



ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Coal Mining and Reclamation ePermit

Coal Permit

Site Name	1239
Permit ID	424
Application Type	Insignificant Permit Revision
Application Number	IPR1
Permit Status	Technical Review
Document Created	12/18/2024

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1239-DEER RUN 424 - Insignificant Permit Revision/IPR1

1.1 General Information

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.1.1 Permit Description [1780.11/1784.11]

Use the text box to describe in detail the proposed activities of the permit request being submitted.

The purpose of the Insignificant Permit Revision ("IPR") is to allow for the beneficial use of Coal Combustion By-Product ("CCB") (e.g. fly ash, bottom ash, scrubber sludge, etc.) as a beneficial product for RDA No. 2 at Hillsboro Energy, LLC's Deer Run Mine.

1.1.2 Document Verification [1778.15; 1778.18]

Use the document uploader to attach all supporting documentation required for submittal.

Such documentation may include:

- ✓ Underground Slurry Disposal Affidavit
- ✓ Underground Mining Affidavit
- ✓ Public Lands Survey Monuments Certification
- ✓ Planned Subsidence Affidavit
- ✓ Engineering Certifications
- ✓ Technical Data Information Sheet
- ✓ Riprap Certification
- ✓ Insurance Certification

Attachments

Name	Date Uploaded	User
EngineeringCertification.pdf	12/18/2024	Clayton Cross

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1.2 CONTACT INFORMATION [1178.13(a)and(b)]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.2.1 Applicant

Name	Phone	Email
Clayton Cross Hillsboro Energy, LLC	(217) 532-7310	ccross@foresight.com

APPLICANT ADDITIONAL INFORMATION

Legal Entity

Corporation

Who will be the operator at the permit site?
 Applicant Contract Operator

Who will pay Abandoned Mine Reclamation fees?
 Applicant Contract Operator Other Entity

1.2.2 Resident Agent

Name	Phone	Email
Clayton Cross Corporation Service Company (866) 403-5272 ccross@foresight.com		

1.2.3 Operator

Name Phone Email

1.2.4 Other Entity

Name Phone Email

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1.3 Acreage and TimeTable

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.3.1 Permit Acreage [1780.11/1784.11]

Use the table to provide the information requested.

Name/Pit or Portal#	Disturbance Type	County	Sec(s)	Twp	Range	Acres
						Total Acres .00

ACREAGE TOTALS

DISTURBANCE TYPE	TOTAL ACRES
Surface Mined Areas	.00
Support & Processing Areas	.00
Unaffected Areas	.00
Total Permitted Acres	.00
Shadow Areas	.00

1.3.2 Future Permits [1778.17(a), 1779.24(c)]

Use the text box to provide a general statement of future permitting actions for the mine and distances from the proposed permit.

- ✓ Locate these areas on the Pre-Mining Land Use Map.

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1.4 Ownership And Control

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.4.1 Owners And Controllers [1778.9; 1778.12(c) and (d); 1773.5]

Ownership or control is evidenced by:

- ✓ Ownership or control is evidenced by:
- ✓ Being a permittee of a surface coal mining operation; or
- ✓ Based on instruments of ownership or voting securities, owning of record in excess of fifty (50) percent of an entity; or
- ✓ Having any other relationship which gives one person authority directly or indirectly to determine the manner in which an applicant, an operator, or any other entity conducts surface mining operations.
- ✓ Owning or controlling coal to be mined by another person under a lease, sublease or other contract and having the right to receive such coal after mining or having authority to determine the manner in which that person or another person conducts a surface coal mining operation.

Use the document uploader to provide the required documents, in PDF format:

A certification that the Applicant Violator System (AVS) is correct.

- ✓ Must be a signed, written affidavit, sworn or affirmed under oath; and
- ✓ certifying that all information in the AVS is accurate, complete and up to date.

OR

If part of the information in AVS is missing or incorrect, submit a correction statement

- ✓ Must be a signed, written affidavit, sworn or affirmed under oath;
- ✓ attaching any missing information or corrections to the AVS; and
- ✓ certifying that this new information to be entered is accurate, complete and up to date

OR

If the applicant can neither certify that the data in AVS is accurate and complete nor make needed corrections, complete and upload Table 1.4.1: Ownership And Control as one PDF document.

- ✓ Identify all Owners and Controllers of the applicant.
- ✓ Separate tables shall be provided for each entity or individual deemed to be an owner/controller of the applicant.

Name Date Uploaded User

1.4.2 Mining Operations [1778.13(f),(g), and (h)]

Complete and Upload Table 1.4.2: Mining Operations as one PDF document to identify:

- ✓ All pending applications for other proposed surface coal mining operations filed in the United States for the applicant and the operator, and
- ✓ All surface coal mining operations that either the applicant, its officers, directors and partners/shareholders, or the operator and its officers, directors and partners/shareholders owned or controlled within the five years preceding the date of this application.
- ✓ Complete for the applicant and each owner/controller identified in Question 1.4.1

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1.5 Violation History

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.5.1 Suspension and Revocations and Bond Forfeitures [1778.14(a) and (b)]

Has the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant, and Federal, State, or Tribal coal mining permit suspended or revoked in the last five (5) years preceding the date of submission of the application?

Yes No

Has the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant, had forfeited a performance bond or similar security deposited in lieu of bond?

Yes No

1.5.2 Applicant Violations [1778.14(c)]

Complete and Upload Table 1.5.2: Applicant Violations.

Attachments

Name Date Uploaded User

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1.6 Property Ownership:Surface and Subsurface

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.6.1 Identification of Interest Map [1779.24(a) and (b)/ 1783.24(a) and (b)]

Upload the Identification of Interests Map below using the Map Uploader.

The map shall contain:

- ✓ all boundaries of lands and names of present owners of record (legal, equitable, leasehold, purchaser of record under a real estate contract) of those lands, both surface and subsurface, included in or contiguous to the permit area;
- ✓ the boundaries of land within the proposed permit area upon which the applicant has the legal right to enter and begin surface mining activities.
- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

1.6.2 Property Ownership Within Permit Area [1778.15(a), (b), and (c)]

Use the document uploader to provide the following information for each property interest owner included on the Identification of Interests Map:

Complete and Upload Table 1.6.2: Property Ownership Within Permit Areas as one PDF document.

- ✓ each legal or equitable owner of record within the proposed permit boundaries;
- ✓ each holder of leasehold interest within the proposed permit boundaries, and
- ✓ any purchaser of record under a real estate contract for the surface and mineral property within the proposed permit boundaries.

AND

If the proposed permit is for a surface mine where the private mineral estate has been severed from the private surface estate, use the document uploader to attach the following in PDF format:

- ✓ The written consent of the surface owner to the extraction of coal by surface mining methods; or
- ✓ The conveyance that expressly grants or reserves the right to extract the coal by surface mining methods; or
- ✓ If the conveyance does not expressly grant the right to extract the coal by surface mining methods, provide the Department with documentation that, under the applicable State law, the applicant has the legal suthority to extract the coal by surface mining methods.

Attachments

Name Date Uploaded User

1.6.3 Property Ownership Contiguous to the Permit Area [1778.15(a)(2)]

Complete and Upload Table 1.6.3: Property Ownership Contiguous to the Permit Area as one PDF document.

- ✓ For all property (surface and subsurface) contiguous to the permit area described in the application and shown on the Identification of Interests Map.
- ✓ Within Table 1.6.2 Property Ownership Within Permit Area, the applicant shall indicate all lands, interest in lands, options, or pending bids on interests, that are held or made by the applicant, for the lands contiguous to the permit area.

Attachments

Name Date Uploaded User

1.6.3.1 Interest in Contiguous Property

Does the applicant have an interest in any lands, options or pending bids on interest for lands which are contiguous to the proposed permit area?

Yes No

1.6.3.2 Confidential Information

Does the applicant wish any of the above information to be held confidential?

Yes No

1.6.4 Uncontrolled Interests [1778.15(a), (b), and (c); Op Memo 2011-01]

Is there any uncontrolled property within the proposed permit boundaries as indicated in Table 1.6.2?

Yes No

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1.7 MINE SAFETY HEALTH ADMINISTRATION (MSHA) [1778.15(a)(4)]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Are there MSHA structures located within the proposed boundaries?

Yes No

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1.8 Draft Public Notice

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

1.8 Draft Public Notice [1773.13]

- ✓ Use the text box to provide the name of the Newspaper.
- ✓ Use the document uploader to attach the Draft Public Notice.

Attachments

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2.1 Pre-Mining Land Use

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

2.1.1 Pre-Mining Land Use Map

Upload the Pre-Mining Land Use Map using the Map Uploader and provide information requested for Part 2.

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

2.1.2 Pre-Mining Land Use / Soil Capability Acreages [1780.23/1784.15]

Complete and Upload all 2.1.2 Tables.

[2.1.2 Pre-Mining Land Use / Soil Capability] and [2.1.2 Grand Total: Pre-Mining Land Use/ Soil Capability Summary] and any documentation required using the guidelines provided below.

- ✓ Provide the acreage and capability of each land use within the proposed permit area, employing only land use categories of Section 1701.Appendix A, the “fish and wildlife” land use category must be subdivided into appropriate subcategories. See Operator Memorandum located in the Help Tab (?). Use only these land uses for completing the land use maps.
- ✓ The information in Table [2.1.2 Pre-Mining Land Use / Soil Capability] shall be broken down with a separate table for each landowner.

Attachments

Name Date Uploaded User

2.1.3 Previous Mining Activity [1816.133/1817.133]

For any proposed surface coal mining and reclamation operation, has previous mining activity, including active, inactive or abandoned underground mine workings, along with any mine opening to the surface, occurred within the permit and/or adjacent area?

Yes No

2.1.3.1 Land Use Before Mining [1780.23(a)(1)/1784.15(a)(1)]

Use the text box to identify the land uses preceding any type of mining if known.

[Empty text box]

2.1.4 Local and County Zoning

Is any of the permit area subject to local or county zoning?

- Yes
- No

2.1.5 Land Use Changes [1780.23(a)(1)/1784.15(a)(1)]

Use the text box to indicate any changes of land use and acreage changes within the last (5) years.

- ✓ If any of the land uses changed within the last five (5) years, use the text box to indicate the acreage and changes of land usage.
- ✓ If not applicable to this permitting action, indicate "Not Applicable" in the text box.

[Empty text box]

2.1.6 Oil and Gas Well Information [1779.24(e)/1783.24(e)]

Provide the location of surface and subsurface man-made features within, passing through, or passing over the proposed permit area on the Pre-Mining Land Use Map. Such features should include, but are not limited to, major electric transmission lines, pipelines, agricultural drainage tile fields, gas and oil wells, and water wells. For gas, oil, and water wells provide the depth, if available, of the well in Table 2.1.6: Oil and Gas Well Information [1779.24(e)/1783.24(e)].

Attachments

Name	Date	Uploaded	User
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2.2 Pre-Mining Soils Information

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

2.2.1 Land Capability, Productivity & Web Soil Survey [1779.21/1783.21]

The applicant is strongly recommended to use the [USDA Web Soil Survey](#). The web soil survey has the ability to create a Custom Soil Survey report for the application area which will generate many of the information requirements for pre-mining soils and prime farmland

restoration plans which may reference this report. Please note there are extra soil data tables, including Land Classification, Non-irrigated Capability Class, and Vegetation Productivity, and the data from the Soil Property and Qualities tab which must specifically be extracted when creating a custom report.

NOTE: The acreage of the Area of Interest must agree with the permit acreage.

NOTE: This report may be referenced in responding to portions of the required soil information.

The applicant is required to submit one or both of the following items:

Land Capability and Productivity Narrative

- ✓ Use the text box and/or document uploader to provide a narrative of land capability and productivity of the proposed permit area.
- ✓ The narrative shall employ the USDA National Resources Conservation Service's Land-Capability Classification (Agriculture Handbook No. 210) in conjunction with the soil information provided under the published soil survey when completing Question 2.2.7. Optimum levels management productivity information may be found in [Bulletin 811](#).
- ✓ *NOTE: This bulletin has periodic updates in a supplemental table.*
- ✓ All documents should be uploaded as PDF format.

USDA Web Soil Survey

- ✓ Use the document uploader to attach the USDA Web Soil Survey. (Optional)
- ✓ All documents should be uploaded as PDF format.

Attachments

Name	Date Uploaded	User

2.2.2 Soils Map [1779.21/1783.21]

Use the map uploader to submit a Soils Map including the following information:

- ✓ The scale of the Soil Map must be the same scale as the Pre-Mining Land Use Map and Post-Mining Land Use / Soil Capability Reclamation Map, unless otherwise approved by the Department.
- ✓ For surface mines, delineate the area which will incur actual mining (removal of overburden and/or deposition of overburden for the extraction of coal). Identify any areas proposed to remain undisturbed.
- ✓ For underground mines, identify any areas proposed to remain undisturbed.

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

2.2.2.1 Soil Map Details

Does the submitted Soils Map represent a map developed by the National Resources Conservation Services (NRCS)?

Yes No

2.2.3 NRCS Prime Farmland Criteria [1785.17/1823.11]

Are any of the identified map units correlated as prime farmland by NRCS criteria?

Yes No

2.2.4 Topsoil Thickness [1779.21/1783.21]

Use the text boxes to provide the average topsoil thickness of each of the Soil Map units to be affected.

- ✓ For surface mines where topsoil thickness information is collected in the field, the average of the collected samples for each capability class satisfies this requirement.
- ✓ For underground mines and associated boundary revisions where the Department allows the use of the Web Soil Survey topsoil thickness in lieu of field sampling, the applicant shall provide a weighted average of the topsoil thickness of each soil map unit within each capability class.

- Limited capability inches
- High capability inches
- Prime Farmland inches

Use the text box to provide the average and methodology for determining the pre-mining topsoil thickness.

2.2.5 B And C Horizons [178.18(b)(4)/1784.12(b)(4)]

Use the text box and/or document uploader to provide the following:

- ✓ Provide a list of the soil types and acreages of areas that will require the B and/or portions of the C horizon to be removed and replaced in order to establish the root medium necessary to achieve soil productivity consistent with the proposed post-mining land use.

- ✓ Alternatively, a narrative description explaining why specific soil type acres information for reclamation plan achievement is not necessary may be provided.
- ✓ If the required discussion/narrative is located in documents uploaded in Question 2.2.1, indicate in the text box below.

Attachments

Name	Date Uploaded	User

2.2.6 Topsoil Substitution Material [1779.21(b)/1783.21(b); 1780.14/1784.23]

Are selected overburden materials proposed to be used in lieu of or as a supplement to the A-horizon?

- Yes No

2.2.7 Soils Information Chart [1779.21(a)/1783.21(a); 1785.17]

Complete and Upload Table 2.2.7: Soils Information Chart including the following:

- ✓ Provide the acreage for each of the map units (soil type and slope classification) of prime farmland, high capability (include grandfathered and negatively determined prime farmland) and limited capability land with respect to areas within the permit area.
- ✓ All soils previously disturbed by home sites, farmsteads, roads, etc., shall be tabulated as limited capability and need not undergo a negative determination.
- ✓ The Soil Information Chart must be broken out by landowner, if there is more than one.
- ✓ If applicable, quantify map unit’s acreage values for areas which will not be disturbed.

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2.3 Limited or Prohibited Mining

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

2.3 Limited or Prohibited Mining [1761.11(c)(d)(e)(f)(g)]

Complete and upload Table 2.3: Limited or Prohibited Mining.

- ✓ Include the location of each occupied dwelling, public building, school, church, community/institutional building, public park, cemeteries, public road identified in the responses to the following questions.
- ✓ Indicate if a buffer zone will be in effect or if a waiver is obtained.

Attachments

Name Date Uploaded User

2.3.1 Limited or Prohibited Mining Areas [1773.15(c)(3)]

Does the proposed permit area include areas designated unsuitable for surface coal mining and reclamation operations or areas under study for designation in an administrative proceeding as unsuitable for surface coal mining and reclamation operations?

Yes No

2.3.2 Department of Interior Systems [1761.11(a)]

Does the proposed permit area include lands within boundaries of the National Park System, National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, the Wild and Scenic Rivers System, and National Recreation Areas, etc.?

Yes No

2.3.3 National Forests [1761.11(b)]

Does the proposed permit area include Federal lands within the boundaries of any national forest?

Yes No

2.3.4 Public Parks & NRHP [1761.11(c)]

Are there any publicly owned parks or any places included in the National Register of Historic Places within the proposed permit area or within 1,000 feet of the proposed permit area?

Yes No

2.3.5 Public Roads Right-of-Way [1761.11(d)]

Complete and upload Table 2.3.5: Public Roads Right-Of-Way.

- ✓ Provide all right-of-way distances for all public roads within 200 feet of the proposed permit area boundaries and within 200 feet of any proposed surface coal mining

operations.

Attachments

Name Date Uploaded User

2.3.6 Public Roads [1761.11(d)]

Does the operations plan propose any surface coal mining operations within 100 feet measured horizontally of the outside right-of-way line of any public road?

Yes No

2.3.7 Roads Removed, Relocated or Closed [1761.14]

Does the proposed permit area include any public roads which are to be removed, relocated or closed?

Yes No

2.3.8 Occupied Dwelling [1761.11(e); 1761.15]

Does the operations plan propose any surface coal mining operations within 300 feet measured horizontally from any occupied dwelling other than a haul road or access road which connects with an existing public road on the side of the public road opposite the dwelling?

Yes No

2.3.9 Public Buildings, Schools, Churches, Public Parks [1761.11(f)]

Does the operations plan propose any surface coal mining operations within 300 feet measured horizontally of any public building, school, church, community or institutional building or public park?

