



[www.united-gj.com](http://www.united-gj.com)  
[www.fourcornersmaterials.com](http://www.fourcornersmaterials.com)  
[www.apc.us.com](http://www.apc.us.com)

September 8, 2025

Division of Reclamation, Mining and Safety  
1313 Sherman Street, Room 215  
Denver, CO. 80203  
Attn: Ursula Armstrong

Re: Incompleteness Response to Transfer of Permit and  
Succession of Operators for Wertz Pit, Permit No. M-2022-024

Ms. Armstrong,

In response to your letter dated July 10, 2025, regarding our application to transfer Mineral Permit M-2022-024 from All Rite Paving & Redi-Mix, Inc. to Oldcastle SW Group, Inc. dba United Companies. We appreciate your review and are working diligently to provide the remaining documentation. Please find below a summary for the requested items:

1. **Application Form:** We have updated the Administrative Information section accordingly to reflect the officially registered address for Oldcastle SW Group, Inc. This revised page has been included with this communication for your review. It should be noted the mailing address for this business entity is different and contact information will be updated following approvals through e-permitting
2. **Affidavit of Authority:** An Affidavit signed by Brandon Pack, President of Oldcastle SW Group, Inc. dba United Companies, has been prepared and notarized for inclusion in the updated submission package. Additionally, as discussed, we have included documentation of Elected Officers who are authorized to execute agreements, contracts, documents, certificates, and other instruments for the purpose of conducting the Corporation's business. Originals copies have been mailed to Sara Stevenson-Benn and copies of mailings and documents are included with this package.
3. **Legal Right of Entry:** We appreciate that the previously submitted lease agreement was between the landowners and Fremont Paving & Redi-Mix, Inc. We have included a letter and supporting documents from K. Scott Voelker, Deputy General Counsel, CRH Americas Inc, as transactions counsel to Oldcastle SW Group, Inc. This document is meant to serve as a legal explanation clarifying the merger between Oldcastle SW Group, Inc. and Fremont Paving and Redi-Mix, Inc., and (certain affiliated business entities). As a result of the merger, all assets, rights, properties, leases and contractual interest of the Acquired Entities (Fremont Paving and Redi-Mix, Inc.) including permits, leases, and real property interests, became the assets and obligations of Oldcastle SW Group, Inc. by operation of law. Therefore, Oldcastle SW Group, Inc. retains the full right to operate under the existing lease agreements and no lease renewal is required to establish or maintain operational authority.



[www.united-gj.com](http://www.united-gj.com)  
[www.fourcornersmaterials.com](http://www.fourcornersmaterials.com)  
[www.apc.us.com](http://www.apc.us.com)

1. The initial lease agreement submitted with Etta Clayton was included in the application to show the terms of the agreement and the addendum post sale of the property from Etta Clayton to Nathan and Megan Wertz dated July 28, 2022, a picture copy of the warranty deed for the property has been included. Oldcastle SW Group, Inc retains full right to operate under the existing lease agreement addendum based on legal documents provided.
4. **Structure Agreements:** All identified structure owners within 200 feet of the permit boundary have been contacted by letter delivered via United States Postal Service Certified Mail, in accordance with Rule 6.4.19. Copies of the mailings were provided with the original submittal. Copies of the Certified Mail return receipts have been included as well. For those structure owners that could not be reached, an engineering analysis was performed for each structure. This satisfies Rule 6.4.149(b). As discussed with the Division representatives, a table is provided with the site, structures, structure owners and distances are to be included for each site. These distances are consistent with site specific engineer evaluation provided and demonstrate that operations shall not impact the listed structures.

All original financial statements have been mailed to Sara Stevenson-Benn (Certified Mail No: 9589 0710 5270 0852 7499 32) and copies will be provided in the submission packet. If any adjustments are necessary or additional clarification is required, please do not hesitate to contact us. Thank you for your guidance and support throughout this transition process.

Thank you,

Sara Weimer  
EHS / Environmental Specialist  
Oldcastle SW Group, Inc.



[www.united-gj.com](http://www.united-gj.com)  
[www.fourcornersmaterials.com](http://www.fourcornersmaterials.com)  
[www.apc.us.com](http://www.apc.us.com)

September 17, 2025

Certified Mail No: 9589 0710 5270 0852 7499 32

Division of Reclamation, Mining and Safety  
DRMS c/o Sara Stevenson-Benn  
1001 E 62<sup>nd</sup> Avenue  
Denver, CO 80216

Re: Incompleteness Response, Financial Warranty and required bonding documents  
DRMS Permit: M-2022-024, Wertz Pit

Ms. Stevenson-Benn,

In response to the required bonding documents, an affidavit signed by Brandon Pack, President of Oldcastle SW Group, Inc. dba United Companies, has been prepared and notarized for inclusion in the updated submission package. Additionally, as discussed, we have included documentation of Elected Officers who are authorized to execute agreements, contracts, documents, certificates, and other instruments for the purpose of conducting the Corporation's business.

A copy of these documents will be sent with the rest of the incompleteness package to DRMS at 1313 Sherman St., Ste. 215, Denver, CO 80203.

