

Final Land Use Analysis and Final Environmental Impact Statement
for the East Lynn Lake Coal Lease

TABLES

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**Table 1.1-1
Geographic Areas**

Entity	Area (acres)
Wayne County	327,778^a
USACE East Lynn Lake Project	24,821^b
WVDNR Wildlife Management Area	22,928^b
Proposed lease tracts	13,093^c
Rockspring proposed lease tracts A, B, C, D, E, F –total	5453^c
Rockspring tract A	1,517 ^d
Rockspring tract B	320 ^d
Rockspring tract C	1,912 ^d
Rockspring tract D	72 ^d
Rockspring tract E	1,274 ^d
Rockspring tract F	358 ^d
Argus proposed lease tract areas A, B, C–total	7,640^c
Argus area A	837 ^d
Argus area B	5,372 ^d
Argus area C	1,431 ^d

Notes: The proposed lease tracts were originally included in land grants in the 1800s. These grants placed the land in private ownership. The lands for the USACE East Lynn Lake Project were acquired from privately owned patented fee lands and have not been open to entry under the general land entry statutes, such as the mining law, since they were patented. Therefore, there are no withdrawals on the lands within the boundary of the proposed lease tracts.

a – Digitized from USGS 1:24,000-scale Digital Raster Graphics by the West Virginia Department of Environmental Protection. First published January 2002, updated with Census 2000 data and re-published March 2005.

b – USACE 2007g (<http://www.lrh.usace.army.mil/projects/lakes/elt/>)

c – Reasonably Foreseeable Development Scenario (BLM 2009).

d – Metes and Bounds surveys provided by Argus and Rockspring; see appendix A

Table 1.3-1

Coal Reserves (By Area) East Lynn Reserve Area
Presented in "Condemnation Report" (John T. Boyd 1973)

Area	Seam	Recoverable Reserves					
		Deep		Auger		Strip	
		acres	tons (thousands)	acres	tons (thousands)	acres	tons (thousands)
1	No. 5 Block	996.81	3,901.00	69.08	389.60	168.39	368.70
	Stockton	0.00	0.00	0.00	0.00	0.00	0.00
	Winifrede	1,764.66	7,540.50	6.31	39.60	15.30	37.20
	Subtotal	2,761.47	11,441.50	75.39	429.20	183.69	405.90
1-Sub	No. 5 Block	0.00	0.00	10.86	41.00	26.50	38.90
	Stockton	0.00	0.00	0.00	0.00	0.00	0.00
	Winifrede	439.69	1,794.40	0.00	0.00	0.00	0.00
	Subtotal	439.69	1,794.40	10.86	41.00	26.50	38.90
4	No. 5 Block	268.45	1,099.10	32.13	197.80	78.03	186.80
	Stockton	36.55	106.60	9.45	38.80	22.98	36.80
	Winifrede	615.47	2,547.80	24.24	161.90	59.63	156.50
	Subtotal	920.47	3,753.50	65.82	398.50	160.64	380.10
4-Sub	No. 5 Block	455.65	1,544.00	62.37	303.30	151.63	286.90
	Stockton	0.00	0.00	15.12	53.90	36.72	50.90
	Winifrede	1,326.72	5,929.20	7.30	51.50	18.09	47.40
	Subtotal	1,782.37	7,473.20	84.79	408.70	206.44	385.20
5	No. 5 Block	2,348.11	9,100.80	270.45	1,418.20	656.43	1,339.90
	Stockton	2,588.49	9,718.30	144.37	736.40	350.68	695.20
	Winifrede	4,575.99	16,496.70	155.95	907.10	379.91	858.80
	Subtotal	9,512.59	35,315.80	570.77	3,061.70	1,387.02	2,893.90
6	No. 5 Block	571.84	2,382.80	60.83	375.70	148.20	355.80
	Stockton	0.00	0.00	0.00	0.00	0.00	0.00
	Winifrede	1,098.90	4,868.60	39.37	270.60	96.97	261.70
	Subtotal	1,670.74	7,251.40	100.20	646.30	245.17	617.50
6-Sub	No. 5 Block	69.47	268.60	8.19	36.80	19.89	34.60
	Stockton	0.00	0.00	0.00	0.00	0.00	0.00
	Winifrede	316.83	1,253.50	9.58	62.10	23.26	58.60
	Subtotal	386.30	1,522.10	17.77	98.90	43.15	93.20
7	No. 5 Block	49.06	192.70	17.92	103.30	43.65	97.80
	Stockton	0.00	0.00	1.76	6.20	4.28	5.80
	Winifrede	225.14	932.30	13.99	86.10	34.79	83.30
	Subtotal	274.20	1,125.00	33.67	195.60	82.72	186.90
7-Sub	No. 5 Block	211.05	756.20	24.32	121.90	59.06	115.20
	Stockton	0.00	0.00	0.00	0.00	0.00	0.00
	Winifrede	703.67	2,952.20	7.18	34.50	17.44	33.00
	Subtotal	914.72	3,708.40	31.50	156.40	76.50	148.20
8	No. 5 Block	0.00	0.00	0.00	0.00	0.00	0.00
	Stockton	0.00	0.00	0.00	0.00	0.00	0.00
	Winifrede	9.64	54.10	0.00	0.00	0.00	0.00
	Subtotal	9.64	54.10	0.00	0.00	0.00	0.00
8-Sub	No. 5 Block	330.58	1,892.20	15.75	135.30	38.25	127.70
	Stockton	334.97	1,141.10	13.11	66.20	31.83	62.50
	Winifrede	528.72	2,565.50	2.48	17.90	6.06	16.90
	Subtotal	1,194.27	5,598.80	31.34	219.40	76.14	207.10
Total	No. 5 Block	5,301.02	21,137.40	571.90	3,122.90	1,390.03	2,952.30
	Stockton	2,960.01	10,966.00	183.81	901.50	446.49	851.20
	Winifrede	11,605.43	46,934.80	266.40	1,631.30	651.45	1,553.40
	Total, Mining (by method)	19,866.46	79,038.20	1,022.11	5,655.70	2,487.97	5,356.90
	Total, Area (acres)						23,376.54
	Total, Tons (thousands)						90,050.80

NOTES: Areas 1, 1-Sub, 4, 4-Sub, 6, 6-Sub, 7, 7-Sub, 8, 8-Sub, and all of 5 identified in the Condemnation Report

(John T. Boyd Company 1973) lie under the proposed lease tracts

Areas 2, 3, part of 5, 9, 14, 15, 16, 17 identified in the Condemnation Report (John T. Boyd Company 1973)
do not lie under the proposed lease tracts

Data source: Map Showing Coal Reserves (By Area) East Lynn Reserve Area,
in *Coal Land Values, East Lynn Reservoir Area for Columbia Gas Transmission Corporation*,
referred to as the "Condemnation Report" (John T. Boyd Company 1973)

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**Table 2.1-1
Regulatory Compliance for
Coal Mining Operations Required by Federal and State Laws and Policies**

Resource	Applicable Federal Laws	Applicable State and Local Laws and Policies**	Monitoring
<p>All mining operations are required to be in compliance with regulations promulgated under these general mining laws that are not specified under individual resources.</p> <p>**The State of West Virginia surface mining laws and regulations are also applicable to underground mines, where there are specific requirements for such things as wildlife resources, land use plans, water resources, and revegetation.</p> <p>CFR=Code of Federal Regulations CSR=Code of State Rules USC=U.S. Code</p>	<ul style="list-style-type: none"> - <i>Mining and Minerals Policy Act of 1970</i> - <i>Surface Mining Control and Reclamation Act (SMCRA)</i> - <i>Resource Conservation and Recovery Act (RCRA)</i> - <i>Federal Water Pollution Control Act (Clean Water Act)</i> - <i>Mine Safety and Health Act</i> - <i>Land and Water Conservation Fund Act (LWCFA)</i> - <i>Energy Policy Act of 2005</i> - <i>Federal Land Policy and Management Act of 1976</i> - <i>Transportation Equity Act for the 21st Century</i> - The U.S. Department of Transportation regulations 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) - <i>The Office of Explosives and Blasting</i> (West Virginia Code §22-3A) - <i>West Virginia Water Pollution Control Act</i> (West Virginia Code §22-11) - <i>West Virginia Groundwater Protection Act</i> (West Virginia Code §22-12) - <i>Dam Control and Safety Act</i> (West Virginia Code §22-14) - <i>NPDES Rule for Coal Mining Facilities</i> (West Virginia CSR Title 47 Series 30) - <i>Coal Related Dam Safety Rules</i> (West Virginia CSR Title 38 Series 4) - <i>The West Virginia Surface Mining Blasting Rule</i> (West Virginia CSR Title 199 Series 1) - <i>State Certification of Activities Requiring a Federal Permit</i> (West Virginia CSR Title 47 Series 5A) - <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) - <i>Land Use Master Plan, Wayne County, West Virginia (Wayne County 2004)</i> 	<ul style="list-style-type: none"> ✓ Continuous Inspections and monitoring of refuse impoundment and sediment control dams ✓ Major Dams require Piezometer (water level) measurements, compaction tests, inspection and certification by a Professional Engineer (weekly, quarterly and annual inspections)

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	<p>Management Documents Specific to East Lynn Lake</p> <ul style="list-style-type: none"> - <i>Operational Management Plan, East Lynn Lake (USACE 2006a)</i> - <i>Design Memorandum No. 4-C, [East Lynn Lake] Master Plan (USACE 1984).</i> - <i>Final Environmental Impact Statement, East Lynn Lake, Twelvepole Creek, West Virginia (USACE 1974b)</i> 	<p>Management Documents Specific to East Lynn Lake</p> <ul style="list-style-type: none"> - <i>East Lynn Lake Wildlife Management Area Forest Management Plan (Dotson 1992)</i> - <i>East Lynn Lake Wildlife Management Area; Advanced Management Plan, FY2008-2009 (WVDNR 2008)</i> 	
Geology and Minerals	<ul style="list-style-type: none"> - <i>Guidelines for Mining Near Surface and Underground Bodies of Water (USBM IC 8741, 1977)</i> - <i>OSM Guidance Manual: Outcrop Barrier Design for Above Drainage Coal Mines (2007)</i> - MSHA policies and regulations 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act (West Virginia Code §22-3)</i> - <i>Miners' Health, Safety and Training; Underground Mines (West Virginia Code §22A-2-75)</i> - <i>West Virginia Surface Mining Reclamation Rule (West Virginia CSR Title 38 Series 2)</i> - <i>West Virginia Office of Miners' Health Safety and Training (WVMSHT) policies and regulations</i> 	<p>✓ No monitoring beyond what is required by applicable regulatory agencies is expected to be necessary</p>

