected to be quite good. Because of the rural nature of this area, background or ambient noise levels are expected to be low. In a noise study of a similar rural area in the southern Cumberland Plateau region of Tennessee, ambient noise levels were estimated in the 35-40 dB range (USDOI / OSMRE, 1986). The primary sources of impacts to the existing auditory environment around the proposed mine site are likely to be those sounds emanating from the occasional use of the roads and any on-going mining, oil/gas, and logging activities. The primary mining-related sources that would contribute to noise impacts are blasting, equipment operation, and coal transportation.

Noise levels analyzed from the Cumberland Plateau study were not considered significant. Calculations took into consideration that the biggest noise issue is blasting, which was considered short in duration, requires notification, and occurs during weekday business hours when most people are at work.

3.1.7 Topography

Claiborne County is located in both the Appalachian Plateaus province and the Valley and Ridge physiographic province and covers 442 square miles in the northeastern part of Tennessee. The proposed permit area is in the Cumberland Mountain sub-province of the Appalachian Plateaus and is characterized by steep high ridges and low valleys. It is well dissected and well drained by deeply entrenched stream valleys. Ridges are generally narrow and winding, and natural flat land is mainly restricted to flood plains along major creeks and rivers. Low-order streams are generally V-shaped and have no flood plains. The mountain region has rugged relief with V-shaped steep-walled valleys and narrow even-crested mountain divides.

The highest elevations near the proposed mine site are near 3,200 feet, while the valley bottoms average around 1,300 feet. Tennessee contains Level III and IV ecoregions as determined by the EPA (https://www.epa.gov/eco-research/ecoregion-download-files-state-region-4#pane-40). These ecoregions were defined by similarities in geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology. The proposed project area is located within the Central Appalachian ecoregion (69) which drains 6,116 square miles. Specifically, the proposed project is within the Level IV ecoregion 69e (Cumberland Mountain Thrust Block), which encompasses 697 square miles. The mountains in this area are characterized by steep ridges with narrow valleys and coves. Ecoregion 69e contains elevations ranging from approximately 980 to 4,139 feet and contains cool high gradient streams featuring riffle and pool habitat typically dominated by boulder and cobble substrates.

Due to portions of the proposed permit area being surface mined pre-law, preexisting highwalls occur on the site. Approximately 346 acres of previously disturbed areas and 6.5 miles of preexisting highwalls would be reclaimed to the extent possible during the remining and reclamation phases.

3.1.8 Socioeconomic Impacts

The proposed HCM permit is in the more isolated coalfield section of Claiborne County, which is more easily accessible from similar coalfield regions of both Whitley and Bell Counties, Kentucky. According to the U.S. Census Bureau, the estimated population of Claiborne County is 33,070 (U.S. Census, 2024). The populations of the surrounding counties are estimated at 37,233 for Whitley County and 23,051 for Bell County in Kentucky. Work force potential for the HCM mine site could originate from any of these counties as a result of road access and similar driving distances.

Median household income in Claiborne County, according to the U.S. Census Bureau (in 2023 dollars), was estimated at $46,587 while Whitley and Bell Counties were estimated at $41,719 and $32,403 respectively. According to the U.S. Bureau of Labor and Statistics, the current overall unemployment for Tennessee was listed as 3.5% (April, 2025 seasonally adjusted) while Kentucky was 4.4%. As of March 2025, Claiborne County was listed as having a slightly higher unemployment rate than the state average of 3.6% (TN.Gov). According to the Kentucky Center for Statistics, Whitley and Bell Counties showed unemployment rates of 4.0% and 5.8% as of April 2025, both above the U.S. unemployment rate listed as 3.9%. Approximately 18.6% of the population in Claiborne County is listed as living at or below the poverty level while in Whitley and Bell Counties this increases to 26.9% and 28.9% respectively.

Major employers in Claiborne County include manufacturing of furniture, housing, clothing and medical supplies along with employment associated with education and health care. The coalfield areas of Claiborne County rely more heavily on retail industries, logging or silvicultural activities, and some agriculture. According to the Energy Information Administration, the last reported coal mining in Claiborne County was in 2021.

CHAPTER 4. ENVIRONMENTAL IMPACTS

4.1 Hydrology/Water

Proposed Action

Sedimentation of streams from mining, roadways, and logging activities pose a threat to the hydrologic balance and biological integrity within the CIA Subareas. The watersheds have a TMDL developed to address siltation issues associated with non-supporting stream reaches in the various watersheds. For streams on the EPA 303(d) list, TDEC is charged with ensuring that proposed activities do not contribute any additional pollutants causing the 303(d) listing. TDEC concluded that properly designed sediment controls and effluent limits would allow the site to operate at levels below the TMDL waste load allocation for mining facilities under the TMDL under a Notice of Determination dated April 30, 2024 (TDEC, 2024). OSMRE concluded that the proposed new mining activity could result in a minor but temporary increase in sediment loading to area streams during active mining operations but would not result in any increase above TDEC waste load allocations in the TMDL. However, with proper implementation of drainage control and construction of ARAP structures in larger stream crossings within the mine plan area, an overall improvement should occur over time. Likewise, although haul roads are a primary source of sediment, proper maintenance of existing haul roads using appropriate Best Management Practice (BMP) should minimize sediment contribution from these areas. To the extent possible, previously disturbed stream segments would be restored to their original channels. Currently small headwater streams or wet-weather conveyances commonly flow over abandoned highwalls and flow along the old mining benches to find an outlet that would allow it to flow downslope in undefined channels creating gully erosion and sedimentation. Such channels will be returned to an original or stable channels once reclamation is complete.

Anticipated impacts from the CHIA document estimated increases in alkalinity, sulfate, TDS, and specific conductance in all watersheds with only minor fluctuations in pH. Alkalinity increases ranged between 0.47 to 20.9 percent depending on flow conditions in the Clear Fork (CIA 10-01A) watershed if all mining disturbances were realized. Likewise, sulfate concentrations could increase between 21 to 29 percent, while TDS would be expected to increase by 16 to 28 percent. If the Kentucky mines are excluded, these increases drop significantly as alkalinity increases range between 0.1 to 5.63 percent with sulfates and TDS ranging between 4 and 7 percent. In Tackett Creek (CIA 10-02B), increases were less with alkalinity increasing by only 3.2 to 3.7 percent. Sulfate increased between 9 and 14 percent while TDS increases by 2 to 11.9 percent. The pH in Tackett Creek showed little change.