Yes No

2.3.10 Cemeteries [1761.11(g)]

Are there any public or private cemeteries or other areas where human bodies are interred, excluding Indian burial grounds, located in the proposed permit area and/or within one hundred (100) feet of the proposed permit area?

NOTE: Indian burial grounds are excluded from this question given that the locations of these historic lands must remain confidential pursuant to Section 1773.13(d)(3). Indian burial grounds are more thoroughly addressed in Form 2.4.

Yes No

2.3.11 Cemetery Relocation [1761.11(g)]

Is the applicant proposing to relocate any cemetery located within the proposed permit boundaries or within one hundred (100) feet of said boundaries?

Yes No

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2.4 Public Parks, Historic Lands & Places

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

2.4.1 Historic Lands, Historic Places Descriptions [1779.12/1783.12; 1761.11(g)]

Use the text box to provide a description of the “historic lands”, as defined in Section 1701.Appendix A (e.g. archeological sites, Indian burial grounds, paleontological sites, and/or historic standing structures), listed or potentially eligible for listing on the National Register of Historic Places and any known archeological features within the proposed permit and adjacent areas.

- ✓ Include the anticipated start date when the area is to be affected.

NOTE: If Indian burial grounds are identified and the remains are not relocated, no surface coal mining operations may be conducted within 100 feet measured horizontally of these locations.

NOTE: The description provided shall be based upon available data.

2.4.2 Historic Lands, Historic Places Investigations [1779.12(b)/1783.12(b)]

Use the document uploader to provide completed investigations (including Phase I and Phase II archeological surveys), historic structure studies, and/or determination letters received regarding the historic lands and historic places identified in the proposed permit area.

NOTE: Additional copies may be required at a later date. The Department will notify you of any requirements for these copies.

Name Date Uploaded User

2.4.3 Protection Plan [1780.31/1784.17]

Use the text box and/or document uploader to provide a plan for publicly owned park(s), or place(s) listed on the National Register of Historic Places, that may be adversely affected by the proposed operations describing the measures to be employed:

- ✓ To prevent adverse impacts caused by surface mining related activities including, but not limited to, loss or destruction of historic artifacts and damage to historic structures or properties; or
- ✓ To minimize adverse impacts if valid existing rights exist or joint agency approval is to be obtained under Section 1761.17(d).

Attachments

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2.5 Valid Existing Rights (VER)

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

2.5 Valid Existing Rights (VER)

If Valid Existing Rights are being claimed on any areas within or adjacent to the proposed operations where mining operations may be limited or prohibited as outlined in Section 1761.11, select the appropriate standard(s):

- 2.5.1 VER for Good Faith/All Permits Standard
- 2.5.2 VER for Needed For and Adjacent Standard
- 2.5.3 VER for Standards for Mine Roads
- I am NOT claiming Valid Existing Rights

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3.1 Operations Plan

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.1.1 Operations Map

Upload the Operations Map below using the Map Uploader and provide information requested for Part 3.

The map shall contain:

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

3.1.2 Description of Operations [1780.11(a)/1784.11(a)]

Use the text box to describe the type of operation (surface, underground or carbon recovery) and method of mining procedures (surface, room and pillar or longwall).

3.1.3 Equipment to Be Used [1780.11(a)/1784.11(a)]

Use the text box to describe the major equipment to be employed and how such equipment will be used in the different aspects of the mining operation.

3.1.4 Coal Production Estimation [1780.11(a)/1784.11(a)]

Use the text box to provide an estimation of the anticipated annual coal production and anticipated total coal production by tonnage once the mine is at full operational capacity.

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3.2 Mine Facilities

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Use the text boxes provided below each question to provide a narrative that explains the construction, modification, use maintenance and removal of the identified structures and facilities as applicable to the proposed operations.

If not applicable to this permitting action indicate “Not Applicable” within each text box.

3.2.1 Dams, Embankments, & Impoundments [1780.11(b)/1784.11(b)]

Use the text box to list all such structures, their use, maintenance practices and whether they will be retained permanently or removed as applicable. Please note that an impoundment includes incised structures.

3.2.2 Coal Handling Facilities [1780.11(b)/1784.11(b)]

Use the text box to provide information on coal storage, coal preparation and cleaning facilities, loading and transportation areas.

3.2.3 Water Treatment Facilities [1780.11(b)/1784.11(b)]

Use the text box to provide information on water treatment facilities including but not limited to, sediment ponds, chemical treatment of discharge, and any special water treatment facilities beyond sediment ponds.

- ✓ Include a narrative explaining the construction, modification, use, maintenance, and removal of these facilities (unless retention of such facilities is necessary for post-mining land used as specified in 62 IL Admin Code 1816.133/1817.133).

3.2.4 Air Pollution Control Facilities [1780.11(b)/1784.11(b)]

Use the text box to provide information on air pollution control facilities.

- ✓ Include a narrative explaining the construction, modification, use, maintenance, and removal of these facilities (unless retention of such facilities is necessary for post-mining land used as specified in 62 IL Admin Code 1816.133/1817.133).

3.2.5 Buried Pipelines [1780.11(b)/1784.11(b); 1816.133/1817.133]

Are pipelines proposed to be buried within the permit boundary?

- Yes No

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3.3 Signs and Markers

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

In the questions below provide descriptions of the signs and markers in terms of material type, color, and wording to be used for the following boundary(s) and/or protected feature(s).

- ✓ If not applicable to this permitting action indicate “**Not Applicable**” within each text box.
- ✓ All signs and markers required to be posted shall be easily seen and read, uniform in design and made of durable material.
- ✓ Signs and markers shall also be maintained and retained in place throughout the life of specific mining activity.
- ✓ Boundary or buffer markers shall be spaced to be visible from one to another.

3.3.1 Permit Perimeter & Markers [1816.11(d)/1817.11(d)]

Use the text box to provide information on signs and markers that include incremental bond areas, unaffected areas, uncontrolled properties, pending archeological areas, and areas of lateral support.

3.3.2 Soil Stockpile Markers [1816.11(f)/1817.11(f)]

Use the text box to provide information on Soil Stockpile Markers.

3.3.3 Stream Buffer Zone Markers [1816.11(e)/1817.11(e); 1816.57(b)/1817.57(b)]

Use the text box to provide information on Stream Buffer Zone Markers.

3.3.4 Limited or Prohibited Mining Signs and Markers [1816.11(d)/1817.11(d)]

Use the text box to provide information on signs and markers that include limited or prohibited mining areas identified on [Table 2.3: Limited or Prohibited Mining](#), if applicable and required by the Department.

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3.4 Soil And Overburden Handling

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

If not applicable to this permitting action indicate “Not Applicable” within each text box.

3.4.1 Overburden Handling [1780.18(b)(7)/1784.13(b)(7)]

Use the text box to describe how each type of overburden (soil horizons, glacial drift and consolidated material) will be handled with regards to different types of mining equipment.

3.4.2 Toxic Materials [1780.11(b)/1784.11(b); 1780.18(b)(7)/1784.13(b)(7)]

Use the text box to describe if toxic materials have been identified as occurring in the overburden, describe how these materials will be segregated and handled to insure proper disposal.

- ✓ This includes, shaft and slope cuttings, excavation of incised portions of ponds, ditches, stream diversions or refuse disposal areas.

3.4.3 Soil Storage [1780.11(b)(2)/1784.11(b)(2); 1780.14(b)(5)/1784.23(b)(5);1816.22(c)/1817.22(c)]

Use the text box to describe the measures to be employed to prevent or minimize exposure of soil stockpiles to excessive water and wind erosion, unnecessary compaction and contamination by undesirable materials.

- ✓ Locate all soil horizon storage areas and/or root medium stockpiles on the Operations Map.

3.4.4 Stabilization of Surface Areas [1816.95/1817.95]

Use the text box to describe methods and treatment measures to be used on exposed areas where topsoil has been removed to prevent excess air and water pollution.

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3.5 Lateral Support

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.5 Lateral Support [1816.99/1817.99]

Use the text box and/or document uploader to provide a narrative to address the following:

- ✓ If not applicable to this permitting action indicate “**Not Applicable**” within each text box.
- ✓ Describe the location of all excavations where lateral support removal will approach the minimum distance allowed.
- ✓ State the minimum width of lateral support to be left in appropriate areas, including adjacent landowners, road right-of-way’s, pipelines and power line easements.
- ✓ Account for highwall sloping when such slopes are to be incorporated into the proposed reclamation plan.

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3.6 Surface Mining Near Underground Mining

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.6 Surface Mining Near Underground Mining [1780.27; 1816.79]

Will surface mining activities be conducted within 500 feet of an underground mine?

Yes No

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3.7 Existing Structures

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.7 Existing Structures [1701.APP.A; 1780.12/1784.12]

The definition of an “existing structure” is a structure used in connection with surface coal mining and reclamation operations for which construction began prior to June 1, 1982.

Are existing structures proposed to be used in connection with or to facilitate the surface coal mining and reclamation operations?

Yes No

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3.8 Transportation Facilities

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.8 Transportation Facilities [1780.37/1784.24]

Select the check boxes below, if any of the following facilities are to be constructed, used, modified or maintained within the proposed permit area.

- Roads
- Conveyors
- Rail Systems
- Not Applicable to This Permitting Area

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3.9 Natural Drainageways

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.9 Natural Drainageways [1780.37(a)(3)/1784.24(a)(3)]

Will the proposed activity alter or relocate a natural drainage way?

Yes No

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3.10 Stream Fords

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.10 Stream Fords [1780.37(a)(5)/1784.24(a)(5)]

Will the proposed activity require construction of a temporary ford of a perennial or intermittent stream that is used as a temporary route during periods of road construction?

Yes No

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3.11 Non-Coal Waste Materials

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

If not applicable to this permitting action indicate “Not Applicable” within each text box.

3.11.1 Non-Coal Waste Identification [1780.11(b)(4)/1784.11(b)(4)]

Use the text box to identify all non-coal waste material to be disposed within the permit area, including but not limited to, grease, lubricants, paints, flammable liquids, garbage, tires, abandoned mining machinery, lumber and other hazardous and/or combustible materials generated during coal mining operations.

3.11.2 Non-Coal Waste Handling [1780.14(b)(5)/1784.23(b)(5); 1816.89/1817.89]

Use the text box to describe how each non-coal waste will be stored on site, disposed on site or removed from the site.

- ✓ Describe the measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed in a safe manner.

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3.12 Coal Preparation

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.12.1 Coal Processing [1780.11(b)(3)/1784.11(b)(3); 1780.14(b)(4)/1784.23(b)(4); 1785.21; 1827; 1828]

Is the initiation of, or alteration to the processing of coal being proposed as part of this permitting action?

NOTE: The applicant is required to possess or obtain a separate permit for coal preparation plants that are not located within the proposed permit area.

Yes No

Use the text box to provide a general description of the proposed coal processing or alteration to an existing coal processing operation at this facility.

✓ If coal processing takes place away from this facility, provide the location of the coal preparation plant and where coal processing would occur.

3.12.4 In-situ Processing [1785.22; 1828]

Will in-situ processing activities be conducted?

Yes No

3.12.5 Coal Storage Areas [1780.14(b)(4)/1784.23(b)(4); 1816.41/1817.41]

Use the text box to describe how coal stockpiles (both raw and clean) will be contained within the specific area defined on the Operations Map.

✓ Provide a description of perimeter markers or other systems to assure coal piles remain within the designated areas.

3.12.6 Coal Storage Base Liners [1780.21(h)/1784.14(g)]

Are coal storage areas (both raw and clean) proposed to have a base liner for protection of groundwater?

Yes No

3.12.7 Coal Processing Safeguards [1780.21(h)/1784.14(g)]

Use the text box to describe what safeguards are provided to prevent the discharge of slurry fines and untreated slurry water during emergency situations (e.g. power outages, mechanical equipment breakdown, plant shutdowns, etc.).

- ✓ Indicate where the slurry would go by gravity flow in the event of an emergency discharge and describe any environmental impacts this would have.
- ✓ (Optional) If necessary, use the document uploader to attach supporting documentation.

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3.13 Coal Mine Waste

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.13.1 Coal Processing Waste [1780.25/1784.16]

Will coal processing waste be disposed of within the proposed permit area?

Yes No

3.13.2 Disposal of Coal Processing Waste Underground [1784.25]

Is Disposal of Coal Processing Waste in Underground Workings proposed in this application?

Yes No

3.13.3 Underground Development Waste [1780.11(b)(4); 1784.19]

Will underground development waste be created and disposed of within the permit area?

Yes No

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3.14 Management of Infiltration Water

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.14 Management of Infiltration Water [1780.11(b)/1784.11(b); 1816.41/1817.41]

For surface mining operations, use the text box to:

- ✓ Describe in detail how all infiltration water accumulating in the pit will be managed, transported, and incorporated into the surface water management system.
- ✓ Provide an estimation of the quantity of water that will be pumped out of the surface mining area to the surface water management system
- ✓ Detail how this water will be compliantly discharged through an NPDES outfall.

For underground mining operations, use the text box to:

- ✓ Describe in detail how all infiltration water accumulating in the underground works will be managed, transported, and incorporated into the surface water management system.
- ✓ Provide an estimation of the quantity of water that will be brought to the surface
- ✓ Detail how this water will be compliantly discharged through an NPDES outfall or returned to underground workings.

Note: Include management of this water in the engineering design of all surface facilities and drainage control structures as necessary. Incorporate all necessary information concerning the source of the water, and the quality and quantity information of the anticipated infiltration water into the PHC provided under Part 4 of the application.

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3.15 Coal Refuse Disposal Areas (RDA)

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

3.15 Coal Refuse Disposal Areas (RDA) [1780.11(b)(4)/1784.11(b)(4); 1780.25/1784.16]

Is the construction or modification of a Coal Refuse Disposal Area proposed in this application?

Note: This includes earthen embankments for slurry disposal, course coal refuse embankments for slurry disposal, incised refuse disposal areas and refuse piles.

Yes No

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3.16 Air Pollution Control Plan

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

If not applicable to this permitting action indicate “Not Applicable” within each text box.

3.16.1 Air Pollution Plan Details [1780.15/1784.26; 1816.150(b)(1)/1817.150(b)(1)]

Use the text box to provide a plan detailing fugitive dust control practices to be employed during proposed surface coal mining and reclamation operations.

3.16.2 Clean Air Act Compliance [1780.18(b)(9)/1784.13(b)(9)]

Use the text box to provide a description of the steps to be taken to comply with the requirements of the Clean Air Act (42 U.S.C. 7401 et seq.), and other applicable air and water quality laws and regulations and health and safety standards.

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3.17 Fire Control Plan

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

If not applicable to this permitting action indicate “Not Applicable” within each text box.

3.17.1 Fire Control Plan Details [1780.18(b)(7)/1784.13(b)(7)]

Use the text box to provide information concerning non-coal mine waste, all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard, provide a description of contingency plans which have been developed to preclude sustained combustion of such materials.

3.17.2 Extinguishing Waste Fires [1816.87/1817.87]

Use the text box to provide a plan detailing how coal mine waste fires will be extinguished.

3.17.3 Extinguishing Coal Stockpile Fires [225 ILCS 720/4.08]

Use the text to provide a plan detailing how coal stockpile fires will be extinguished.

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4.1 Hydrogeologic & Geologic Maps

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

All maps submitted shall contain all information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located in the Help Tab (?).

4.1.1 Hydrogeologic Map

Upload the Hydrogeologic Map using the Map Uploader below and provide the information requested.

Attachments

Name Satisfied Map Layers Date Uploaded User

4.1.2 Geologic Map

Upload the Geologic Map using the Map Uploader below and provide the information requested.

Attachments

Name Satisfied Map Layers Date Uploaded User

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4.2 Regional Aquifer Characteristics

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

- ✓ Use materials available from a variety of sources, including, but not limited to, the Illinois State Surveys, the Illinois Environmental Protection Agency, other State and Federal organizations, other sources or personal knowledge.
- ✓ All materials utilized in preparation shall be clearly identified within the bibliography required by Form 4.13: Hydrogeological Bibliography.
- ✓ Provide all required hydrogeologic information requested.

4.2.1 Unconsolidated & Consolidated Aquifers [1780.22(b)/1784.22(b); 1779.25(a)(6)/1783.25(a)(6)]

Use the text box to describe/discuss the major and minor unconsolidated and consolidated/bedrock aquifer(s) of the permit area, shadow area (for underground proposals if applicable) and their respective adjacent areas.

4.2.2 Unconsolidated & Consolidated Aquifers Water Yield [1780.22(b)(1)/1784.22.(b)(1)]

Use the text box to describe/discuss the generalized water yield, supply, existing use(s) and potential use(s) of the major and minor unconsolidated and consolidated/bedrock aquifers.

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4.3 Geologic & Hydrogeologic Information

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.3.1 Geological Information [1780.21/1784.14; 1780.22(b)/1784.14(b); 1779.25/1783.25]

Use the text box and/or document uploader to provide the following information:

- ✓ Within the permit area, shadow area (if applicable), and their respective adjacent areas, assess the geologic setting, including a description of the landscape and terrain, stratigraphy, structural characteristics and distribution of underlying strata including bedrock; chemical and physical properties including, but not limited to, lithology and mineralogy.
- ✓ Use materials available from a variety of sources, including, but not limited to, the Illinois State Surveys, the Illinois Environmental Protection Agency, other State and Federal organizations, drilling logs, geophysical methods, aerial photography, test pits and previous investigations; cite all sources in the bibliography required by Form 4.13: Hydrogeological Bibliography.