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Resource	Applicable Federal Laws	Applicable State and Local Laws and Policies	Monitoring
Surface Water	<ul style="list-style-type: none"> - <i>Federal Water Pollution Control Act (Clean Water Act)</i> - <i>Safe Drinking Water Act</i> - <i>Federal Mineral Resources regulations (30 CFR 701.5)</i> - <i>USEPA Water quality standards (WQS)</i> 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act (West Virginia Code §22-3)</i> - <i>West Virginia Water Pollution Control Act (West Virginia Code §22-11)</i> - <i>West Virginia Surface Mining Reclamation Rule (West Virginia CSR Title 38 Series 2)</i> - <i>NPDES Rule for Coal Mining Facilities (West Virginia CSR Title 47 Series 30)</i> - <i>WVDEP Section 401 Water-quality Certification if federal 404 permits are required</i> 	<ul style="list-style-type: none"> ✓ NPDES monitoring for water quality at permit-required locations
Groundwater	<ul style="list-style-type: none"> - <i>Federal Water Pollution Control Act (Clean Water Act)</i> - <i>Safe Drinking Water Act</i> 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act (West Virginia Code §22-3)</i> - <i>West Virginia Groundwater Protection Act (West Virginia Code §22-12)</i> - <i>West Virginia Surface Mining Reclamation Rule (West Virginia CSR Title 38 Series 2)</i> 	<ul style="list-style-type: none"> ✓ Monitoring wells track water quality
Soil	<ul style="list-style-type: none"> - <i>Forest Cover Act of 1960 (66 USC580m-580n)</i> - <i>Clean Water Act</i> - <i>Section 404 Permits for Dredged or Fill Material into Waters of the U.S. (33 CFR 323)</i> 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act (West Virginia Code §22-3)</i> - <i>West Virginia Surface Mining Reclamation Rule (West Virginia CSR Title 38 Series 2)</i> 	<ul style="list-style-type: none"> ✓ Monitoring vegetation growth on reclaimed areas to determine need for soil amendments

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Resource	Applicable Federal Laws	Applicable State and Local Laws and Policies	Monitoring
Vegetation	<ul style="list-style-type: none"> - <i>Federal Noxious Weed Act of 1974</i> - <i>Endangered Species Act (ESA)</i> 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) - <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) - <i>WVDNR Forest Management Plan</i> (Dotson 1992) 	<ul style="list-style-type: none"> ✓ No specific monitoring program
Wetlands	<ul style="list-style-type: none"> - <i>Clean Water Act Section 404 Permits for Dredged or Fill Material into Waters of the U.S.</i> (33 CFR 323) 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) - <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) - <i>WVDEP Section 401 Water-quality Certification if federal 404 permits are required</i> 	<ul style="list-style-type: none"> ✓ Monitoring of reclaimed wetlands using same procedures used to identify pre-mining jurisdictional wetland ✓ Monitoring streamflow and water quality ✓ Monitoring wells track water levels ✓ Monitoring quality of discharges and backfill
Fish and Wildlife	<ul style="list-style-type: none"> - <i>Endangered Species Act (ESA)</i> 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) - <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) - <i>West Virginia Natural Heritage Program</i> 	<ul style="list-style-type: none"> ✓ Baseline wildlife monitoring surveys

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Resource	Applicable Federal Laws	Applicable State and Local Laws and Policies	Monitoring
Proposed, Endangered, Threatened, and Sensitive Species (PETS)	<ul style="list-style-type: none"> – <i>Endangered Species Act of 1973</i> (16 USC1531 et seq.), as amended – <i>Migratory Bird Treaty Act</i> (16 USC 703-712) – Endangered and Threatened Wildlife and Plants (50 CFR 17) – Designated Critical Habitat (50 CFR 226) – <i>Endangered Species Act of 1973</i>, as amended (50 CFR Part 402) – Listing Endangered and Threatened Species and Designating Critical Habitat (50 CFR 424) – <i>Conservation Action Plan for the Cerulean Warbler</i> (USFWS 2007) – <i>Draft Indiana Bat Recovery Plan</i> (72 FR 19015) 	<ul style="list-style-type: none"> – <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) – <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) – West Virginia Natural Heritage Program 	<ul style="list-style-type: none"> ✓ Baseline and annual wildlife monitoring surveys ✓ Monitoring of revegetation growth & diversity until release of final reclamation bond (minimum 5 years) ✓ Monitoring of erosion to determine need for corrective action during establishment of vegetation
Socioeconomics and Environmental Justice	<ul style="list-style-type: none"> – Royalty Distributions (43 CFR 3483) – <i>Flood Control Act (33 USC 15)</i> – Executive Order 12898 <i>Federal Actions to Address Environmental Justice in Minority and Low-income Populations</i> (1994) – Executive Order 130945 <i>Protection of Children from Environmental Health Risks and Safety Risks</i>(1985) 	<ul style="list-style-type: none"> – Disposition of flood control, navigation and allied funds from the federal government (West Virginia Code §20-3-18) – West Virginia State Tax Department Coal Severance Tax Distribution 	<ul style="list-style-type: none"> ✓ Surveying and reporting to document volume of coal removed

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Resource	Applicable Federal Laws	Applicable State and Local Laws and Policies	Monitoring
Cultural Resources	<ul style="list-style-type: none"> – <i>National Historic Preservation Act of 1966</i> (NHPA) – <i>Archaeological Data Preservation Act of 1974</i> (also known as the <i>Moss-Bennett Act</i>) – <i>American Indian Religious Freedom Act of 1978</i> – <i>Archaeological Resources Protection Act</i> (ARPA) of 1979 – <i>Native American Graves Protection and Repatriation Act of 1990</i> – Executive Orders 11593, 12072, 13006, 13007, and 13175 – <i>Archeological and Historic Preservation Act</i> 	<ul style="list-style-type: none"> – <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) – Division of Culture and History (West Virginia Code §29-1-1) – Graves Located Upon Privately Owned Lands (West Virginia Code §37-13A) – <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) 	<ul style="list-style-type: none"> ✓ No specific monitoring program ✓ If above-ground disturbance is proposed, the lead federal agency must comply with Section 106 of the National Historic Preservation Act and consult the West Virginia SHPO and consulting Tribes regarding appropriate levels of inventory, evaluation and mitigation of potential effects to historic properties (if found).
Native American Concerns	<ul style="list-style-type: none"> – <i>American Indian Religious Freedom Act of 1978</i> – <i>Archaeological Resources Protection Act</i> (ARPA) of 1979, the <i>Native American Graves Protection and Repatriation Act of 1990</i> 	<ul style="list-style-type: none"> – <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) – <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) 	<ul style="list-style-type: none"> ✓ No specific monitoring program
Paleontological Resources	<ul style="list-style-type: none"> – <i>BLM's Paleontological Resource Management Plan</i> (Handbook H-8270; BLM 1998a) 	<ul style="list-style-type: none"> – <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) – <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) 	<ul style="list-style-type: none"> ✓ No specific monitoring program, however, if surface impacts are proposed, a qualified paleontologist should be present during surface disturbing activities

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Resource	Applicable Federal Laws	Applicable State and Local Laws and Policies	Monitoring
Recreation Resources	<ul style="list-style-type: none"> – <i>Water Recreation Opportunity Spectrum Users’ Guidebook</i> (Aukerman and others 2004) 	<p><i>West Virginia Statewide Comprehensive Outdoor Recreation Plan</i> (WVDO 2003)</p>	✓ No specific monitoring program
Air Resources	<ul style="list-style-type: none"> – <i>Federal Clean Air Act</i> (30 CFR 740.4 (b)(1)) – USEPA ambient air quality standards (AAQS) – <i>Clean Air Interstate Rule</i> (40 CFR 51, Subpart G) – <i>Regional Haze Rule</i> (40 CFR 51, Subpart P) 	<ul style="list-style-type: none"> – West Virginia Air Pollution Control Act (West Virginia Code §22-5) – WVDEP Division of Air Quality rules and regulations. – WVDEP Coal Preparation Plant General Permit Number G10-C. 	✓ Opacity monitoring and on-site compliance inspections
Noise	<ul style="list-style-type: none"> – <i>Noise Control Act of 1972</i> – USEPA <i>Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety</i> (1974) – MSHA Noise Regulations 		✓ MSHA inspections
Visual Resources	<ul style="list-style-type: none"> – <i>USACE Visual Resources Assessment Procedure</i> (VRAP) 		✓ No specific monitoring program

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Hazardous & Solid Waste	<ul style="list-style-type: none"> - <i>Federal Clean Air Act</i> - <i>Resource Conservation and Recovery Act (RCRA)</i> - <i>Federal Water Pollution Control Act (Clean Water Act)</i> - <i>Safe Drinking Water Act</i> - <i>Toxic Substances Control Act</i> - <i>Mine Safety and Health Act</i> - The U.S. Department of Transportation regulations - OSHA Regulations (29 CFR 1900-1910) 	<ul style="list-style-type: none"> - <i>Emergency Response and Community Right-to-Know Act</i> (West Virginia Code §15-5A) - <i>West Virginia Hazardous Waste Management Act</i> (West Virginia Code §22-18) - Special rules established by the Office of Water Resources (West Virginia CSR Title 47 Series 11) - Emergency Response Commission Emergency Planning and Community Right-to-Know rules (West Virginia CSR Title 55 Series 1-1) 	✓ No specific monitoring other than required by these other regulations and response plans
Land Use	<ul style="list-style-type: none"> - <i>Federal Land Policy and Management Act of 1976</i> - <i>Flood Control Act</i> (33 USC 15) 	<ul style="list-style-type: none"> - <i>West Virginia Surface Coal Mining and Reclamation Act</i> (West Virginia Code §22-3) - <i>West Virginia Surface Mining Reclamation Rule</i> (West Virginia CSR Title 38 Series 2) 	✓ No specific monitoring program