We appreciate your time on this matter. If there is anything more you require from us please do not hesitate to reach out.

Thanks,

Sara Weimer  
EHS  
Oldcastle SW Group, Inc.



## COLORADO

**Division of Reclamation,  
Mining and Safety**

Department of Natural Resources

### **Documentation of Legal Authority to Execute Financial Warranty Documents**

*The Colorado Mined Land Reclamation Board ("Board") has adopted the attached Affidavit of Authority to Execute Financial Warranty Documents pursuant to the Mined Land Reclamation Act (C.R.S. § 34-32-101 et. seq.) and the Land Reclamation Act for the Extraction of Construction Materials (C.R.S. § 34-32.5-101 et. seq.). The Board and the Division of Reclamation Mining and Safety ("Division") have determined that, in order to carry out the financial warranty requirements set forth in C.R.S. §§ 34-32-117 and 34-32.5-117 with reasonable diligence, it is prudent to verify the legal authority of the individual signing all necessary documents.*

*Accordingly, you must provide confirmation of the legal authority of the individual signing all Financial Warranty Documents to the Division. You may do so either by submitting a resolution of the decision-making body of your company that authorizes an individual to sign the Financial Warranty Documents on the company's behalf, or by completing and notarizing the attached affidavit. The Division reserves the right to require the attached affidavit in all circumstances. Please note that if you are a sole proprietor who is executing documents on your own behalf, documentation of legal authority is unnecessary.*



**Affidavit of Authority to Execute Financial Warranty Documents**

Before me this day, the undersigned Brandon Pack [name of authorized person], in his/her capacity as President [title of authorized person] ("Affiant"), personally appeared and, being first duly sworn upon oath said:

1. This affidavit is being executed and submitted on behalf of Oldcastle SW Group, Inc. (dba United Companies) [name of business organization], a(n) Corporation [legal form of business organization, e.g., corporation, partnership, limited liability company, etc.], in good standing in the State of Colorado (the "Company").
2. It is in the interest of the Company to execute certain financial warranty documents associated with file number 14-2022-024 (DRMS file number), which are required by the Colorado Mined Land Reclamation Board and Division of Reclamation Mining and Safety pursuant to Colorado law ("Financial Warranty Documents").
3. Affiant is duly authorized to sign such Financial Warranty Documents on behalf of the Company and to bind the Company to the same.
4. Affiant is not prohibited or limited by the Company's governing documents or by any applicable law from executing the Financial Warranty Documents.
5. Affiant will inform the Division of Reclamation Mining and Safety within thirty (30) days in the event that his/her authorization to execute Financial Warranty Documents on the Company's behalf is terminated.

Further, Affiant sayeth not.

Brandon Pack

Affiant's Name



Signature

STATE OF Colorado )

) ss.:

COUNTY OF Jefferson )

**SARA BETH WEIMER  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20234001675  
MY COMMISSION EXPIRES JANUARY 12, 2027**

The foregoing instrument was acknowledged before me this 31<sup>st</sup> day of July, 2025,  
by Brandon Pack as President of Oldcastle SW Group, Inc. (dba United Companies).

Notary Public

My Commission Expires

Sara Beth Weimer  
January 12, 2027

Wertz M. 2022-024

**ACTION BY WRITTEN CONSENT  
IN LIEU OF AN ANNUAL MEETING OF  
THE BOARD OF DIRECTORS  
OF  
OLDCASTLE SW GROUP, INC.**

The undersigned, being all of the members of the Board of Directors of Oldcastle SW Group, Inc., a Colorado corporation (the "**Corporation**"), do hereby, pursuant to §7-108-202 of the Colorado Business Corporation Act, give this written consent (a) to the dispensation of an annual meeting of the Board of Directors of the Corporation and (b) to the taking of the following actions, such actions to have the same force and effect had a meeting been duly called and held:

**I. ELECTION OF OFFICERS**

**RESOLVED**, that effective May 8, 2025, all previous elections of officers are terminated, and the following persons be, and hereby are, elected to serve as officers of the Corporation (each individually, an "**Officer**" and collectively, the "**Officers**") in the capacities set forth opposite their respective names until such time as their successors shall be elected and qualified:

Brandon Pack	President
Kyle Alpha	Vice President
Joy Trombley	Secretary, Treasurer, Controller
Kyle High	Assistant Secretary
Jeff Keller	Assistant Secretary
Tony Majka	Assistant Secretary
Ilana Overmeyer	Assistant Secretary

**FURTHER RESOLVED**, that the Officers be, and each of them hereby is, authorized to execute and deliver agreements, contracts, documents, certificates, and other instruments, under the seal of the Corporation if required, for the purpose of conducting the Corporation's business, including without limitation, selling products and securing construction work, and to take such other action, as they may deem necessary, advisable, convenient, or appropriate to carry out and fully perform duties incident to the office or offices so appointed, and such other duties as may be prescribed by the Board of Directors from time to time;

**FURTHER RESOLVED**, that the following persons are hereby designated officers solely for the purpose of attesting signatures of other officers on behalf of the Corporation, and for executing and attesting various corporate documents, tax returns, affidavits, and similar such instruments as may be necessary from time to time:

David M. Toolan	Assistant Secretary
Tim P. George	Assistant Secretary

**FURTHER RESOLVED**, that the President of the Corporation may, from time to time, without further action by the Board of Directors, appoint other persons to serve as authorized employees, or remove any individuals from this capacity, and to direct those appointed to take

such action, as he may deem necessary, advisable, convenient or appropriate to carry out and fully perform the duties incident to the office of President.

