



Peabody Western Coal Company

August 15, 2014

Mr. Bob Postle
Office of Surface Mining
Reclamation and Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

Dear Mr. Postle:

Peabody Western Coal Company (PWCC) submits the enclosed application materials in accordance with 30 CFR 800.40 for Phase I release of bond on approximately 1,431 acres of mined and reclaimed lands in the permanent program areas of J16, J19, and J21 at Kayenta Mine. An additional 184 acres of adjacent undisturbed land is also included for release.

Enclosed, please find eight electronic CD's and one 1-volume hard copy of the Bond Release Application. One electronic CD and one 1-volume hard copy of the Bond Release Application was also submitted to Mr. Rade Orell, OSMRE, Albuquerque. One electronic CD and one 1-volume hard copy was submitted to Mr. Harrison Billy (NNMD-OSM). One electronic CD and one 1-volume hard copy was hand delivered to the Forest Lake Chapter. One electronic CD was also sent to the OSMRE field inspectors, Mr. Barry Smith and Ms. Alfreda Cornfield in Farmington, NM.

The reclaimed lands described within this Bond Release Application are subject to the Permanent Program Performance Standards at 30 CFR 816, because they were disturbed after issuance of Permanent Program Permits AZ-0002A on December 28, 1984 and AZ-0001C on July 6, 1990 pursuant to 30 CFR 750. Permit AZ-0001C was changed to AZ-0001D for the 5-year renewals during 1995, 2000, and 2005. Permit AZ-0001D was later changed to AZ-0001E for the 5 year renewal on January 6, 2012.

Based upon the information contained in the application, reclamation of these lands has been satisfactorily completed for Phase I with regard to the applicable performance standards and release criteria. The application contains one notarized original statement signed by the Operations Manager, Kayenta Mine and Vice President of PWCC certifying all applicable reclamation activities in the subject lands were conducted in accordance with the Act, applicable regulations, and the approved reclamation plans from Permit AZ-0001E.

PWCC has included copies of letters sent to the Tribes, government agencies, utilities, and planning agencies. A copy of the public notice and a notarized verification statement are also included.

Mr. Bob Postle
August 15, 2014
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Pursuant to 30 CFR 800.40 (a)(2), PWCC submitted the public notice to the Navajo Times and Navajo Hopi Observer. The notice will be published once a week for four successive weeks appearing on August 20, 21, 27, 28 September 3, 4, 10, and 11, 2014. PWCC requests expeditious review and approval of this application pursuant to 30 CFR 800.40 (b) and (c).

Please direct any questions and correspondence to me at 928-677-5031 or by email at greg_jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

GEJ
Encl.

C:
Gary Wendt (Peabody-Flagstaff)
Marie Shepard (PWCC)
Harrison Billy (NNMD-OSM) w/Hard Copy and CD
Rade Orell (OSMRE-AAO) w/Hard Copy and CD
Barry Smith (OSMRE-FFO) w/CD
Alfreda Cornfield (OSMRE-FFO) w/CD

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

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SECTION 1

Phase I Bond Release Supporting Documentation

Introduction

Peabody Western Coal Company (PWCC) is requesting Phase I bond release on portions of lands within the J-16, J19, and J-21 area of Kayenta Mine. The bond release application included in this submittal contains required documentation and information to support Phase I bond release for 1,431 acres of mined and reclaimed lands in the permanent program areas within the J16 (463 acres), J19 (363 acres), and J21 (605 acres) Coal Resource Areas as shown on Maps 1.1.1 and 1.1.2. An additional 184 acres of adjacent undisturbed land in J16 (43 acres), J19 (97 acres), and J21 (44 acres) is also included for bond release. None of the proposed permanent ponds or a request for permanent roads are included in this release application. These features will be further evaluated in relation to the final land use and customary use areas over the entire release application areas. Information for the Phase I technical portions of the application are contained in Section 2 of this document. Information such as the public notice, affidavit of publication, and copies of letters to the Tribes, government agencies, or utilities are included in this section of the application.

Permit and Bond Release Summary Information

The J16, J19, and J21 Coal Resource Areas are located within the southeastern portion of PWCC's Kayenta Mine. The Kayenta Mine operates under Permit AZ-0001E issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to PWCC Kayenta Mine on January 6, 2012.

The mine permit area is located approximately 18 miles south southwest of Kayenta, Arizona (USGS 7.5 minute quadrangle map "Yucca Hill". The permit areas for the J16, J19, and J21 Phase I bond release are 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 463 acres of mined and reclaimed land and 43 acres of adjacent undisturbed land located within the J16 Coal Resource Area. The computer generated centroid location of this area is approximately Latitude 36° 29' 13" N and Longitude 110° 18' 16" W. A total of 363 acres of mined and reclaimed land and 97 acres of adjacent undisturbed land located within the J19 Coal Resource Area. The computer generated centroid location of this area is approximately Latitude

36° 27' 49" N and Longitude 110° 18' 9" W. A total of 605 acres of mined and reclaimed land and 44 acres of adjacent undisturbed land located within the J21 Coal Resource Area. The computer generated centroid location of this area is approximately Latitude 36° 26' 14" N and Longitude 110° 16' 33" W.

The type of bond and the amount of bond filed are described in Table 1.1. The portion requested for release includes \$17,793,758 for Phase I. Justification for the release dollars are explained in the following section.

Table 1.1. Bond Information for Kayenta Mine.		
Bond Surety	Bond Number	Bond Amount
Federal/Chubb Group of Insurance Companies	82154865	\$15,000,000
Continental Casualty Insurance Company & National Fire Insurance Company of Hartford	9264222	\$28,304,188
Continental Casualty Insurance Company & National Fire Insurance Company of Hartford	9264224	\$18,261,696
National Fire Insurance Company of Hartford	9264225	\$6,261,536
National Fire Insurance Company of Hartford	9264241	\$5,939,744
Safeco Insurance Company of America	6197012	\$40,000,000
Travelers Casualty and Surety Company of America	105253365	\$11,800,000
Travelers Casualty and Surety Company of America	105243347	\$27,219,836
Travelers Casualty and Surety Company of America	104536183	\$4,105,000
Travelers Casualty and Surety Company of America	105191031	\$28,000,000
Zurich American Insurance Company & Fidelity and Deposit Company of Maryland	4144114	\$14,300,000
Zurich American Insurance Company & Fidelity and Deposit Company of Maryland	8940860	\$46,000,000
TOTAL	N/A	\$245,192,000

Phase I Bond Reduction Cost

PWCC is seeking a reduction in bond for Phase I in the amount of \$17,793,758. This amount was determined using direct and indirect unit costs calculated for 506 acres in J16, 460 acres in J19, and 649 acres in J21 as documented in Permit AZ-0001E, Chapter 24, Table 24-1-7. Reclamation cost estimates as of June 2010 were used. Reduction in bond

at J16 was based upon the final pit being 100% backfilled and completion of Phase I reclamation activities on 463 of the 721 bonded acres. Reduction in bond at J19 was based upon 2,400 feet of the final pit being 100% backfilled and completion of Phase I reclamation activities on 363 acres. Reduction in bond at J21 was based upon the double-wide pit being 100% backfilled and completion of Phase I reclamation activities in this area. The bond amount was also reduced for a combined 184 acres of undisturbed bonded land from all three areas as shown on Permit AZ-0001E, Drawing #89800. The reduced bond amount for these 184 acres was calculated based on the general grading, ripping, revegetation, and vegetation maintenance categories. The project categories and direct costs are listed in Tables 1.2.1, 1.2.2, and 1.2.3. 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 above Phase II and Phase III costs have only been included for 184 acres of undisturbed lands associated with the J16 (43 acres), J19 (97 acres), and J21 (44 acres) areas.

Table 1.2.1. Bond Reduction of Direct Costs for Backfilling, Grading, Topsoil/Suitable Material Replacement, and Other Listed Activities for Undisturbed Land in the J16 Area.	
Project Category	Bond Reduction Amount
Highwall Reduction (100%, Table 24-1-4)	\$1,292,462
Mine pit backfilling (100%, Table 24-1-4)	\$1,644,852
Ramp backfilling and grading (100%, Table 24-1-4)	\$ 293,047
General grading (506 acres)	\$ 629,555
Surface stabilization (43 acres)	\$ 2,779
Topsoil/suitable material replacement (506 acres)	\$1,556,140
Revegetation (43 acres)	\$ 88,752
General grading at 50% maintenance (43 acres)	\$ 4,869
General ripping at 50% maintenance (43 acres)	\$ 11,623
Vegetation maintenance (43 acres)	\$ 44,376
Total Direct Cost Categories I, II, and IIA	\$5,568,455

Table 1.2.2. Bond Reduction of Direct Costs for Backfilling, Grading, Topsoil/Suitable Material Replacement, and Other Listed Activities for Undisturbed Land in the J19 Area.	
Project Category	Bond Reduction Amount
Highwall Reduction (2,400 feet)	\$ 508,137
Mine pit backfilling (2,400 feet)	\$ 399,220
Ramp backfilling and grading (2,400 feet)	\$ 35,632
General grading (460 acres)	\$ 154,298
Surface stabilization (97 acres)	\$ 6,269
Topsoil/suitable material replacement (460 acres)	\$1,139,844
Revegetation (97 acres)	\$ 200,208
General grading at 50% maintenance (97 acres)	\$ 10,984
General ripping at 50% maintenance (97 acres)	\$ 26,220
Vegetation maintenance (97 acres)	\$ 100,104
Total Direct Cost Categories I, II, and IIA	\$2,580,916

Table 1.2.3. Bond Reduction of Direct Costs for Backfilling, Grading, Topsoil/Suitable Material Replacement, and Other Listed Activities for Undisturbed Land in the J21 Area.	
Project Category	Bond Reduction Amount
Mine pit backfilling (100%, Table 24-1-4)	\$1,841,438
Ramp backfilling and grading (100%, Table 24-1-4)	\$ 482,400
General grading (100%, Table 24-1-4)	\$ 674,720
Surface stabilization (44 acres)	\$ 2,844
Topsoil/suitable material replacement (100%, Table 24-1-4)	\$2,499,559
Revegetation (44 acres)	\$ 91,696
General grading at 50% maintenance (44 acres)	\$ 4,982
General ripping at 50% maintenance (44 acres)	\$ 11,894
Vegetation maintenance (44 acres)	\$ 45,408
Total Direct Cost Categories I, II, and IIA	\$5,654,941

Tables 1.3.1, 1.3.2, and 1.3.3 show the indirect costs obtained from Permit AZ-0001E, Chapter 24 that are associated with the Phase I direct cost as determined June 2010.

Table 1.3.1. Bond Reduction of Indirect Costs for Backfilling, Grading, Topsoil/Suitable Material Replacement, and Other Listed Activities for Undisturbed Land in the J16 Area.	
Project Category	Bond Reduction Amount
Mobilization/demobilization (1.5%)	\$ 83,527
Contingencies (2.0%)	\$ 111,369
Engineering redesign fee (2.0%)	\$ 111,369
Contractor profit and overhead (15.0%)	\$ 835,268
Reclamation management fee (2.0%)	\$ 111,369
Inflation (2.4%)	\$ 133,643
AZ transaction privilege tax (4.0%)	\$ 222,738
Total Indirect Cost	\$1,609,283

Table 1.3.2. Bond Reduction of Indirect Costs for Backfilling, Grading, Topsoil/Suitable Material Replacement, and Other Listed Activities for Undisturbed Land in the J19 Area.	
Project Category	Bond Reduction Amount
Mobilization/demobilization (1.5%)	\$ 38,714
Contingencies (2.0%)	\$ 51,618
Engineering redesign fee (2.0%)	\$ 51,618
Contractor profit and overhead (15.0%)	\$ 387,137
Reclamation management fee (2.0%)	\$ 51,618
Inflation (2.4%)	\$ 61,942
AZ transaction privilege tax (4.0%)	\$ 103,237
Total Indirect Cost	\$ 745,884

Table 1.3.3. Bond Reduction of Indirect Costs for Backfilling, Grading, Topsoil/Suitable Material Replacement, and Other Listed Activities for Undisturbed Land in the J21 Area.	
Project Category	Bond Reduction Amount
Mobilization/demobilization (1.5%)	\$ 84,824
Contingencies (2.0%)	\$ 113,099
Engineering redesign fee (2.0%)	\$ 113,099
Contractor profit and overhead (15.0%)	\$ 848,241

Reclamation management fee (2.0%)	\$ 113,099
Inflation (2.4%)	\$ 135,719
AZ transaction privilege tax (4.0%)	\$ 226,198
Total Indirect Cost	\$1,634,279

The total direct, indirect, tax, and 2010 inflation costs for Phase I bond categories in J16, J19, and J21 are \$17,793,758.

Permanent Facilities

There are no requests included in this application for any facilities to be retained as permanent features. None of the sediment ponds (including those proposed as permanent), roads, or Kayenta Mine support facilities located within the J16, J19, and J21 Coal Resource Areas are included in this application.

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 within the Kayenta Mine Permit AZ-0001E issued initially as Permit AZ-0001C on July 6, 1990 and renewed most recently on January 6, 2012. PWCC is seeking a release of Phase I bond liability for portions of the J16, J19, and J21 areas currently under bond with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America. PWCC is seeking a reduction in bond of \$17,793,758 under the Phase I application.

The Phase I bond release application consists of information currently contained in the AZ-0001E permit application package (PAP). The PAP outlines PWCC's reclamation operations on Permanent Program Lands. The area in J16 requested for Phase I release is 463 acres, the area in J19 requested for Phase I release is 363 acres, and the area in J21 requested for Phase I release is 605 acres. Reclamation was completed between 1984 and 2013 in J16, 1996 and 2014 in J19, and 2002 and 2014 in J21. Reclamation activities included backfilling and grading, replacement of soil or plant growth media, and revegetation. Other reclamation activities included mitigation of unsuitable material and drainage control construction. The Kayenta Mine permit for the release areas 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 areas is located 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 1,431 acres of land located within the J16, J19, and J21 Coal Resource Areas. The computer generated centroid location is Latitude $36^{\circ} 29' 13''$ N and Longitude $110^{\circ} 18' 16''$ W for J16, Latitude $36^{\circ} 27' 49''$ N and Longitude $110^{\circ} 18' 9''$ W for J19, and Latitude $36^{\circ} 26' 14''$ N and Longitude $110^{\circ} 16' 33''$ W for J21.

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

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

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

4. The names and addresses of the OSMRE-WRO and OSMRE-AAO representatives 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., October 13, 2014 thirty (30) days after the last publication date are:

Ms. Amy McGregor
Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Mr. Rade Orell
Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

5. Interested persons may obtain more information concerning the bond release by contacting Greg Jones, Environmental Scientist for PWCC at 928.677.5031.

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 Western Coal Company

August 15, 2014

Shonto Chapter
Ms. Elizabeth Whitethorne-Benally
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. Whitethorne-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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

The Phase I bond release areas are located within the Kayenta Mine Permanent Program permit area (AZ-0001E PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction in bond amount 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 is 1,431 acres (J16 = 463 Acres, J19 = 363 Acres and J21 = 605 Acres.). Approval of Phase I will allow for Phase II and III bond release to proceed on this area 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 control of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in release areas described.

Reclamation of the Phase I release areas which includes; backfilling and grading, drainage control, mitigation of unsuitable material, replacement of topsoil and revegetation was completed between 1984 and 2014. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the approved AZ-0001E PAP. Reclamation activities are documented in annual reports submitted previously to OSMRE.

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

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

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Ms. Elizabeth Whitethorne-Benally
August 15, 2014
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Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

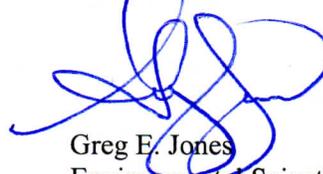
Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

The Phase I bond release areas are located within the Kayenta Mine Permanent Program permit area (AZ-0001E PAP) in the southeastern portion of the PWCC lease area. PWCC is seeking a reduction in bond amount 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 is 1,431 acres (J16 = 463 Acres, J19 = 363 Acres and J21 = 605 Acres.). Approval of Phase I will allow for Phase II and III bond release to proceed on this area 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 control of these lands to the Navajo Nation in the future. Until that time, PWCC will continue to control and manage reclaimed lands in release areas described.

Reclamation of the Phase I release areas which includes; backfilling and grading, drainage control, mitigation of unsuitable material, replacement of topsoil and revegetation was completed between 1984 and 2014. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the approved AZ-0001E PAP. Reclamation activities are documented in annual reports submitted previously to OSMRE.

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

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

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Mr. Walter W. Haase
August 15, 2014
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Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

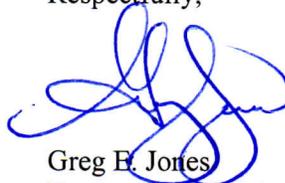
Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

Navajo Nation
Minerals Department
Mr. Akhtar Zaman
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. Zaman:

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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

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

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

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Mr. Akhtar Zaman
August 15, 2014
Page 2 of 2

Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

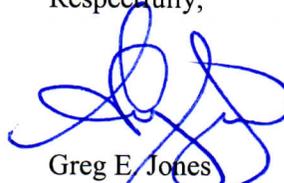
Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

Kayenta Chapter
Mr. Stanley Clitso, 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. Clitso:

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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

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Window Rock Boulevard
Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Mr. Stanley Clitso
August 15, 2014
Page 2 of 2

Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

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1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

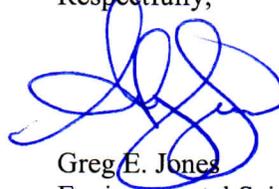
Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

Forest Lake Chapter
Ms. Helena Begay, 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 Ms. Begay:

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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

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Reclamation of the Phase I release areas which includes; backfilling and grading, drainage control, mitigation of unsuitable material, replacement of topsoil and revegetation was completed between 1984 and 2014. All reclamation activities were conducted in accordance with the Surface Mining Control and Reclamation Act (SMCRA) and the requirements of the approved AZ-0001E PAP. Reclamation activities are documented in annual reports submitted previously to OSMRE.

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Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Ms. Helena Begay
August 15, 2014
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Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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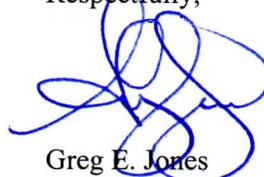
Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

Chilchinbeto Chapter
Mr. Thomas Bradley, 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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

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Office of Surface Mining
Window Rock Boulevard
Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
14 miles north of Pinon
Pinon, AZ 86510

Mr. Thomas Bradley
August 15, 2014
Page 2 of 2

Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
303.293.5040

Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

Bureau of Land Management
Arizona State Office
Mr. Moon Hom
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. Hom:

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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

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14 miles north of Pinon
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Mr. Moon Hom
August 15, 2014
Page 2 of 2

Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

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Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
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or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
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Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



Peabody Western Coal Company

August 15, 2014

Bureau of Indian Affairs
Navajo Area Office
Ms. Bernadette Tsosie, Area 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. Tsosie:

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 areas are located in the southeastern portion of the PWCC lease area. PWCC is seeking release from Phase I bond liability for those bonds currently held with Zurich American Insurance Company and Fidelity and Deposit Company of Maryland, Safeco Insurance Company of America, Continental Casualty Insurance Company, National Fire Insurance Company of Hartford, Federal/Chubb Group of Insurance Companies, and Travelers Casualty and Surety Company of America.