Attachments

Name	Date	Uploaded	User
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4.3.2 Hydrogeologic Characteristics [1780.21(b)/1784.14(b);1770.25/1783.25]

Use the text box and/or document uploader to provide the following information:

- ✓ Within the permit area, shadow area (if applicable), and their respective adjacent areas, assess and include a general description of the hydrogeologic characteristics such as: the vertical and lateral extent of the uppermost aquifer; the hydraulic conductivities of the uppermost aquifer and any other aquifer(s) that may be impacted by the proposed mining operations; the hydraulic conductivities of the uppermost aquifer and all other aquifers that may be impacted by the proposed mining operation; the direction and rate* of groundwater flow; and hydraulic characteristics of underlying strata including those below the uppermost aquifer.
- ✓ Use materials available for a variety of sources, including but not limited to, the Illinois State Surveys, the Illinois Environmental Protection Agency, other State and Federal organizations, water well drilling logs, hydraulic conductivity tests, well pump tests and previous investigations; cite all sources in the bibliography required by Form 4.13: Hydrogeological Bibliography.

NOTE: The rate of groundwater flow may be determined via pump tests or based on an estimation using the calculated hydraulic conductivity.

Attachments

Name	Date	Uploaded	User
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4.3.3 Geologic Features [1780.21/1784.14; 1780.22(b)/1784.14(b); 1779.25/1783.25]

Use the text box and/or document uploader to provide the following information:

- ✓ Identify any unusual or unpredicted geologic features where present within the permit area, shadow area (if applicable) and their respective adjacent areas, including, but not

limited to: fault zones, fracture traces, facies changes, solution channels, buried stream deposits, cross cutting structures and other geologic features that may affect the ability of the operator to monitor the groundwater or predict the impact of the facility on groundwater.

- ✓ Include these features as well as any necessary information from Question 4.3.1: Geological Information on the Geologic Map.

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4.4 Site-Specific Characteristics

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.4.1 Geologic Cross Section Map(s)

Upload the Geologic Cross Section Map(s) using the Map Uploader below and provide the information requested.

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

4.4.2 Site-Specific Geology Descriptions [1780.22(b)(1) & (b)(2)(A)/1784.22(b)(1) & (b)(2)(A); 1779.25/1783.25]

Use the text box and/or document uploader to provide the following information:

- ✓ Provide a description of the areal and structural geology of the permit area, shadow area (if applicable), and their respective adjacent areas for the deeper of either the stratum immediately below the lowest coal seam to be mined, or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining.
- ✓ Provide logs showing the lithologic characteristics including physical properties and thickness of each stratum and the location of groundwater that could potentially be affected if encountered. Lithologic logs must be detailed enough to determine the physical characteristics of both the unconsolidated and consolidated materials present.

- ✓ Provide a minimum of two geologic cross-sections, perpendicular to each other, for the proposed permit area and a minimum of two geologic cross-sections, perpendicular to each other, for the proposed shadow area, if applicable.
- ✓ At a minimum, the cross-sections should depict any water-bearing zones/formations, any local and/or regional aquifers, any impermeable zones/formations, and both the unconsolidated and consolidated formations.
- ✓ The core logs shall clearly identify and name the coal seams (both intended to be mined, unmined and spoiled).

Attachments

Name Date Uploaded User

4.4.3 Contaminant Migration [1780.21(c)(d)(e) & (f)/1784.14(c)(d) & (e)]

Use the text box and/or document uploader to provide information to characterize potential pathways for contaminant migration below and around sediment ponds, disposal areas, coal storage piles and connecting ditches by identifying zones of potentially high hydraulic conductivity using correlation of stratigraphic units between borings within the permit area and its adjacent area; where applicable, information on geologic materials sorting, grain size distribution, cementation, hydraulic conductivity and the presence or absence of any confining layers shall be discussed.

Attachments

Name Date Uploaded User

4.4.4 Chemical Analysis Information [1780.22(b)(2)(B) & (c)/1784.22(b)(2)(B) & (c)]

Use the text box and/or document uploader to provide the following information:

- ✓ Provide chemical analyses of all strata, including the coal seam(s) (both intended to be mined, undisturbed or spoiled) through either the strata immediately below the lowest coal seam to be mined or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining. The analyses shall identify those strata that may contain acid or toxic-forming or alkalinity-producing materials and determine their content and the net-neutralization potential on a weighted basis.
- ✓ For carbon recovery operations, total sulfur and pyritic sulfur analyses must be performed on the materials to be recovered.
- ✓ For waste disposal operations, chemical analysis of the fine and coarse refuse waste streams shall be provided, including the identification of acid or toxic-forming or alkalinity-producing materials and determine the content and the net-neutralization potential.
- ✓ If this application is for a new facility where no processed refuse has been generated, provide an estimate of the chemical analysis and a discussion of how the estimate was

obtained and complete Question 3.13.1: Coal Processing Waste.

Attachments

Name	Date Uploaded	User
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4.4.5 Coal Seams [1780.22(b)(2)/1784.22(b)(2) & (b)(3); 1779.25(a)(3) & (a)(4)/1783.25(a)(3) & (a)(4)]

Use the text box to provide coal seam(s) name, number and thickness and an analysis of the coal seam(s) as to total sulfur and pyritic sulfur contents.

- ✓ On the Geologic Map, show all coal crop lines (where applicable), the strike and dip of the coal to be mined and the coal thickness contours.

4.4.6 Watershed Use [1780.21(i)(1)/1784.14(h)(1)]

Use the text box to identify the general land uses of the watersheds upstream of the proposed permit area and any potential pollution sources which could significantly affect the surface and groundwater quality at the proposed permit area.

- ✓ If none exist, note in the text box below.

4.4.7 Public Water Supplies [1780.21(b)/1784.14(b)]

Do Public Water Supply intakes for current users of surface water flowing into, out of and/or within ten miles of the proposed permit area exist?

NOTE: Public Water Supply intakes include groundwater wells.

- Yes No

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4.5 Groundwater Information

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

- ✓ On the Hydrogeologic Map, provide the location and ownership of existing wells, including private water supplies and private water wells within ½ mile of the proposed permit area and shadow area (for mines with underground extraction), springs, and other groundwater resources in or within ½ mile of the proposed permit area, shadow area (if applicable), and their respective adjacent areas.
- ✓ If any of the existing wells are to be employed for monitoring, designate on Hydrogeologic Map and complete Table 4.6.2: Groundwater Monitoring Well List.

4.5.1 Water User’s Survey [1780.21(b)(1)/1784.14(b)(1); 1780.21(h)/1784.14(g)]

Complete and Upload Table 4.5.1: Water User's Survey.

- ✓ Include well identification, location relative to permit, shadow and/or adjacent areas, construction details, water bearing strata the well is screened in, total depth, usage and public water availability.

Use the text box and/or document uploader to provide the following information:

- ✓ Provide a discussion of the Groundwater User’s Survey including the existing and potential uses of the water-bearing strata identified.
- ✓ Provide a discussion for any groundwater users downgradient, as determined through groundwater elevation, of the proposed permit area that details factors and protective measures in place to ensure these groundwater resources are not adversely impacted.
- ✓ All information will be cross-referenced with the information depicted on the Hydrogeologic Map.

Attachments

Name Date Uploaded User

4.5.2 Private Wells & Local Groundwater Quality Summary [1780.21(b)(1)(A)/1784.14(b)(1)(A)(i) & (ii)]

Complete and Upload Table 4.5.2: Private Wells & Local Groundwater Quality Summary.

Use the text box and/or document uploader to summarize any seasonal trends based upon the data provided in Table 4.5.2: Private Wells & Local Groundwater Quality Summary.

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4.6 Groundwater Monitoring Program

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.6.1 Groundwater Monitoring Plan [1780.21(i)/1784.14(h)]

Upload a Groundwater Monitoring Sampling and Analysis Plan (SAP) that includes the methods/steps of well sampling, well analysis and data reporting as an attachment to this application part.

Use the text box and/or document uploader to provide the following information:

- ✓ Describe in detail a proposed monitoring plan based upon the PHC that will measure the amount and duration of any changes to the groundwater system resulting from the mining operation.
- ✓ The proposed groundwater monitoring plan shall describe how the collected groundwater monitoring data will be used to determine if impacts are occurring and what steps will be taken by the operator.
- ✓ Parameters to be monitored are provided in the HELP (?) tab labeled: Groundwater Monitoring Parameter List.

NOTE: At a minimum, background data collection shall occur on a bi-monthly (every two months) basis over the course of one year (12 consecutive months). Groundwater monitoring shall continue throughout the permitting process at the same frequency at which background data collection occurred.

Groundwater Monitoring shall be on a quarterly basis unless otherwise approved by the Department.

Monitoring reports are due within one month of the end of each quarter as follows:

Scheduled Period	From - To	Report Due
1st Quarter	Jan. 1 - Mar. 31	May 1
2nd Quarter	Apr. 1 - Jun. 30	Aug. 1
3rd Quarter	Jul. 1 - Sept. 30	Nov. 1
4th Quarter	Oct. 1 - Dec. 31	Feb. 1

Where approved, annual monitoring shall be conducted during the 2nd quarter only; semi-annual monitoring shall occur during the 2nd and 4th quarters only.

Attachments

Name	Date Uploaded	User
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4.6.2 Groundwater Monitoring Well List [1816.41(c)/1817.41(c)]

Complete and Upload Table 4.6.2: Groundwater Monitoring Well List.

- ✓ All existing, proposed and plugged/damaged groundwater monitoring wells for the entire facility must be included on this table.

Attachments

Name	Date Uploaded	User
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4.6.3 Groundwater Monitoring Well Details [1780.22(c)/1784.22(c)]

Use the text box and/or document uploader to provide the following:

- ✓ Upload a detailed geologic boring log, well construction diagram and completion information for all existing groundwater monitoring wells and/or a diagram of each proposed well (if not previously provided to the Department).
- ✓ All wells shall be surveyed (top of casing, ground elevation and location), shall have unique nomenclature and be clearly identified on the Hydrogeologic Map as existing, proposed, abandoned, etc.
- ✓ The Department has created a well construction diagram for use. See the Operator Memorandum located in the Help Tab (?).
- ✓ When wells are no longer needed, the applicant/operator shall request to properly plug and abandon the well.
- ✓ Upon receiving approval to drop the well from the Mine’s groundwater monitoring program, the well shall be sealed and the Department’s plugging affidavit shall be provided within sixty (60) days of the date of approval.
- ✓ The Department has created a plugging affidavit form. See the Operator Memorandum located in the Help Tab (?).

Attachments

Name	Date Uploaded	User
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4.6.4 Hydraulic Conductivity [1780.21(b)(1)(B)/1784.14(b)(1)(B)]

Use the text box and/or document uploader to provide the data obtained from groundwater monitoring wells, including:

- ✓ The groundwater flow direction based upon the site-specific groundwater monitoring wells installed for this application, in each water-bearing zone being monitored.
- ✓ Hydraulic conductivity data shall be provided in its entirety, for each well.
- ✓ The field methodology of the aquifer testing shall be clearly explained (e.g., rising head vs. falling head slug testing; pump testing or constant-head testing).
- ✓ The results of the aquifer testing shall be included in this section and shall be discussed/explained, including any discrepant information.

Attachments

Name Date Uploaded User

4.6.5 Potentiometric Map [1780.21(b)(1)(B)/1784.14(b)(1)(B)]

Upload the Potentiometric Map using the Map Uploader below and provide the information requested.

- ✓ At a minimum, the potentiometric map must be provided for the uppermost aquifer, and any aquifer which may be potentially impacted by the proposed operation(s).

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

4.6.6 Installed Monitoring Wells Groundwater Quality Summary [1780.21(b)(1)(A)/1784.14(b)(1)(A)(i) & (ii)]

Complete and Upload Table 4.6.6: Installed Monitoring Wells Groundwater Quality Summary.

Use the text box and/or document uploader to provide the following:

For Surface Mining

- ✓ Provide an analysis of the seasonal groundwater quality within the permit area and its adjacent area, including but not limited to the following parameters: pH, total dissolved solids, hardness, alkalinity, acidity, sulfate, total and dissolved iron, total and dissolved manganese, and chloride. Summarize any seasonal trends based upon the data provided in Table 4.6.6: Installed Monitoring Wells Groundwater Quality Summary.

For Underground Mining

- ✓ Provide an analysis of the seasonal groundwater quality within the permit area and its adjacent area, including but not limited to the following parameters: pH, total dissolved solids, hardness, alkalinity, acidity, sulfate, total and dissolved iron, total and dissolved manganese, and chloride. Summarize any seasonal trends based upon the data provided in Table 4.6.6: Installed Monitoring Wells Groundwater Quality Summary.
- ✓ Where the potential for groundwater impacts are present or known, provide a description of seasonal groundwater quality within the shadow area (if applicable) and its adjacent area including but not limited to the following parameters: pH, total dissolved solids, total iron, and total manganese. Summarize any seasonal trends based upon the data collected (if applicable).

Attachments

Name Date Uploaded User

4.6.7 Seasonal Groundwater Quantity

Use the text box and/or document uploader to provide a description of seasonal groundwater quantity in the proposed permit, shadow and adjacent areas, including at a minimum:

- ✓ The appropriate rates of discharge or usage.
- ✓ The elevation of the potentiometric surface of the coal to be mined, if applicable.
- ✓ The elevation of the potentiometric surface in each water-bearing stratum above the coal to be mined AND in each water-bearing stratum below the coal to be mined which may be potentially impacted.
- ✓ A general description may be given for water bearing strata with no collected data. If no known water-bearing strata that could be impacted exists above or below the coal seam to be mined or if the coal seam is not water-bearing, state as such.

Attachments

Name Date Uploaded User

4.6.8 Well Maintenance Issues [1780.21(h)/1784.14(g)]

Use the text box to discuss any reported problems of maintenance with groundwater quantity and quality which have occurred at the private wells and springs identified in Question 4.5.1: Water User's Survey or in Question 4.6.2: Groundwater Monitoring Well List.

4.6.9 Abandoned Underground Mine Discharges [1816.41(i)/1817.41(h)]

Will this operation have any discharges to, or pump water from, abandoned underground mines?

Yes No

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4.7 Surface Water Information

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.7.1 Surface Water Identification [1780.21(b)(2)/1784.14(b)(2)]

Complete and Upload Table 4.7.1: Surface Water Identification.

- ✓ Provide the name, location, ownership, and description of all surface water bodies, lakes, streams, impoundments, and springs within and adjacent to the proposed permit area(s) in Table 4.7.1: Surface Water Identification.
- ✓ The adjacent area shall be one-half mile from the proposed permit area.
- ✓ Provide the location of any discharge or drainage into any surface water body identified in Table 4.7.1: Surface Water Identification on the Hydrogeologic Map.

Attachments

Name	Date	Uploaded	User
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4.7.2 Surface Water Quality & Quantity Summary [1780.21(b)(2)/1784.14(b)(2)]

Complete and Upload Table 4.7.2: Surface Water Quality & Quantity Summary

Use the text box and/or document uploader to provide the following information:

- ✓ For each surface water identified in Table 4.7.1: Surface Water Identification provide sufficient information on the surface water quality and quantity to demonstrate seasonal variation and water usage.
- ✓ Surface water bodies that may be impacted by the proposed mining operation shall be clearly identified in the text box below and on the Hydrogeologic Map.
- ✓ Provide an analysis of the seasonal variation and water usage of each surface water identified in Table 4.7.1: Surface Water Identification.
- ✓ Summarize any seasonal trends of surface water quality and/or quantity and identify any surface water bodies that may be impacted by the proposed mining operation and identify these water bodies on the Hydrogeologic Map.

Attachments

Name	Date	Uploaded	User
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4.8 SMCRA Surface Water Monitoring Program

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.8.1 SMCRA Surface Water Sampling and Analysis Plan [1780.21(j)/1784.14(i)]

Use the document uploader to provide a SMCRA Surface Water Sampling and Analysis Plan (SAP) that includes the methods/steps of in-stream sampling, data analysis and data reporting.

Attachments

Name Date Uploaded User

4.8.2 SMCRA Surface Water Monitoring Points List

Complete and Upload Table 4.8.2: SMCRA Surface Water Monitoring Points List.

Use the text box and/or document uploader to provide the following information:

- ✓ All current and proposed SMCRA surface water monitoring points shall be included.
- ✓ Describe in detail a proposed monitoring plan based upon the PHC that will measure the amount and duration of any changes to the surface water system resulting from the mining operation.
- ✓ The proposed SMCRA surface monitoring plan shall describe how the collected surface monitoring data will be used to determine if impacts are occurring and what steps will be taken by the operator.
- ✓ For surface mines, upstream and downstream quality and quantity monitoring will be required throughout the life of the mine.
- ✓ All SMCRA Surface Water Monitoring Points shall be depicted on the Hydrogeologic Map.
- ✓ Parameters to be monitored are provided in the HELP (?) tab labeled SMCRA Surface Water Monitoring Parameter List.

NOTE: At a minimum, background data collection shall occur on a bi-monthly (every two months) basis over the course of one year (12 consecutive months). SMCRA Surface water monitoring shall continue throughout the permitting process at the same frequency at which background data collection occurred.

SMCRA Surface Water Monitoring shall be on a quarterly basis unless otherwise approved by the Department.

Monitoring reports are due within one month of the end of each quarter as follows:

Scheduled Period	From - To	Report Due
1st Quarter	Jan. 1 - Mar. 31	May 1
2nd Quarter	Apr. 1 - Jun. 30	Aug. 1
3rd Quarter	Jul. 1 - Sept. 30	Nov. 1
4th Quarter	Oct. 1 - Dec. 31	Feb. 1

Where approved, annual monitoring shall be conducted during the 2nd quarter only; semi-annual monitoring shall occur during the 2nd and 4th quarters only.