A prediction of change in iron and manganese concentrations was not performed as they tend to quickly precipitate or absorb at neutral pH conditions and upon exposure to oxygen. As a result, they do not transfer through the hydrologic system as do the more conservative constituents. Likewise, iron and manganese have not been seen as significant water quality problems in these watersheds despite the heavily mined nature of the area. For the non-conservative pollutants, the mean values were used to represent both existing and anticipated conditions. Figure III-14 shows the long-term trend in total iron concentrations, which has not shown significant change over the years of record despite various fluctuations in mining activity. What temporary spikes that were evident are typically directly associated with suspended sediment. The mean iron concentration

at the CIA 10-01A, 10-02B, and 10-09 trendstations is 0.31 mg/L, 0.3 mg/L, and 0.23 mg/L respectively, which is well under the recommended EPA water quality criteria of 1.0 mg/L.

Manganese concentrations in these watersheds were consistently low and never exceeded the OSMRE threshold of 1 mg/L at the OSMRE trendstations. Mean concentrations of manganese at the CIA 10-01A, 10-02B, and 10-09 trendstations is 0.112 mg/L, 0.076 mg/L, and 0.031 mg/L respectively. Acidity was also assumed to stay at near zero because alkalinity is anticipated to increase and most acidity values recorded in the 1998 to 2023 trendstation data is negative or below detection limits.

No known users of surface water resources were identified in the CIA Subarea watersheds, which could or would be adversely affected by surface coal mining. Residential areas are restricted to the CIA 10-01A Subarea of the Clear Fork stream valley and the communities of Clairfield, Hamlin Town, Fonde, and Pruden. Only minor increases in baseflow and peak flows are anticipated but should not increase the risk of downstream flooding or cause stream bank instabilities. Some groundwater users in these areas may exist, although most wells were replaced by public water supplies from the Clear Fork Utility District. No impact to wells or groundwater users is anticipated because such sites are between 2 and 3 miles from the proposed operation and draw water from aquifer systems nearly 1,000 feet lower in elevation.

On the basis that the proposed mining activity would comply with approved permit conditions and all performance standards, OSMRE has determined that the proposed operation will likely have an effect on specific conductivity, TDS, and alkalinity within the area receiving streams. Other changes to water quality constituents are anticipated to be negligible. Changes are generally considered long-term but decline through time as reclamation and revegetation matures on this site and other mining disturbances in the watersheds occurs.

No Action Alternative

Under the No Action Alternative, hydrologic conditions within the Valley Creek and Tackett Creek watersheds would remain largely unchanged. Previously disturbed stream channels would not be restored. The currently disrupted stream channels would continue to be a source of water, which meanders along old mining benches to find an outlet that would allow it to flow downslope in undefined channels creating gully erosion and sedimentation. Likewise, this uncontrolled drainage has the potential to destabilize downslope spoil materials creating landslides. Overall, water quality in these streams would be expected to go largely unchanged although through time the concentrations of TDS, sulfates, calcium, and associated conductivity should gradually begin to decrease as weathering of old mine spoils and previous reclamation matures. No change to the existing ground water quantity or quality would be anticipated.

4.2 Vegetation

Proposed Action

The majority of area to be disturbed is classified as deciduous forest and mixed forest as shown in Table 6. All of the permitted area, totaling approximately 635.2 acres, is considered surface disturbance area. Approximately 346.55 acres has been previously mined by both pre-law and post SMCRA activity, including approximately 77 acres of existing roads. Although these previously mined areas were disturbed, natural succession and revegetation has mostly restored tree cover on these areas except for roadways. Remining and forest management practices are

anticipated to ultimately improve the productivity of these areas. Previous mining, logging, and utility line construction have adversely affected the use of this area as a source for forest products. Complete removal of forest in the mining areas would also alter the typical hardwood harvest cycle in the immediate area of the mining activities. Using currently accepted methods for establishing the appropriate growth medium conditions for trees on mined areas, the time needed to establish a harvestable forest community following mining, would likely increase by as much as an estimated 5-15 years when compared to similar unmined, logged areas. This would also extend the period necessary to establish the forest understory by a comparable number of years. However, as previously indicated, on-going research at both the University of Kentucky and Virginia Tech University have demonstrated success in establishing various hardwood species, including oaks, hickories, ash, and poplar, and have demonstrated growth rates that equal or exceed those existing in the unmined environment. The Forestry Reclamation Approach (FRA) would be implemented on this project which would improve the long-term productivity of the area.

Once mining begins, vegetated areas of the permit would sequentially have the vegetation completely removed as mining progresses followed by overburden and coal removal. Upon completion of backfilling, revegetation of these areas would occur. The postmining land use is forested with a wildlife benefit. The revegetation plan follows the requirements of the most current FWS Indiana Bat PEP Guidelines 2013. As noted previously, the surface rights owner plans to harvest timber off this and surrounding areas sometime in the future. As there are no permits required for timber harvest alone in Tennessee, allowing coal mining to occur sets better protection and enhancement efforts for bats than it does if only timber harvest occurred. Impacts are anticipated to be relatively minor over a medium term until revegetation is reestablished. Some incidental take to bat roost areas was anticipated because of tree loss during active mining.