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Window Rock Boulevard
Window Rock, AZ 86515

Forest Lake Chapter House
Navajo Route 41
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Pinon, AZ 86510

Ms. Bernadette Tsosie
August 15, 2014
Page 2 of 2

Office of Surface Mining
Reclamation and Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107

Office of Surface Mining
Reclamation and Enforcement
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

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

Mr. Rade Orell
Field Inspector
Office of Surface Mining Reclamation & Enforcement
Albuquerque Area Office
435 Montano Road, NE
Albuquerque, NM 87107
505.761.8988

or

Ms. Amy McGregor
Kayenta Complex Team Leader
Western Region Office
Office of Surface Mining Reclamation & Enforcement
1999 Broadway, Suite 3320
Denver, CO 80202-3050
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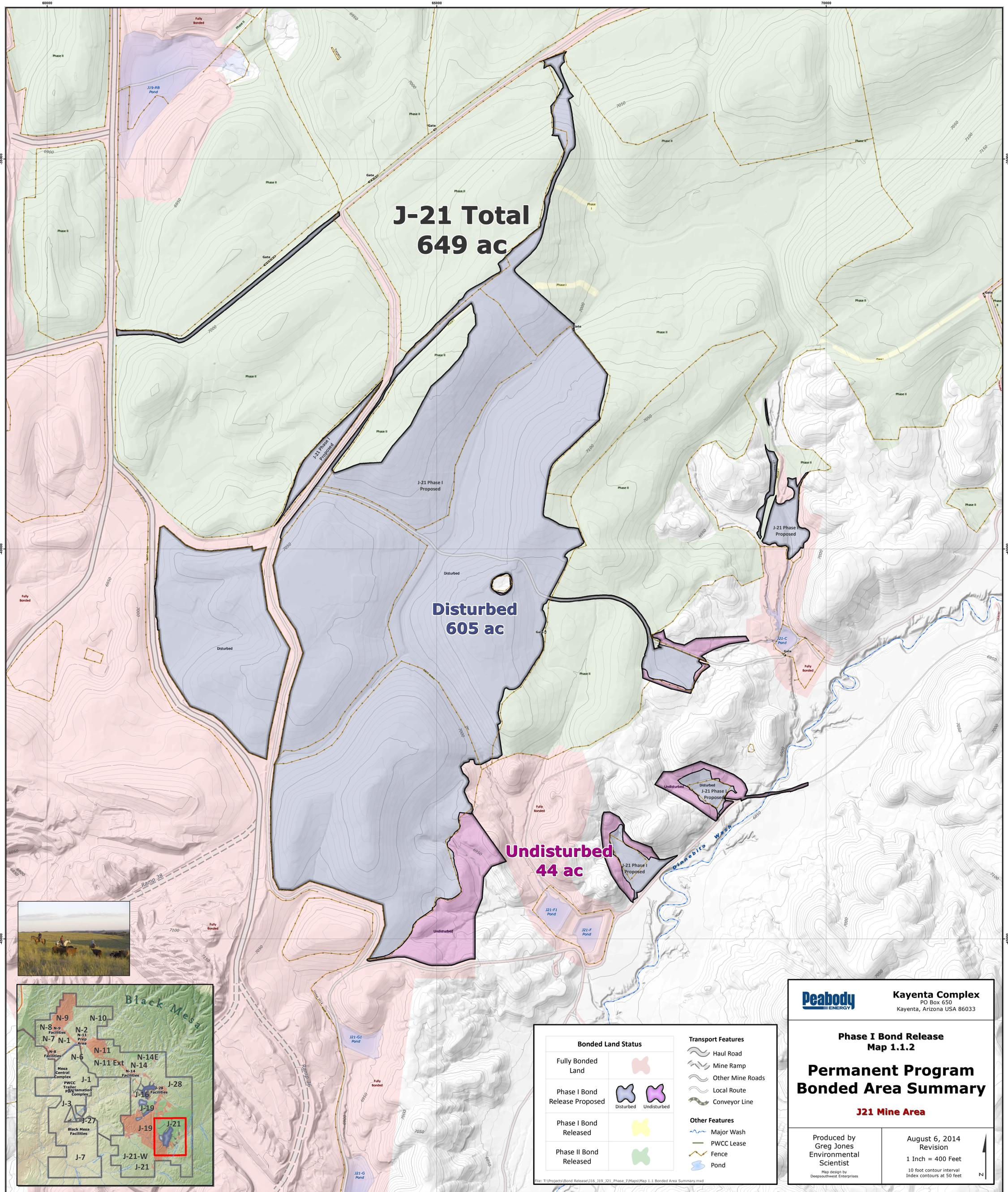
Please direct your questions about this application to me at 928.677.5031 or email them to me at greg.jones@peabodyenergy.com.

Respectfully,



Greg E. Jones
Environmental Scientist – Kayenta Complex
Peabody Western Coal Company

C: Amy McGregor (OSMRE-WRO)
Rade Orell (OSMRE-AAO)



**J-21 Total
649 ac**

**Disturbed
605 ac**

**Undisturbed
44 ac**



Kayenta Complex
PO Box 650
Kayenta, Arizona USA 86033

**Phase I Bond Release
Map 1.1.2**

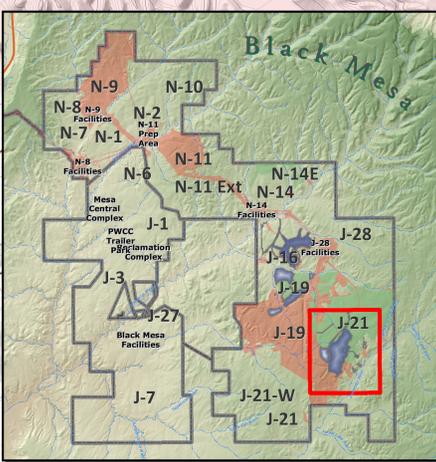
**Permanent Program
Bonded Area Summary**

J21 Mine Area

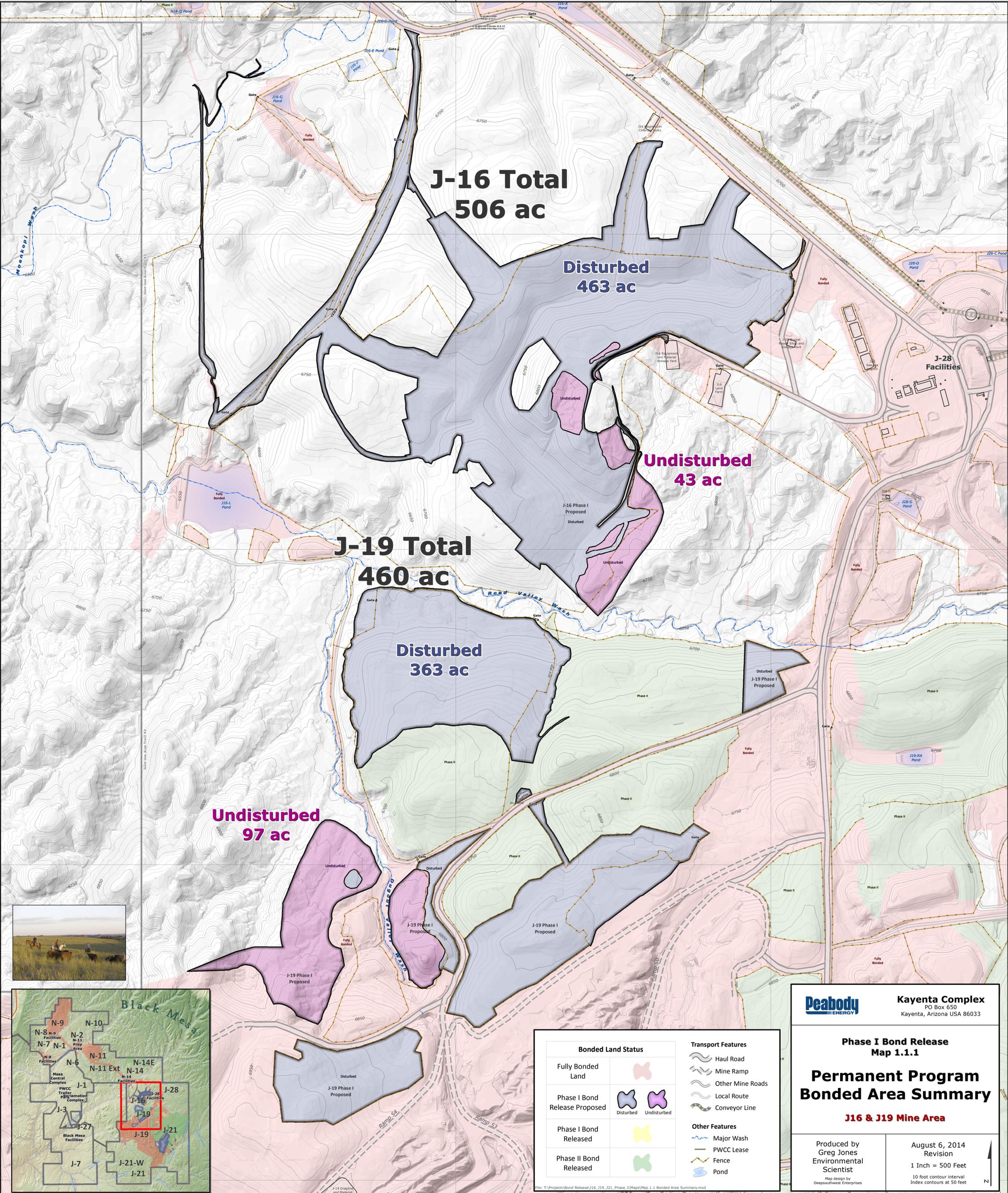
Produced by
Greg Jones
Environmental
Scientist

August 6, 2014
Revision
1 Inch = 400 Feet
10 foot contour interval
Index contours at 50 feet

Bonded Land Status		Transport Features	
Fully Bonded Land			Haul Road
Phase I Bond Release Proposed			Mine Ramp
			Other Mine Roads
Phase I Bond Released			Local Route
Phase II Bond Released			Conveyor Line
			Major Wash
			PWCC Lease
			Fence
			Pond



File: T:\Projects\Bond Release\116_119_121_Phase_I\Maps\Map 1.1 Bonded Area Summary.mxd



**J-16 Total
506 ac**

**Disturbed
463 ac**

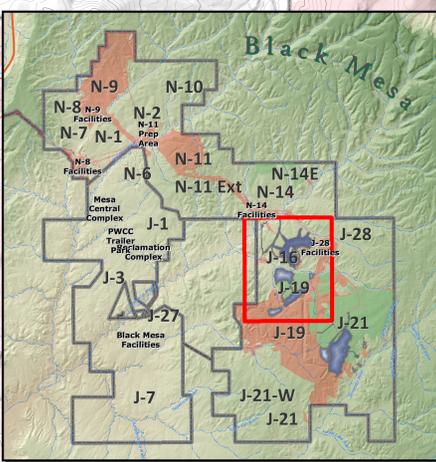
**Undisturbed
43 ac**

**J-19 Total
460 ac**

**Disturbed
363 ac**

**Undisturbed
97 ac**

**J-28
Facilities**



Bonded Land Status		Transport Features	
Fully Bonded Land			
Phase I Bond Release Proposed			
Phase I Bond Released			
Phase II Bond Released			

Peabody ENERGY Kayenta Complex
PO Box 650
Kayenta, Arizona USA 86033

**Phase I Bond Release
Map 1.1.1**

**Permanent Program
Bonded Area Summary**

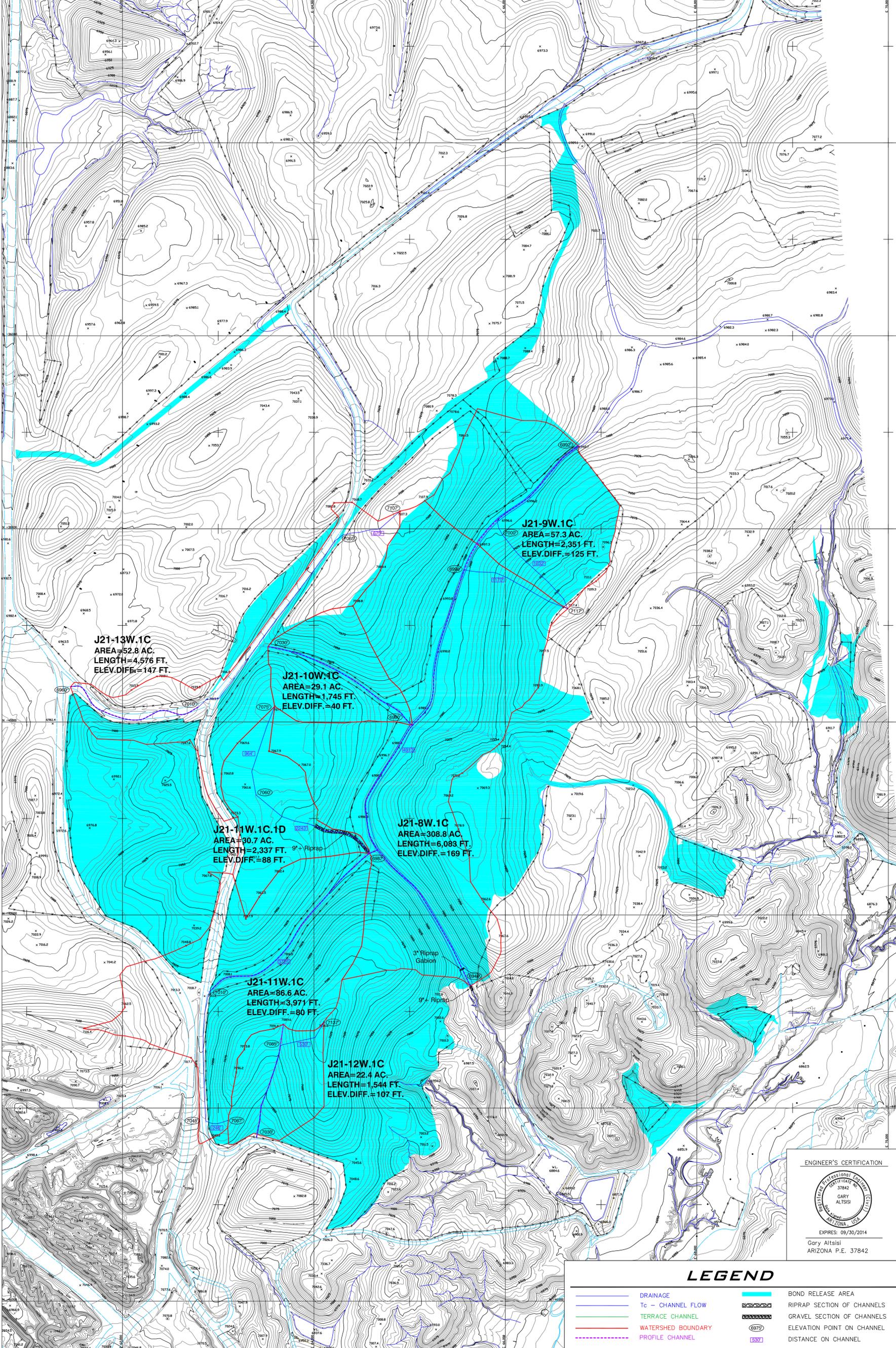
J16 & J19 Mine Area

Produced by
Greg Jones
Environmental
Scientist

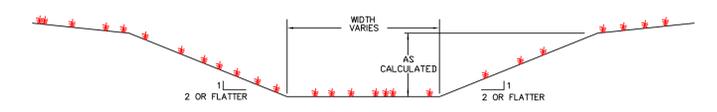
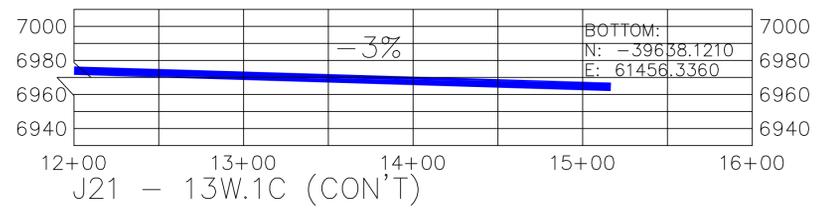
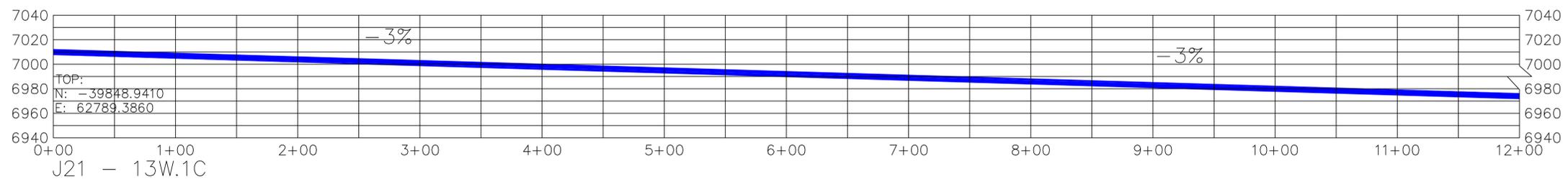
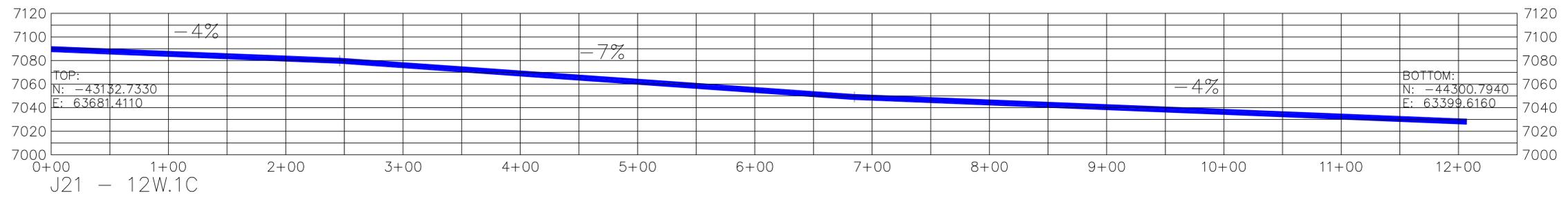
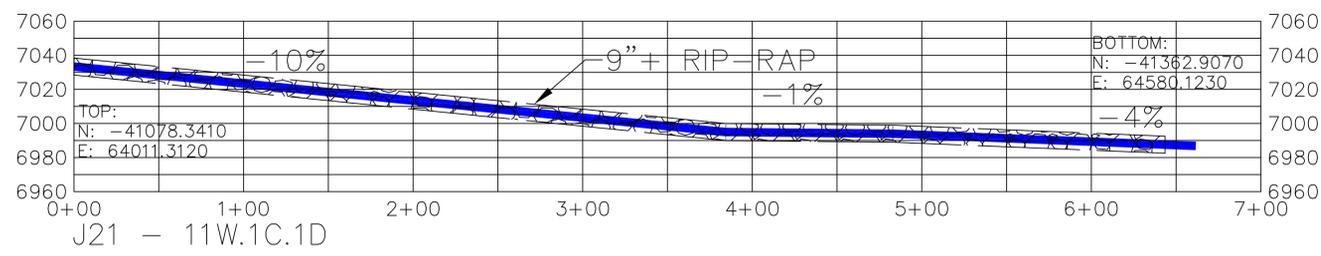
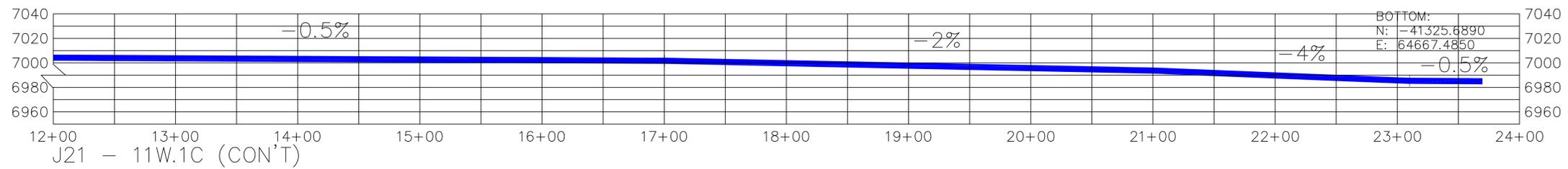
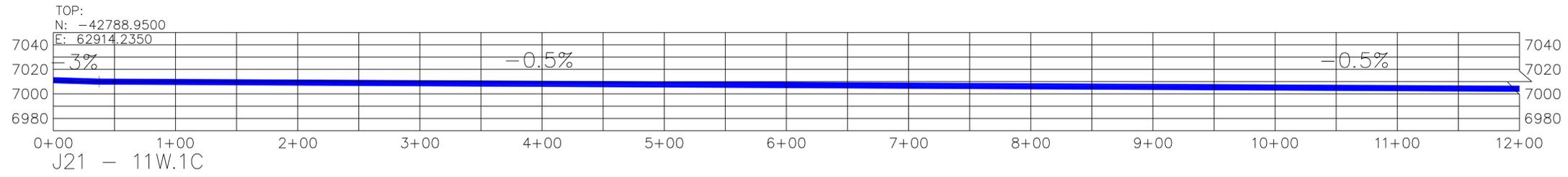
August 6, 2014
Revision

1 Inch = 500 Feet
10 foot contour interval
Index contours at 50 feet

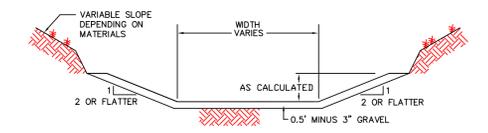
File: T:\Projects\Bond Release\J16_J19_Phase_I\Maps\Map 1.1 Bonded Area Summary.mxd



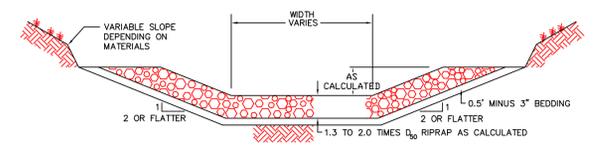
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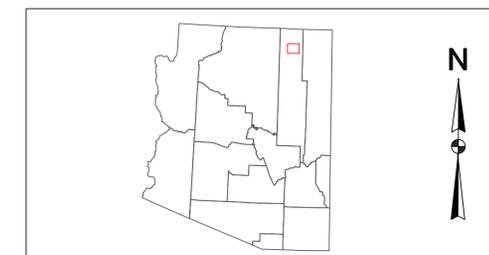
TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL
DESIGN A
SPOIL/SOIL MIXED WITH VEGETATION
(NOT DRAWN TO SCALE)



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)



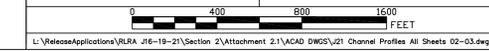
REVISION	REV'D BY	DATE

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

MAP 2.6.3 (SHEET 3 OF 3)
J-21 CHANNEL PROFILES

DESIGNED BY: G.A. COUNTRY: USA
DRAWN BY: G.E. STATE/PROVINCE: ARIZONA
APPROVED BY: G.A. GCS: DATUM/Projection

DATE: 2014-07-17 DRAWING/SHEET: 3 of 3
SCALE: 1" = 50' C.I.:

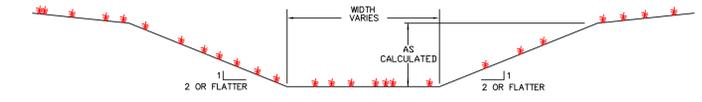
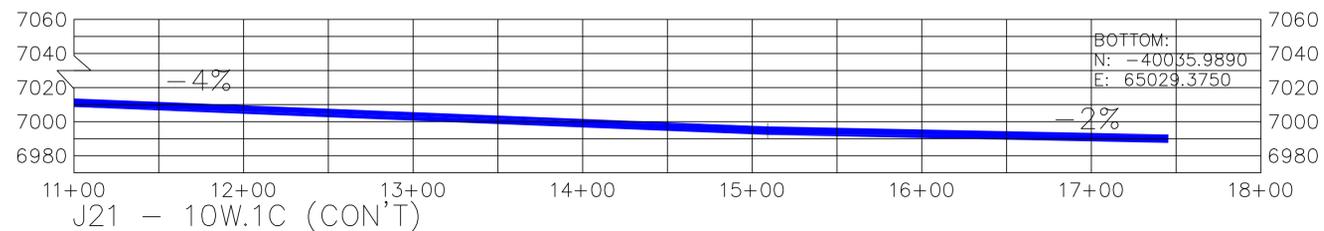
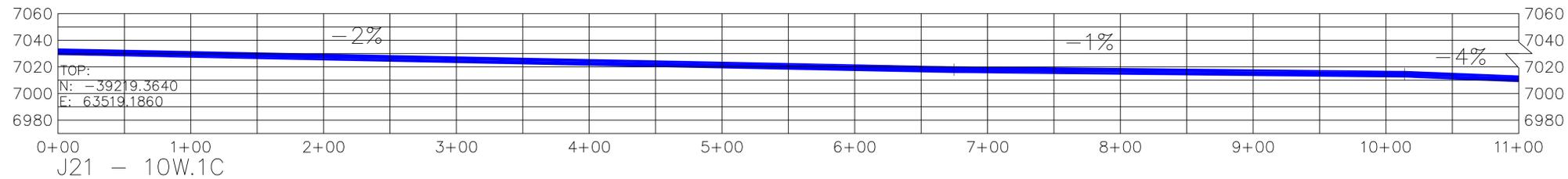
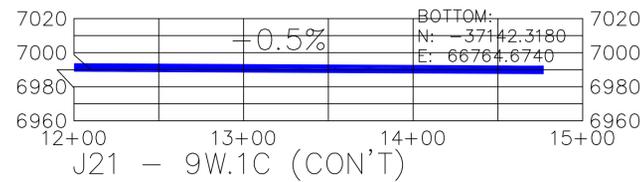
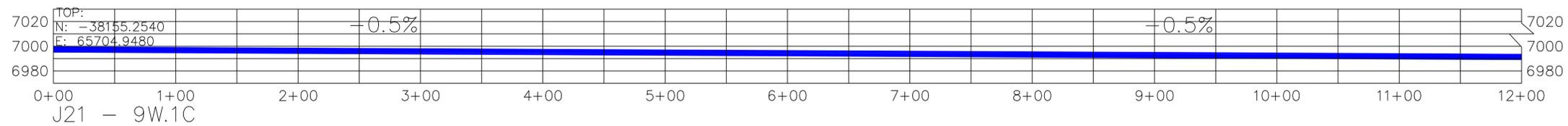
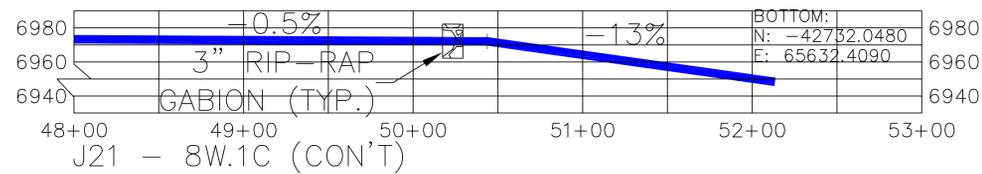
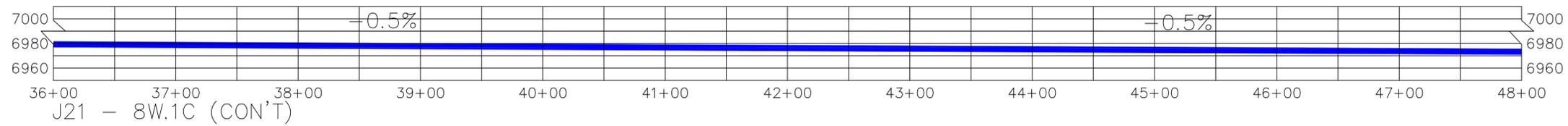
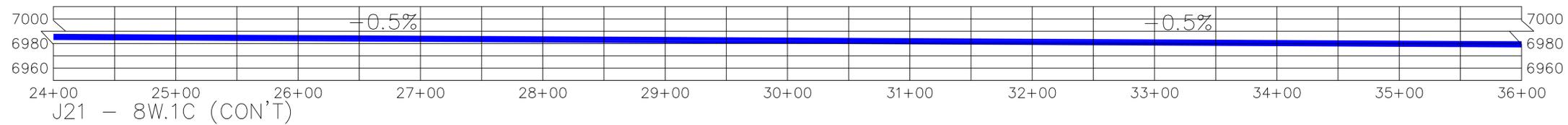
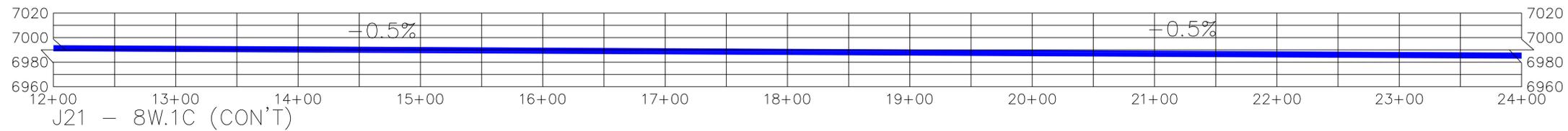
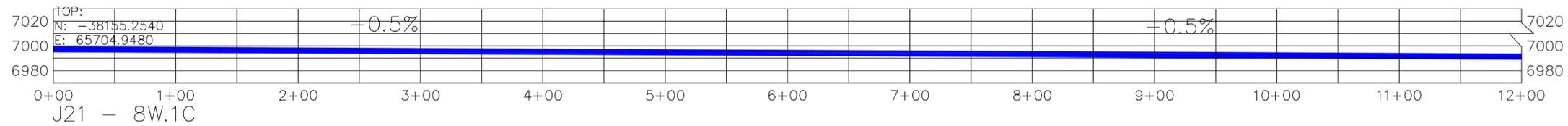


ENGINEER'S CERTIFICATION

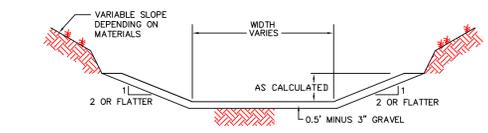


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Gary Altsisi
ARIZONA P.E. 37842

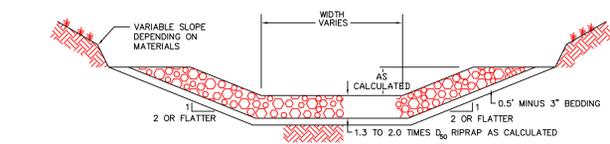
NOTES:
1) For channel locations, see Map 2.6.3, (Sheet 1 of 3).
2) Channel profiles shown are for released areas only.



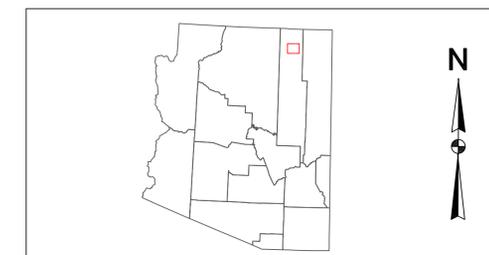
TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL DESIGN A
SPOIL/SOIL MIXED WITH VEGETATION (NOT DRAWN TO SCALE)



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)



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

ENGINEER'S CERTIFICATION

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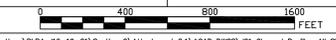
MAP 2.6.3 (SHEET 2 OF 3)
 J-21 CHANNEL PROFILES

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

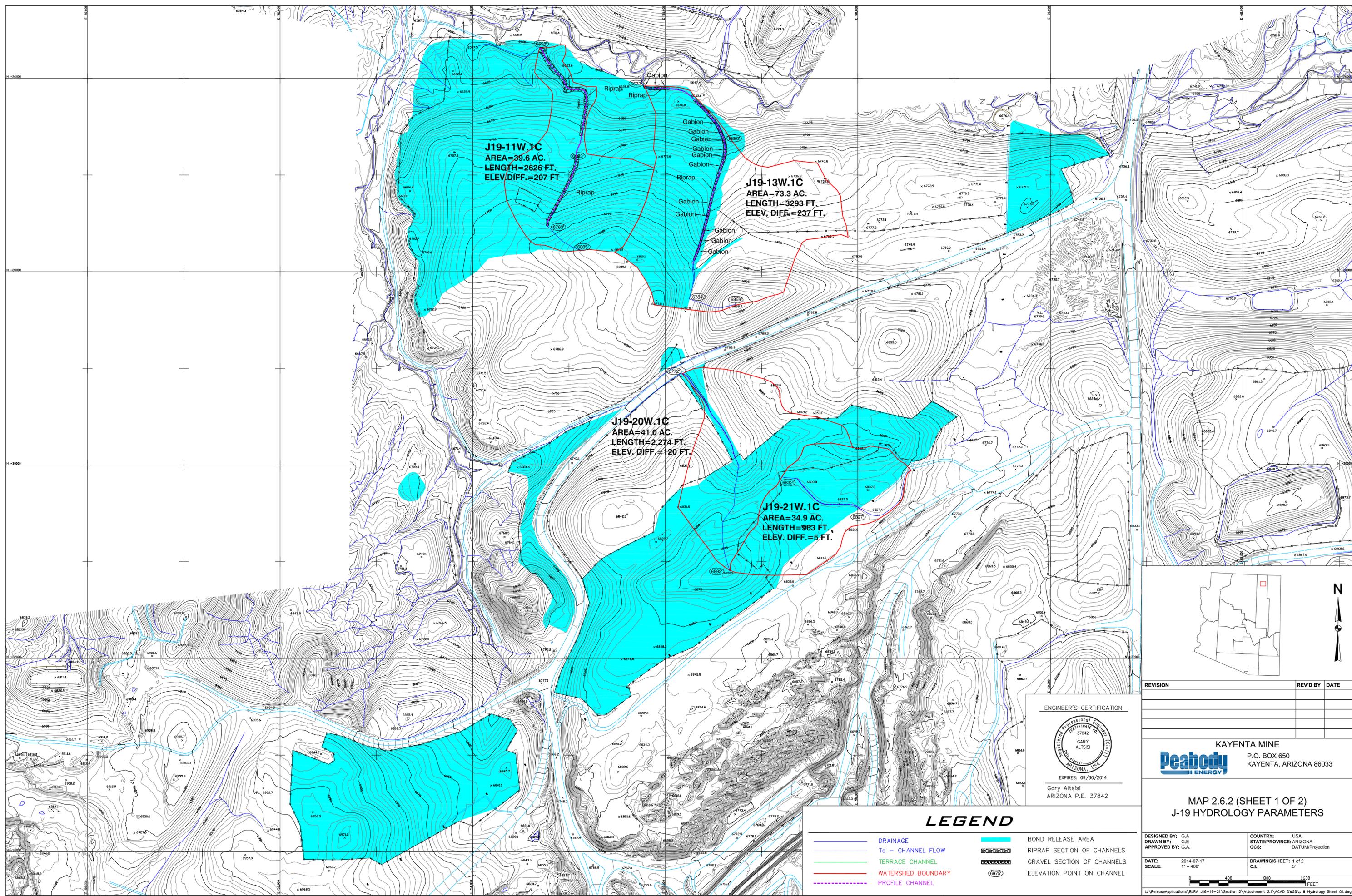
COUNTRY: USA
 STATE/PROVINCE: ARIZONA
 GCS: DATUM/Projection

DATE: 2014-07-17
 SCALE: 1" = 50'

C.I.:
 DRAWING/SHEET: 2 of 3



NOTES:
 1) For channel locations, see Map 2.6.3, (Sheet 1 of 3).
 2) Channel profiles shown are for released areas only.



J19-11W.1C
 AREA=39.6 AC.
 LENGTH=2626 FT.
 ELEV. DIFF.=207 FT

J19-13W.1C
 AREA=73.3 AC.
 LENGTH=3293 FT.
 ELEV. DIFF.=237 FT.

J19-20W.1C
 AREA=41.0 AC.
 LENGTH=2,274 FT.
 ELEV. DIFF.=120 FT.

J19-21W.1C
 AREA=34.9 AC.
 LENGTH=963 FT.
 ELEV. DIFF.=5 FT.



ENGINEER'S CERTIFICATION

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 ARIZONA P.E. 37842

LEGEND

	DRAINAGE		BOND RELEASE AREA
	Tc - CHANNEL FLOW		RIPRAP SECTION OF CHANNELS
	TERRACE CHANNEL		GRAVEL SECTION OF CHANNELS
	WATERSHED BOUNDARY		ELEVATION POINT ON CHANNEL
	PROFILE CHANNEL		

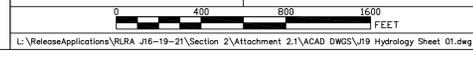
REVISION	REV'D BY	DATE

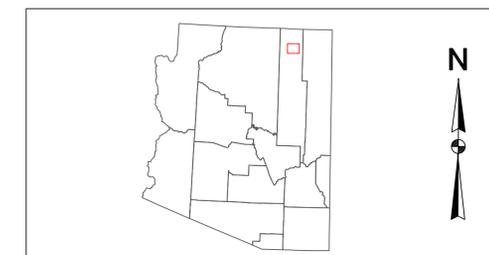
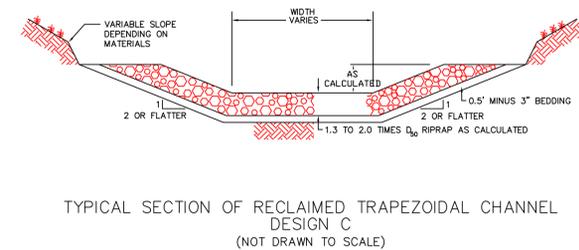
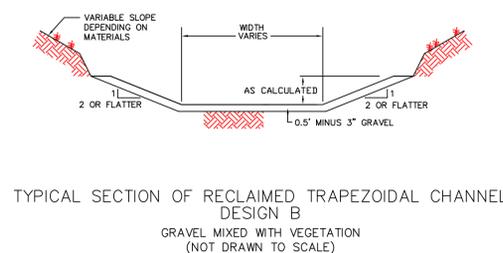
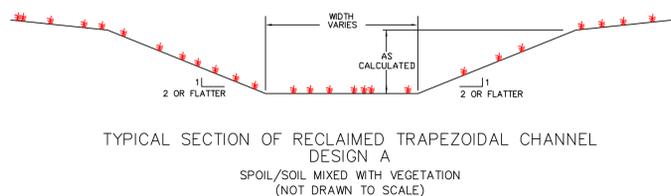
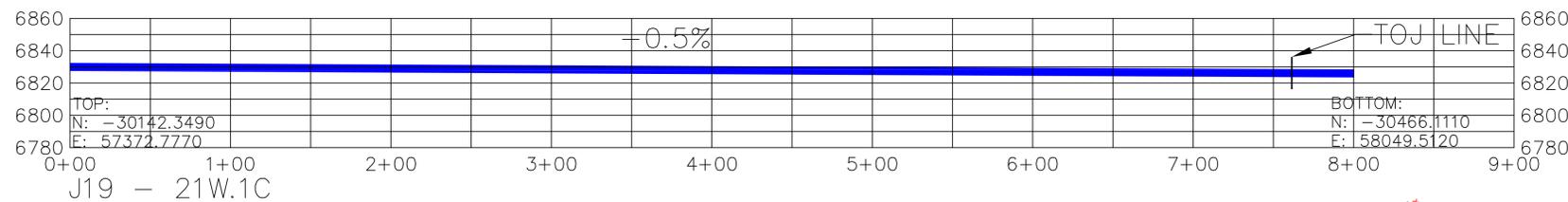
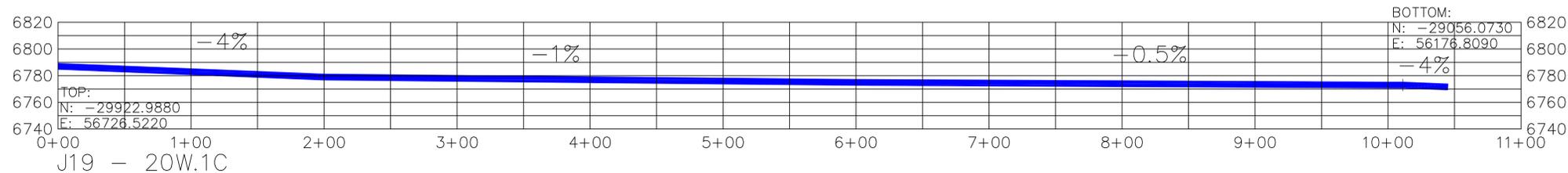
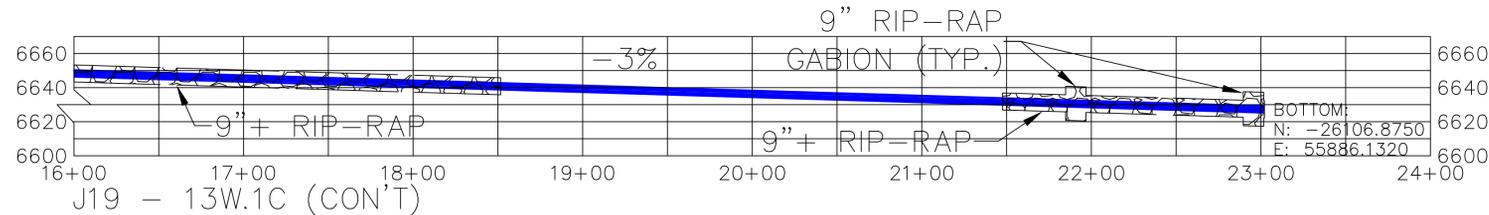
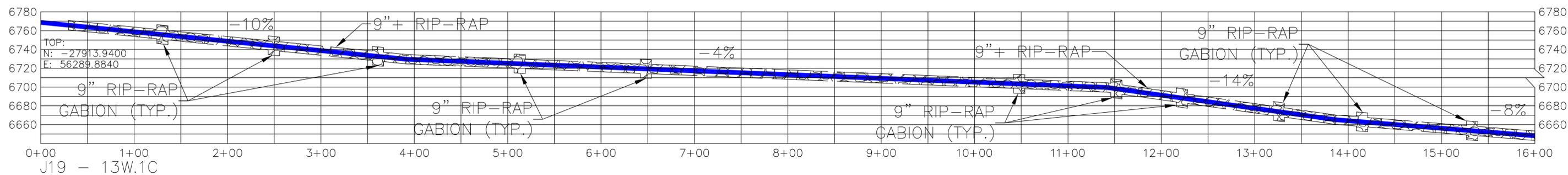
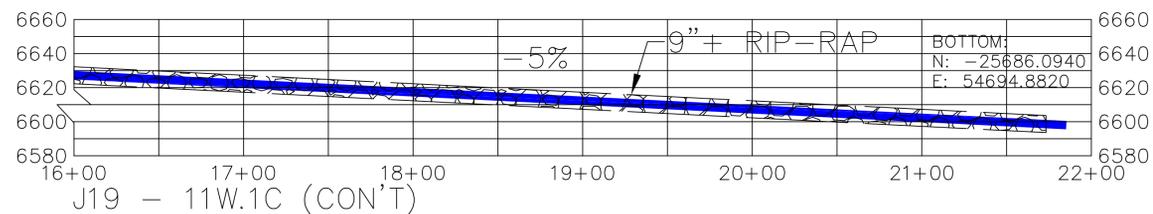
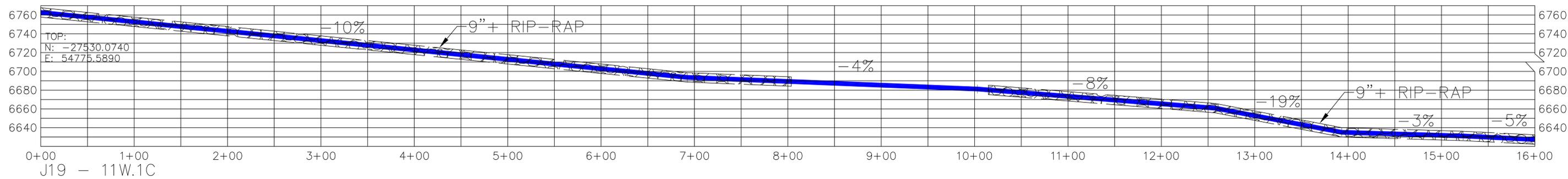
KAYENTA MINE