Attachments

Name Date Uploaded User

4.8.3 SMCRA Surface Water Quality & Quantity Information [1780.21(b)(2)(B)/1784.14(b)(2)(B)]

Complete and Upload Table 4.8.3: SMCRA Surface Water Quality & Quantity Information

Use the text box and/or document uploader to provide the following information:

- ✓ Provide an analysis of the seasonal surface water quality and quantity for each SMCRA stream monitoring point, including but not limited to the following parameters: pH, total dissolved solids, total suspended solids, alkalinity, acidity, sulfate, total iron, total manganese, chloride and flow (cfs).
- ✓ Summarize any seasonal trends in the surface water quality or quantity based upon the data provided in Table 4.8.3: SMCRA Surface Water Quality & Quantity Information.

NOTE: No surface water samples shall be collected from pooled (non-flowing) water. When no-flow conditions are observed, the applicant shall note the no-flow and include the "no-flow" notation on the data reports submitted to the Department.

Attachments

Name Date Uploaded User

4.8.4 Carbon Recovery Operations [1780.21(b)(2)/1784.14(b)(2)]

Use the text box and/or document uploader to provide information on surface water quality of the existing discharge point or for the impounded water itself, if no discharge point exists for any proposed carbon recovery operations.

- ✓ Utilizing the following parameters: pH, total dissolved solids, total suspended solids, alkalinity, acidity, sulfate, total iron, total manganese, chloride and flow (cfs).
- ✓ If not applicable to this permitting action indicate ""Not Applicable"" in the text box.

Attachments

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4.9 NPDES Monitoring

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.9.1 NPDES Permit [1780.21(j)(2)(B)/1784.14(i)(2)(B)]

Has an NPDES permit been applied for?

Yes No

4.9.2 NPDES Permit Information [1779.25(a)(2)/1783.25(a)(2); 1780.21(j)/1784.14(i)]

Has an NPDES permit been obtained?

Yes No

Are NPDES reports to be submitted to satisfy the reporting requirements?

Yes No

Use the text box and/or document uploader to provide the following:

- ✓ Provide the permit number, the date issued, the expiration date, and the number of discharge points monitored.
- ✓ Provide the NPDES monitoring program including sampling method, sampling frequency and parameters to be analyzed.
- ✓ If no NPDES monitoring program is currently in place, submit a proposed monitoring and reporting program.
- ✓ If additional discharge points are proposed by this application, list the proposed and existing discharge numbers.
- ✓ Provide the longitude and latitude coordinates, in decimal degrees, for each outfall.
- ✓ Complete and upload Schedule A for all existing and proposed NPDES Outfalls for the facility.
- ✓ All NPDES Monitoring Points/Outfalls shall be depicted on the Hydrogeologic Map.
- ✓ An estimate of the expected discharge concentration for each listed parameter must be indicated (or marked n/a) and a basis for that estimation provided.

Attachments

Name	Date Uploaded	User
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4.9.3 Grab Sample Monitoring

In accordance with 35 Ill. Adm. Code 406.101(b), is the applicant requesting that monitoring and reporting be based on grab samples?

Yes No

4.9.4 Sampling Equipment [1780.21(j)(2)(B)/1784.14(i)(2)(B)]

Use the text box to provide a brief description of the surface water sampling and flow measurement equipment which will be used to monitor the discharges.

[Empty text box]

4.9.5 Existing IEPA Subtitle D Permits [1780.21(j)(2)(B)/1784.14(i)(2)(B)]

Is this proposed mining area covered by existing Illinois EPA (IEPA) Subtitle D permits?

Yes No

4.9.6 IEPA Subtitle D Permitted Boundaries [1779.24(1)/1783.24(1)]

Do the proposed mining boundaries exactly coincide with IEPA Subtitle D permitted boundaries?

Yes No

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4.10 Protection of Hydrologic Balance

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.10.1 Changes to the Currently Approved PHC [1774.13]

Use the text box to describe any relevant updates to the currently approved Probable Hydrologic Consequences determination (PHC).

- ✓ If no updates or a PHC has not yet been determined for this application, indicate “Not Applicable” in the text box and complete all relevant and applicable questions in this form.

[Empty text box]

4.10.2 Probable Hydrologic Consequences [1780.21(f)(1)/1784.14(e)(1)]

Use the text box and/or document uploader to provide a narrative determination of the Probable Hydrologic Consequences (PHC) of the operations on the proposed permit, shadow area and adjacent areas with respect to the hydrologic regime and water quality and quantity in surface and groundwater systems under all seasonal conditions based on the baseline information provided on Form 4.4: Groundwater Information, Form 4.6: Groundwater Monitoring Program, Form 4.7: Surface Water Information and Form 4.8: SMCRA Surface Water Monitoring Program.

[Empty text box]

Attachments

Name Date Uploaded User

4.10.3 Cumulative Impact Areas

The delineation of the Cumulative Impact Area (CIA) for groundwater and surface water shall be included in the Probable Hydrologic Consequences (PHC). The PHC must be based upon the site-specific information obtained during the permitting process and included in this application. As required by Form 4.5: Groundwater Monitoring Program and Form 4.7: SMCRA Surface Water Monitoring Program the information in the PHC must be used to determine the proper groundwater and surface water monitoring programs.

Use the text box and/or document uploader to provide the following information:

- ✓ The surface and groundwater CIA(s) shall be depicted on the CIA map(s).
- ✓ The applicant shall describe the rationale for selecting the surface and groundwater CIA(s), concentrating on the relationship between the surface and groundwater regimes.
- ✓ The CIA discussion must also include consideration of aquifers in use by area residents, public water supplies, and proximity of existing mining areas which can increase impacts on the surface and groundwater areas of influence.
- ✓ A discussion of historic mining areas may be included where known pre-existing water quality and/or quantity issues are present.
- ✓ A discussion of existing and/or historical use of Coal Combustion By-products (CCB) and/or Coal Combustion Waste (CCW) materials, including sources, volumes and placement.

Attachments

Name Date Uploaded User

4.10.4 CIA Map(s)

Upload the CIA map(s) using the Map Uploader below.

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

4.10.5 PHC Determination

The determination of the PHC shall include findings on the following:

4.10.5.1 Hydrologic Balance [1780.21(f)(3)(A)/1784.14(e)(3)(A)]

Will the proposed coal mining and reclamation operations have adverse impacts to the hydrologic balance?

Yes No

Use the text box to explain:

4.10.5.2 Acid Forming Materials [1780.21(f)(3)(B)/1784.14(e)(3)(B)]

Are acid forming or toxic forming materials (AFM) present that could result in contamination of surface and/or groundwater supplies?

This shall include the handling and placement of AFM in the overburden during mining and reclamation for surface mining and during construction of all shaft and slopes, all cutting storage sites and borehole sites (including but not limited to ventilation, bleeder shafts, air shafts, and turbine pump sites, etc.) for underground mining.

Yes No

Use the text box to explain:

4.10.5.3 Contamination, Diminution or Interruption Potential [1780.21(f)(3)(C)/1784.14(e)(3)(D)]

Will the proposed surface coal mining and reclamation operations result in contamination, diminution or interruption of an underground or surface source of water within the proposed permit, shadow or adjacent areas which is used for legitimate purposes?

Yes No

Use the text box to explain:

4.10.5.4 Potential Impacts [1780.21(f)(3)(D)/1784.14(e)(3)(C)]

Use the text box and/or document uploader to provide information that explains what impact(s) to surface water and groundwater the proposed coal mining and reclamation

operations may have on, including but not limited to, the following parameters:

- ✓ Sediment yield from the disturbed area
- ✓ Acidity
- ✓ Total suspended solids
- ✓ Total dissolved solids
- ✓ Flooding or stream flow alterations
- ✓ Availability of surface and groundwater
- ✓ Other characteristics as required by the Department based upon public comment and the Department’s technical review (including but not limited to mine infiltration water; slurry pipelines breaks/spills; RDA perimeter ditch issues (e.g., overtopping), RDA seeps, pit pumpage/groundwater seeps in surface mines, etc.)

Attachments

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4.10.6 PHC Determination of Negative Impacts [1780.21(e)/1784.14(b)(3)]

Use the text box to provide the following:

- ✓ If the PHC determination indicates that the proposed mining operation may proximately result in the contamination, diminution, or interruption of an underground or surface water source within the proposed permit area, shadow area or adjacent area used for domestic, agricultural or other legitimate use, the application shall provide information on water availability and alternative water sources.
- ✓ The alternative water source information shall address the suitability of the alternative water source for existing pre-mining and approved post-mining land uses.

4.10.7 PHC Required Narrative Summary [1780.21/1784.14]

Use the document uploader to provide a NARRATIVE SUMMARY of all information submitted within questions 4.10.1 through 4.10.6 utilizing the data and information provided and gathered for this application.

Attachments

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4.11 Preventative & Remedial Measures

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.11 Preventative & Remedial Measures [1780.21(h)] [1784.14(g)]

Proposed Surface Mining

- ✓ Use the document uploader to attach documentation that provides a plan for meeting the relevant requirements of Sections 1816.41 through 1816.43.
- ✓ Discussion of preventative and remedial measures shall be included.

Proposed Underground Mining

- ✓ Use the document uploader to attach documentation that provides a plan for meeting the relevant requirements of Sections 1817.41 through 1817.43.
- ✓ Discussion of preventative and remedial measures shall be included.

The plan shall address the following:

- ✓ The specific local hydrologic conditions
- ✓ The steps to be taken during mining and reclamation through final bond release to minimize disturbance to the hydrologic balance within the permit and adjacent areas
- ✓ The steps to be taken to prevent material damage outside the permit area
- ✓ The steps to be taken to meet the applicable Federal and State water quality laws and regulations
- ✓ The steps to be taken to protect the rights of present water users and replacement, if necessary
- ✓ The measures to prevent acid or toxic drainage
- ✓ The measures to prevent additional contributions of suspended solids to stream flow to the extent possible using the best technology currently available
- ✓ The measures to be taken to provide for water treatment facilities when necessary
- ✓ The measures to be taken to provide to control drainage
- ✓ The measures to be taken to prevent impacts from pipeline breaks/spills; infiltration of groundwater into underground mine workings or surface mine pits; acidic seeps; etc.
- ✓ The measures to be taken to restore approximate pre-mining recharge capacity
- ✓ The measures to be taken to address any potential adverse hydrologic consequences identified in the PHC determination

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4.12 Liners

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.12 Liners [1816.41/1817.41]

Use the document uploader to provide construction details and specifications, as well as a Quality Assurance/Quality Control (QA/QC) Plan for the proposed liners.

Compacted Clay Liners

The QA/QC Plan should include, at a minimum:

- ✓ The loose soil thickness of each lift
- ✓ The methodology for replacing soft areas encountered during construction
- ✓ Frequency of permeability testing, and
- ✓ Means of protecting the constructed liner from damage, including during future pond/ditch cleanouts and during construction.
- ✓ The location of all compacted clay liners throughout the proposed permit area.

Geosynthetic Liners

If a geosynthetic liner is proposed in lieu of a compacted clay liner, provide an appropriate, relevant QA/QC Plan to ensure proper installation, protection and maintenance of the geosynthetic liner is achieved.

Attachments

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4.13 Hydrogeological Bibliography

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

4.13 Hydrogeological Bibliography [1780.21/1784.14 & 1777.11(b)]

Use the document uploader to provide a complete bibliography of the source materials used in preparation of this Part, including but not limited to: ISGS or ISWS Circulars/Reports; USGS Circulars/Reports; IEPA Reports/documents; previous investigation reports; previous site characterization reports; geologic and/or hydrogeologic literature, web-based search information, etc.

Attachments

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5.1 Drainage Control

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

5.1.1 Surface Drainage Control Plan Map [1780.14(b)(6)/1784.23(b)(6)]

Use the Map Uploader provided to submit the required information requested for Part 5.

- ✓ The requirements for the Surface Drainage Control Plan Map are provided in the Help Tab (?). Please note that the map shall contain all information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under the Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

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5.2 Drainage Control Descriptions

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

5.2.1 Affected Area Drainage [1816.46(e)/1817.46(e)]

Will all surface drainage from the affected mining area be collected and treated prior to leaving the permit area?

Yes No

5.2.2 Unaffected Area Drainage [1816.43(a)/1817.43(a)]

Will any surface drainage from unaffected areas be intercepted and diverted around the affected mining area?

Yes No

5.2.3 Drainage Control Construction Schedule [1816.46(b)(3)/1817.46(b)(3); 1816.49(a)(7)/1817.49(a)(7)]

Use the text box to describe the timing and sequence for construction of the sediment ponds and surface drainage control structures.

- ✓ Include a discussion of the vegetation stabilization of these structures.

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5.3 Ditches

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

5.3 Ditches [1816.45(b)(3)/1817.45(b)(3); 1816.45(b)(4)/1817.45(b)(4)]

Does the Applicant propose to construct or modify any conveyance ditch that intercepts surface drainage from affected areas and direct it to sediment ponds/treatment facilities?

Yes No

Does the Applicant propose to construct or modify any diversion ditch that intercepts surface drainage from unaffected areas and direct it around the affected mining area?

Note: This question is specific to diversion of flow other than intermittent or perennial streams.

Intermittent and perennial stream diversions should be addressed in Part 6 – Streams.

Yes No

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5.4 Culverts

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

5.4 Culverts [1816.43(b)(3)/1817.43(b)(3); 1816.43(c)(3)/1817.43(c)(3); 1816.151(d)(1)/1817.151(d)(1)]

Are culvert(s) being proposed within the permit area including but not limited to ditches, stream crossings and/or transportation facilities? *Note: Culverts located within streams should be addressed in Part 6 - Streams.*

Yes No

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5.5 Impoundments

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

This section refers to modifications or design plans for all impoundments (both incised and above grade) including sediment ponds, freshwater lakes and recirculation lakes.

✓ Refer to Technical Guidance Document 2 located in the Help Tab [?] for design standards.

Note: This section is not applicable to impoundments covered under Part 3.15 “Coal Refuse Disposal Areas”.

5.5 Impoundments [1816.49/1817.49]

Are impoundments, as defined in Section 1701.Appendix A, **other than those covered under Form 3.15: Coal Refuse Disposal Areas (RDA)** being proposed or modified within the permit boundary under this permitting action?

Yes No

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6.1 Stream Disturbance Information

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

6.1 Stream Disturbance Information [1816.57/1817.57]

Are surface coal mining operations and/or reclamation activities (including road crossings) or permit boundaries proposed within 100 feet of any stream (ephemeral, intermittent, or perennial)?

Yes No

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7.1 Pre-Mining Fish and Wildlife Resources

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Each application shall include fish and wildlife resource information for the permit and adjacent area.

7.1 Pre-Mining Fish and Wildlife Resources [1780.16(a)/1784.21(a); 1780.16(a)(1)(A)/1784.21(a)(1)(A)]

Use the text box to provide the following information:

- ✓ Prior to initiating fish and wildlife resource information studies, the applicant shall contact the Department to determine what fish and wildlife resources information will be required.
- ✓ The applicant shall provide a discussion of this contact with the Department below.
- ✓ If the applicant has not contacted the Department as described above, an explanation shall be supplied below.

7.1.1 Vegetation Map [1779.19/1783.19; 1779.24(1)/1783.24(1); 1780.16(a)(2)(B)&(C)/1784.21(a)(2)(B)&(C)]

Use the map uploader to provide the Vegetation Map.

- ✓ The requirements for the Vegetation Map are provided in the Help Tab (?). Please note that the map shall contain all information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under the Map Summary in the Maps Help Tab (?).

Attachments

Name	Satisfied	Map Layers	Date Uploaded	User
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7.1.2 Habitat Descriptions [1779.19(a)/1783.19(a)]

Use the text box to provide the following information:

- ✓ Refer to the Operator Memorandum located in the Help Tab (?) for guidance regarding fish and wildlife habitat designations.
- ✓ A description of the habitat types for each listed pre-mining land use category, excluding cropland, within the proposed permit area.
- ✓ Information for areas categorized as Residential, Industrial/Commercial, Recreational, and Undeveloped that contain trees or other potential habitats of high value for fish and wildlife.
- ✓ Specific information on pre-mining woody and herbaceous vegetation species.
- ✓ A general description of the habitat found in the adjacent half mile area, specifically addressing any potential habitats of high value.

7.1.3 Wetland Resources [1780.18(b)(9)/1784.13(b)(9); 1816.97(f)/1817.97(f)]

Use the text box and /or document uploader to provide the following information:

- ✓ Provide a Wetland Delineation Report for wetland resources located within the proposed permit area.
NOTE: Referencing previously submitted material is acceptable.
- ✓ For wetland resources located within the proposed permit area, discuss how these areas will be avoided or replaced, and enhanced where applicable and provide general information on the steps taken to comply with the Section 404 of the Clean Water Act.
- ✓ If no wetland resources exist within the proposed permit area pre-mining, indicate N/A.

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7.2 Site-Specific Habitats of High Value

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Address any habitats of unusually high value for fish and wildlife located within the proposed permit and adjacent half mile area.

7.2.1 Stream Habitat Characterization [1780.16(a)(2)(B)/1784.21(A)(2)(B); 1816.97(f)/1817.97(f); 1780.18(b)(9)/1784.13(b)(9)]

Use the text box and/or document uploader to provide the following information:

- ✓ For each intermittent and perennial stream discussed in Part 6, provide a description of the riparian vegetation.
NOTE: Referencing previously submitted material is acceptable.
- ✓ A narrative discussing any critical habitat for threatened and endangered aquatic species.
- ✓ Provide a general discussion on how stream habitat will be avoided, replaced, and/or enhanced where practicable.
- ✓ Provide general information on the steps taken to comply with [Section 404 of the Clean Water Act](#) regarding streams and associated riparian areas.
- ✓ If no intermittent or perennial streams were identified in Part 6, indicate N/A.