Table 6. Vegetation of Proposed Surface Disturbance Area (NLCD 2021)

National Land Cover Database	Approximate Acreages
Barren Land	0.1
Deciduous Forest	508.2
Developed, High Intensity	0.2
Developed, Low Intensity	2.7
Developed, Medium Intensity	1.2
Developed, Open Space	25.5
Evergreen Forest	4.2
Hay/Pasture	1.1
Herbaceous	12.5
Mixed Forest	50.5
Shrub/Scrub	29.1
Total	635.2

No Action Alternative

Should the No Action Alternative be selected, there would be no effect on vegetation, including forested land. Similarly, there would be no loss of wildlife habitat or streams. Areas within the proposed permit area would be under the control of the current surface owner and would be subjected to whatever management goals they may have for the properties. Item 32 in the permit application states the premining land uses are undeveloped forest lands and pre-law mine benches. This area was previously mined in the 1950s through the early 1970s with some small areas of recent SMCRA activity. The postmining land use plan is to return the land to undeveloped land and wildlife habitat from un-managed deciduous forest. The past coal mining operations have affected the majority of the area proposed for disturbance. Reclamation of these areas unreclaimed previously mined areas is unlikely to occur if remining of the proposed permit does not occur.

4.3 Soils

Proposed Action

Previous mining has altered soils on approximately 346 of the 635 acres proposed for surface disturbance. The amount of original topsoil material salvaged and redistributed by the post SMCRA surface mining operations is unknown. However, in areas not previously disturbed, native topsoil will be preserved to the extent possible. For previous disturbance areas where native topsoil may not be available, alternative topsoil materials (topsoil substitute) have been identified and chemically tested with results provided as part of the permit application. The fractured sandstones and shales left on the surface following this mining have weathered over the years and have formed mine soils that currently support a diverse vegetative cover. The Muskingum soils present in areas of the proposed mine site that were not disturbed by previous mining have been altered to varying degrees by logging, oil and gas exploration, and road construction activities. HCM's proposed mining activities in Mine #2 would result in additional changes to the soil profile present in the relatively undisturbed Muskingum soils. In remining

areas, topsoil substitute materials would be used following clearing and grubbing. The applicant proposes to salvage sufficient amounts of the topsoil and subsoil beneath the topsoil where available, to provide a minimum of 0.5 feet of growth medium for reclamation. These materials would be redistributed over the entire area to be revegetated. This would provide the best available growth medium for reestablishing trees on the proposed mine site. Impacts to the overall soil profile of this area as a result of mining are expected to be negligible but would be considered permanent.

No Action Alternative
Soils are likely to remain unchanged under the No Action Alternative.

4.4 Fish and Wildlife Resources
Proposed Action
OSMRE previously considered the potential impacts on federally listed species and consulted with the FWS within the entire proposed permit area resulting in formal consultation in 2016 (FWS Log #04ET1000-2016-F-0143) and in 2020 (2019-F-0953). Additionally, a formal consultation for permit 3218 (FWS Log #04ET10000-2016-F-0202 on September 28, 2016), which overlaps this permit still applies.

For the Proposed Action, OSMRE began technical assistance with the FWS in April 2023. Information provided by the FWS, Cookeville Ecological Services Field Office and obtained through the FWS Information Planning and Consultation (IPaC) database identified records of five species that are federally listed or proposed for listing that potentially occur in the permit area. Those species are the endangered gray bat (*Myotis grisescens*), endangered Indiana bat (*Myotis sodalis*), endangered northern long-eared bat (*Myotis septentrionalis*), threatened blackside dace (*Phoxinus cumberlandensis*), and the proposed threatened monarch butterfly. Although not on the official species list, the tricolored bat (*Perimyotis subflavus*) was also considered due to the proposal to list the tricolored bat as endangered.

OSMRE used the FWS IPaC's Consultation Package Builder as the BA to assess the effects of the proposed project and determine whether the project may affect any federally threatened, endangered, proposed, or candidate species.

OSMRE's determinations of effect for federally listed and proposed species are summarized in Table 7 below. No critical habitat is present within the permit area.

Table 7: Federally/State Listed and Proposed Species Potentially Affected

Species	Status	Determination of Effect	Reasoning
Gray bat	Endangered	NLAA	Mitigation measures will reduce potential impacts
Indiana bat	Endangered	NLAA	Mitigation measures will

			reduce potential impacts
Northern long-eared bat	Endangered	LAA	Loss of summer habitat and potential for displacement
Blackside dace	Threatened	LAA	Potential effects to water quality
Monarch butterfly	Proposed Threatened[1]	NLAA	Minimal suitable habitat present within action area
Whooping crane	Experimental Population, Non-essential	No effect	Habitat not present within action area
Tricolored bat	Proposed Endangered	LAA	Loss of summer habitat and potential for displacement
NLAA- may affect, not likely to adversely affect LAA- may affect, likely to adversely affect ND – no determination made on State listed species but would be expected to be similar to those of the Federal listed species			

The BA included the conservation measures that would be implemented under the Proposed Action as best management practices (BMPs). These include:

1. Sediment control measures, such as sediment ponds and stream buffer zones.
2. Measures to avoid any potential adverse impacts from acid or toxic runoff, included in the Hydrologic Reclamation Plan and Toxic Material Handling Plan.
3. Protection and enhancement measures specific to the northern long-eared and tricolored bat, including restrictions on tree clearing and blasting, post-mining land use planting and revegetation requirements, and minimizing impacts to streams, wetlands, and potential roost habitat.
4. Protection and enhancement measures specific to the blackside dace, including stream buffer zones, erosion and sediment runoff BMPs, sediment control in accordance with the NPDES effluent limitations, restricting impacts to stream crossings, and quarterly sedimentation monitoring and annual stream macroinvertebrate surveys to evaluate the ongoing level of success of BMPs.

[1] Although conferencing on proposed species and critical habitat is not required under the ESA when the action is not likely to jeopardize the continued existence of proposed species or destroy or adversely modify proposed critical habitat, the regulations implementing Title V of SMCRA include requirements specifically related to the protection and enhancement of proposed species and proposed critical habitat.

5. Implementing adaptive management actions, as needed.

On Nov 13, 2024, OSMRE requested formal section 7 consultation/conferencing under the ESA for the three species— the blackside dace, the northern long-eared bat, and tricolored bat. OSMRE determined the Proposed Action "may affect and is likely to adversely affect." To reach these determinations, OSMRE prepared a BA using IPaC's Consultation Package Builder.

In its December 17, 2024, response, FWS concurred that the Proposed Action may affect and is likely to adversely affect the three species, and that initiation of formal consultation and conferencing were appropriate for the Proposed Action. Formal consultation was initiated for the northern long-eared bat and the blackside dace, and conferencing was initiated for the tricolored bat as it is not yet a federally listed species.