 P.O. BOX 650
 KAYENTA, ARIZONA 86033

MAP 2.6.2 (SHEET 1 OF 2)
J-19 HYDROLOGY PARAMETERS

DESIGNED BY: G.A.	COUNTRY: USA
DRAWN BY: G.E.	STATE/PROVINCE: ARIZONA
APPROVED BY: G.A.	GCS: DATUM/Projection
DATE: 2014-07-17	DRAWING/SHEET: 1 of 2
SCALE: 1" = 400'	C.I.: 5'





REVISION	REV'D BY	DATE

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

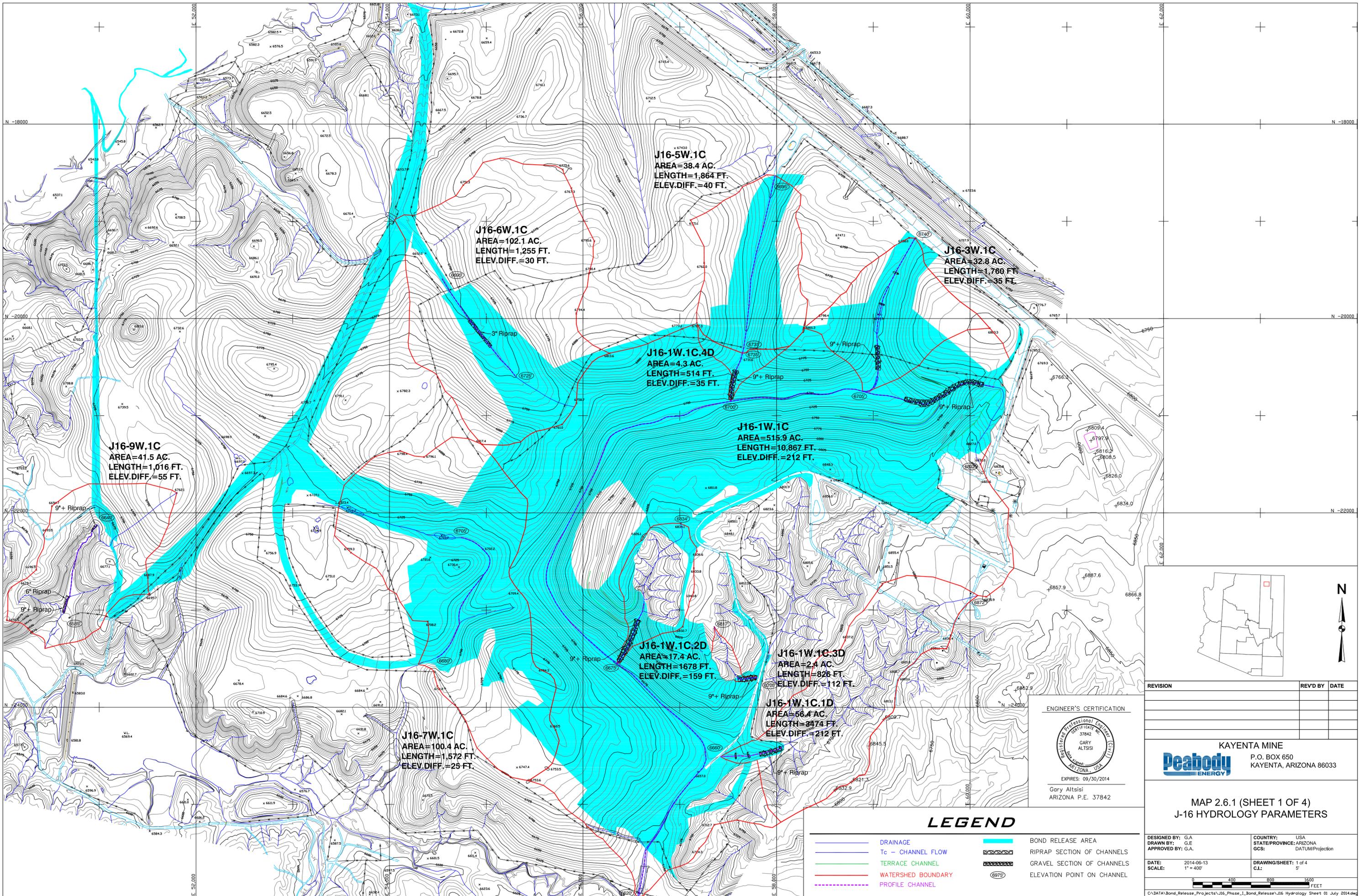
ENGINEER'S CERTIFICATION
 Gary Altsisi
 ARIZONA P.E. 37842
 EXPIRES: 09/30/2014

MAP 2.6.2 (SHEET 2 OF 2)
J-19 CHANNEL PROFILES

DESIGNED BY: G.A.
 DRAWN BY: G.E.
 APPROVED BY: G.A.
 COUNTRY: USA
 STATE/PROVINCE: ARIZONA
 GCS: DATUM/Projection

DATE: 2014-07-23
 SCALE: 1" = 50'
 DRAWING/SHEET: 2 of 2
 C.I.:
 0 400 800 1600 FEET

NOTES:
 1) For channel locations, see Map 2.6.2, (Sheet 1 of 2).
 2) Channel profiles shown are for released areas only.



J16-5W.1C
 AREA=38.4 AC.
 LENGTH=1,864 FT.
 ELEV.DIFF.=40 FT.

J16-6W.1C
 AREA=102.1 AC.
 LENGTH=1,255 FT.
 ELEV.DIFF.=30 FT.

J16-3W.1C
 AREA=32.8 AC.
 LENGTH=1,760 FT.
 ELEV.DIFF.=35 FT.

J16-1W.1C.4D
 AREA=4.3 AC.
 LENGTH=514 FT.
 ELEV.DIFF.=35 FT.

J16-1W.1C
 AREA=515.9 AC.
 LENGTH=10,867 FT.
 ELEV.DIFF.=212 FT.

J16-9W.1C
 AREA=41.5 AC.
 LENGTH=1,016 FT.
 ELEV.DIFF.=55 FT.

J16-1W.1C.2D
 AREA=17.4 AC.
 LENGTH=1678 FT.
 ELEV.DIFF.=159 FT.

J16-1W.1C.3D
 AREA=2.4 AC.
 LENGTH=826 FT.
 ELEV.DIFF.=112 FT.

J16-1W.1C.1D
 AREA=56.4 AC.
 LENGTH=3474 FT.
 ELEV.DIFF.=212 FT.

J16-7W.1C
 AREA=100.4 AC.
 LENGTH=1,572 FT.
 ELEV.DIFF.=25 FT.

ENGINEER'S CERTIFICATION

 Gary A. Itsi
 ARIZONA P.E. 37842

LEGEND

- DRAINAGE
- Tc - CHANNEL FLOW
- TERRACE CHANNEL
- WATERSHED BOUNDARY
- PROFILE CHANNEL
- BOND RELEASE AREA
- RIPRAP SECTION OF CHANNELS
- GRAVEL SECTION OF CHANNELS
- ELEVATION POINT ON CHANNEL

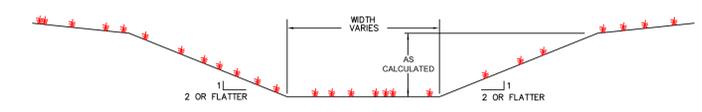
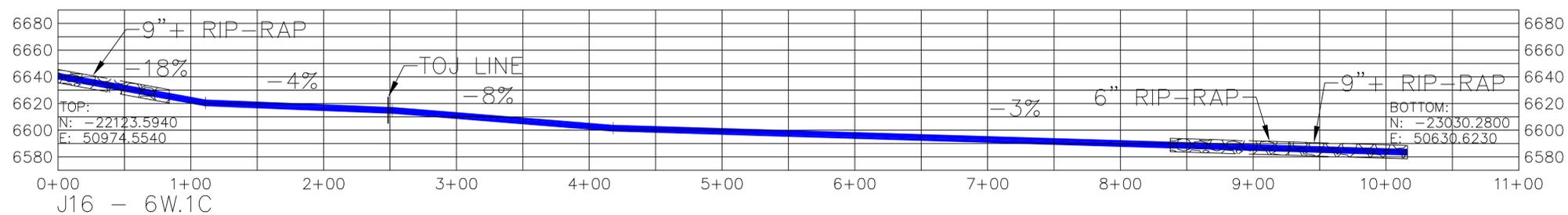
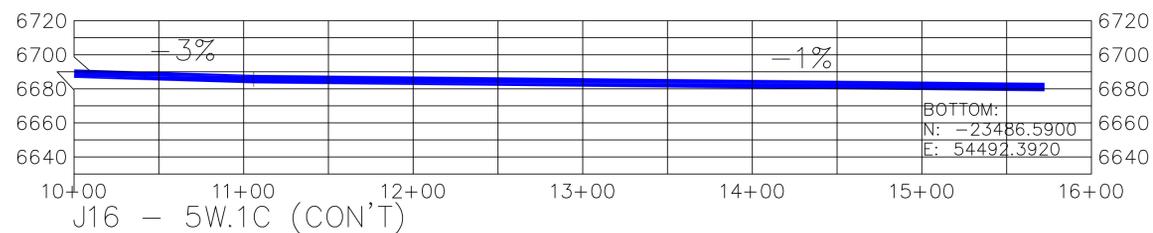
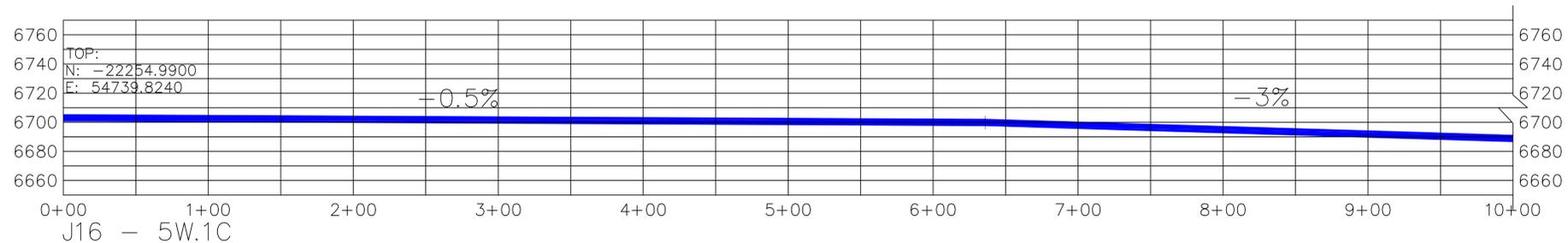
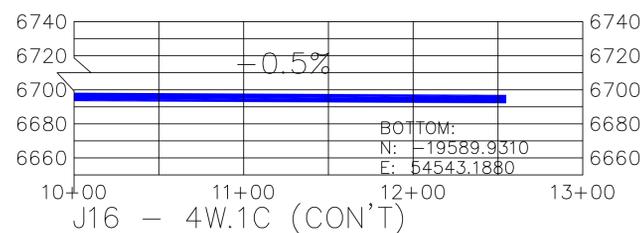
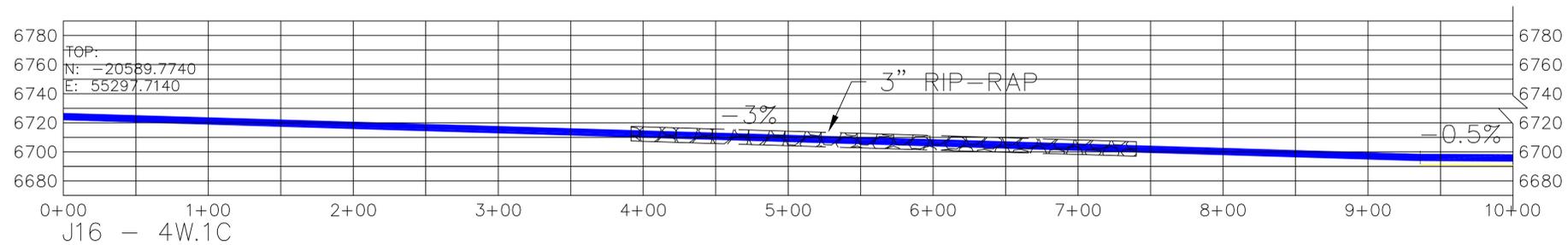
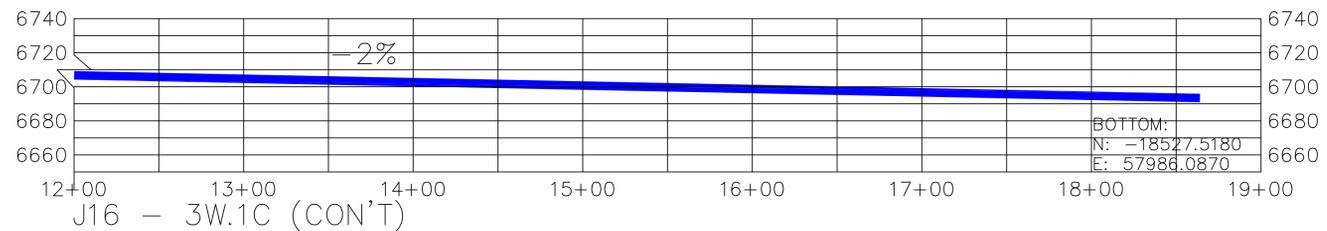
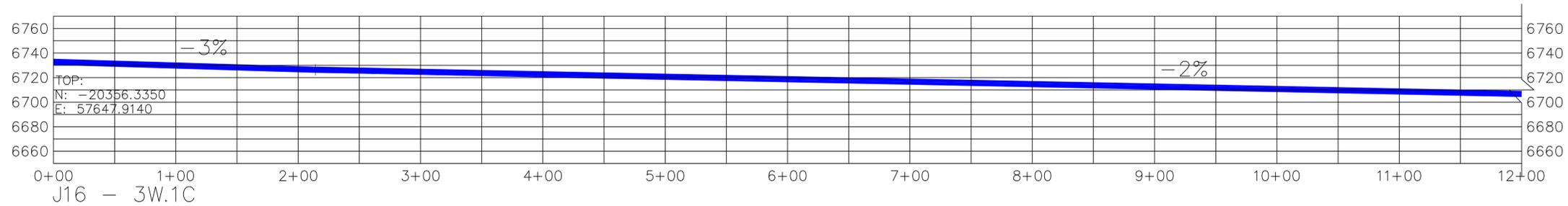


REVISION	REV'D BY	DATE

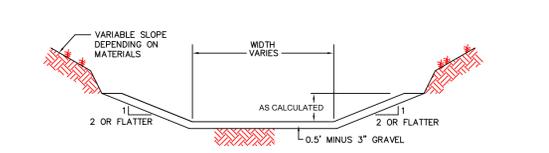
KAYENTA MINE
 P.O. BOX 650
 KAYENTA, ARIZONA 86033

MAP 2.6.1 (SHEET 1 OF 4)
J-16 HYDROLOGY PARAMETERS

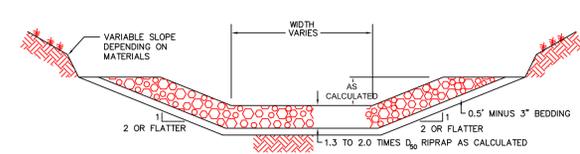
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DRAWN BY: G.E.	STATE/PROVINCE: ARIZONA
APPROVED BY: G.A.	GCS: DATUM/Projection
DATE: 2014-06-13	DRAWING/SHEET: 1 of 4
SCALE: 1" = 400'	C.I.: 5'



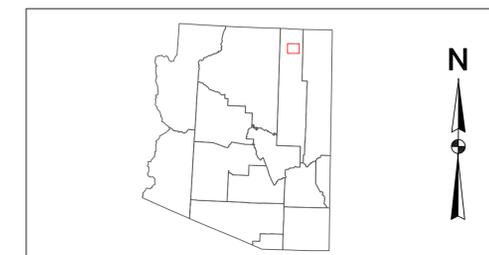
TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL DESIGN A
SPOIL/SOIL MIXED WITH VEGETATION (NOT DRAWN TO SCALE)



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

NOTES:
1) For channel locations, see Map 2.4, (Sheet 1 of 4).
2) Channel profiles shown are for released areas only.

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KAYENTA, ARIZONA 86033

ENGINEER'S CERTIFICATION
GARY ALTSISI
ARIZONA P.E. 37842
EXPIRES: 09/30/2014

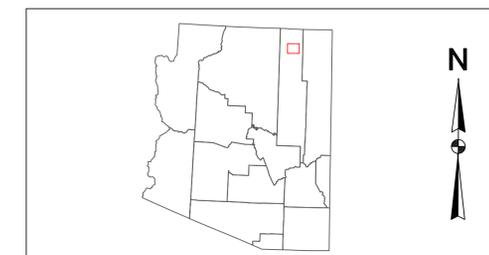
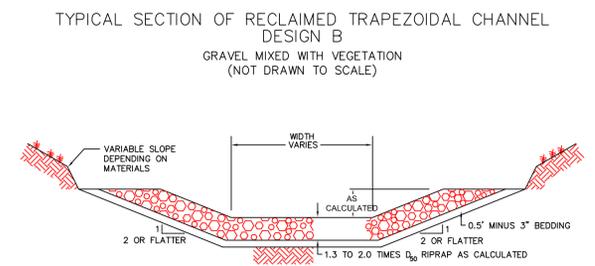
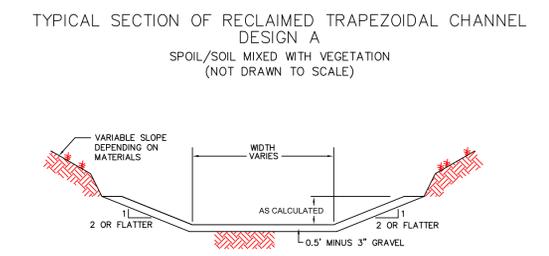
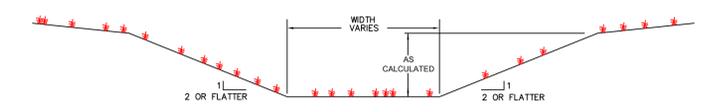
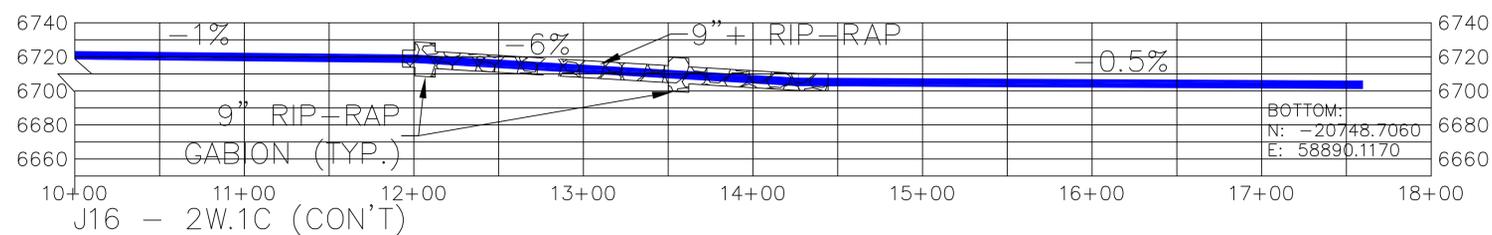
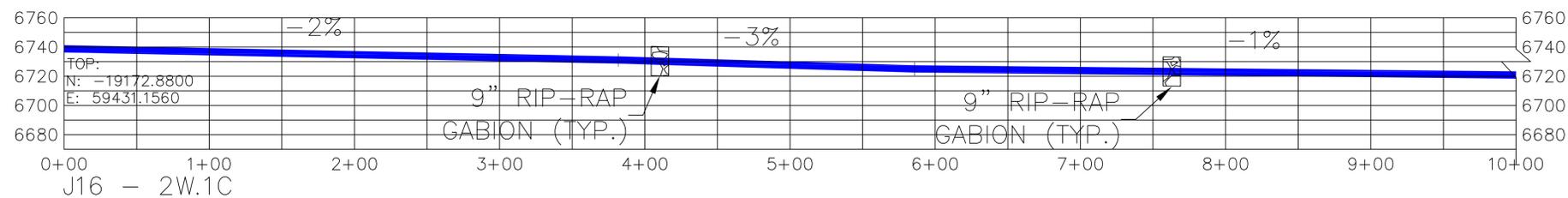
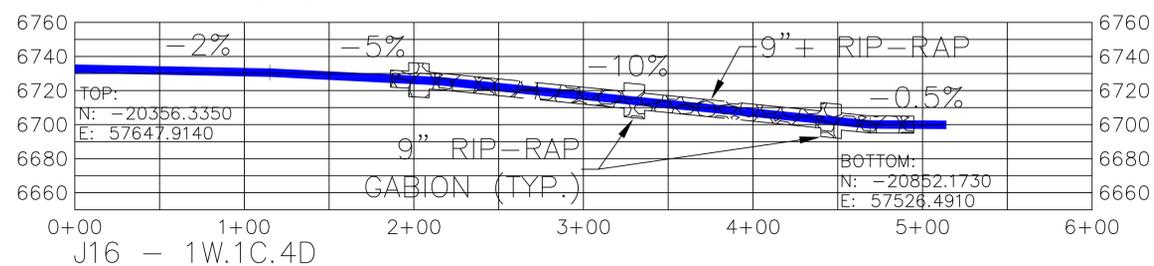
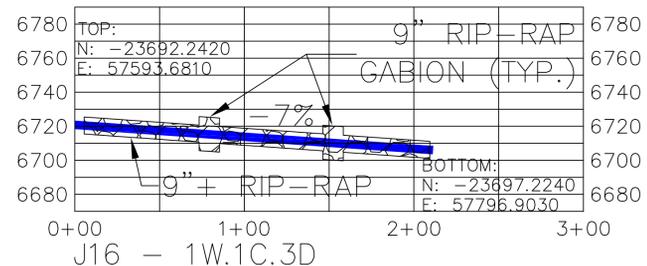
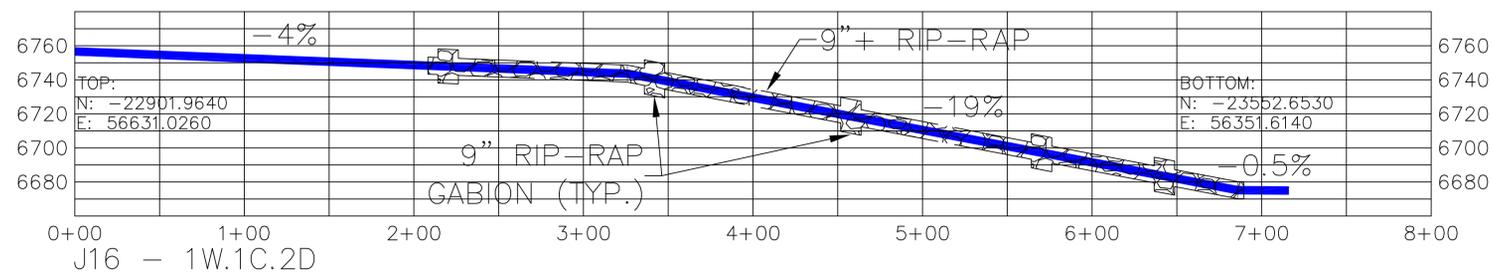
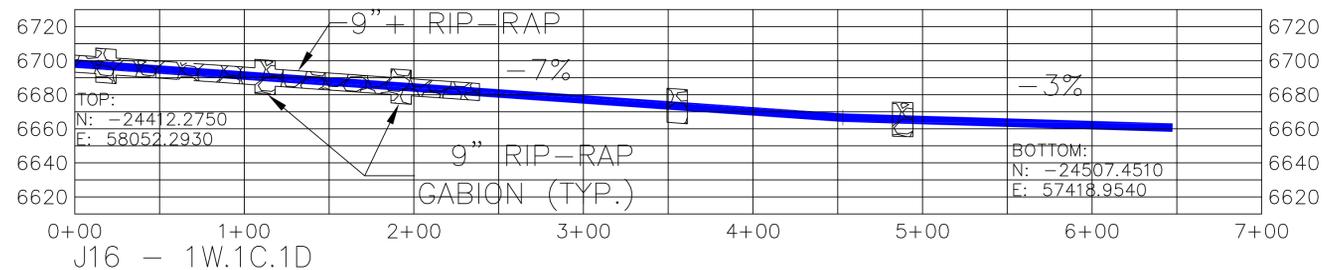
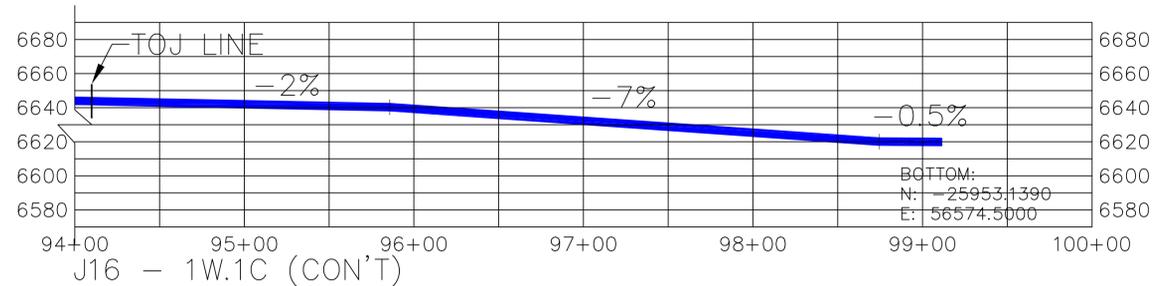
MAP 2.6.1 (SHEET 4 OF 4)
J-16 CHANNEL PROFILES