Attachment

Name Date Uploaded User

7.2.2 Shelter, Protection, and Reproductive Areas [1780.16(a)(2)(B)/1784.21(a)(2)(B); 1816.97(f)/1817.97(f)]

Use the text box to provide the following information:

- ✓ Provide a discussion of areas within the proposed permit and the adjacent half mile area pertaining to shelter, protection, and/or reproductive areas, such as cliffs supporting raptors, caves, migration routes and/or wintering areas.
- ✓ Provide a discussion of measures to protect and/or enhance these areas where practicable.
- ✓ If none of these areas exist, indicate N/A.

7.2.3 Agency Consultation – Habitats [1780.16(a)(2)(C)/1784.21(a)(2)(C); 1780.16(a)(1)(B)(iii)/1784.21(a)(1)(B)(iii)]

Use the text box to provide the following information:

- ✓ Provide a discussion pertaining to any additional habitats of high value identified through other agency consultations as requiring protection by applicable state and federal laws, this may include a larger adjacent area as defined by consultation.
- ✓ If none of these areas exist, indicate N/A.

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7.3 Threatened and Endangered (T and E) Species

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Information required in this section will ensure that the proposed operations adhere to the [Endangered Species Act of 1973](#), as amended, the [Migratory Bird Treaty Act](#), as amended, the [Bald and Golden Eagle Protection Act](#), as amended and other applicable state and federal laws.

7.3.1 T and E Species List [1780.16(a)(1)(B)/1784.21(a)(1)(B); 1780.16(a)(2)(A)/1784.21(a)(2)(A); 1816.97(b)/1817.97(b)]

Use the text box and/or document uploader to provide the following information:

- ✓ Provide a complete threatened and endangered species list for both state and federally listed species that are known to occur within the counties of the proposed permit area and half a mile adjacent to the proposed boundary.
- ✓ Applicants should be aware that the adjacent area may be expanded based on the nature of the listed species in the area and/or as defined by consultation.

Attachments

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7.3.2 Likely to Occur Determinations [1777.13; 1780.16(a)(1)(B)&(a)(2)(A)/1784.21(a)(1)(B)&(a)(2)(A); 1816.97(b)/1817.97(b)]

Use the text box and/or document uploader to provide the following information:

- ✓ For each threatened and endangered species listed in response to Question 7.3.1: T and E Species List, provide a determination based on species habitat requirements regarding the likelihood that the species may occur within the proposed permit and, if applicable, the adjacent half mile area.
- ✓ Provide the rationale justifying the determination.
- ✓ The names of and qualifications of the individual(s) or organization(s) making the determinations shall be supplied.

Attachments

Name Date Uploaded User

7.3.3 Likely to Occur Determinations - Format and Contents [1777.11(a) & (b)]

The information presented in response to Question 7.3.2: Likely to Occur Determinations shall be current, clear, and concise, filed in the format required by the Department, and contain explicit citations.

Use the text box and/or document uploader to provide the following information:

- ✓ Where required by the Department, relevant portions of the referenced materials shall be presented by photocopying or abstracting.
- ✓ If references to previously approved permits are made, the relevant portions of the permits must be supplied in accordance with the Operator Memorandum located in the Help Tab (?) or an explanation shall be provided below why this information is not provided.
- ✓ If relevant portions of the referenced materials have not been requested by the Department or references to previously approved permits have not been made, indicate N/A.

Attachments

Name Date Uploaded User

7.3.4 Agency Consultation – Species [1780.16(a)(2)(C)/1784.21(a)(2)(C); 1780.16(a)(1)(b)(iii)/1784.21(a)(1)(b)(iii)]

Use the text box to provide the following information:

- ✓ Provide a discussion pertaining to any additional species identified through other agency consultations as requiring protection by applicable state and federal laws.
- ✓ If no other species information is required, indicate N/A.

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7.4 T and E Species Protection and Enhancement Measures

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

7.4.1 T and E Bat Species [1780.16(b)/1784.21(b)]

Do any trees exist within the proposed permit area?

NOTE: Areas categorized other than woody/forested habitats such as Residential, Industrial/Commercial, and/or others may contain potential suitable habitat (trees) for listed bats species and shall be accounted for in the response below.

Yes No

7.4.3 Additional T and E Species [1773.12; 1780.16/1784.21; 1816.97/1817.97]

Use the text box and/or document uploader to provide the following information:

- ✓ The applicant shall provide Protection and Enhancement Plans for any additional state and/or federally listed species that have been determined to be likely to occur within the proposed permit and adjacent half mile area.

NOTE: Those species identified in response to Question 7.3.2: Likely to Occur Determinations.

- ✓ For any additional federally listed threatened or endangered species that are likely to occur in the permit area, provide an Incidental Take Authorization request with the Protection and Enhancement Plan.
- ✓ Indicate N/A if this information is not applicable.

Attachments

Name Date Uploaded User

7.4.4 Incidental Take Authorizations for State Listed Species [1773.12; 1780.16/1784.21; 1816.97/1817.97]

Use the text box and/or document uploader to provide the following information:

- ✓ Provide information on any current Incidental Take Authorizations for state listed threatened or endangered species the applicant has obtained or is currently pursuing through the Illinois Department of Natural Resources Office of Resource Conservation.
- ✓ Provide any Conservation Plans prepared in support of Incidental Take Authorizations for state listed species.
- ✓ The current suggested resource for incidental take authorizations for state listed species can be found in the Help Tab (?).
- ✓ If the applicant has not obtained or is not pursuing Incidental Take Authorizations for state listed threatened or endangered species, indicate N/A.

Attachments

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7.4.5 Eagles [1816.97(c) & (d)/1817.97(c) & (d)]

The applicant shall ensure that mining activity will be conducted in a manner that will not result in the taking of a Bald or Golden Eagle, or any other raptor protected under the Bald Eagle Protection Act, and their nests or eggs.

“Take” includes the disturbance of protected eagles to the degree that it substantially interferes with breeding, feeding, or sheltering behavior or results in injury.

Use the text box and/or document uploader to provide the following information:

- ✓ Provide current and accurate information on distances to known Bald Eagle nests within the proposed permit boundary and within a one-mile radius.
- ✓ If none exist, use the text box to explain in detail.
- ✓ If nests exist within a one-mile radius, a Protection and Enhancement Plan must be supplied.
- ✓ Information should also include any species protected under the Bald Eagle Protection Act as amended.
- ✓ The current suggested resource can be found in the Help Tab (?).

Attachments

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7.4.6 Protected Species Reporting [1780.16(a)(2)(C)/1784.21(a)(2)(C); 1816.97(b)/1817.97(b)]

Use the text box to provide the following information:

- ✓ Describe the steps and timeframe for reporting to the Department any state or federally listed species or other protected species as identified through agency consultation, should the operator become aware of the species existence within the proposed permit area.
- ✓ This may include, but not be limited to bald eagle nest reporting in the permit area or applicable adjacent area.

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7.5 General Fish and Wildlife Protection Measures

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

The applicant shall, to the extent possible and with the best technology currently available, minimize disturbances and adverse impacts on fish and wildlife and related environmental values and achieve enhancement of these resources where practicable.

Information shall be provided pertaining measures utilizing the best technology currently available and how the applicant will protect fish and wildlife and related environmental values.

7.5.1 Electric Powerlines [1773.12; 1780.16(b)/1784.21(b); 1816.97(e)(1)/1817.97(e)(1)]

Use the text box and/or document uploader to provide the following information:

- ✓ Discuss the measures to ensure electric powerlines are designed and constructed to minimize electrocution hazards and other hazards as identified by agency consultation (potentially including collisions with powerlines) to ensure that the Endangered Species Act, the Bald Eagle Protection Act, and the Migratory Bird Treaty Act have been considered and addressed where applicable.
- ✓ The current suggested resources can be found in the Help Tab (?).
- ✓ A discussion must be provided if the applicant finds these protection measures are not applicable.

Attachments

Name	Date Uploaded	User
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7.5.2 Haul and Access Roads [1780.16(b)(3)(A)/1784.21(b)(3)(A); 1816.97(e)(2)/1817.97(e)(2)]

Use the text box to provide the following information:

Use the text box to provide the following information:

- ✓ Describe how access and haul roads will be located and operated to avoid or minimize impacts on species protected under the Endangered Species Act, Migratory Bird Treaty Act, and the Bald Eagle Protection Act.
- ✓ A discussion must be provided if the applicant finds these protection measures are not applicable.

7.5.3 Fences and Overland Conveyers [1780.16(b)(3)(A)/1784.21(b)(3)(A); 1816.97(e)(3)/1817.97(e)(3)]

Use the text box to provide the following information:

- ✓ Describe how fences and overland conveyers and other potential barriers will be designed and constructed to allow passage of large mammals.
- ✓ A discussion must be provided if the applicant finds these protection measures are not applicable.

7.5.4 Exclusion from Ponds [1780.16(b)(3)(A)/1784.21(b)(3)(A); 1816.97(e)(4)/1817.97(e)(4)]

Use the text box to provide the following information:

- ✓ Provide information on whether or not ponds on site will contain hazardous concentrations of toxic-forming materials.
- ✓ Describe how control measures, management techniques, and monitoring methods will be used to ensure how wildlife protected under the Endangered Species Act, Migratory Bird Treaty Act, and the Bald Eagle Protection Act are excluded from these areas.
- ✓ A discussion must be provided if the applicant finds these protection measures are not applicable.

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7.6 General Fish and Wildlife Enhancement Measures

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

The applicant shall, to the extent possible and with the best technology currently available, minimize disturbances and adverse impacts on fish and wildlife and related environmental values and achieve enhancement of these resources where practicable.

7.6 General Fish and Wildlife Enhancement Measures [1780.16(b)(3)(b)/1784.21(b)(3)(b)]

Use the text box to provide the following information:

Use the text box to provide the following information:

- ✓ Provide a detailed description of enhancement measures that will be used during the reclamation and post-mining phases of operations to develop aquatic and terrestrial habitats.
- ✓ Measures may include but are not limited to; restoration of streams and/or wetlands, retention of ponds, establishment of wildlife food and/or cover, addition of perches or nest boxes, habitat diversification of croplands, and any other management strategies designed to enhance wildlife habitat.

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8.1 Post-Mining Land Use / Soil Capability Reclamation Map

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Use the map uploader provided below to upload the Post-Mining Land Use / Soil Capability Reclamation Map.

- ✓ Include the location of all replaced prime farmland.
- ✓ Include all Soil Capability Classifications.
- ✓ Delineate any areas that are re-mined and eligible for a two-year responsibility period as afforded under 62 Ill. Adm. Code 1816.116(a)(2)(b)/1817.116(a)(2)(b).

Post-Mining Land Use / Soil Capability Reclamation Map

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name	Satisfied	Map Layers	Date Uploaded	User

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Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

The following information must be provided for the regulatory authority to evaluate whether the applicant has the technological capability to restore mined prime farmland to equivalent or greater productivity within a reasonable amount of time.

- ✓ Information may have been submitted in Part 2 that also meets the requirements for Prime Farmland soils information.

- ✓ The documents that may be referenced in the text boxes provided with each question, if the document(s) are to be utilized to meet the requirements of the question, include but are not limited to the documents listed below.
- ✓ Provide the sections/page numbers where the relevant information can be found.

[Land Capability, Productivity & Web Soil Survey \(2.2.1\)](#)

[Soils Map \(2.2.2\)](#)

[Soils Information Chart \(2.2.7\)](#)

8.2.1 PF Pre-Mining Soil Profile [1785.17(c)]

Use the text box and/or document uploader to describe the original undisturbed soil profile and discuss the parameters listed below for each soil horizon that collectively constitute the root zone unless specific depths or horizons are requested.

- ✓ Depth and thickness of each horizon (range and average)
- ✓ Moist bulk density of each major horizon (use USDA approved method or reference)
- ✓ Present pH and state of fertility (P&K) (A horizon only)
- ✓ Texture analysis of each horizon (use USDA texture classification)
- ✓ If B&C horizons are proposed to be mixed, submit evidence to support proposal.

Attachments

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8.2.2 PF Soil Samples [1780.18(b)/1784.18(b)]

Soil samples must be taken on the permit area to obtain the data necessary for the above-required information.

The applicant shall ensure that the sample site locations are depicted on the Soils Map submitted in Part 2.

Use the text box and/or document uploader to provide the following information.

- ✓ Utilization of NRCS established values of bulk density may be used in lieu of field testing.
- ✓ Use of soil information from related permits, may be used if the information is representative of the proposed permit area.
- ✓ For underground mine surface disturbance areas, which are not exempt from prime farmland restoration requirements and which propose to leave the subsoil in place, the applicant may provide the information in response to Question 2.2.1: Land Capability, Productivity & Web Soil Survey.
- ✓ However, onsite samples must be taken to provide the information required for A horizon thicknesses.

Attachments

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8.2.3 PF Soil Productivity History [1785.17(c)(4)]

Use the text box to discuss the history of previous productivity and cropping practices on prime farmland in the proposed permit area, if known, or reference the productivity information from [Bulletin 811](#), provided in response to Question 2.2.1: Land Capability, Productivity & Web Soil Survey.

8.2.4 PF Reclamation Plan Supporting Data [1785.17(c)(3)]

Use the text box to provide supporting scientific data to demonstrate that using the proposed method of reclamation will achieve, within a reasonable time, levels of yield equivalent to, or higher than those of nonmined prime farmland in the surrounding area by providing the following:

- ✓ References or copies of available agricultural school studies, and or,
- ✓ Company data or other scientific data for comparable areas.

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8.3 Prime Farmland (PF) Soil Handling

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

The applicant shall supply information regarding removal and storage, if applicable, of prime farmland soil horizons.

8.3.1 PF Soil Handling Equipment [1785.17(c)(2)]

Use the text box to describe the equipment to be used in the removal and replacement of each soil horizon.

8.3.2 PF In-Place Subsoil Protection and Restoration [1823.12]

Use the text box to discuss how the mining operation will impact prime farmlands where the B and/or C horizons are to be left in place and how these soils layers will be protected or restored to their original capability.

8.3.3 PF Identification in the Field [1823.12]

Use the text box to discuss how the prime farmland will be identified and segregated in the field in order to avoid contamination with non-prime farmland soils.

8.3.4 PF Alternate Topsoil and Subsoil Mixtures [1823.12; 1823.14(e)]

Are prime farmland topsoil or subsoils to be mixed with non-prime soils, or are alternate materials proposed to be used to create prime farmland root media?

Yes No

8.3.5 PF Stockpile Usage [1823.13]

Use the text box to discuss whether topsoil or subsoil stockpiles will be used, or direct material placement will be employed.

NOTE: Locate all stockpiles on the Operations Map.

8.3.5.1 PF Stockpiling Timetable [1823.13]

Use the text box to discuss the length of time stockpiles are to be in place.

✓ If stockpiles are not being used indicate N/A.

8.3.5.2 PF Stockpile Identification [1823.13]

Use the text box to discuss how different horizons and prime versus non-prime farmland stockpiles are to be identified in the field.

8.3.5.3 PF Stockpile Relocation [1823.13]

Use the text box to discuss any proposed intermittent stockpile plans, including how, when and why such relocations will occur.

8.3.5.4 PF Stockpile Revegetation and Erosion Control [1823.13]

Use the text box to discuss temporary and/or permanent seeding and revegetation plans to prevent wind and water erosion.

8.3.5.5 PF Stockpile Contamination Prevention [1823.13]

Use the text box to discuss how contamination by other soil horizons or by fly rock will be prevented.

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8.4 Prime Farmland (PF) Soil Reconstruction Plan

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

8.4.1 PF Final Slope Grading [1816.102(a)/1817.102(a); 1823.14]

Use the text box to discuss the final graded slopes of the replaced prime farmland areas, including slope lengths.

8.4.2 PF Soil Horizon Replacement [1823.14]

Enter the replacement thickness in inches within the boxes provided below to complete each sentence.

Use the text box to discuss the replacement of soil horizons with respect to horizon thickness and the total root zone depth.

The topsoil replacement thickness will be inches.

The root medium replacement thickness will be inches.

8.4.3 PF Compaction Avoidance/Alleviation [1823.14(c); 1823.14(d)]

Use the text box to discuss how excessive compaction will be avoided.

- ✓ If excessive compaction cannot be avoided, provide a compaction alleviation plan.

8.4.4 PF Erosion Control [1823.14(e)]

Use the text box to discuss how wind and water erosion will be minimized.

- ✓ Include discussions of intended reconstruction timing, seeding, seeding equipment and mulching, as well as any erosion control structures to be used.

8.4.5 PF Management [1823.14(f)]

Use the text box to discuss the management of the reclaimed prime farmland, including crop rotations, green manuring, fertility levels and personnel responsible for such management.

- ✓ The discussion shall include how any necessary land leveling will be addressed.

8.4.6 PF Erosion Control Structures [1823.14(g)]

Use the text box to discuss the timing of the construction of the erosion control structures and the criteria used to determine the need for, and construction design of, erosion control systems.

- ✓ If erosion control system design and construction is to be coordinated with the Natural Resources Conservation Service, please discuss.

8.4.7 PF Surface Drainage Management [1823.14]

Use the text box to discuss positive surface drainage management with respect to any differential settling that may occur.

8.4.8 PF Soil Removal and Replacement Timetable [1823.12; 1823.14(b) & (e)]

Use the text box to discuss the timing of the removal and replacement of the various soil horizons in regard to seasons, weather, and regulatory authority testing approval.

8.4.9 PF Landowner Consent [1785.17(e)(5)]

Use the document uploader to attach a Letter of Consent from any individual landowner in the permit area (other than the applicant) where the post-mining acreage of prime farmland is proposed to be reduced.