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**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Description of Alternatives	<p>If the Proposed Action is selected and the RFDS is implemented, underground room-and-pillar mining would be performed. The existing underground mining operations in the Coalburg/Winifrede coal seam on adjacent private land would be extended into the federal coal under the proposed lease tracts. The RFDS (appendix B) describes specific limits that would be applied to the lease:</p> <ul style="list-style-type: none"> • Approximately half of the federal coal would be left in place to form pillars supporting the roofs of the mines to prevent subsidence. • No mining would occur within 100 vertical feet of the surface except in limited circumstances needed to access the federal coal. • No mining would occur within 150 horizontal feet of any point where the coal seam outcrops at the surface. • No mining would occur within a minimum of 200 horizontal feet of the spillway elevation of the lake. While this width may be expanded during the mine planning and permitting process, the 200-ft barrier is based on the 1977 USBM Information Circular 8741 on mining near surface and underground bodies of water (Babcock and Hooker 1977). • No mining would occur under the lake. • Minimal mining would occur under perennial streams; where mining would occur, best management practices would be implemented and federal and state regulations and guidance would be followed to protect the stream. <p>In addition, if the Proposed Action is selected, the successful bidder(s) would be required to:</p> <ul style="list-style-type: none"> • obtain appropriate federal and state permits and approvals • analyze geotechnical and hydrologic conditions during the permitting process to design the mine(s) and to minimize development of any undesirable conditions • obtain a permit from OSM, which would include post-mining plans for reclamation, including revegetation. • prepare subsidence control plan(s) in compliance with state/federal regulations <p>On-going activities on the surface of the proposed lease tracts, including oil and gas development, legal and illegal ORV use, and hiking, would continue under the Proposed Action and RFDS.</p>	<p>Under the No Action Alternative and the NAS, the LBAs would be rejected, allowing the federal coal to remain in place and would not be leased or mined.</p> <p>On-going activities under the current management system would continue. Oil and gas development, legal and illegal ORV use, and hiking would continue on the surface of the proposed lease tracts.</p>

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Geology and Minerals	<p>Subsidence Subsidence is expected to be minimal for the Proposed Action and RFDS. No impacts from mining-induced fracturing resulting in changes in stream flow are expected.</p> <p>East Lynn Lake Dam No impacts to the dam are expected under the Proposed Action and RFDS.</p> <p>East Lynn Lake Significant impact to East Lynn Lake due to the Proposed Action and RFDS are unlikely.</p> <p>Gas Wells No impacts to gas wells are expected due to the Proposed Action and RFDS.</p> <p>Other Structures No damage to surface structures is expected due to the Proposed Action and RFDS.</p> <p>Coal Outcrops The proposed 150-ft outcrop barrier is expected to adequately minimize the potential for “blow outs” or seepage.</p> <p>Seismic Activity and Faults Impacts due to faulting or seismic activity are expected to be minimal under the Proposed Action and RFDS.</p> <p>Landslides The likelihood of mining-induced landslides is expected to be low under the Proposed Action and RFDS.</p> <p>Coal Reserves <i>Coalburg/Winifrede Coal Seam</i>—Approximately 76 million tons of coal exists below the proposed lease tracts, and approximately 26 million tons of clean coal is recoverable from that reserve. The successful bidder(s) would leave approximately 50 percent of the coal in place in the form of pillars designed to minimize or eliminate subsidence. In addition, the successful</p>	<p>Geology–Coal Reserves No impacts to geology are expected.</p> <p>Mineral Resources–Coal Reserves Under the No Action Alternative, the NAS would be implemented, the LBAs would be rejected, allowing the federal coal to remain in place and would not be leased or mined.</p> <p>Oil, Natural Gas, and Coal Bed Methane Reserves No impacts are expected, other than extraction of the oil and natural gas reserves. The likelihood of recovery of coal bed methane from the federal coal that lies under the proposed lease tracts is low to medium, and no significant impacts are expected.</p>

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	<p>bidder(s) would be required to leave coal in place to act as one of several types of protective barriers. Coal reserves left in these barriers, or no mining zones, would not be recoverable and would reduce recoverable coal reserves.</p> <p><i>Other Coal Seams</i>– Any shallow house mines located within the proposed lease tracts are expected to be located in the No. 5 block coal seam. No commercial abandoned mines are known to exist within the proposed lease tracts. The proposed mining is not expected to impact these abandoned mines. Mining of the Coalburg/Winifrede coal seam as outlined in the RFDS is expected to have minimal effects on coal reserves that lie above it.</p> <p>Oil, Natural Gas, and Coal Bed Methane Reserves</p> <p><i>Oil and Natural Gas</i>–No impacts to oil and gas wells are expected.</p> <p><i>Coal Bed Methane</i>–The likelihood of recovery of coal bed methane within the proposed lease tracts is low to medium, and impacts to coal bed methane resources are expected to be low to medium.</p>	
Surface Water	<p>No significant impacts to groundwater resources, either in water quantity or water quality, or to groundwater resource users are expected under the Proposed Action.</p> <p>Surface Water Quantity</p> <p>No impacts are anticipated to the quantity of water available to downstream users including the town of Wayne.</p> <p>Surface Water Quality</p> <p>Potential impacts to surface water quality from mining activity can include increases in TDS and other dissolved or suspended constituents as a result of sediment loading or seepage.</p> <p>No significant impacts are expected to water quality in seeps and springs or to downstream surface-water users.</p>	<p>Surface Water Quantity</p> <p>Impacts to surface water quantity under the No Action Alternative would likely be similar to existing conditions. No changes in streamflow or the amount of water stored in East Lynn Lake would be expected.</p> <p>Surface Water Quality</p> <p>mpacts to surface water quality under the No Action Alternative would likely be similar to existing conditions. Existing water quality would likely continue into the future.</p>

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**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Groundwater	<p>Water Quantity—Changes in Water Level</p> <p><i>Wells</i>—No significant impact to existing water wells in the vicinity of the proposed lease tracts is expected.</p> <p>The proposed mining is not expected to significantly impact horizontal or vertical hydraulic conductivity, and is not expected to significantly impact users or potential users of groundwater resources.</p> <p><i>Receiving Streams and East Lynn Lake</i>— Based on the inflow rates available from existing mines, groundwater inflow to the proposed mine openings would be limited.</p> <p>The hydraulic gradient provided by gravity and the water build-up behind the barrier may not develop. If these conditions were to develop, they would develop over long periods of time and the amount of seepage would be limited with minimal associated impacts.</p> <p>Water Quality—Changes in Water Quality</p> <p><i>Drinking Water</i>—Significant impacts to the shallow water-bearing zones are not expected.</p> <p>Expansive fracture systems that would allow shallow groundwater to be impacted by the enhanced filling of water into the mine have not been identified in the study area.</p> <p><i>Acid Mine Drainage</i>—Previous evaluations by both Rockspring and Argus suggest that the acid generating potential from the Coalburg/Winifrede seam is limited. The existing groundwater data do not indicate that AMD is an issue with the Coalburg/Winifrede seam. Based on this information, groundwater specialists expect that the water inundating the Coalburg/Winifrede seam in the proposed mines would tend to remain neutral.</p>	<p>No impacts to groundwater resources would be expected.</p>
Soil	<p>A maximum of 20 acres of surface disturbance is expected over the roughly 13,000 acres of the proposed lease tracts (approximately 0.15 percent of the total surface area). With minimal to no change to the current surface water flow patterns, no change in current erosion patterns is expected. Direct impacts to soil resources resulting from the Proposed Action would be limited, and no significant impacts are expected.</p> <p>Existing impacts due to oil and gas development, legal and illegal ORV use, and hiking would continue on the surface of the proposed lease tracts.</p>	<p>On-going activities under the current management system would continue. Existing impacts due to oil and gas development, legal and illegal ORV use, and hiking would continue on the surface of the proposed lease tracts.</p>

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Vegetation and Wetlands	<p>During the proposed 15-year span of federal coal mining, a maximum 20 acres of surface disturbance could occur in small patches as a result of limited subsidence, or as a result of construction of exploration drill holes, ventilation shafts, or rescue shafts. No large areas of forest would be cleared; a maximum of 20 acres of surface disturbance may occur on the proposed lease tracts.</p> <p>The required permit from OSM would include post-mining plans for reclamation, including revegetation.</p> <p>Upland Vegetation Communities</p> <p>Minimal to no impact to the existing hydrologic regime is expected.</p> <p>Wetland and Riparian Vegetation</p> <p>No direct or indirect impacts to wetlands or riparian resources are expected</p> <p>Minimal impacts to ecological function and habitat are expected.</p> <p>No direct impacts are expected to the 0.1 acre of wetland or 366 acres of riparian area identified on the proposed lease tracts. Any impacts that may occur are unlikely to lead to significant impacts to habitat.</p> <p>No impacts are expected to the 15 acres of open water wetlands identified by the GAP analysis associated with the lake shoreline, where no surface disturbance is planned..</p> <p>Forestry and Woodland Products</p> <p>Limited impacts to forestry and woodland products are expected.</p> <p>No change in groundwater or in vegetation is expected.</p> <p>Water in the vadose zone comes from on-site precipitation and is not likely to be impacted by the proposed underground coal mining. Therefore, no impacts are expected to the forest vegetation in the area is dependent primarily on the soil moisture and water in the vadose zone.</p> <p>Conflicts resulting from the use of access roads for the proposed surface activities might temporarily impact forest management or harvest, but would be limited to a few weeks.</p> <p>Illegal harvest or theft may result from increased human activity.</p>	<p>Upland, Wetland, and Riparian Vegetation Communities</p> <p>No significant impacts are expected as a result of the No Action Alternative.</p> <p>Forestry and Woodland Products</p> <p>No significant impacts are expected under the No Action Alternative.</p> <p>Wildland Fire Ecology and Management</p> <p>No significant impacts are expected under the No Action Alternative.</p> <p>If oil and gas development does increase, increased access via drill roads would allow more opportunity for uncontrolled, illegal timber harvest and ORV use, which would increase the fire hazard.</p>

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
	<p>Wildland Fire Ecology and Management</p> <p>Impacts to wildland fire ecology and management are expected to be limited. Limited impacts may result from:</p> <ul style="list-style-type: none"> • Accidental ignitions from construction or drilling; however, because permits associated with coal mining activities require the user to provide suppression resources on site, the potential occurrence of these incidents would be mitigated. • Coal seam fires starting or spreading as a result of subsidence, however, minimal subsidence is expected. • Prescribed fires or managed fire activity have not occurred or are planned. As a result, these types of activities would not be impacted. • Underground fires are common in coal mining, but there has not been any incidence of underground fires associated with the adjacent mining operations. • Fire in existing or future gas wells, pipelines, and electrical lines as a result of subsidence; however, significant subsidence is not predicted, nor have any similar impacts occurred at nearby existing coal mining operations in recent history. • Increased access via drill roads, as part of oil and gas exploration, would allow more opportunity for uncontrolled, illegal timber harvest and ORV use, which would increase the fire hazard. 	
Fish and Wildlife	<p>No impacts to fish or wildlife resources are expected under the Proposed Action and RFDS. No direct impacts are expected for fish and other aquatic organisms found in the lake and in associated streams.</p>	<p>No direct or indirect effects to fish and wildlife are expected if the No Action Alternative is selected and the NAS is implemented.</p>
Proposed, Endangered, Threatened, and Sensitive Species	<p>PETS Plant Species</p> <p>There are no known occurrences of federally listed (Proposed, Threatened or Endangered) plant species in Wayne County. Thus, there is no potential to impact federally listed plant species.</p> <p>There is potential for loss of individuals of any of the nine rare species during clearing of vegetation for surface activities. There is a small possibility that a rare plant species could be present in the maximum of 20 acres of surface disturbance. All nine species are considered globally secure, so the loss of individuals would not constitute a significant impact to viability of any of the species.</p>	<p>No significant impacts are expected under the No Action Alternative.</p>