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

COUNTRY: USA
STATE/PROVINCE: ARIZONA
GCS: DATUM/Projection

DATE: 2014-06-13
SCALE: 1" = 50'

DRAWING/SHEET: 4 of 4
C.I.:



REVISION	REV'D BY	DATE

NOTES:
1) For channel locations, see Map 2.4, (Sheet 1 of 4).
2) Channel profiles shown are for released areas only.



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

MAP 2.6.1 (SHEET 3 OF 4)
J-16 CHANNEL PROFILES

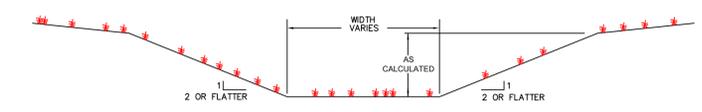
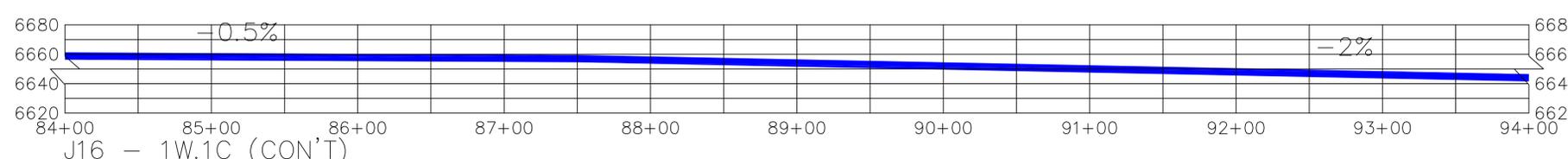
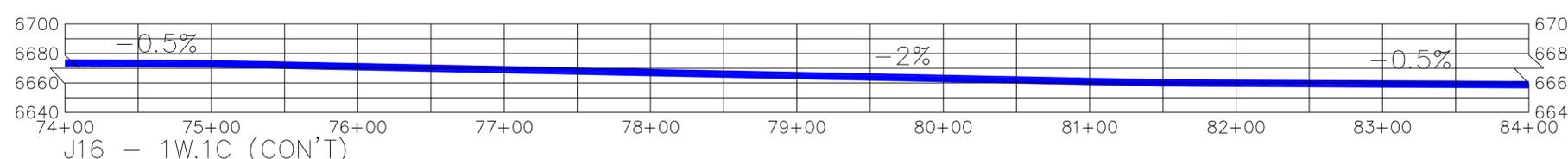
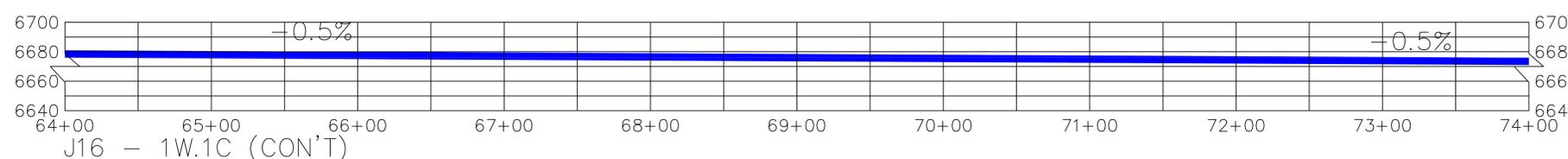
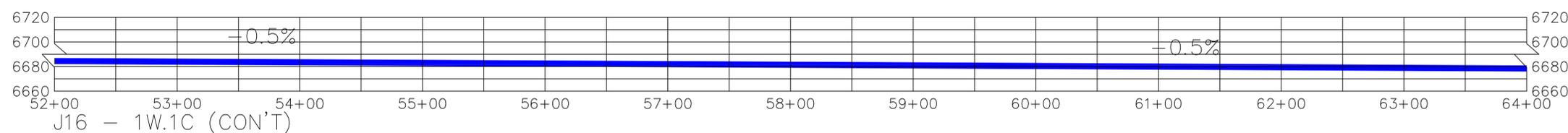
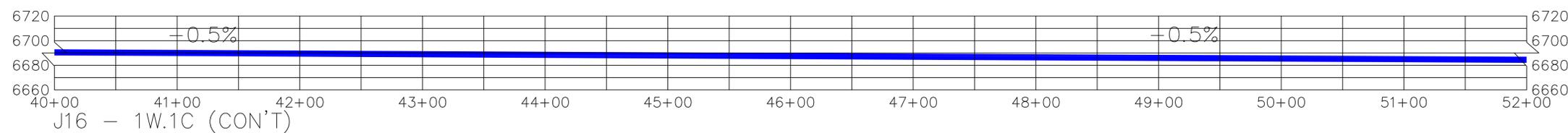
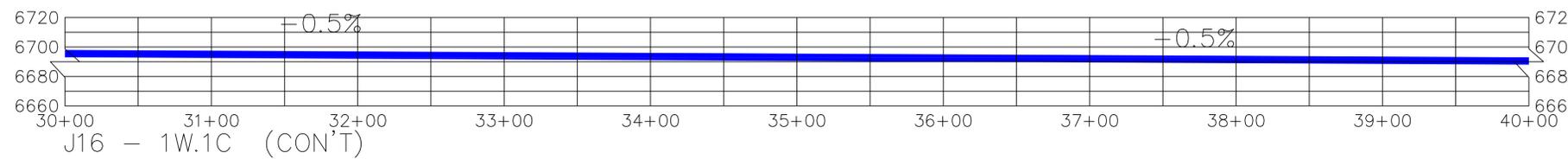
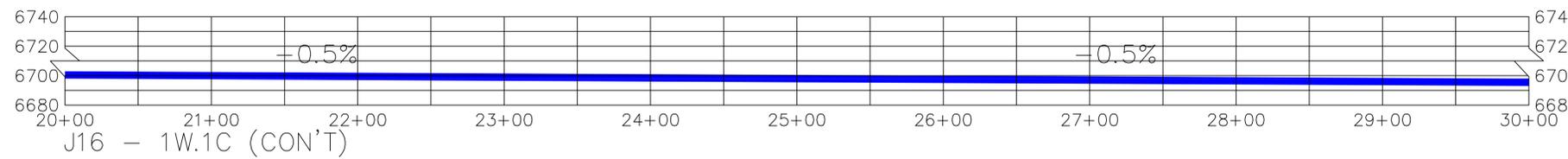
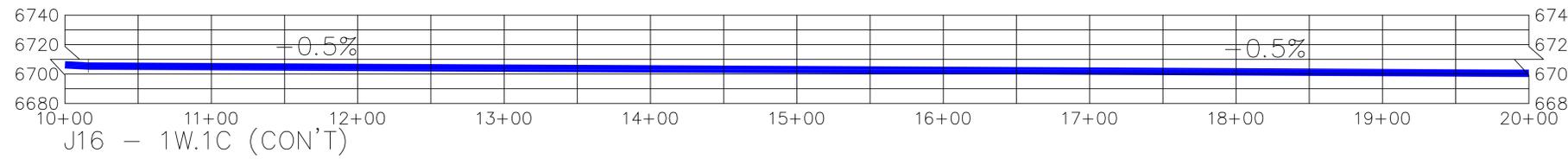
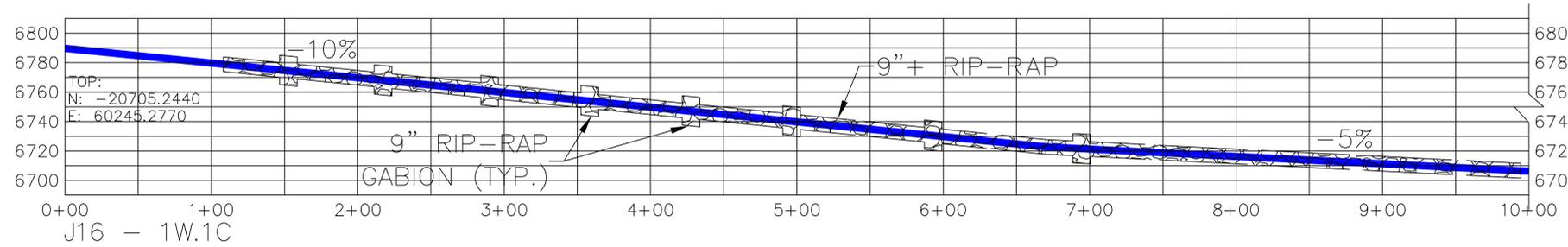
DESIGNED BY: G.A.
DRAWN BY: G.E.
APPROVED BY: G.A.

COUNTRY: USA
STATE/PROVINCE: ARIZONA
GCS: DATUM/Projection

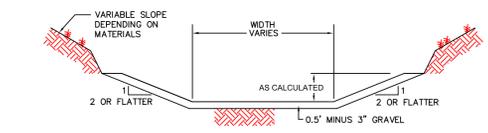
DATE: 2014-06-13
SCALE: 1" = 50'

DRAWING/SHEET: 3 of 4
C.I.:

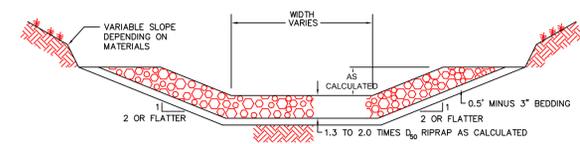
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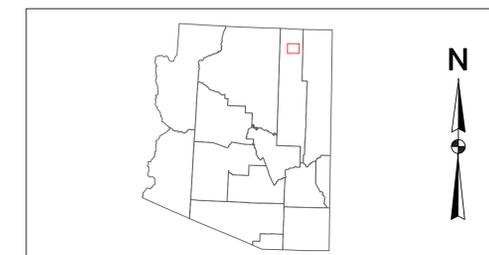
TYPICAL SECTION OF RECLAIMED TRAPEZOIDAL CHANNEL
DESIGN A
SPOIL/SOIL MIXED WITH VEGETATION
(NOT DRAWN TO SCALE)



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

NOTES:
1) For channel locations, see Map 2.4, (Sheet 1 of 4).
2) Channel profiles shown are for released areas only.



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

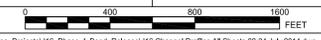
**MAP 2.6.1 (SHEET 2 OF 4)
J-16 CHANNEL PROFILES**

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

COUNTRY: USA
STATE/PROVINCE: ARIZONA
GCS: DATUM/Projection

DATE: 2014-06-13
SCALE: 1" = 50'

DRAWING/SHEET: 2 of 4
C.I.:



Attachment 2.2

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, dated August 15, 2014 have been accomplished in accordance with the reclamation requirements of the Act, the regulatory program, and the approved reclamation plan contained in the AZ-0001E Permit.

Peabody Western Coal Company

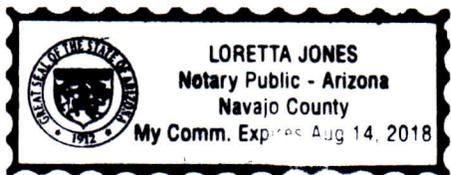
By: *Audry Rappleyea*

Audry Rappleyea
Operations Manager - Kayenta Mine
Vice President-Peabody Western Coal Company

STATE OF ARIZONA

NAVAJO COUNTY

Signed or attested before me this 14 day of August 2014, by Audry Rappleyea, Operations Manager of Kayenta Mine and Vice President of Peabody Western Coal Company, a Delaware Corporation, on behalf of said corporation.

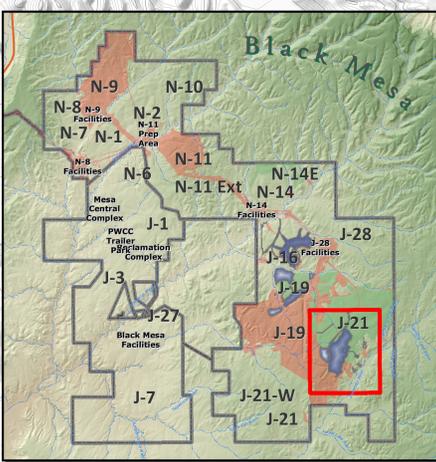
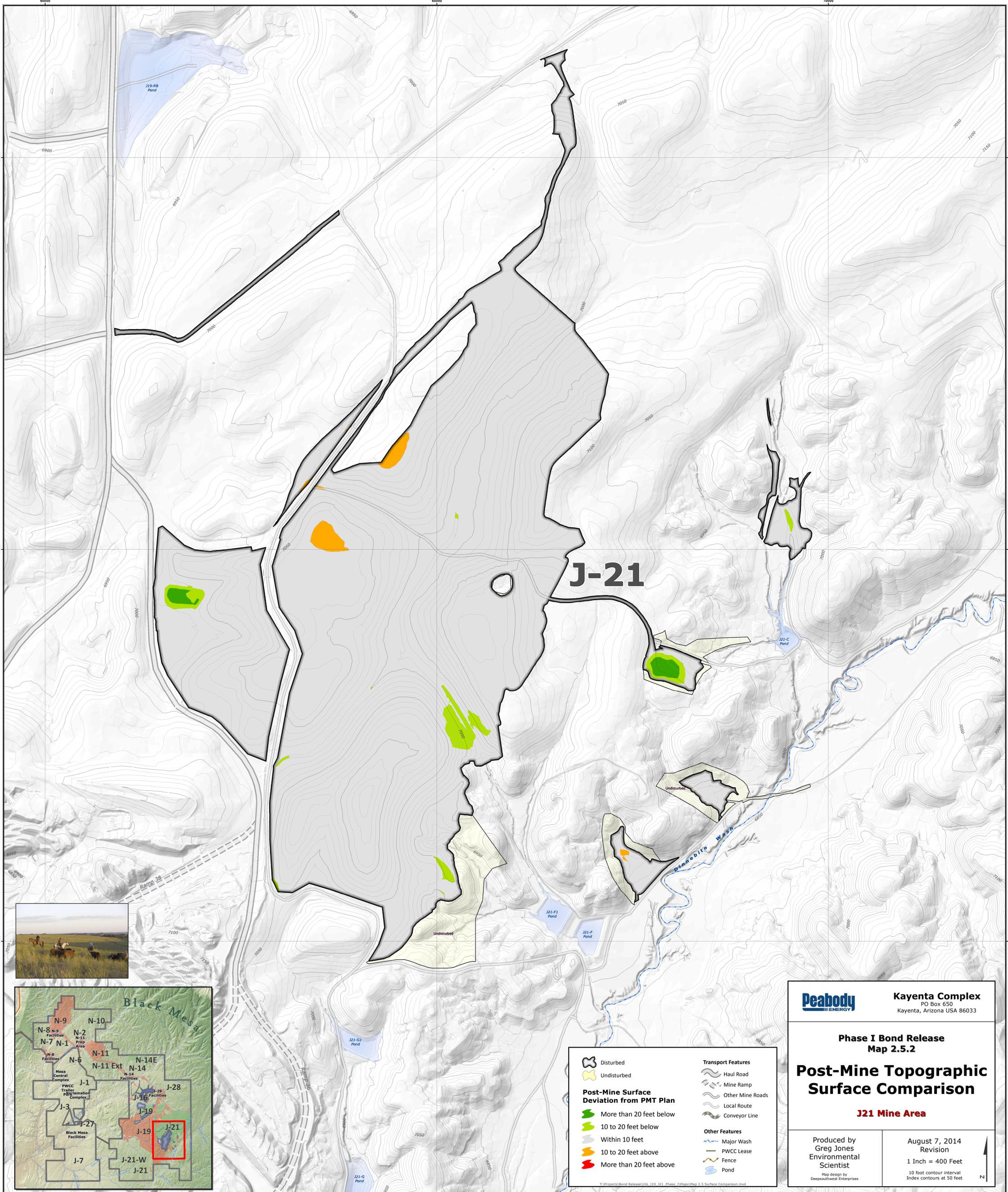


Loretta Jones

Notary Public

My commission expires:

August 14 2018



Disturbed Undisturbed	Post-Mine Surface Deviation from PMT Plan More than 20 feet below 10 to 20 feet below Within 10 feet 10 to 20 feet above More than 20 feet above	Transport Features Haul Road Mine Ramp Other Mine Roads Local Route Conveyor Line	Other Features Major Wash PWCC Lease Fence Pond
--------------------------	--	---	--

