



PEABODY WESTERN
COAL COMPANY
Kayenta Mine
Highway 160, Navajo Route 41
P.O. Box 650
Kayenta, Arizona 86033
928.280.7116

April 27, 2026

Ms. Amy Ryser
Western Region Office
Office of Surface Mining
Reclamation and Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065

**RE: Phase I Bond Release Application; Peabody Western Coal Company;
Kayenta Mine Permit AZ-0001F; J16, J19 and J21 Permanent Program
Areas**

Dear Ms. Ryser:

Peabody Western Coal Company (PWCC) submits to the Office of Surface Mining Reclamation and Enforcement (OSMRE) the enclosed application materials in accordance with 30 CFR 800.40 for phase I release of bond on approximately 611 acres of mined and reclaimed lands in the permanent program area of J16, J19 and J21 at Kayenta Mine. The J16, J19 and J21 reclaimed lands described within this Bond Release Application are subject to the Permanent Program Performance Standards at 30 CFR 816 and the requirements of the OSMRE issued Kayenta Mine Permit AZ-0001F permit application package approved October 3, 2017.

Attached, please find one electronic file of the Bond Release Application. PWCC understands that OSMRE will complete a bond release application review and will provide PWCC with a response that will include details of information required so that OSMRE can deem the application complete. Once OSMRE has deemed the application complete, PWCC will submit a complete official application with signed documents to OSMRE electronically on the share drive provided by OSMRE and provide one copy of the application on USB drive for Forest Lake Chapter.

Please direct any questions and correspondence to me at 928.280.7091 or by email at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

SECTION 1. Phase I Bond Release Supporting Information

Administrative, Permit, and Bond Summary Data

Introduction

Peabody Western Coal Company (PWCC) is requesting Phase I bond release on portions of land within the J16, J19, and J21 Coal Resource Areas (CRAs) of the Kayenta Mine. The bond release application included in this submittal contains required documentation and information to support Phase I bond release for 611 acres of mined and reclaimed lands in the permanent program areas within the J16, J19, and J21 CRAs as shown on Map 1.1. Additionally, bond release is requested for 82 acres of adjacent mined and reclaimed lands in the J21 area where suitable material and soil material has been replaced since OSMRE approved the Phase I bond release application on April 16, 2024. There are 28 acres of permanent roads and 28 acres (4.0 miles) of powerlines that will be retained in this release application. These facilities are requested by NTUA and residents within customary use areas. Information such as the public notice, affidavit of publication, and copies of letters to the Tribes, government agencies, and utilities are included in Section 1 of the application. Information for Phase I technical portions of the application are presented in Section 2 (backfilling, grading, suitable material, and soil data) of this document.

Permit and Bond Release Summary Information

The J16, J19, and J21 CRAs are located within the southeastern portion of PWCC's Kayenta Mine. The Kayenta Mine operates under Permit AZ-0001F issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to PWCC Kayenta Mine on October 3, 2017. The 5-year renewal application for Permit AZ-0001F was submitted to OSMRE on February 27, 2020. On June 25, 2020, OSMRE administratively delayed their decision to renew Permit AZ-0001F due to COVID-19 pandemic closures and stay-at-home orders. Coal production at the Kayenta Mine ceased on August 26, 2019; reclamation activities continue under Permit AZ-0001F.

The Kayenta mine permit area is located approximately 18 miles south southwest of Kayenta, Arizona (USGS 7.5-minute quadrangle maps Longhouse Valley, Marsh Pass S.E., Shonto S.E., Yucca Hill, and Cliff Rose Hill). The permit area for the J16, J19, and J21 Phase I bond release is located within the following lands of Navajo County, Arizona that are described relative to the Gila and Salt River Base Meridian as:

A total of 611 acres of mined and reclaimed land located within the J16, J19, and J21 CRAs. The computer-generated centroid location is Latitude 36° 25' 53.68" N and Longitude 110° 17' 57.33" W.

The type of bond and the amount of bond filed for Kayenta Mine Permit AZ-0001F are described in Table 1.1. The portion requested for release in the J16, J19, and J21 CRAs includes

\$13,699,820 for Phase I. Justification for the release of dollars is explained in the following section.

Table 1.1. Bond Information for Kayenta Mine.		
Bond Surety	Bond Number	Bond Amount
Liberty Mutual	60S003887	\$20,329,521.92
SiriusPoint America Insurance	SBP150171_003	\$27,911,895.61
Zurich American	8940860	\$22,457,881.46
Goldeman Sachs Bank, USA	Letter of Credit	\$36,471,839.00
TOTAL		\$107,171,138.00

Phase I Bond Reduction Cost

PWCC is seeking a reduction in the backfilling, grading, suitable material replacement, and soil material replacement bond for Phase I in the amount of \$13,727,831. This amount was determined using direct and indirect unit costs calculated for 693 acres in J16, J19, and J21 CRAs as documented in Permit AZ-0001F, Chapter 24, Table 24-1-4. Reclamation cost estimates as of January 2024 (“worst case” or “highest liability” as approved in Permit AZ-0001F by OSMRE on January 23, 2024) were used and these rates were adjusted for inflation through July 2026. Reduction in bond at the J16, J19, and J21 CRA was based upon 8,200 feet of the final J19 pit (32,100 feet total) being 100% backfilled, completion of Phase I reclamation activities including general grading on 555 acres, replacing an average of 1.2 feet of suitable plant growth material on the surface of 208 acres of final graded lands as required by the graded spoil suitability data shown on Map 2.2, replacing four feet of suitable plant growth material including one foot of suitable soil on the surface of 208 acres of final graded lands per Chapter 22, Minesoil Reconstruction, Volume 11, Permit AZ-0001F, and retaining 28 acres of permanent roads and 28 acres (4.0 miles) of powerlines. Additionally, Phase I bond reduction is requested for suitable plant growth material and soil replacement for 82 acres approved (April 16, 2024) previously by OSMRE for Phase I that are now topsoiled as described in Table 1.2.2. Suitable plant growth material replacement areas are documented for the J16, J19, and J21 CRAs on Maps 2.1 and 2.2 in Section 2 of this document.

The project categories and direct costs applicable to this Phase I bond release are listed in Tables 1.2.1 and 1.2.2 for the J16, J19, and J21 CRAs. PWCC is not requesting full release of the grading and ripping maintenance costs for the disturbed lands because these are considered by OSMRE to be Phase II reclamation activities. Similarly, no costs have been requested on the disturbed lands for the Phase III reclamation activities including surface stabilization, revegetation, and vegetation maintenance. The combined total bond

reduction direct cost shown in Tables 1.2.1 and 1.2.2 is \$11,206,392.

Table 1.2.1	
Bond Reduction of Direct Costs for Backfilling, Grading, Suitable Material Replacement, and Soil Material Replacement in J16, J19, and J21 CRAs.	
Project Category	Bond Reduction Amount
Cast/blast high wall (100% - 8,200')	\$ 1,917,517
Doze high wall (100% - 8,200')	\$ 1,164,851
Doze first two spoils (100% - 8,200')	\$ 1,088,924
Doze back two spoils (100% - 8,200')	\$ 256,806
Backfill and grade ramps (100% - 8,200')	\$ 521,684
General grading (555 ac @ \$4,127.70/ac)	\$ 2,290,874
Suitable material replacement (208 ac @ \$0.98/yd @ 2.4')	\$ 789,269
Soil material replacement (208 ac @ \$1.32/yd @ 1.6')	\$ 708,731
Roads (28 acres/712 acres)	\$ 353,384
Powerlines (21,120' @ \$1.50/foot)	\$ 31,680
Total Direct Cost Category I	\$ 9,123,720
Inflation January 2024 thru July 2025 (9.97%)	\$ 909,635
Inflation July 2025 thru July 2026 (5.39%)	\$ 491,769
Total Direct Cost Category I (Inflated thru 7-2026)	\$10,525,124

Table 1.2.2	
Bond Reduction of Direct Costs for Suitable Material Replacement and Soil Material Replacement in the Adjacent J21 CRA*.	
Project Category	Bond Reduction Amount
Suitable material replacement (82 ac @ \$0.98/yd @ 2.4')	\$ 311,154
Soil material replacement (82 ac @ \$1.32/yd @ 1.6')	\$ 279,404
Total Direct Cost Category I	\$ 590,558
Inflation January 2024 thru July 2025 (9.97%)	\$ 58,879
Inflation July 2025 thru July 2026 (5.39%)	\$ 31,831
Total Direct Cost Category I (Inflated thru 7-2026)	\$ 681,268
<ul style="list-style-type: none"> Phase I OSMRE approved (April 16, 2024) bond release areas in the J21 CRA that now have suitable material and topsoil material replaced. 	

Table 1.3 shows the indirect costs obtained from Permit AZ-0001F; Chapter 24 that are associated with the J16, J19, and J21 Phase I direct cost as determined in January 2024.

The total indirect cost reflects inflation through July 2026 (15.36%). An inflation rate of 9.97% for January 2024 through July 2025 was determined by OSMRE in April 2024 using RS Means Historical Cost Indexes and approved in Permit AZ-0001F by OSMRE. An inflation rate of 5.39% for July 2025 through July 2026 was determined by OSMRE in February 2025 using RS Means Historical Cost Indexes for the proposed renewal of Permit AZ-0001F. The total bond reduction indirect cost shown in Table 1.3 is \$2,521,439.

Table 1.3	
Bond Reduction of Indirect Costs for Backfilling, Grading, Suitable Material Replacement, and Soil Material Replacement in the J16, J19, and J21 CRAs.	
Project Category	Bond Reduction Amount
Mobilization/demobilization (1.5%)	\$168,096
Contingencies (2.0%)	\$224,128
Engineering redesign fee (2.0%)	\$224,128
Contractor profit and overhead (15.0%)	\$1,680,959
Reclamation management fee (2.0%)	\$224,128
Total Indirect Cost	\$2,521,439

The total direct, indirect, and January 2024 to July 2026 inflation costs for Phase I bond categories in the J16, J19, and J21 CRAs are \$13,727,831.

Permanent Facilities

There are 28 acres of roads and 28 acres (4.0 miles) of powerlines included in this J16, J19, and J21 Phase I bond release application. NTUA has requested the powerlines be retained and local residents requested the permanent roads for traversing through their customary use areas.

PUBLIC NOTICE

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for bond release on a portion of the lands in the J16, J19 and J21 Coal Resource Areas (CRA) within the Kayenta Mine Permit AZ-0001F. PWCC is seeking a release of Phase I bond liability for a portion of the J16, J19 and J21 areas currently under bond with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. PWCC is seeking a reduction in bond of \$13,727,831 under the Phase I application. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release application consists of information currently contained in the AZ-0001F permit application package (PAP) approved October 3, 2017. The PAP outlines PWCC's reclamation operations on Permanent Program Lands. The total area in J16, J19 and J21 requested for Phase I release is 611 acres. Reclamation was completed between 2011 and 2026. Reclamation activities were completed in accordance with the approved PAP and included backfilling, grading, mitigation of unsuitable material, drainage control construction, and replacement of suitable soil or plant growth media. The Kayenta Mine permit for the release area is under Navajo Tribal Coal Lease 14-20-0603-9910 and Hopi Tribal Coal Lease 14-20-0450-5743 and operates pursuant to Code of Federal Regulations (CFR), Title 30; Subchapter E, Part 750; Subchapter G, Parts 773 and 774; and Subchapter K, Parts 810 and 816. This notice is hereby given that:

1. The name and business address of the applicant is:

Peabody Western Coal Company, Kayenta Mine
P.O. Box 650
Kayenta, AZ 86033

2. The mine permit area is located approximately 18 miles south southwest of Kayenta, Arizona. The permit area for the Phase I bond release area is in USGS 7.5-minute quadrangle map "Yucca Hill" within the following lands of Navajo County, Arizona that are described relative to the Gila and Salt River Base Meridian as:

A total of 8 acres of land located within the J16 CRA. The computer-generated centroid location is Latitude 36° 29' 05.3" N and Longitude 110° 17' 35.6" W. A total of 420 acres of land located within the J19 CRA. The computer-generated centroid location is Latitude 36° 26' 01.8" N and Longitude 110° 18' 04.9" W. A total of 183 acres of land located within the J21 CRA. The computer-generated centroid location is Latitude 36° 25' 25.9" N and Longitude 110° 17' 39.7" W.



**PEABODY WESTERN
COAL COMPANY**
Kayenta Mine
Highway 160, Navajo Route 41
P.O. Box 650
Kayenta, Arizona 86033
928.280.7115

May 15, 2026

Bureau of Indian Affairs
Navajo Area Office
Ms. Deborah Shirley, Regional Director
P.O. Box 1060
301 West Hill Street
Gallup, New Mexico 87305-1060

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Ms. Shirley:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

Reclamation of the Phase I release areas which includes backfilling and grading, drainage control, mitigation of unsuitable material, and topsoil replacement was completed between 2011 and 2026. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the OSMRE Permit AZ-0001F PAP approved October 3, 2017. Reclamation activities are documented in annual reports submitted previously to OSMRE.

The application and permit are available for public review and/or inspection at:

Navajo Nation Minerals Department
Office of Surface Mining
Window Rock Boulevard
Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
17 miles North of Pinon
Pinon, AZ 86510

Ms. Deborah Shirley
May 15, 2026
Page 2 of 2

Peabody Western Coal Company
Kayenta Mine
Mesa Central Warehouse Office Complex
8 Miles from Hwy 160 and Route 41 Junction
Kayenta, Arizona 86033

OSMRE Website: <https://www.osmre.gov/programs/regulating-active-coal-mines/indian-lands>

If you have questions, comments, or wish to request a hearing or informal conference regarding this bond release application, please contact:

Ms. Amy Ryser
Western Region Office
Office of Surface Mining Reclamation & Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065
WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



**PEABODY WESTERN
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Kayenta, Arizona 86033
928.280.7115

May 15, 2026

Bureau of Land Management
Arizona State Office
Mr. Rick Selbach
Land and Minerals Branch Chief
One North Central Ave., Suite 800
Phoenix, Arizona 85004

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Mr. Selbach:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

Reclamation of the Phase I release areas which includes backfilling and grading, drainage control, mitigation of unsuitable material, and topsoil replacement was completed between 2011 and 2026. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the OSMRE Permit AZ-0001F PAP approved October 3, 2017. Reclamation activities are documented in annual reports submitted previously to OSMRE.

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Window Rock Boulevard
Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
17 miles North of Pinon
Pinon, AZ 86510

Mr. Rick Selbach
May 15, 2026
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Peabody Western Coal Company
Kayenta Mine
Mesa Central Warehouse Office Complex
8 Miles from Hyw 160 and Route 41 Junction
Kayenta, Arizona 86033

OSMRE Website: <https://www.osmre.gov/programs/regulating-active-coal-mines/indian-lands>

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Ms. Amy Ryser
Western Region Office
Office of Surface Mining Reclamation & Enforcement
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WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



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P.O. Box 650
Kayenta, Arizona 86033
928.280.7115

May 15, 2026

Chilchinbeto Chapter
Mr. Thomas Bradley, Vice President
P.O. Box 1681
Kayenta, Arizona 86033

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Mr. Bradley:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

Reclamation of the Phase I release areas which includes backfilling and grading, drainage control, mitigation of unsuitable material, and topsoil replacement was completed between 2011 and 2026. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the OSMRE Permit AZ-0001F PAP approved October 3, 2017. Reclamation activities are documented in annual reports submitted previously to OSMRE.

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Mr. Thomas Bradley
May 15, 2026
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WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



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May 15, 2026

Forest Lake Chapter
Mr. Loren Silver, President
P.O. Box 441
Pinon, Arizona 86510

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Mr. Silver:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

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Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



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May 15, 2026

The Hopi Tribe
Office of Mining and Minerals
Attn: Dr. Carrie Joseph
P.O. Box 123
Kykotsmovi, AZ 86039

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Dr. Joseph:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

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Dr. Carrie Joseph
May 15, 2026
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Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



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May 15, 2026

Kayenta Chapter
Mr. Albert Bailey, President
P.O. Box 1088
Kayenta, Arizona 86033

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Mr. Bailey:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and SiriusPoint America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

Reclamation of the Phase I release areas which includes backfilling and grading, drainage control, mitigation of unsuitable material, and topsoil replacement was completed between 2011 and 2026. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the OSMRE Permit AZ-0001F PAP approved October 3, 2017. Reclamation activities are documented in annual reports submitted previously to OSMRE.

The application and permit are available for public review and/or inspection at:

Navajo Nation Minerals Department
Office of Surface Mining
Window Rock Boulevard
Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
17 miles North of Pinon
Pinon, AZ 86510

Mr. Albert Bailey
May 15, 2026
Page 2 of 2

Peabody Western Coal Company
Kayenta Mine
Mesa Central Warehouse Office Complex
8 Miles from 160 and Route 41 Junction
Kayenta, Arizona 86033

OSMRE Website: <https://www.osmre.gov/programs/regulating-active-coal-mines/indian-lands>

If you have questions, comments, or wish to request a hearing or informal conference regarding this bond release application, please contact:

Ms. Amy Ryser
Western Region Office
Office of Surface Mining Reclamation & Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065
WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



**PEABODY WESTERN
COAL COMPANY**
Kayenta Mine
Highway 160, Navajo Route 41
P.O. Box 650
Kayenta, Arizona 86033
928.280.7115

May 15, 2026

Navajo Nation
Minerals Department
Mr. Bryan R. Benally
P.O. Box 1910
Window Rock, AZ 86515

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Mr. Benally:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and Sirius Point America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

The Phase I bond release area is located within the Kayenta Mine Permanent Program permit area (AZ-0001F PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction of the total J16, J19 and J21 bond amount of \$13,727,831 at this time by gaining regulatory approval for release of lands described in the application from Phase I bond liability. The total area sought for release includes 611 acres of disturbed land. Approval of Phase I will allow for Phase II and III bond release to proceed on these areas once all requirements for this phase are met. Phase III is the final bond release step and once approved will allow for the planned return of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in the release areas described.

Reclamation of the Phase I release areas which includes backfilling and grading, drainage control, mitigation of unsuitable material, and topsoil replacement was completed between 2011 and 2026. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the OSMRE Permit AZ-0001F PAP approved October 3, 2017. Reclamation activities are documented in annual reports submitted previously to OSMRE.

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Mr. Bryan R. Benally
May 15, 2026
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Peabody Western Coal Company
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Ms. Amy Ryser
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Office of Surface Mining Reclamation & Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065
WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



**PEABODY WESTERN
COAL COMPANY**
Kayenta Mine
Highway 160, Navajo Route 41
P.O. Box 650
Kayenta, Arizona 86033
928.280.7115

May 15, 2026

Navajo Tribal Utility Authority
Mr. Walter W. Haase, P.E., General Manager
P.O. Box 170
Fort Defiance, Arizona 86504-0170

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Mr. Haase:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and Sirius Point America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

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Mr. Walter W. Haase
May 15, 2026
Page 2 of 2

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OSMRE Website: <https://www.osmre.gov/programs/regulating-active-coal-mines/indian-lands>

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Ms. Amy Ryser
Western Region Office
Office of Surface Mining Reclamation & Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065
WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)



**PEABODY WESTERN
COAL COMPANY**
Kayenta Mine
Highway 160, Navajo Route 41
P.O. Box 650
Kayenta, Arizona 86033
928.280.7115

May 15, 2026

Shonto Chapter
Ms. Marsha Greyeyes, President
P. O. Box 7800
Shonto, AZ 86054

RE: Notice of Application for Phase I Bond Release; J16, J19 and J21 Coal Resource Areas; Kayenta Mine

Dear Ms. Greyeyes:

Peabody Western Coal Company (PWCC) has filed an application with the Office of Surface Mining Reclamation and Enforcement (OSMRE) for Phase I bond release on portions of the J16, J19 and J21 Coal Resource Areas. The release area is in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those surety bonds currently held with Zurich American, Liberty Mutual, and Sirius Point America Insurance and one Letter of Credit with Goldman Sachs Bank, USA. The total combined bond for Kayenta Mine is \$107,171,138.

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Forest Lake Chapter House
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Ms. Marsha Greyeyes
May 15, 2026
Page 2 of 2

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Ms. Amy Ryser
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Office of Surface Mining Reclamation & Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065
WR Permitting Information Line, 1-303-236-4690

Please direct your questions about this application to me at 928.280.7091 or email them to me at mshepherd2@peabodyenergy.com.

Respectfully,

Marie Shepherd
Senior Manager Environmental
Kayenta Mine

C: Amy Ryser (OSMRE-WRO)

3. Locations of where copies of the application and permit are available for public review and/or inspection are:

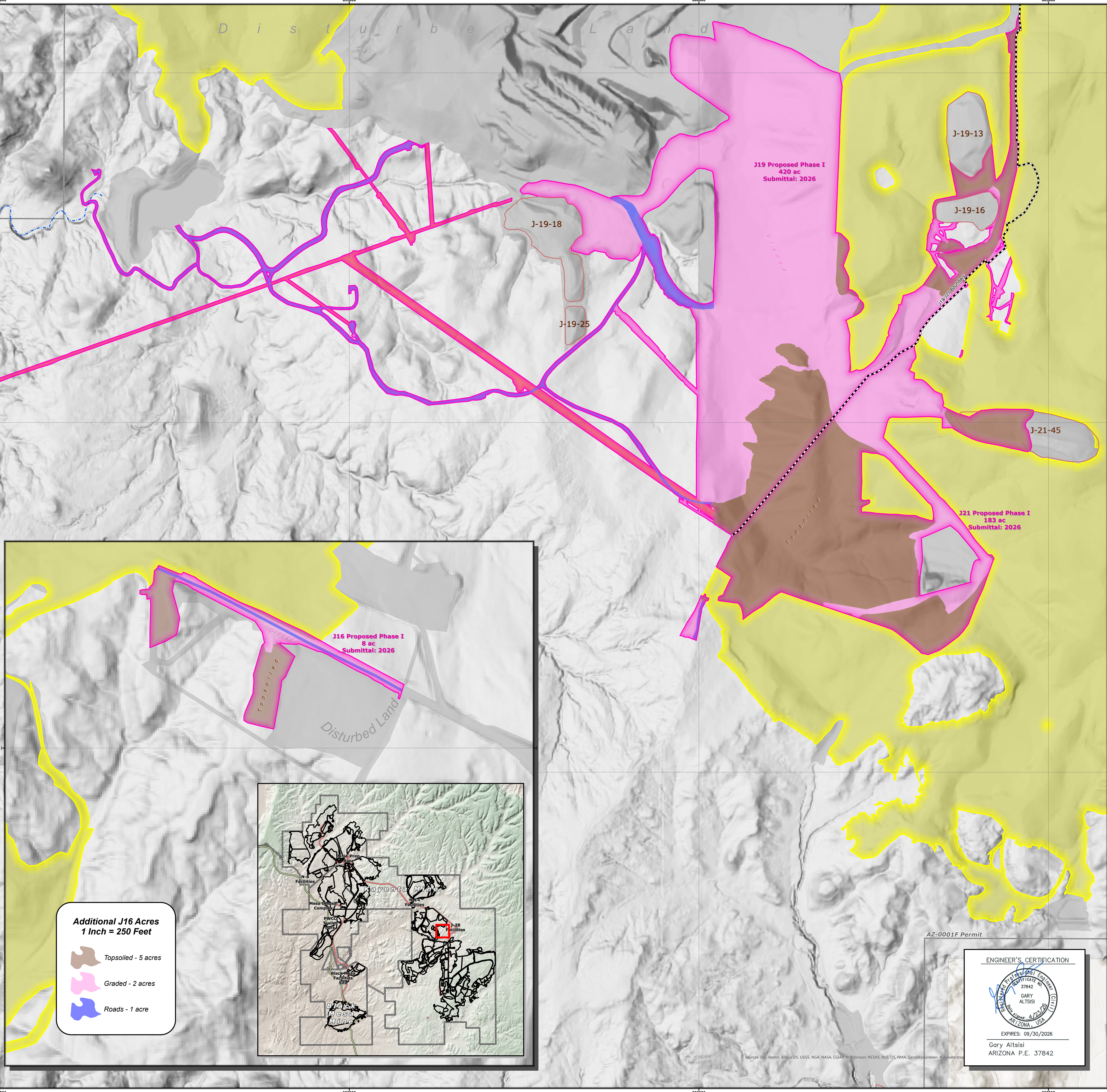
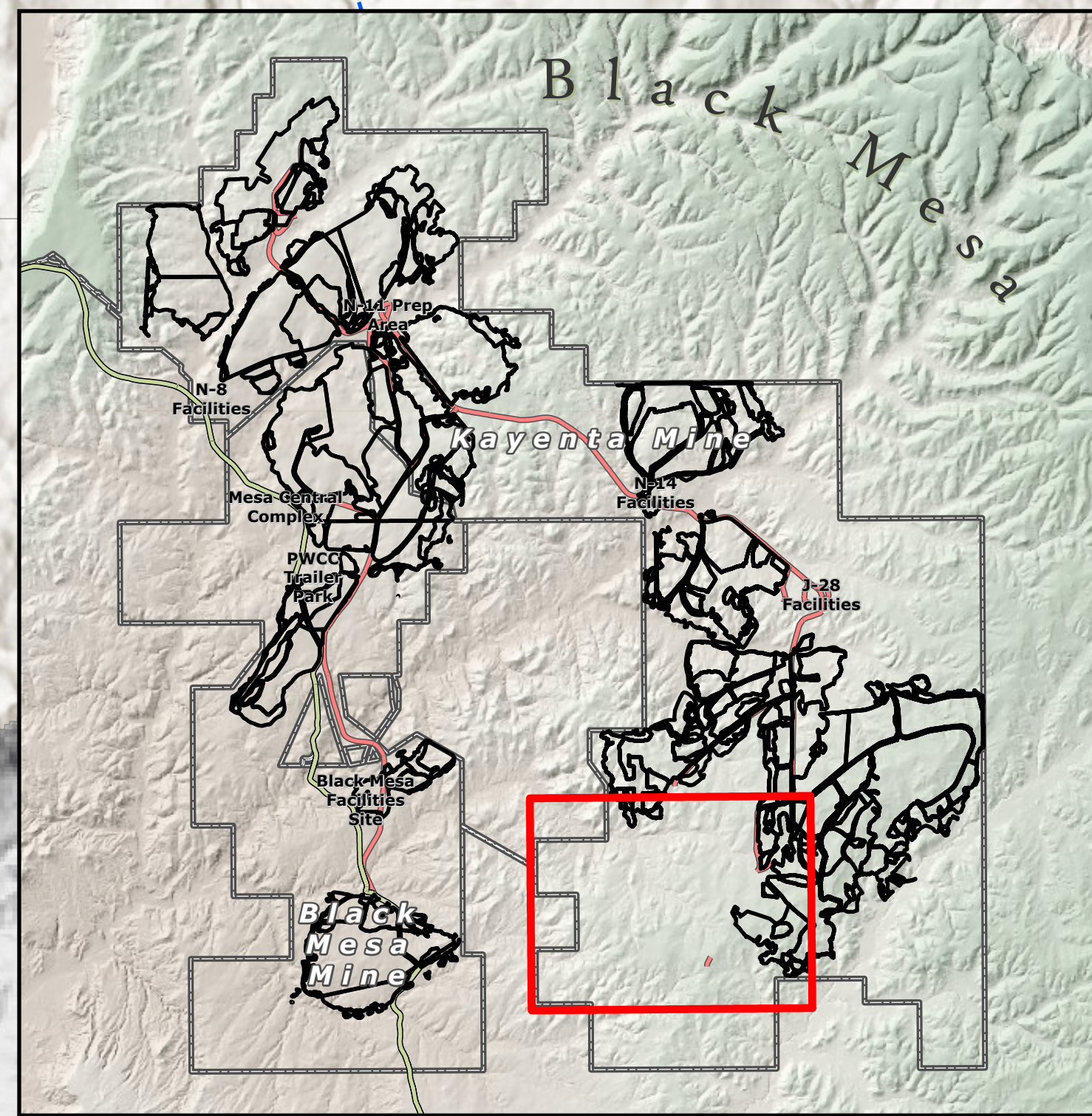
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OSMRE Website: <https://www.osmre.gov/programs/regulating-active-coal-mines/indian-lands>

4. The name and address of the OSMRE-WRO representative where written comments, objections, requests for a public hearing, or requests for an informal conference may be submitted on or before 5:00 p.m., July 13, 2026, thirty (30) days after the last publication date are:
- Ms. Amy Ryser
Western Region Office
Office of Surface Mining Reclamation & Enforcement
P. O. Box 25065
One Federal Center, Building 41
Lakewood, CO 80225-0065
WR Permitting Information Line, 1-866-847-7362
5. Interested persons may obtain more information concerning the bond release by contacting Marie Shepherd, Senior Manager Environmental for PWCC at 928.280.7091.
6. The application has been filed with OSMRE and will be acted upon pursuant to the Permanent Regulatory Program (30 CFR Parts 750 and 774) approved by the Secretary of the Interior under Title V of the Surface Mining Control and Reclamation Act of 1977.



Peabody Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

J19/J21 Phase I Bond Release
Map 1.1
Permanent Program
Bonded Area Summary

Produced by
 Gary Altsisi
 Professional
 Engineer

April 23, 2026
 Revision
 1 Inch = 500 Feet





Total Proposed 2026
Phase I Bond Release - 603 Acres




Legend

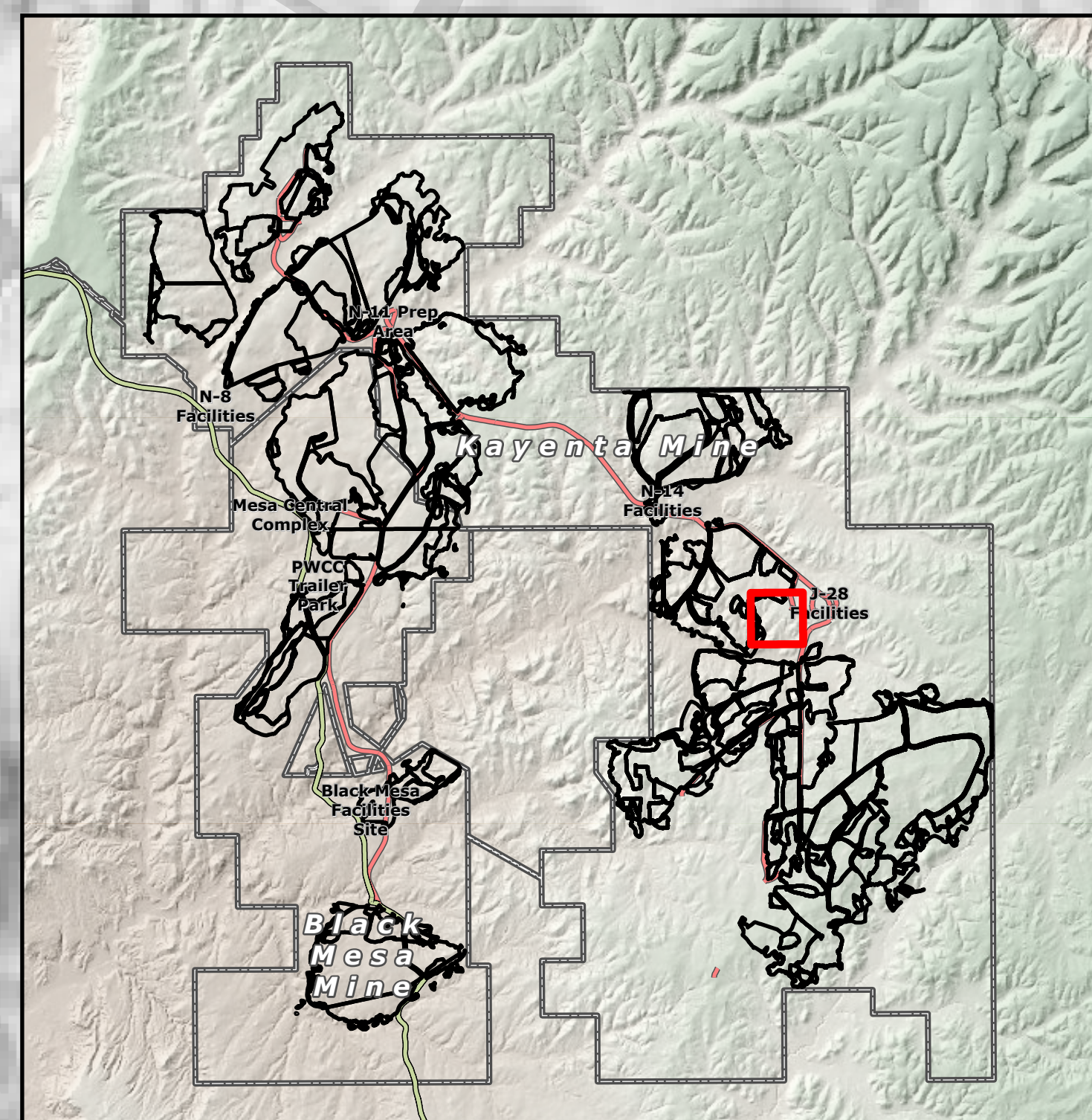
-  Proposed Phase 1 Bond Release Area
-  Topsoiled - 203 acres
-  Graded - 345 acres
-  Roads - 27 acres
-  Powerlines - 28 acres
-  Approved Phase 1 Bond Release



- Other Features**
-  Major Wash
 -  PWCC Permit Boundary


Additional J16 Acres
1 Inch = 250 Feet

-  Topsoiled - 5 acres
-  Graded - 2 acres
-  Roads - 1 acre



AZ-0001F Permit

ENGINEER'S CERTIFICATION



EXPIRES: 09/30/2026
 Gary Altsisi
 ARIZONA P.E. 37842

Phase I Bond Release Application
J16, J19, and J21 Coal Resource Areas, Kayenta Mine

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SECTION 2. Phase I Bond Release Supporting Information
Backfilling, Grading, Suitable Material, Soil, and Surface Water Data

Introduction

The Phase I Bond Release information contained in this application for the J16, J19, and J21 Coal Resource Areas (CRAs) consists primarily of backfilling, grading, and suitable plant growth material replacement, drainage channel as-builts, surface water description, and slope analysis.

Backfilling and Grading

There are fifty-six (56) acres of permanent support facilities including roads and powerlines in this J16, J19, and J21 Phase I Bond Release Application. The permanent support facilities have been requested by NTUA and local residents within the customary use areas. Final grading of permanent program lands within the J16, J19, and J21 areas occurred from 2011 to 2026. Final grading status for the release areas shown on Map 1.1 were previously reported and submitted with supporting maps to The Office of Surface Mining Reclamation and Enforcement (OSMRE), Western Service Center, Denver, Colorado, in annual Reclamation Status and Monitoring Reports (PWCC, 2013-2025) and Minesoil Reconstruction and Revegetation Activities Reports (PWCC, 2012-2024).