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
	<p>No changes in hydrology related to subsidence are expected that would impact terrestrial vegetation. Therefore, indirect impacts to PETS plant species are unlikely.</p> <p>Clearing of vegetation related to surface disturbance may have a beneficial effect on two species (creeping cucumber and climbing fern) which prefer openings related to disturbance.</p> <p>PETS Animal Species</p> <p>No impacts are predicted for PETS wildlife species.</p>	
Socioeconomics	<p>No significant negative impacts to social conditions would occur. Positive impacts to socioeconomic resources would be expected.</p> <p>Social Resources</p> <p>Extending the mining economic base another 10-15 years would give the local community more time to adjust to changing social conditions as the transition to a more diversified economy takes place. Sustained economic conditions, and continued mining company philanthropy would likely assist the community in maintaining social institutions such as churches and schools that are stressed by decreasing and aging populations.</p> <p>Continued state and local tax revenues would be applied to maintenance and funding infrastructure projects, as projected by WVDO, to address the existing minor impacts to infrastructure—traffic and impacts to road surfaces—that would continue.</p> <p>Existing minor, localized impacts to natural resources resulting from coal-mining noise and entrainment of dust would continue for the additional time period of mining.</p> <p>No significant new impacts to natural resources are expected. As a result, the following social resources would not be significantly affected:</p> <ul style="list-style-type: none"> • recreational areas or facilities of the East Lynn Lake area are expected to have minimal impacts because minimal to no subsidence is expected and no significant impacts to water, soils, plants, or animals are expected. • no impacts to the dam or the lake itself are expected, and no impacts to flood protection services are expected. 	<p>Negative impacts to socioeconomic conditions could occur.</p> <p>Social Resources</p> <p>The transition from an industrial economy to a service economy likely would be more difficult with the loss the mining operations and associated indirect impacts occurring in the next 10 to 15 years. The rate of change to social conditions would accelerate as social institutions in Wayne County would likely be threatened by a weakened economy and the loss of mining company philanthropy.</p> <p>Fewer jobs could result in increased out-migration, and financing and support of social institutions such as schools and churches likely would decline, threatening the social web of the area.</p> <p>Existing minor impacts to infrastructure—traffic and impacts to road surfaces—would continue. However, potentially reduced state and local tax revenues could delay maintenance and funding projects as projected by WVDO.</p> <p>No impacts to flood protection services or recreational activities would be expected.</p>

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
	<p>Economic Resources</p> <p>Positive impacts to economic conditions would occur. The successful bidder(s) would receive coal sales revenue, the federal government and Wayne County would receive tax revenue, and the USACE would continue to collect recreation fees. Based on a coal price of \$43/ton, the regional economy would receive up to approximately \$1,129,900,000 as the successful bidder(s) earned revenue on the sale of processed federal coal.</p> <p>Assuming the customary 8 percent royalty is collected by the MMS, the federal government would receive up to approximately \$90,400,000 over the 10- to 15-year life of the project. As outlined in federal and state statutes, 75 percent of this revenue would be distributed to the state and 25 percent would be retained by the federal government. The state would then distribute 50 percent of its receipts to the county road commission and 50 percent to the county board of education. Under these conditions, the Wayne County Board of Education and the Wayne County Roads Department would each receive about \$33,900,000.</p> <p>Local mining jobs (500 to 600 jobs) would be extended for another 10 to 15 years. Multiplier effects on employment, earnings, and indirect output also would continue to benefit the local economy. Current housing trends also would be expected to continue.</p> <p>Extension of local mining jobs would help to facilitate the regional economy's transition from a more industrial economy to a more service-based economy.</p> <p>Property and employment taxes also would continue to occur, which would contribute to maintaining the existing quality of life.</p>	<p>Economic Resources</p> <p>The USACE would continue to collect recreation fees. The revenues and royalties expected under the Proposed Action would not be received.</p> <p>When the Applicants close their operations in about 10 to 15 years, the roughly 500 to 600 people currently employed at these facilities would lose their jobs.</p> <p>A decline in income would be expected due to the loss of jobs. Job losses would be magnified by multiplier effects, estimated to be 1.4 indirect and induced jobs supported by each mining job. A decline in demand for housing also would be expected.</p> <p>Assuming the customary royalty rate of 8 percent applied by the MMS on the sale of federal coal from underground mines, the federal government would lose the opportunity to receive up to approximately \$22,600,000 in retained revenues.</p> <p>The State of West Virginia would lose the opportunity to receive distributed federal royalties totaling up to approximately \$67,800,000, which in turn would be distributed to local entities according to state statute.</p> <p>In time the federal coal that lies under the proposed lease tracts potentially could become inaccessible and lost from the reserve base.</p>

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Environmental Justice	<p>Positive impacts are anticipated to socioeconomic resources that would benefit the entire community through extended employment, expected severance taxes and royalties, and the multiplier effects of this income.</p> <p>No negative impacts to minority or low-income populations are expected. No disproportionate impacts of the proposed mining are considered to be environmental justice issues.</p> <p>The affordable recreation of the East Lynn Project area would not be affected and these activities (camping, swimming, fishing, wildlife observation and hunting, hiking, picnicking) would still be available to poor communities as well as the more prosperous.</p> <p>No significant impacts to environmental health are expected, so no significant impacts to children are expected.</p>	<p>Environmental Justice</p> <p>Mining jobs would disappear when the life of the existing mines is exhausted, in about 10 to 15 years. The loss of jobs would negatively affect the socioeconomic framework of Wayne County, and significantly reduce the tax base. Access to job opportunities and government services for the poor would be detrimentally impacted.</p> <p>With regard to environmental justice, no significant impacts to minority populations are expected under the NAS. Access to job opportunities and government services for the poor would be detrimentally impacted for the whole community.</p> <p>Protection of Children</p> <p>No impacts to environmental health are expected, and no impacts to children are expected.</p>
Cultural Resources and Cemeteries	<p>Low potential for direct or indirect impacts to known or potential cultural resources, including prehistoric sites, historic sites, the 12 known cemeteries located on private lands, and sites of local significance or interest to visitors to the USACE East Lynn Lake Project, are expected.</p> <p>No cultural resources listed in, determined eligible for, or considered eligible for the NRHP would be directly or indirectly impacted, as none are known to exist in the study area.</p>	<p>Direct or indirect impacts to known and potential cultural resources, including cemeteries, would be the same as those experienced under the existing operating conditions at the USACE East Lynn Lake Project.</p>
Paleontological Resources	<p>There are no known scientifically significant paleontological resources in the USACE East Lynn Lake Project. The potential for significant impact is considered to be low.</p> <p>If oil and gas drilling, operations and maintenance described in the attachment to the RFDS were to occur, there would be a potential for impacts to paleontological resources.</p>	<p>No significant impacts to paleontological resources would be expected.</p> <p>If oil and gas drilling, operations and maintenance were to continue, there would be a potential for impacts to paleontological resources.</p>

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**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Recreation Resources	Direct impact to recreation resources is expected to be minimal. The surface disturbance due to the Proposed Action would be limited to a maximum of 20 acres over a 10-year period. No impacts to the development potential for future use related to recreation are expected.	No significant impacts to recreation resources are expected as a result of implementation of the No Action Alternative.
Air Resources	No significant impacts to air resources are expected..	Air quality in the immediate vicinity of the existing mining operations would likely improve slightly at the time current operations close due to the reduction of existing unpaved road traffic.
Noise	No significant noise impacts are expected. No new noise sources would be created. Any noise impacts associated with the existing underground operations would remain close to what they currently are.	The current management situation—minimal surface activities on the USACE East Lynn Lake Project—would continue. No changes in noise levels are expected.
Visual Resources	As the existing forest matures, greater canopy will develop, creating more dense forest cover. The number of permanent openings or clearings in the viewshed will decrease, whether or not the RFDS is implemented. No significant visual impacts to surface lands, streams, or waterways are expected to occur. Minimal to no subsidence is expected, and no significant impacts to water resources, vegetation or soils are expected. Therefore, the forest covering the proposed lease tracts should not be affected. A maximum of 20 acres of surface disturbance would involve minimal impact to the forest canopy, and would not likely be visible in the viewshed. No significant impacts to visual resources are expected as a result of the proposed mining. If recreational activities such as the use of ORVs were to increase, then impacts from those activities may become more visible and may affect an observer’s perception. The potential increase in roads to access drill sites, operate wells, and maintain the wells and collection pipelines would likely cause an increase in all types of ORVs and illegal timber harvest. This increase could cause a significant visual impact if not controlled, similar to the potential impact under the No Action Alternative.	As the existing forest matures, greater canopy will develop, creating more dense forest cover. The number of permanent openings or clearings in the viewshed will decrease. The number of visitors to the USACE East Lynn Lake Project will likely increase. If recreational activities such as mountain biking or the use of ORVs were to increase, then impacts from those activities may become more visible and may affect an observer’s perception. The potential increase in roads to access drill sites, operate wells, and maintain the wells and collection pipelines would likely cause an increase in all types of ORVs and illegal timber harvest. This increase could cause a significant visual impact if not controlled.