Peabody ENERGY Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

**Phase I Bond Release
 Map 2.5.2**

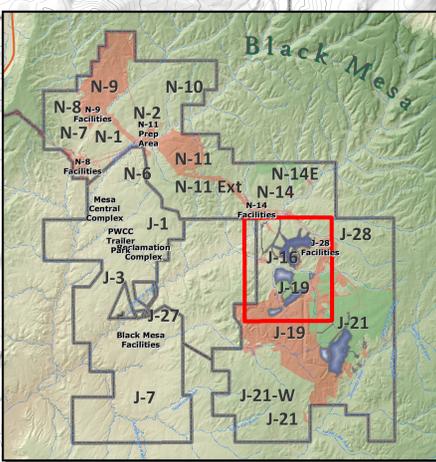
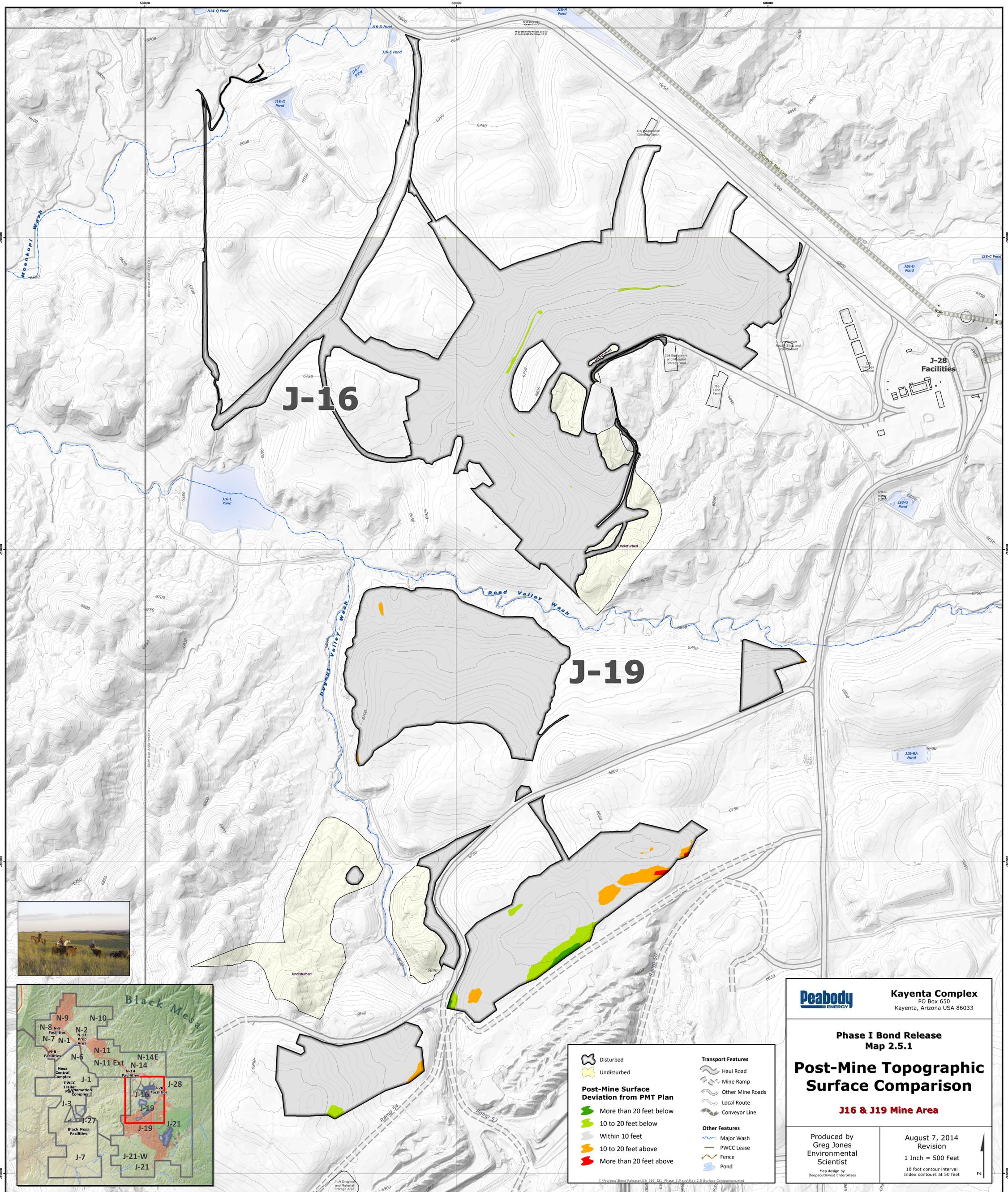
**Post-Mine Topographic
 Surface Comparison**

J21 Mine Area

Produced by
 Greg Jones
 Environmental
 Scientist

August 7, 2014
 Revision
 1 Inch = 400 Feet
 10 foot contour interval
 Index contours at 50 feet

T:\Projects\Bond Release\116_319_321_Phase_1\Maps\Map 2.5 Surface Comparison.mxd



<ul style="list-style-type: none"> Disturbed Undisturbed 	<ul style="list-style-type: none"> Haul Road Mine Ramp Other Mine Roads Local Route Conveyor Line
<p>Post-Mine Surface Deviation from PMT Plan</p> <ul style="list-style-type: none"> More than 20 feet below 10 to 20 feet below Within 10 feet 10 to 20 feet above More than 20 feet above 	<ul style="list-style-type: none"> Major Wash PWCC Lease Fence Pond

Peabody ENERGY

Kayenta Complex
PO Box 650
Kayenta, Arizona USA 86033

Phase I Bond Release
Map 2.5.1

Post-Mine Topographic
Surface Comparison

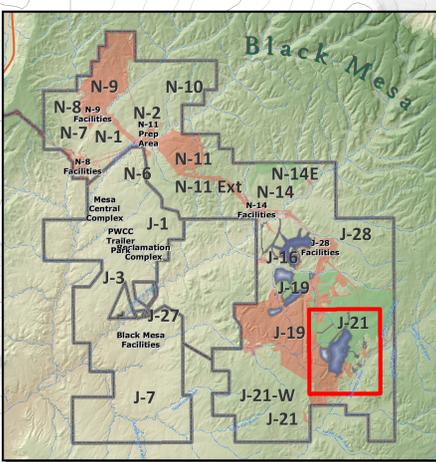
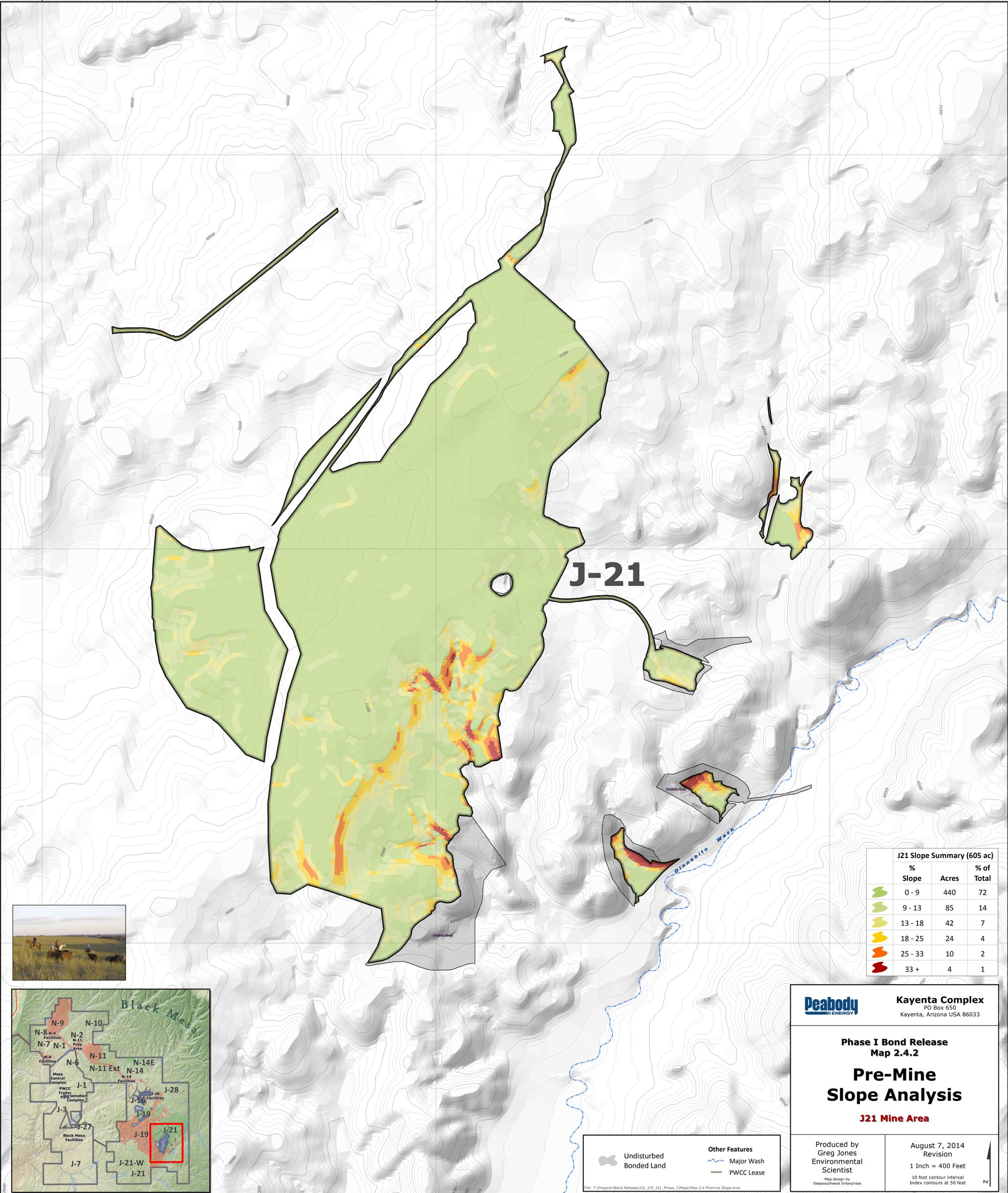
J16 & J19 Mine Area

Produced by
Greg Jones
Environmental
Scientist

August 7, 2014
Revision

1 Inch = 500 Feet
10 foot contour interval
Index contours at 50 feet

T:\Projects\Bond Release\J16 J19 2.5 Phase 1\Maps\Map 2.5 Surface Comparison.mxd



J21 Slope Summary (605 ac)		
% Slope	Acres	% of Total
0 - 9	440	72
9 - 13	85	14
13 - 18	42	7
18 - 25	24	4
25 - 33	10	2
33 +	4	1

Undisturbed Bonded Land
 Major Wash
 PWCC Lease
Other Features
 Major Wash
 PWCC Lease

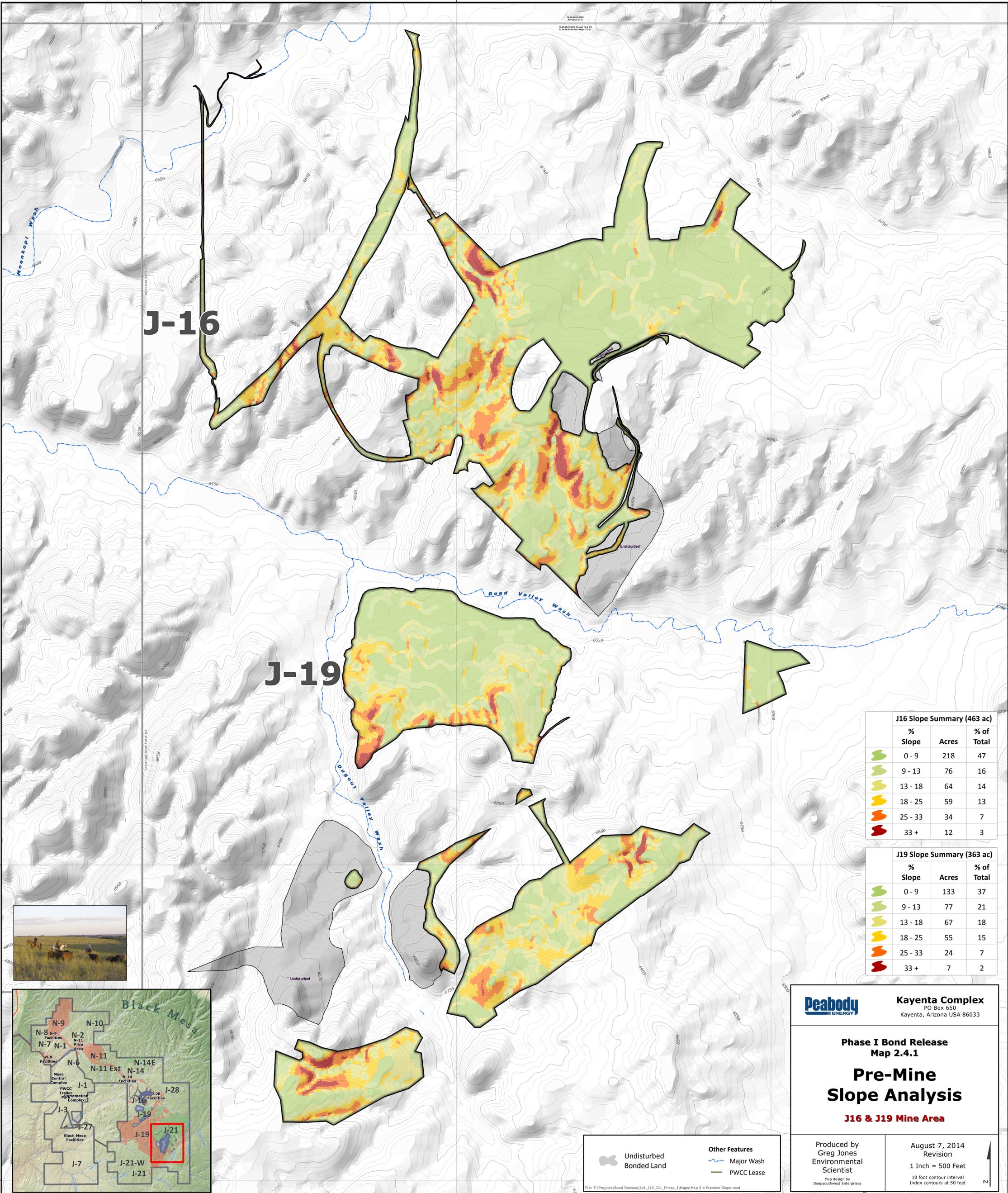
Peabody ENERGY
Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

Phase I Bond Release
Map 2.4.2
Pre-Mine Slope Analysis
J21 Mine Area

Produced by
 Greg Jones
 Environmental
 Scientist

August 7, 2014
 Revision
 1 Inch = 400 Feet
 10 foot contour interval
 Index contours at 50 feet

File: T:\Projects\Bond Release\116_119_121_Phase_1\Maps\Map 2.4 Pre-Mine Slope.mxd



J-16

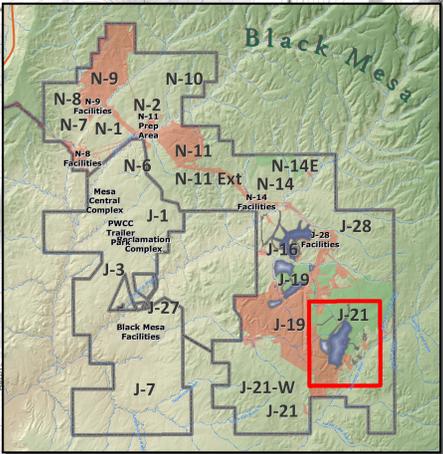
J-19

J16 Slope Summary (463 ac)

% Slope	Acres	% of Total
0 - 9	218	47
9 - 13	76	16
13 - 18	64	14
18 - 25	59	13
25 - 33	34	7
33 +	12	3

J19 Slope Summary (363 ac)

% Slope	Acres	% of Total
0 - 9	133	37
9 - 13	77	21
13 - 18	67	18
18 - 25	55	15
25 - 33	24	7
33 +	7	2



Undisturbed Bonded Land

Other Features

- Major Wash
- PWCC Lease

File: T:\Projects\Bond Release\J16_J19_J21_Phase_1\Maps\Map 2.4 PreMine Slope.mxd

Peabody ENERGY

Kayenta Complex
PO Box 650
Kayenta, Arizona USA 86033

Phase I Bond Release
Map 2.4.1

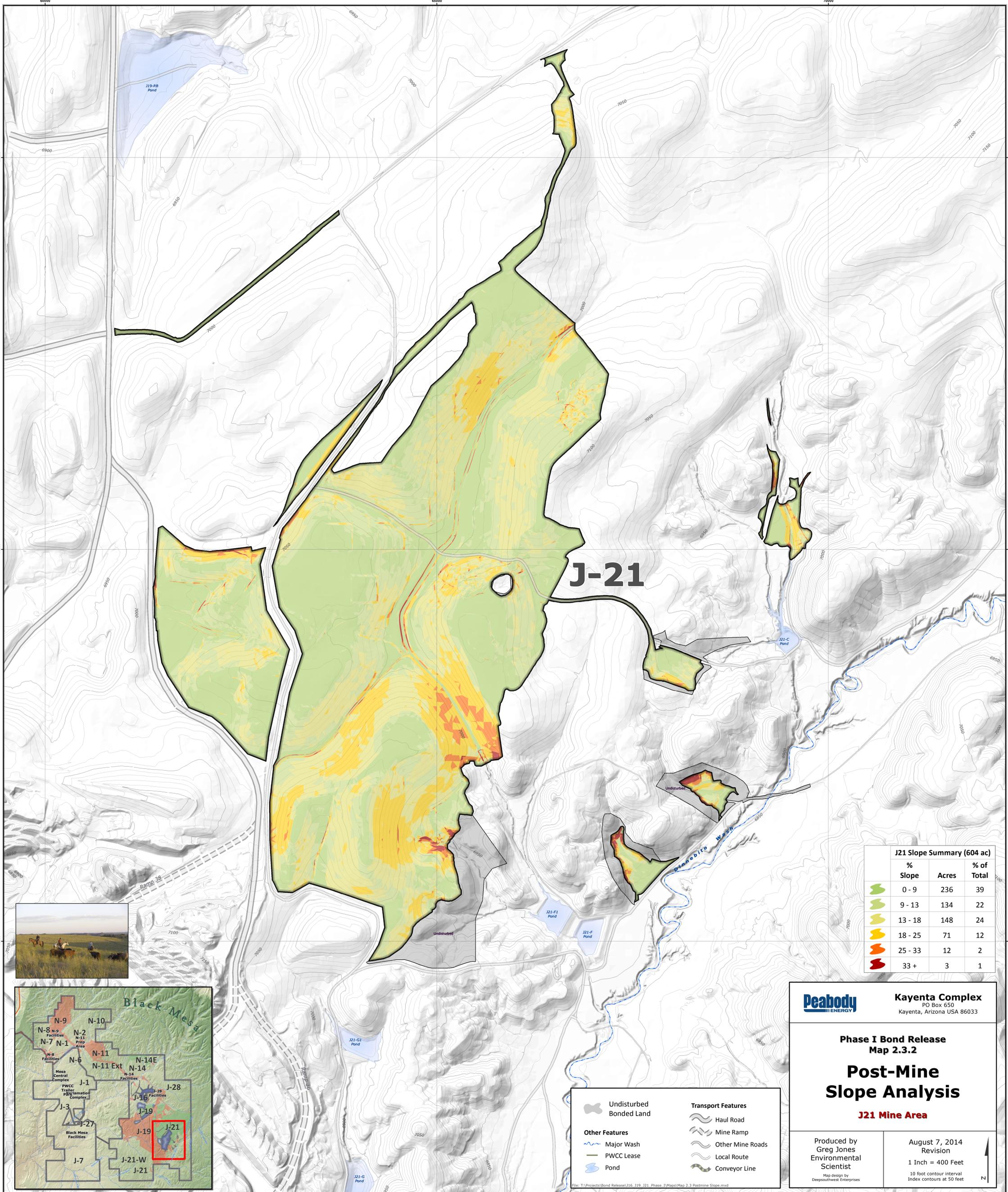
Pre-Mine Slope Analysis

J16 & J19 Mine Area

Produced by
Greg Jones
Environmental Scientist

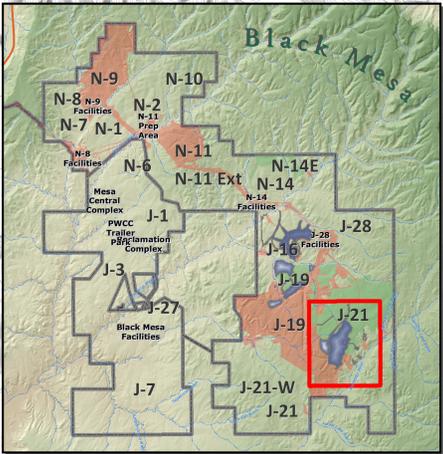
August 7, 2014
Revision

1 Inch = 500 Feet
10 foot contour interval
Index contours at 50 feet



J-21

J21 Slope Summary (604 ac)			
	% Slope	Acres	% of Total
	0 - 9	236	39
	9 - 13	134	22
	13 - 18	148	24
	18 - 25	71	12
	25 - 33	12	2
	33 +	3	1



	Undisturbed Bonded Land		Transport Features
	Other Features		Haul Road
	Major Wash		Mine Ramp
	PWCC Lease		Other Mine Roads
	Pond		Local Route
			Conveyor Line