On May 2, 2025, FWS transmitted its Biological Opinion/Conference Opinion to OSMRE (FWS ECOSphere Project Code: 2024-0148993). The biological opinion (BO) addressed effects to the northern long-eared bat and blackside dace, and conference opinion (CO) addressed effects to the tricolored bat. The BO/CO also included an Incidental Take Statement (ITS), conservation measures to avoid and minimize impacts to the three species and to promote their recovery, and notification procedures for situations that may require follow-up responses.

The BO/CO concluded that the Proposed Action is not likely to jeopardize the continued existence of the northern long-eared bat or tricolored bat because:

1. The adversely affected project area would be small relative to the species' ranges and existing level of threats, and therefore, include only a small fraction of their overall populations.
2. Direct effects related to mining, reclamation, and associated activities would be limited to about 5 years of active mining.
3. The number of individuals in the action area is very few.

Likewise, after review of the current status of the blackside dace and environmental baseline, the BO concluded that the Proposed Action is not likely to jeopardize the continued existence of the species because the number of individuals in the action area is very small relative to population densities across the species' range and existing level of threats; and therefore, include only a small fraction of its overall population. Although dissolved solids levels and associated conductance within the Dace Action Area exceed the desired water quality necessary for recovery of the local species' population, the Proposed Action will contribute relatively little pollutant inputs to the stream reaches occupied by blackside dace. In fact, due to reclamation that would be conducted upon completion of re-mining, the Action is expected to result in long-term benefits to local aquatic resources.

Under the terms of ESA sections 7(b)(4) and 7(o)(2), taking of listed species that is incidental to and not intended as part of the agency action is not considered prohibited, provided that such taking follows the terms and conditions (T&Cs) of an ITS.

The BO/CO determined that the Proposed Action could result in removal of up to 496 acres (ac) of suitable bat roosting habitat and 341 ac of noise/vibration and lighting effects with associated incidental take of northern long-eared and tricolored bats, if listed. Habitat acts as a surrogate to the number of individual bats that are expected to be incidentally taken for this action. The action

could also result in the incidental take of up to six blackside dace individuals potentially occupying 9.8 miles of streams in the watersheds where water and habitat quality would be affected by mining, with this number of individuals and habitat diminishing over time with successful reclamation. The BO/CO concluded that the Proposed Action's anticipated level of incidental take would not result in jeopardy to the continued existence of the northern long-eared bat, tricolored bat, or blackside dace.

In order for the exemption under section 7(o)(2) to apply, in addition to the conservation measures that the OSMRE pledged to implement, the following non-discretionary reasonable and prudent measures (RPMs) are necessary and appropriate to minimize any anticipated taking of northern long-eared bat, tricolored bat (should it be listed), and blackside dace that may occur incidental to the Proposed Action:

1. Hurricane Creek Mining will burn debris in a manner that minimizes smoke transmission to forested areas that may be occupied by bat pups during the period of May 15 – July 31 and burning during this period will be avoided to the greatest extent feasible.
2. OSMRE will promptly notify the FWS and other appropriate partners of any substantial issues noted during routine inspections that could result in impacts to bats or blackside dace population viability.
3. OSMRE will continue to coordinate with the FWS and other partners in communicating adequacy of the monitoring and water quality assurance measures to address the local blackside dace population viability.

When implementing the above RPMs, OSMRE must comply with the following non-discretionary terms and conditions (T&Cs):

1. OSMRE will provide the FWS with summary annual reports describing the following mining and reclamation activities taking place on the mine site during the previous year:
    a. Acres or number of trees removed.
    b. Acres or number of trees planted.
    c. Tree survival rate.
    d. Annual average of water quality measures at each pond.
    e. Descriptions of major conservation measures implemented.
    f. Results of any biological investigations.

For the Proposed Action, formal consultation and conferencing with FWS are complete and OSMRE's obligations have been fulfilled for all species that currently receive protection under the ESA. Reinitiation of formal consultation is required if:

1. The amount or extent of incidental take is exceeded. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease until reinitiation.
2. New information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in the BO.
3. The action is later modified in a manner that causes an effect to a listed species or critical habitat not considered in this BO.
4. A new species is listed or critical habitat designated that may be affected by the action.

The ITS provided for the tricolored bat does not become effective until the species is listed, and the CO is adopted as the BO issued through formal consultation. At that time, the project will be reviewed to determine whether any take of the species or its critical habitat has occurred.

No Action Alternative

Should the No Action Alternative be selected, fish and wildlife resources would remain largely unchanged. Water quality in the blackside dace action area defined by the FWS in the Tackett Creek, Bennetts Fork, and Valley Creek watersheds would be expected to go largely unchanged if left unreclaimed and would continue contributing to elevated levels of specific conductance. Over time, the concentrations of TDS, sulfates, calcium, and associated conductivity should gradually begin to decrease as weathering of old mine spoils and previous reclamation matures. Bat habitat and hibernaculum could continue to be affected by landowner permitted activities including road construction, logging and silvicultural activities, and oil and gas development.

4.5 Air quality

Proposed Action

The annual coal production for Hurricane Creek is proposed to be 360,000 annually with the life of mine to be 5 years (Section III Item 48. (A) (B)). OSMRE used this assumption for this air quality effects estimation. This remining operation is on an orphan bench with existing highwall remnants adjacent to barren land, shrub/scrub brush for ground cover and no measurable tree count. Due to its current orphan condition, the site is unlikely to play a measurable role in carbon sequestration.