**Table 2.2-1
Comparison of Alternatives for the East Lynn Lake Coal Lease**

Resource	Impacts Proposed Action (Preferred Alternative)	Impacts No Action Alternative
Hazardous & Solid Waste	<p>Proposed Underground Mining</p> <p>No significant impacts are expected under normal operating conditions. Best management practices and permit requirements, including chemical handling requirements, would be followed during mining. If a release of hazardous material(s) or an oil spill were to occur in the proposed underground mining facilities, potential direct or indirect impacts to groundwater resources could occur, but could be minimized by implementation of preventive measures.</p> <p>Spills or accidental releases during emergency rescue activities that could occur would likely be in small quantities. Therefore, it is expected that impacts to surface water, groundwater, soil, vegetation, or wildlife would be localized and minimal.</p> <p>On-going solid waste handling practices would continue. No significant impacts are expected.</p> <p>Activities on the USACE East Lynn Lake Project</p> <p>The potential for a hazardous materials release or oil spill is expected to be low.</p> <p>Existing and Proposed Oil and Gas Development</p> <p>In the event of an oil spill or a natural gas release at one of the oil and gas collection facilities that exist on the proposed lease tracts, it is assumed that best management practices and permit requirements, along with the spill contingency plan, would be implemented immediately and any potential impacts would be minimized.</p>	<p>No significant impacts are expected under the No Action Alternative. In the event of an oil spill or a natural gas release at one of the oil and gas collection facilities that exist on the proposed lease tracts, it is assumed that best management practices and permit requirements, along with the spill contingency plan, would be implemented immediately and any potential impacts would be minimized.</p>
Land Tenure, Use, and Access	<p>A lease has a minor impact on the estate value of the federal holdings. Minimal direct impacts are expected on other existing or future land tenure, land uses, or access.</p>	<p>No significant impacts are expected.</p>

**Table 3.1-2
Pillar Stress Calculation**

Size		Argus U-5028-93 Amend 1	Argus U5028-93	Rocksprings Proposed Lease Area	Argus Proposed Lease Area	RFDS
Overburden Unit weight ¹	pcf	155.00	155.00	155.00	155.00	
Overburden	ft	516	642	500	500	300
Pillar Width (Pw)	ft	50	40.5	35	50	35
Pillar length (Pl)	ft	50	40.5	40	50	40
Entry width (We)	ft	20	19.5	19.5	20	19.5
Original Area	ft ²	4900	3600	3242.75	4900	3242.75
Pillar Area	ft ²	2500	1640.25	1400	2500	1400
Area Mined	ft ²	2400	1959.75	1842.75	2400	1842.75
R =	%	0.490	0.544	0.568	0.490	0.568
Virgin Pillar Stress (Sv)	psi	567.600	706.200	550.000	550.000	330.000
Pillar Stress (Sp) =	psi	1112.50	1549.96	1273.94	1078.00	764.36
Compressive Strength	psi	3500.00	3500.00	3500.00	3500.00	3500.00
diameter of Specimen	in	1.75	1.75	1.75	1.75	1.75
k =		4630.06	4630.06	4630.06	4630.06	4630.06
Pillar Diameter	ft	56.42	45.70	42.22	56.42	42.22
Seam height (H) ²	ft	6.00	6.00	6.00	6.00	6.00
S1		771.68	771.68	771.68	771.68	771.68
Pillar Strength (S2)		2058.82	2369.05	2058.82	2058.82	1400.00
SF		1.85	1.53	1.62	1.91	1.83
Planned SF		1.5	1.5	1.5	1.5	

$$\text{Extraction Ratio (R)} = \frac{\text{Area Mined}}{\text{Original Area}} = \frac{\text{Original Area} - \text{Pillar Area}}{(\text{Pw} + \text{We})(\text{Pl} + \text{We})} = \frac{(\text{Pw} + \text{We})(\text{Pl} + \text{We}) - (\text{Pl} \times \text{PW})}{(\text{Pw} + \text{We})(\text{Pl} + \text{We})}$$

$$\text{Pillar Stress (Sp)} = \text{Sv} * \frac{\text{orig area}}{\text{pillar area}} = \frac{\text{Sv} * (\text{Pw} + \text{We})(\text{Pl} + \text{We})}{(\text{Pl} \times \text{PW})}$$

$$\text{Sv} = 1.1 * \text{Overburden depth}$$

$$\text{K constant} = \text{Compressive Strength} * \text{SQRT}(\text{diameter of specimen}) \text{ (Argus, U-5028-93)}$$

$$\text{S1} = \frac{\text{k}}{\text{SQRT d}} \text{ limit size correction to dmax} = 36 \text{ inches}$$

$$\text{Safety of Factor (SF)} = \frac{\text{S2}}{\text{Sp}} = \frac{\text{S1} * (0.64 + (.36 * (\text{Pw}/\text{H}))}{\text{SP}}$$

Notes:

1. The overburden unit weight is based on Argus lease application U-5028-93 Amend 1
 2. Seam height is based on average reported in Argus lease application U-5028-93
- Information also presented in East Lynn Lake Coal Lease Phase 1 Subsidence Analysis Assessment.

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**Table 3.2-1
1ELT0032 Kiah Creek of East Fork of Twelvepole Creek of Ohio River
River Mile 2.9**

Date	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
4/21/1980	6.5	NA	20	0.56
6/16/1980	6.8	NA	17	2.09
5/1/1981	7.3	58	18	0.871
7/8/1981	5.9	44	7	0.4
7/31/1981	6.5	38	12	0.5
5/5/1982	7.6	100	32	0.4
6/1/1982	6.6	26	<5	3.3
6/29/1982	6.7	<10	33	1.2
7/6/1982	6.2	NA	NA	NA
7/27/1982	6.7	44	10	0.6
8/24/1982	7	<10	6	0.9
9/20/1982	7.5	56	20	0.5
4/25/1983	6.7	58	19	0.5
6/8/1983	8.1	32	6	0.4
8/3/1983	7.1	42	8	1.6
9/7/1983	6.4	56	13	0.7
6/11/1984	5.6	<10	<5	NA
7/12/1984	6.5	60	13	1.4
9/17/1984	6.8	56	NA	2.2
6/11/1985	6.6	NA	NA	0.3
7/22/1985	6.6	NA	NA	0.5
8/9/1985	7.1	66	15	1
9/4/1985	7	52	11	0.7
5/19/1986	7.8	NA	31	NA
6/17/1986	7.3	NA	83	0.3
7/31/1986	7.6	NA	13	0.5
8/25/1986	7.4	NA	10	2.3
9/22/1986	7.1	NA	8	0.6
10/28/1986	7.4	NA	12	0.3
5/5/1987	7.3	NA	13	0.1
6/22/1987	7.3	NA	10	1.6
8/24/1987	7.3	NA	8	0.6
5/3/1988	6.8	46	13	0.116
6/27/1988	7.2	70	28	0.632
8/22/1988	6.8	108	7	1.088
3/15/1989	6.7	<10	19	0.159
4/14/1989	6.5	32	NA	0.134
6/5/1989	7	52	20	0.19
11/21/1989	7.1	32	19.2	NA
4/17/1990	7.8	48	16	NA
6/21/1990	7	74	14	NA
10/18/1990	6.4	NA	NA	NA
1/22/1992	6.8	NA	NA	NA

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**Table 3.2-1
1ELT0032 Kiah Creek of East Fork of Twelvepole Creek of Ohio River
River Mile 2.9**

Date	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
1/19/1993	7.2	NA	NA	NA
1/27/1994	6.6	47	NA	2.22
2/17/1994	6.6	101	NA	0.572
3/14/1994	6.8	77	NA	0.743
4/13/1994	7.1	101	NA	2.71
5/17/1994	7.2	254	NA	0.319
5/31/1994	7.7	435	NA	0.216
6/15/1994	7.8	428	NA	0.532
6/30/1994	7.5	340	NA	0.567
7/12/1994	7.6	322	NA	0.212
7/25/1994	7.6	438	NA	0.659
8/8/1994	7.7	442	NA	0.318
8/22/1994	7.8	339	161	1.1
9/6/1994	7.6	473	NA	0.488
9/19/1994	7.6	479	NA	0.321
10/4/1994	7.9	473	NA	0.437
10/17/1994	7.8	328	NA	0.476
11/2/1994	7.9	342	NA	0.851
11/17/1994	7.9	351	NA	0.358
11/29/1994	7.3	203	NA	0.955
12/28/1994	7.2	274	NA	0.285
1/19/1995	6.9	60	NA	0.462
2/22/1995	7	109	48.5	0.202
3/13/1995	6.9	56	23.8	1.37
9/12/1997	7.6	700	331	0.277
11/21/1997	7.4	714	282	0.25
7/13/1999	7.9	NA	NA	NA
7/13/2000	7.6	396	202.7	0.235
9/1/2000	7.7	NA	NA	NA
9/26/2000	7.5	601	318	0.487
3/13/2001	6.5	75	35.6	0.435
4/10/2001	7.2	258	135	0.22
5/21/2001	7.3	80	28.6	NA
7/24/2001	7.9	813	492	0.079
8/21/2001	7.9	858	536	0.164
9/26/2001	7.8	979	646	0.189
10/22/2001	7.4	1146	723	0.193
11/26/2001	7.6	925	548	0.274
1/9/2002	7.3	857	536	0.186
2/12/2002	7.4	314	179	0.152
3/11/2002	7.3	418	265	0.258
4/8/2002	7.5	489	317	0.233
5/14/2002	7.3	205	114	1.04

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**Table 3.2-1
1ELT0032 Kiah Creek of East Fork of Twelvepole Creek of Ohio River
River Mile 2.9**

Date	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
6/3/2002	7.8	747	NA	0.25
7/1/2002	7.6	1013	NA	0.136
8/6/2002	7.6	993	632	0.15
9/9/2002	7.4	1446	1070	0.264
10/22/2002	7.6	550	333	0.206
11/18/2002	7.3	110	70.8	0.277
1/8/2003	7	122	57.5	0.161
3/17/2003	7	338	204	0.17
5/20/2003	7.3	111	NA	0.34
9/11/2003	7.5	585	NA	0.223
11/3/2003	7.7	NA	NA	NA
1/25/2006	7.2	81	37.1	0.288
2/16/2006	7.8	NA	NA	NA
3/13/2006	7.7	452	287	0.344
4/17/2006	7.3	351	206	0.833
5/9/2006	7.9	NA	NA	NA
5/15/2006	8	872	508	0.138
6/12/2006	8	741	432	0.444
7/11/2006	7.9	NA	NA	NA
8/24/2006	8	NA	NA	NA

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**Table 3.2-2
Rockspring Water Quality Data from Big Laurel Creek Station LIN-04
Mouth of Dalton Fork**

Date	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
10/9/2000	7.75	87	11	0.22
11/7/2000				
12/20/2000	7.35	68	32	0.25
1/17/2001	8.1	167	33	0.28
2/26/2001	6.59	37	29	0.12
3/20/2001	6.72	44	29	0.15
4/18/2001	6.34	55	30	0.14
5/8/2001				
5/23/2001	6.88	38	16	1.27
6/8/2001				
6/18/2001	7.41	82	31	0.53
7/2/2001				
7/23/2001				
8/7/2001				
8/23/2001				
9/10/2001				
9/20/2001				
10/15/2001				
11/16/2001				
12/12/2001				
12/20/2001	7.24	101	14	0.11
1/12/2002				
1/21/2002	7.44	68	32	0.22
2/13/2002				
2/28/2002	7.19	76	1	0.26
3/13/2002				
3/24/2002	6.9	80	24	0.12