Peabody ENERGY

Kayenta Complex
PO Box 650
Kayenta, Arizona USA 86033

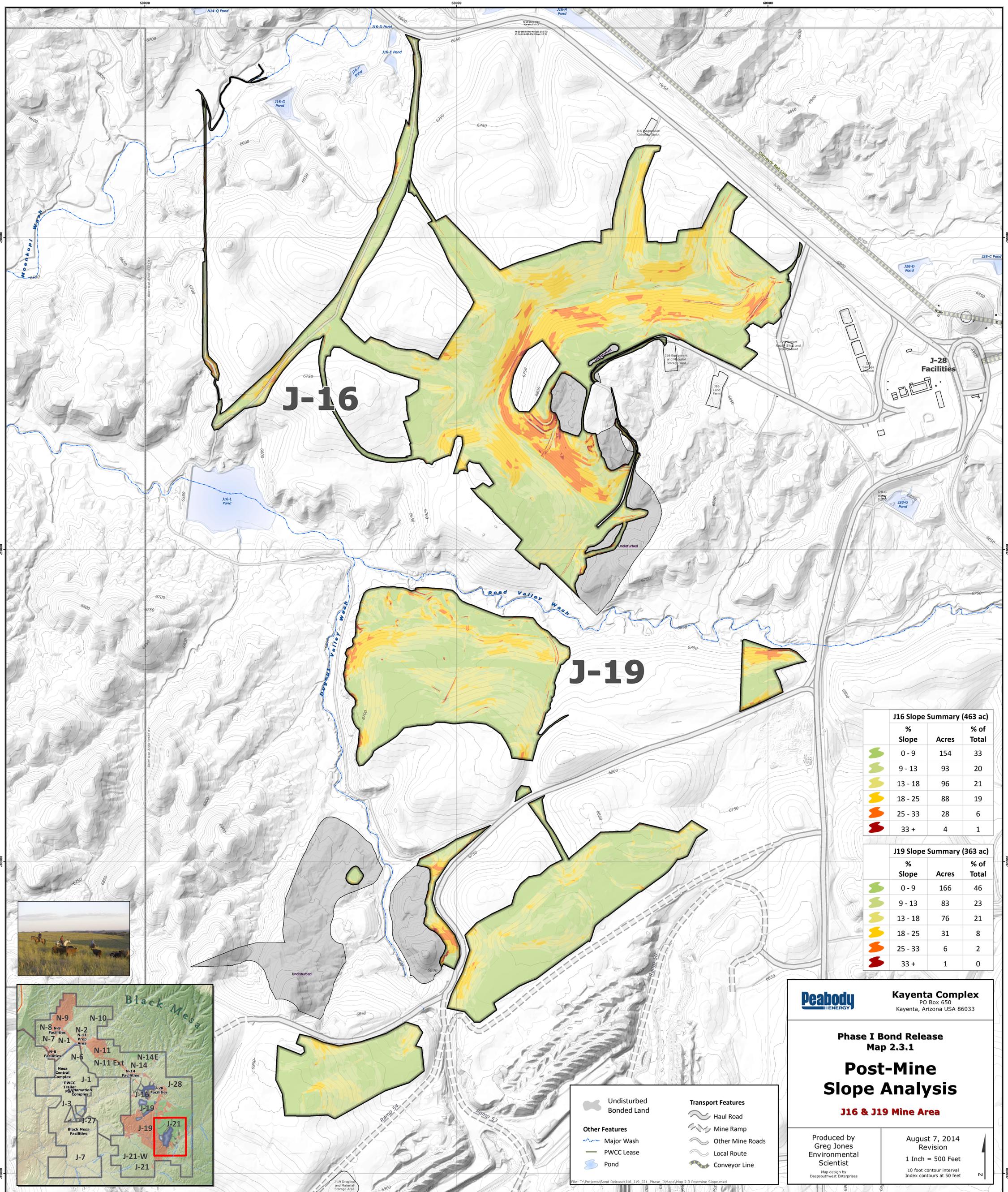
Phase I Bond Release
Map 2.3.2

Post-Mine Slope Analysis

J21 Mine Area

Produced by Greg Jones Environmental Scientist	August 7, 2014 Revision
Map design by Deepsouthwest Enterprises	1 Inch = 400 Feet 10 foot contour interval Index contours at 50 feet

File: T:\Projects\Bond Release\116_119_J21_Phase_I\Maps\Map 2.3 Postmine Slope.mxd



J-16

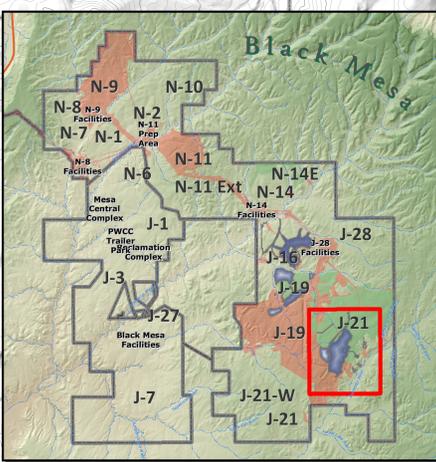
J-19

J16 Slope Summary (463 ac)

% Slope	Acres	% of Total
0 - 9	154	33
9 - 13	93	20
13 - 18	96	21
18 - 25	88	19
25 - 33	28	6
33 +	4	1

J19 Slope Summary (363 ac)

% Slope	Acres	% of Total
0 - 9	166	46
9 - 13	83	23
13 - 18	76	21
18 - 25	31	8
25 - 33	6	2
33 +	1	0



- Undisturbed Bonded Land
- Other Features
- Major Wash
- PWCC Lease
- Pond
- Haul Road
- Mine Ramp
- Other Mine Roads
- Local Route
- Conveyor Line

Peabody ENERGY Kayenta Complex
 PO Box 650
 Kayenta, Arizona USA 86033

**Phase I Bond Release
 Map 2.3.1**

**Post-Mine
 Slope Analysis**

J16 & J19 Mine Area

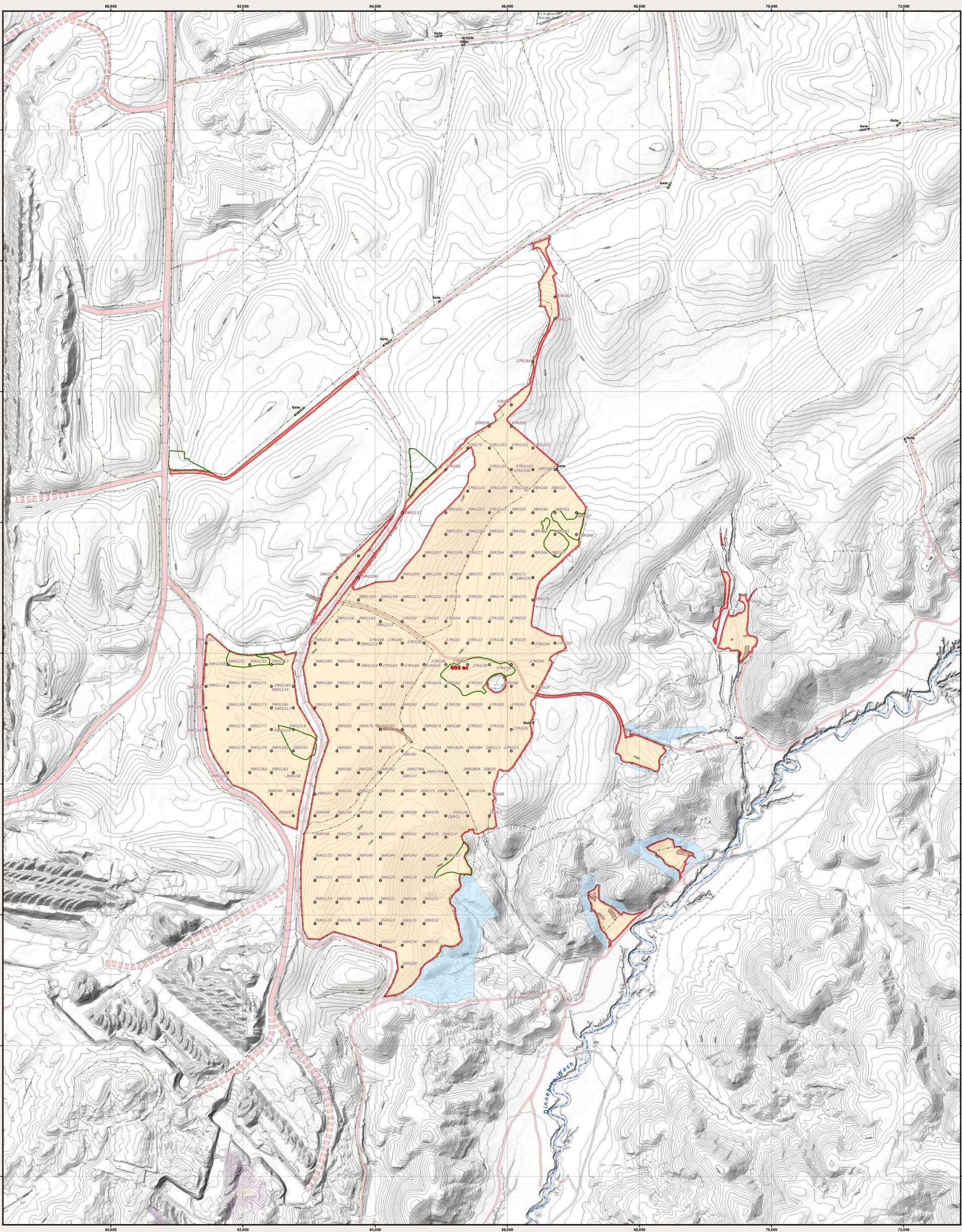
Produced by
 Greg Jones
 Environmental
 Scientist

Map design by
 Deepsouthwest Enterprises

August 7, 2014
 Revision

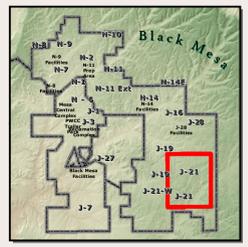
1 Inch = 500 Feet
 10 foot contour interval
 Index contours at 50 feet

File: T:\Projects\Bond Release\J16 J19 J21 Phase I\Maps\Map 2.3 Postmine Slope.mxd



Kayenta Complex
Bond Release Application
Map 2.2.2
Spoil Sample
Locations
J21

PEABODY WESTERN
 Peabody Western Coal Company
 Kayenta Complex
 PO Box 6509
 Kayenta, Arizona 86033
 Produced by Greg Jones
 Environmental Services
 July 28, 2014
Peabody
 Map design by DeepSouthwest Enterprises



Legend

- Proposed Phase I Release Area
- Release Phase I Undisturbed
- Interim Lands
- Year Grading Duration
 - First Graded: Last Graded
 - J21 April 1990: July 2010
- 1 Inch = 500 Feet

Spoil Sampling Points

J21 - (224) Sites
 Thickness of Surface Material Required Based on Spoil Analyses

- 1 Foot
- 2 Foot
- 3 Foot
- 4 Foot

Rocked/Cultural Revegetation

- J21 - (10) Sites
- Rocked Drawn

Transport

- Haul Road
- Ramp
- Other Mine Roads
- US/State Highway
- Navajo Route 41
- Local Route
- Single Track
- Overland Conveyor Line

Administrative Boundaries

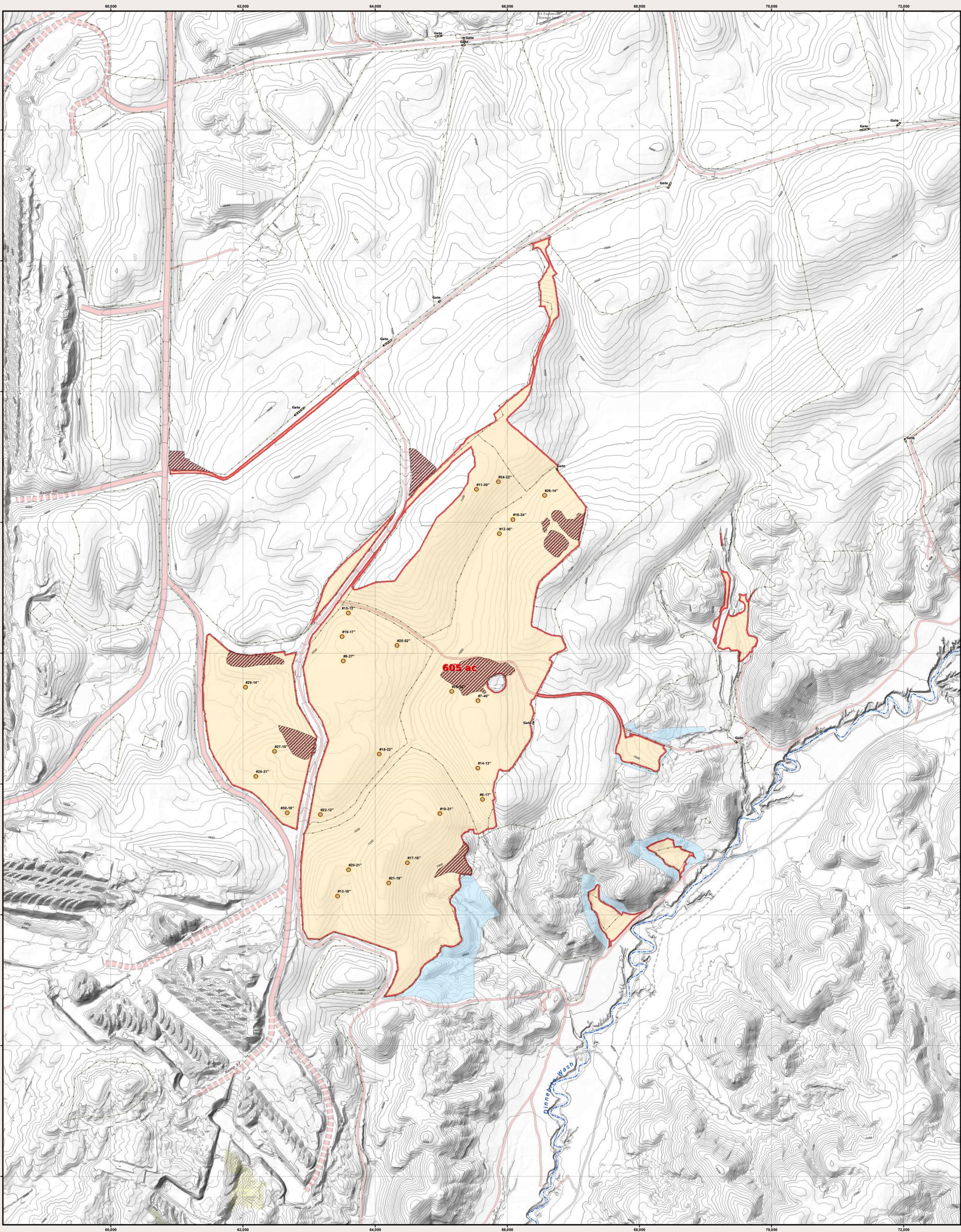
- Lease Line
- Navajo-Proprietary Partition Line
- IE Permit
- Interim

Fences and Gates

- Fence
- Gate
- Cattle Guard

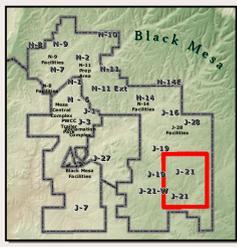
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Kayenta Complex
Bond Release Application
Map 2.1.2
Soil Thickness
Verification
J21

PEABODY WESTERN
 Peabody Western Coal Company
 Kayenta Complex
 PO Box 6509
 Kayenta, Arizona 86033
 Produced by Greg Jones
 Environmental Services
 August 5, 2014
Peabody
 Map design by DeepSouthwest Enterprises



Proposed Phase I Release Area
 Release Phase I Undisturbed
 Interim Lands
 Rocked Area 62 Acres (21 Sites)

Topsailing Year Duration
 First Topsailed: J21 - April 1990
 Last Topsailed: October 2013

Soil Verification Data
 2013 PWCC Topsoil Site (38)
 2006 BCL-PWCC Topsoil Site (21 Total)
 2007 OSM Topsoil Site (75 Total)
 2007-2011 OSM-BCL-PWCC Topsoil-Spill Quality Verification Site (36 Total)
 2011 PWCC Topsoil Site (6 Total)
 2010 BCL-PWCC Topsoil Site (4 Total)

Administrative Boundaries
 Lease Line
 Navajo/ Hop Partition Line
 IE Permit
 Interim

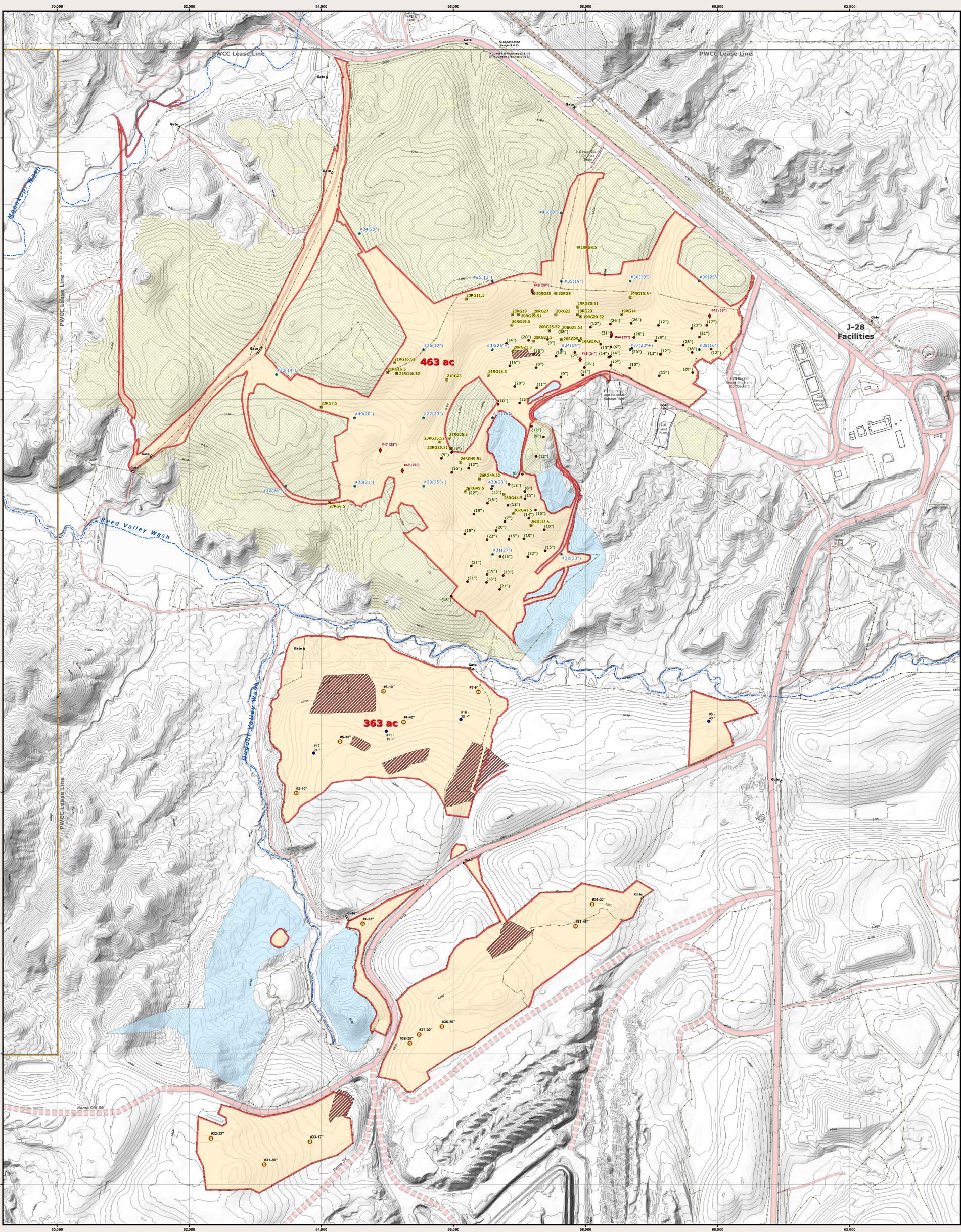
Fences and Gates
 Fence
 Gate
 Cattle Guard

Transport
 Haul Road
 Ramp
 Other Mine Roads
 US/State Highway
 Navajo Route 41
 Local Route
 Single Track
 Overland Conveyor Line

1 Inch = 500 Feet

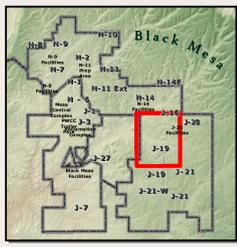
File: T:\Projects\Bond Release\116_119_J21_Phase_I\Map2\Map 2.1 Soil Thickness Verification.mxd





**Kayenta Complex
Bond Release Application
Map 2.1.1
Soil Thickness
Verification
J16 & J19**

PEABODY WESTERN
GIS
Peabody Western Coal Company
Kayenta Complex
PO Box 6509
Kayenta, Arizona 86033
Produced by Greg Jones
Environmental Services
August 5, 2014
Peabody
Map design by DeepSouthwest Enterprises



1 Inch = 500 Feet

Proposed Phase I Release Area
 Release Phase I Undisturbed
 Interim Lands
 Rocked Area 62 Acres (21 Sites)

Topsailing Year Duration
 First Topsailed Last Topsailed
 J16 - November 1994 - September 2013
 J19 - August 1996 - September 2012

Soil Verification Data
 2006 BCL-PWCC Topsoil Site (21 Total)
 2007 OSM Topsoil Site (75 Total)
 2007-2011 OSM-BCL-PWCC Topsoil-Spill Quality Verification Site (36 Total)
 2011 PWCC Topsoil Site (6 Total)
 2010 BCL-PWCC Topsoil Site (4 Total)

Administrative Boundaries
 Lease Line
 Navajo-Hopi Partition Line
 IE Permit
 Interim

Fences and Gates
 Fence
 Gate
 Cattle Guard

Transport
 Haul Road
 Ramp
 Other Mine Roads
 US/State Highway
 Navajo Route 41
 Local Route
 Single Track
 Overland Conveyor Line

File: T:\Projects\Bond Release\J16, J19, J21_Phase_I_Map\Map 2.1 Soil Thickness Verification.mxd



SECTION 2

Phase I Bond Release Supporting Information

Introduction

The Phase I Bond Release information contained in this application consists primarily of backfilling, grading, topsoiling, drainage channel, and slope analysis information.