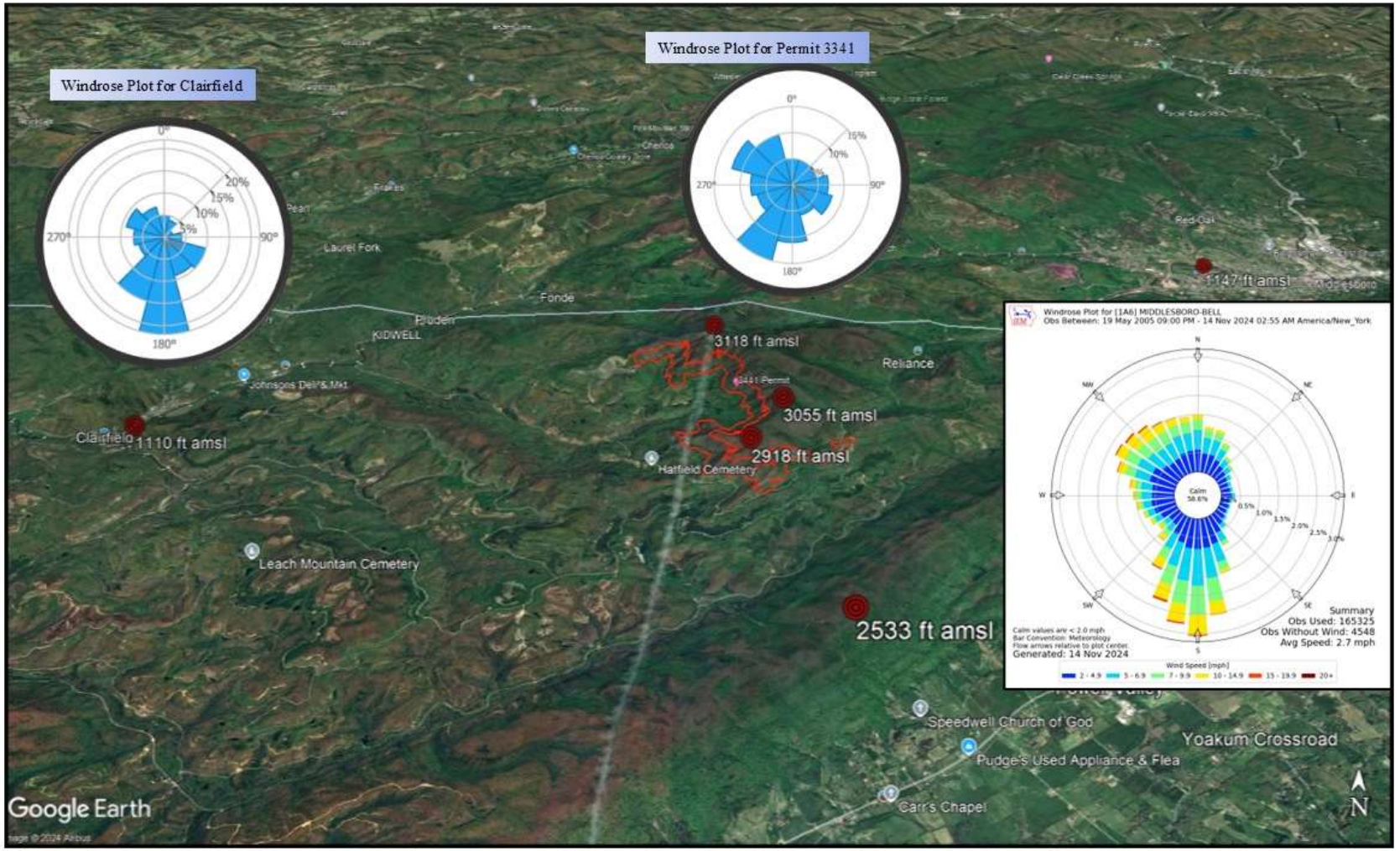
Emissions of air pollutants for the proposed Hurricane Creek Mine would be limited by the projected production rate established in the SCMRA permit. The State of Tennessee does not require a Clean Air Act Permit to measure greenhouse gasses (GHGs) for these types of mines. Coal mine operations are not classified as stationary facilities. As such, coal mine operations do not require any state or federal air quality permit. Additionally, the coal mining industry is not listed within the Federal Standards for Hazardous Air Pollutants (40 CFR part 63), National Emission Standards for any potential emission from a coal mine permit. Also, the coal mining industry is not listed within the Federal New Source Performance Standards for new stationary sources, 40 CFR part 63, national emission standards for any potential emission from a coal mine permit. There is no current surface mining emission occurring within the analysis area.

Fugitive Emissions

Fugitive dust is any visible emission, other than water droplets, issuing from any source other than through a stack. Fugitive dust (PM emissions) would be generated from the surface mining operation such as land clearing, topsoil and overburden removal and replacement, coal extraction, loading and transferring to handling facilities, mine haul roads, and reclamation. Dust suppression techniques are planned to be used throughout mining operation to manage fugitive particulate emissions. The SMCRA Permit requires the control of fugitive dust using the requirements listed in Section III Item 64, such as periodic watering of unpaved roads, chemical stabilization of unpaved roads with application of non-toxic soil cement or dust palliatives, prompt removal of coal, road, soil, or other dust-forming debris from roads and grading of unpaved roads to stabilize

road surface, revegetation, mulching, or otherwise stabilizing the surface of all areas adjoining the roads that are a source of dust, restricting travel of vehicles on any roads other than those established for mining minimizing the area of disturbed lands with prompt revegetation or other stabilization methods. These required fugitive dust control measures would limit direct PM impacts to air quality. Fugitive dust emissions from the mine were calculated based on EPA's calculation methodologies, including AP-42 Chapter 11.9 and AP-42 Chapter 13.2 (EPA 1998b, 2006, 2011). And Tennessee T.C.A. §§ 68-25-105 and 4-5-202. Section 1200-03-08-.01 – FUGITIVE DUST. These required fugitive dust control measures within the SMCRA Permit will mitigate the potential maximum annual emission that are estimated to be 129 tons per year. The SIP does not require monitoring stations for fugitive dust on coal mining permits but will be monitored by both the State of Tennessee and the Federal mining inspector looking for visible emissions.