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**Table 3.2-3
Rockspring Water Quality Data from Big Laurel Creek Station LIN-05
Big Laurel Creek Upstream of Dalton Fork**

Date	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
10/9/2000	7.8	110	31	0.32
11/7/2000	7.94	254	10	0.22
12/20/2000	6.83	71	33	0.31
1/17/2001	8.1	121	40	0.21
2/26/2001	6.57	37	33	0.18
3/20/2001	6.51	69	21	0.21
4/18/2001	6.33	46	27	0.24
5/8/2001				
5/23/2001	7.0	36	17	0.38
6/8/2001				
6/18/2001	7.14	85	41	0.26
7/2/2001				
7/23/2001	7.04	153	35	0.15
8/7/2001				
8/23/2001				
9/10/2001				
9/20/2001				
10/15/2001	7.09	182	40	0.22
11/16/2001				
12/12/2001				
12/20/2001	7.19	92	25	0.24
1/12/2002				
1/21/2002	7.8	80	29	0.21
2/13/2002				
2/28/2002	7.39	104	25	0.09
3/13/2002				
3/24/2002	6.54	68	21	0.27

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**Table 3.2-4
Rockspring Water Quality Data from Big Laurel Creek Station LIN-03
Mouth of Big Laurel Creek**

Date	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
10/9/2000	7.58	219	15	0.49
11/7/2000	7.74	256	6	0.28
12/20/2000	6.67	135	27	0.98
1/17/2001	8	169	42	0.18
2/26/2001	6.48	49	29	0.16
3/20/2001	6.59	46	25	0.15
4/18/2001	6.25	68	25	0.13
5/8/2001				
5/23/2001	6.8	48	18	0.30
6/8/2001				
6/18/2001	7.38	141	30	0.14
7/2/2001				
7/23/2001	6.9	176	22	1.21
8/7/2001				
8/23/2001	7.55	224	22	2.56
9/10/2001				
9/20/2001	7.42	357	23	0.82
10/15/2001	7	175	3	0.32
11/16/2001				
12/12/2001				
12/20/2001	7.08	138	25	0.16
1/12/2002				
1/21/2002	7.89	100	26	0.24
2/13/2002				
2/28/2002	7.21	96	25	0.23
3/13/2002				
3/24/2002	6.5	92	20	0.14

**Table 3.2-5
Argus Water Quality Data from Kiah Creek Station BM-004**

Month	pH	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)
Apr-95	7.53	121	54.3	0.65
Oct-95	7	551	301	1.22
Apr-96	7.69	205	102	0.44
Oct-96	7.5	158	106	0.28
Apr-97	8.07	357	206	0.31
Oct-97	7.37	1017	553	0.657
Apr-98	7.11	285	170	0.453
Oct-98	7.54	1010		0.506
Apr-99	7.95	473	316	
Oct-99	7.47	788	536	0.791
Apr-00	7.56	210	122	0.34
Oct-00	7.12	1170	756	0.375
Apr-01	7.95	337	192	0.538
Oct-01	7.13	1070	698	0.478
Apr-02	6.9	277	159	0.241
Oct-02	7.46	1250	592	1.02
Apr-03	7.33	326	183	0.942
Oct-03	8.25	722	390	0.381
Apr-04	7.15	349	222	0.239
Oct-04	7.48	723	552	0.39
Apr-05	8.01	336	177	0.246
Oct-05	7.72	97	570	0.383
Apr-06	8.17	298	158	0.278

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**Table 3.4-1
Area Soils Data**

Soil Unit & Symbol	Landscape Position	Parent Material	Texture	Percent Slope	Depth & Drainage	Percent of All Soils in Proposed Lease Area
Beech loam (BeC)	Foot slopes, colluvial fans, coves	Colluvium	Loam to very channery loam	8-15	Very deep & moderately well drained	0.05
Beech loam (BeD)	Foot slopes, colluvial fans, coves	Colluvium	Loam to very channery loam	15-25	Very deep & moderately well drained	0.04
Beech-Urban Land complex (BuC)	Foot slopes, colluvial fans, coves	Colluvium	Loam to very channery loam	3-15	Generally very deep & moderately well drained	0.01
Dekalb-Gilpin complex, very stony (DgF)	Ridgetops & sideslopes	Residuum	Dekalb: very stony sandy loam to very channery sandy loam Gilpin: very stony silt loam to channery silty loam	35-65	Moderately deep & well drained	60.38
Dekalb-Latham complex (DIE)	Ridgetops, benches, & sideslopes	Residuum	Dekalb: very stony sandy loam to very channery sandy loam Latham: silt loam to channery silty clay	25-35	Moderately deep, well drained & moderately well drained	14.32
Dekalb-Pineville-Guyandotte Association, extremely stony (DPG)	Ridgetops, sideslopes, footslopes & coves	Residuum & Colluvium	Dekalb: very stony sandy loam to very channery sandy loam Pineville: Extremely stony loam to Very Channery loam Guyandotte: Extremely channery loam to extremely channery loam	Very steep	Moderately deep and very deep, well drained	0.01
Dormont-Latham complex (DrD)	Ridgetops, benches & sideslopes	Residuum	Dormont: silt loam to channery silty clay Latham: silt loam to very channery silty clay	15-25	Moderately deep and deep, moderately well drained	0.22
Dormont-Latham complex (DrE)	Ridgetops, benches & sideslopes	Residuum	Same	25-35	Moderately deep and deep, moderately well drained	3.63
Grigsby loam (Gw)	Floodplains	Alluvium	Loam to gravelly sandy loam	0-3	Very deep , well drained	1.34
Latham-Gilpin complex (LgC)	Ridgetops, benches, sideslopes	Residuum	Latham: silt loam to channery silty clay Gilpin: very stony silt loam to channery silty loam	8-15	Moderately deep, well drained and moderately well drained	0.77

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**Table 3.4-1
Area Soils Data**

Soil Unit & Symbol	Landscape Position	Parent Material	Texture	Percent Slope	Depth & Drainage	Percent of All Soils in Proposed Lease Area
Latham-Gilpin complex (LgD)	Ridgetops, benches, sideslopes	Residuum	Same	15-25	Moderately deep, well drained and moderately well drained	9.39
Lobdell loam (Lo)	Floodplains	Alluvium	Loam to sandy loam	0-3	Very deep, moderately well drained	0.04
Pineville and Buchanan channery loams (PbE), extremely stony	Lower sideslopes, coves & foot slopes	Colluvium	Pineville: Extremely stony loam to very channery loam Buchanan: extremely stony loam to very channery loam	15-35	Very deep, well drained and moderately well drained	8.31
Udorthents, smoothed (Ud)	Possibly all landscapes	Sediment disturbed by human activity	Not classified	Variable	Shallow to very deep, well drained	1.49

Source: NRCS 2006

Table 3.5-1
Land Cover Classes - State of West Virginia

Cover Type	Mapped Area (ha)	% (of State's area)
Developed Lands	228,956.00	3.6
Major roads	3,015.40	0
Major powerlines	18,856.40	0.3
Light intensity urban	111,044.50	1.8
Moderate intensity urban	31,365.00	0.5
Intensive urban	19,620.60	0.3
Agricultural Lands	987,330.50	15.7
Planted grassland	835.8	0
Conifer plantation	14,015.90	0.2
Row crop agriculture	35,372.50	0.6
Pasture/grassland	937,106.30	14.9
Shrubland/Woodland	131,996.80	2.1
Shrubland	79,610.40	1.3
Woodland	52,386.40	0.8
Forested Lands	4,820,420.50	76.8
Floodplain forest	41,831.60	0.7
Cove hardwood forest	196,461.00	3.1
Diverse/mesophytic hardwood forest	2,382,945.70	38
Hardwood/conifer forest	250,658.60	4
Oak dominant forest	1,263,191.00	20.1
Mountain hardwood forest	653,079.50	10.4
Mountain hardwood/conifer forest	20,805.70	0.3
Mountain conifer forest	11,447.60	0.2
Barren Lands	45,054.10	0.7
Barren land - mining, construction	45,054.10	0.7
Water/Wetlands	106,068.80	1.7
Surface water	85,145.40	1.4
Forested wetland	5,358.30	0.1
Shrub wetland	4,715.40	0.1
Herbaceous wetland	10,849.70	0.2
TOTAL	6,274,772.60	100

Source: *West Virginia GAP Analysis Project* (Strager 2000).

Table 3.5-2
Land Cover Classes - Vegetation Study Area - Proposed Lease Tracts

Landcover Type	Area Square Meters	Area Square Feet	Area Square Miles	Area Acres	% Cover	% of Land Area
Agricultural Lands						
Pasture/grassland	985,009	10,602,504	0.38	243.4	1.6%	1.7%
Forested Lands						
Cove hardwood forest	115,336	1,241,460	0.04	28.5	0.2%	0.2%
Diverse/mesophytic hardwood forest	45,183,737	486,351,756	17.45	11,165.1	72.1%	78.1%
Hardwood/conifer forest	2,263,011	24,358,752	0.87	559.2	3.6%	3.9%
Mountain hardwood forest	396,671	4,269,717	0.15	98.0	0.6%	0.7%
Oak dominant forest	8,747,720	94,159,296	3.38	2,161.6	14.0%	15.1%
Barren Lands						
Barren land - mining, construction	142,855	1,537,668	0.06	35.3	0.2%	0.2%
Urban Lands						
Intensive Urban	20,639	222,156	0.01	5.1	0.03%	0.04%
Light intensity urban	10,522	113,256	0.004	2.6	0.02%	0.02%
Water/Wetlands						
Surface water	4,838,036	52,075,980	1.87	1,195.5	7.7%	
Herbaceous Wetland	405	4,356	>0.001	0.1	>0.001%	>0.001%
TOTAL	62,703,941	674,936,901	24.21	15,494.4	100	100

Notes:

Source: *West Virginia GAP Analysis Project* (Strager 2000).