The pre-mining and post-mining topography consists of rolling hills dissected by ephemeral drainage channels. The regulations require the post-mining graded slopes must approximate the pre-mining natural slopes. Approximate original contour means that surface configuration is achieved by backfilling and grading of the mined area so that the reclaimed area resembles the general surface configuration of the surrounding terrain with all final highwall and spoil piles eliminated. To perform a realistic comparison of the pre-mining and post-mining slope measurements, PWCC utilized ESRI ArcGIS 10 Spatial Analyst software to generate slope measurement polygons within the J16, J19, and J21 reclamation areas included in this submittal. The J16, J19, and J21 release areas included with this Phase I bond release application are all Permanent Program Lands. The J16, J19, and J21 reclamation areas were evaluated to compare the slope stability of the pre- and post-mining landforms and general surface configuration.

The slope polygons were grouped into slope measurement ranges based on the following six slope measurement classifications:

1. <9%
2. 9% to 13%
3. 13% to 18%
4. 18% to 25%
5. 25% to 33%
6. >33%

These slope measurement classifications are like the classifications utilized in the AZ-0001F Permit, Chapter 26, Surface Stabilization. The location of the area associated with each of the pre- and post-mine slope measurement classes for the J19 and J21 reclamation areas can be found on Map 2.3 (Post-Mine) and Map 2.4 (Pre-Mine). Table 2.1 provides a summary of the area in each slope measurement classification before mining and after mining for the J19 and J21 release areas, respectively:

Table 2.1. Pre- and Post-Mining Slope Analysis for J19 J21 Permanent Program Reclaimed Areas.

POST - MINING SLOPE ANALYSIS:

RANGE	BEGINNING (%)	END (%)	AREA (Ac.)	PERCENT of TOTAL AREA	POST - MINING SLOPE AREA vs. PRE - MINING SLOPE AREA (%)
1	0	9	290	48	-33%
2	9	13	80	13	0
3	13	18	105	17	+13%
4	18	25	112	19	+17%
5	25	33	13	2	0
6	33	+	3	1	0

PRE - MINING SLOPE ANALYSIS:

RANGE	BEGINNING (%)	END (%)	AREA (Ac.)	PERCENT of TOTAL AREA
1	0	9	488	81
2	9	13	78	13
3	13	18	26	4
4	18	25	9	2
5	25	33	2	0
6	33	+	0	0

As illustrated above, the post-mine topography has more diverse slope gradient percentages in three of the six range categories compared with the original pre-mine topography. Overall,

the J19 and J21 post-mine topography has approximately 30% less 0-9% slopes and approximately 30% more in 13-25% slopes than the pre-mine topography. These differences will help the area be more topographically diverse to benefit the Post Mine Land Use of wildlife and grazing. The as-built post-mine surface shown on Map 2.3 was compared to the Estimated Post-mining Topographic (PMT) Map, Drawing 85352, Sheets M10 and M11, Volume 29 of Permit AZ-0001F. The final reclaimed surface was within +/- 20 feet of the estimated post-mine contours in more than 93% of the area as shown on Map 2.5. The outlier areas shown on Map 2.5 account for 39 acres outside +/- 20 feet and are mainly related to the highwall reduction once mining operations ended. Considering the small area (8 Acres) in J16 no surface comparison was completed. These areas within J16, J19, and J21 all blend with the adjacent PMT and overall surface configuration.

Attachment 2.1 includes the as-built information for the J19 and J21 reclamation drainage channels shown on Map 2.6 (Sheets 1, 2, and 3 of 3). This is similar to the map submitted previously in the Annual Surface Stabilization Reports. Based on the information in Attachment 2.1 and a field inspection of the area, PWCC has demonstrated the post-mining reclamation drainage structures are stable and can safely pass the design runoff. The locations of these drainage structures are shown on Map 2.6 (3 sheets).

In conclusion, the J16, J19, and J21 reclamation areas have been graded to very similar overall slopes compared to pre-mine topography. Grading was completed to eliminate final highwalls and spoil piles, to ensure stability, to blend post-mining and undisturbed pre-mining slopes, to reestablish a positive stable drainage network, and to facilitate the livestock grazing, wildlife habitat, and cultural plant post-mining land uses. The J16, J19, and J21 backfilling, grading, and drainage system construction was conducted in conformance with the applicable regulatory requirements and approved reclamation plans.

Surface Water Data

There have been a total of seven NPDES discharge events (from one to multiple days per each event) at three of the six NPDES ponds in the J19 J21 Phase I bond release watersheds during the period 2005-2025 (refer to Table 2.2). Complete water quality samples were collected at Ponds J16-L and J21-I. Pond J21-I is slated for removal in the near future. However, Pond J16-L, along with five other NPDES and three non-NPDES ponds, are currently proposed permanent impoundments envisioned for the J19 J21 area per the approved monitoring schedule presented in Table 10, Chapter 16 of the Permit Application Package (PAP) for Permit AZ-

0001F. Laboratory data for the four samples collected indicate all analytes met applicable livestock water quality standards.

Table 2.2 NPDES Discharge Events for Ponds in J19 and J21 Phase I Bond Release Area, 2005-2025				
NPDES Permit No. NN0022179				
YEAR	POND	DISCHARGE DAY (S)	EXCEEDANCES	DISCHARGE TYPE
2005	-----	-----	-----	-----
2006	-----	-----	-----	-----
2007	J16-L	1	NONE	DW
2008	J16-L	5	NONE	DW
2009	-----	-----	-----	-----
2010	-----	-----	-----	-----
2011	J16-L	87	NONE	DW
2012	-----	-----	-----	-----
2013	J21-F	5	NONE	PIR
2014	-----	-----	-----	-----
2015	-----	-----	-----	-----
2016	-----	-----	-----	-----
2017	-----	-----	-----	-----
2018	-----	-----	-----	-----
2019	-----	-----	-----	-----
2020	-----	-----	-----	-----
2021	-----	-----	-----	-----
2022	J16-L	31	NONE	PIR
"	"	42	NONE	DW
"	J21-I	1	NONE	PIR
2023	-----	-----	-----	-----
2024	-----	-----	-----	-----

EXPLANATION

- DW** Lagoon dewatering occurred intermittently over the period indicated.
- PIR** Precipitation-induced runoff event.
- NONE** No exceedance of any parameter.
- No discharge at any pond in the bond release area.

Spoil Sampling and Suitable Material Replacement

Final graded spoil for the J19 J21 CRA permanent program lands was sampled during sixteen (16) years during 1999, 2000, 2001, 2005, 2006, 2009, 2010, 2015, 2016, 2017, 2018, 2021, 2022, 2023, 2024, and 2025 (as documented in Attachment 2.3) to comprehensively evaluate suitability and determine suitable plant growth material replacement requirements per

Chapter 22, Volume 11, Permit AZ-0001F. All spoil sampling and data evaluations were completed using procedures and suitability criteria presented in Chapter 22, Volume 11, Permit AZ-0001F. Spoil sampling results were previously reported and submitted with supporting maps to OSMRE in fifteen (15) annual monitoring reports as referenced below and documented in Attachment 2.3. Spoil sampling results from 2025, included in Attachment 2.3, will be submitted to OSMRE in 2026.

Peabody Western Coal Company (PWCC). 2000, 2001, 2002, 2006, 2007, 2010, 2011, 2016, 2017, 2018, 2019, 2022, 2023, 2024, 2025. 1999, 2000, 2001, 2005, 2006, 2009, 2010, 2015, 2016, 2017, 2018, 2021, 2022, 2023, 2024 Minesoil Reconstruction and Revegetation Activities Reports, Black Mesa and Kayenta Mines, Flagstaff and Kayenta, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Service Center, Denver and Lakewood, Colorado.

Spoil sample laboratory data from the reports listed above pertinent to the Phase I bond release area is included in Attachment 2.3 for the J19 and J21 CRAs. A total of 114 sites were located on final graded spoil slopes and sampled within the portions of the designated Phase I release area where soil and suitable material have been replaced. Ninety-nine (99) of the 114 sites sampled (87%) as listed in Attachment 2.3 and shown on Map 2.2 had suitable spoil characteristics from the surface to three (3) feet and required no additional suitable subsoil and substratum material to be replaced before applying one foot of suitable surface soil. Thirteen (13) midpoint sample sites as listed in Attachment 2.3 and shown on Map 2.2 were sampled to verify the lateral extent of spoil suitability. Topsoil, suitable residual soils, and weathered overburden derived from mostly scoria, sandstone, and siltstone were used to bury unsuitable spoil at J19 and J21 when 2, 3, or 4 feet of suitable mitigation material was required as shown on Map 2.2. Two (2) sample sites, as listed in Attachment 2.3 and shown on Map 2.2, had marginally suitable test criteria(s) within threshold standards approved by OSMRE in Permit AZ-0001F. Up to four feet or more of suitable residual soils and weathered overburden were used in six (6) cultural planting areas that totaled 42 acres as shown on Map 2.1. Occasionally, topsoil was used in J19 and J21 as mitigation material as observed by the field supervisors during reclamation work and as noted by the suitable plant growth material thickness survey. An average of 0.2 feet of mitigation material was required for all J19 and J21 Phase I release areas (203 acres) based on the comprehensive graded spoil sampling suitability analysis presented in Attachment 2.3. For the six (6) cultural areas (42 acres), an average of 0.1 feet of mitigation material was required based on the comprehensive graded spoil sampling suitability analyses presented in Attachment 2.3. For the remaining areas that have had suitable plant growth material replaced (166

acres), an average of just over 0.2 feet of mitigation material was required based on the comprehensive graded spoil sampling suitability analysis presented in Attachment 2.3. As documented in the next section titled Suitable Plant Growth Material Thickness, the mean thickness of mitigation material replaced for the 208-acre combined areas equaled 2.3 feet (excluding one (1) foot of topsoil, suitable soil, suitable residual soils, and weathered scoria overburden at the surface).

Suitable Plant Growth Material Thickness

Four feet of suitable plant growth material as defined in Chapter 22, Volume 11, Permit AZ-001F was replaced on final graded slopes of permanent program lands within the J16, J19, and J21 CRAs from 2011 to 2026. Suitable plant growth material replacement status for most of the release areas shown on Map 1.1 were previously reported to the regulatory authority on the Reclamation Status Map 2 (as of December 31, 2024) shown on the Southeast Sheet contained in the 2025 Reclamation Status and Monitoring Report, Black Mesa, and Kayenta Mines (submitted May 2025). Suitable plant growth material replacement areas for the 2025 calendar year will be submitted to the regulatory authority with the next annual report in May 2026. Soil was redistributed on final graded slopes from stockpiles or replaced directly from soil removal areas prior to ripping and contour discing. Pursuant to Chapter 22 of Permit AZ-0001F, the thickness of soil replaced shall exceed the minimum average of one (1) foot.

Six (6) red rock cultural planting sites, totaling forty-two (42) acres combined as shown on Map 2.1, received an average of 3.4 feet of suitable residual soil and weathered overburden (Table 2.3). Topsoil was not replaced at these six (6) sites that totaled forty-two (42) acres.

One suitable plant growth material thickness survey of the J16, J19, and J21 reclaimed areas included with this Phase I bond release application was completed during April 2026 as shown on Map 2.1. Personnel from Peabody Western Coal Company (PWCC) observed sites in the J16, J19, and J21 reclaimed areas to verify the suitable plant growth material replacement thickness. A stratified grid sampling scheme using a random number generator program was used for the PWCC survey to locate twenty-two (22) sites within the topsoiled and cultural planting areas of J16, J19, and J21 (290 acres) prior to going into the field. Suitable plant growth material thickness verification sites were not placed within powerline corridors, permanent roads, nor the rocked drowndrain, large drainage areas, and areas in J16, J19, and J21 that have not yet been topsoiled that, when combined totaled 403 acres.

A sampling density of about one (1) site per thirteen (13) acres was used; a slightly higher density than those used and approved previously at Kayenta Mine for the N1/N2, N7/N8, N9, N11, N14, J16, J19, and J21 soil thickness evaluations. A Tremble GeoXT survey grade GPS unit was used to navigate to each of the sites. At all sites, either a 3 ½-inch bucket auger or backhoe pit were used to verify the soil and mitigation material thickness by excavating to the contact with spoil. The results of the soil and mitigation material thickness verification survey are shown in Table 2.3 and Map 2.1 shows all sampled sites with corresponding thickness values.

Sixteen (16) sample sites were randomly placed within the 208 acres of disturbed lands that received suitable plant growth material within the J16, J19, and J21 release area. An additional six (6) sample sites were randomly placed within the 82 acres of disturbed lands that received suitable plant growth material within the supplemental J21 Phase I release area. Suitable plant growth material thickness was verified at all twenty-two (22) sites. Suitable plant growth material thickness among the twenty-two (22) profiles placed over the J16, J19, and J21 release areas ranged from 0.5 to 4.5 feet (Table 2.3). The mean topsoil thickness value, excluding thickness attributed to suitable residual soils and suitable overburden derived from predominantly scoria and sandstone used in the cultural planting areas noted in Table 2.3 was 3.2 feet over four (4) sites. The mean soil and suitable material thickness of 3.2 feet exceeds the minimum 1-foot average topsoil thickness requirements presented in the approved reclamation plan in Chapter 22 of Permit AZ-0001F.

When the topsoiled reclamation areas (166 acres) are combined with the cultural planting and suitable soil/steep slope areas (42 acres), the mean thickness of suitable plant growth material is 2.3 feet (Table 2.3). This mean thickness of 2.3 feet exceeds the average combined topsoil and mitigation material thickness of 1.2 feet as required by the spoil suitability mitigation requirements discussed in the previous section and shown on Map 2.2. The mean thickness of suitable plant growth material is 2.3 feet (Table 2.3) for the 82-acre J21 supplemental release area. This mean thickness of 2.3 feet exceeds the average combined topsoil and mitigation material thickness of 1.3 feet as required by the spoil suitability mitigation requirements discussed in Section 2 and shown on Map 2.2 of the April 2024 application approved by OSMRE. In conclusion, PWCC has satisfied topsoil and suitable plant growth material thickness replacement requirements in conformance with applicable regulatory requirements and as stipulated by the approved reclamation plan for the J16, J19, and J21 Phase I release areas shown on Map 1.1.

Table 2.3. Suitable Plant Growth Material Thickness Verification Sites Sampled by PWCC at J16, J19, and J21 During April 2026 (See Map 2.1 for Site Locations).

Site ID ⁽¹⁾	Easting (feet) ⁽²⁾	Northing (feet) ⁽²⁾	Soil/Mitigation Thickness (feet) ⁽⁴⁾	Coal Resource Area
1	56852	-44354	1.5	J19
2	57233	-43682	4.5 ⁽³⁾	J19
3	60193	-45975	2.0 ⁽⁵⁾	J21
4	59206	-45169	4.0 ⁽³⁾	J21
5	57498	-45539	2.0 ⁽⁵⁾	J21
6	59446	-45964	2.0	J21
7	59228	-44724	3.0	J21
8	58207	-44359	2.0	J21
9	58799	-44301	2.0	J21
10	57541	-44499	2.5	J21
11	58623	-46326	4.0 ⁽⁵⁾	J21
12	57275	-43056	2.0 ⁽³⁾	J19
13	57860	-46476	1.0 ⁽⁵⁾	J21
14	57937	-44862	2.0	J21
15	59742	-45543	2.0	J21
16	57755	-43316	3.0 ⁽³⁾	J19
17	58394	-46722	2.0 ⁽⁵⁾	J21
18	57201	-44751	2.0	J21
19	58237	-43725	1.5	J21
20	60555	-42986	0.5	J21
21	60117	-40558	2.5	J19
22	60826	-45941	3.0 ⁽⁵⁾	J21
MEAN			2.0/3.4 ⁽³⁾ /2.3 ⁽⁵⁾	

⁽¹⁾For location see Map 2.1. ⁽²⁾PWCC coordinate system. ⁽³⁾Cultural planting area. ⁽⁴⁾Total thickness attributed to topsoil and suitable mitigative material. ⁽⁵⁾Supplemental 82-acre area in J21 for topsoil and suitable material replacement.

KAYENTA MINE
PHASE I BOND RELEASE
WATERSHED & CHANNEL DESIGNS
J19/21

TABLE J19-2026
Channel Design Summary

Channel J19-23W.1C

Typical Rip Rap Lined Channel

Channel	Flow (Q) (cfs)	Slope (%)	Bottom Width (ft)	Side Slope H:1 (ft)	Designed					As-Built	Watershed (acres)	Time of Concentration (hr)	Curve Number	Design
					Depth Flow (ft)	Velocity (fps)	Free Board (ft)	Total Depth (ft)	Rip Rap (in)	Rip Rap (in)				
J19-23W.1C	390.13	0.80	30	3	2.0	5.51	1	3.0	3	3	1101.3	1.040	80	B

Design Flow: 100-year, 6-hour Storm

J19-23W.1C Watershed Design - 100yr- 6hr

Gary Altsisi, P.E.

Peabody Western Coal Co.

P.O. Box 650

Kayenta, AZ 86033

General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	100 yr - 6 hr
Rainfall Depth:	2.400 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	End	0.000	0.000	J19-23W.1C CHANNEL DESIGN

#1
Null

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	1,101.300	1,101.300	390.13	59.93

Structure Detail:

Structure #1 (Null)

J19-23W.1C CHANNEL DESIGN

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	1,101.300	1.040	0.000	0.000	80.000	M	390.13	59.932
	Σ	1,101.300						390.13	59.932

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	3. Short grass pasture	4.70	92.00	1,959.03	1.730	0.314
		6. Grassed waterway	2.44	42.00	1,722.08	2.340	0.204
		8. Large gullies, diversions, and low flowing streams	1.86	143.00	7,691.06	4.090	0.522
#1	1	Time of Concentration:					1.040

J19-23W.1C Channel Design

Material: Riprap

Trapezoidal Channel

Bottom Width (ft)	Left Sideslope Ratio	Right Sideslope Ratio	Slope (%)	Freeboard Depth (ft)	Freeboard % of Depth	Freeboard Mult. x (VxD)
30.00	3.0:1	3.0:1	0.8	1.00		

PADER Method - Mild Slope Design

	w/o Freeboard	w/ Freeboard
Design Discharge:	390.10 cfs	
Depth:	1.97 ft	2.97 ft
Top Width:	41.83 ft	47.83 ft
Velocity:	5.51 fps	
X-Section Area:	70.79 sq ft	
Hydraulic Radius:	1.667 ft	
Froude Number:	0.75	
Manning's n:	0.0340	
Dmin:	2.00 in	
D50:	3.00 in	
Dmax:	4.50 in	

TABLE J19-2026
Channel Design Summary

Channel J19-23W.2C

Typical Rip Rap Lined Channel

Channel	Flow (Q) (cfs)	Slope (%)	Bottom Width (ft)	Side Slope H:1 (ft)	Designed				As-Built	Watershed (acres)	Time of Concentration (hr)	Curve Number	Design	
					Depth Flow (ft)	Velocity (fps)	Free Board (ft)	Total Depth (ft)	Rip Rap (in)					Rip Rap (in)
J19-23W.2C	99.90	0.80	40	3	0.7	3.38	1	1.7	N/A	N/A	652.2	0.985	81	A

Design Flow: 10-year, 6-hour Storm

J19-23W.2C Watershed Design - 10yr- 6hr

Gary Altsisi, P.E.

Peabody Western Coal Co.

P.O. Box 650

Kayenta, AZ 86033

General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.600 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	End	0.000	0.000	J19-23W.1C CHANNEL DESIGN

#1
Null

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	652.200	652.200	99.93	15.92

Structure Detail:

Structure #1 (Null)

J19-23W.1C CHANNEL DESIGN

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	652.200	0.985	0.000	0.000	81.000	M	99.93	15.919
	Σ	652.200						99.93	15.919

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	3. Short grass pasture	4.70	92.00	1,959.03	1.730	0.314
		6. Grassed waterway	2.44	42.00	1,722.08	2.340	0.204
		8. Large gullies, diversions, and low flowing streams	1.98	140.00	7,088.24	4.210	0.467
#1	1	Time of Concentration:					0.985

J19-23W.2C Channel Design

Material: Graded loam to cobbles when noncolloidal

Trapezoidal Channel

Bottom Width (ft)	Left Sideslope Ratio	Right Sideslope Ratio	Slope (%)	Manning's n	Freeboard Depth (ft)	Freeboard % of Depth	Freeboard Mult. x (VxD)	Limiting Velocity (fps)
40.00	3.0:1	3.0:1	0.8	0.0300	1.00			5.0

	w/o Freeboard	w/ Freeboard
Design Discharge:	99.90 cfs	
Depth:	0.70 ft	1.70 ft
Top Width:	44.21 ft	50.21 ft
Velocity:	3.38 fps	
X-Section Area:	29.53 sq ft	
Hydraulic Radius:	0.665 ft	
Froude Number:	0.73	

TABLE J19-2026
Channel Design Summary

Channel J19-23W.3C

Typical Rip Rap Lined Channel

Channel	Flow (Q) (cfs)	Slope (%)	Bottom Width (ft)	Side Slope H:1 (ft)	Designed					As-Built	Watershed (acres)	Time of Concentration (hr)	Curve Number	Design
					Depth Flow (ft)	Velocity (fps)	Free Board (ft)	Total Depth (ft)	Rip Rap (in)	Rip Rap (in)				
J19-23W.3C	74.00	0.80	40	3	0.6	3.02	1	1.6	N/A	N/A	339.2	0.656	82	A

Design Flow: 10-year, 6-hour Storm

J19-23W.3C Watershed Design - 10yr- 6hr

Gary Altsisi, P.E.

Peabody Western Coal Co.
P.O. Box 650
Kayenta, AZ 86033

General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.600 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	End	0.000	0.000	J19-23W.3C CHANNEL DESIGN

#1 Null

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	339.200	339.200	74.04	9.05

Structure Detail:

Structure #1 (Null)

J19-23W.3C CHANNEL DESIGN

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	339.200	0.656	0.000	0.000	82.000	M	74.04	9.050
Σ		339.200						74.04	9.050

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	3. Short grass pasture	5.68	87.00	1,531.01	1.900	0.223
		8. Large gullies, diversions, and low flowing streams	2.61	197.00	7,558.02	4.840	0.433
#1	1	Time of Concentration:					0.656

J19-23W.3C Channel Design

Material: Graded loam to cobbles when noncolloidal

Trapezoidal Channel

Bottom Width (ft)	Left Sideslope Ratio	Right Sideslope Ratio	Slope (%)	Manning's n	Freeboard Depth (ft)	Freeboard % of Depth	Freeboard Mult. x (VxD)	Limiting Velocity (fps)
40.00	3.0:1	3.0:1	0.8	0.0300	1.00			5.0

	w/o Freeboard	w/ Freeboard
Design Discharge:	74.00 cfs	
Depth:	0.59 ft	1.59 ft
Top Width:	43.52 ft	49.52 ft
Velocity:	3.02 fps	
X-Section Area:	24.50 sq ft	
Hydraulic Radius:	0.561 ft	
Froude Number:	0.71	

TABLE J19-2026
Channel Design Summary

Channel J19-23W.4C

Typical Rip Rap Lined Channel

Channel	Flow (Q) (cfs)	Slope (%)	Bottom Width (ft)	Side Slope H:1 (ft)	Designed					As-Built	Watershed (acres)	Time of Concentration (hr)	Curve Number	Design
					Depth Flow (ft)	Velocity (fps)	Free Board (ft)	Total Depth (ft)	Rip Rap (in)	Rip Rap (in)				
J19-23W.4C	102.20	0.80	30	3	0.8	3.74	1	1.8	N/A	N/A	246.4	0.581	88	A

Design Flow: 10-year, 6-hour Storm

J19-23W.4C Watershed Design - 10yr- 6hr

Gary Altsisi, P.E.

Peabody Western Coal Co.
P.O. Box 650
Kayenta, AZ 86033

General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.600 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	End	0.000	0.000	J19-23W.4C CHANNEL DESIGN

#1 Null

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	246.400	246.400	102.22	10.72

Structure Detail:

Structure #1 (Null)

J19-23W.4C CHANNEL DESIGN

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	246.400	0.581	0.000	0.000	88.000	M	102.22	10.721
Σ		246.400						102.22	10.721

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	3. Short grass pasture	5.36	53.00	989.00	1.850	0.148
		6. Grassed waterway	10.46	120.00	1,147.00	4.850	0.065
		8. Large gullies, diversions, and low flowing streams	0.77	27.00	3,489.27	2.630	0.368
#1	1	Time of Concentration:					0.581

J19-23W.4C Channel Design

Material: Graded loam to cobbles when noncolloidal

Trapezoidal Channel

Bottom Width (ft)	Left Sideslope Ratio	Right Sideslope Ratio	Slope (%)	Manning's n	Freeboard Depth (ft)	Freeboard % of Depth	Freeboard Mult. x (VxD)	Limiting Velocity (fps)
30.00	3.0:1	3.0:1	0.8	0.0300	1.00			5.0

	w/o Freeboard	w/ Freeboard
Design Discharge:	102.20 cfs	
Depth:	0.84 ft	1.84 ft
Top Width:	35.04 ft	41.04 ft
Velocity:	3.74 fps	
X-Section Area:	27.31 sq ft	
Hydraulic Radius:	0.773 ft	
Froude Number:	0.75	


CERTIFICATION

PEABODY WESTERN COAL COMPANY
KAYENTA MINE, J16, J19, and J21 COAL RESOURCE AREAS, PHASE I BOND RELEASE APPLICATION
NAVAJO COUNTY, ARIZONA

I HEREBY CERTIFY that, to the best of my knowledge and belief, all applicable reclamation activities described in the attached Phase I Bond Release Application for the J16, J19, and J21 Coal Resource Areas dated April 27, 2026, have been accomplished in accordance with the reclamation requirements of the Act, the regulatory program, and the approved reclamation plan contained in the AZ-0001F Permit. The bond release parcel is free from enforcement actions.

Peabody Western Coal Company - Kayenta Mine

By: _____


Seth Puls
General Manager

STATE OF NEW MEXICO

CIBOLA COUNTY

Signed or attested before me this 23rd day of /April 2026, by Seth Puls, General Manager owned by Peabody Western Coal Company, a Delaware Corporation, on behalf of said Kayenta Mine.





Notary Public

My commission expires:

July 25, 2026

ACCLUBS #	LOCATION	SAMPLE DATE	SAMPLE DEPTH	PH UNITS	EC MNHOHM	% SAT	CALCIUM MEGL	MAGNESIUM MEGL	SODIUM MEGL	SAR	% SAND	% SILT	% CLAY	CLASS	CARBON	TOT S %	SULFATE S %	PYR S %	ORG S %	ACID POT TN/100TN	NEUT POT TN/100TN	A-B POT TN/100TN	PYR A POT TN/100TN	PYR A-B TN/100TN	BORON PPM	TOT SE PPM	AS-DTPA SE PPM	SOL SE PPM	
PB-S3128	41RG7	03/12/01	0-1	7.35	3.55	50.8	25.9	16.0	20.5	4.47	26.3	33.8	40.0	CLUC		0.104				3.24	26.8	23.6				0.500		0.078	
PB-S3129	41RG7	03/12/01	1-2	6.95	4.08	47.9	26.0	18.8	26.4	5.68	33.8	31.3	35.0	CL		0.160				5.63	14.4	8.75				0.260		0.051	
PB-S3130	41RG7	03/12/01	2-3	6.35	4.15	41.2	17.4	21.1	28.8	6.56	32.5	32.5	35.0	CL		0.143				4.45	8.81	4.15				0.450		0.035	
PB-S3130R	41RG7	03/12/01	2-3	8.43	4.61	43.2	21.7	25.8	31.0	6.36	30.0	35.0	35.0	CL		0.120				3.76	8.13	4.36				0.525		0.036	
PB-S3131	41RG8	03/12/01	0-1	7.62	2.69	48.5	10.1	10.9	17.5	5.41	28.5	33.8	37.5	CL		0.083				2.60	36.4	33.8				0.450		0.059	
PB-S3132	41RG8	03/12/01	1-2	7.64	2.45	49.7	10.6	10.7	16.1	4.95	28.8	32.5	36.8	CL		0.076				2.39	30.2	27.8				0.450		0.056	
PB-S3133	41RG8	03/12/01	2-3	7.47	2.51	47.4	10.3	11.7	15.7	4.72	26.3	33.8	40.0	CLUC		0.103				3.21	16.7	13.5				0.575		0.063	
PB-S3134	41RG9	03/12/01	0-1	7.76	2.99	62.8	12.5	15.8	18.7	4.96	26.3	36.3	37.5	CL		0.113				3.54	35.0	31.5				0.875		0.087	
PB-S3135	41RG9	03/12/01	1-2	6.86	3.04	44.8	10.2	17.9	16.0	3.88	35.0	35.0	30.0	CL		0.227				7.10	7.16	0.06				1.660		0.041	
PB-S3136	41RG9	03/12/01	2-3	6.87	2.73	44.9	12.8	16.1	14.7	3.95	36.3	32.5	31.3	CL		0.220				6.88	8.13	1.25				1.525		0.047	
PB-S3137	41RG10	03/12/01	0-1	7.72	4.37	35.0	8.5	7.74	47.3	16.6	51.3	26.3	22.5	SCL		0.131				4.10	9.09	4.98				0.375		0.084	
PB-S3138	41RG10	03/12/01	1-2	6.99	6.62	36.4	20.0	35.0	67.4	12.9	42.5	28.8	28.8	CL		0.728		0.105		22.8	2.83	-19.9	3.28	-0.45		0.725		0.159	
PB-S3139	41RG10	03/12/01	2-3	6.95	6.95	39.1	20.0	29.2	68.9	13.9	42.5	27.5	30.0	CL		0.532		0.130		16.6	2.83	-13.8	4.08	-1.23		0.850		0.137	
PB-S3140	41RG11	03/12/01	0-1	7.79	3.32	32.1	4.18	3.83	38.3	16.2	47.5	28.8	23.8	L		0.176				5.50	9.57	4.07				0.425		0.068	
PB-S3140R	41RG11	03/12/01	0-1	7.77	3.09	33.4	3.23	3.13	36.5	20.5	42.5	30.0	27.6	CL		0.155				4.84	9.57	4.73				0.425		0.063	
PB-S3141	41RG11	03/12/01	1-2	7.62	3.80	31.8	6.14	5.95	42.4	17.2	52.5	25.0	22.6	SCL		0.201				6.28	8.13	1.84				0.375		0.062	
PB-S3142	41RG11	03/12/01	2-3	7.44	4.13	36.8	9.38	9.38	39.3	12.8	47.5	26.3	26.3	SCL		0.177				5.53	8.61	3.08				0.400		0.060	
PB-S3143	43RG4	03/12/01	0-1	6.09	10.0	37.2	9.68	25.4	66.6	13.5	43.8	28.8	27.5	CL		0.665		0.242		20.8	4.28	-16.5	7.56	-3.29		0.850		0.183	
PB-S3144	43RG4	03/12/01	1-2	6.97	10.3	35.8	10.6	25.8	66.7	13.3	45.0	27.5	27.5	SCL/CL		0.590		0.027		18.4	4.78	-13.7	0.84	3.91		0.425		0.159	
PB-S3145	43RG4	03/12/01	2-3	6.03	6.17	35.6	10.3	17.8	44.8	11.9	46.3	27.5	26.3	SCL		0.658		0.005		20.5	3.31	-17.2	0.16	3.16		0.625		0.092	
PB-S3146	45RG20	03/12/01	0-1	7.94	2.48	31.0	33.0	2.10	1.72	0.41	51.3	25.0	23.8	SCL		0.166				5.19	14.9	9.68				0.160		0.053	
PB-S3147	46RG20	03/12/01	1-2	7.97	2.63	31.3	2.84	2.87	33.6	19.9	47.5	27.5	25.0	SCL		0.126				3.93	15.8	11.9				0.325		0.059	
PB-S3148	46RG20	03/12/01	2-3	7.78	3.60	33.1	4.28	3.66	41.1	20.8	43.8	30.0	28.3	L		0.145				4.54	13.4	8.88				0.400		0.093	
PB-S3149	46RG21	03/12/01	0-1	7.78	3.81	39.3	11.1	6.80	36.8	11.7	52.5	25.0	22.6	SCL		0.173				5.39	18.2	12.8				0.400		0.060	
PB-S3150	46RG21	03/12/01	1-2	7.83	6.51	35.9	18.4	17.6	68.6	16.2	51.3	25.0	23.8	SCL		0.195				6.09	21.1	15.0				0.475		0.188	
PB-S3150R	46RG21	03/12/01	1-2	7.85	6.68	38.5	20.7	19.3	76.2	17.0	51.3	25.0	23.8	SCL		0.198				6.13	20.2	14.0				0.500		0.191	
PB-S3151	46RG21	03/12/01	2-3	7.75	4.85	39.4	12.4	10.4	47.3	14.0	50.0	29.3	23.8	SCL		0.177				5.52	18.2	12.7				0.475		0.128	
PB-S3152	45RG22	03/12/01	0-1	7.62	2.24	31.4	14.8	14.8	7.26	1.90	70.0	16.3	13.8	SL		0.069				2.15	26.5	23.3				0.275		0.060	
PB-S3153	46RG22	03/12/01	1-2	7.43	2.35	30.0	15.8	17.8	6.70	1.84	70.0	16.3	13.8	SL		0.077				2.39	28.3	25.9				0.325		0.069	
PB-S3154	46RG22	03/12/01	2-3	7.46	2.69	30.0	17.8	19.3	8.05	1.87	70.0	16.3	13.8	SL		0.060				1.86	27.4	25.5				0.275		0.072	
PB-S3155	46RG23	03/12/01	0-1	7.45	2.39	29.9	18.2	17.4	5.05	1.20	65.0	18.8	16.3	SL		0.109				3.42	24.5	21.1				0.275		0.053	
PB-S3156	46RG23	03/12/01	1-2	7.51	3.01	30.0	24.5	27.5	5.00	0.98	60.0	20.0	20.0	SCL/SL		0.128				3.95	26.4	22.5				0.700		0.075	
PB-S3157	46RG23	03/12/01	2-3	7.00	3.05	36.6	23.3	24.4	7.22	1.48	48.8	23.8	27.5	SL		0.220				6.88	16.8	8.95				0.375		0.095	
PB-S3158	33RG31D	03/12/01	2-3	8.22	6.18	34.0	22.6	49.0	36.7	6.13	63.8	25.0	11.3	SCL		0.148				4.83	10.1	5.42				0.350		0.089	
PB-S3159	33RG34D	03/12/01	1-2	6.24	6.63	28.8	17.4	22.7	63.7	14.2	50.0	27.5	22.5	SCL		0.195		0.026		6.08	2.35	-3.73	0.81	1.64		0.350		0.077	
PB-S3160	35RG37D	03/12/01	0-1	7.39	2.70	41.0	26.2	13.9	7.87	1.78	45.0	30.0	25.0	L		0.193				6.02	13.9	7.88				0.525		0.017	
PB-S3160R	33RG37D	03/12/01	0-1	7.41	2.69	38.7	24.4	13.1	7.57	1.76	45.0	30.0	25.0	L		0.214				6.69	13.9	7.21				0.480		<0.015	
QC-18																0.116		0.015		3.63	12.0	8.34	0.47	11.5		0.525			
QC-20				7.04	3.84	45.1	15.5	9.13	31.8	9.07	36.3	27.5	38.3	CL															
Estuarine																											0.225		0.080