Attachments

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8.5 High Capability (HC) Soil Reconstruction Plan

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Provide the information required below regarding High Capability Soil Replacement.

8.5.1 HC Final Graded Slopes [1825.14(c)]

Use the text box to discuss the final graded slopes of the replaced high capability areas.

- ✓ Include a discussion of slope length and grade.

8.5.2 HC Soil Horizons Replacement [1825.14]

Enter the replacement thickness using inches into the boxes provided below to complete each sentence.

Use the text box to discuss the replacement of soil horizons with respect to horizon thickness and the total root zone depth.

The topsoil replacement thickness will be inches.

The root medium replacement thickness will be inches.

8.5.3 HC Compaction Avoidance/Alleviation [1825.14(e)]

Use the text box to discuss how excessive compaction will be avoided for high capability areas.

- ✓ If excessive compaction cannot be avoided, provided a compaction alleviation plan.

8.5.4 HC Erosion Control [1825.14(f)]

Use the text box to discuss how wind and water erosion will be minimized in high capability areas.

- ✓ Include discussions of intended reconstruction timing, seeding, seeding equipment and mulching, as well as any erosion control structures to be used.

8.5.5 HC Management [1780.18(b)/1784.13(b)]

Use the text box to discuss the management of the reclaimed high capability land, including crop rotations, green manuring, fertility levels and personnel responsible for such management.

- ✓ The discussion shall include how any necessary land leveling will be addressed.

8.5.6 HC Erosion Control Structures [1825.14(f)]

Use the text box to discuss the timing of the construction of the erosion control structures and the criteria used to determine the need for, and construction design of, erosion control systems.

- ✓ If erosion control system design and construction is to be coordinated with the Natural Resources Conservation Service, please discuss.

8.5.7 HC Surface Drainage Management [1825.14]

Use the text box to discuss positive surface drainage management with respect to any differential settling that may occur in high capability areas.

8.5.8 HC Mulching [1780.18(b)/1784.13(b)]

Use the text box to discuss the methods of mulching to be used with respect to seasonal variation in high capability areas.

8.5.9 HC Landowner Consultation [1780.23 (b) & (c)/1784.15(b) & (c)]

Use the document uploader to attach a Letter of Consultation and response, if received, from any individual landowner in the permit area (other than the applicant), where the post-mining acreage of high capability land is proposed to be reduced.

Attachments

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9.1 RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

9.1.1 Post-Mining Land Use Change Request [1780.23(b)/1784.15(b)]

Is this an Insignificant Permit Revision (IPR) or Significant Permit Revision that is requesting a change to post-mining land uses currently and/or previously approved by the Department?

Yes No

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9.3 RECLAMATION TIMELINES

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

The applicant is required to provide a detailed timeline for completion of each major step in the proposed reclamation plan for the permit area, based on the nature of the application, for each subsection below. All timelines shall include discussions regarding any support areas, including refuse disposal areas.

9.3.1 Contemporaneous Reclamation [1816.100/1817.100]

Use the text box and/or document uploader to provide a discussion regarding contemporaneous reclamation efforts.

- ✓ The discussion shall include, but not be limited to, backfilling, grading, topsoil replacement, and revegetation, on all land that is disturbed by surface mining activities.
- ✓ Include considerations of possible environmental ramifications except when such mining operations are conducted in accordance with a variance for concurrent surface and underground mining activities issued under 62 Ill. Adm. Code 1785.18.

Attachments

Name Date Uploaded User

9.3.2 Final Grading Timeline [1816.101/1817.101]

Use the text box and/or document uploader to provide a discussion regarding final grading timelines.

- ✓ The discussion shall include details related to the timing of the rough grading, root medium, and topsoil during active mining.
- ✓ If the plan proposes to reduce the time frames or distance to less than that allowed, it must be stated here and in the reclamation cost estimate section.

Attachments

Name Date Uploaded User

9.3.3 Reclamation Erosion Control [1780.25(a)/1784.16(a)]

Use the text box and/or document uploader to provide a discussion regarding the timing in which all grading and the construction and removal or renovation of water and erosion control structures will be complete and the sequence for accomplishing the work in relation to seasonal weather conditions.

Attachments

Name	Date	Uploaded	User
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9.3.4 Temporary Road Removal [1780.37(a)(7)/1784.24(a)(7)]

Use the text box and/or document uploader to provide a discussion regarding temporary road removal.

- ✓ The discussion shall include plans to remove and reclaim each road that will not be retained under an approved post-mining land use.
- ✓ A schedule for this removal and reclamation shall be included in the discussion.
- ✓ Each road listed in Question 3.8.1: Transportation Facility Descriptions, that is not proposed to remain as a permanent road must be discussed.

Attachments

Name	Date	Uploaded	User
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9.3.5 Revegetation Timelines [1780.18(b)(1)/1784.13(b)(1)]

Use the text box and/or document uploader to provide a discussion regarding a revegetation timeline which includes planting of temporary and permanent vegetation and/or tree planting after final grading as it relates to the proposed land use.

Attachments

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9.4 BACKFILLING AND GRADING

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

9.4.1 Backfill & Grading Methods [1816.102/1817.102 through 1816.107/1817.107]

Use the text box and/or document uploader to describe the methods to be used for backfilling and grading the proposed permit area, including the following:

- ✓ Soil stabilization and compaction practices in accordance with 62 Ill. Adm. Codes 1816.102/1817.102 through 1816.107/1817.107.

- ✓ To ensure the proposed final cut size and configuration as shown in the Surface Drainage Control Map and the Post-Mining Land Use / Soil Capability Reclamation Map will be achieved, discuss how the active mining operations (overburden handling) sequence will be modified before the proposed limits of mining are reached.
- ✓ If no mining operation modification is proposed, describe any proposed backfill operation that will reduce the width of the final cut, as necessary, to ensure adequate space to reclaim required acreage of prime farmland and high capability land.

Attachments

Name Date Uploaded User

9.4.2 Post-Mining Cross-Sections [1780.18(b)(3)/1784.13(b)(3)]

Use the document uploader to provide the following:

- ✓ Appropriate cross-sections to illustrate and define both the active mining pit and the proposed post-mining configuration of the permit area including the final cut, if proposed.
- ✓ The cross-section must include the elevation of permanent pool of any proposed final cut(s).
- ✓ These cross-sections shall be referenced on the [Post-Mining Land Use / Soil Capability Reclamation Map](#).

Attachments

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9.5 BORROW AREAS

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Are any borrow areas being utilized to provide a sufficient amount of material to achieve the post - mining configuration or adequate cover for refuse disposal areas?

Yes No

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9.6 SOIL BALANCING CALCULATIONS [1780.23(b)(1)/1785.15(b)(1)]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Use the document uploader to provide the following:

- ✓ To achieve the proposed post-mining configuration including cover requirements for refuse disposal areas, the applicant shall provide soil balancing calculations to ensure an adequate quantity of material is available, including volumes from any proposed borrow areas.
- ✓ These calculations shall include the appropriate soil shrinkage factor to account for soil loss and compaction consistent with sound engineering practices, as approved by the Department.

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9.7 EXCESS SPOIL DISPOSAL [1780.35;1816.71]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

For surface mines, does the proposed surface coal mining and reclamation operation require disposal of excess spoil?

NOTE: If not applicable to this permitting action, select NO and indicate "N/A" in the text box provided.

Yes No

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9.8 SHAFT, SLOPE AND BOREHOLE SEALING

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Each shaft, drift, adit, tunnel, exploratory hole, entryway, or other opening to the surface from underground shall be capped, sealed, backfilled, or otherwise properly managed, as required by the Department, in accordance with 62 Ill. Adm. Code Section 1816.13/1817.13, the Operator Memorandums located in the Help Tab (?), and consistent with 30 CFR 75.1711.

9.8.1 Temporary Seals [1816.14/1817.14]

Use the text box to provide information on temporary seals to be constructed for prevention of entry of all mine openings in the event the mine is temporarily closed or abandoned. Include an appropriate timetable for construction of these seals.

9.8.2 Permanent Seals [1816.15/1817.15]

Use the text box and/or document uploader to provide a description, including appropriate cross-sections and plan views, of the measures to be used to seal or manage mine openings, and to plug, case, or manage exploration holes, other boreholes, wells, and other openings within the proposed permit area including the following:

- ✓ Completion using a combination of backfilling and sealing.
- ✓ The type and grade of materials to be used for backfilling and the intervals in which they will be used.
- ✓ Sections of casing, entry linings, or collar to be demolished.
- ✓ Design of hydraulic seals, including construction material, reinforcing, method of placement, design thickness, and method of anchoring.
- ✓ Design of gas ventilation piping that will be incorporated in seal design.
- ✓ Finished grading at land surface.
- ✓ A description of a permanent monument marker identifying the seal as a mine opening.
- ✓ A description of the location of all sealed shafts, slopes, or other entrance tunnels to be recorded with the appropriate recorder of deeds.
- ✓ For guidance and required information, see the Operator Memorandum located in the Help Tab (?) as a RECOMMENDATION.

Attachments

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9.8.3 Sealing Guideline Deviation [1780.18(b)(8)/1784.13(b)(8)]

Use the text box to provide details for any deviation from the established guidelines for sealing, backfilling, and capping, provide an engineering and hydrologic justification. See Operator Memorandums located in the Help Tab(?).

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9.9 ABANDONMENT AND CLOSURE OF REFUSE DISPOSAL AREAS

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

9.9.1 Cover Variance Requests [1816.83(c)(4)/1817.83(c)(4)]

Is a variance from the required four (4) feet of cover material being requested?

Yes No

9.9.2 Neutralization Material Rate Requests [1816.71(o)/1817.71(o); 1816.83(c)(4)/1817.83(c)(4)]

Use the text box and/or document uploader to provide a sampling plan of refuse material for neutralization rates that will be used prior to soil covering.

- ✓ For guidance regarding neutralization material rate requests and required information, see the Operator Memorandum located in the Help Tab(?).

Attachments

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9.9.3 Refuse Disposal Facility Reclamation Plan [1780.18(b)/1784.13(b); 1816.100/1817.100]

Use the text box and/or document uploader to describe the proposed reclamation for each coal refuse disposal area, including the following information:

- ✓ A discussion of the timing of final coverage, the discussion shall include a plan for concurrent soil coverage of the refuse disposal facility. See the Technical Guidance Document and Operator Memorandum located in the Help Tab (?).
- ✓ Cross sections of final cover and configuration, including coarse refuse cap depth and soil cover material depths.
- ✓ Type and amount of material proposed to be used for cover, including any coarse refuse used to provide a base over slurry prior to soil cover.
- ✓ Describe how coarse refuse will be handled, placed and/or stored to ensure that sufficient volumes are available for final refuse capping when coarse refuse no longer is generated or no longer available.
- ✓ Construction details of cover and caps, including the proposed soil depths and long-term groundwater protection measures.
- ✓ Design details of all proposed down-drains, terraces, benches, or any other permanent surface drainage structures.
- ✓ Relationship of the refuse disposal area to the post-mining land use.
- ✓ Any plans of access roads and other use related facilities.

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9.10 BOND ESTIMATION

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

9.10.1 Bond Reclamation Costs Tables [1780.18(b)(2)/1784.13(b)(2); 1800.14]

Use the document uploader to provide the information listed below that is necessary for the Department to estimate the cost of reclamation for the proposed operation required to be covered by a performance bond. Information regarding the estimated dollar amount of the cost of reclamation is optional.

- ✓ Provide all required dimensions, haul distances, soil depths, grading information, building and structure material information, requested in the tables.
- ✓ Provide calculations and/or drawings, and cross sections where necessary to support reclamation information, or indicate an application map or attachment where the relevant information can be found.
- ✓ Provide additional calculations for multiple pits or refuse areas (use multiple tables if necessary).
- ✓ The estimate of the cost of reclamation shall be based on:
 - ✓ Bond Calculation Acreage (*Table 9.10.1.1*)
 - ✓ Soil Replacement (*Table 9.10.1.2*)
 - ✓ Interior Grading (*Table 9.10.1.3*)
 - ✓ Boxcut Outslope Grading (*Table 9.10.1.4*)
 - ✓ Incline/Highwall Reclamation (*Table 9.10.1.5*)
 - ✓ Refuse Disposal Areas (*Table 9.10.1.6*)
 - ✓ Incised Slurry Pond or Refuse Reclamation (*Table 9.10.1.7*)
 - ✓ Support Area Reclamation (*Table 9.10.1.8*)
 - ✓ Building Reclamation (*Table 9.10.1.9*)
 - ✓ Reinforced Concrete Structure Reclamation (*Table 9.10.1.10*)
 - ✓ Pavement/Gravel Area Reclamation (*Table 9.10.1.11*)
 - ✓ Borehole/Monitoring Well Backfilling (*Table 9.10.1.12*)
 - ✓ Shaft/Slope Backfilling (*Table 9.10.1.13*)
 - ✓ Public Road Reclamation (*Table 9.10.1.14*)

Attachments

Name Date Uploaded User

9.10.2 Bond Calculation Map [1800.14]

Use the map uploader to provide the Bond Calculation Map, including the following information:

- ✓ Location and ID of all buildings to be reclaimed
- ✓ Location and ID of all reinforced concrete structures to be reclaimed, including shafts, slopes, coal stacking towers, silos, and thickeners
- ✓ Location and ID of all pavement and gravel areas to be reclaimed
- ✓ Location and ID of all temporary ponds to be reclaimed
- ✓ Location and ID of all haul roads to be reclaimed and/or narrowed
- ✓ Location and ID of all conveyors
- ✓ Location and ID of all rail roads to be reclaimed
- ✓ Provide the location of buried volatile material storage facilities including size of each facility

Bond Calculation Map

The map shall contain:

- ✓ All information described within the “General Mapping Requirements” and comply with the requirements of the Operator Memorandum, both located under Map Summary in the Maps Help Tab (?).

Attachments

Name Satisfied Map Layers Date Uploaded User

9.10.3 Incremental Bonding Request [1800.11]

Is incremental bonding or a subsequent bond increment being requested as part of this permitting action?

Yes No

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1239-DEER RUN 424 - Insignificant Permit Revision/IPR1

10.1 REVEGETATION OF DRAINAGE CONTROL DITCHES

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Describe plans for revegetation of ditches associated with construction of roads, conveyer systems, rail systems, and associated with controlling overland flow drainage.

10.1.1 Ditches - Temporary Revegetation [1816.111(c)/1817.111(c); 1816.114/1817.114; 1780.18(b)(5)/1784.13(b)(5)]

Use the text box to describe the methods for the use of temporary seeding/mulching to control erosion, discuss the species, seeding rate by species per acre, and mulching methods and type of mulch.

10.1.2 Ditches - Revegetation Transition [1816.111(c)/1817.111(c)]

Use the text box to describe the timing and methods proposed to transition from the temporary vegetation to the semi-permanent or permanent vegetative cover.

10.1.3 Ditches - Permanent Revegetation [1780.18(b)(5)/1784.13(b)(5)]

Use the text box to describe seeding rate by species per acre, methods of planting and seeding, mulching and fertilizer plan and rates for the semi-permanent or permanent grass and forbs list.

10.1.4 Ditches – Revegetation Species [1816.111(a) & (b)/1817.111(a) & (b); 1816.111(c)/1817.111(c)]

Use the text box and/or document uploader to provide the following:

- ✓ Provide a semi-permanent or permanent grass and forbs species list that is diverse, native, capable of controlling erosion, and capable of self-regeneration.
- ✓ If non-native species are proposed, provide adequate justification that the species are desirable, necessary to achieve the approved post-mining land use, and are required to control erosion.

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10.2 REVEGETATION OF FACES OF EMBANKMENTS

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Describe plans for revegetation of faces of embankments of sediment ponds and other water structures.

10.2.1 Embankments - Temporary Revegetation [1816.111(c)/1817.111(c); 1816.114/1817.114; 1780.18(b)(5)/1784.13(b)(5)]

Use the text box to describe the methods for the use of temporary seeding/mulching to control erosion, discuss the species, seeding rate by species per acre, and mulching methods and type of mulch.

10.2.2 Embankments - Revegetation Transition [1816.111(c)/1817.111(c)]

Use the text box to describe the timing and methods proposed to transition from the temporary vegetation to the semi-permanent or permanent vegetative cover.

10.2.3 Embankments - Permanent Revegetation [1780.18(b)(5)/1784.13(b)(5)]

Use the text box to describe seeding rate by species per acre, methods of planting and seeding, mulching and fertilizer plan and rates for the semi-permanent or permanent grass and forbs list.

10.2.4 Embankments – Revegetation Species [1816.111(a) & (b)/1817.111(a) & (b); 1816.111(c)/1817.111(c)]

Use the text box and/or document uploader to provide the following:

- ✓ Provide a semi-permanent or permanent grass and forbs species list that is diverse, native, capable of controlling erosion, and capable of self-regeneration.
- ✓ If non-native species are proposed, provide adequate justification that the species are desirable, necessary to achieve the approved post-mining land use, and are required to control erosion.

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10.3 REVEGETATION OF SOIL STOCKPILES

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Describe plans for revegetation of subsoil and topsoil stockpiles.

10.3.1 Stockpiles - Temporary Revegetation [1816.111(c)/1817.111(c); 1816.114/1817.114; 1780.18(b)(5)/1784.13(b)(5)]

Use the text box to describe the methods for the use of temporary seeding/mulching to control erosion, discuss the species, seeding rate by species per acre, and mulching methods and type of mulch.

10.3.2 Stockpiles - Revegetation Transition [1816.111(c)/1817.111(c)]

Use the text box to describe the timing and methods proposed to transition from the temporary vegetation to the semi-permanent or permanent vegetative cover.