Figure 14. Rosewind Plot for Permit Area



(Sources: https://globalwindatlas.info/en/ and https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=1A6&network=KY_ASOS)

Hazardous Air Pollutant Emissions (HAPs) Estimates

The mining operations of coal can result in the emission of HAPs from the Hurricane Creek permit with the primary sources being fugitive coal dust sources and diesel engines. Coal dust contains a number of hazardous metals (e.g., antimony, arsenic, chromium, lead, mercury, and selenium), and emission of coal dust suspends these compounds in the air. Suspended fugitive coal dust can impact human health and ecosystems through inhalation or deposition to soil and waterbodies. The use of diesel engines throughout the mine results in the emission of toxic gases and particulates known as diesel particulate matter (DPM). DPM is not currently regulated by the EPA but is considered a carcinogen (EPA 2002). In 2001, the EPA identified 21 HAPs as air toxics specifically related to vehicle engine sources, 6 of which are designated priority pollutants (66 FR 17235 (Mar. 29, 2001)): acetaldehyde, acrolein, benzene, 1,3-butadiene, diesel exhaust (PM and organic gases), and formaldehyde. Diesel PM is considered a carcinogenic air toxin. An EPA assessment concluded that long-term (i.e., chronic) inhalation exposure is likely to pose a lung cancer hazard to humans, as well as damage the lung in other ways depending on exposure. Short-term (i.e., acute) exposures can cause irritation and inflammatory symptoms of a transient nature, these being highly variable across the population (EPA 2002). However, no specific emission standard exists for DPM or the toxins released. HAPs from all sources have an approximate risk of 0.19% for impacting (health or environmental) the population of Claiborne County. In other words, less than one person out of 33,070 (https://firststreet.org/county/claiborne-county-tn/47025_fsid/air) people living in Claiborne County may be at risk of being impacted by HAP emissions from all sources in the county. Total HAPs emissions resulting from diesel fuel combustion are considered fugitive sources and consist of surface and underground mobile sources, as well as stationary and portable engine driven equipment. Compliance with appropriate EPA Tier emissions performance standards and scheduled maintenance for these engines would reduce HAP emissions. Finally, the elevation and location of the mine would significantly disperse any gases well above any nearby population center.

Greenhouse Gas Emissions Estimations

GHGs, the air pollutants defined in 40 CFR 86.1801-12(i)(2) as the aggregate group of six GHSs: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, are not subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 TPY carbon dioxide (CO_2) equivalent emissions.

According to the EPA, GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), and several fluorinated species of gas (EPA 2016). CO_2 and other GHGs are naturally occurring gases in the atmosphere. Their status as a pollutant is not related to their toxicity but instead to the added long-term impacts they may have on climate because of their increased incremental levels in the earth's atmosphere. Because they are non-toxic and non-hazardous at normal ambient concentrations, naturally occurring GHGs do not have applicable ambient standards or emission limits under the major environmental regulatory programs (NAAQS and WAAQS).

Additionally, the primary sources of GHG emissions from the Hurricane Creek Permit would be CH_4 emissions from exposed coal and exhaust from mobile engines used at the mine; mobile

sources of GHG include diesel-powered loaders, coal-haul trucks, coal and overburden drills, hydraulic excavators, support vehicles, graders, dozers, and dump trucks, and blasting, which are not reportable by either Federal or State Regulations.

Conclusion

No significant adverse impacts on air quality or the climate from GHG or HAPs is anticipated due to the mining operations within a six-mile radius of the mine. The estimated magnitude of GHG and HAPs emissions can only to be done by calculating the emissions and comparing those emissions to some standard from EPA or the State of Tennessee. There is no local baseline air monitoring performed by either the EPA or the State of Tennessee to make these comparisons. These gases do not remain localized due to many factors, such as the elevation/terrain of the mine site (2,650 feet amsl), wind speed (avenger 2.7 mph), but become mixed with the general composition of the earth's atmosphere (78% nitrogen, 21% oxygen, 0.93% argon and 0.04% carbon dioxide, and methane 1.92 ppm with the remainder being various trace gases). The elevation and location of the mine site plays a key role on the dispersion of all the GHG and HAP tail pipe emissions just due to the elevation of the mine site.

The site has a minimal spread of equipment totaling 16 diesel power vehicles, operating in a rotational configuration for overburden removal, coal removal, and reclamation with not all equipment being deployed at once. There are no stationary facilities associated with this mine that requires coal for a fuel. The mine does not supply coal to any facilities that combust the coal directly. The proposed 360,000 tons of coal to be mine annually at this mine is negligible to the total of 577 million tons of coal mined in the United States during 2023. This mine is estimated to produce less than 0.000000614 % of the annual coal production of the United States. Hence, there is no real qualifiable estimate for any potential impact to air resources from combustion of the coal mined from this permit to NAAQS emissions and potential for exceedances or contribution to levels upon GHG emissions. As shown on Chart 7, these GHG are declining annually.

The coal that is proposed to be mined would be moved by truck to the HCM preparation plant at

Middlesboro

, Kentucky DSMRE Permit #807-8101 for processing (cleaning and grading) and shipment. It is unknown to whom or where the coal would be shipped.

On a national scale, the emissions contribution of this single coal mine is dwarfed by the large number of stationary national and subnational air pollutant contributors. This Proposed Action would have negatable impacts on the air quality and climate change, including fugitive dust and diesel engine emissions. The HAP estimated emissions produced from the spread of 16 pieces of equipment is approximately 6.81 tons over the proposed five-year life span of the mine. Currently, there are no set specific thresholds for allowable GHG emissions. However, based off the proposed equipment spread at the site, it is estimated that the total GHG emissions will be approximated 126,501 metric tons as compared to the most recently available estimates for the United States of 6,343.2 million metric tons (https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks). Therefore, it is not possible to determine if any

alternatives to this resource would significantly impact CAPS, GHG or HAPs emissions on their own from this mine site.

No Action Alternative

Under this alternative, air quality in the local area would persist at the present level. Coal from Hurricane Creek Mine #2 would not be mined, burned, or used as a specialty coal. The prospective end user of coal would replace the energy content of that coal with coal mined and transported from elsewhere to meet a continuing demand for electricity or steel production. Consequently, power plant emissions or steel production would not change. Transitory local air quality effects from mining and coal transport would still occur somewhere, but not from the proposed mining. No emissions of air pollutants, including criteria pollutants or GHGs, from the mining or combustion of the proposed coal would occur.