2001-1



LABORATORY ANALYTICAL REPORT

Client: PWCC-Kayenta Mine
 Project: J-19 and J21 Area
 Workorder: H06100053

Report Date: 10/13/06
 Date Received: 10/05/06

2006-1

Sample ID	Client Sample ID	Analysis		pH-SatPst	COND	SAR	Ca-SatPst	Mg-SatPst	Na-SatPst	Sand	Silt	Clay	Texture	Sulfur, Total
		Units		s_u_	mmhos/cm	unitless	meq/L	meq/L	meq/L	%	%	%	unitless	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
H06100053-001	41RG19, 0-1'	0	1	6.7	4.70	4.3	26.4	13.8	19.3	32	35	33	CL	0.22
H06100053-002	41RG19, 1-3'	1	3	6.5	4.69	4.9	25.2	16.3	22.5	35	32	33	CL	0.25
H06100053-003	41RG20, 0-1'	0	1	6.1	6.08	5.8	30.3	20.6	29.3	34	36	30	CL	0.34
H06100053-004	41RG20, 1-3'	1	3	6.3	3.85	2.1	29.6	11.8	9.35	43	31	26	L	0.15
H06100053-005	41RG21, 0-1'	0	1	5.7	5.87	5.2	29.7	19.2	25.8	36	34	30	CL	0.25
H06100053-006	41RG21, 1-3'	1	3	6.0	4.16	4.0	23.0	13.1	17.1	34	34	32	CL	0.34
H06100053-007	39RG202, 0-1'	0	1	7.1	4.28	20	3.88	2.94	36.7	32	34	34	CL	0.31
H06100053-008	39RG202, 1-3'	1	3	7.0	3.21	19	2.64	1.70	27.4	36	36	28	CL	0.32
H06100053-009	39RG203, 0-1'	0	1	7.2	4.55	13	6.71	6.07	31.9	31	36	33	CL	0.33
H06100053-010	39RG203, 1-3'	1	3	7.2	3.41	13	4.66	4.10	27.5	25	38	37	CL	0.50
H06100053-011	39RG204, 0-1'	0	1	7.4	3.04	15	3.47	2.51	26.2	32	37	31	CL	0.29
H06100053-012	39RG204, 1-3'	1	3	7.4	4.58	15	6.76	6.45	39.6	38	32	30	CL	0.24
H06100053-013	30RG20R, 0-1'	0	1	7.0	6.15	6.5	25.5	26.1	33.1	35	34	31	CL	0.34
H06100053-014	30RG20R, 1-3'	1	3	6.8	7.79	9.7	23.9	39.2	54.6	40	33	27	CL	0.36
H06100053-015	30RG46, 0-1'	0	1	7.1	3.24	2.4	19.1	19.0	10.6	38	35	27	CL	< 0.01
H06100053-016	30RG46, 1-3'	1	3	7.3	4.21	3.0	24.6	35.5	16.4	41	32	27	CL	< 0.01
H06100053-017	30RG47, 0-1'	0	1	7.5	2.55	2.8	12.8	11.2	9.86	28	40	32	CL	< 0.01
H06100053-018	30RG47, 1-3'	1	3	7.4	3.01	2.6	17.2	13.8	10.2	30	38	32	CL	< 0.01
H06100053-019	30RG48, 0-1'	0	1	6.8	7.06	7.7	25.0	28.3	39.9	30	39	31	CL	0.33
H06100053-020	30RG48, 1-3'	1	3	6.8	6.16	8.3	20.1	27.1	40.2	25	42	33	CL	0.58
H06100053-021	30RG49, 0-1'	0	1	6.8	8.03	7.9	26.3	35.6	43.9	32	37	31	CL	0.38
H06100053-022	30RG49, 1-3'	1	3	6.7	8.28	7.8	29.0	32.6	43.4	22	38	40	C	0.35
H06100053-023	30RG50, 0-1'	0	1	7.0	7.08	9.3	24.3	25.9	46.5	23	38	39	CL	0.31
H06100053-024	30RG50, 1-3'	1	3	6.3	10.8	12	22.9	57.8	75.0	18	42	40	SiC	0.64
H06100053-025	30RG51, 0-1'	0	1	6.9	6.79	6.9	25.6	26.1	35.1	18	38	44	C	0.40
H06100053-026	30RG51, 1-3'	1	3	6.6	7.28	7.1	27.0	29.3	37.7	16	40	44	C	0.38
H06100053-027	30RG52, 0-1'	0	1	6.6	8.10	10	21.2	30.2	51.5	18	39	43	C	0.58
H06100053-028	30RG52, 1-3'	1	3	5.2	4.87	8.7	11.1	17.1	32.8	16	37	47	C	0.32
H06100053-029	36RG92R, 0-1'	0	1	7.0	10.2	8.1	24.7	68.6	55.1	36	28	36	CL	0.40
H06100053-030	36RG92R, 1-3'	1	3	6.9	11.1	8.9	26.9	74.7	63.6	40	29	31	CL	0.46
H06100053-031	36RG93R, 0-1'	0	1	6.7	6.36	6.0	23.6	33.2	31.7	22	40	38	CL	0.43
H06100053-032	36RG93R, 1-3'	1	3	5.7	7.23	8.0	20.9	35.2	42.7	33	38	29	CL	0.44
H06100053-033	29RG13R, 0-1'	0	1	6.8	6.78	7.8	22.2	28.7	39.1	38	34	28	CL	0.37
H06100053-034	29RG13R, 1-3'	1	3	6.9	7.34	7.7	23.2	32.3	40.7	37	35	28	CL	0.42
H06100053-035	29RG14R, 0-1'	0	1	6.9	8.67	11	22.9	37.2	59.0	41	34	25	L	0.46
H06100053-036	29RG14R, 1-3'	1	3	6.9	6.33	5.6	24.4	37.7	31.3	40	35	25	L	0.30
H06100053-037	29RG7R, 0-1'	0	1	6.7	6.32	3.3	23.9	55.9	20.7	37	34	29	CL	0.37
H06100053-038	29RG7R, 1-3'	1	3	6.4	5.97	2.7	23.3	58.5	17.0	32	39	29	CL	0.39
H06100053-039	29RG9R, 0-1'	0	1	7.0	10.2	11	28.8	53.0	69.2	46	31	23	L	0.44
H06100053-040	29RG9R, 1-3'	1	3	7.2	7.06	8.5	21.5	29.2	43.0	45	33	22	L	0.34



LABORATORY ANALYTICAL REPORT

Client: PWCC-Kayenta Mine
 Project: J-19 and J21 Area
 Workorder: H06100053

Report Date: 10/13/06
 Date Received: 10/05/06

Sample ID	Client Sample ID	Analysis		Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic	Neut Potential	Acid Potential	Acid/Base Potential
		Units		%	%	%	t/kt	t/kt	t/kt
		Up	Low	Results	Results	Results	Results	Results	Results
H06100053-001	41RG19, 0-1'	0	1				8	7.0	1
H06100053-002	41RG19, 1-3'	1	3	0.10	0.12	0.03	8	7.8	0
H06100053-003	41RG20, 0-1'	0	1	0.14	0.17	0.02	6	5.4	0
H06100053-004	41RG20, 1-3'	1	3				8	4.7	3
H06100053-005	41RG21, 0-1'	0	1	0.10	0.14	0.02	6	4.2	2
H06100053-006	41RG21, 1-3'	1	3	0.16	0.14	0.04	7	4.3	2
H06100053-007	39RG202, 0-1'	0	1				20	9.6	10
H06100053-008	39RG202, 1-3'	1	3				18	10	8
H06100053-009	39RG203, 0-1'	0	1				14	10	4
H06100053-010	39RG203, 1-3'	1	3	0.11	0.24	0.15	15	7.6	8
H06100053-011	39RG204, 0-1'	0	1				19	9.1	10
H06100053-012	39RG204, 1-3'	1	3				17	7.7	10
H06100053-013	30RG20R, 0-1'	0	1				37	11	27
H06100053-014	30RG20R, 1-3'	1	3				33	11	22
H06100053-016	30RG46, 0-1'	0	1				25	0.17	25
H06100053-016	30RG46, 1-3'	1	3				26	0.05	26
H06100053-017	30RG47, 0-1'	0	1				21	0.02	21
H06100053-018	30RG47, 1-3'	1	3				16	0.05	16
H06100053-019	30RG48, 0-1'	0	1				26	10	16
H06100053-020	30RG48, 1-3'	1	3				30	18	11
H06100053-021	30RG49, 0-1'	0	1				27	12	15
H06100053-022	30RG49, 1-3'	1	3				25	11	14
H06100053-023	30RG50, 0-1'	0	1				35	9.8	25
H06100053-024	30RG50, 1-3'	1	3	0.42	0.16	0.06	15	5.2	10
H06100053-025	30RG51, 0-1'	0	1				28	12	16
H06100053-026	30RG51, 1-3'	1	3				28	12	16
H06100053-027	30RG52, 0-1'	0	1				21	18	3
H06100053-028	30RG52, 1-3'	1	3				10	10	0
H06100053-029	36RG92R, 0-1'	0	1				40	12	28
H06100053-030	36RG92R, 1-3'	1	3				37	14	23
H06100053-031	36RG93R, 0-1'	0	1				14	13	0
H06100053-032	36RG93R, 1-3'	1	3	0.09	0.24	0.12	8	7.3	0
H06100053-033	29RG13R, 0-1'	0	1				30	11	18
H06100053-034	29RG13R, 1-3'	1	3				24	13	11
H06100053-035	29RG14R, 0-1'	0	1				30	14	18
H06100053-036	29RG14R, 1-3'	1	3				26	9.3	17
H06100053-037	29RG7R, 0-1'	0	1	0.22	0.11	0.04	9	3.4	6
H06100053-038	29RG7R, 1-3'	1	3	0.28	0.09	0.04	8	2.8	5
H06100053-039	29RG9R, 0-1'	0	1				37	14	23
H06100053-040	29RG9R, 1-3'	1	3				40	11	30

2006-2



LABORATORY ANALYTICAL REPORT

Client: PWCC-Kayenta Mine
 Project: PWCC Black Mesa Complex J-19 and J-21
 Workorder: H09110215

Report Date: 12/16/09
 Date Received: 11/17/09

2009-1

Sample ID	Client Sample ID	Analysis		pH-SatPst	Cond-SatPst	Ca-SatPst	Mg-SatPst	Na-SatPst	SAR	Sand	Silt	Clay	Texture	Sulfur, Total
		Units		s_u_	mmhos/cm	meq/l	meq/l	meq/l	unitless	%	%	%	unitless	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
H09110215-001	26RG107, 0-1	0	0	7.7	1.42	8.04	3.05	3.57	1.5	54	28	18	SL	< 0.01
H09110215-002	26RG107, 1-3'	0	0	7.8	1.62	9.18	3.45	4.85	1.9	56	26	18	SL	< 0.01
H09110215-003	26RG108, 0-1'	0	0	7.8	6.84	10.9	8.95	62.6	20	38	32	30	CL	0.21
H09110215-004	26RG108, 1-3'	0	0	7.7	7.41	16.3	12.1	64.8	17	38	34	28	CL	0.24
H09110215-005	26RG109, 0-1'	0	0	7.6	3.52	2.08	1.14	34.2	27	34	33	33	CL	0.50
H09110215-006	26RG109, 1-3'	0	0	7.5	3.58	2.07	1.21	35.5	28	36	32	32	CL	0.53
H09110215-007	26RG110, 0-1'	0	0	7.9	2.98	1.19	0.64	29.9	31	28	42	30	CL	0.27
H09110215-008	26RG110, 1-3'	0	0	7.6	2.68	1.07	0.56	26.3	29	28	34	38	CL	0.39
H09110215-009	26RG111, 0-1'	0	0	8.0	2.64	1.05	0.59	30.1	33	34	40	26	L	0.20
H09110215-010	26RG111, 1-3'	0	0	4.2	8.77	15.9	54.1	56.4	9.5	24	44	32	CL	0.88
H09110215-011	26RG112, 0-1'	0	0	8.1	2.21	0.53	0.42	21.3	31	10	46	44	SiC	0.21
H09110215-012	26RG112, 1-3'	0	0	8.2	2.42	0.66	0.40	24.9	34	12	44	44	SiC	0.20
H09110215-013	26RG113, 0-1'	0	0	7.5	6.72	24.4	20.8	46.3	9.7	42	32	26	L	0.26
H09110215-014	26RG113, 1-3'	0	0	7.4	6.90	24.5	21.7	47.7	9.9	42	32	26	L	0.27
H09110215-015	26RG114, 0-1'	0	0	6.8	6.74	22.9	26.9	41.3	8.3	34	34	32	CL	0.46
H09110215-016	26RG114, 1-3'	0	0	6.3	5.69	19.8	28.6	30.8	6.3	40	34	26	L	0.70
H09110215-017	26RG115, 0-1'	0	0	6.8	3.84	24.7	17.5	11.3	2.5	34	36	30	CL	< 0.01
H09110215-018	26RG115, 1-3'	0	0	6.7	4.03	24.0	19.2	11.8	2.5	32	34	34	CL	0.01
H09110215-019	26RG116, 0-1'	0	0	7.1	6.74	21.2	17.5	52.9	12	34	36	30	CL	0.28
H09110215-020	26RG116, 1-3'	0	0	7.6	3.20	5.35	5.56	25.0	11	38	32	30	CL	0.01
H09110215-021	48RG36, 0-1'	0	0	4.9	8.28	19.5	43.5	64.6	12	30	40	30	CL	0.86
H09110215-022	48RG36, 1-3'	0	0	5.0	6.01	16.7	28.4	38.4	8.1	26	42	32	CL	0.87
H09110215-023	48RG37, 0-1'	0	0	5.5	9.19	18.4	30.9	82.3	17	22	42	36	CL	0.60
H09110215-024	48RG37, 1-3'	0	0	6.2	8.12	16.1	22.6	75.5	17	26	40	34	CL	0.52
H09110215-025	48RG38, 0-1'	0	0	4.8	7.47	19.0	60.4	41.0	6.5	34	38	28	CL	0.78
H09110215-026	48RG38, 1-3'	0	0	4.2	5.69	18.1	52.0	17.2	2.9	28	44	28	CL	0.85
H09110215-027	48RG39, 0-1'	0	0	3.4	13.4	8.8	62.1	72.6	12	22	54	24	SiL	1.63
H09110215-028	48RG39, 1-3'	0	0	3.8	13.0	11.9	77.5	71.4	11	20	58	22	SiL	1.47
H09110215-029	54RG86, 0-1'	0	0	7.1	9.27	17.9	17.3	90.2	22	34	32	34	CL	0.33
H09110215-030	54RG86, 1-3'	0	0	7.6	6.10	6.07	4.81	56.9	24	28	36	36	CL	0.23
H09110215-031	54RG87, 0-1'	0	0	6.4	10.5	17.3	29.3	100	21	32	36	32	CL	0.50
H09110215-032	54RG87, 1-3'	0	0	7.7	8.56	17.4	16.6	85.0	21	40	32	28	CL	0.29
H09110215-033	54RG88, 0-1'	0	0	7.7	5.99	22.2	59.4	14.2	2.2	56	24	20	SCL	< 0.01
H09110215-034	54RG88, 1-3'	0	0	7.6	5.17	19.2	57.3	11.1	1.8	52	24	24	SCL	< 0.01
H09110215-035	54RG89, 0-1'	0	0	7.5	7.97	18.1	15.5	74.2	18	34	40	26	L	0.30
H09110215-036	54RG89, 1-3'	0	0	7.5	7.98	16.8	19.8	69.4	16	34	34	32	CL	0.33



LABORATORY ANALYTICAL REPORT

Client: PWCC-Kayenta Mine
 Project: PWCC Black Mesa Complex J-19 and J-21
 Workorder: H09110215

Report Date: 12/16/09
 Date Received: 11/17/09

Sample ID	Client Sample ID	Analysis		Sulfur,	Sulfur,	Sulfur,	Neut	Acid	Acid/Base
		Units		Sulfate	Pyritic	Organic	Potential	Potential	Potential
		Up	Low	%	%	%	t/kt	t/kt	t/kt
		Results	Results	Results	Results	Results	Results	Results	Results
H09110215-001	26RG107, 0-1'	0	0				21	< 0.01	21
H09110215-002	26RG107, 1-3'	0	0				18	< 0.01	18
H09110215-003	26RG108, 0-1'	0	0				16	6.5	9
H09110215-004	26RG108, 1-3'	0	0				13	7.6	5
H09110215-005	26RG109, 0-1'	0	0	0.01	0.27	0.22	14	8.5	5
H09110215-006	26RG109, 1-3'	0	0	0.01	0.32	0.20	13	10	3
H09110215-007	26RG110, 0-1'	0	0				14	8.5	6
H09110215-008	26RG110, 1-3'	0	0	0.05	0.20	0.14	12	6.4	5
H09110215-009	26RG111, 0-1'	0	0				10	6.3	4
H09110215-010	26RG111, 1-3'	0	0	0.53	0.20	0.15	2	6.1	-4
H09110215-011	26RG112, 0-1'	0	0				16	6.5	10
H09110215-012	26RG112, 1-3'	0	0				16	6.3	10
H09110215-013	26RG113, 0-1'	0	0				14	8.1	6
H09110215-014	26RG113, 1-3'	0	0				14	8.3	5
H09110215-015	26RG114, 0-1'	0	0	0.18	0.16	0.13	10	4.9	6
H09110215-016	26RG114, 1-3'	0	0	0.32	0.22	0.16	3	6.9	-4
H09110215-017	26RG115, 0-1'	0	0				9	0.08	9
H09110215-018	26RG115, 1-3'	0	0				14	0.44	13
H09110215-019	26RG116, 0-1'	0	0				12	8.8	3
H09110215-020	26RG116, 1-3'	0	0				20	0.37	20
H09110215-021	48RG36, 0-1'	0	0	0.41	0.28	0.17	6	8.8	-3
H09110215-022	48RG36, 1-3'	0	0	0.40	0.34	0.12	6	11	-4
H09110215-023	48RG37, 0-1'	0	0	0.34	0.13	0.12	6	4.2	2
H09110215-024	48RG37, 1-3'	0	0	0.30	0.11	0.11	7	3.4	4
H09110215-025	48RG38, 0-1'	0	0	0.45	0.21	0.12	4	6.5	-2
H09110215-026	48RG38, 1-3'	0	0	0.50	0.24	0.11	2	7.6	-5
H09110215-027	48RG39, 0-1'	0	0	0.57	0.86	0.20	1	27	-26
H09110215-028	48RG39, 1-3'	0	0	0.53	0.76	0.18	0	24	-23
H09110215-029	54RG86, 0-1'	0	0				12	10	2
H09110215-030	54RG86, 1-3'	0	0				13	7.0	6
H09110215-031	54RG87, 0-1'	0	0	0.19	0.17	0.14	13	5.2	7
H09110215-032	54RG87, 1-3'	0	0				25	8.9	16
H09110215-033	54RG88, 0-1'	0	0				31	< 0.01	31
H09110215-034	54RG88, 1-3'	0	0				24	0.18	24
H09110215-035	54RG89, 0-1'	0	0				19	9.4	10
H09110215-036	54RG89, 1-3'	0	0				17	10	7

2009-2

LABORATORY ANALYTICAL REPORT

Client: Peabody Western Coal Company
Project: Kayenta Mine
Workorder: H10090075

Report Date: 09/20/10
Date Received: 09/03/10

Sample ID	Client Sample ID	Analysis		pH-SatPst	Cond-SatPst	Ca-SatPst	Mg-SatPst	Na-SatPst	SAR	Sand	Silt	Clay	Texture	Sulfur, Total
		Units		s_u_	mmhos/cm	meq/l	meq/l	meq/l	unitless	%	%	%	unitless	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
H10090075-001	26 RG 117, 0-1'	0	1'	7.2	8.44	18.5	13.0	67.5	17	44	34	22	L	0.31
H10090075-002	26 RG 117, 1-3'	1	3	7.4	7.72	18.5	9.8	54.0	14	44	34	22	L	0.24
H10090075-003	26 RG 118, 0-1'	0	1	7.6	6.49	10	6.8	47.4	16	42	34	24	L	0.17
H10090075-004	26 RG 118, 1-3'	1	3	7.7	6.79	9.0	6.3	55.2	20	42	34	24	L	0.18
H10090075-005	26 RG 119, 0-1'	0	1	7.6	6.62	7.9	6.1	51.0	19	40	34	26	L	0.03
H10090075-006	26 RG 119, 1-3'	1	3	7.8	5.47	4.9	3.8	43.5	21	40	36	24	L	0.14
H10090075-007	26 RG 120, 0-1'	0	1	7.8	6.97	8.7	6.0	54.4	20	38	36	26	L	0.17
H10090075-008	26 RG 120, 1-3'	1	3	7.4	5.32	10.4	7.4	41.1	14	40	34	26	L	0.03
H10090075-009	26 RG 121, 0-1'	0	1	7.8	4.99	5.6	3.9	42.2	19	32	38	30	CL	0.22
H10090075-010	26 RG 121, 1-3'	1	3	7.6	4.79	5.7	3.9	39.0	18	34	36	30	CL	0.22
H10090075-011	26 RG 122, 0-1'	0	1	6.4	5.90	8.3	6.1	51.4	19	28	36	36	CL	0.41
H10090075-012	26 RG 122, 1-3'	1	3	6.9	7.72	9.7	7.2	65.9	23	34	32	34	CL	0.40
H10090075-013	26 RG 123, 0-1'	0	1	7.2	7.69	20.6	24.0	44.8	9.5	32	38	30	CL	0.25
H10090075-014	26 RG 123, 1-3'	1	3	5.9	8.75	20.1	30.2	51.6	10	38	34	28	CL	0.62
H10090075-015	26 RG 124, 0-1'	0	1	7.7	4.38	2.26	1.60	36.8	26	20	46	34	SiCL	0.15
H10090075-016	26 RG 124, 1-3'	1	3	7.4	6.70	3.7	2.8	57.4	32	24	40	36	CL	0.29
H10090075-017	26 RG 125, 0-1'	0	1	7.8	3.13	6.88	4.21	20.3	8.6	46	28	26	L	< 0.01
H10090075-018	26 RG 125, 1-3'	1	3	7.7	8.90	13.6	10.8	77.4	22	30	42	28	CL	0.18
H10090075-019	25 RG 20, 0-1'	0	1	7.6	3.68	11.1	8.26	21.0	6.7	38	36	26	L	0.11
H10090075-020	25 RG 20, 1-3'	1	3	7.6	6.77	21.9	28.1	39.2	7.8	34	38	28	CL	0.17

2010-1



LABORATORY ANALYTICAL REPORT

Client: Peabody Western Coal Company
Project: Kayenta Mine
Workorder: H10090075

Report Date: 09/20/10
Date Received: 09/03/10

Sample ID	Client Sample ID	Analysis		Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic	Neut Potential	Acid Potential	Acid/Base Potential
		Units		%	%	%	t/kt	t/kt	t/kt
		Up	Low	Results	Results	Results	Results	Results	Results
H10090075-001	26 RG 117, 0-1'	0	1'				11	9.8	1
H10090075-002	26 RG 117, 1-3'	1	3				11	7.4	3
H10090075-003	26 RG 118, 0-1'	0	1				24	5.4	19
H10090075-004	26 RG 118, 1-3'	1	3				24	5.7	18
H10090075-005	26 RG 119, 0-1'	0	1				21	0.8	20
H10090075-006	26 RG 119, 1-3'	1	3				23	4.3	19
H10090075-007	26 RG 120, 0-1'	0	1				19	5.3	13
H10090075-008	26 RG 120, 1-3'	1	3				17	0.9	16
H10090075-009	26 RG 121, 0-1'	0	1				21	6.8	14
H10090075-010	26 RG 121, 1-3'	1	3				23	6.9	16
H10090075-011	26 RG 122, 0-1'	0	1	0.07	0.18	0.16	12	5.6	6
H10090075-012	26 RG 122, 1-3'	1	3				15	13	2
H10090075-013	26 RG 123, 0-1'	0	1				32	7.7	24
H10090075-014	26 RG 123, 1-3'	1	3	0.30	0.14	0.18	15	4.4	10
H10090075-015	26 RG 124, 0-1'	0	1				15	4.7	11
H10090075-016	26 RG 124, 1-3'	1	3				14	9.2	5
H10090075-017	26 RG 125, 0-1'	0	1				28	< 0.3	28
H10090075-018	26 RG 125, 1-3'	1	3				17	5.6	12
H10090075-019	25 RG 20, 0-1'	0	1				19	3.3	16
H10090075-020	25 RG 20, 1-3'	1	3				21	5.2	16

2010-2

QAL #	LOCATION	SAMPLE DATE	SAMPLE DEPTH	PH UNITS	EC MMH/CM	% SAT	CALCIUM MEQL	MAGNESIUM MEQL	SODIUM MEQL	BAR	% SAND	% SILT	% CLAY	CLASS	% CaCO3	TOT S %	SULFATE %	PYR S %	ORG %	ACID POT TN/1000TN	NEUT POT TN/1000TN	A-B POT TN/1000TN	PYR A POT TN/1000TN	PYR S-A-B TN/1000TN	BORON PPM	TOT SE PPM	AB-DTPA SE PPM	SOL SE PPM	PPM
1608-155-01	J19 4420	8/12/16	0-1	5.45	4.66	43.7	22.0	37.9	12.7	2.33	37.50	30.00	32.50	CL	<0.001	0.704	0.477	<0.01	0.233	22.0	-4.91	-26.9	<0.01	-4.91					
1608-155-02	J19 4420	8/12/16	1-3	6.03	8.28	49.6	20.9	86.4	51.3	7.01	35.00	32.50	32.50	CL	<0.001	0.772	0.499	0.023	0.249	24.1	-4.91	-29.0	0.72	-5.63					
1608-155-03	J21 3042	8/12/16	0-1	6.74	6.79	36.1	20.3	69.8	26.1	3.88	61.25	18.75	20.00	SL/SCL	<0.001	0.443	0.353	0.015	0.074	13.8	-0.30	-14.1	0.47	-0.77					
1608-155-04	J21 3042	8/12/16	1-3	6.09	6.64	38.2	21.9	71.5	22.8	3.34	61.25	17.50	21.25	SCL	0.062	0.591	0.382	0.101	0.109	18.4	0.82	-17.6	3.16	-2.53					
1608-155-05	J21 3055	8/12/16	0-1	5.93	9.68	38.3	20.1	186	19.1	1.88	56.25	21.25	22.50	SCL	<0.001	0.564	0.474	0.005	0.085	17.6	-0.30	-17.9	0.16	-0.46					
1608-155-06	J21 3055	8/12/16	1-3	2.52	17.8	37.9	11.7	145	16.0	1.80	52.50	21.25	26.25	SCL	<0.001	1.36	1.224	<0.01	0.148	42.4	-15.1	-57.5	<0.01	-15.1					
1608-155-07	J21 3484	8/12/16	0-1	6.84	5.33	46.1	21.2	25.3	29.5	6.12	38.75	26.25	35.00	CL	0.708	0.340	0.233	<0.01	0.108	10.6	7.08	-3.53	<0.01	7.08					
1608-155-08	J21 3484	8/12/16	1-3	7.66	3.54	38.8	24.6	12.3	8.53	1.98	53.75	20.00	26.25	SCL	1.17	0.048				1.49	11.7	10.2							
1608-155-09	J21 3516	8/12/16	0-1	7.59	6.64	52.2	17.7	16.2	53.9	13.1	41.25	25.00	33.75	CL	0.615	0.183				5.71	6.15	0.44							
1608-155-10	J21 3515	8/12/16	1-3	7.63	5.79	58.1	16.2	14.1	45.2	11.6	40.00	22.50	37.50	CL	0.708	0.210	0.077	0.008	0.125	6.54	7.08	0.53	0.25	6.83					
1608-155-10R	J21 3516	8/12/16	1-3	7.65	6.91	58.0	17.3	14.9	45.2	11.3	40.00	22.50	37.50	CL	0.708	0.248	0.111	<0.01	0.142	7.75	7.08	-0.68	<0.01	7.08					
1608-155-11	N9 4536	8/12/16	0-1	7.50	6.98	40.3	18.4	19.4	57.0	13.1	42.50	27.50	30.00	CL	3.01	0.541				16.9	30.1	13.2							
1608-155-11	N9 4536	8/12/16	1-3	7.41	7.29	42.7	18.2	24.4	57.0	12.4	41.25	28.75	30.00	CL	2.37	0.720				22.5	23.7	1.18							
1608-155-12	N9 4536	8/12/16	1-3	7.41	7.29	42.7	18.2	24.4	57.0	12.4	41.25	28.75	30.00	CL	0.523	1.13	0.327	0.278	0.525	35.3	5.23	-30.1	8.68	-3.45					
1608-155-13	N9 4568	8/12/16	0-1	6.39	6.27	45.3	19.3	35.0	38.1	7.33	36.25	31.25	32.50	CL	1.45	0.825	0.039	0.292	0.493	25.8	14.5	-11.3	9.12	5.33					
1608-155-14	N9 4568	8/12/16	1-3	7.22	7.17	43.9	19.4	26.2	55.2	11.6	35.00	31.25	33.75	CL	<0.001	0.832	0.051	0.349	0.432	26.0	-2.15	-28.1	10.9	-13.1					
1608-155-15	N9 4569	8/12/16	0-1	5.77	9.66	42.6	17.8	30.7	94.0	19.1	38.75	26.25	35.00	CL	<0.001	1.73	1.159	0.109	0.466	54.2	-4.91	-59.1	3.41	-8.32					
1608-155-16	N9 4569	8/12/16	1-3	3.37	7.25	45.5	20.3	74.0	21.9	3.19	50.00	22.50	27.50	SCL	<0.001	1.788	0.352	0.089	0.347	24.6	-5.84	-30.5	2.78	-8.62					
1608-155-17	N9 4269	8/12/16	0-1	4.14	6.67	44.9	20.0	70.2	24.4	3.63	41.25	26.25	32.50	CL	<0.001	0.788	0.352	0.089	0.347	24.6	-5.84	-30.5	2.78	-8.62					
1608-155-18	N9 4269	8/12/16	1-3	3.66	8.47	41.5	19.2	100	34.1	4.41	41.25	26.25	32.50	CL	<0.001	1.02	0.551	0.105	0.359	31.7	-5.84	-37.5	3.26	-9.12					
1608-155-19	N9 4270	8/12/16	0-1	5.79	4.31	46.4	27.5	33.4	6.00	1.09	37.50	28.75	33.75	CL	0.062	0.507	0.281	<0.01	0.250	15.8	0.52	-15.2	<0.01	0.62					
1608-155-20	N9 4270	8/12/16	1-3	5.95	5.31	40.8	22.3	38.5	18.4	3.33	43.75	27.50	28.75	CL	<0.001	0.695	0.444	0.046	0.205	21.7	-0.30	-22.0	1.44	-1.74					
1608-155-20R	N9 4270	8/12/16	1-3	5.97	5.54	40.4	23.8	41.3	19.7	3.46	42.50	28.75	28.75	CL	<0.001	0.664	0.442	0.024	0.198	20.8	-0.30	-21.1	0.75	-1.05					
1608-155-21	J21 3527	8/12/16	0-1	6.84	6.69	35.8	19.6	18.7	51.3	11.7	46.25	26.25	27.50	SCL	0.431	0.244	0.014	0.017	0.213	7.63	4.31	-3.32	0.53	3.78					
1608-155-22	J21 3527	8/12/16	1-3	6.89	6.23	35.8	19.5	16.7	44.8	10.5	46.25	25.00	28.75	SCL	0.154	0.199	0.037	<0.01	0.162	6.20	1.54	-4.66	<0.01	1.54					
1608-155-23	J21 3727	8/12/16	0-1	7.26	5.82	41.5	24.4	32.7	23.4	4.39	51.25	20.00	28.75	SCL	1.72	0.250				7.81	17.2	9.41							
1608-155-24	J21 3727	8/12/16	1-3	7.33	6.40	42.7	23.9	45.7	26.2	4.44	48.75	22.50	26.75	SCL	2.09	0.299				9.35	20.9	11.6							