10.3.3 Stockpiles - Permanent Revegetation [1780.18(b)(5)/1784.13(b)(5)]

Use the text box to describe seeding rate by species per acre, methods of planting and seeding, mulching and fertilizer plan and rates for the semi-permanent or permanent grass and forbs list.

10.3.4 Stockpiles – Revegetation Species [1816.111(a) & (b)/1817.111(a) & (b); 1816.111(c)/1817.111(c)]

Use the text box and/or document uploader to provide the following:

- ✓ Provide a semi-permanent or permanent grass and forbs species list that is diverse, native, capable of controlling erosion, and capable of self-regeneration.
- ✓ If non-native species are proposed, provide adequate justification that the species are desirable, necessary to achieve the approved post-mining land use, and are required to control erosion.

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10.4 REVEGETATION OF COAL REFUSE DISPOSAL AREAS (RDA)

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is a Coal Refuse Disposal Area being proposed or modified under this permitting action?

Yes No

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10.5 PASTURE RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Pasture Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.6 FISH AND WILDLIFE - HERBACEOUS RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Fish and Wildlife - Herbaceous Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.7 FISH AND WILDLIFE-WOODY RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Fish and Wildlife - Woody Post - Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.8 FISH AND WILDLIFE-WETLAND RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Fish and Wildlife - Wetland Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.9 FISH AND WILDLIFE-WATER RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Fish and Wildlife - Water Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.10 DEVELOPED WATER RESOURCES RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Developed Water Resources Post-Mining Land Use being proposed or altered under this permitting action?

Yes No

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10.11 FOREST RECLAMATION PLAN

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Forest Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.12 INDUSTRIAL/COMMERCIAL RECLAMATION PLAN [1816.111/1817.111; 1816.97/1817.97; 1816.116/1817.116; 1816.117/1817.117]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Industrial/Commercial Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.13 RECREATION RECLAMATION PLAN [1816.111/1817.111; 1816.97/1817.97; 1816.116/1817.116; 1816.117/1817.117]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Recreation Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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10.14 HABITAT DIVERSIFICATION IN CROPLAND [1816.97(h)/1817.97(h); 1816.111/1817.111]

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the Cropland Post-Mining Land Use being proposed or modified under this permitting action?

Yes No

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11.1 Surface and Underground Mine Blasting

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

11.1 Surface and Underground Mine Blasting

Is blasting to be conducted as part of a surface mine?

Yes No

Is blasting to be conducted as part of an underground mine?

Yes No

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12.1 SHAFTS, SLOPES & BOREHOLES

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Are shafts, slopes, and/or boreholes proposed under this permitting action?

Yes No

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13.1 UNDERGROUND MINING

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Are underground mining operations that result in the underground excavation of coal being proposed and/or modified under this permitting action?

Yes No

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14.1 DISPOSAL OF COAL WASTE IN UNDERGROUND WORKINGS

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Is the disposal of coal waste in the underground workings being proposed and/or modified under this permitting action?

Note: For the purposes of this application, "coal waste" includes coal processing waste, slurry, and/or contact water associated with coal processing waste.

Yes No

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15.1 Coal Combustion Materials

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

15.1 Coal Combustion Materials

Are Coal Combustion By-Products (CCB) proposed to be used?

Yes No

Are Coal Combustion Wastes (CCW) proposed to be disposed?

Yes No

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15.2 Coal Combustion By-Products (CCB)

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

15.2 Coal Combustion By-Products (CCB) [415 ILCS 5/3.135]

Use the text box to provide a detailed narrative of the proposed CCB activities request with this submittal.

- ✓ Utilization of Coal Combustion By-Products (CCB) at permitted coal mines must comply with the Operator Memorandum located in the Help Tab (?).
- ✓ Acceptable CCB uses are listed in the Environmental Protection Act (415 ILCS 5/3.135).
- ✓ Unless exempted from Section 3.135 of the Environmental Protection Act, notification is required to the IEPA for each project utilizing CCB documenting the quantity of CCB utilized and certification of compliance with certain conditions.

Coal Combustion By-Products (CCB) in the forms of conditioned fly ash, bottom ash, and/or small amounts of miscellaneous ash products are proposed to be used to assist with neutralization of the coarse coal refuse material on Refuse Disposal Area No. 2 ("RDA No. 2). To achieve 100% neutralization of 1,000 tons of coarse refuse material, it is calculated to take 2,116 tons of bottom ash, 1,442 tons of fly ash, and/or 635 tons of miscellaneous ash. It should be noted that the ash analyzed from this source was collected while burning a different coal provider. Additional samples will be collected once the source is burning coal from the applicant (Hillsboro Energy, LLC) and analyzed for a representative Acid Base Accounting (ABA) calculation.

The conditioned fly ash, bottom ash, and miscellaneous ash products will be received in over the road, covered haul trucks. The haul trucks transporting the CCB materials will be directed to a dump area on RDA 2, and the materials will be incorporated with the coarse coal refuse with conventional earth moving equipment (e.g., bulldozer, tractor and scraper, end loader, etc.). The dumping location(s) will typically be positioned near the active coarse coal refuse discharge location(s); however, they may vary as the facility is constructed.

Special care will be taken to minimize the potential for fugitive dust generated from the CCB products. If visible dust is observed that could potentially lead to fugitive dust, the ash handling activities shall cease immediately and remedial measures taken. Remedial measures may consist of, but not limited to, wetting the ash, wetting the dump area, changing the dump location, or delaying CCB deliveries for more favorable weather conditions.

15.2.1 CCB Sources

Use the document uploader to attach Table 15.2.1: Coal Combustion By-Products.

✓ *NOTE: The list shall include all previously approved CCB sources.*

Attachments

Name	Date Uploaded	User
15.2.1Table.xlsx	12/4/2024	Clayton Cross

15.2.2 CCB Use

Select the box(s) to indicate what the proposed beneficial use at the site is for:

Placement Soil Substitute/Additive

For Placement select all that apply:

Reclamation/Fill

Low-permeability Material

Road Base

Alkaline Addition

- ✓ Appropriate acid-base accounting must be included for submittals that are requesting CCB to be used as “Alkaline Addition”.

15.2.3 CCB Placement Areas

Use the text box to provide a general narrative explanation of the location(s) of CCB placement areas and how much CCB (in cubic yards) is proposed to be used to complete the project. The narrative shall indicate how many acres will be utilized for each beneficial use area.

- ✓ Areal extent of beneficial use of CCB
- ✓ CCB unloading and stockpile areas
- ✓ A discussion of how the CCB materials may interact and/or impact the groundwater and surface waters in and around the proposed permit, shadow (if applicable) and adjacent areas
- ✓ Cross sections that show the current contours, the ash areas, and proposed final contours
- ✓ Include multiple cross sections if necessary, to describe sequential placement in large pits
- ✓ CCB placement areas shall be delineated on the Operations Map

NOTE: If the CCB use requires a change to the surface water and/or groundwater monitoring plan, the applicant shall complete the appropriate questions in Part 4.

The proposed CCB will be incorporated into the construction of RDA No. 2 and will be beneficial to neutralize the coarse coal refuse. The CCB will be open dumped onto the coarse coal refuse material throughout RDA No. 2, and will not be stockpiled off the impoundment. The CCB will have no impact to the groundwater, as the complete facility contains a synthetic liner to protect the localized groundwater. There are no known shallow groundwater users within ½ mile of the operation. Surface water may be improved by assisting to neutralize the coarse coal refuse material; however, all surface drainage from the facility reports directly to Ponds 008 and 009 and is handled within the surface water management, and associated NPDES permit, of the site. The physical construction and layout of RDA No. 2 will not be impacted as the proposed annual volume of CCB placed is less than 5% of the coarse coal refuse generated annually to construct the facility. Timing of construction of the facility may be reduced by approximately two months, which is considered negligent over the projected remaining life of the facility, which is estimated at five years at the time of this submittal. The existing Operations Map is unchanged as the CCB material will be incorporated with the coarse coal refuse.

15.2.4 CCB Placement Schedule

Use the text box to provide a timetable/schedule for ash utilization at this site from preparation to final reclamation.

CCB will be delivered and placed according to the suppliers needs to deliver the materials. The placement of CCB is not expected to have a material impact to the timing of the construction of the RDA No. 2 facility. The CCB is expected to provide a beneficial use to assist with neutralizing the coarse coal refuse, and potentially minimize the amount of amendment required when it is time for final soil placement and reclamation.

15.2.5 CCB Site Information

Use the text box and/or document uploader to provide a detailed description of the following operational aspects regarding the beneficial use of CCB.

- ✓ Site preparation (include erosion and sediment controls)
- ✓ Handling of CCB (unloading, stockpiling, etc.)
- ✓ Placement and compaction techniques to be used
- ✓ Dust control measure
- ✓ Final site grading
- ✓ Type and thickness of final cover material
- ✓ Revegetation procedure
- ✓ A discussion demonstrating that the CCB will have no adverse impacts to the environment

The CCB will be open dumped directly onto the coarse coal refuse used to construct the facility. The site preparation will consist of maintaining a suitable haul road and a compacted, travelable site to dump the CCB prior to being incorporated into the coarse coal refuse by other general earth moving equipment. All compaction of the coarse coal refuse shall continue to meet or exceed minimum requirements for the construction of the facility as outlined in Permit No. 424. All CCB proposed to be used of will be conditioned and/or dense enough to prevent fugitive dust from occurring. Special care will be taken to minimize the potential for fugitive dust generated from the CCB products. If visible dust is observed that could potentially lead to fugitive dust, the ash handling activities shall cease immediately and remedial measures taken. Remedial measures may consist of, but not limited to, wetting the ash, wetting the dump area, changing the dump location, or delaying CCB deliveries for more favorable weather conditions.

Attachments

Name Date Uploaded User

15.2.6 CCB Testing

Use the document uploader to provide laboratory test results for all proposed CCB sources and a representative sample of the CCB mixture based on the proposed beneficial use plan being requested.

Use the text box to describe the sampling procedure if the applicant is conducting sampling on a representative sample.

- ✓ The CCB shall not exceed Class I Groundwater Standards for metals when utilizing test method ASTM D3987-85.
- ✓ At a minimum, all constituents shall be tested with detection limits down to their respective class standard provided below.
- ✓ The CCB shall not have been mixed with hazardous waste prior to use.
- ✓ Testing of all CCB sources shall be conducted for the following constituents:

NOTE: Appropriate acid-base accounting must be included for submittals that are requesting CCB to be used as "Alkaline Addition".

Constituent	Class I Standard(mg/l)	Constituent	Class I Standard(mg/l)
Antimony	0.006	Lead	0.0075
Arsenic	0.01	Manganese	0.15
Barium	2.0	Mercury	0.002
Beryllium	0.004	Nickel	0.1
Boron	2.0	Phenol	0.1
Cadmium	0.005	Selenium	0.05
Chromium	0.1	Silver	0.05
Cobalt	1.0	Thallium	0.002
Copper	0.65	Zinc	5.0
Iron	5.0		

See attached CCB analysis utilizing test method ASTM D3987-85. It should be noted that the ash analyzed from this source was collected while burning a different coal provider. Additional samples will be collected once the source is burning coal from the applicant (Hillsboro Energy, LLC) and analyzed utilizing test method ASTM D3987-85. Also, a composite sample consisting of representative quantities of the CCB and coarse coal refuse shall be sampled and analyzed annually for beneficial use.

Attachments

Name	Date Uploaded	User
Attachment 15.2.6 - Shake Test Analysis.pdf	12/4/2024	Clayton Cross
Attachment 15.2.6 - Ash ABA Analysis.pdf	12/4/2024	Clayton Cross

15.2.7 CCB Beneficial Use Determination

If a CCB does not meet the Class I Groundwater Standard for any constituents, the applicant may request the Department to make a written Beneficial Use Determination (BUD) that the

material being proposed as a CCB will satisfy the regulations.

This information is required if there are exceedances of the Class I Groundwater Standard and the applicant is requesting approval of the CCB source.

The Department will not approve any non-compliant CCB source without a BUD request.

Use the text box to request a BUD by providing the required information:

- ✓ The use will not cause, threaten or allow the discharge of any contaminant into the environment;
- ✓ The use will otherwise protect human health and safety and the environment; and
- ✓ The use constitutes a legitimate use of the material as an ingredient or raw material that is an effective substitute for an analogous ingredient or raw material.

The applicant requests the Department to make a written Beneficial Use Determination (BUD). The proposed CCB will be incorporated into the construction of RDA No. 2 and will be beneficial to neutralize the coarse coal refuse. The CCB will have no impact to the groundwater, as the complete facility contains a synthetic liner to protect the localized groundwater. There are also no known shallow groundwater users within ½ mile of the operation. All three CCB products exceed the Class I Groundwater Standard for Boron; and the fly ash product slightly exceeds the Class I Groundwater Standard for Chromium.

It should be noted that the ash analyzed from this source was collected while burning a different coal provider. Additional samples will be collected once the source is burning coal from the applicant (Hillsboro Energy, LLC) and analyzed utilizing test method ASTM D3987-85. Also, a composite sample consisting of representative quantities of the CCB and coarse coal refuse shall be sampled and analyzed annually for beneficial use.

15.2.8 CCB Reporting

Quarterly reporting of the quantity of each CCB received at the proposed site is required, with reports due within one month of the end of each quarter as prescribed in the chart below.

Annual reporting of the quality of each CCB received at the proposed site is required.

Annual sampling is considered to be January 1st through December 31st with required reporting due by February 1st.

Scheduled Period	From - To	Report Due
1st Quarter	Jan. 1 - Mar. 31	May 1
2nd Quarter	Apr. 1 - Jun. 30	Aug 1
3rd Quarter	Jul. 1 - Sep. 30	Nov 1
4th Quarter	Oct. 1 - Dec. 31	Feb 1

Use the text box to provide the following:

- ✓ If the applicant requests annual quality sampling to be conducted on a composite sample for multiple CCB sources, the applicant shall describe the sampling procedure used to obtain the representative composite sample.

The applicant shall submit to the Department quarterly reports of the quantity of each CCB received at the site. A composite sample consisting of representative quantities of the CCB and coarse coal refuse shall be sampled and analyzed annually for beneficial use.

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1239-DEER RUN 424 - Insignificant Permit Revision/IPR1

16.1 AUGER MINING

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

Auger mining is considered an underground mining operation and an unplanned subsidence control method of extraction.

Any area where auger mining will extend beyond the permit boundary is considered underground mining shadow area.

Use of a highwall miner for rectangular openings is also classified as an auger mining method and should be addressed in this section.

Is auger mining being proposed and/or modified under this permitting action?

Yes No

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1239-DEER RUN 424 - Insignificant Permit Revision/IPR1

100.1 – ADDITIONAL INFORMATION

Click Help Tab (?) to access guidance and/or template(s) to meet this rule requirement.

The applicant must contact the Department in advance of utilizing Part 100.1 to discuss whether it is necessary to complete this part.

Efforts have been made to cover all possible proposals in the previous parts of the application. The sole purpose of this part is to address and upload information in the event the format and questions covered in the previous parts cannot adequately cover a given permitting proposal. This part should only be utilized if is the applicant cannot incorporate all necessary information under the previous application parts.

100.1 Description of Additional Information [1777.11]

Is the completion of this part necessary to convey information that otherwise could not be conveyed in the previous application parts?

Yes No

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1239-DEER RUN 424 - Insignificant Permit Revision/IPR1

Maps Overview

MAPS				
Name	Date	Uploaded	User	
All Maps				
Name	Satisfied	Map Layers	Date	Uploaded User

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1239-DEER RUN 424 - Insignificant Permit Revision/IPR1

Approved Correspondence

File Name Type Uploaded Approved Approved By

Miscellaneous Correspondence

Name Document Type Date Uploaded User

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**TABLE 15.2.1
Coal Combustion By-Products**

CCB SOURCE			CCB TYPE fly, bed, bottom, FBC, etc	CURRENTLY PERMITTED VOLUME		REQUESTED VOLUME		EXPECTED/ACTUAL VOLUME	
Facility Name	City	State		Annual Cubic Yards	Annual Tonnage	Annual Cubic Yards	Annual Tonnage	Annual Cubic Yards	Annual Tonnage
City Water Light and Power Generating Plant	Springfield	IL	Fly Ash	0	0	59,259	60,000	39,506	40,000
City Water Light and Power Generating Plant	Springfield	IL	Bed/Bottom Ash	0	0	39,506	40,000	11,852	12,000
City Water Light and Power Generating Plant	Springfield	IL	Miscellaneous CCR	0	0	3,951	4,000	988	1,000

NOTES

CURRENTLY PERMITTED VOLUME is the amount of CCB approved previous to this request. The volume should match the amount approved by the previous permit action(s).

REQUESTED VOLUME is the amount being requested by this permit action.

EXPECTED/ACTUAL VOLUME is the amount typically received or to be received from each source.



Appalachian Laboratories, Inc.