GIS layer coordinates were shifted 280m North and 70m east from original to match surface water polygons with known coordinates of East Lynn Lake

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**Table 3.8-1
Population Totals 1970-2000**

Region	1970	1980	1990	2000	1970-2000		1990-2000	
					Change	Percent Change	Change	Percent Change
USA	203,211,926 ³	226,545,805 ³	248,709,873 ³	281,421,906 ²	78,209,980	38.5%	32,712,033 ²	13.2% ²
West Virginia	1,744,237 ³	1,949,644 ³	1,793,477 ³	1,808,344 ²	64,107	3.7%	14,867 ²	0.8% ²
Wayne County	37,581 ⁵	46,021 ³	41,636 ⁴	42,903 ¹	5,322	14.2%	1,267	3.0%
Huntington			54,855	51,475 ¹				
Kenova			3,748	3,485 ¹				
Fort Gay				819 ¹				
Ceredo				1,675 ¹				
Town of Wayne Zip Code 25570	1,385 ⁵		1,128 ⁴	1,105 ¹	-280	-20.2%	-23	-2.0%
East Lynn Zip Code 25512				1,752 ¹				
Genoa Zip Code 25517				1,703 ¹				
Dunlow Zip Code 25511				1,105 ¹				
Cove Gap and Kiahsville Zip Code 22534				314 ¹				

¹U.S. Census Bureau 2007a,b

²U.S. Census Bureau 2001

³U.S. Census Bureau 1995

⁴U.S. Census Bureau 1990

⁵U.S. Census Bureau 1970

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**Table 3.8-13
State Mineral Severance Tax Distribution, 2003, 2005, and 2006**

Recipient Government Level	Year		
	2003 ¹	2005 ²	2006 ³
West Virginia			
West Virginia's Estimated Coal Production Value	NA	\$6,500,000,000	\$6,060,000,000
West Virginia's Estimated Coal Severance Tax	\$214,141,118	\$280,000,000	\$386,000,000
Collected Severance Tax Apportioned to 55 Counties and 230 Incorporated Municipalities (7 Percent of West Virginia's Estimated Coal Severance Tax)	\$14,989,878	\$23,185,526	\$25,438,861
<i>Revenue for Counties that Produce Coal</i>	<i>\$11,242,409</i>	<i>\$17,389,144</i>	<i>\$18,992,932</i>
Wayne County			
Revenue for Unincorporated Municipalities in Wayne County	\$65,688	\$101,613	\$110,955
Revenue for Wayne County, a County that Produces Coal	<u>\$298,490</u>	<u>\$307,426</u>	<u>\$252,603</u>
<i>Subtotal: Revenue for Wayne County</i>	<i>\$364,177</i>	<i>\$409,039</i>	<i>\$363,558</i>
Municipalities in Wayne County			
Revenue for Incorporated Municipalities in Wayne County			
Wayne	\$2,290	\$3,542	\$3,869
Kenova	\$7,221	\$11,171	\$12,201
Ceredo	\$3,471	\$5,369	\$5,865
Fort Gay	\$1,697	\$2,625	\$2,867
<i>Subtotal: Revenue for Incorporated Municipalities in Wayne County</i>	<i>\$14,679</i>	<i>\$22,707</i>	<i>\$24,801</i>
Total: Wayne County and its Incorporated Municipalities	\$378,856	\$431,745	\$388,359

Notes: NA = not available All dollar values are given as reported by the WVCA, unadjusted for inflation

Sources: All data obtained from the West Virginia Coal Association (WVCA)

¹ WVCA 2007b

² WVCA 2006

³ WVCA 2007a

**Table 3.13-1
Air Pollutant Point Source Locations and Emission Rates
Wayne County, West Virginia**

Approximate Distance from Centroid of Proposed Lease Area		Facility Name	Map ID	1999 Emissions by Pollutant ^a (TPY)					
(miles)	(km)			CO	NOx	VOC	SO ₂	PM _{2.5}	PM ₁₀
4.6	7.4	Argus Preparation Plant	15					3.5	7.3
4.7	7.5	Rockspring Development, Inc.	3					6.9	47.9
7.3	11.7	Mountain Enterprises, Inc.–Kenova	14	19.4	3.0	1.0	0.3	2.9	5.9
11.9	19.2	Wayne Compressor Station	9	14.6	99.6	47.8	0.02	0.02	0.02
15.2	24.5	Mark Plant–Spartan Mining Company	1					0.8	2.1
15.5	24.9	Beech Fork Compressor Station	6	18.9	266.3	14.2	0.04	0.02	0.02
20.2	32.5	Big Sandy River Dock	16					0.7	1.3
20.9	33.7	Wayne County River Terminals(Cyrus)	11					5.8	13.5
22.4	36.0	Docks Creek Terminal	10					7.9	17.5
22.5	36.2	Columbia Gas–Ceredo CS	7	181.6	1890.6	46.5	0.5	30.4	30.4
23.0	37.1	Huntington Va Medical Center	2	3.9	5.1	0.5	0.4	1.4	1.5
23.7	38.1	Aristech Chemical Corporation-Neal Plant	5	61.0	71.1	19.8	253.0	0.4	0.4
24.5	39.4	Ashland Chemical Company	4	414.6	0.3	40.3	6.4	0.5	0.6
24.5	39.5	Columbia Gas–Kenova CS	8	262.1	1050.5	36.5	0.3	18.9	18.9
24.6	39.5	Hunington Sanitary Board	20	58.6	13.9	0.002	9.5	0.1	0.4
24.6	39.6	Markwest Hydrocarbon, Inc.	19	17.0	34.5	17.5	0.1	0.01	0.01
24.6	39.6	American National Rubber Company	12	2.4	2.9	33.9	0.02	0.9	0.9
24.8	39.9	Ceredo Dock	18					1.0	2.3
26.1	42.0	Marathon Ashland Petroleum	13			15.3			
26.2	42.1	Kenova Chemical dba Willert Home Product	17			1.6			
26.3	42.3	Marathon Ashland Petroleum LLC	21			57.1			

Notes:

Locations are shown on figure 3.13-1.

^a EPA, 1999, Air_Point Pollution Sources_Wayne County, www.epa.gov/air/data

CO = Carbon Monoxide; NOx = Nitrogen Oxides; VOC = Volatile Organic Compounds; SO₂ = Sulfur Dioxide

PM_{2.5} = Particulate matter (PM) with aerodynamic diameters less than or equal to 2.5 microns

PM₁₀ = PM with aerodynamic diameters less than or equal to 10 microns

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**Table 3.14-1
Sound Sample Results**

Date	Time	Location	Sample ID	Reading		Percentile (dBA)				
				dBA	1%	10%	50%	90%	95%	99%
March 29, 2007	7:00 AM	CALIBRATION IN VEHICLE 2nd Street, east of Route 37, Wayne, WV - parking lot east of Sunoco gasoline station	STOR1	113.1	N/A	N/A	N/A	N/A	N/A	N/A
March 29, 2007	7:15 AM	2nd Street, east of Route 37, Wayne, WV - parking lot east of Sunoco gasoline station	STOR2	61.1	69.2	64.7	58.0	51.5	51.1	50.6
March 29, 2007	7:45 AM	East Lynn grocery store - northeast corner of parking lot - roosters crowing (approx 80 dB at distance of 15 feet from source) other birds chirping	STOR3	64.7	79.7	67.9	49.6	45.0	44.0	42.3
March 29, 2007	8:00 AM	USACE East Lynn Lake Project Shelter 3 north of dam - parking lot east of pavillion - Route 37 highway noise approximately 5 dB over background	STOR4	47.6	54.7	50.8	45.7	43.2	42.9	42.5
March 29, 2007	9:10 AM	USACE East Lynn Lake Project - unpaved road southeast of lake - airplane passed overhead at approximately 1:25 minutes and 3:00 minutes	STOR5	40.1	48.3	44.5	38.7	36.8	36.5	36.1
March 29, 2007	9:50 AM	Rockspring Development Inc. Ben Haley Branch mine portal guard shack - ventilation fan on surface	STOR6	63.0	66.3	65.0	62.6	60.4	60.0	59.5
March 29, 2007	10:00 AM	CALIBRATION IN VEHICLE Route 37 north of East Lynn, WV	STOR7	94.3	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

dBA = decibels

Sample locations are shown on figure 3.14-1.

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**Table 5.2-1
Recipients of the East Lynn Lake Coal Lease DLUA/DEIS**

FEDERAL AGENCIES	
<p>U.S. Army Corps of Engineers—Huntington, WV Jim Allman, Engineer, Technical Support</p>	<p>U.S. Environmental Protection Agency—Region 3 Philadelphia, PA Jennifer Sincock, West Virginia TMDL</p>
<p>U.S. Army Corps of Engineers—Huntington, WV Brian Ball</p>	<p>U.S. Environmental Protection Agency—Region 3 Wheeling, WV Frank Borsuk, Aquatic/Fisheries Biologist</p>
<p>U.S. Army Corps of Engineers—Huntington, WV John Preston, Ecologist, Planning Division</p>	<p>Federal Depository Library System—Government Printing Office</p>
<p>U.S. Army Corps of Engineers—Huntington, WV Mike Smith, Resource Manager, East Lynn Lake</p>	<p>U.S. Fish and Wildlife Service—Arlington, VA Division of Environmental Quality Stephanie Nash</p>
<p>U.S. Army Corps of Engineers—Huntington, WV Mike Spoor, Physical Scientist</p>	<p>U.S. Fish and Wildlife Service, West Virginia Field Office—Elkins, WV Christy Johnson-Hughes, Biologist</p>
<p>U.S. Department of Energy—Grand Junction Office</p>	<p>U.S. Fish and Wildlife Service, West Virginia Thomas Chapman, Field Office Supervisor</p>
<p>U.S. Department of Energy—Washington, DC Office of Environmental Compliance</p>	<p>U.S. Geological Survey—Reston, VA Environmental Affairs Program</p>
<p>U.S. Department of the Interior—Washington, DC Office of Environmental Policy and Compliance Gwen Wilder</p>	<p>U.S. Geological Survey—Reston, VA Lloyd Woosley</p>
<p>U.S. Department of the Interior—Washington, DC Natural Resources Library</p>	<p>Minerals Management Service Environmental Division—Herndon, VA James F. Bennett</p>
<p>U.S. Department of the Interior —Washington, DC Pearl Young, EIS Filing Section</p>	<p>U.S. Office of Surface Mining—Charleston, WV Roger Calhoun, Field Office Director</p>
<p>U.S. Environmental Protection Agency—Region 3 Philadelphia, PA Ed Ambrogio, Deputy Director Office of State and Watershed Partnerships</p>	<p>U. S. Office of Surface Mining—Charleston, WV Dennis Boyles</p>
<p>U.S. Environmental Protection Agency—Region 3 Philadelphia, PA William Arguto</p>	<p>U. S. Office of Surface Mining—Knoxville, TN Jeff Coker, Senior Physical Scientist</p>
<p>U.S. Environmental Protection Agency—Region 3 Philadelphia, PA Jessica Martinsen</p>	<p>U. S. Office of Surface Mining—Knoxville, TN Gerald Waddle, Reclamation and Enforcement</p>
	<p>U. S. Office of Surface Mining—Washington, DC Vernell Davis</p>