2016-3

QAL #	LOCATION	SAMPLE DATE	SAMPLE DEPTH	PH UNITS	EC NMHO/CM	% SAT	CALCIUM MEQ/L	MAGNESIUM MEQ/L	SODIUM MEQ/L	BAR	% SAND	% SILT	% CLAY	CLASS	% CACO3	TOT S %	SULFATE %	PYR S %	ORG %	ACID POT TN/1000TN	NEUT POT TN/1000TN	A-B POT TN/1000TN	PYR A POT TN/1000TN	PYR S AB TN/1000TN	BORON PPM	TOT SE PPM	AB-DTPA SE PPM	SCL SE	PPM
1704-115-01	J-19 3040	4/11/17	0-1	7.27	3.51	45.1	24.9	14.9	9.26	2.08	41.3	31.3	27.5	CL	1.62	0.14					4.38	16.2	11.8						
1704-115-02	J-19 3040	4/11/17	1-3	7.00	4.95	46.8	25.7	22.5	21.3	4.34	38.8	31.3	30.0	CL	0.98	0.34	0.15	0.04	0.14	10.6	9.77	-0.84	1.34	8.42					
1704-115-03	J-19 3047	4/11/17	0-1	5.14	4.85	45.1	21.6	33.6	18.1	3.45	36.3	38.3	27.5	CL	0.08	0.84	0.39	0.20	0.25	26.3	0.62	-25.7	6.09	-5.47					
1704-115-04	J-19 3047	4/11/17	1-3	6.01	7.20	47.6	19.5	52.7	37.3	6.22	38.3	35.0	28.8	CL	0.43	0.90	0.36	0.25	0.30	28.1	4.28	-23.8	7.65	-3.37					
1704-115-05	J-19 3048	4/11/17	0-1	5.11	10.2	44.3	18.4	78.3	67.4	9.70	38.8	32.5	28.8	CL	0.06	0.89	0.49	0.18	0.22	27.9	0.82	-27.3	5.65	-5.03					
1704-115-06	J-19 3048	4/11/17	1-3	5.63	11.0	44.4	19.0	68.3	79.2	12.0	42.5	31.3	28.3	L	0.25	0.95	0.63	0.03	0.29	29.8	2.45	-27.3	0.97	1.48					
1704-115-07	J-19 3049	4/11/17	0-1	4.05	7.74	44.8	19.8	78.5	35.6	5.08	42.5	28.8	28.8	CL	<0.01	0.98	0.57	0.08	0.34	30.7	-1.21	-31.9	2.34	-3.55					
1704-115-08	J-19 3049	4/11/17	1-3	4.23	9.72	44.0	16.8	93.0	52.6	7.10	40.0	31.3	28.8	CL	<0.01	0.89	0.39	0.18	0.31	27.7	-0.28	-28.0	5.75	-8.04					
1704-115-09	J-19 3059	4/11/17	0-1	5.89	8.12	43.3	18.1	21.2	64.8	14.6	40.0	33.8	29.3	CL	0.52	0.57	0.19	0.06	0.32	17.9	5.19	-12.7	1.94	3.28					
1704-115-10	J-19 3059	4/11/17	1-3	6.36	5.54	44.4	19.2	12.8	36.0	9.51	50.0	28.8	21.3	L	0.52	0.54	0.07	0.13	0.34	16.8	5.19	-11.6	4.09	1.10					
1704-115-10R	J-19 3059	4/11/17	1-3	6.49	5.70	44.7	20.3	13.1	38.1	9.33	48.8	27.5	23.8	SCL	0.52	0.50	0.06	0.08	0.39	15.6	5.19	-10.4	1.84	3.35					
1704-115-11	J-19 3066	4/11/17	0-1	6.83	6.19	46.5	18.8	15.5	43.5	10.5	43.8	31.3	25.0	L	0.52	0.65	0.08	0.08	0.41	17.2	5.19	-12.0	1.94	3.28					
1704-115-12	J-19 3066	4/11/17	1-3	6.84	7.70	38.5	13.1	9.0	63.1	19.0	53.8	17.5	28.8	SCL	0.43	0.46	<0.01	0.12	0.52	14.3	4.28	-10.0	3.84	0.44					
1704-115-13	J-19 3162	4/11/17	0-1	7.41	3.46	47.3	16.7	11.5	13.9	3.71	42.5	28.8	28.8	CL	2.17	0.09				2.71	21.7	18.9							
1704-115-14	J-19 3162	4/11/17	1-3	7.71	2.40	48.9	8.3	6.6	11.0	4.02	36.3	31.3	32.5	CL	2.71	0.06				1.74	27.1	25.4							
1704-115-15	J-19 3163	4/11/17	0-1	7.02	5.58	39.5	21.2	19.1	29.9	6.97	55.0	23.8	21.3	SCL	0.34	0.65	0.32	0.01	0.32	20.3	3.37	-16.9	0.31	9.05					
1704-115-16	J-19 3163	4/11/17	1-3	7.05	9.17	38.4	24.9	12.3	65.7	15.2	73.8	16.8	7.5	SL	<0.01	0.96	0.44	0.13	0.39	29.9	-0.29	-30.2	3.91	-4.20					
1704-115-17	J-19 3164	4/11/17	0-1	7.03	5.44	38.8	20.9	24.4	25.1	5.28	48.8	27.5	23.8	SCL	0.70	0.52	0.21	0.12	0.20	16.3	7.02	-9.27	3.69	3.34					
1704-115-18	J-19 3164	4/11/17	1-3	6.77	7.60	44.7	19.7	39.7	41.0	7.52	41.3	31.3	27.5	CL	0.70	0.67	0.36	0.05	0.25	20.8	7.02	-13.9	1.69	5.34					
1704-115-19	J-19 3185	4/11/17	0-1	6.50	5.43	38.9	21.2	24.1	24.7	6.20	60.0	15.0	25.0	SCL	0.43	0.47	0.26	0.02	0.20	14.8	4.28	-10.5	0.62	3.66					
1704-115-20	J-19 3185	4/11/17	1-3	5.48	7.28	41.9	18.1	41.6	37.8	6.91	42.5	31.3	28.3	L	0.15	0.72	0.40	0.08	0.24	22.5	1.54	-21.0	2.53	-0.99					
1704-115-20R	J-19 3185	4/11/17	1-3	5.38	7.68	43.0	20.3	45.0	40.8	7.15	43.8	30.0	28.3	L	0.70	0.73	0.39	0.07	0.28	22.9	7.02	-15.9	2.16	4.87					
1704-115-21	J-19 3080	4/11/17	0-1	5.79	4.89	39.4	21.8	31.3	15.4	2.99	46.3	30.0	23.8	L	0.15	1.22	0.49	0.17	0.58	39.2	1.54	-36.7	5.22	-3.88					
1704-115-22	J-19 3080	4/11/17	1-3	6.14	9.56	40.6	19.1	104	30.0	3.82	47.5	31.3	21.3	L	<0.01	2.27	1.05	0.31	0.90	70.8	-3.03	-73.9	9.78	-12.8					
1704-115-23	J-19 3081	4/11/17	0-1	5.67	6.45	40.7	19.9	18.5	41.1	9.51	52.5	27.5	20.0	SL/SCL	0.25	0.61	0.10	0.11	0.41	19.2	2.45	-19.7	3.28	-0.83					
1704-115-24	J-19 3081	4/11/17	1-3	7.13	10.2	38.1	21.7	11.2	77.0	19.0	63.8	22.5	13.8	SL	0.52	0.79	0.34	0.16	0.29	24.7	5.19	-19.5	5.08	0.13					
1704-115-25	J-19 3082	4/11/17	0-1	3.45	6.55	40.7	21.3	46.1	18.7	3.22	33.8	37.5	28.8	CL	<0.01	1.01	0.49	0.14	0.38	31.5	-3.03	-34.5	4.34	-7.37					
1704-115-26	J-19 3082	4/11/17	1-3	5.29	6.68	41.0	18.8	37.1	33.7	6.39	38.8	35.0	28.3	L	0.25	0.72	0.32	0.07	0.33	22.5	2.45	-20.1	2.03	0.42					
1704-115-27	J-19 3083	4/11/17	0-1	5.58	9.11	45.8	17.9	18.1	70.0	17.0	40.0	35.0	25.0	L	0.25	0.69	0.09	0.12	0.48	21.6	2.45	-19.2	3.75	-1.30					
1704-115-28	J-19 3083	4/11/17	1-3	6.27	10.9	46.3	15.4	10.4	89.6	26.0	40.0	32.5	27.5	CL	0.25	0.87	0.00	0.38	0.32	20.9	2.45	-18.4	11.9	-9.45					
1704-115-29	J-18 3064	4/11/17	0-1	6.47	7.75	42.8	18.8	27.4	47.4	9.89	45.0	28.8	26.3	L	0.98	0.50	0.27	0.01	0.22	15.7	9.77	-5.93	0.34	9.42					
1704-115-30	J-18 3064	4/11/17	1-3	6.82	9.19	40.3	16.9	25.9	62.6	13.5	43.8	30.0	26.3	L	0.61	0.50	0.33	0.02	0.14	15.5	6.11	-9.43	0.69	5.42					
1704-115-30R	J-18 3064	4/11/17	1-3	6.84	9.22	41.5	17.2	26.5	63.1	13.5	43.8	30.0	26.3	L	0.61	0.55	0.37	0.00	0.18	17.0	6.11	-10.9	0.00	6.11					
1704-115-31	J-19 3077	4/11/17	0-1	4.82	8.75	39.2	18.2	63.7	38.3	5.99	47.5	31.3	21.3	L	0.15	1.11	0.74	0.11	0.26	34.6	1.54	-33.1	3.34	-1.81					
1704-115-32	J-19 3077	4/11/17	1-3	4.93	12.9	39.0	18.4	116	67.4	8.23	48.8	28.8	22.5	L	0.25	1.03	0.69	0.08	0.25	32.0	2.45	-29.6	2.47	-0.02					
1704-115-33	J-19 5095	4/11/17	0-1	5.68	4.80	41.8	22.3	48.6	4.48	0.75	43.8	31.3	25.0	L	0.70	1.16	0.43	0.14	0.59	36.1	7.02	-29.1	4.25	2.77					
1704-115-34	J-19 5095	4/11/17	1-3	2.67	14.0	49.0	21.7	129	5.44	0.83	60.0	21.3	18.8	SL	<0.01	2.46	0.97	0.20	1.29	76.9	-9.43	-86.3	6.34	-15.8					

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GAL #	LOCATION	SAMPLE DATE	SAMPLE DEPTH	PH UNITS	EC MMHCO/CM	% SAT	CALCIUM MEQL	MAGNESIUM MEQL	SODIUM MEQL	SAR	% SAND	% SILT	% CLAY	CLASS	% CaCO3	TOTS %	SULFATE %	PYR %	ORG %	ACID POT TN/1000TN	NETUT POT TN/1000TN	A-B POT TN/1000TN	PYR A POT TN/1000TN	PYRS A-B TN/1000TN
1707-095-01	3186	7/7/17	0-1	6.98	6.83	50.3	22.1	20.8	48.7	10.5	37.50	30.00	32.50	CL	1.37	0.30				9.34	13.7	4.34		
1707-095-02	3186	7/7/17	1-3	6.98	6.01	43.2	23.2	25.0	36.8	7.49	38.75	31.25	30.00	CL	1.37	0.22				6.87	13.7	6.81		
1707-095-03	3188	7/7/17	0-1	7.06	7.02	40.1	24.1	38.3	40.6	7.27	43.75	28.75	27.50	CL	1.94	0.46				14.5	19.4	4.87		
1707-095-04	3188	7/7/17	1-3	7.31	6.05	40.4	23.8	27.7	34.4	6.79	41.25	28.75	30.00	CL	2.70	0.24				7.56	27.0	19.4		
1707-095-05	3190	7/7/17	0-1	7.21	9.76	40.0	23.3	25.0	80.0	16.3	41.25	27.50	31.25	CL	1.56	0.35				10.9	15.6	4.66		
1707-095-06	3190	7/7/17	1-3	7.00	9.09	39.4	22.1	45.0	63.5	11.0	42.50	28.75	28.75	CL	1.84	0.61	0.32	0.07	0.22	19.0	18.4	-0.60	2.25	16.2
1707-095-07	3189	7/7/17	0-1	7.12	5.60	35.6	26.0	32.0	25.3	4.70	48.75	27.50	23.75	SCL	2.13	0.27				8.35	21.3	12.9		
1707-095-08	3189	7/7/17	1-3	7.28	7.05	35.9	23.8	26.7	44.4	8.84	46.25	27.50	26.25	SCL	2.13	0.34				10.8	21.3	10.5		
1707-095-09	3184	7/7/17	0-1	7.22	6.55	40.3	23.2	22.8	43.1	9.00	38.75	31.25	30.00	CL	0.99	0.22				6.99	9.88	2.88		
1707-095-10	3184	7/7/17	1-3	7.18	6.83	41.6	20.2	18.3	50.9	11.6	41.25	28.75	30.00	CL	1.08	0.24				7.38	10.8	3.47		
1707-095-10R	3184	7/7/17	1-3	7.13	7.34	38.0	21.9	20.2	56.1	12.2	40.00	28.75	31.25	CL	0.99	0.27				8.58	9.88	1.29		
1707-095-11	3185	7/7/17	0-1	7.28	7.31	36.6	23.0	25.8	51.3	10.4	40.00	30.00	30.00	CL	0.99	0.31				9.69	9.88	0.19		
1707-095-12	3185	7/7/17	1-3	7.02	7.45	36.6	24.7	23.3	54.4	11.1	46.25	26.25	27.50	SCL	0.80	0.49	0.17	0.06	0.26	15.2	7.98	-7.24	1.72	6.26
1707-095-13	3183	7/7/17	0-1	5.87	13.4	35.6	21.0	93.8	92.2	12.2	52.50	23.75	23.75	SCL	0.32	0.86	0.59	0.03	0.24	26.8	3.23	-23.6	0.94	2.29
1707-095-14	3183	7/7/17	1-3	5.23	15.5	32.5	21.3	119.3	110.5	13.2	53.75	25.00	21.25	SCL	0.13	0.97	0.54	0.11	0.32	30.2	1.32	-28.9	3.31	-1.99
1707-095-15	3187	7/7/17	0-1	6.95	7.08	38.1	22.3	28.1	49.2	9.80	38.75	31.25	30.00	CL	2.13	0.43				13.5	21.3	7.75		
1707-095-16	3187	7/7/17	1-3	7.13	6.57	40.0	23.4	28.2	43.5	8.57	37.50	30.00	32.50	CL	1.84	0.42				13.2	18.4	5.23		
1707-095-17	3068	7/7/17	0-1	6.29	8.35	40.7	22.3	44.9	55.7	9.60	33.75	33.75	32.50	CL	0.61	0.79	0.35	0.09	0.36	24.8	6.08	-18.7	2.81	3.27
1707-095-18	3068	7/7/17	1-3	5.01	8.41	42.4	21.3	83.9	39.4	5.43	35.00	32.50	32.50	CL	0.04	1.18	0.81	0.11	0.26	36.7	0.37	-36.4	3.31	-2.94
1707-095-19	3191	7/7/17	0-1	6.88	8.02	37.0	19.4	19.4	63.9	14.5	47.50	25.00	27.50	SCL	1.46	0.43				13.5	14.6	1.15		
1707-095-20	3191	7/7/17	1-3	7.04	9.25	36.0	21.0	15.8	77.9	18.2	50.00	22.50	27.50	SCL	1.37	0.37				11.5	13.7	2.21		
1707-095-20R	3191	7/7/17	1-3	7.29	8.94	33.5	20.3	15.2	76.6	18.2	48.75	25.00	26.25	SCL	1.27	0.34				10.7	12.7	2.06		
1707-095-21	3070	7/7/17	0-1	5.93	9.68	40.1	21.3	56.0	65.7	10.6	36.25	32.50	31.25	CL	0.32	0.88	0.36	0.09	0.43	27.5	3.23	-24.3	2.81	0.41
1707-095-22	3070	7/7/17	1-3	5.79	9.32	40.8	21.1	55.0	62.2	10.1	36.25	31.25	32.50	CL	0.32	0.83	0.44	0.03	0.36	25.8	3.23	-22.6	0.81	2.41
1707-095-23	3173	7/7/17	0-1	5.74	9.27	40.1	20.9	54.9	60.9	9.90	35.00	32.50	32.50	CL	0.51	0.86	0.46	0.11	0.28	26.6	5.13	-21.4	3.47	1.66
1707-095-24	3173	7/7/17	1-3	5.33	10.2	40.7	21.1	61.2	68.3	10.6	37.50	30.00	32.50	CL	0.23	0.78	0.33	0.15	0.30	24.5	2.28	-22.2	4.75	-2.47
1707-095-25	3069	7/7/17	0-1	5.65	9.26	39.6	21.6	43.5	67.0	11.8	37.50	31.25	31.25	CL	0.32	0.81	0.35	0.13	0.33	25.4	3.23	-22.2	4.15	-0.93
1707-095-26	3069	7/7/17	1-3	4.48	10.7	38.4	20.1	86.4	64.8	8.88	37.50	32.50	30.00	CL	0.04	0.90	0.56	0.06	0.29	28.3	0.37	-27.9	1.87	-1.50
1707-095-27	3071	7/7/17	0-1	6.67	8.34	38.6	21.8	43.3	53.5	9.38	40.00	37.50	22.50	L	1.27	0.64	0.38	<0.01	0.33	19.9	12.7	-7.14	<0.01	12.7
1707-095-28	3071	7/7/17	1-3	6.79	8.12	37.2	21.3	41.1	51.8	9.26	40.00	28.75	31.25	CL	1.27	0.67	0.41	<0.01	0.27	21.1	12.7	-8.34	0.06	12.7
1707-095-29	3192	7/7/17	0-1	7.10	8.83	36.8	20.8	23.1	68.3	14.6	47.50	25.00	27.50	SCL	1.56	0.40				12.4	15.6	3.15		
1707-095-30	3192	7/7/17	1-3	7.28	7.74	38.2	21.4	20.1	58.3	12.8	48.75	25.00	26.25	SCL	1.65	0.38				11.9	16.5	4.61		
1707-095-30R	3192	7/7/17	1-3	7.33	7.80	37.7	20.4	19.5	58.7	13.2	51.25	23.75	25.00	SCL	1.37	0.40				12.6	13.7	1.10		
1707-095-31	3172	7/7/17	0-1	6.03	9.64	39.3	19.4	58.4	62.2	10.0	40.00	28.75	31.25	CL	0.42	0.82	0.40	0.08	0.34	25.7	4.18	-21.5	2.56	1.61
1707-095-32	3172	7/7/17	1-3	5.02	10.1	37.2	19.5	64.1	63.5	9.82	42.50	28.75	28.75	CL	0.04	0.98	0.48	0.20	0.28	30.1	0.37	-29.7	6.28	-5.91
1707-095-33	3053	7/6/17	0-1	6.99	9.92	47.8	19.6	23.7	82.2	17.7	32.50	28.75	38.75	CL	1.18	0.44	0.00	0.16	0.28	13.6	11.8	-1.83	5.03	6.75
1707-095-34	3053	7/6/17	1-3	7.06	7.39	43.3	20.2	25.0	86.1	18.1	41.25	26.25	32.50	CL	1.65	0.74	0.29	0.10	0.35	23.1	16.5	-6.60	3.25	13.3
1707-095-35	3052	7/6/17	0-1	3.57	10.3	43.3	21.0	81.9	23.1	3.2	33.75	33.75	32.50	CL	<0.01	1.24	0.77	<0.01	0.48	38.7	-3.43	-42.1	<0.01	-3.43
1707-095-36	3052	7/6/17	1-3	5.22	8.93	45.1	19.6	44.3	64.4	11.4	35.25	30.00	33.75	CL	0.04	1.02	0.55	<0.01	0.51	32.0	0.37	-31.6	<0.01	0.37

2017-2

OAL #	LOCATION	SAMPLE DATE	SAMPLE DEPTH	PH UNITS	EC MMSH/CM	% SAT	CALCIUM MEQL	MAGNESIUM MEQL	SODIUM MEQL	BAR	% SAND	% SILT	% CLAY	CLASS	% CaCO3	TOT S %	SULFATE %	PYR S %	ORG %	ACID POT TNH/100TN	NEUT POT TNH/100TN	A-B POT TNH/100TN	PYR A POT TNH/100TN	PYR S A-B TNH/100TN	BORON PPM	TOT SE PPM	AS-DTPA SE PPM	SOL SE PPM	PPM
2204099-01	3683	4/7/22	0-1	7.25	7.67	47.6	18.0	17.1	57.9	13.8	40.00	26.25	33.76	CL	1.03	0.24				7.41	10.3	2.84							
2204099-01R	3683	4/7/22	0-1	7.25	7.82	49.4	19.9	18.4	60.9	13.9	37.50	26.25	36.25	CL	1.12	0.27				8.38	11.2	2.86							
2204099-02	3683	4/7/22	1-3	7.41	7.15	46.2	13.0	13.3	55.7	15.4	36.25	27.50	36.25	CL	1.62	0.25				7.68	16.2	8.53							
2204099-03	3678	4/7/22	0-1	7.84	9.39	40.0	13.4	21.6	77.4	18.5	47.50	25.00	27.50	SCL	0.93	0.12				3.66	9.26	5.61							
2204099-04	3678	4/7/22	1-3	7.80	10.0	38.5	16.4	25.1	81.3	18.1	52.50	22.50	25.00	SCL	0.93	0.11				3.51	9.26	5.75							
2204099-05	3753	4/7/22	0-1	7.50	3.97	52.0	16.8	14.5	16.8	4.33	35.00	27.50	37.50	CL	0.73	0.12				3.86	7.28	3.42							
2204099-06	3753	4/7/22	1-3	7.50	3.49	54.1	13.3	12.6	13.5	3.76	37.50	25.00	37.50	CL	0.83	0.10				3.01	8.27	5.26							
2204099-07	3752	4/7/22	0-1	5.67	8.68	46.7	19.5	17.7	67.4	15.6	31.25	31.25	37.50	CL	0.23	0.53	0.15	0.16	0.22	16.4	2.32	-14.1	4.97	-2.65					
2204099-08	3752	4/7/22	1-3	5.67	8.24	51.4	17.7	12.4	64.8	16.7	22.50	36.25	41.25	C	0.13	0.49	0.18	0.13	0.17	15.2	1.32	-13.9	4.19	-2.86					

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils N9 Spoils
Workorder: H22100693

Report Date: 11/09/22
Date Received: 10/24/22

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	Percent Sat	pH-SatPst	Cond-SatPst	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low											
				%	%	%	Results	%	s_u_	mmhos/cm	meq/L	meq/L	meq/L	unitless
				Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
H22100693-001	2209-280-3668	0	1	40	30	30	CL	57.5	7.7	4.7	10.3	10.0	42.7	13.4
H22100693-002	2209-280-3668	1	3	34	36	30	CL	53.1	7.6	5.4	13.5	12.3	52.0	14.5
H22100693-003	2209-280-3667	0	1	38	32	30	CL	56.7	7.7	3.4	6.39	6.35	32.0	12.7
H22100693-004	2209-280-3667	1	3	42	30	28	CL	52.5	7.4	4.8	12.5	10.1	42.8	12.8
H22100693-005	2209-280-3666	0	1	30	38	32	CL	59.1	7.0	6.2	15.3	12.3	61.4	18.6
H22100693-006	2209-280-3666	1	3	34	36	30	CL	49.5	5.7	8.0	18.2	21.4	77.8	17.5
H22100693-007	2209-280-3677	0	1	36	48	16	L	40.8	6.8	4.4	16.4	19.3	27.7	6.6
H22100693-008	2209-280-3677	1	3	50	30	20	L	42.6	7.0	4.5	14.1	17.0	33.8	8.6
H22100693-009	2209-280-3692	0	1	48	32	20	L	42.6	7.5	5.8	18.2	20.3	49.1	11.2
H22100693-010	2209-280-3692	1	3	52	28	20	L	40.7	7.6	4.7	11.8	13.2	41.1	11.6
H22100693-011	2209-280-3691	0	1	48	30	22	L	46.2	7.4	4.5	16.1	18.4	32.8	7.9
H22100693-012	2209-280-3691	1	3	50	28	22	L	48.0	7.4	4.8	17.5	19.1	35.9	8.4
H22100693-013	2209-280-3690	0	1	48	30	22	L	47.0	7.4	4.9	16.6	17.0	38.1	9.3
H22100693-014	2209-280-3690	1	3	50	30	20	L	47.6	7.3	4.6	13.9	16.1	35.8	9.2
H22100693-015	2209-280-3689	0	1	44	30	26	L	51.5	7.4	5.5	17.5	15.2	45.0	11.1
H22100693-016	2209-280-3689	1	3	42	32	26	L	51.5	7.4	5.6	18.4	15.6	47.5	11.5
H22100693-017	2209-280-3674	0	1	52	28	20	L	41.8	7.3	4.3	19.1	21.3	24.0	5.4
H22100693-018	2209-280-3674	1	3	48	30	22	L	45.6	7.5	4.4	18.5	19.8	28.3	6.5
H22100693-019	2209-279-4794	0	1	34	38	28	CL	50.8	3.5	7.0	18.2	107	1.76	0.2
H22100693-020	2209-279-4794	1	3	34	40	26	L	44.8	3.5	6.4	18.4	92.3	1.14	0.2
H22100693-021	2209-279-4842	0	1	32	38	30	CL	47.1	3.2	9.3	15.5	139	3.70	0.4
H22100693-022	2209-279-4842	1	3	32	40	28	CL	46.3	3.2	12.1	17.9	222	6.27	0.6
H22100693-023	2209-279-4841	0	1	40	34	26	L	40.3	5.9	5.8	18.9	70.2	14.6	2.2
H22100693-024	2209-279-4841	1	3	40	34	26	L	43.2	5.9	7.4	18.2	94.2	25.6	3.4
H22100693-025	2209-279-4840	0	1	86	8	6	LS	31.0	7.7	1.5	8.96	8.86	1.60	0.5
H22100693-026	2209-279-4840	1	3	88	6	6	LS	30.3	7.7	1.6	10.9	8.52	2.28	0.7
H22100693-027	2209-279-4819	0	1	44	32	24	L	41.8	3.9	4.3	19.7	55.6	0.78	0.1
H22100693-028	2209-279-4819	1	3	82	8	10	LS	63.6	2.7	3.9	20.5	22.9	0.82	0.2
H22100693-029	2209-279-4820	0	1	38	34	28	CL	42.2	4.9	8.1	15.7	141	1.98	0.2
H22100693-030	2209-279-4820	1	3	44	32	24	L	42.8	5.8	6.5	18.9	102	3.51	0.4
H22100693-031	2209-279-4767	0	1	40	34	26	L	45.1	4.0	6.0	18.5	69.8	13.3	2.0
H22100693-032	2209-279-4767	1	3	38	34	28	CL	45.2	5.2	6.6	19.3	73.6	21.5	3.2
H22100693-033	2209-279-4768	0	1	38	36	26	L	42.0	4.1	9.2	17.6	121	27.2	3.3
H22100693-034	2209-279-4768	1	3	36	38	26	L	44.0	4.0	9.9	18.9	130	34.1	3.9
H22100693-035	2209-279-4772	0	1	34	40	26	L	41.9	6.1	6.1	19.2	52.8	29.0	4.8
H22100693-036	2209-279-4772	1	3	38	36	26	L	45.9	6.2	7.1	17.7	73.4	30.8	4.6
H22100693-037	2209-279-4795	0	1	46	32	22	L	38.1	4.2	12.9	18.9	223	36.5	3.3
H22100693-038	2209-279-4795	1	3	44	32	24	L	41.1	3.7	10.5	18.7	174	18.3	1.9

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils N9 Spoils
Workorder: H22100693

Report Date: 11/09/22
Date Received: 10/24/22

Sample ID	Client Sample ID	Analysis		Neut Potential t/kt	Acid Potential t/kt	Acid/Base Potential t/kt	AP, Pyritic S t/kt	ABP, Pyritic S t/kt	Sulfur, Total %	Sulfur, Sulfate %	Sulfur, Pyritic %	Sulfur, Organic %
		Units										
		Up	Low									
H22100693-001	2209-280-3668	0	1	22	4.3	18			0.14			
H22100693-002	2209-280-3668	1	3	18	6.6	12			0.21			
H22100693-003	2209-280-3667	0	1	24	3.6	21			0.11			
H22100693-004	2209-280-3667	1	3	22	5.2	17			0.17			
H22100693-005	2209-280-3666	0	1	19	9.5	9			0.31			
H22100693-006	2209-280-3666	1	3	9	23	-15	8.4	0	0.75	0.32	0.27	0.16
H22100693-007	2209-280-3677	0	1	13	3.2	9			0.10			
H22100693-008	2209-280-3677	1	3	14	2.4	11			0.08			
H22100693-009	2209-280-3692	0	1	11	2.9	9			0.09			
H22100693-010	2209-280-3692	1	3	11	2.1	9			0.07			
H22100693-011	2209-280-3691	0	1	13	2.5	11			0.08			
H22100693-012	2209-280-3691	1	3	12	2.9	9			0.09			
H22100693-013	2209-280-3690	0	1	11	3.0	8			0.10			
H22100693-014	2209-280-3690	1	3	10	3.8	6			0.12			
H22100693-015	2209-280-3689	0	1	10	4.5	6			0.14			
H22100693-016	2209-280-3689	1	3	14	5.8	8			0.19			
H22100693-017	2209-280-3674	0	1	12	3.0	9			0.10			
H22100693-018	2209-280-3674	1	3	16	4.1	12			0.13			
H22100693-019	2209-279-4794	0	1	0	29	-29	7.7	-8	0.93	0.50	0.25	0.19
H22100693-020	2209-279-4794	1	3	0	33	-33	9.2	-9	1.05	0.54	0.29	0.22
H22100693-021	2209-279-4842	0	1	-2	54	-54	14	-14	1.73	1.07	0.44	0.23
H22100693-022	2209-279-4842	1	3	-2	52	-52	13	-13	1.66	1.01	0.43	0.22
H22100693-023	2209-279-4841	0	1	7	35	-27	15	-8	1.11	0.47	0.49	0.14
H22100693-024	2209-279-4841	1	3	8	44	-36	16	-8	1.41	0.76	0.51	0.14
H22100693-025	2209-279-4840	0	1	3	0.59	3			0.02			
H22100693-026	2209-279-4840	1	3	4	0.71	3			0.02			
H22100693-027	2209-279-4819	0	1	2	26	-24	8.5	-6	0.85	0.33	0.27	0.24
H22100693-028	2209-279-4819	1	3	0	42	-42	11	-11	1.35	0.37	0.35	0.63
H22100693-029	2209-279-4820	0	1	6	51	-44	21	-15	1.62	0.74	0.69	0.20
H22100693-030	2209-279-4820	1	3	14	41	-28	16	-2	1.32	0.66	0.50	0.16
H22100693-031	2209-279-4767	0	1	2	35	-32	12	-9	1.11	0.54	0.38	0.19
H22100693-032	2209-279-4767	1	3	5	34	-29	12	-7	1.10	0.52	0.39	0.19
H22100693-033	2209-279-4768	0	1	2	43	-41	18	-16	1.38	0.63	0.57	0.18
H22100693-034	2209-279-4768	1	3	2	41	-39	14	-12	1.30	0.64	0.44	0.22
H22100693-035	2209-279-4772	0	1	12	32	-20	17	-4	1.03	0.34	0.53	0.15
H22100693-036	2209-279-4772	1	3	13	39	-25	17	-4	1.24	0.56	0.55	0.14
H22100693-037	2209-279-4795	0	1	2	55	-53	23	-21	1.75	0.74	0.75	0.25
H22100693-038	2209-279-4795	1	3	0	46	-45	14	-13	1.46	0.79	0.44	0.23

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LABORATORY ANALYTICAL REPORT
Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H23100976

Report Date: 11/21/23
Date Received: 10/27/23

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Percent Sat	Cond-SatPst	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low	% Results	% Results	% Results	Results	s_u_ Results	% Results	mmhos/cm Results	meq/L Results	meq/L Results	meq/L Results	meq/L Results
H23100976-001	3665	0	1	42	29	29	CL	7.6	43.6	5.3	6.64	7.29	38.3	13.9
H23100976-002	3665	1	3	44	29	27	CL	7.6	46.9	7.5	9.66	12.5	53.5	16.9
H23100976-003	3675	0	1	50	26	24	SCL	7.4	41.9	5.5	10.1	10.0	34.7	11.4
H23100976-004	3675	1	3	50	26	24	SCL	7.2	43.6	6.6	17.9	16.3	38.4	9.2
H23100976-005	3676	0	1	48	28	24	L	7.5	44.4	5.8	9.36	9.29	38.6	13.0
H23100976-006	3676	1	3	50	26	24	SCL	7.5	45.5	6.1	11.4	11.2	40.4	11.4
H23100976-007	3661	0	1	50	26	24	SCL	7.3	43.5	4.6	19.2	18.6	16.1	3.6
H23100976-008	3661	1	3	48	30	22	L	7.1	42.0	5.8	18.3	18.5	29.7	7.0
H23100976-009	3662	0	1	28	36	36	CL	7.8	56.5	3.5	2.35	2.11	25.6	17.1
H23100976-010	3662	1	3	34	31	35	CL	7.4	52.0	5.2	4.55	4.26	40.1	18.4
H23100976-011	3663	0	1	62	24	14	SL	7.4	38.3	4.2	12.9	19.0	19.7	4.9
H23100976-012	3663	1	3	62	22	16	SL	7.8	35.6	4.4	7.64	12.8	28.2	8.8
H23100976-013	3664	0	1	56	26	18	SL	7.7	35.5	4.9	4.32	7.29	37.5	15.6
H23100976-014	3664	1	3	52	28	20	L	7.5	34.8	3.7	3.42	4.93	30.0	14.7
H23100976-015	3649	0	1	64	22	14	SL	7.7	33.4	3.3	4.20	6.92	24.0	10.2
H23100976-016	3649	1	3	64	22	14	SL	7.6	34.0	2.8	3.27	5.92	19.6	9.1
H23100976-017	3650	0	1	62	22	16	SL	7.6	38.3	4.7	9.93	12.6	26.3	7.8
H23100976-018	3650	1	3	64	22	14	SL	7.7	37.3	4.6	13.0	16.4	26.3	6.8
H23100976-019	3651	0	1	46	28	26	L	7.5	41.7	4.9	5.74	7.94	36.2	14.6
H23100976-020	3651	1	3	28	38	34	CL	7.8	51.9	3.9	2.21	4.99	35.9	18.9
H23100976-021	3660	0	1	46	27	27	SCL	7.3	42.8	6.3	22.4	19.5	31.1	6.8
H23100976-022	3660	1	3	52	25	23	SCL	7.4	42.1	6.2	21.8	19.0	30.3	6.7
H23100976-023	3636	0	1	56	23	21	SCL	7.6	41.7	3.7	6.84	8.73	22.8	8.2
H23100976-024	3636	1	3	56	21	23	SCL	7.7	42.3	4.1	8.19	10.4	25.3	8.3
H23100976-025	3637	0	1	50	25	25	SCL	7.6	46.3	4.8	9.86	11.8	31.1	9.4
H23100976-026	3637	1	3	48	25	27	SCL	7.2	47.7	6.3	15.1	18.0	40.9	10.1
H23100976-027	3638	0	1	44	27	29	CL	7.6	47.0	4.5	5.82	7.51	33.9	13.1
H23100976-028	3638	1	3	44	27	29	CL	7.6	46.8	5.3	7.29	9.46	41.6	14.4
H23100976-029	3648	0	1	50	27	23	SCL	7.1	39.9	4.3	21.7	23.9	10.5	2.2
H23100976-030	3648	1	3	52	27	21	SCL	7.1	39.9	4.2	21.2	24.6	10.6	2.2
H23100976-031	3622	0	1	44	29	27	CL	7.3	42.5	6.4	17.5	16.6	34.7	8.4
H23100976-032	3622	1	3	48	27	25	SCL	7.3	40.9	6.0	15.9	16.4	30.5	7.6
H23100976-033	3623	0	1	36	35	29	CL	5.2	42.4	5.4	19.7	32.0	15.1	3.0
H23100976-034	3623	1	3	38	33	29	CL	5.7	42.3	5.0	21.3	23.5	17.0	3.6
H23100976-035	3624	0	1	42	29	29	CL	7.4	48.0	6.4	10.1	12.5	40.3	12.0
H23100976-036	3624	1	3	44	29	27	CL	7.1	47.1	6.4	17.0	18.8	34.9	8.2
H23100976-037	3635	0	1	46	29	25	L	7.1	42.9	4.6	19.5	21.6	11.6	2.6
H23100976-038	3635	1	3	46	27	27	SCL	7.1	44.4	4.5	18.9	20.9	10.2	2.3
H23100976-039	3575	0	1	36	33	31	CL	7.1	46.6	1.5	7.62	5.37	2.16	0.8