4.6 Noise

Proposed Action

Under the proposed operation plan, noise impacts could result from three major sources. These include project-related noises from equipment and mining, blasting, and road traffic from haulage. Project-related noises would not have any long-term significant impact on residents in the area. The project area is located at a former coal mine site, with the closest residences to the mining site located approximately two miles away and are separated by significant forest cover and ridges. The nearest residences are also located near the stream bottoms at elevations approximately 800 feet lower that the proposed mine site. Mining facilities would consist of mine office, explosive storage, equipment parts storage, reclamation supply storage, etc. The mine office would likely be a small portable trailer 12’ x 60’ or equivalent. Explosives storage magazines would be 10’ x 10’ constructed metal and wood or other MSHA compliant construction and would be located at the prescribed distances from the active mining. Equipment parts storage, reclamation supply storage, etc., would use tractor-pulled utility trailers 8’ x 50’ or equivalent. These storage units would be mobile and located at various locations as needed throughout the permit area. It is unlikely that any increase in background noise levels from general mining within the permit area would be distinguishable from existing background noise levels because of the distance from residences to the mining areas within the permit. As a sound wave travels outward from its source, it spreads over a larger area. This means the same amount of sound energy is distributed over a greater space, resulting in a decrease in intensity and perceived loudness

There is no construction activity associated with this Proposed Action so no construction noise is expected. Delivery of the equipment would be accomplished via typical tractor trailer transport that would take a few days or less to unload. As a result, any vehicle-related noise emissions from the delivery and unloading operation of the mining facilities at the project site would be negligible and short-term.

In a noise study of a similar rural area in the southern Cumberland Plateau area of Tennessee, ambient noise levels were estimated in the 35-40 decibel (dB) range, (USDOI/OSMRE,1986). In

the OSMRE study, noise levels from mining activities, including equipment operation and coal transportation, were estimated for 5 hypothetical mines at 10 representative sites. Noise level increases (expressed as average A-weighted sound level during a specified period-of-time, in this study 10 hours) at the 10 sites varied from 0 dB to as much as 16 dB. When added to the estimated noise levels for this rural area (35-40 dB), maximum noise levels would be in the range of 51 to 56 dB. The American National Standards Institute indicates that yearly average noise levels of 55 dB are compatible for neighborhood parks and 60 dB for wildlife and recreation areas (USDOI / OSM, 1986). According to the above study, mining activities (equipment activity and transportation) were estimated to be between 51 to 55 dB. Noise levels for the HCM mining area would be similar. The projected noise levels from non-blast mining activities are not expected to exceed the acceptable noise limit of 60 dB in the vicinity of the proposed mine site.

Blasting may potentially be the strongest and most pervasive source of noise associated with the proposed mining activities. Regulatory requirements, at 30 CFR 816.97(b), require that air-blast noise associated with blasting activities may not exceed 129 to 133 dB depending on the type of monitoring equipment used to measure the blast noise. These standards have been set to protect public health and safety and were not intended to preserve the highest levels of aesthetic qualities in an area. Regulations require that blasting activities occur only between sunrise and sunset. The HCM application states that blast activities will generally occur once per day and may, on occasion, occur twice in a given day but are not likely to occur on a Sunday. As such, noise associated with blasting activities would occur infrequently (once or twice per day), would last only for a very brief period (i.e., a few seconds), would occur only during daylight hours, and would likely not occur on Sundays. Although no impacts to health and safety are anticipated from airblast, blasting-related noise may have occasional nuisance-type impacts and effect on the quality of life of residents living in the Eagan and Clairfield areas of Claiborne County.

Intermittent noise would increase in the area due to increased vehicle traffic along approximately 10 miles of state and county roadways associated with business use of the proposed project site. The biggest potential effect would be on Valley Creek Road from the hauling of coal from the mine site. The coal would be hauled on Valley Creek Road to its junction with Tennessee State Route 132 and would follow TN 132 to its junction with Kentucky State Route 186. According to the permit application coal will be hauled weekdays during daylight hours while most people are at work with occasional Saturdays as needed. No residences are located along these roadways until approximately 0.5 miles from the HCM Wash Plant in Middlesboro, Kentucky.

According to the Federal Highway Administration, sound is composed of many different frequencies; some of which may affect one person more than another. Highway traffic noise levels are expressed in terms of the hourly, A-weighted equivalent sound level in decibels (dBA). A sound level represents the level of the rapid air pressure fluctuations caused by sources, such as traffic, that are heard as noise. A decibel is a unit that relates the sound pressure of a noise to the faintest sound the young human ear can hear. The A-weighting refers to the amplification or attenuation of the different frequencies of the sound (subjectively, the pitch) to correspond to the way the human ear “hears” these frequencies. Generally, when the sound level exceeds the mid-60 dBA range, outdoor conversation in normal tones at a distance of three feet (0.9 meters) becomes difficult.

Levels of highway traffic noise typically range from 70 to 80 dBA, at a distance of 15 meters (50 feet) from the highway. These levels may potentially affect a majority of people by interrupting concentration, increasing heart rates, or limiting the ability to carry on a conversation. The noise generated by a conversation between two people standing 1 meter (3 feet) apart is usually in the range of 60-65 dBA. Most people prefer the noise levels in their homes to be in the 40-45 dBA range, similar to the levels found in a small office. A reduction of sound from 65 to 55 dBA reduces the loudness of the sound by one half, while a reduction of sound from 65 to 45 dBA results in a loudness reduction of one quarter. According to the Caltrans Traffic Noise Basic Fact Sheet, the distance between a highway and residence can also affect noise levels. Doubling the distance between the highway and residence would result in a noise level reduction of 3 to 4.5 decibels, depending on the surface composition over which the noise is traveling.