Backfilling and Grading

There are no permanent support facilities included in the Phase I Bond Release Application. The permanent support facilities will be included in later bond release applications. Final grading of permanent program lands within the J16, J19, and J21 areas occurred from 1984 through 2011. Final grading status for the release areas shown on Map 1.1.1 and Map 1.1.2 were previously reported and submitted with supporting maps to the regulatory authority in the following annual monitoring reports.

Peabody Coal Company. 1992. 1988-1991 Minesoil Reconstruction Report for the Kayenta Mine J-21 Coal Resource Area. Flagstaff, Arizona. Report prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Service Center, Denver, Colorado.

Peabody Western Coal Company (PWCC). 1993-1997. 1992-1996 Minesoil Reconstruction and Revegetation Activities Reports, Black Mesa and Kayenta Mines, Flagstaff, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Service Center, Denver, Colorado.

PWCC. 1998-1999. 1997-1998 Minesoil Reconstruction and Revegetation Activities Reports, Black Mesa and Kayenta Mines, Kayenta, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Service Center, Denver, Colorado.

PWCC. 2000-2012. 1999-2011 Reclamation Status and Monitoring Reports, Black Mesa and Kayenta Mines, Kayenta, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Region Office, Denver, Colorado.

The pre-mining and post-mining topography consists of rolling hills dissected by ephemeral drainage channels. The regulations require the postmining 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. In order to perform a realistic comparison of the premining and postmining slope measurements, PWCC utilized ESRI ArcGIS 10 Spatial Analyst software to generate slope measurement polygons within the entire J16, J19, and J21 reclamation areas included in this submittal. The Phase I Release submittal areas are all Permanent Program Lands. The J16, J19, and J21 reclamation areas were

evaluated individually 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 similar to the classifications utilized in the AZ-0001E Permit, Chapter 26, Surface Stabilization. The location of the area associated with each of the pre- and post-mine slope measurement classes for the J16 and J19 reclamation areas can be found on Map 2.3.1 while similar information for the J21 reclamation area is shown on Map 2.4.1. Tables 2.1.1 through 2.1.3 provide a summary of the area in each slope measurement classification before mining and after mining for the J16, J19, and J21 release areas:

Table 2.1.1. Pre- and Post-Mining Slope Analysis for J16 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	154	33	-14.0
2	9	13	93	20	+4.0
3	13	18	96	21	+7.0
4	18	25	88	19	+6.0
5	25	33	28	6	-1.0
6	33	60	4	1	-2.0

PRE - MINING SLOPE ANALYSIS:

RANGE	BEGINNING (%)	END (%)	AREA(Ac.)	PERCENT of TOTAL AREA
1	0	9	218	47
2	9	13	76	16
3	13	18	64	14
4	18	25	59	13
5	25	33	34	7
6	33	60	12	3

Table 2.1.2. Pre- and Post-Mining Slope Analysis for J19 Permanent Program Reclaimed Area.

POST - MINING SLOPE ANALYSIS:

				PERCENT	POST - MINING SLOPE AREA vs. PRE - MINING SLOPE AREA (%)
RANGE	BEGINNING (%)	END (%)	AREA(Ac.)	of TOTAL AREA	
1	0	9	166	46	+9.0
2	9	13	83	23	+2.0
3	13	18	76	21	+3.0
4	18	25	31	8	-7.0
5	25	33	6	2	-5.0
6	33	60	1	0	-2.0

PRE - MINING SLOPE ANALYSIS:

				PERCENT
RANGE	BEGINNING (%)	END (%)	AREA(Ac.)	of TOTAL AREA
1	0	9	133	37
2	9	13	77	21
3	13	18	67	18
4	18	25	55	15
5	25	33	24	7
6	33	60	7	2

Table 2.1.3. Pre- and Post-Mining Slope Analysis for J21 Permanent Program Reclaimed Area.

POST - MINING SLOPE ANALYSIS:

				PERCENT	POST - MINING SLOPE AREA vs. PRE - MINING SLOPE AREA (%)
RANGE	BEGINNING (%)	END (%)	AREA(Ac.)	of TOTAL AREA	
1	0	9	236	39	-33.0
2	9	13	134	22	+8.0
3	13	18	148	24	+17.0
4	18	25	71	12	+8.0
5	25	33	12	2	0.0
6	33	60	3	1	0.0

PRE - MINING SLOPE ANALYSIS:

				PERCENT
RANGE	BEGINNING (%)	END (%)	AREA(Ac.)	of TOTAL AREA
1	0	9	440	72
2	9	13	85	14
3	13	18	42	7
4	18	25	24	4
5	25	33	10	2
6	33	60	4	1

As illustrated above, the post-mine topography has more mid-range slope gradient percentages in each of the six range categories compared with the original premine topography. Overall, postmine topography has slightly less steep slopes than the premine topography. In addition, the as-built postmine surface shown on Maps 2.5.1 and 2.5.2 was compared to the Estimated Post-Mining Topographic (PMT) Map, Drawing 85352, Sheets M-8, M-9, M-10, N-10 and N-11, Volume 29 of Permit AZ-0001E. The reclaimed surface was within 10 feet (plus or minus) of the estimated postmine contours as shown on Maps 2.5.1 and 2.5.2. Two areas on Map 2.5.2 were topsoil stockpiles at the time the PMT was approved. Once these piles were depleted the surface was reduced resulting in the variance. The remaining areas of variance are the result of not having spot elevations on the high points or the surface or edges that may blend with adjacent reclamation at a later time.

Attachment 2.1 includes the as-built information for the J16, J19, and J21 reclamation drainage channels shown on Maps 2.6.1 (4 Sheets, 2.6.2 (2 Sheets) and 2.6.3, (3 Sheets), respectively. 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 J16, J19, and J21 areas, PWCC has demonstrated the postmining reclamation drainage structures are stable and can safely pass the design runoff. The locations of these drainage structures are shown on Maps 2.6.1 through 2.6.3.

In conclusion, the Phase I release areas have been graded to very similar overall slopes compared to premine topography. Grading was completed to eliminate final highwalls and spoil piles, to ensure stability, to reestablish a positive stable drainage network, and to facilitate the livestock grazing, wildlife, and cultural plant postmining 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.

Spoil Sampling

Final graded spoil for the J16, J19, and J21 Coal Resource Areas permanent program lands was sampled from 1994 to 2012 to evaluate suitability prior to replacing topsoil. Also, 36 soil-spoil pedons were sampled from 2007 thru 2011 for the "Soil Thickness - Spoil Quality Evaluation and Recommended Mitigation Plan" for J16. All spoil sampling was completed using procedures and suitability criteria presented in Chapter 22, Volume 11, Permit AZ-0001E. Spoil sampling results were previously reported and submitted with supporting maps to the regulatory authority in the following annual monitoring reports. Topsoil thickness and quality, spoil quality, and documentation of mitigation material placement for the 36 soil - spoil pedons in J16 were previously reported and submitted

with supporting maps to the regulatory authority and is substantiated in the two correspondence documents listed below.

Peabody Western Coal Company (PWCC). 1995-1997. 1994-1996 Minesoil Reconstruction and Revegetation Activities Reports, Black Mesa and Kayenta Mines, Flagstaff, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Service Center, Denver, Colorado.

PWCC. 1998-1999. 1997-1998 Minesoil Reconstruction and Revegetation Activities Reports, Black Mesa and Kayenta Mines, Kayenta, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Service Center, Denver, Colorado.

PWCC. 2000-2013. 1999-2012 Reclamation Status and Monitoring Reports, Black Mesa and Kayenta Mines, Kayenta, Arizona. Reports Prepared for: The Office of Surface Mining Reclamation and Enforcement, Western Region Office, Denver, Colorado.

PWCC. November 15, 2011. J-16 Soil Thickness - Spoil Quality Evaluation and Recommended Mitigation Plan, Kayenta Mine, Kayenta, Arizona. Letter and Final Report sent to: The Office of Surface Mining Reclamation and Enforcement, Western Region Office, Denver, Colorado.

Office of Surface Mining Reclamation and Enforcement (OSMRE). February 29, 2012. Acceptance of J16 Mitigation Plan, Western Region Office, Denver, Colorado. Letter and Technical Evaluation sent to: Peabody Western Coal Company, Kayenta, Arizona.

Three hundred seven (307) of the 505 sites sampled (61%) as shown on Maps 2.2.1 and 2.2.2 had suitable spoil characteristics from the surface to 3 feet and required one foot of suitable topsoil. Topsoil, suitable plant growth material (spoil), suitable residual soils, and weathered overburden derived from scoria were used to bury unsuitable spoil when 2, 3, or 4 feet of suitable material was required as shown on Maps 2.2.1 and 2.2.2. Suitable residual soils and weathered overburden derived from scoria were used in cultural planting and steep slope areas, suitable spoil was used in J16, and topsoil was used elsewhere. An average of 1.6 feet of mitigation material (including topsoil) was required based on the graded spoil sampling suitability analysis. As documented in the next section titled Soil Thickness, the mean thickness of mitigation material replaced exceeded 1.9 feet.

Soil Thickness

Topsoiling of permanent program lands within the J16, J19, and J21 release areas occurred from 1984 thru 2013. Topsoiling status for the release areas shown on Maps 2.1.1 and 2.1.2 was previously reported to the regulatory authority on the Reclamation Status Map 2 (as of December 31, 2013) shown on the Southeast Sheet contained in the 2013 Reclamation Status and Monitoring Report, Black Mesa and Kayenta Mines (submitted May 2014). Soil was redistributed on final graded sloped from stockpiles or replaced directly from soil

removal areas prior to ripping and contour discing. Pursuant to Chapter 22 of Permit AZ-0001E, the thickness of soil replaced shall exceed the minimum average of 1 foot.

Twenty one (21) red rock cultural planting sites, totaling 62 acres as shown on Maps 2.1.1 and 2.1.2, received suitable residual soils and weathered overburden derived from scoria. Topsoil was not replaced at these sites.

Final soil depth surveys of the J16, J19, and J21 reclaimed areas were completed from 2006 through 2013 as shown on Maps 2.1.1 and 2.1.2. Personnel from Buchanan Consultants, Ltd. (BCL), Office of Surface Mining Reclamation and Enforcement Albuquerque Area Office (OSM), and Peabody Western Coal Company (PWCC) observed sites in the J16, J19, and J21 reclaimed areas in order to verify soil replacement thickness. A stratified grid sampling scheme using a random number generator program was used for the 2006 and 2010 BCL-PWCC and 2013 PWCC surveys to locate 21, 4, and 38 sites, respectively prior to going into the field. A sampling density of about 1 site per 25 acres was used being similar to the density used and approved previously at Kayenta Mine for the N1/N2, N7/N8, N14, J19, and J21 soil thickness evaluations. A Tremble GeoXT survey grade GPS unit was used to navigate to each of the sites. During 2007, OSM inspectors located 75 sites systematically in the field to verify a mean thickness of 12 inches of soil or more had been replaced in Area J16. Forty two (42) additional sites were placed in the J16 area and observed by OSM, BCL, and PWCC from 2007 thru 2011 to verify soil thickness requirements for the Soil Thickness Spoil Quality Evaluation and Recommended Mitigation Plan for the J16 Project (PWCC, 2011 and OSMRE, 2012). Sites were systematically placed near areas requiring thicker replacement of mitigation materials. At most of the sites, a 3 ½-inch bucket auger was used to verify the soil thickness by excavating to the contact with spoil. Soil thickness at 28 of the 36 OSM-BCL-PWCC sites sampled from 2007 to 2011 in J16, were measured from the sidewall of an excavated backhoe pit. Field texture, when recorded, was determined in accordance with Natural Resource Conservation Service (NRCS) nomenclature using a wet texture test.

One hundred eighty (180) samples were collected over the 1431 acres of disturbed lands within the release area. Soil thickness among the 63 random profiles placed over the J16, J19, and J21 release areas ranged from 9 to 52 inches, with a mean of greater than 23 inches. The results of the soil thickness verification surveys are shown in Tables 2.2 thru 2.7 and Maps 2.1.1 and 2.1.2 show all sampled sites with corresponding thickness values. The mean soil thickness of greater than 23 inches exceeds the minimum 1-foot average topsoil thickness requirements presented in the approved reclamation plan in Chapter 22 of Permit AZ-0001E. This mean thickness of greater than 1.9 feet also exceeds

the average mitigation thickness of 1.6 feet as required by the spoil suitability mitigation requirements discussed in the previous section and shown on Maps 2.1.1 and 2.1.2. In conclusion, PWCC has satisfied soil thickness replacement requirements stipulated by the approved reclamation plan for the J16, J19, and J21 Phase I release areas shown on Maps 2.1.1 and 2.1.2.

Table 2.2. Soil Thickness Verification Sites Sampled by Buchanan (BCL) and PWCC at J16 During July 19-21, 2006 (See Map 2.1.1 for Site Locations).				
Site ID	Easting (Feet) ⁽¹⁾	Northing (Feet) ⁽¹⁾	Soil Thickness (Inches) ⁽²⁾	Field Texture ⁽³⁾
22	55478	-23357	26+	sl
23	53338	-21649	14	l
24	54598	-19497	22	l
25	56607	-20228	12	l
26	55564	-21271	12	l
27	55564	-22314	23	sl
28	54521	-23357	21	sl
29	55564	-23357	25+	l
30	56607	-23357	23	cl
31	56607	-24400	27	sl
32	57650	-24400	23	l
33	56607	-21271	26+	cl
34	57650	-21271	14	l
35	57650	-20228	19	l
36	58693	-20228	28	l
37	58693	-21271	23+	sl
38	59736	-21271	16	l
39	59736	-20228	25	cl
40	54521	-22314	20	sl
41	57650	-19185	20	l
42	56607	-22314	16	l
MEAN			21+	
⁽¹⁾ PWCC coordinate system. ⁽²⁾ + indicates soil thickness exceeds measured value. ⁽³⁾ sl-sandy loam, l-loam, cl-clay loam.				

Table 2.3. Soil Thickness Verification Sites Sampled by the Office of Surface Mining Reclamation and Enforcement, Albuquerque Field Office (OSMAAO) at J16 During 2007 (See Map 2.1.1 for Site Locations).

Mine Area	Soil Thickness (Inches)	Easting (Feet) ⁽¹⁾	Northing (Feet) ⁽¹⁾
J16	17	59852	-20906
J16	23	59622	-20955
J16	31	58403	-21072
J16	12	58397	-21515
J16	38	59630	-21316
J16	28	59493	-21205
J16	28	59079	-21135
J16	12	59121	-20904
J16	28	59637	-21627
J16	12	59153	-21345
J16	15	59131	-21677
J16	26	58392	-20887
J16	26	58710	-20873
J16	20	58717	-21251
J16	10	58686	-21556
J16	26	58750	-21084
J16	31	59741	-21078
J16	6	58400	-21230
J16	13	57753	-20943
J16	14	58392	-21377
J16	14	58367	-21388
J16	12	59145	-21344
J16	12	59917	-21267
J16	16	57999	-21547
J16	14	57975	-21664
J16	7	57855	-21316
J16	18	56531	-23620
J16	9	57643	-21693
J16	10	57568	-21372
J16	9	57442	-21111
J16	20	57156	-21128

J16	10	57233	-21343
J16	8	57269	-21548
J16	11	57277	-21854
J16	14	56817	-21178
J16	16	56869	-21518
J16	20	56943	-21833
J16	12	58092	-20932
J16	10	56694	-22106
J16	12	57017	-22087
J16	9	57380	-22606
J16	12	57195	-22442
J16	9	55833	-22932
J16	10	57259	-23726
J16	12	57268	-22905
J16	8	57059	-23176
J16	22	56244	-23403
J16	13	58244	-21190
J16	12	56245	-23084
J16	8	57095	-23441
J16	18	56514	-24829
J16	12	56838	-23654
J16	15	57403	-24347
J16	10	57389	-24021
J16	19	56524	-24708
J16	7	56793	-23900
J16	14	57155	-23850
J16	18	55983	-25040
J16	20	56661	-24036
J16	10	57081	-24161
J16	22	56523	-24176
J16	15	57098	-23554
J16	10	55989	-23150
J16	15	56720	-24435
J16	22	57140	-24441
J16	15	56852	-24171

J16	21	56716	-24937
J16	19	56324	-23786
J16	13	56593	-23396
J16	21	56226	-24815
J16	18	56185	-24087
J16	21	56285	-24580
J16	11	55988	-22841
J16	12	56856	-23330
J16	13	56766	-24722
Mean	16		
(1) PWCC coordinate system.			

Table 2.4. Soil Thickness Verification Sites Sampled by OSMAAO, BCL, and PWCC at J16 During 2007-2011 (See Map 2.1.1 for Site Locations).			
Site ID	Soil Thickness (Inches) ⁽¹⁾	Easting (Feet) ⁽²⁾	Northing (Feet) ⁽²⁾
19RG4.5	36	57908	-19708
19RG10.5	18	58693	-20472
19RG14	12	58557	-20742
19RG19.5	32	57925	-21133
19RG20	13	57897	-20742
19RG20.51	36	57898	-20623
19RG20.52	7	57944	-20776
20RG8	16	57567	-20412
20RG11.5	15	56210	-20496
20RG19	20	56907	-20742
20RG19.5	15	56902	-20901
20RG19.51	17	57005	-20740
20RG21.5	0 ⁽³⁾	56928	-21291
20RG22	12+	57567	-20742
20RG23.5	12	57232	-21140
20RG25.5	28	57646	-21117
20RG25.51	44	57659	-20991

20RG25.52	18	57471	-20984
20RG27	12+	57237	-20742
20RG28	16	57237	-20412
21RG16.5	14	55019	-21626
21RG16.51	19	55125	-21474
21RG16.52	28	55157	-21638
21RG18.5	20	56543	-21666
21RG23	16	55917	-21732
23RG7.5	18	54016	-22149
23RG25.5	20	55952	-22623
23RG25.51	18	55971	-22782
23RG25.52	27	55807	-22682
26RG37.5	6	57189	-23955
26RG43.5	36	56927	-23784
26RG44.5	12	56779	-23480
26RG45.5	36	56198	-23446
26RG49.51	21	56125	-22995
26RG49.52	15	56410	-23247
27RG6.5	10	54134	-23607
Mean	19+		
<p>⁽¹⁾ + indicates soil thickness exceeds measured value. ⁽²⁾ PWCC coordinate system. ⁽³⁾ This value not included in the mean calculation as this is a cultural site.</p>			

Table 2.5. Soil Thickness Verification Sites Sampled by BCL and PWCC at J19 During 2010
(See Map 2.1.1 for Site Locations.)

Site ID	Soil Thickness (Inches) ⁽¹⁾	Easting (Feet) ⁽²⁾	Northing (Feet) ⁽²⁾
6	40	59867	-26915
11	19+	54985	-27069
16	30+	56113	-26888
17	24	53887	-27406
Mean	28+		

⁽¹⁾ + indicates soil thickness exceeds measured value. ⁽²⁾ PWCC coordinate system.

Table 2.6. Soil Thickness Verification Sites Sampled by PWCC at J16 During 2011 (See Map 2.1.1 for Site Locations).

Site ID	Soil Thickness (Inches)	Easting (Feet) ⁽¹⁾	Northing (Feet) ⁽¹⁾
43	39	59896	-20764
44	39	58409	-21040
45	21	57934	-21425
46	29	57209	-20373
47	28	54908	-22807
48	26	55242	-23124
Mean	30		
⁽¹⁾ PWCC coordinate system.			

Table 2.7. Soil Thickness Verification Sites Sampled by PWCC at J19 and J21 During 2013 (See Maps 2.1.1 and 2.1.2 for Site Locations).

Site ID	Soil Thickness (Inches)	Easting (Feet) ⁽¹⁾	Northing (Feet) ⁽¹⁾
1	23	54636	-30044
2	10	53631	-28050
3	9	56390	-26503
4	40	55259	-26961
5	30	54295	-27262
6	10	54954	-26493
7	40	65553	-40769
8	17	65619	-42278
9	27	63514	-40158
10	21	64973	-42494
11	30	65533	-37539
12	30	65876	-38215
13	18	63425	-43753
14	13	65549	-41799
15	12	63591	-39426

16	24	66083	-38000
17	16	64481	-43243
18	22	64057	-41585
19	17	63498	-39788
20	21	63591	-43353
21	19	64198	-43555
22	12	63167	-42507
23	33	65156	-40626
24	22	65865	-37422
25	52	64327	-39923
26	14	66564	-37631
27	15	62473	-41541
28	21	62191	-41921
29	14	62033	-40559
30	18	62662	-42479
31	30	53143	-33725
32	22	52337	-33324
33	17	53835	-33374
34	30	58108	-29751
35	36	55835	-31618
36	20	55347	-31873
37	30	55489	-31740
38	45	57856	-30086
Mean	23		
⁽¹⁾ Peabody coordinate system.			