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spolls
Workorder: H23100976

Report Date: 11/21/23
Date Received: 10/27/23

Sample ID	Client Sample ID	Analysis		Neut Potential t/kt	Acid Potential t/kt	Acid/Base Potential t/kt	AP, Pyritic S t/kt	ABP, Pyritic S t/kt	Sulfur, Total %	Sulfur, Sulfate %	Sulfur, Pyritic %	Sulfur, Organic %
		Units										
		Up	Low									
H23100976-001	3665	0	1	18	3.2	15			0.10			
H23100976-002	3665	1	3	15	4.4	11			0.14			
H23100976-003	3675	0	1	8	3.8	4			0.12			
H23100976-004	3675	1	3	9	5.2	3			0.17			
H23100976-005	3676	0	1	9	3.7	6			0.12			
H23100976-006	3676	1	3	11	4.1	6			0.13			
H23100976-007	3661	0	1	11	4.4	7			0.14			
H23100976-008	3661	1	3	8	4.7	4			0.15			
H23100976-009	3662	0	1	11	3.3	7			0.10			
H23100976-010	3662	1	3	13	5.2	8			0.16			
H23100976-011	3663	0	1	5	3.2	2			0.10			
H23100976-012	3663	1	3	7	1.8	5			0.06			
H23100976-013	3664	0	1	11	2.3	9			0.07			
H23100976-014	3664	1	3	12	2.8	9			0.09			
H23100976-015	3649	0	1	7	2.2	5			0.07			
H23100976-016	3649	1	3	7	2.4	4			0.08			
H23100976-017	3650	0	1	8	2.4	6			0.08			
H23100976-018	3650	1	3	7	2.5	5			0.08			
H23100976-019	3651	0	1	24	2.7	22			0.09			
H23100976-020	3651	1	3	26	2.2	24			0.07			
H23100976-021	3660	0	1	25	7.4	18			0.24			
H23100976-022	3660	1	3	29	3.8	26			0.12			
H23100976-023	3636	0	1	10	2.4	8			0.08			
H23100976-024	3636	1	3	9	2.2	7			0.07			
H23100976-025	3637	0	1	13	2.9	10			0.09			
H23100976-026	3637	1	3	14	3.2	10			0.10			
H23100976-027	3638	0	1	16	2.6	14			0.08			
H23100976-028	3638	1	3	18	2.5	15			0.08			
H23100976-029	3648	0	1	9	3.1	6			0.10			
H23100976-030	3648	1	3	10	3.0	7			0.09			
H23100976-031	3622	0	1	19	7.2	12			0.23			
H23100976-032	3622	1	3	19	6.7	13			0.21			
H23100976-033	3623	0	1	8	19	-10	6.3	2	0.60	0.33	0.20	0.07
H23100976-034	3623	1	3	10	15	-5	6.3	5	0.49	0.26	0.17	0.06
H23100976-035	3624	0	1	16	5.5	11			0.18			
H23100976-036	3624	1	3	14	9.9	4			0.32			
H23100976-037	3635	0	1	13	5.3	8			0.17			
H23100976-038	3635	1	3	13	5.3	8			0.17			
H23100976-039	3575	0	1	14	5.8	8			0.18			

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spills
Workorder: H23100976

Report Date: 11/21/23
Date Received: 10/27/23

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Percent Sat	Cond-SatPst	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low	% Results	% Results	% Results	Results	s_u_ Results	% Results	mmhos/cm Results	meq/L Results	meq/L Results	meq/L Results	unitless Results
H23100976-040	3575	1	3	40	31	29	CL	6.8	45.8	4.6	20.1	19.5	14.5	3.3
H23100976-041	3593	0	1	48	27	25	SCL	7.3	46.2	3.9	14.4	18.0	11.3	2.8
H23100976-042	3593	1	3	52	25	23	SCL	7.4	41.5	4.2	15.8	21.4	11.2	2.6
H23100976-043	3610	0	1	34	35	31	CL	7.0	49.0	6.8	18.1	24.2	35.2	7.7
H23100976-044	3610	1	3	40	31	29	CL	7.6	49.6	7.2	16.5	18.4	42.4	10.2
H23100976-045	3621	0	1	50	27	23	SCL	7.4	39.6	5.1	17.4	18.3	23.8	5.6
H23100976-046	3621	1	3	56	23	21	SCL	7.6	41.0	5.6	18.5	24.1	26.3	5.7
H23100976-047	3039	0	1	66	19	15	SL	8.0	36.6	0.9	4.26	2.32	1.75	1.0
H23100976-048	3039	1	3	56	23	21	SCL	7.6	40.4	2.5	16.6	8.57	4.61	1.3
H23100976-049	3045	0	1	62	21	17	SL	8.1	33.9	0.8	2.35	1.37	3.71	2.7
H23100976-050	3045	1	3	58	23	19	SL	7.7	35.2	2.7	12.9	7.27	8.18	2.6
H23100976-051	3046	0	1	40	33	27	CL	7.2	47.0	3.1	20.3	9.18	7.22	1.9
H23100976-052	3046	1	3	44	29	27	CL	7.6	47.8	1.6	12.5	2.30	1.83	0.7
H23100976-053	3057	0	1	62	23	15	SL	7.9	35.8	2.0	12.0	4.35	3.57	1.2
H23100976-054	3057	1	3	46	33	21	L	7.6	44.3	3.7	19.1	10.5	8.13	2.1

2023-3



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H23100976

Report Date: 11/21/23
Date Received: 10/27/23

Sample ID	Client Sample ID	Analysis		Neut Potential	Acid Potential	Acid/Base Potential	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units										
		Up	Low	t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
H23100976-040	3575	1	3	14	12	2			0.37			
H23100976-041	3593	0	1	17	4.1	13			0.13			
H23100976-042	3593	1	3	16	3.5	12			0.11			
H23100976-043	3610	0	1	14	14	0	6.5	8	0.46	0.21	0.21	0.04
H23100976-044	3610	1	3	20	9.8	11			0.31			
H23100976-045	3621	0	1	38	6.6	31			0.21			
H23100976-046	3621	1	3	45	6.2	38			0.20			
H23100976-047	3039	0	1	40	0.69	40			0.02			
H23100976-048	3039	1	3	52	2.5	50			0.08			
H23100976-049	3045	0	1	51	0.85	50			0.03			
H23100976-050	3045	1	3	86	1.4	84			0.04			
H23100976-051	3046	0	1	20	9.2	11			0.30			
H23100976-052	3046	1	3	65	1.9	63			0.06			
H23100976-053	3057	0	1	22	1.3	21			0.04			
H23100976-054	3057	1	3	16	2.0	14			0.06			

2023-4



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LABORATORY ANALYTICAL REPORT
Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: N9 Spoils/J21 Spoils
Workorder: H24040550

Report Date: 05/03/24
Date Received: 04/17/24

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Cond-SatPst	Percent Sat	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low	% Results	% Results	% Results	Results	s_u_ Results	mmhos/cm Results	% Results	meq/L Results	meq/L Results	meq/L Results	unitless Results
H24040550-001	4409	0	1	64	23	13	SL	7.3	6.0	32.7	31.1	28.7	15.2	2.8
H24040550-002	4409	1	3	38	34	28	CL	4.6	10.1	39.6	24.2	95.4	36.3	4.7
H24040550-003	4925	0	1	44	29	27	CL	6.4	8.2	36.7	22.4	53.6	41.5	6.7
H24040550-004	4925	1	3	44	30	26	L	6.4	8.8	37.3	21.2	55.6	48.5	7.8
H24040550-005	4401	0	1	34	35	31	CL	7.0	5.0	43.0	28.2	28.4	12.2	2.3
H24040550-006	4401	1	3	37	34	29	CL	6.9	5.2	39.5	23.3	28.2	22.5	4.4
H24040550-007	4401 (TS)	0	24	29	39	32	CL	7.6	5.3	40.4	27.1	22.3	17.9	3.6
H24040550-008	4368	0	1	69	18	13	SL	7.6	3.4	34.6	24.4	10.7	8.38	2.0
H24040550-009	4368	1	3	69	18	13	SL	7.4	3.1	35.5	21.9	9.56	7.54	1.9
H24040550-010	4371	0	1	30	39	31	CL	5.8	11.2	42.6	20.9	67.7	77.7	11.7
H24040550-011	4371	1	3	25	39	36	CL	4.4	10.1	43.6	17.5	72.8	57.8	8.6
H24040550-012	4370	0	1	51	28	21	L	6.7	5.9	34.6	21.6	25.1	32.1	6.6
H24040550-013	4370	1	3	62	21	17	SL	6.2	6.3	35.0	21.8	29.7	35.2	7.0
H24040550-014	4372	0	1	31	39	30	CL	6.1	7.7	41.2	20.9	57.8	35.0	5.6
H24040550-015	4372	1	3	39	34	27	CL	5.9	8.8	37.7	17.7	101	28.5	3.4
H24040550-016	4369	0	1	44	32	24	L	5.8	8.3	33.5	20.2	50.2	44.2	7.4
H24040550-017	4369	1	3	42	33	25	L	5.4	8.1	33.4	18.6	48.6	40.8	7.0
H24040550-018	3576	0	1	28	38	34	CL	6.7	7.9	43.3	21.6	26.7	53.9	11.0
H24040550-019	3576	1	3	29	38	33	CL	6.9	8.4	39.5	21.4	25.1	61.8	12.8
H24040550-020	3559	0	1	14	56	30	SICL	7.2	1.9	39.0	8.01	5.97	6.28	2.4
H24040550-021	3559	1	3	20	49	31	SICL	6.4	2.2	39.1	10.4	7.37	5.61	1.9
H24040550-022	3626	0	1	47	30	23	L	6.0	6.8	34.9	18.8	39.7	31.6	5.8
H24040550-023	3626	1	3	67	30	3	SL	5.9	8.0	38.0	21.4	18.5	54.6	12.2
H24040550-024	3560	0	1	37	33	30	CL	4.9	6.7	38.2	20.0	62.6	13.2	2.0
H24040550-025	3560	1	3	39	32	29	CL	4.3	8.2	36.6	20.4	92.8	14.3	1.9
H24040550-026	3641	0	1	38	31	31	CL	7.5	7.3	43.3	19.6	17.4	50.5	11.7
H24040550-027	3641	1	3	30	38	32	CL	7.4	7.0	48.5	19.4	16.6	48.9	11.5
H24040550-028	3550	0	1	31	40	29	CL	4.8	9.4	37.4	19.1	58.8	51.7	8.3
H24040550-029	3550	1	3	33	37	30	CL	5.6	8.1	39.5	21.1	39.4	46.1	8.4
H24040550-030	3611	0	1	31	37	32	CL	6.9	8.4	43.9	19.6	21.6	63.4	14.0
H24040550-031	3611	1	3	29	40	31	CL	6.8	9.2	41.7	19.5	23.8	72.1	15.5
H24040550-032	3627	0	1	32	39	29	CL	7.0	8.0	43.4	19.6	21.1	62.4	13.8
H24040550-033	3627	1	3	41	32	27	CL	7.1	7.5	42.0	20.1	13.8	56.2	13.7
H24040550-034	3652	0	1	29	37	34	CL	7.3	12.2	44.5	18.7	18.9	112	25.8
H24040550-035	3652	1	3	35	33	32	CL	7.0	10.3	47.4	19.2	18.2	89.4	20.7
H24040550-036	3594	0	1	28	40	32	CL	6.2	8.4	42.3	20.2	25.7	59.7	12.3
H24040550-037	3594	1	3	32	38	30	CL	6.4	11.2	37.2	19.5	31.3	90.3	17.9
H24040550-038	3639	0	1	55	24	21	SCL	7.4	5.6	35.5	16.4	14.2	35.9	9.2
H24040550-039	3639	1	3	45	29	26	L	7.6	9.9	41.0	20.1	25.9	81.6	17.0

2024-1



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LABORATORY ANALYTICAL REPORT
Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: N9 Spoils/J21 Spoils
Workorder: H24040550

Report Date: 05/03/24
Date Received: 04/17/24

Sample ID	Client Sample ID	Analysis		Neut Potential t/kt	Acid Potential t/kt	Acid/Base Potential t/kt	AP, Pyritic S t/kt	ABP, Pyritic S t/kt	Sulfur, Total %	Sulfur, Sulfate %	Sulfur, Pyritic %	Sulfur, Organic %
		Units										
		Up	Low									
H24040550-001	4409	0	1	16	4.5	11			0.15			
H24040550-002	4409	1	3	5	35	-30	8.4	-3	1.13	0.74	0.27	0.12
H24040550-003	4925	0	1	14	23	-9	7.8	6	0.75	0.40	0.25	0.10
H24040550-004	4925	1	3	15	24	-9	8.0	7	0.77	0.42	0.25	0.10
H24040550-005	4401	0	1	30	9.5	21			0.30			
H24040550-006	4401	1	3	25	15	11			0.47			
H24040550-007	4401 (TS)	0	24	26	4.0	22			0.13			
H24040550-008	4368	0	1	17	3.7	13			0.12			
H24040550-009	4368	1	3	16	2.8	13			0.09			
H24040550-010	4371	0	1	13	28	-15	8.9	4	0.88	0.48	0.29	0.12
H24040550-011	4371	1	3	4	39	-35	11	-7	1.25	0.77	0.34	0.14
H24040550-012	4370	0	1	13	15	-2	6.5	7	0.49	0.20	0.21	0.08
H24040550-013	4370	1	3	11	16	-5	4.4	6	0.51	0.30	0.14	0.07
H24040550-014	4372	0	1	14	24	-10	8.7	5	0.76	0.39	0.28	0.10
H24040550-015	4372	1	3	16	30	-14	9.9	6	0.97	0.55	0.32	0.11
H24040550-016	4369	0	1	9	27	-18	12	-3	0.87	0.36	0.38	0.13
H24040550-017	4369	1	3	9	35	-27	20	-12	1.13	0.30	0.65	0.17
H24040550-018	3576	0	1	10	19	-9	10	0	0.60	0.14	0.32	0.14
H24040550-019	3576	1	3	11	18	-7	9.3	2	0.58	0.16	0.30	0.13
H24040550-020	3559	0	1	6	13	-7	8.9	-3	0.42	0.04	0.29	0.09
H24040550-021	3559	1	3	11	8.5	3			0.27			
H24040550-022	3626	0	1	8	22	-14	8.1	0	0.71	0.29	0.26	0.17
H24040550-023	3626	1	3	7	24	-17	5.1	1	0.76	0.28	0.16	0.31
H24040550-024	3560	0	1	6	25	-19	8.3	-2	0.81	0.40	0.27	0.14
H24040550-025	3560	1	3	4	26	-22	7.9	-4	0.82	0.40	0.25	0.17
H24040550-026	3641	0	1	20	6.6	13			0.21			
H24040550-027	3641	1	3	19	7.1	12			0.23			
H24040550-028	3550	0	1	5	26	-20	8.6	-3	0.82	0.42	0.28	0.12
H24040550-029	3550	1	3	7	21	-14	7.7	-1	0.67	0.32	0.25	0.10
H24040550-030	3611	0	1	12	14	-2	5.9	7	0.45	0.15	0.19	0.11
H24040550-031	3611	1	3	12	14	-3	5.1	7	0.46	0.19	0.16	0.11
H24040550-032	3627	0	1	13	17	-4	8.6	4	0.55	0.15	0.28	0.12
H24040550-033	3627	1	3	16	14	2			0.44			
H24040550-034	3652	0	1	18	11	7			0.36			
H24040550-035	3652	1	3	12	11	1			0.34			
H24040550-036	3594	0	1	9	20	-11	9.9	-1	0.65	0.20	0.32	0.13
H24040550-037	3594	1	3	10	21	-11	8.0	1	0.67	0.25	0.26	0.16
H24040550-038	3639	0	1	17	5.0	12			0.16			
H24040550-039	3639	1	3	16	6.7	10			0.22			

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: N9 Spoils/J21 Spoils
Workorder: H24040550

Report Date: 05/03/24
Date Received: 04/17/24

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Cond-SatPst	Percent Sat	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low	% Results	% Results	% Results	Results	s_u_ Results	mmhos/cm Results	% Results	meq/L Results	meq/L Results	meq/L Results	unitless Results
H24040550-040	3653	0	1	36	32	32	CL	7.5	8.4	47.1	17.3	17.6	65.5	15.7
H24040550-041	3653	1	3	38	31	31	CL	7.4	9.1	43.0	23.9	23.4	82.0	16.9
H24040550-042	3625	0	1	36	34	30	CL	7.2	6.7	42.0	19.7	17.1	54.8	12.8
H24040550-043	3551	0	1	35	33	32	CL	6.9	5.5	40.9	9.94	10.7	49.6	15.4
H24040550-044	3551	1	3	36	33	31	CL	7.1	5.2	38.3	12.5	13.1	42.3	11.8
H24040550-045	3654	0	1	36	33	31	CL	7.6	5.3	41.8	12.9	13.2	43.9	12.2
H24040550-046	3654	1	3	35	33	32	CL	7.5	7.2	42.7	20.4	25.8	56.2	11.7
H24040550-047	3655	0	1	30	36	34	CL	7.3	4.6	49.2	23.7	19.4	23.8	5.1
H24040550-048	3655	1	3	28	39	33	CL	7.6	4.9	46.2	16.4	19.0	30.6	7.3
H24040550-049	3640	0	1	38	35	27	CL	7.3	8.2	42.6	23.0	21.9	72.2	15.2
H24040550-050	3640	1	3	37	35	28	CL	7.2	7.4	45.8	22.3	20.1	61.8	13.4
H24040550-051	3625	1	3	40	32	28	CL	7.1	8.5	46.5	25.1	23.3	73.6	15.0

2024-3



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: N9 Spolls/J21 Spolls
Workorder: H24040550

Report Date: 05/03/24
Date Received: 04/17/24

Sample ID	Client Sample ID	Analysis		Neut Potential	Acid Potential	Acid/Base Potential	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units										
		Up	Low	t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
H24040550-040	3653	0	1	20	6.4	13			0.21			
H24040550-041	3653	1	3	18	7.2	11			0.23			
H24040550-042	3625	0	1	14	6.5	7			0.21			
H24040550-043	3551	0	1	13	13	-1	7.9	5	0.42	0.02	0.25	0.15
H24040550-044	3551	1	3	13	13	1			0.40			
H24040550-045	3654	0	1	17	5.2	12			0.16			
H24040550-046	3654	1	3	19	6.7	13			0.21			
H24040550-047	3655	0	1	17	5.1	12			0.16			
H24040550-048	3655	1	3	19	2.9	16			0.09			
H24040550-049	3640	0	1	12	11	2			0.34			
H24040550-050	3640	1	3	14	13	1			0.41			
H24040550-051	3625	1	3	13	7.6	6			0.24			

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spills
Workorder: H24080621

Report Date: 10/02/24
Date Received: 08/16/24

Sample ID	Client Sample ID	Analyses		Sand %	Silt %	Clay %	Texture Results	pH-SatPst s_u_	Cond-SatPst mmhos/cm	Percent Sat %	Ca-SatPst-Sat Paste meq/L	Mg-SatPst-Sat Paste meq/L	Na-SatPst-Sat Paste meq/L	SAR unitless
		Up	Low											
		Results	Results											
H24080621-001	3239	0	1	42	32	26	L	5.4	5.7	36.7	22.5	47.2	24.0	4.1
H24080621-002	3239	1	3	52	26	22	SCL	3.8	7.0	37.2	23.2	81.6	14.8	2.0
H24080621-003	3219	0	1	36	32	32	CL	7.4	2.9	51.9	26.6	12.0	7.00	1.6
H24080621-004	3219	1	3	30	40	30	CL	7.2	3.3	46.7	23.3	12.0	12.8	3.0
H24080621-005	3279	0	1	38	32	30	CL	6.4	4.3	48.4	23.9	25.6	16.4	3.3
H24080621-006	3279	1	3	40	30	30	CL	6.5	3.8	48.7	21.1	20.9	14.8	3.2
H24080621-007	3259	0	1	40	32	28	CL	6.7	3.6	42.4	20.8	17.6	13.5	3.1
H24080621-008	3259	1	3	38	34	28	CL	6.5	3.9	44.2	22.2	20.5	14.9	3.2
H24080621-009	3258	0	1	36	36	28	CL	6.3	4.2	47.7	20.9	24.4	18.0	3.8
H24080621-010	3258	1	3	38	32	30	CL	6.3	4.5	43.5	18.6	27.7	22.1	4.6
H24080621-011	3278	0	1	38	32	30	CL	6.6	3.7	49.1	21.7	20.1	14.4	3.1
H24080621-012	3278	1	3	38	34	28	CL	6.6	3.6	50.5	21.2	19.8	14.0	3.1
H24080621-013	3579	0	1	40	32	28	CL	5.4	4.9	41.1	19.3	34.2	23.0	4.5
H24080621-014	3579	1	3	38	32	30	CL	5.6	4.8	48.4	21.6	31.5	21.8	4.2
H24080621-015	3578	0	1	36	34	30	CL	6.0	3.8	47.0	22.7	21.2	12.6	2.7
H24080621-016	3578	1	3	36	34	30	CL	6.1	3.7	44.8	20.4	19.4	14.9	3.3
H24080621-017	3198	0	1	38	36	26	L	6.1	4.3	46.2	21.2	32.0	12.7	2.4
H24080621-018	3595	0	1	36	36	28	CL	6.7	6.3	41.5	17.1	11.8	57.5	15.1
H24080621-019	3595	1	3	40	32	28	CL	7.1	7.2	45.0	17.7	10.0	71.8	19.3
H24080621-020	3597	0	1	40	30	30	CL	5.9	5.8	42.2	20.7	30.6	36.7	7.2
H24080621-021	3597	1	3	42	30	28	CL	6.0	5.9	45.2	22.4	30.1	37.5	7.3
H24080621-022	3613	0	1	34	38	28	CL	6.5	6.3	38.8	18.8	20.0	53.4	12.1
H24080621-023	3613	1	3	38	34	28	CL	6.4	7.8	36.8	23.9	27.8	65.8	12.9
H24080621-024	3612	0	1	38	36	26	L	3.6	9.4	41.4	17.0	48.3	73.6	12.9
H24080621-025	3612	1	3	40	34	26	L	3.6	13.0	43.9	17.1	78.1	109	15.8
H24080621-026	3198	1	3	36	36	28	CL	6.4	4.2	49.2	23.5	30.2	11.0	2.1
H24080621-027	3615	0	1	24	36	40	C	7.0	4.0	60.2	23.0	27.0	11.1	2.2
H24080621-028	3615	1	3	70	16	14	SL	6.9	5.4	38.9	31.9	56.8	6.49	1.0
H24080621-029	3614	0	1	34	38	28	CL	6.8	7.2	42.5	20.1	27.4	59.9	12.3
H24080621-030	3614	1	3	38	34	28	CL	6.6	7.2	46.7	20.4	31.6	55.8	10.9
H24080621-031	3642	0	1	26	36	38	CL	7.6	3.6	56.5	15.5	18.0	16.0	3.9
H24080621-032	3642	1	3	32	30	38	CL	7.7	4.6	58.9	16.3	20.6	18.4	4.3
H24080621-033	3628	0	1	24	40	36	CL	7.3	4.6	50.4	21.4	24.1	21.1	4.4
H24080621-034	3628	1	3	20	44	36	SICL	7.1	5.0	51.4	24.0	32.0	17.5	3.3
H24080621-035	3199	0	1	36	34	30	CL	7.2	4.6	45.2	21.8	46.2	10.0	1.7
H24080621-036	3257	0	1	38	34	28	CL	6.5	4.2	43.8	22.7	27.8	14.0	2.8
H24080621-037	3257	1	3	36	34	30	CL	6.1	4.4	47.3	19.4	28.6	16.8	3.4
H24080621-038	3218	0	1	32	40	28	CL	6.6	6.2	38.5	18.6	30.3	42.8	8.7
H24080621-039	3218	1	3	38	34	28	CL	7.4	8.0	36.1	16.6	35.4	67.9	13.3

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H24080621

Report Date: 10/02/24
Date Received: 08/16/24

Sample ID	Client Sample ID	Analysis		Neut	Acid	Acid/Base	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units		t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results
H24080621-001	3239	0	1	8	22.1	-14	9.24	-1	0.71	0.29	0.30	0.12
H24080621-002	3239	1	3	-1	37.5	-37	18.7	-19	1.20	0.41	0.60	0.19
H24080621-003	3219	0	1	19	8.53	10			0.27			
H24080621-004	3219	1	3	13	11.6	1			0.37			
H24080621-005	3279	0	1	11	15.6	-5	6.10	5	0.50	0.23	0.20	0.07
H24080621-006	3279	1	3	12	14.9	-3	6.39	6	0.48	0.20	0.20	0.07
H24080621-007	3259	0	1	14	14.4	0	5.27	9	0.46	0.23	0.17	0.07
H24080621-008	3259	1	3	13	15.2	-2	5.38	7	0.49	0.25	0.17	0.07
H24080621-009	3258	0	1	12	16.6	-5	5.99	6	0.53	0.25	0.19	0.09
H24080621-010	3258	1	3	13	19.0	-6	6.42	6	0.61	0.33	0.21	0.07
H24080621-011	3278	0	1	13	15.2	-2	5.30	8	0.48	0.24	0.17	0.07
H24080621-012	3278	1	3	13	15.0	-2	5.16	8	0.48	0.25	0.17	0.07
H24080621-013	3579	0	1	8	15.7	-7	4.15	4	0.50	0.29	0.13	0.08
H24080621-014	3579	1	3	10	13.9	-4	3.74	6	0.45	0.25	0.12	0.08
H24080621-015	3578	0	1	13	8.70	4			0.28			
H24080621-016	3578	1	3	12	8.52	3			0.27			
H24080621-017	3198	0	1	8	20.4	-13	5.27	2	0.65	0.42	0.17	0.07
H24080621-018	3595	0	1	10	13.7	-3	7.00	3	0.44	0.10	0.22	0.12
H24080621-019	3595	1	3	11	14.0	-3	7.25	4	0.45	0.09	0.23	0.13
H24080621-020	3597	0	1	11	14.6	-4	5.08	5	0.47	0.22	0.16	0.09
H24080621-021	3597	1	3	10	15.4	-5	5.05	5	0.49	0.24	0.16	0.09
H24080621-022	3613	0	1	11	16.3	-5	5.99	5	0.52	0.23	0.19	0.10
H24080621-023	3613	1	3	11	17.1	-6	6.92	4	0.55	0.23	0.22	0.09
H24080621-024	3612	0	1	0	36.9	-36	11.8	-12	1.15	0.55	0.38	0.22
H24080621-025	3612	1	3	0	47.4	-47	18.4	-18	1.52	0.65	0.59	0.27
H24080621-026	3198	1	3	8	23.0	-15	4.85	3	0.74	0.53	0.16	0.05
H24080621-027	3615	0	1	29	4.56	24			0.15			
H24080621-028	3615	1	3	8	6.39	2			0.20			
H24080621-029	3614	0	1	11	17.0	-6	5.91	5	0.54	0.27	0.19	0.09
H24080621-030	3614	1	3	10	18.2	-8	5.73	5	0.58	0.31	0.18	0.09
H24080621-031	3642	0	1	36	3.09	33			0.10			
H24080621-032	3642	1	3	43	3.02	40			0.10			
H24080621-033	3628	0	1	25	4.66	20			0.15			
H24080621-034	3628	1	3	34	3.12	31			0.10			
H24080621-035	3199	0	1	19	18.5	0			0.59			
H24080621-036	3257	0	1	12	20.5	-8	5.84	6	0.66	0.40	0.19	0.07
H24080621-037	3257	1	3	10	22.2	-12	6.26	4	0.71	0.44	0.20	0.07
H24080621-038	3218	0	1	32	19.4	13			0.62			
H24080621-039	3218	1	3	55	20.1	35			0.64			

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H24080621

Report Date: 10/02/24
Date Received: 08/16/24

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Cond-SatPst	Percent Sat	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units		%	%	%		s_u_	mmhos/cm	%	meq/L	meq/L	meq/L	unitless
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
H24080621-040	3596	0	1	38	36	26	L	6.6	7.3	40.7	21.2	21.6	61.6	13.3
H24080621-041	3596	1	3	20	54	26	SiL	6.6	7.3	40.7	20.8	20.8	59.5	13.0
H24080621-042	3577	0	1	28	44	28	CL	3.9	9.9	38.3	20.0	76.3	60.1	8.7
H24080621-043	3577	1	3	26	46	28	CL	3.9	13.8	35.7	19.8	118	96.3	11.6
H24080621-044	3199	1	3	38	34	28	CL	7.4	3.9	48.5	24.7	25.7	8.97	1.8
H24080621-045	3197	0	1	54	28	18	SL	6.0	5.3	42.1	48.6	26.2	15.6	2.6
H24080621-046	3197	1	3	48	32	20	L	6.7	4.6	39.3	45.2	19.6	9.88	1.7
H24080621-047	3238	0	1	44	34	22	L	6.1	3.5	42.3	21.6	23.3	5.79	1.2
H24080621-048	3238	1	3	54	28	18	SL	7.0	3.0	41.2	23.3	14.2	5.85	1.4
H24080621-049	3237	0	1	30	40	30	CL	7.2	3.1	47.4	24.4	12.5	6.35	1.5
H24080621-050	3237	1	3	28	40	32	CL	7.2	3.1	50.8	26.8	12.9	5.24	1.2
H24080621-051	3217	0	1	40	36	24	L	6.3	4.9	37.2	19.6	27.2	24.9	5.2
H24080621-052	3217	1	3	44	32	24	L	5.6	5.4	39.4	20.0	42.2	21.2	3.8

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H24080621

Report Date: 10/02/24
Date Received: 08/16/24

Sample ID	Client Sample ID	Analysis		Neut Potential	Acid Potential	Acid/Base Potential	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units		t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results
H24080621-040	3596	0	1	13	16.9	-4	6.63	7	0.54	0.20	0.21	0.13
H24080621-041	3596	1	3	15	14.9	0	5.14	10	0.48	0.21	0.16	0.10
H24080621-042	3577	0	1	0	47.5	-47	21.7	-21	1.52	0.70	0.69	0.13
H24080621-043	3577	1	3	0	52.0	-52	22.3	-22	1.66	0.83	0.71	0.12
H24080621-044	3199	1	3	21	14.5	6			0.46			
H24080621-045	3197	0	1	14	9.28	5			0.30			
H24080621-046	3197	1	3	12	8.09	4			0.26			
H24080621-047	3238	0	1	11	17.4	-7	5.00	6	0.56	0.30	0.16	0.09
H24080621-048	3238	1	3	21	9.74	11			0.31			
H24080621-049	3237	0	1	11	9.81	1			0.31			
H24080621-050	3237	1	3	11	8.89	2			0.28			
H24080621-051	3217	0	1	10	12.5	-3	3.87	6	0.40	0.22	0.12	0.06
H24080621-052	3217	1	3	6	21.4	-16	5.82	0	0.69	0.43	0.19	0.07

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spols
Workorder: H25091124

Report Date: 10/16/25
Date Received: 09/30/25

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Cond-SatPst	Percent Sat	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units	Units											
		Up	Low	%	%	%	s_u_	mmhos/cm	%	meq/L	meq/L	meq/L	unitless	
H25091124-001	3179	0	1	48	29	23	L	6.6	4.1	41.2	28.8	27.1	7.28	1.4
H25091124-002	3179	1	3	56	27	17	SL	7.1	3.2	39.2	25.2	19.9	5.35	1.1
H25091124-003	3180	0	1	24	46	30	CL	4.4	8.5	45.5	20.2	142	11.8	1.4
H25091124-004	3180	1	3	24	45	31	CL	4.4	6.8	43.4	19.4	96.6	15.0	2.0
H25091124-005	3181	0	1	36	37	27	CL	6.3	5.3	47.2	21.1	26.0	30.7	6.3
H25091124-006	3181	1	3	40	32	28	CL	7.5	5.6	55.6	19.0	17.6	41.6	9.7
H25091124-007	3200	0	1	34	35	31	CL	6.4	5.3	53.3	19.2	21.0	34.7	7.7
H25091124-008	3200	1	3	32	36	32	CL	6.3	5.7	51.5	18.3	21.9	40.6	9.1
H25091124-009	3201	0	1	24	48	28	CL	5.2	8.7	48.3	17.0	69.0	60.2	9.2
H25091124-010	3201	1	3	40	31	29	CL	5.3	8.2	47.8	17.5	60.1	59.7	9.6
H25091124-011	3220	0	1	36	34	30	CL	7.1	4.9	48.9	19.1	12.8	35.3	8.8
H25091124-012	3220	1	3	36	36	28	CL	7.2	4.8	47.7	19.4	10.7	34.2	8.8
H25091124-013	3221	0	1	38	32	30	CL	6.8	5.8	47.8	19.4	24.2	38.5	8.2
H25091124-014	3221	1	3	34	35	31	CL	6.7	5.4	57.2	19.2	22.4	34.8	7.6
H25091124-015	3240	0	1	48	30	22	L	5.8	6.6	35.8	20.8	52.9	34.7	5.7
H25091124-016	3240	1	3	< 1	76	26	SiL	5.8	7.3	34.6	24.9	52.7	44.1	7.1
H25091124-017	3055 A	0	1	54	25	21	SCL	7.2	6.0	44.7	17.9	23.1	44.3	9.8
H25091124-018	3055 A	1	3	28	43	29	CL	5.3	6.5	53.0	14.2	11.3	57.8	16.2
H25091124-019	3055 B	0	1	48	27	25	SCL	7.0	4.8	49.3	18.9	33.6	21.3	4.2
H25091124-020	3055 B	1	3	50	24	26	SCL	7.6	5.2	45.4	18.8	32.8	27.6	5.4
H25091124-021	3055 C	0	1	66	20	14	SL	7.2	3.3	37.3	23.4	24.1	5.66	1.2
H25091124-022	3055 C	1	3	68	19	13	SL	7.0	1.1	37.3	1.05	3.52	7.10	4.7
H25091124-023	3055 D	0	1	48	28	24	L	6.6	3.1	42.7	22.9	14.3	10.4	2.4
H25091124-024	3055 D	1	3	32	35	33	CL	6.6	3.8	55.9	23.3	15.5	18.7	4.2
H25091124-025	3577 A	0	1	54	25	21	SCL	4.8	15.9	37.8	15.3	156	82.3	9.6
H25091124-026	3577 A	1	3	64	26	10	SL	6.1	10.2	38.1	19.8	79.8	76.7	10.9
H25091124-027	3577 B	0	1	28	40	32	CL	5.2	9.6	47.9	18.1	59.6	79.4	12.7
H25091124-028	3577 B	1	3	28	42	30	CL	5.6	6.6	49.9	17.5	29.3	50.3	10.4
H25091124-029	3577 C	0	1	30	34	36	CL	6.8	6.2	58.3	18.5	28.9	45.3	9.3
H25091124-030	3577 C	1	3	34	34	32	CL	7.3	4.9	57.1	17.0	20.3	32.8	7.6
H25091124-031	3577 D	0	1	34	31	35	CL	6.4	4.9	54.9	20.9	26.4	26.7	5.5
H25091124-032	3577 D	1	3	30	34	36	CL	6.9	4.8	63.5	21.3	30.4	22.8	4.5
H25091124-033	3612 A	0	1	32	37	31	CL	5.3	5.6	51.6	17.6	18.0	42.1	10.0
H25091124-034	3612 A	1	3	42	29	29	CL	5.1	6.6	51.3	16.0	21.2	54.6	12.6
H25091124-035	3612 B	0	1	28	38	34	CL	6.8	6.7	63.7	19.8	20.3	55.6	12.4
H25091124-036	3612 B	1	3	30	38	32	CL	6.7	6.2	58.7	18.8	19.7	48.0	10.9
H25091124-037	3612 C	0	1	32	38	30	CL	6.1	6.2	49.7	21.3	34.1	40.8	7.8
H25091124-038	3612 C	1	3	36	35	29	CL	7.3	4.8	61.7	16.9	14.7	35.1	8.8
H25091124-039	3612 D	0	1	26	43	31	CL	5.1	5.5	51.3	16.9	29.8	33.8	7.0