This comparison is not intended to imply that residents, including those who have occasion to use the public roads in this area, would not notice the increase in ambient noise levels. Instead, residents and others who may frequent this area may notice slight noise level increases and perceive these increases to adversely impact the quality of life that existed in this area prior to mining. As the proposed area subject to mining and mining-related uses is approximately 1.7 miles in length and includes topographical variations such as ridgelines and hollows, the noise impacts associated with the actual mining of the area may be perceived by the public to vary (i.e., very annoying to hardly noticeable) as the mining operation moves to different sections of the proposed mine site. However, any perceived noise increases associated with coal haulage would generally remain constant through completion of coal removal activities. Any noise increases associated with the proposed mining operation would essentially end upon completion of all mining and reclamation activities, a period of approximately 5 years. It is estimated that approximately 18 truckloads roundtrip would pass by residences daily enroute to the HCM preparation plant at in Middlesboro, KY and return. Coal would be hauled weekdays during daylight hours while most people are at work with occasional Saturdays as needed. Additionally, the nearest residence from the permit area is approximately two miles from the permit boundary, and coal haulage would not be passing through that area.

No Action Alternative

Should the no action alterative be selected, noise is likely to remain unchanged from current levels in the area.

4.7 Topography

Proposed Action

Topography within the permit and adjacent area is characterized by high-relief mountainous terrain with steep slopes averaging between 20 to 25 degrees. Topographic relief in the area adjacent to the mine averages around 1,500 feet. Numerous mine benches on multiple seams exist throughout the region with miles of abandoned highwalls. Under the Proposed Action, all reasonably available existing spoil and excess spoils generated during mining would be used to reclaim approximately 6.5 miles of these exposed highwalls to the extent possible. Several sections of highwall are approximately 50 feet and pose a danger to public safety should recreational activities be allowed on the property. Under the proposed alternative, much of these walls would be reclaimed using both newly generated spoil and all available pre-existing spoil materials. In addition, mining activity would also allow the removal of potentially unstable spoils

and depression areas that allow infiltration of surface and ground water into these materials as positive drainage is established.

No Action Alternative
If the permit is disapproved, conditions throughout the proposed permit area would remain relatively unchanged and portions of 6.5 miles of pre-law highwall including potentially dangerous sections of highwall on the Sterling and Stray seam mine bench would go unreclaimed. Recreational activities could continue to affect the area through building of access roads and development areas if allowed by the landowner.

4.8 Socioeconomic Impacts

Proposed Action
The proposed mining activity would provide jobs and tax revenues for the local and state governments. The applicant has indicated that approximately 24 people would have direct employment with the coal company at this mine during the life of this proposed project. Goods and services purchased in the area by the applicant and employees of the applicant would provide additional support to the local economy. Sales tax revenue would provide support to the local and state governments. The federal government would collect personal and business income tax revenue. As this Proposed Action is for non-lignite surface mined coal, the operator is generally required to pay to the federal government ($0.224 per ton if the value of coal is more than $2.24 cents per ton and 10 percent if the coal value is less than $2.24) for deposit into the Abandoned Mine Reclamation Fund to address the hazards and environmental degradation posed by legacy coal mines. 30 CFR 870.13(b). Local and state governments also receive a total of approximately $1.00 per ton in tax revenue for each ton of coal removed. Revenues received by the local and state governments are an offset to expenses incurred by these government entities for things such as increased public road maintenance. The employment and tax revenues provided by the proposed mine would end upon completion of mining, a period estimated at approximately 5 years. Although no severance taxes would be generated once mining is complete, some employment and sales taxes could continue up to 10 years as the site goes through various stages of site maintenance, reclamation, and bond release.

A significant portion of the population of Claiborne County lives in a household with a household income below the poverty level. Approval of this alternative may allow for financial benefits to families through direct employment and secondary economic benefits through the purchases of local goods and services which would not be available without the operation of this mine. However, such economic increases would have relatively short to medium term benefits.

No Action Alternative
Under the No Action Alternative, there would be no direct effect on the existing socioeconomics as no mining is currently active in the area. However, no taxes and severance monies would be paid to the federal, local, and state governments from this project. Coal mining and associated support industries would not provide jobs and provide income for the local community.

4.9 Reasonably Foreseeable Actions

In Tennessee, there have been no operating mines and no active coal preparation facilities since the end of 2023 (EIA 2024). EO 14241 deals with reinvigorating America's coal industry. However, on a national level as coal-fired power plant retirements are expected to increase later in 2025, the Energy Information Administration forecast predicts an 8% decline in coal consumption in 2026, leading to a 6% decline in coal production, which they expect to fall to 475 million short tons in 2026 (EIA 2025) with the increased use of natural gas. Coal production in Tennessee is expected to increase because of the approval of this permit but is expected to have only a minimal effect on regional or national levels as only about 360,000 tons/year are anticipated over the anticipated 5 years of active coal production.

The final consumer of the coal proposed for recovery under this Proposed Action is unknown as contracts are not currently in place. Because of its properties, which make it a special market coal, options could include extraction of rare earth elements, chemical processing, or metallurgical (steelmaking)uses. In addition, it could be used for blending for steam coal at existing power plants. As such, potential generation potential, emission, and subsequent impacts from the endpoint users are unknown and are outside the scope required by NEPA according to a May 2025 Supreme Court decision (*Seven County Infrastructure Coalition v. Eagle County, Colorado*). However, there are currently 25 operable coal generators at 4 coal power plants in the Tennessee Valley Authority (TVA) system. These power plants would likely continue to be stable electricity generators for the immediate future and continue to be major stationary point sources for federally listed criteria pollutants (EIA 2023). Long-term plans include construction, retrofitting or conversion of many of these plants to natural gas combined cycle power plants (TVA, 2025).

CHAPTER 5. COORDINATION

All county, state, and federal agencies having legal jurisdiction, regulatory control, or coordination responsibility concerning permit issuance have been provided an opportunity to submit comments.

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U.S. National Park Service
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Tennessee Wildlife Resources Agency
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Morristown, Tennessee 37814

Division of Natural Areas
Tennessee Department of Environment and Conservation
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Nashville, Tennessee 37243

Cumberland Trail State Scenic Trail
Tennessee Department of Environment and Conservation
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Caryville, Tennessee 37714

Division of Water Pollution Control
Tennessee Department of Environment and Conservation
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Tennessee Historical Commission
Tennessee Department of Environment and Conservation

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Tennessee Department of Transportation
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