P.O. BOX 392
BECKLEY, WEST VIRGINIA 25802

PHONE 304-253-8677
FAX 304-253-4157
www.appalachianlabs.com

Client: HILLSBORO ENERGY, LLC
PO BOX 457
HILLSBORO, IL 62049

Date Sampled: 8/12/2024
Date Received: 8/21/2024
Date Analyzed: 8/26/2024

CWLP PROJECT ACID BASE ACCOUNTABILITY CAC03 Equiv. (Tons/1000 Tons of Material)

Lab No.	SAMPLE ID	Color	Fizz	TOTAL% Sulfur	Max. From % Sulfur	Amount Present	Max. Needed pH 7	Excess	Paste pH
16934	FLY ASH	10YR/4/1	STRONG	0.6246	19.5188	82.5000	-0-	62.9813	12.27
16935	BED ASH	10YR/4/1	MODERATE	0.0094	0.2938	56.2500	-0-	55.9563	10.31
16936	MISC ASH SLUDGE	10YR/5/1	STRONG	0.5510	17.2188	187.5000	-0-	170.2813	10.67

*Calculated from the Pyritic Sulfur Content
See Attachment

Copy of Copy of ACID BASE FORM- HILLSBORO

ENGINEERING CERTIFICATION (Form A)

Permit No(s): 424 (Leave blank if number has not been issued)

Submittal Name: IPR 1 - Beneficial Use CCB

Submittal Date: 12/18/2024

1. I hereby certify under penalty of law that **all technical submissions provided within this application** were done by me or under my direct supervision; that to the best of my knowledge and belief, that such technical submissions have been completed in accordance with 62 Ill. Adm. Codes 1700 through 1850 and generally accepted standards and practices of my profession; and the information is accurate and complete. I further certify that all applicable maps and/or drawings have been sealed in accordance with the Professional Engineering Act 225 ILCS 325/15.

2. I hereby certify under penalty of law that the **specific technical submissions itemized below and provided within this application** were done by me or under my direct supervision; that to the best of my knowledge and belief, that such technical submissions have been completed in accordance with 62 Ill. Adm. Codes 1700 through 1850 and generally accepted standards and practices of my profession; and the information is accurate and complete. I further certify that all applicable maps and/or drawings have been sealed in accordance with the Professional Engineering Act 225 ILCS 325/15.

INDIVIDUAL P.E. CERTIFICATION

Clayton Cross
Name

IL 062-068486
Illinois Registration Number

Hillsboro Energy, LLC
Firm

P.O. Box 457

Hillsboro, IL 62049
Address

217-556-0692
Phone Number



11/30/2025
Lic. Exp. Date

Clayton Cross
Signature

12-18-2024
Date

PROFESSIONAL DESIGN FIRM CERTIFICATION

Complete if applicable. If not, respond N/A.

As an employee of a Professional Design Firm as defined by the Illinois Department of Financial and Professional Regulation, I certify that the professional design firm is registered and in good standing with the Illinois Department of Financial and Professional Regulation.

Professional Design Firm Name

Professional Design Firm Number

Lic. Exp. Date

September 20, 2024

Clayton Cross
Patton Mining
12051 9th Avenue
Hillsboro, IL 62049
TEL: (217) 532-7310
FAX: (217) 532-7321



Illinois	100226
Illinois	1004652024-2
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: Deer Run Mine, Hillsboro IL

WorkOrder: 24090905

Dear Clayton Cross:

TEKLAB, INC received 4 samples on 9/12/2024 12:30:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com



Report Contents

<http://www.teklabinc.com/>

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	5
Accreditations	6
Laboratory Results	7
Receiving Check List	11
Chain of Custody	Appended

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

Abbr Definition

* Analytes on report marked with an asterisk are not NELAP accredited

CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.

CRQL A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.

DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.

DNI Did not ignite

DUP Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

IDPH IL Dept. of Public Health

LCS Laboratory control sample is a sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MBLK Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.

MDL "The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."

MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).

MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).

MW Molecular weight

NC Data is not acceptable for compliance purposes

ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.

RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.

RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).

SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.

Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.

TIC Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"

TNTC Too numerous to count (> 200 CFU)

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

Qualifiers

- # - Unknown hydrocarbon
- C - RL shown is a Client Requested Quantitation Limit
- H - Holding times exceeded
- J - Analyte detected below quantitation limits
- ND - Not Detected at the Reporting Limit
- S - Spike Recovery outside recovery limits
- X - Value exceeds Maximum Contaminant Level
- B - Analyte detected in associated Method Blank
- E - Value above quantitation range
- I - Associated internal standard was outside method criteria
- M - Manual Integration used to determine area response
- R - RPD outside accepted recovery limits
- T - TIC(Tentatively identified compound)



Case Narrative

<http://www.teklabinc.com/>

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

Cooler Receipt Temp: 21.2 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2025	Collinsville
Illinois	IEPA	1004652024-2	NELAP	4/30/2025	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2025	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2025	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2025	Collinsville
Oklahoma	ODEQ	9978	NELAP	12/31/2024	Collinsville
Arkansas	ADEQ	88-0966		3/14/2025	Collinsville
Illinois	IDPH	17584		5/31/2025	Collinsville
Iowa	IDNR	430		6/1/2026	Collinsville
Kentucky	UST	0073		1/31/2025	Collinsville
Mississippi	MSDH			4/30/2025	Collinsville
Missouri	MDNR	930		1/31/2025	Collinsville
Missouri	MDNR	00930		10/31/2026	Collinsville



Laboratory Results

<http://www.teklabinc.com/>

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

Lab ID: 24090905-001

Client Sample ID: BA = Bed Ash

Matrix: SOLID

Collection Date: 09/11/2024 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2310 B 1997 IN SHAKE EXTRACT								
Acidity, Total (as CaCO3)	*	-100000		-154	mg/L	1	09/19/2024 10:40	R353433
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Total (as CaCO3)	*	0		175	mg/L	1	09/19/2024 10:40	R353433
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		11.4		1	09/18/2024 9:44	R353330
ASTM D3987, SW-846 9066, IN SHAKE EXTRACT								
Phenol, SHAKE	*	0.005		< 0.005	mg/L	1	09/19/2024 14:41	R353427
EPA 600/2-78-54 SLURRY								
Neutralization Potential	*	0		49.5	CaCO3 T/KT	1	09/18/2024 15:41	R353363
EPA 670 2-74-70 SLURRY								
Net Neutralization	*	0		49.5	CaCO3 T/KT	1	09/18/2024 16:17	R353363
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0902	mg/L	1	09/17/2024 14:55	228458
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/17/2024 14:55	228458
Boron	NELAP	0.0200		6.94	mg/L	1	09/17/2024 14:55	228458
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/17/2024 14:55	228458
Chromium	NELAP	0.0050		0.0871	mg/L	1	09/17/2024 14:55	228458
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/18/2024 13:33	228458
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 14:55	228458
Iron	NELAP	0.0400		< 0.0400	mg/L	1	09/17/2024 14:55	228458
Manganese	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 14:55	228458
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 14:55	228458
Silver	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 14:55	228458
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	09/17/2024 14:55	228458
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010	J	0.0009	mg/L	5	09/17/2024 13:36	228458
Arsenic	NELAP	0.0010		0.0019	mg/L	5	09/17/2024 12:32	228458
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/18/2024 9:50	228458
Selenium	NELAP	0.0010	J	0.0009	mg/L	5	09/17/2024 12:32	228458
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/17/2024 12:32	228458
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	09/17/2024 12:10	228459



Laboratory Results

<http://www.teklabinc.com/>

Client: Patton Mining
 Client Project: Deer Run Mine, Hillsboro IL
 Lab ID: 24090905-002
 Matrix: SOLID

Work Order: 24090905
 Report Date: 20-Sep-24
 Client Sample ID: FF = Fly Ash
 Collection Date: 09/11/2024 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2310 B 1997 IN SHAKE EXTRACT								
Acidity, Total (as CaCO3)	*	-100000		-1700	mg/L	1	09/19/2024 11:05	R353433
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Total (as CaCO3)	*	0		1700	mg/L	1	09/19/2024 11:05	R353433
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		12.3		1	09/18/2024 9:50	R353330
<i>Result may be low-biased when sodium is present and pH>12</i>								
ASTM D3987, SW-846 9066, IN SHAKE EXTRACT								
Phenol, SHAKE	*	0.005		< 0.005	mg/L	1	09/19/2024 14:58	R353427
EPA 600/2-78-54 SLURRY								
Neutralization Potential	*	0		64.7	CaCO3 T/KT	1	09/18/2024 15:54	R353363
EPA 670 2-74-70 SLURRY								
Net Neutralization	*	0		64.7	CaCO3 T/KT	1	09/18/2024 16:19	R353363
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.346	mg/L	1	09/17/2024 14:57	228458
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/17/2024 14:57	228458
Boron	NELAP	0.200		23.7	mg/L	10	09/17/2024 16:02	228458
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/17/2024 14:57	228458
Chromium	NELAP	0.0050		0.126	mg/L	1	09/17/2024 14:57	228458
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/18/2024 13:35	228458
Copper	NELAP	0.0050		0.0066	mg/L	1	09/17/2024 14:57	228458
Iron	NELAP	0.0400		< 0.0400	mg/L	1	09/17/2024 14:57	228458
Manganese	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 14:57	228458
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 14:57	228458
Silver	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 14:57	228458
Zinc	NELAP	0.0100		0.0172	mg/L	1	09/17/2024 14:57	228458
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		< 0.0010	mg/L	5	09/17/2024 12:38	228458
Arsenic	NELAP	0.0010		0.0072	mg/L	5	09/17/2024 12:38	228458
Lead	NELAP	0.0010		0.0037	mg/L	5	09/18/2024 9:55	228458
Selenium	NELAP	0.0010		0.0206	mg/L	5	09/17/2024 12:38	228458
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/17/2024 12:38	228458
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	09/17/2024 12:16	228459



Laboratory Results

<http://www.teklabinc.com/>

Client: Patton Mining
 Client Project: Deer Run Mine, Hillsboro IL
 Lab ID: 24090905-003
 Matrix: SOLID

Work Order: 24090905
 Report Date: 20-Sep-24
 Client Sample ID: WW = Miscellaneous Ash
 Collection Date: 09/11/2024 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2310 B 1997 IN SHAKE EXTRACT								
Acidity, Total (as CaCO3)	*	-100000		-14	mg/L	1	09/19/2024 11:22	R353433
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Total (as CaCO3)	*	0		28	mg/L	1	09/19/2024 11:22	R353433
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		7.91		1	09/18/2024 9:53	R353330
ASTM D3987, SW-846 9066, IN SHAKE EXTRACT								
Phenol, SHAKE	*	0.005		< 0.005	mg/L	1	09/19/2024 15:24	R353427
EPA 600/2-78-54 SLURRY								
Neutralization Potential	*	0		55.8	CaCO3 T/KT	1	09/18/2024 15:58	R353363
EPA 670 2-74-70 SLURRY								
Net Neutralization	*	0		55.8	CaCO3 T/KT	1	09/18/2024 16:21	R353363
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0356	mg/L	1	09/17/2024 14:58	228458
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/17/2024 14:58	228458
Boron	NELAP	0.0200		9.14	mg/L	1	09/17/2024 14:58	228458
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/17/2024 14:58	228458
Chromium	NELAP	0.0050		0.0076	mg/L	1	09/17/2024 14:58	228458
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/18/2024 13:37	228458
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 14:58	228458
Iron	NELAP	0.0400		< 0.0400	mg/L	1	09/17/2024 14:58	228458
Manganese	NELAP	0.0070		0.111	mg/L	1	09/17/2024 14:58	228458
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 14:58	228458
Silver	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 14:58	228458
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	09/17/2024 14:58	228458
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0051	mg/L	5	09/17/2024 12:44	228458
Arsenic	NELAP	0.0010		0.0052	mg/L	5	09/17/2024 12:44	228458
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/18/2024 10:01	228458
Selenium	NELAP	0.0010		0.0245	mg/L	5	09/17/2024 12:44	228458
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/17/2024 12:44	228458
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	09/17/2024 12:23	228459



Laboratory Results

<http://www.teklabinc.com/>

Client: Patton Mining
 Client Project: Deer Run Mine, Hillsboro IL
 Lab ID: 24090905-004
 Matrix: SOLID

Work Order: 24090905
 Report Date: 20-Sep-24
 Client Sample ID: Plant Refuse = Coarse Coal Refuse
 Collection Date: 09/11/2024 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
ASTM D3987, STANDARD METHODS 2310 B 1997 IN SHAKE EXTRACT								
Acidity, Total (as CaCO3)	*	-100000		-76	mg/L	1	09/19/2024 11:28	R353433
ASTM D3987, STANDARD METHODS 2320 B 1997 IN SHAKE EXTRACT								
Alkalinity, Total (as CaCO3)	*	0		210	mg/L	1	09/19/2024 11:28	R353433
ASTM D3987, SW-846 9040 B, IN SHAKE EXTRACT								
pH	*	1.00		9.92		1	09/18/2024 9:55	R353330
ASTM D3987, SW-846 9066, IN SHAKE EXTRACT								
Phenol, SHAKE	*	0.025		< 0.025	mg/L	5	09/19/2024 15:29	R353427
<i>Elevated reporting limit due to sample composition.</i>								
EPA 600/2-78-54 SLURRY								
Neutralization Potential	*	0		61.0	CaCO3 T/KT	1	09/18/2024 16:01	R353363
EPA 670 2-74-70 SLURRY								
Net Neutralization	*	0		50.1	CaCO3 T/KT	1	09/18/2024 16:22	R353363
ASTM D3987, SW-846 3005A, 6010B, METALS IN SHAKE EXTRACT BY ICP								
Barium	NELAP	0.0025		0.0182	mg/L	1	09/17/2024 15:00	228458
Beryllium	NELAP	0.0005		< 0.0005	mg/L	1	09/17/2024 15:00	228458
Boron	NELAP	0.0200		0.197	mg/L	1	09/17/2024 15:00	228458
Cadmium	NELAP	0.0020		< 0.0020	mg/L	1	09/17/2024 15:00	228458
Chromium	NELAP	0.0050		0.0133	mg/L	1	09/17/2024 15:00	228458
Cobalt	NELAP	0.0050		< 0.0050	mg/L	1	09/18/2024 13:56	228458
Copper	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 15:00	228458
Iron	NELAP	0.0400		0.335	mg/L	1	09/17/2024 15:00	228458
Manganese	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 15:00	228458
Nickel	NELAP	0.0050		< 0.0050	mg/L	1	09/17/2024 15:00	228458
Silver	NELAP	0.0070		< 0.0070	mg/L	1	09/17/2024 15:00	228458
Zinc	NELAP	0.0100		< 0.0100	mg/L	1	09/17/2024 15:00	228458
ASTM D3987, SW-846 3005A, 6020A, METALS IN SHAKE EXTRACT BY ICPMS								
Antimony	NELAP	0.0010		0.0087	mg/L	5	09/17/2024 12:50	228458
Arsenic	NELAP	0.0010		0.0220	mg/L	5	09/17/2024 12:50	228458
Lead	NELAP	0.0010		< 0.0010	mg/L	5	09/18/2024 10:07	228458
Selenium	NELAP	0.0010		0.0582	mg/L	5	09/17/2024 12:50	228458
Thallium	NELAP	0.0020		< 0.0020	mg/L	5	09/17/2024 12:50	228458
ASTM D3987, SW-846 7470A IN SHAKE EXTRACT								
Mercury, SHAKE	*	0.00020		< 0.00020	mg/L	1	09/17/2024 12:25	228459



Receiving Check List

<http://www.teklabinc.com/>

Client: Patton Mining

Work Order: 24090905

Client Project: Deer Run Mine, Hillsboro IL

Report Date: 20-Sep-24

Carrier: Paul Reeves

Received By: NR

Completed by:

Amber Dilallo

Reviewed by:

Ellie Hopkins

On:

13-Sep-24

Amber Dilallo

On:

13-Sep-24

Ellie Hopkins

Pages to follow: Chain of custody

Extra pages included

- | | | | | |
|---|--|--|--|----------------------------------|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> | Temp °C 21.2 |
| Type of thermal preservation? | None <input checked="" type="checkbox"/> | Ice <input type="checkbox"/> | Blue Ice <input type="checkbox"/> | Dry Ice <input type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | | |
| Reported field parameters measured: | Field <input type="checkbox"/> | Lab <input type="checkbox"/> | NA <input checked="" type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | | |

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

- | | | | |
|---|------------------------------|-----------------------------|---|
| Water – at least one vial per sample has zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials <input checked="" type="checkbox"/> |
| Water - TOX containers have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No TOX containers <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| NPDES/CWA TCN interferences checked/treated in the field? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

Any No responses must be detailed below or on the COC.

Samples requiring pH should be analyzed as soon as possible after collection. Samples submitted for pH analysis are analyzed as soon as practicable upon arrival at the laboratory. - amberdilallo - 9/13/2024 9:12:41 AM

The samples were out of temperature compliance upon receipt. Clayton Cross was notified of this error via work order summary. - ehopkins - 9/13/2024 9:27:59 AM

STANDARD COC

24090905

CHAIN OF CUSTODY RECORD

Condition: I II III IV

Client Name: Hillsboro Energy LLC	Location: Deer Run Mine, Hillsboro IL	ANALYTES																	
Samplers (Signature): <i>[Signature]</i>																			

Station No.	Date	Time	Station Location	No. of Containers	ANALYTES																				
					Arsenic	Barium	Boron	Cadmium	Antimony	Chromium	Cobalt	Copper	Iron	Beryllium	Lead	Manganese	Mercury	Nickel	Thallium	Selenium	Silver	Phenol	Zinc	ABA	
4090905 001	9/11/2024	12:00	BA = Bed Ash	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
002	9/11/2024	12:00	FF = Fly Ash	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
003	9/11/2024	12:00	WW = Sludge	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
004	9/11/2024	12:00	Plant Refue = Coarse Coal Refuse	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p style="font-size: 2em; font-weight: bold; text-align: center;">TEKLAB Courier</p> </div> <div style="width: 60%;"> <p>The following chemical analyses shall be conducted utilizing the ASTM D3987-85 (Shake) method.</p> <p>The ABA testing shall be conducted using the standard Acid Base Accounting/Net Neutralization testing method.</p> </div> </div>																									

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>
Date / Time 9-12-24 11:15	Date / Time 9-12-24 11:15	Date / Time 9-12-24 12:30	Date / Time 9/12/24 1236

21.2 no ice LDCS