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spolls
Workorder: H25091124

Report Date: 10/16/25
Date Received: 09/30/25

2025-2

Sample ID	Client Sample ID	Analysis		Neut Potential	Acid Potential	Acid/Base Potential	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units		t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results
H25091124-001	3179	0	1	10.6	13.5	-2.83	3.25	7.37	0.43	0.28	0.10	0.04
H25091124-002	3179	1	3	14.2	8.86	5.35			0.28			
H25091124-003	3180	0	1	-2.42	33.3	-33.3	7.40	-7.40	1.06	0.78	0.24	0.05
H25091124-004	3180	1	3	-0.52	35.4	-35.4	7.08	-7.08	1.13	0.86	0.23	0.05
H25091124-005	3181	0	1	4.97	17.8	-12.8	4.30	0.67	0.57	0.38	0.14	0.05
H25091124-006	3181	1	3	11.7	8.31	3.36			0.27			
H25091124-007	3200	0	1	4.78	19.6	-14.8	8.03	-3.25	0.63	0.29	0.26	0.08
H25091124-008	3200	1	3	4.92	20.5	-15.5	8.61	-3.68	0.65	0.30	0.28	0.08
H25091124-009	3201	0	1	0.77	22.0	-21.3	6.12	-5.35	0.70	0.41	0.20	0.10
H25091124-010	3201	1	3	1.38	23.3	-21.9	5.76	-4.38	0.74	0.46	0.18	0.10
H25091124-011	3220	0	1	18.8	17.8	1.03			0.57			
H25091124-012	3220	1	3	18.9	16.9	2.04			0.54			
H25091124-013	3221	0	1	13.2	20.6	-7.38	8.96	4.24	0.66	0.29	0.29	0.09
H25091124-014	3221	1	3	9.06	17.6	-8.49	6.87	2.19	0.56	0.25	0.22	0.09
H25091124-015	3240	0	1	4.52	23.7	-19.2	7.18	-2.66	0.76	0.44	0.23	0.09
H25091124-016	3240	1	3	2.29	25.5	-23.2	9.12	-6.82	0.82	0.43	0.29	0.09
H25091124-017	3055 A	0	1	7.20	9.69	-2.49	1.83	5.37	0.31	0.22	0.06	0.04
H25091124-018	3055 A	1	3	1.07	9.33	-8.26	1.78	-0.71	0.30	0.15	0.06	0.09
H25091124-019	3055 B	0	1	9.59	8.66	0.92			0.28			
H25091124-020	3055 B	1	3	9.72	6.12	3.59			0.20			
H25091124-021	3055 C	0	1	4.36	2.29	2.06			0.07			
H25091124-022	3055 C	1	3	10.8	0.61	10.2			0.02			
H25091124-023	3055 D	0	1	8.20	4.77	3.44			0.15			
H25091124-024	3055 D	1	3	5.43	17.0	-11.6	5.11	0.31	0.55	0.31	0.16	0.07
H25091124-025	3577 A	0	1	-5.85	41.3	-41.3	5.69	-5.69	1.32	0.97	0.18	0.17
H25091124-026	3577 A	1	3	2.40	34.4	-32.0	5.72	-3.32	1.10	0.72	0.18	0.20
H25091124-027	3577 B	0	1	-0.47	31.2	-31.2	9.97	-9.97	1.00	0.57	0.32	0.11
H25091124-028	3577 B	1	3	1.34	23.4	-22.0	6.54	-5.20	0.75	0.44	0.21	0.10
H25091124-029	3577 C	0	1	5.63	13.7	-8.08	3.49	2.14	0.44	0.26	0.11	0.07
H25091124-030	3577 C	1	3	8.86	8.70	0.16			0.28			
H25091124-031	3577 D	0	1	7.36	7.06	0.30			0.23			
H25091124-032	3577 D	1	3	12.6	8.12	4.52			0.26			
H25091124-033	3612 A	0	1	1.91	14.5	-12.6	4.19	-2.28	0.46	0.19	0.13	0.14
H25091124-034	3612 A	1	3	2.12	23.6	-21.5	3.76	-1.64	0.76	0.45	0.12	0.19
H25091124-035	3612 B	0	1	6.90	13.8	-6.86	4.06	2.84	0.44	0.23	0.13	0.08
H25091124-036	3612 B	1	3	5.72	17.6	-11.9	5.13	0.59	0.56	0.29	0.16	0.11
H25091124-037	3612 C	0	1	7.71	24.0	-16.3	8.88	-1.17	0.77	0.40	0.28	0.09
H25091124-038	3612 C	1	3	14.8	9.94	4.82			0.32			
H25091124-039	3612 D	0	1	0.51	19.1	-18.6	5.24	-4.74	0.61	0.37	0.17	0.08



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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H25091124

Report Date: 10/16/25
Date Received: 09/30/25

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Cond-SatPst	Percent Sat	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low	%	%	%	s_u_	mmhos/cm	%	meq/L	meq/L	meq/L	unitless	
H25091124-040	3612 D	1	3	38	31	31	CL	6.6	5.0	59.2	15.5	18.0	36.2	8.8
H25091124-041	3560 A	0	1	32	37	31	CL	5.9	3.5	43.6	24.2	22.7	6.02	1.3
H25091124-042	3560 A	1	3	44	30	26	L	7.1	2.6	48.4	23.3	10.3	5.34	1.3
H25091124-043	3560 D	0	1	34	34	32	CL	6.2	4.0	47.2	20.6	25.6	15.6	3.3
H25091124-044	3560 D	1	3	34	34	32	CL	6.4	3.8	49.4	21.6	22.8	13.4	2.8
H25091124-045	3241	0	1	38	34	28	CL	6.6	4.8	53.2	18.5	22.9	27.9	6.1
H25091124-046	3241	1	3	36	35	29	CL	6.5	4.8	55.4	17.6	24.5	28.8	6.3
H25091124-047	3260	0	1	38	33	29	CL	6.1	5.2	50.2	18.7	39.9	23.6	4.4
H25091124-048	3260	1	3	38	33	29	CL	6.0	4.9	55.8	20.5	35.5	22.1	4.2
H25091124-049	3260	0	1	40	31	29	CL	6.6	5.0	58.2	19.3	19.6	32.5	7.4
H25091124-050	3261	1	3	34	34	32	CL	6.5	5.5	65.9	19.3	20.2	39.2	8.8
H25091124-051	3280	0	1	42	32	26	L	6.9	3.6	46.9	21.0	20.9	12.3	2.7
H25091124-052	3280	1	3	36	34	30	CL	6.5	4.3	52.0	19.9	27.1	18.0	3.7
H25091124-053	3281	0	1	28	43	31	CL	7.1	4.4	45.5	19.9	39.4	13.4	2.5
H25091124-054	3281	1	3	20	47	33	SiCL	7.0	3.8	46.5	19.7	35.3	6.21	1.2
H25091124-055	3561	0	1	36	34	30	CL	5.5	3.7	57.8	18.5	25.4	13.6	3.0
H25091124-056	3561	1	6	38	33	29	CL	5.7	3.9	59.7	20.2	25.8	14.3	3.0
H25091124-057	3669	0	1	36	31	33	CL	8.0	1.1	56.6	2.92	3.87	4.91	2.7
H25091124-058	3669	1	3	24	37	39	CL	8.0	2.1	75.3	4.93	11.5	9.83	3.4

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H25091124

Report Date: 10/16/25
Date Received: 09/30/25

Sample ID	Client Sample ID	Analysis		Neut Potential	Acid Potential	Acid/Base Potential	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units										
		Up	Low	t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
H25091124-040	3612 D	1	3	6.23	18.6	-12.4	4.18	2.05	0.60	0.37	0.13	0.09
H25091124-041	3560 A	0	1	3.11	23.9	-20.8	5.48	-2.36	0.77	0.52	0.18	0.07
H25091124-042	3560 A	1	3	14.7	5.70	8.97			0.18			
H25091124-043	3560 D	0	1	5.13	16.8	-11.6	6.08	-0.96	0.54	0.26	0.19	0.08
H25091124-044	3560 D	1	3	5.11	16.1	-11.0	4.74	0.37	0.51	0.29	0.15	0.07
H25091124-045	3241	0	1	6.88	16.7	-9.83	5.78	1.10	0.53	0.28	0.18	0.07
H25091124-046	3241	1	3	4.24	18.4	-14.2	5.52	-1.28	0.59	0.33	0.18	0.08
H25091124-047	3260	0	1	6.54	20.1	-13.5	6.78	-0.24	0.64	0.37	0.22	0.05
H25091124-048	3260	1	3	4.75	20.5	-15.8	5.17	-0.42	0.66	0.42	0.17	0.07
H25091124-049	3260	0	1	5.01	14.1	-9.05	4.74	0.27	0.45	0.23	0.15	0.07
H25091124-050	3261	1	3	4.40	17.2	-12.8	5.74	-1.34	0.55	0.28	0.18	0.08
H25091124-051	3280	0	1	9.00	13.0	-4.03	4.51	4.49	0.42	0.22	0.14	0.06
H25091124-052	3280	1	3	8.97	16.6	-7.68	5.81	3.16	0.53	0.28	0.19	0.07
H25091124-053	3281	0	1	6.72	11.2	-4.48	2.72	3.99	0.36	0.23	0.09	0.04
H25091124-054	3281	1	3	7.65	12.4	-4.77	1.53	6.12	0.40	0.31	0.05	0.03
H25091124-055	3561	0	1	3.24	15.3	-12.0	4.18	-0.94	0.49	0.28	0.13	0.08
H25091124-056	3561	1	6	3.20	15.0	-11.8	3.73	-0.53	0.48	0.26	0.12	0.10
H25091124-057	3669	0	1	14.4	0.81	13.5			0.03			
H25091124-058	3669	1	3	5.88	1.31	4.57			0.04			

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LABORATORY ANALYTICAL REPORT
Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spolls
Workorder: H25120038

Report Date: 12/17/25
Date Received: 12/02/25

Sample ID	Client Sample ID	Analysis		Sand	Silt	Clay	Texture	pH-SatPst	Cond-SatPst	Percent Sat	Ca-SatPst-Sat Paste	Mg-SatPst-Sat Paste	Na-SatPst-Sat Paste	SAR
		Units												
		Up	Low	% Results	% Results	% Results	Results	s_u_ Results	mmhos/cm Results	% Results	meq/L Results	meq/L Results	meq/L Results	unitless Results
H25120038-001	3239 A	0	1	46	28	26	L	6.8	5.6	39.4	22.7	15.0	33.4	7.7
H25120038-002	3239 A	1	3	32	44	24	L	6.2	5.6	35.3	20.9	5.76	52.0	14.2
H25120038-003	3239 C	0	1	30	38	32	CL	5.8	6.3	43.6	21.7	33.5	28.1	5.3
H25120038-004	3239 C	1	3	52	16	32	SCL	6.3	11.4	41.3	21.9	69.5	79.1	11.7
H25120038-005	3239 D	0	1	56	22	22	SCL	7.4	6.1	33.9	25.0	7.21	39.4	9.8
H25120038-006	3239 D	1	3	50	30	20	L	7.1	5.9	34.1	27.2	3.78	39.1	9.9
H25120038-007	3240 A	0	1	56	22	22	SCL	6.0	5.7	35.4	18.0	42.0	17.7	3.2
H25120038-008	3240 A	1	3	68	14	18	SL	5.1	11.6	31.6	18.8	151	38.0	4.1
H25120038-009	3240 B	0	1	42	36	22	L	6.1	5.1	37.7	18.6	33.4	17.7	3.5
H25120038-010	3240 B	1	3	32	40	28	CL	4.2	10.2	41.4	18.8	77.9	58.7	8.4
H25120038-011	3240 C	0	1	36	36	28	CL	6.1	5.1	46.8	21.3	29.6	19.3	3.8
H25120038-012	3240 C	1	3	34	36	30	CL	6.1	5.6	44.2	20.1	33.9	23.2	4.5
H25120038-013	3240 D	0	1	34	34	32	CL	7.1	3.9	51.7	23.3	14.5	14.0	3.2
H25120038-014	3240 D	1	3	36	34	30	CL	7.2	3.4	47.7	23.5	12.2	9.29	2.2
H25120038-015	3180 A	0	1	34	38	28	CL	7.4	2.8	49.3	24.2	10.6	5.49	1.3
H25120038-016	3180 A	1	3	36	34	30	CL	7.6	1.9	46.6	9.15	4.33	8.10	3.1
H25120038-017	3180 B	0	1	36	38	26	L	7.4	1.5	42.2	8.77	6.19	2.71	1.0
H25120038-018	3180 B	1	3	36	36	28	CL	7.3	2.6	43.2	17.6	12.2	4.95	1.3
H25120038-019	3180 C	0	1	40	34	26	L	6.9	4.1	47.9	23.9	25.0	9.93	2.0
H25120038-020	3180 C	1	3	44	32	24	L	7.1	3.7	49.1	25.4	19.0	7.73	1.6
H25120038-021	3180 D	0	1	36	37	27	CL	6.5	4.4	46.2	23.4	27.1	11.2	2.2
H25120038-022	3180 D	1	3	38	37	25	L	6.5	4.0	48.8	24.0	26.2	8.03	1.6
H25120038-023	3285	0	1	30	39	31	CL	7.2	6.6	66.5	18.7	18.5	47.1	10.9
H25120038-024	3285	1	3	28	42	30	CL	7.1	6.8	65.4	18.2	20.3	49.6	11.3
H25120038-025	3286	0	1	38	36	26	L	6.2	7.1	48.8	19.6	34.1	41.8	8.1
H25120038-026	3286	1	3	32	41	27	CL	6.3	6.1	51.1	19.0	22.4	38.3	8.4
H25120038-027	3287	0	1	38	33	29	CL	6.2	6.9	55.2	22.1	31.4	41.1	8.0
H25120038-028	3287	1	3	32	37	31	CL	6.4	4.8	49.1	28.2	35.1	8.48	1.5
H25120038-029	3201 A	0	1	34	39	27	CL	6.4	7.1	50.4	18.1	42.7	39.4	7.1
H25120038-030	3201 A	1	3	32	41	27	CL	6.2	5.4	49.3	19.5	30.7	25.2	5.0
H25120038-031	3201 B	0	1	30	39	31	CL	4.1	7.6	49.9	16.8	53.9	48.2	8.1
H25120038-032	3201 B	1	3	28	39	33	CL	5.0	8.2	52.0	18.1	41.4	61.1	11.2
H25120038-033	3201 C	0	1	28	39	33	CL	5.9	5.8	62.1	17.9	17.5	38.5	9.2
H25120038-034	3201 C	1	3	28	41	31	CL	6.1	5.8	57.7	18.4	22.2	36.5	8.1
H25120038-035	3201 D	0	1	28	38	34	CL	6.0	5.5	60.7	17.6	13.0	37.2	9.5
H25120038-036	3201 D	1	3	26	37	37	CL	6.4	4.9	58.3	14.2	9.41	37.4	10.9
H25120038-037	3202 A	0	1	32	39	29	CL	6.9	3.7	45.0	14.7	11.2	19.5	5.4
H25120038-038	3202 A	1	3	42	33	25	L	7.0	5.0	46.7	17.8	15.0	31.3	7.7
H25120038-039	3202 B	0	1	32	40	28	CL	6.1	5.8	53.3	18.2	39.5	28.4	5.3

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LABORATORY ANALYTICAL REPORT
Prepared by Helena, MT Branch

Client: Peabody Western Coal Co. Kayenta Mine
Project: J21 Spoils
Workorder: H25120038

Report Date: 12/17/25
Date Received: 12/02/25

Sample ID	Client Sample ID	Analysis		Neut Potential	Acid Potential	Acid/Base Potential	AP, Pyritic S	ABP, Pyritic S	Sulfur, Total	Sulfur, Sulfate	Sulfur, Pyritic	Sulfur, Organic
		Units		t/kt	t/kt	t/kt	t/kt	t/kt	%	%	%	%
		Up	Low	Results	Results	Results	Results	Results	Results	Results	Results	Results
H25120038-001	3239 A	0	1	9.14	15.6	-6.44	8.20	0.94	0.50	0.15	0.26	0.09
H25120038-002	3239 A	1	3	11.0	21.3	-10.3	15.9	-4.93	0.68	0.05	0.51	0.12
H25120038-003	3239 C	0	1	6.34	23.5	-17.2	6.04	0.30	0.75	0.47	0.19	0.09
H25120038-004	3239 C	1	3	27.7	29.2	-1.48	9.73	18.0	0.93	0.53	0.31	0.09
H25120038-005	3239 D	0	1	25.1	12.0	13.1			0.38			
H25120038-006	3239 D	1	3	20.9	13.4	7.55			0.43			
H25120038-007	3240 A	0	1	7.68	21.9	-14.2	4.52	3.16	0.70	0.46	0.14	0.10
H25120038-008	3240 A	1	3	8.42	23.1	-14.7	2.76	5.66	0.74	0.55	0.09	0.10
H25120038-009	3240 B	0	1	4.89	25.7	-20.8	6.05	-1.16	0.82	0.53	0.19	0.10
H25120038-010	3240 B	1	3	0.16	29.4	-29.2	9.99	-9.83	0.94	0.49	0.32	0.13
H25120038-011	3240 C	0	1	5.87	23.7	-17.8	7.38	-1.51	0.76	0.44	0.24	0.08
H25120038-012	3240 C	1	3	6.38	23.6	-17.3	5.88	0.50	0.76	0.48	0.19	0.09
H25120038-013	3240 D	0	1	11.5	12.4	-0.87	4.47	7.07	0.40	0.20	0.14	0.06
H25120038-014	3240 D	1	3	13.1	10.6	2.54			0.34			
H25120038-015	3180 A	0	1	21.3	4.59	16.7			0.15			
H25120038-016	3180 A	1	3	17.1	1.39	15.7			0.04			
H25120038-017	3180 B	0	1	11.8	9.12	2.67			0.29			
H25120038-018	3180 B	1	3	10.2	9.60	0.59			0.31			
H25120038-019	3180 C	0	1	8.25	15.3	-7.03	3.43	4.82	0.49	0.32	0.11	0.06
H25120038-020	3180 C	1	3	11.6	12.4	-0.82	3.38	8.22	0.40	0.23	0.11	0.06
H25120038-021	3180 D	0	1	7.08	17.2	-10.1	4.15	2.93	0.55	0.36	0.13	0.06
H25120038-022	3180 D	1	3	6.66	14.9	-8.29	3.06	3.59	0.48	0.32	0.10	0.06
H25120038-023	3285	0	1	11.9	9.83	2.08	3.51	8.40	0.31	0.16	0.11	0.05
H25120038-024	3285	1	3	9.16	10.8	-1.60	3.95	5.21	0.34	0.17	0.13	0.05
H25120038-025	3286	0	1	6.66	25.0	-18.3	11.5	-4.86	0.80	0.31	0.37	0.12
H25120038-026	3286	1	3	7.86	20.3	-12.5	8.70	-0.84	0.65	0.28	0.28	0.09
H25120038-027	3287	0	1	7.74	12.5	-4.72	3.64	4.10	0.40	0.23	0.12	0.05
H25120038-028	3287	1	3	21.9	15.1	6.80			0.48			
H25120038-029	3201 A	0	1	8.55	20.5	-11.9	6.19	2.35	0.65	0.38	0.20	0.07
H25120038-030	3201 A	1	3	6.94	20.4	-13.4	7.21	-0.27	0.65	0.32	0.23	0.10
H25120038-031	3201 B	0	1	0.04	27.9	-27.8	5.13	-5.09	0.89	0.52	0.16	0.21
H25120038-032	3201 B	1	3	1.83	23.6	-21.8	7.80	-5.97	0.76	0.38	0.25	0.13
H25120038-033	3201 C	0	1	5.93	20.2	-14.3	8.21	-2.28	0.65	0.27	0.26	0.11
H25120038-034	3201 C	1	3	5.44	22.7	-17.3	7.38	-1.94	0.73	0.39	0.24	0.10
H25120038-035	3201 D	0	1	12.6	12.4	0.24			0.40			
H25120038-036	3201 D	1	3	11.5	11.9	-0.42	4.53	6.94	0.38	0.10	0.15	0.14
H25120038-037	3202 A	0	1	32.1	8.98	23.1			0.29			
H25120038-038	3202 A	1	3	31.9	8.71	23.2			0.28			
H25120038-039	3202 B	0	1	8.07	23.2	-15.1	6.94	1.13	0.74	0.42	0.22	0.10

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ATTACHMENT 2.3a TABLE OF CONTENTS (TOC)

Laboratory Data Used to Evaluate Spoil Suitability and Determine Mitigation Thickness Values for the J19 Coal Resource Area (CRA)

Sample Site ID as Shown on Map 2.2	Sample Site ID as Listed on Laboratory Data Sheet	Year Sampled	Year Reported to OSMRE	Mitigation Thickness ⁽¹⁾ (feet)	Attachment Page for Laboratory Data
39-616	39RG116	1999	2000	1	(4)
39-617	39RG113	1999	2000	1	(4)
39-618	39RG114	1999	2000	1	(4)
39-953	39RG115	1999	2000	1	(4)
41-784	41RG9	2001	2002	1	2000-1
41-785	41RG10	2001	2002	1	2001-1
41-793	41RG8	2001	2002	1	2001-1
41-1170	41RG1	1999	2000	1	1999-1
41-1172	41RG3	1999	2000	1	1999-1
41-1173	41RG4	1999	2000	1	1999-1
41-1174	41RG2	1999	2000	2	1999-1
41-1937	41RG5	2000	2001	3	(4)
41-2175	41RG14	2005	2006	1	2005-1
41-2527	41RG21	2006	2007	1	2006-1
J-19 3040	J-19 3040	2017	2018	1	2017-1
J-19 3162	J-19 3162	2017	2018	1	2017-1
3177	3177	2018	2019	1	2018-1
3182	3182	2018	2019	1	2018-1
3183	3183	2017	2018	4	2017-2
3184	3184	2017	2018	1	2017-2
3185	3185	2017	2018	1	2017-2
3197	3197	2024	2025	1	2024-7
3198	3198	2024	2025	1	2024-5
3199	3199	2024	2025	1	2024-5
3217	3217	2024	2025	1	2024-7
3218	3218	2024	2025	1	2024-5
3219	3219	2024	2025	1	2024-5
3220	3220	2025	2026	1	2025-1
3237	3237	2024	2025	1	2024-7
3238	3238	2024	2025	1	2024-7
3239A ⁽²⁾	3239A	2025	2026	1	2025-5
3239D ⁽²⁾	3239D	2025	2026	1	2025-5
3240B ⁽²⁾	3240B	2025	2026	3	2025-5
3257	3257	2024	2025	1	2024-5
3551	3551	2024	2025	1	2024-3
3559	3559	2024	2025	1	2024-5

ATTACHMENT 2.3a TABLE OF CONTENTS (TOC)

Laboratory Data Used to Evaluate Spoil Suitability and Determine Mitigation Thickness Values for the J19 Coal Resource Area (CRA)

Sample Site ID as Shown on Map 2.2	Sample Site ID as Listed on Laboratory Data Sheet	Year Sampled	Year Reported to OSMRE	Mitigation Thickness ⁽¹⁾ (feet)	Attachment Page for Laboratory Data
3560A ⁽²⁾	3560A	2025	2026	2	2025-3
3560D ⁽²⁾	3560D	2025	2026	1	2025-3
3577D ⁽²⁾	3577D	2025	2026	1	2025-1
3578	3578	2024	2025	1	2024-5
3579 ⁽³⁾	3579	2024	2025	1	2024-5
3597	3597	2024	2025	1	2024-5
3615	3615	2024	2025	1	2024-5

⁽¹⁾ Per the Sampling Results and Redistribution section of the annual reports (2017, 2021-2025), suitable plant growth material (weathered overburden, residual soils, and spoil) was used as subsoil and substratum to bury unsuitable spoil prior to topsoil and suitable soil replacement and for areas requiring erosion resistant material. ⁽²⁾ These Phase 2 midpoint sample sites were placed between 330-foot grid locations to verify spoil suitability per procedures defined in Chapter 22 of Permit AZ-0001F. ⁽³⁾ These sites had marginally suitable test criterion(s) within the threshold standards approved by OSMRE in Chapter 22 of Permit AZ-0001F. ⁽⁴⁾ See annual report for laboratory data.

ATTACHMENT 2.3b TABLE OF CONTENTS (TOC)

Laboratory Data Used to Evaluate Spoil Suitability and Determine Mitigation Thickness Values for the J21 Coal Resource Area (CRA)

Sample Site ID as Shown on Map 2.2	Sample Site ID as Listed on Laboratory Data Sheet	Year Sampled	Year Reported to OSMRE	Mitigation Thickness ⁽¹⁾ (feet)	Attachment Page for Laboratory Data
26-29	26RG108	2009	2010	1	2009-1
26-30	26RG107	2009	2010	1	2009-1
26-31	26RG110	2009	2010	2	2009-1
26-33	26RG109	2009	2010	2	2009-1
26-2424	26RG118	2010	2011	1	2010-1
26-2425	26RG117	2010	2011	1	2010-1
26-3543	26-3543	2015	2016	1	2015-1
26-3544	26-3544	2015	2016	1	2015-1
38-3548	38-3548	2016	2017	1	2016-1
38-3549	38-3549	2016	2017	2	2016-1
3541	3541	2021	2022	1	2021-1
3550	3550	2024	2025	2	2024-1
3575	3575	2023	2024	1	2023-1
3576	3576	2024	2025	1	2024-1
3577A ⁽²⁾	3577A	2025	2026	4	2025-1
3577B ⁽²⁾	3577B	2025	2026	4	2025-1
3577C ⁽²⁾	3577C	2025	2026	1	2025-1
3593	3593	2023	2024	1	2023-3
3594	3594	2024	2025	1	2024-1
3595	3595	2024	2025	1	2024-5
3596	3596	2024	2025	1	2024-7
3608	3608	2016	2017	1	2016-2
3609	2209-280-3689	2022	2023	1	2022-2
3610	3610	2023	2024	1	2023-3
3611	3611	2024	2025	1	2024-1
3612A ⁽²⁾	3612A	2025	2026	2	2025-1
3612B ⁽²⁾	3612B	2025	2026	1	2025-1
3612C ⁽²⁾	3612C	2025	2026	1	2025-1
3612D ⁽²⁾	3612D	2025	2026	2	2025-1
3613	3613	2024	2025	1	2024-5
3614	3614	2024	2025	1	2024-5
3621	3621	2023	2024	1	2023-3
3622	3622	2023	2024	1	2023-1
3623	3623	2023	2024	1	2023-1
3624	3624	2023	2024	1	2023-1
3625	3625	2024	2025	1	2024-3
3626	3626	2024	2025	1	2024-1
3627	3627	2024	2025	1	2024-1
3628	3628	2024	2025	1	2024-5
3635	3635	2023	2024	1	2023-1
3636	3636	2023	2024	1	2023-1
3637	3637	2023	2024	1	2023-1

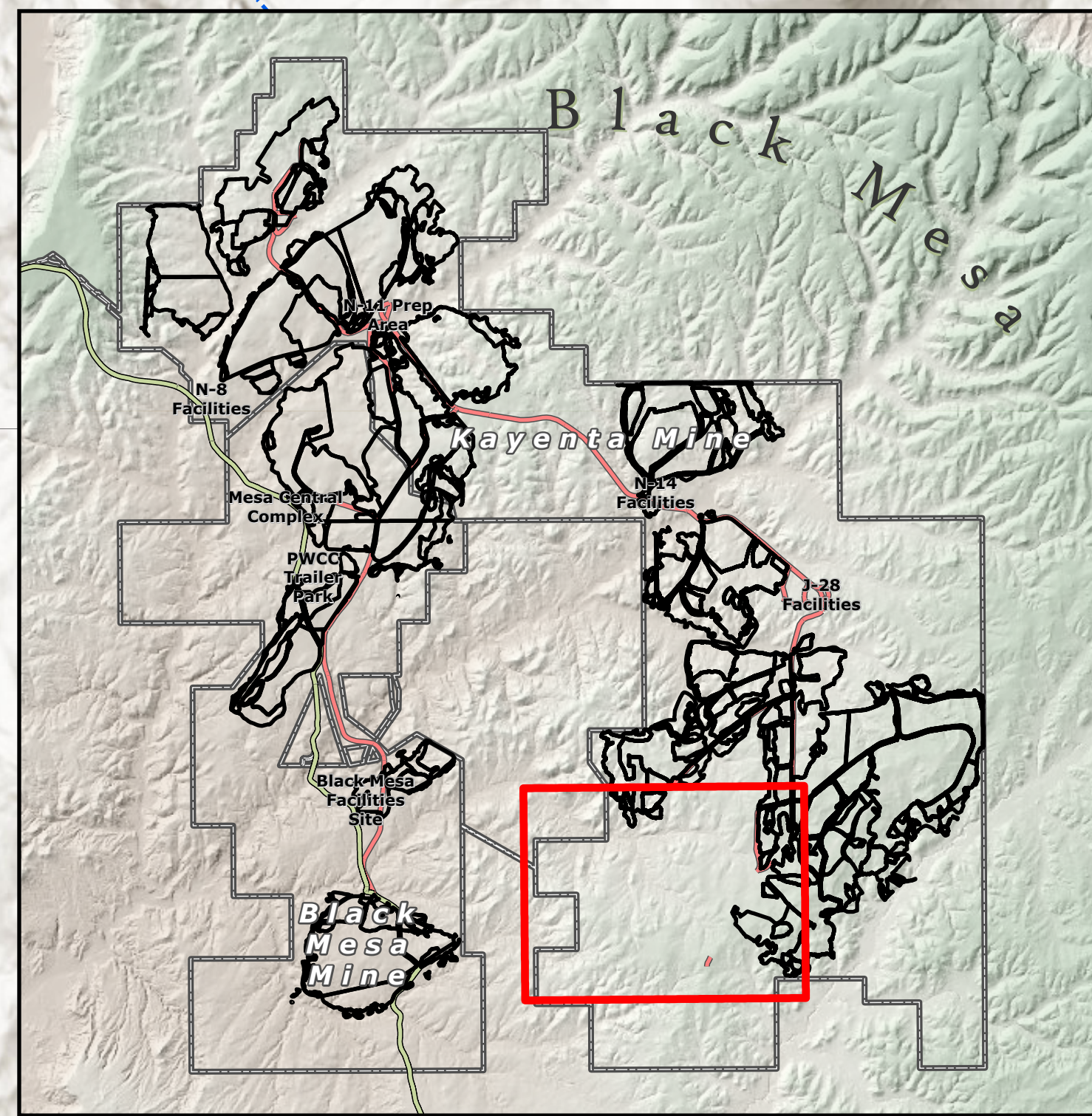
ATTACHMENT 2.3b TABLE OF CONTENTS (TOC)

Laboratory Data Used to Evaluate Spoil Suitability and Determine Mitigation Thickness Values for the J21 Coal Resource Area (CRA)

Sample Site ID as Shown on Map 2.2	Sample Site ID as Listed on Laboratory Data Sheet	Year Sampled	Year Reported to OSMRE	Mitigation Thickness ⁽¹⁾ (feet)	Attachment Page for Laboratory Data
3638	3638	2023	2024	1	2023-1
3639	3639	2024	2025	1	2024-1
3640	3640	2024	2025	1	2024-3
3641	3641	2024	2025	1	2024-1
3642	3642	2024	2025	1	2024-5
3648	3648	2023	2024	1	2023-1
3649	3649	2023	2024	1	2023-1
3650	3650	2023	2024	1	2023-1
3651	3651	2023	2024	1	2023-1
3652	3652	2024	2025	2	2024-1
3653	3653	2024	2025	1	2024-3
3654	3654	2024	2025	1	2024-3
3655	3655	2024	2025	1	2024-3
3660	3660	2023	2024	1	2023-1
3661	3661	2023	2024	1	2023-1
3662 ⁽³⁾	3662	2023	2024	1	2023-1
3663	3663	2023	2024	1	2023-1
3664	3664	2023	2024	1	2023-1
3665	3665	2023	2024	1	2023-1
3666	2209-280-3666	2022	2023	1	2022-2
3667	2209-280-3667	2022	2023	1	2022-2
3669	3669	2025	2026	1	2025-3
3674	2209-280-3674	2022	2023	1	2022-2
3675	3675	2023	2024	1	2023-1
3676	3676	2023	2024	1	2023-1
3677	2209-280-3677	2022	2023	1	2022-1
3678	3678	2022	2023	1	2022-1
3690	2209-280-3690	2022	2023	1	2022-1
3691	2209-280-3691	2022	2023	1	2022-1

⁽¹⁾ Per the Sampling Results and Redistribution section of the annual reports (2017, 2021-2025), suitable plant growth material (weathered overburden, residual soils, and spoil) was used as subsoil and substratum to bury unsuitable spoil prior to topsoil and suitable soil replacement and for areas requiring erosion resistant material. ⁽²⁾

These Phase 2 midpoint sample sites were placed between 330-foot grid locations to verify spoil suitability per procedures defined in Chapter 22 of Permit AZ-0001F. ⁽³⁾ These sites had marginally suitable test criterion (s) within threshold standards approved by OSMRE in Chapter 22 of Permit AZ-0001F.