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**Table 5.2-1
Recipients of the East Lynn Lake Coal Lease DLUA/DEIS**

Bureau of Land Management	
BLM Washington DC Office Mitch Leverette	West Virginia Department of Environmental Protection—Charleston, WV Stephanie Timmermeyer, Office of the Secretary
BLM Washington DC Office Carol Anne Murray	West Virginia Department of Health and Human Resources Office, Wayne County
BLM Washington DC Office Rob Winthrop	West Virginia Department of Transportation—Charleston, WV Paul A. Mattox, Secretary of Transportation
BLM Eastern States Office—Springfield, VA Frank Martin	West Virginia Division of Culture and History —Charleston, WV Randall Reid-Smith, Commissioner
BLM Division of Resource Services—Denver, CO Scott Archer, Senior Air Resource Specialist	West Virginia Division of Forestry
BLM Division of Resource Services—Denver, CO Paul Summers, Hydrologist	West Virginia Division of Natural Resources
BLM Division of Resource Services—Denver, CO Bill Ypsilantis, Senior Soil Condition & Health Specialist	West Virginia Division of Natural Resources—Charleston, WV Office of the Executive Secretary Frank Jezioro, Director
BLM Jackson Field Office —Jackson, MS Stuart Grange	West Virginia Division of Natural Resources—Elkins, WV Rodger Anderson, Biologist
	West Virginia Division of Natural Resources—Elkins, WV Barbara Sargent, Environmental Resource Specialist
	West Virginia Division of Natural Resources—Pleasant, WV Tom Dotson, District Wildlife Biologist
	West Virginia Division of Natural Resources—Logan, WV Randy Kelley, Biologist
	West Virginia Division of Natural Resources Parks and Recreation— Charleston, WV Kenneth Caplinger, Acting Chief
	West Virginia Department of Transportation
	West Virginia Economic Development Authority—Charleston, WV
	West Virginia Historical Society—Charleston, WV
	West Virginia State Historic Preservation Office —Charleston, WV Lora Lamarre, Senior Archaeologist
	West Virginia State Police—Wayne, WV
STATE AGENCIES	
West Virginia Economic Development Authority	
West Virginia Department of Environmental Protection	
West Virginia Department of Environmental Protection Division of Mining & Reclamation, Region 5—Logan, WV	
West Virginia Department of Environmental Protection Div Mining and Reclamation—Charleston, WV Randy Huffman, Director	
West Virginia Department of Environmental Protection Scott Eggerud	

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STATE AGENCIES, continued	
West Virginia State Tax Department Virgil Helton, State Tax Commissioner	Wayne County Mapping Department Matthew Strogen
West Virginia State Treasurer's Office—Charleston, WV John Perdue, State Treasurer	Wayne County Road Department Dave Vaughan
Workforce West Virginia—Charleston, WV Research Information and Analysis	Wayne County Sheriff's Office—Wayne, WV
	Wayne County Solid Waste Authority
	Wayne County Superintendent of Schools
	Wayne County Tax Office
	Wayne Volunteer Fire Department
CITY AND COUNTY GOVERNMENTS	ELECTED REPRESENTATIVES
County Heritage Farm Museum and Village—Huntington, WV	Senator Robert Byrd
East Lynn Volunteer Fire Department	Governor Joe Manchin, III
Town of Wayne Mayor James Ramey, Jr. III	Representative Nick Rahall, II Member of Congress, 3rd District, WV
Town of Wayne Supervisor	Senator Jay Rockefeller
Wayne County Assessor	PUBLIC LIBRARIES
Wayne County Commission Building Permits & Floodplain Administrator Randy Fry	Wayne County Public Library, Wayne WV
Wayne County Clerk-Finance Office	Library of Congress
Wayne County Commission Brett Jones, Commissioner	
Wayne County Commission Charles Sammons, Commissioner	
Wayne County Community Services	
Wayne County Economic Development Authority	
Wayne County Health Department	
Wayne County Human Service Department	

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BUSINESSES, NEWS AGENCIES, AND UNIVERSITIES	
Akers Magnetite, Inc.—Ceredo, WV Randall Akers, President	GTE West Virginia—Wayne, WV
American Electric Power—Huntington, WV Larry Lucas	The Herald-Dispatch, Huntington, WV
B & M Repair Inc.—West Logan, WV John Hainer, Vice President	J.C. & J. Trucking, LLC—Harts, WV Jamie and Joe Blair, Member/Owner
Bill's Electronics, Inc.—Charleston, WV Mark Dempsey, VP of External Affairs WV	Lakeside Marina—Indianapolis, IN
Bill's Electronics, Inc.—Logan, WV Bill Browning, President	Laurel Creek Company—East Lynn, WV
Booton Realty—Lavalette, WV Jim Booton	Lost Creek Land Company—Charleston, WV Larry George
Cabot Oil and Gas Corporation—Charleston, WV	Marshall University—Huntington, WV
Chase Bank, Wayne, WV	Pen Coal Corporation—Dunlow, WV
City National Bank, Wayne, WV	Prestera Center, Wayne, WV
Columbia Gas Transmission Corporation—Charleston, WV	Russell Realty—Lavalette, WV Fred & Flora Russell
Columbia Natural Resources—Charleston, WV	The State Journal—Charleston, WV
Consumers Gas Utility Company—Huntington, WV	Tri-State Medical Center—Wayne, WV John Pellagrini
Copley Contracting Inc.—Fort Gray, WV Grover Copley, Owner	Tri-State Medical Center—Wayne, WV Kristi Robertson
Cranberry Pipeline Corporation—Charleston, WV	Wayne County News—Wayne, WV
Cultural Resource Analysts, Inc.—Hurricane, WV Michael Anslinger, Vice President of Operations	West Virginia University—Morgantown, WV
Dunlow Emergency Rescue & EMS—Dunlow, WV Patricia Beckett, Deputy Chief	West Virginia University—Morgantown, WV Sociology Department
Financial Planning Associates, LLC—Pompton Lakes, NJ Robert S. Morse, MBA, RFC President	
Free Will Baptist—Harts, WV Dennis Fillinger, Pastor	

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NATIVE AMERICAN TRIBES	
Absentee Shawnee Tribe of Oklahoma—Shawnee, OK Larry Nuckolls, Governor	Nature Conservancy—Elkins, WV Thomas Minney, Conservation Programs Director
Cherokee Nation—Tahlequah, OK Chadwick Smith, Principal Chief	Ohio Valley Environmental Coalition—Huntington, WV Janet Fout
The Delaware Nation—Anadarko, OK Edgar French, President	The Salvation Army—Huntington, WV
Eastern Band of Cherokee Indians—Cherokee, NC Michell Hicks, Principal Chief	Sierra Club, West Virginia Office—Morgantown, WV
Eastern Shawnee Tribe of Oklahoma—Seneca, MO Charles Enyart, Chief	Team for West Virginia Children—Wayne, WV
Shawnee Tribe—Miami, OK Ron Sparkman, Chairman	Trout Unlimited—Arlington, VA Brian Moore
United Keetoowah Band of Cherokee—Tahlequah, OK George Wickliffe, Chief	Trout Unlimited—Elkview, WV Larry Orr, Chair
	Trout Unlimited—Lavalette, WV Todd Trimboli, President, KYOVA Chapter (Huntington Area)
	Trout Unlimited—Middlebourne, WV Frank Slider, Mountaineer Chapter
	West Virginia Highlands Conservancy—Kerens, WV Hugh Rogers, President
	West Virginia Citizen Action Group—Charleston, WV Norm Steenstra
	West Virginia Coal Association Jason Bostic
	West Virginia Native Plant Society—New Haven, WV
	West Virginia Wildlife Federation, Region V—Cross Lanes, WV Charlie Nichols, Director
	West Virginia Wildlife Federation—Paden City, WV
GROUPS	
Tri-State Native Plant Society (Huntington) Jeff Patton	
American Red Cross, Cabell Co.—Huntington, WV	
Brooks Bird Club and WV Highlands Conservancy—Red House, WV Cynthia D. Ellis	
Defenders of Wildlife Aviva Horrow	
Ducks Unlimited, Huntington, WV Brian Galigan	
Huntington Area Development Council—Huntington, WV	
Huntington Board of Realtors—Huntington, WV	
Huntington Regional Chamber of Commerce—Huntington, WV	
Nature Conservancy West Virginia Field Office—Elkins, WV Rodney Bartgis, State Director, West Virginia Field Office	

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INDIVIDUALS	
Joseph Adams—Pecks Mill, WV	Mike Smith—Lavallette, WV
Linda Pack Adkins—Cleveland, OH	Matt Spoon—Durham, NC
Marvin and Roberta Adkins—Wayne, WV	Joe Stanley—Prichard, WV
Cyndi Bolt—Wayne, WV	Tonna and Morgan Vanderpool—Kenova, WV
Vernon Bradley—Chapmanville, WV	Steven Vernick—East Lynn, WV
Donald and Billie Browning—Fort Gay, WV	
Beth and Shawn Cade—Wayne, WV	APPLICANTS
Delano Davis—Wayne, WV	Argus Energy WV, LLC—Dunlow, WV Randall Maggard, Manager of Environmental Compliance
Brad Franklin, Sales Engineer—Neon, KY	Argus Energy WV, LLC—Dunlow, WV Bruce Short, General Manager
Ronald Gibson—Man, WV	Argus Energy WV, LLC— Pecks Mill, WV French Burke, Electrician
Ralph Gibson—Man, WV	Foundation Coal—Waynesburg, PA Larry Emerson, Environmental Manager
Benton Harless—Inez, KY	Foundation Coal—Waynesburg, PA Johnnie Greene, Director - Environmental Affairs
Jeremy Harless—Ranger, WV	Foundation Coal—Waynesburg, PA Scott Peterson, Chief Geologist
Patricia Jackson—Milton, WV	Rockspring Development Inc.—Charleston, WV George Smith, Manager
Rachael Johnson—Dunlow, WV	Rockspring Development Inc.—East Lynn, WV Mark Schuerger, Engineering VP
Della Lilly—Huntington, WV	Rockspring Development Inc.—Charleston, WV Jeff Ellis, President
J. Elaine and Ron Martino—Proctorville, OH	Rockspring Development Inc.—Charleston, WV Greg Hall, Environmental Engineer
Buster T. Maynard—Dunlow, WV	
Julian Mullins—Dunlow, WV	
James Osburn—Genoa, WV	
Malchom and Patty Parsons—Genoa, WV	
Sara Pennington—Hindman, KY	
Russel Perry, Retired Miner—Dunlow, WV	
Sam Sheperd—Wayne, WV	

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