Peabody Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

J19/J21 Phase I Bond Release
Map 2.1
Soil Thickness
Verification

Produced by Gary Altsisi, Professional Engineer
 April 22, 2026 Revision
 1 Inch = 500 Feet

Legend

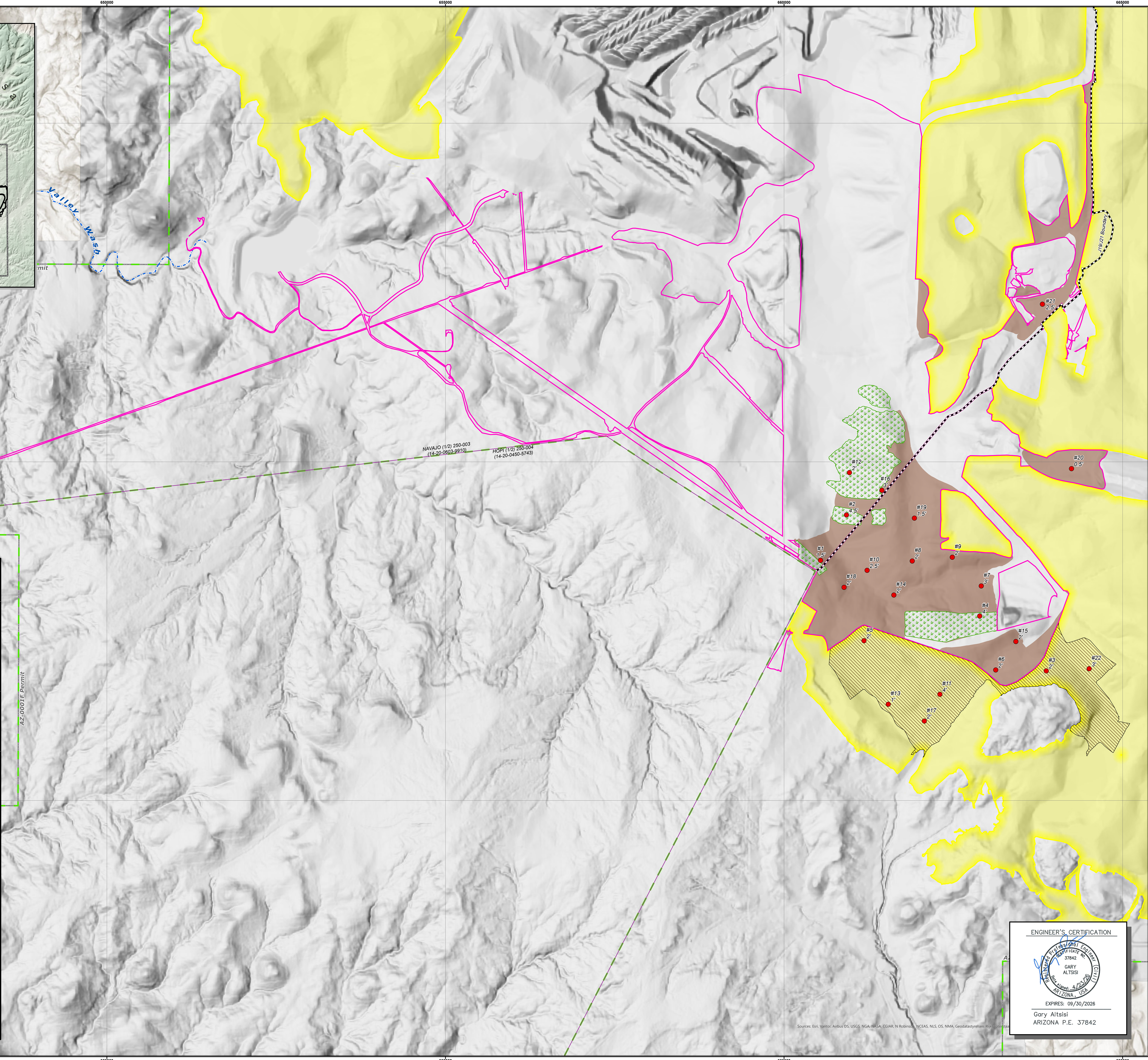
- Random Sample Points
- Proposed Phase 1 Bond Release Area - 603 acres
- Topsailed - (J19) 38 acres (J21) 123 acres
- Culturally Seeded - (J19) 29 acres (J21) 13 acres
- Area Topsailed After Receiving Phase 1 Bond Release - 82 acres

Total Soil Thickness Verification Area
285 Acres

Other Features

- Major Wash
- PWCC Permit Boundary

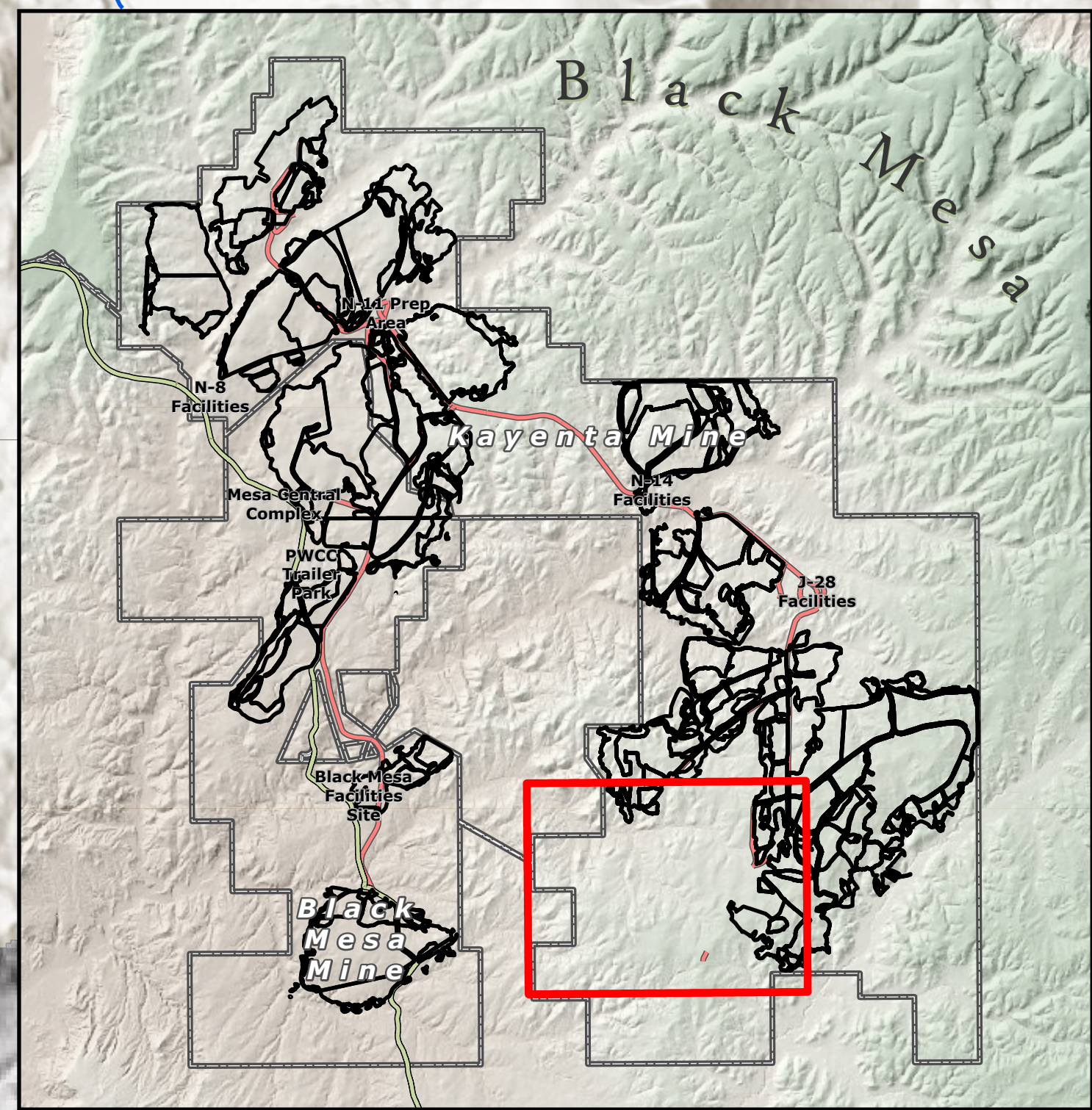
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EXPIRES: 09/30/2026
 Gary Altsisi
 ARIZONA P.E. 37842

Sources: Esri, Garmin, Airbus DS, USGS, NGA, NASA, CIGNA, N. Roberts, NCEAS, NLS, OS, NMA, Geotitlesystem, P. ...



Peabody Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

**J19/J21 Phase I Bond Release
 Map 2.2
 Spoil Sample
 Data**

Produced by Gary Altsisi
 Professional Engineer

April 22, 2026
 Revision
 1 Inch = 500 Feet

Legend

- Topsailed/Seeded - 70 acres
- Topsailed - 133 acres
- Proposed Phase 1 Bond Release Area - 603 Acres
- Disturbed Area

Other Features

- PWCC Permit Boundary
- Coal Removal Boundary
- Major Wash

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Spoil Sample Sites (114)
 Depth Requirement Determination

- 1 foot
- 2 foot
- 3 foot
- 4 foot

Green Site Label = Marginally Suitable Site

Plus (+) Overlay in Point Symbol Indicates Midpoint Site

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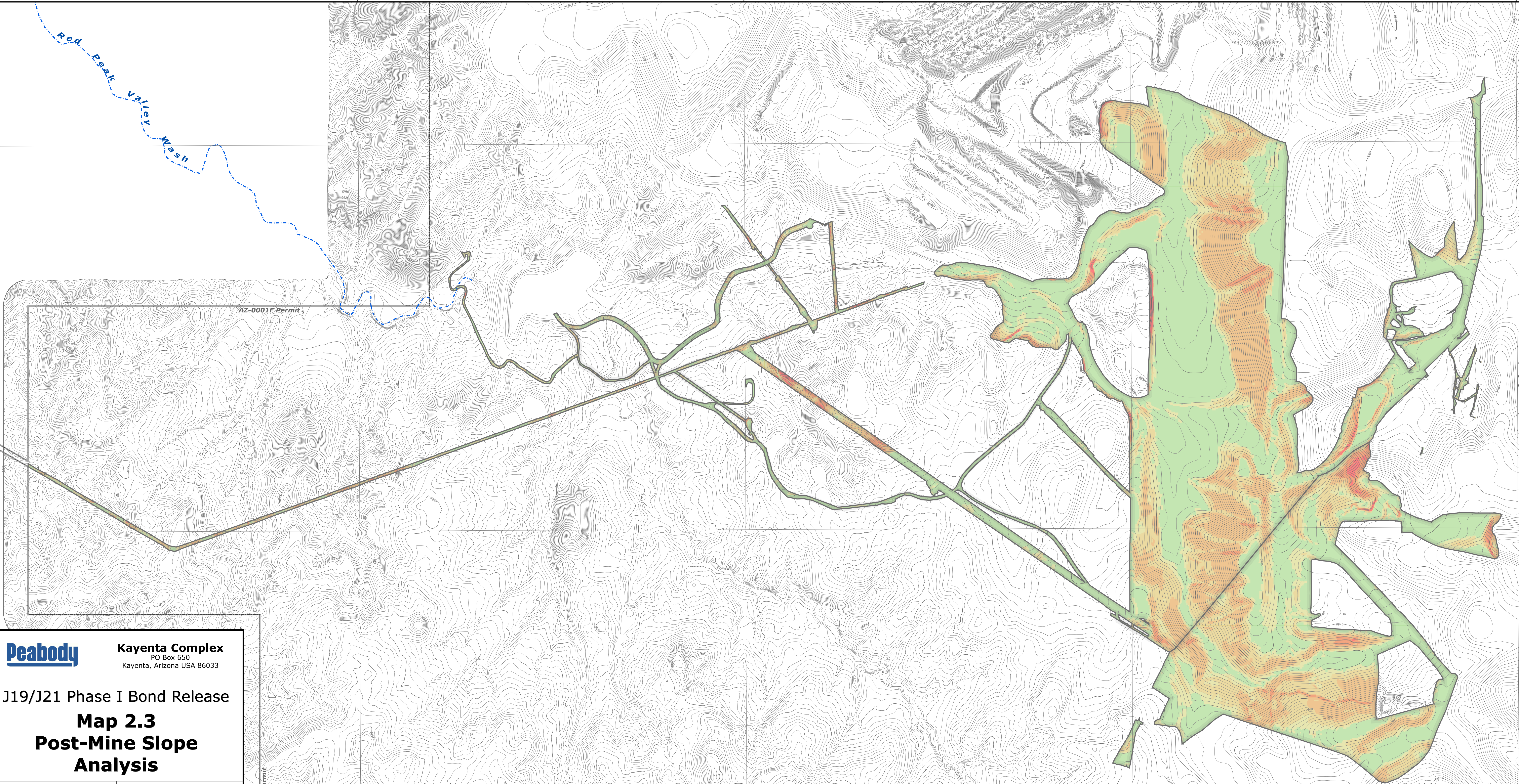
AZ-000

37842
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 ARIZONA, USA

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 ARIZONA P.E. 37842

Sources: Esri, DeLorme, Garmin, IGN, Intermap, Inc., Swire, GEBCO, USGS, NOAA, NGA, NAD83, EDGAR, N Robinson, NCEAS, NLS, OS, NMA, OpenStreetMap contributors, Rijkswaterstaats




Peabody Kayenta Complex
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 Kayenta, Arizona USA 86033







J19/J21 Phase I Bond Release
Map 2.3
Post-Mine Slope
Analysis

Produced by
 Gary Altsisi
 Professional
 Engineer


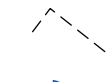

April 22, 2026
 Revision
 1 Inch = 500 Feet



 Proposed Phase I
 Bond Release Area
 603 Acres

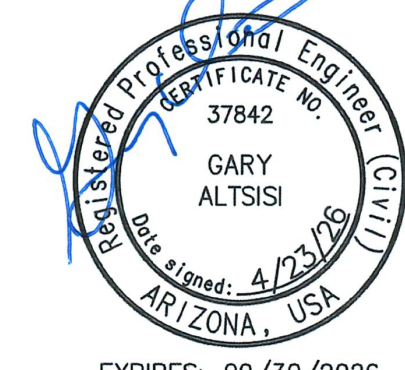
Post-Mine Slopes			
Symbol	% Slope	Acres	% of Total
	0 - 9	290	48
	9 - 13	80	13
	13 - 18	105	17
	18 - 25	112	19
	25 - 33	13	2
	33 +	3	1



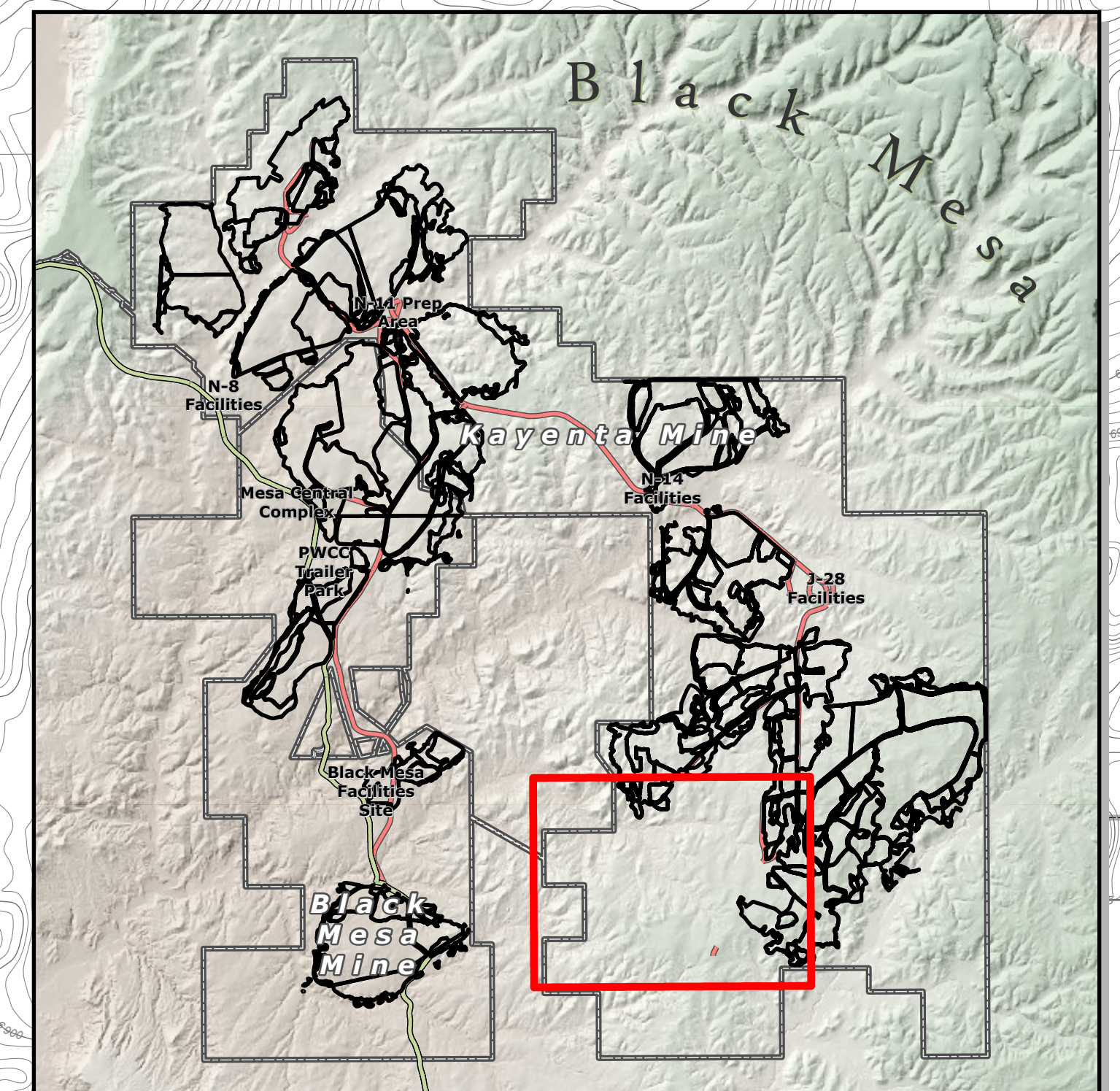
Other Features
 PWCC Permit Boundary
 Coal Removal Boundary
 Major Wash

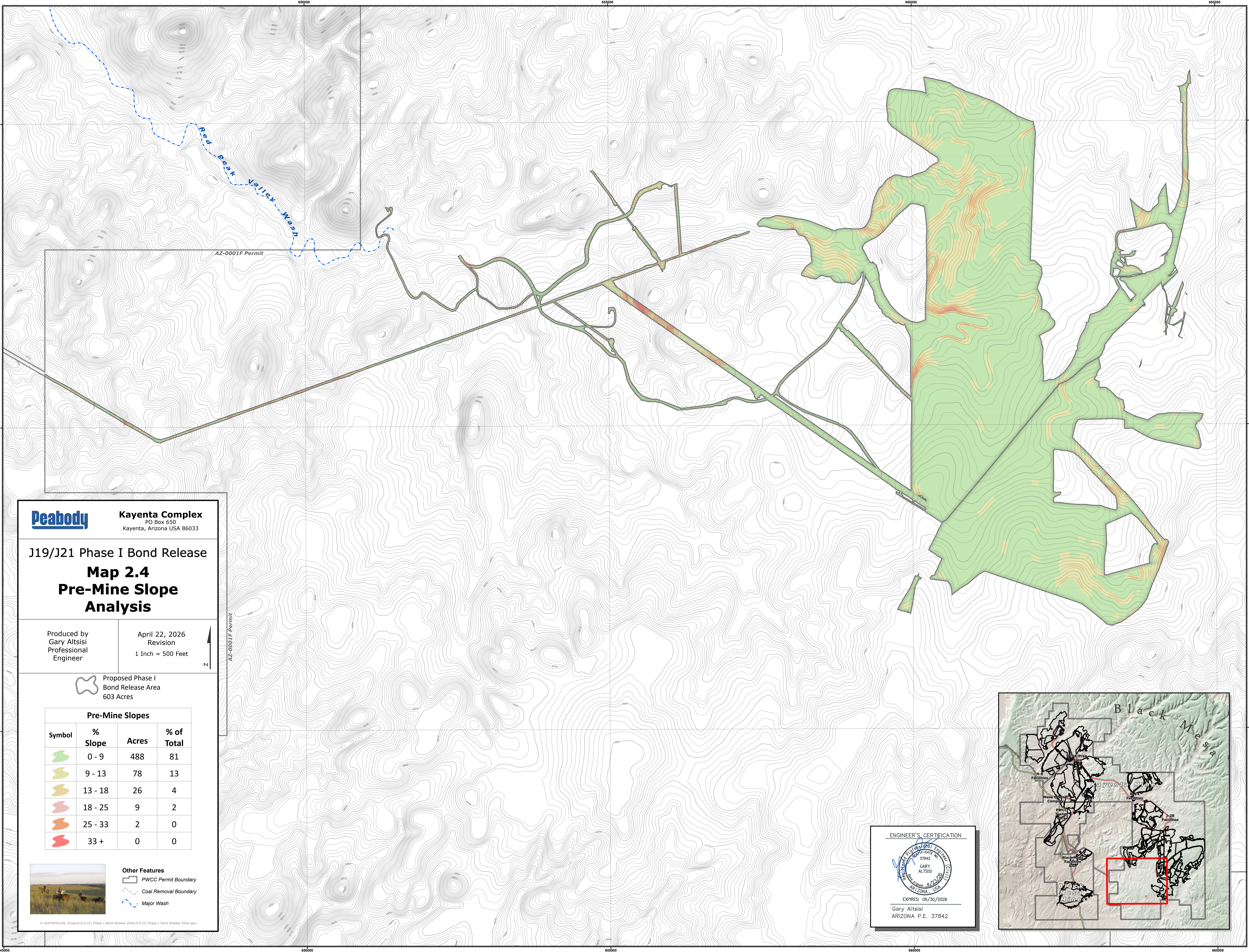
G:\KAYENTA\GIS_Projects\J19-J21 Phase I Bond Release 2020\J19-J21 Phase I Bond Release 2026.aprx

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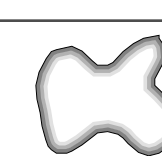








Peabody Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

J19/J21 Phase I Bond Release
Map 2.4
Pre-Mine Slope
Analysis

Produced by
 Gary Altsisi
 Professional
 Engineer

April 22, 2026
 Revision
 1 Inch = 500 Feet

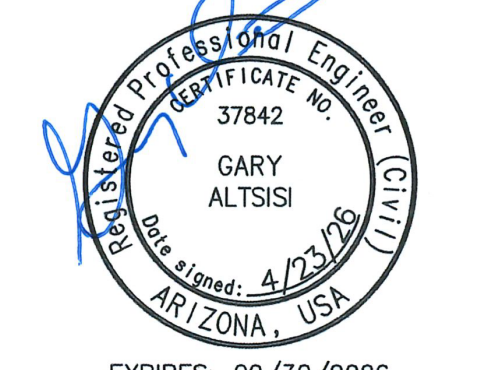
 Proposed Phase I
 Bond Release Area
 603 Acres

Pre-Mine Slopes			
Symbol	% Slope	Acres	% of Total
	0 - 9	488	81
	9 - 13	78	13
	13 - 18	26	4
	18 - 25	9	2
	25 - 33	2	0
	33 +	0	0

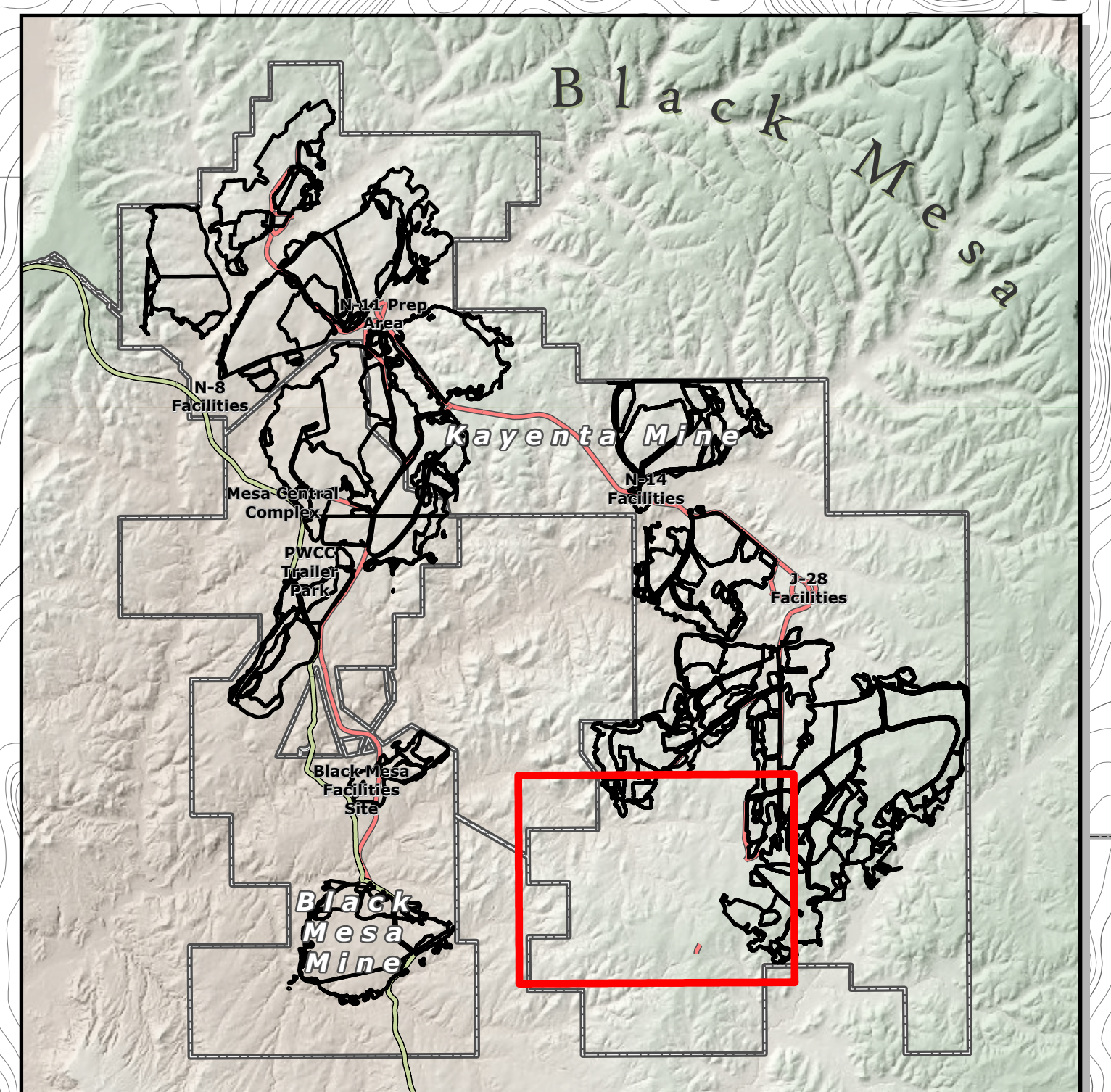
- Other Features**
-  PWCC Permit Boundary
 -  Coal Removal Boundary
 -  Major Wash

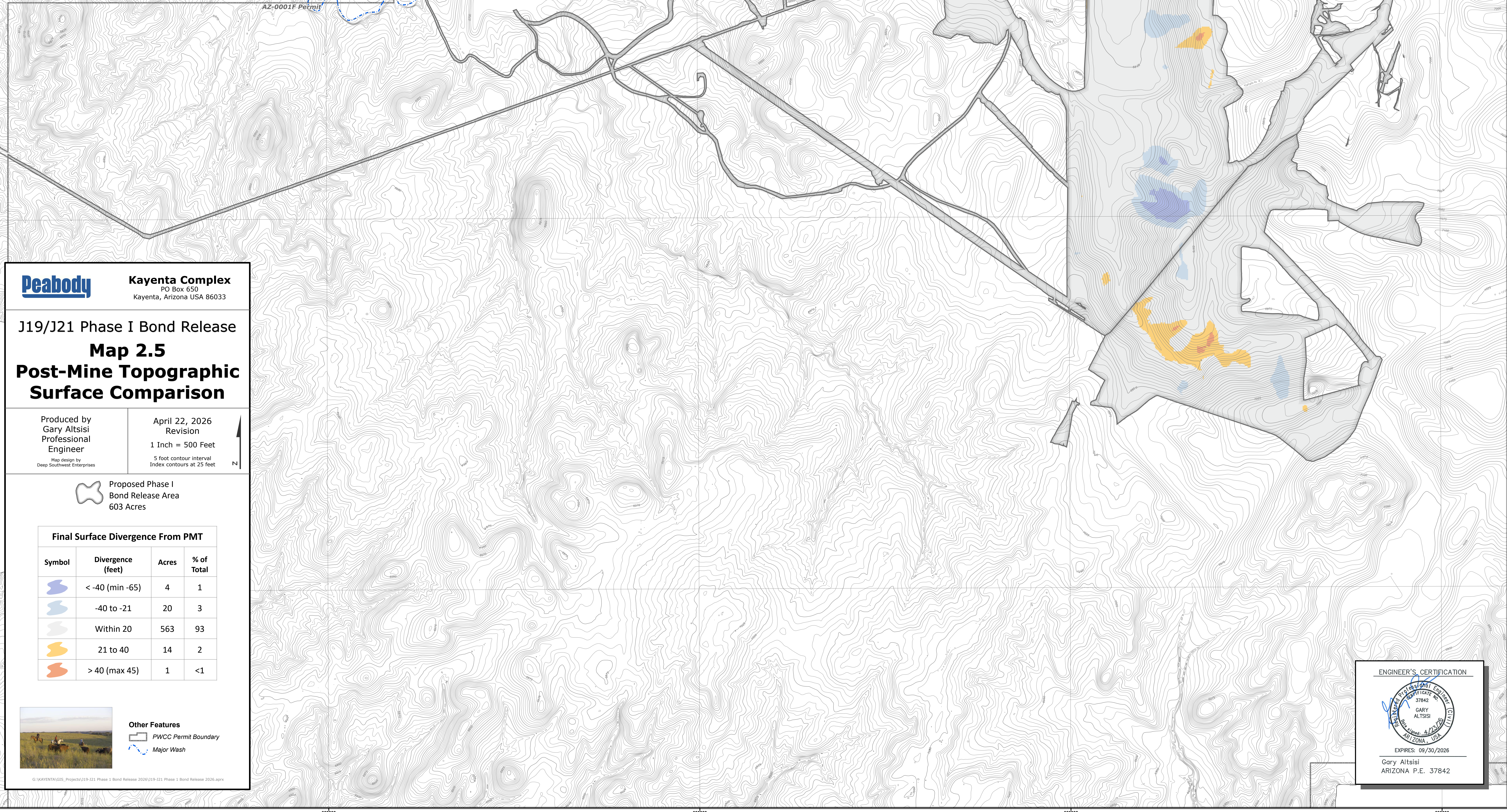
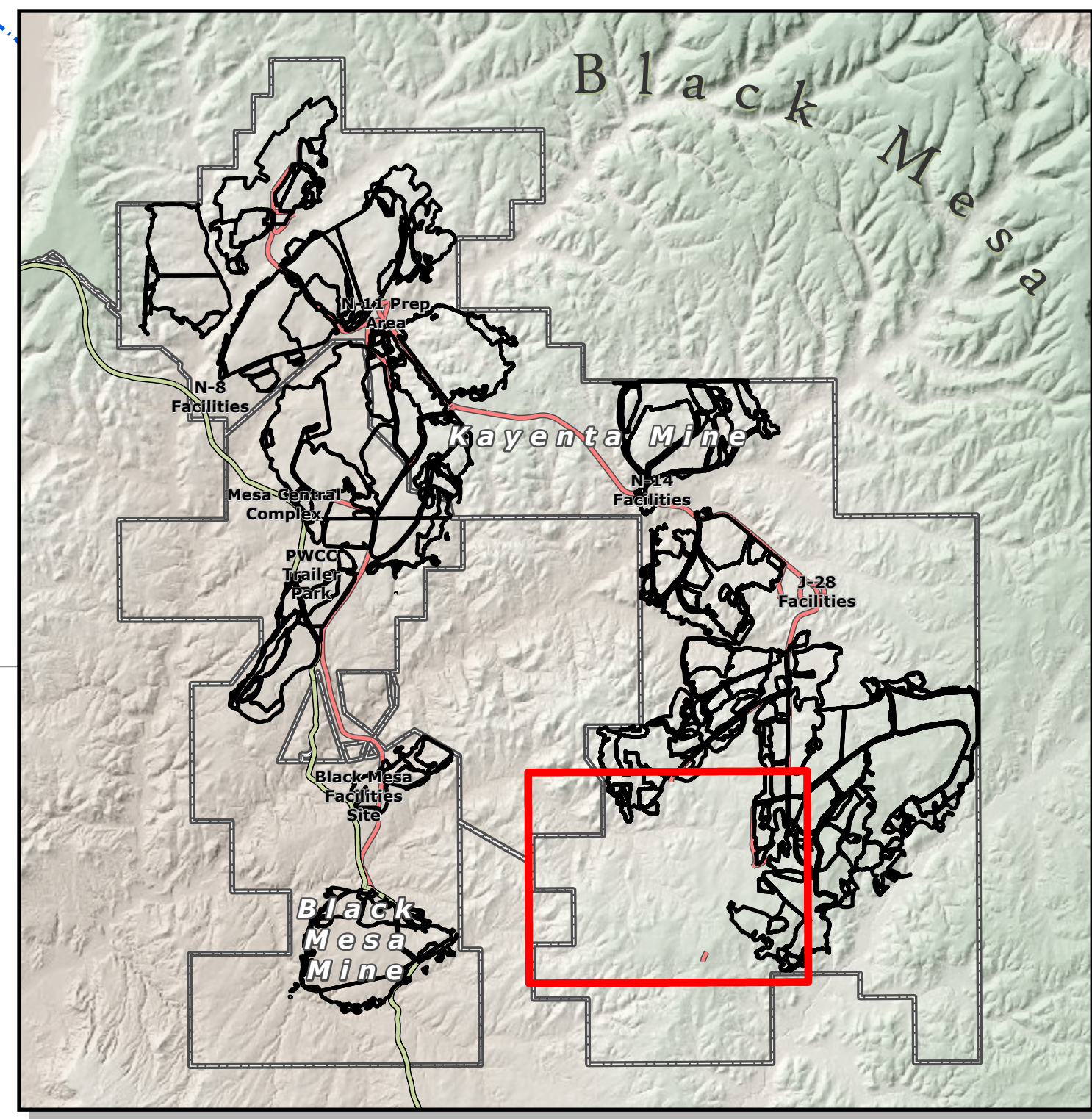
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Peabody Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

J19/J21 Phase I Bond Release
Map 2.5
Post-Mine Topographic
Surface Comparison


Produced by
 Gary Altsisi
 Professional
 Engineer






April 22, 2026
 Revision

1 Inch = 500 Feet
 5 foot contour interval
 Index contours at 25 feet


Map design by
 Deep Southwest Enterprises

N

 Proposed Phase I
 Bond Release Area
 603 Acres

Final Surface Divergence From PMT			
Symbol	Divergence (feet)	Acres	% of Total
	< -40 (min -65)	4	1
	-40 to -21	20	3
	Within 20	563	93
	21 to 40	14	2
	> 40 (max 45)	1	<1



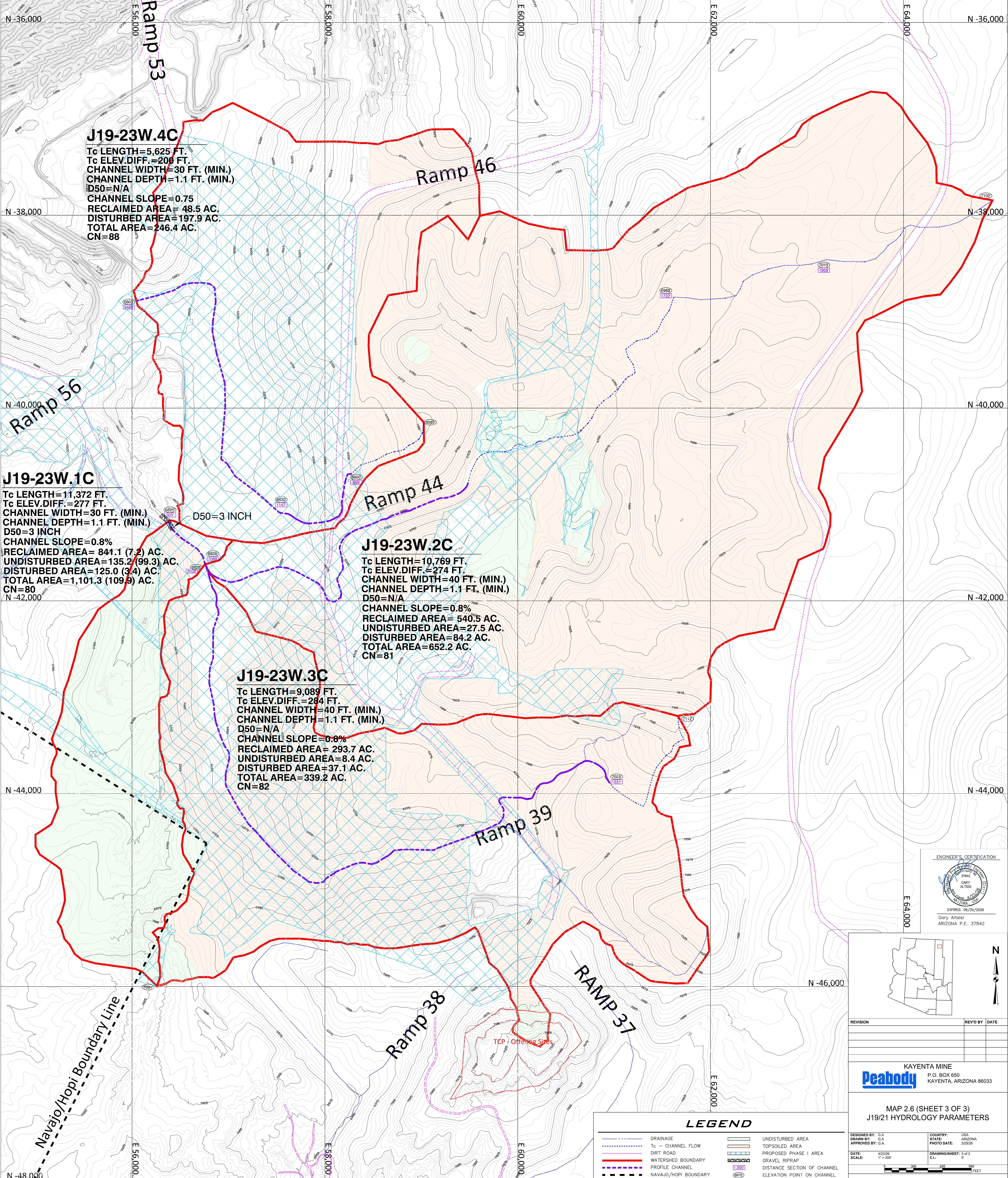
Other Features
 PWCC Permit Boundary
 Major Wash

G:\KAYENTA\GIS_Projects\J19-J21 Phase I Bond Release 2020\J19-J21 Phase I Bond Release 2026.aprx

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J19-23W.4C
 Tc LENGTH=5,625 FT.
 Tc ELEV.DIFF.=200 FT.
 CHANNEL WIDTH=30 FT. (MIN.)
 CHANNEL DEPTH=1.1 FT. (MIN.)
 D50=N/A
 CHANNEL SLOPE=0.75
 RECLAIMED AREA= 48.5 AC.
 DISTURBED AREA=197.9 AC.
 TOTAL AREA=246.4 AC.
 CN=88

J19-23W.1C
 Tc LENGTH=11,372 FT.
 Tc ELEV.DIFF.=277 FT.
 CHANNEL WIDTH=30 FT. (MIN.)
 CHANNEL DEPTH=1.1 FT. (MIN.)
 D50=3 INCH
 CHANNEL SLOPE=0.8%
 RECLAIMED AREA= 841.1 (7.2) AC.
 UNDISTURBED AREA=135.2 (99.3) AC.
 DISTURBED AREA=125.0 (3.4) AC.
 TOTAL AREA=1,101.3 (109.9) AC.
 CN=80

J19-23W.2C
 Tc LENGTH=10,769 FT.
 Tc ELEV.DIFF.=274 FT.
 CHANNEL WIDTH=40 FT. (MIN.)
 CHANNEL DEPTH=1.1 FT. (MIN.)
 D50=N/A
 CHANNEL SLOPE=0.8%
 RECLAIMED AREA= 540.5 AC.
 UNDISTURBED AREA=27.5 AC.
 DISTURBED AREA=84.2 AC.
 TOTAL AREA=652.2 AC.
 CN=81

J19-23W.3C
 Tc LENGTH=9,089 FT.
 Tc ELEV.DIFF.=284 FT.
 CHANNEL WIDTH=40 FT. (MIN.)
 CHANNEL DEPTH=1.1 FT. (MIN.)
 D50=N/A
 CHANNEL SLOPE=0.8%
 RECLAIMED AREA= 293.7 AC.
 UNDISTURBED AREA=8.4 AC.
 DISTURBED AREA=37.1 AC.
 TOTAL AREA=339.2 AC.
 CN=82

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 ARIZONA P.E. 37842

REVISION	REV'D BY	DATE

KAYENTA MINE
Peabody P.O. BOX 650
 KAYENTA, ARIZONA 86033

MAP 2.6 (SHEET 3 OF 3)
 J19/21 HYDROLOGY PARAMETERS

LEGEND

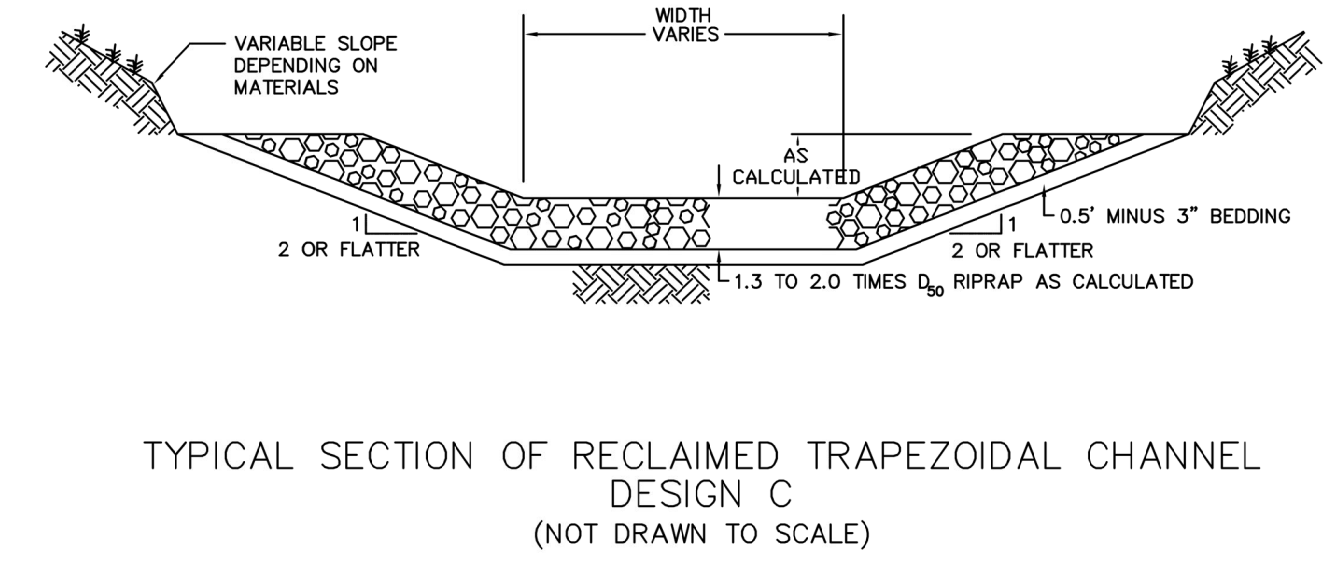
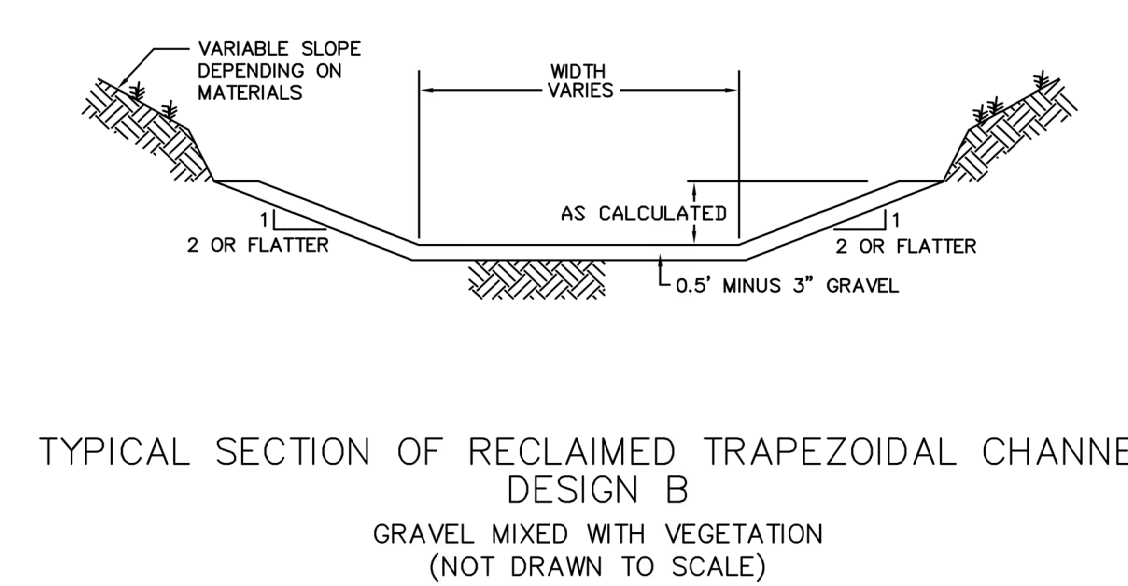
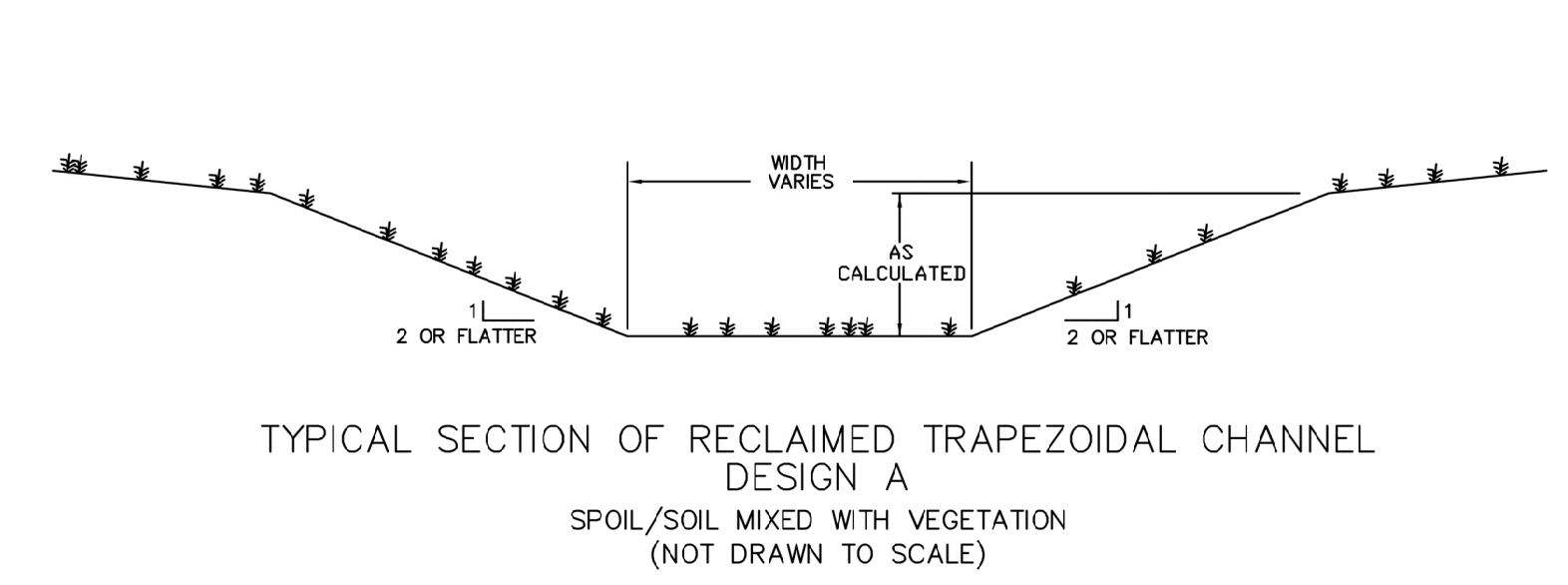
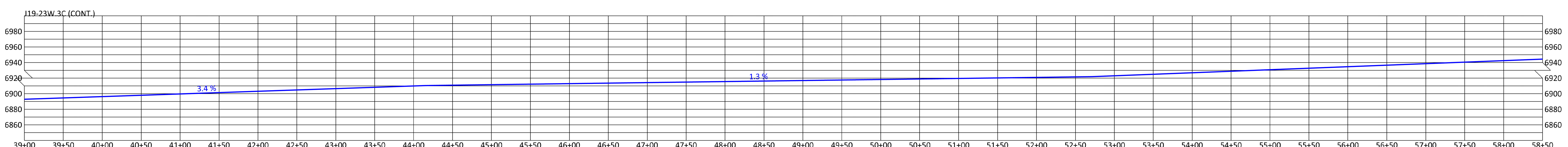
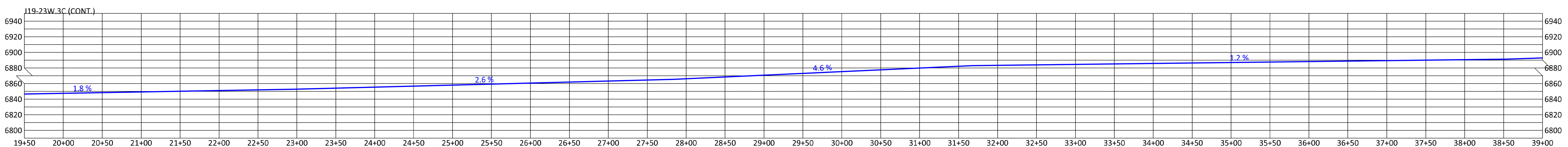
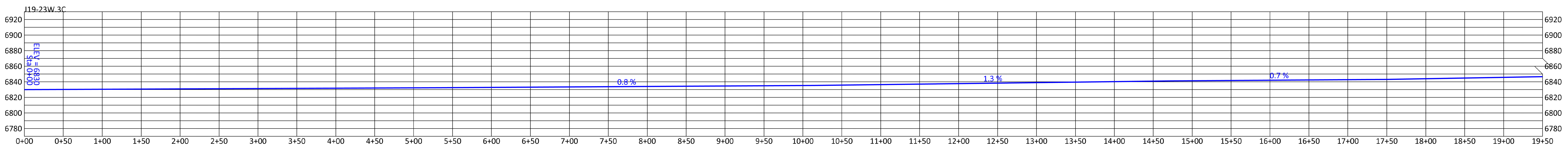
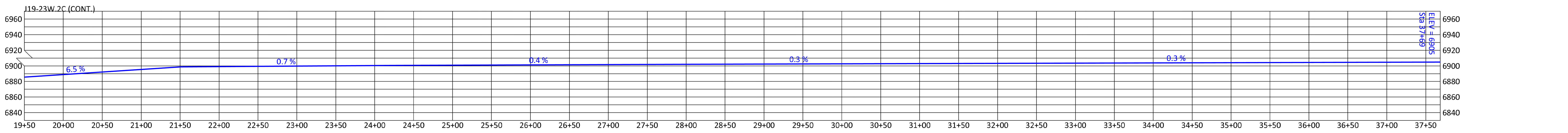
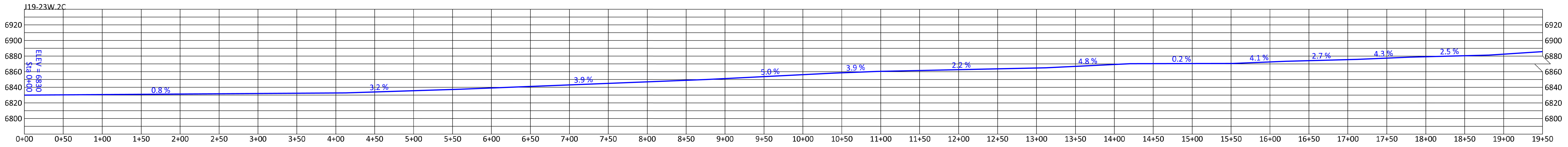
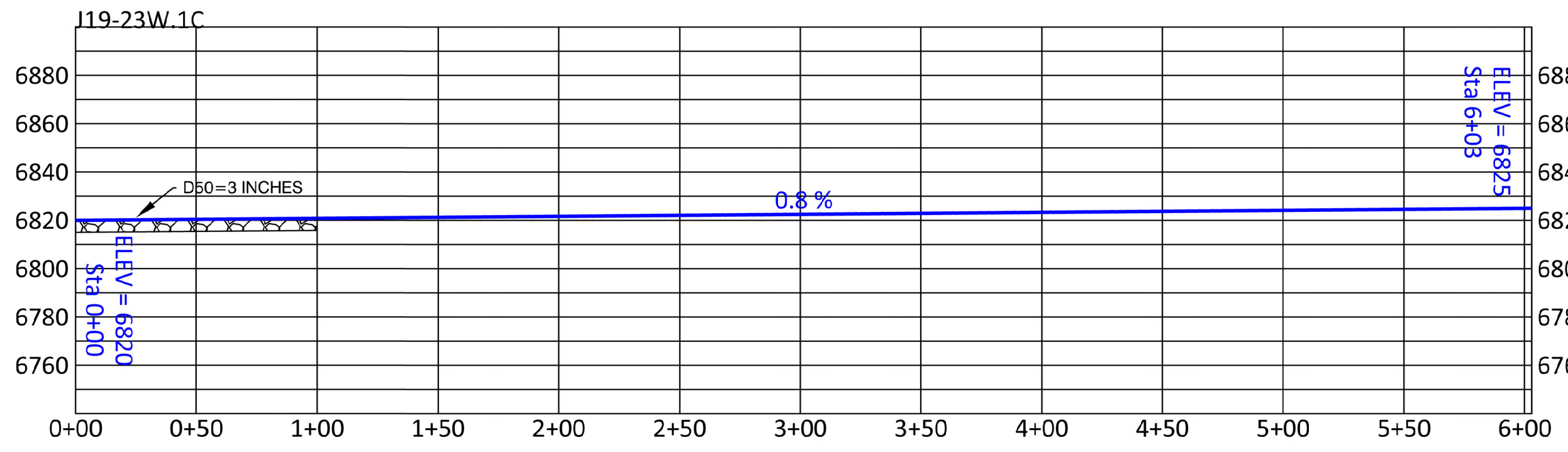
	DRAINAGE		UNDISTURBED AREA
	Tc - CHANNEL FLOW		TOPSOILED AREA
	DIRT ROAD		PROPOSED PHASE I AREA
	WATERSHED BOUNDARY		GRAVEL RIPRAP
	PROFILE CHANNEL		DISTANCE SECTION OF CHANNEL
	NAVAJO/HOPI BOUNDARY		ELEVATION POINT ON CHANNEL

DESIGNED BY: G.A.
 DRAWN BY: G.A.
 APPROVED BY: G.A.

DATE: 4/23/26
 SCALE: 1" = 300'

COUNTRY: USA
 STATE: ARIZONA
 PHOTO DATE: 3/29/26

DRAWINGSHEET: 3 of 3
 C.I.: 5



ENGINEER'S CERTIFICATION

DESIGNED BY: G.A.
 DRAWN BY: G.A.
 APPROVED BY: G.A.
 DATE: 4/23/26
 SCALE: 1"=50'

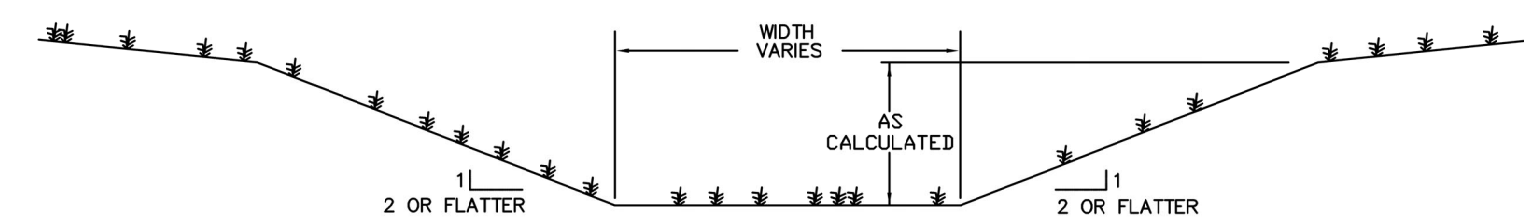
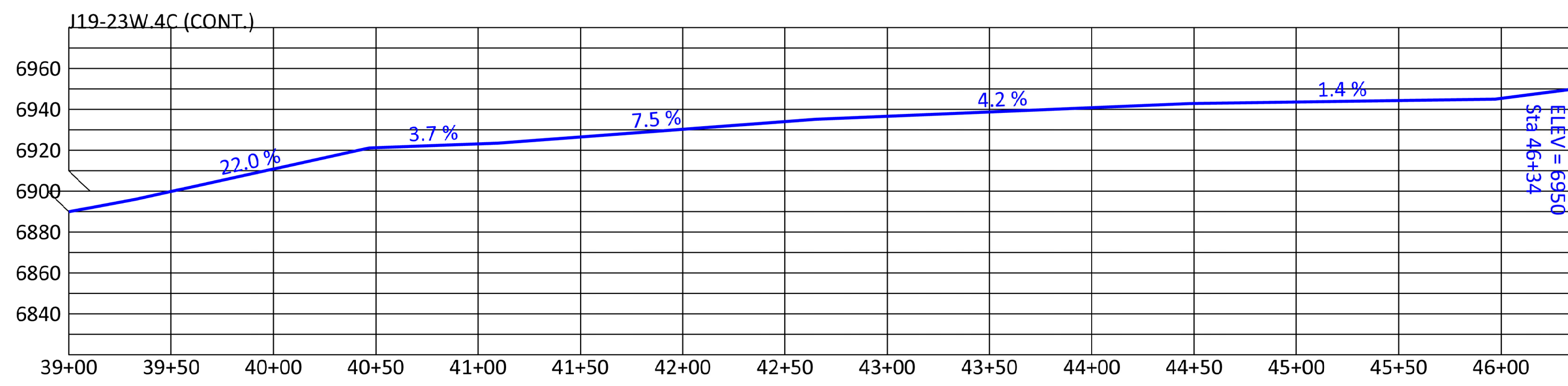
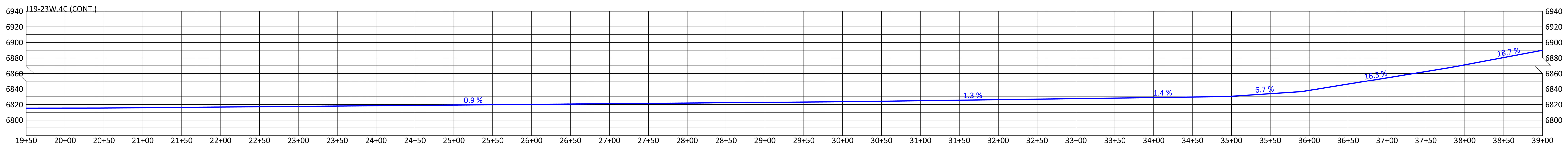
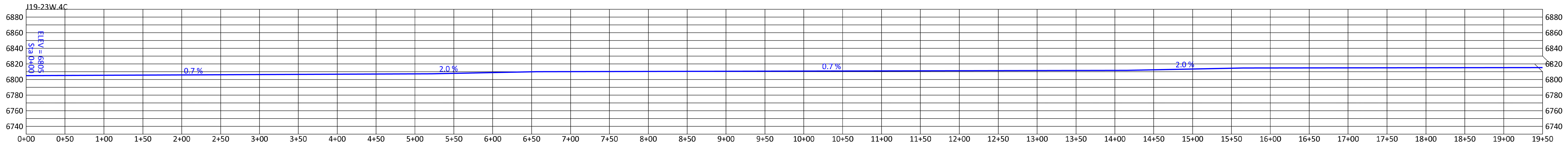
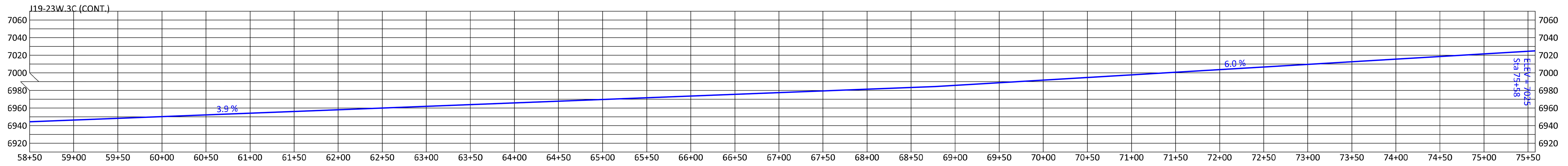
Gary Altisi
 ARIZONA P.E. 37842

REVISION	REV'D BY	DATE

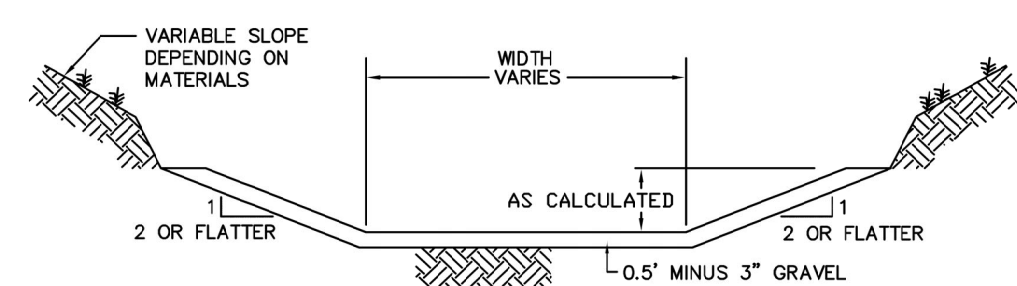
KAYENTA MINE
Peabody P.O. BOX 650
 KAYENTA, ARIZONA 86033

MAP 2.6 (SHEET 2 OF 3)
 J19/21 HYDROLOGY PARAMETERS

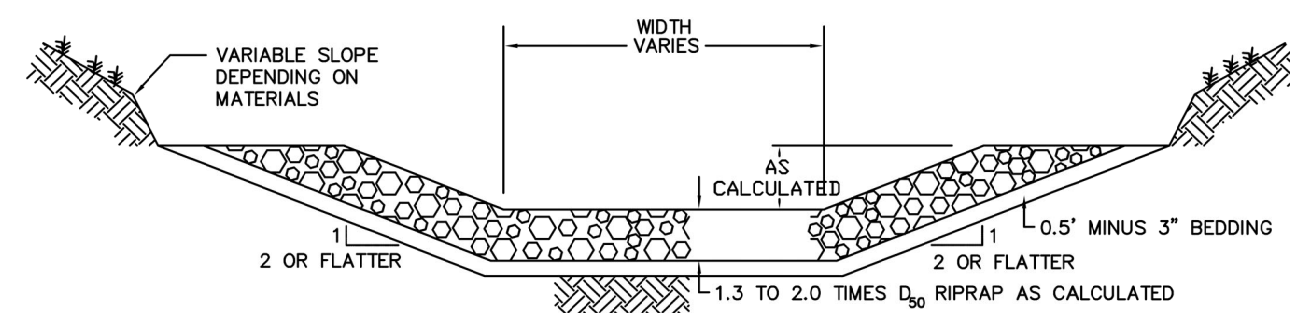
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DRAWN BY: G.A.	STATE: ARIZONA
APPROVED BY: G.A.	PHOTO DATE: 3/20/26
DATE: 4/23/26	DRAWINGSHEET: 2 of 3
SCALE: 1"=50'	C.L.: 2'



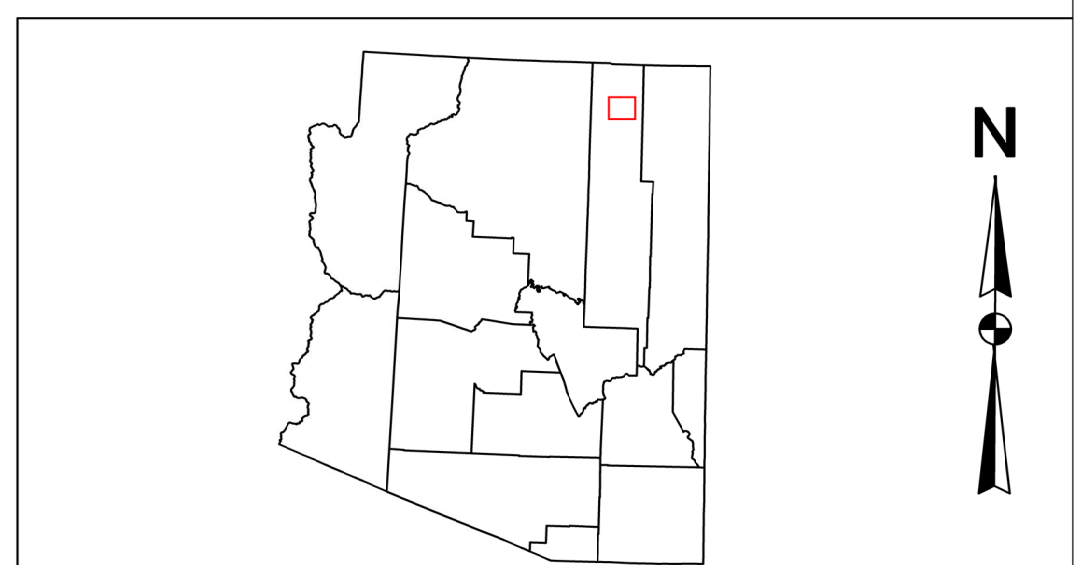
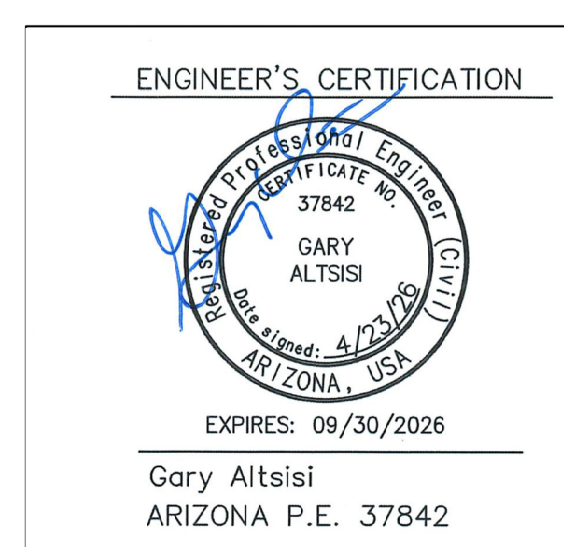
TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL
DESIGN A
SPOIL/SOIL MIXED WITH VEGETATION
(NOT DRAWN TO SCALE)



TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL
DESIGN B
GRAVEL MIXED WITH VEGETATION
(NOT DRAWN TO SCALE)



TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL
DESIGN C
(NOT DRAWN TO SCALE)

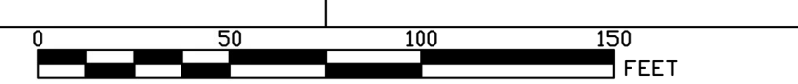


REVISION	REV'D BY	DATE

Peabody KAYENTA MINE
P.O. BOX 650
KAYENTA, ARIZONA 86033

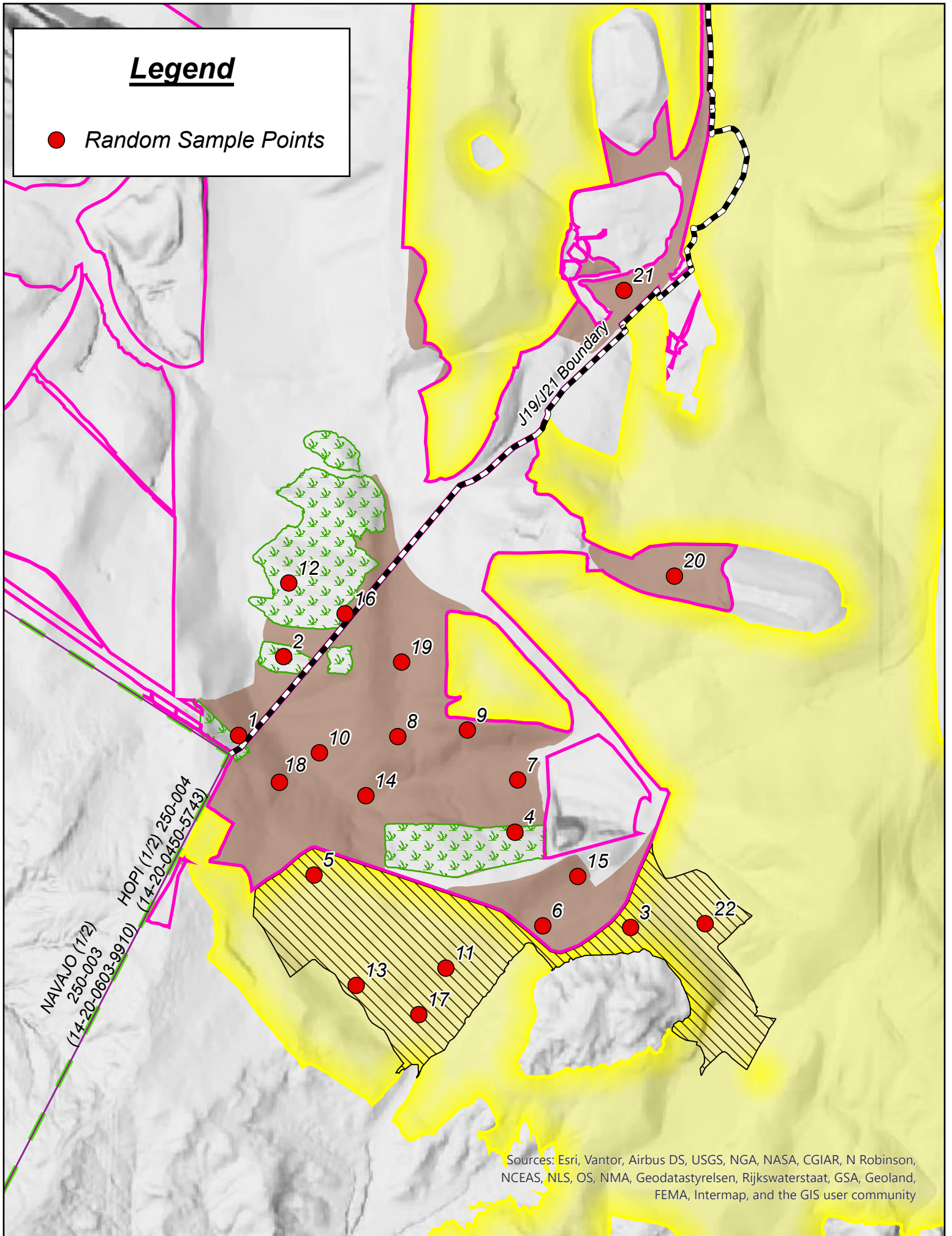
MAP 2.6 (SHEET 3 OF 3)
J19/21 HYDROLOGY PARAMETERS

DESIGNED BY: G.A.	COUNTRY: USA
DRAWN BY: G.A.	STATE: ARIZONA
APPROVED BY: G.A.	PHOTO DATE: 3/20/26
DATE: 4/23/26	DRAWINGSHEET: 3 of 3
SCALE: 1"=50'	C.I.: 8'



Legend

● Random Sample Points



Sources: Esri, Vantor, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastystyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community