## **II. REMOVALS**

**RESOLVED**, that any current officers of the Corporation not elected in the foregoing resolution are hereby removed.

## **III. AUTHORIZATION OF TRADE AND DIVISIONAL NAMES**

**RESOLVED**, that the activities and operations of the Corporation may be carried on in any of the following manners or styles as may from time-to-time be deemed necessary or appropriate:

**Asphalt Paving Company  
APC Construction Company  
APC Southern Construction Company  
B&B Excavating  
Delta Sand & Gravel Co.  
Four Corners Materials  
Granby Sand & Gravel  
Telluride Gravel  
United Companies of Mesa County  
United Paving, Incorporated  
United Redi-Mix, Inc.  
United Sand and Gravel Company, Inc.  
United Companies**

**FURTHER RESOLVED**, that the President of the Corporation may, from time to time, without further action by the Board of Directors, authorize the use of additional trade names, and to deem unauthorized any trade name previously authorized, as he may deem necessary, advisable, convenient or appropriate.

## **IV. MISCELLANEOUS**

**RESOLVED**, that all actions previously taken by any Officer of the Corporation appointed hereunder in his/her capacity as such Officer be, and each of them hereby is, adopted, ratified, confirmed and approved in all respects as the authorized acts and deeds of the Corporation;

**FURTHER RESOLVED**, that each undersigned agrees that electronic signatures, whether digital or encrypted, of the Board of Directors are intended to authenticate this consent and to have the same force and effect as manual signatures. As used in the previous sentence, the term "electronic signatures" means any electronic sound, symbol or process attached to or logically associated with this consent and executed and adopted by a member of the Board of Directors with the intent to sign such consent, including, but not limited to, e-mail electronic signatures executed through DocuSign; and

**FURTHER RESOLVED**, that this Consent, following execution by all of the members of the Board of Directors, be filed in appropriate order in the minute book of the Corporation.

Signed by:

*Nathan Creech*

9945E30E1BD4459

Nathan Creech

Signed by:

*John Rothering*

596E90AE2FBA4D0

John Rothering



# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

1313 Sherman St., Room 215

Denver, Colorado 80203

Phone: (303) 866-3567

FAX: (303) 832-8106



## APPLICATION FORM FOR TRANSFER OF MINERAL PERMIT AND SUCCESSION OF OPERATORS

### ADMINISTRATIVE INFORMATION

#### Permit Information

Permit Number: M-2022-024

Operation Name: Wertz Pit

#### Permittee Information

Contact Person: John Paul Ary

Company Name: All Rite Paving & Redi-Mix, Inc

Street Address: 839 MacKenzie Avenue

City: Canon City

State: CO Zip: 81212

Phone: ( 719 ) 275-3264

Email (optional): jp@arycorp.com

#### Prospective Successor Information

Contact Person: Tony Majka

Company Name: Oldcastle SW Group, Inc. dba United Companies

Street Address: 2273 River Road

City: Grand Junction

State: CO Zip: 81505

Phone: ( 970 ) 243-4900

Email (optional): tony.majka@unitedco.com

**Oldcastle SW Group, Inc.  
2273 River Road Grand  
Junction, CO 81505**

July 29, 2025

Ladies and Gentlemen:

I serve as internal transactions counsel to Oldcastle SW Group, Inc. This letter is provided to clarify the structure and outcome of a transaction (the “Transaction”) whereby Oldcastle SW Group, Inc. (“Oldcastle”) acquired Fremont Paving and Redi-Mix, Inc., a Colorado corporation, and certain affiliated business entities and subsequently merged the acquired entities with and into Oldcastle.

Prior to the Transaction, Fremont Paving and Redi-Mix, Inc. operated under several registered “doing business as” names, including (i) All Rite Paving and Redi-Mix, Inc., (ii) Ary Corporation, and (iii) Hard Rock Paving and Redi-Mix, as documented in the Statements of Trade Name filed with the Colorado Secretary of State and attached hereto as Exhibit A.

On July 19, 2024, Oldcastle acquired 100% of the stock or equity interests (as applicable) in the following companies (collectively, the “Acquired Entities”):

1. Fremont Paving and Redi-Mix, Inc., a Colorado corporation (d/b/a All Rite Paving and Redi-Mix, Inc.; d/b/a Ary Corporation; and d/b/a Hard Rock Paving and Redi-Mix)
2. A&S Construction Co., a Colorado corporation
3. Ary Brothers Trucking, Inc., a Colorado corporation
4. Crane Services of Colorado, Inc., a Colorado corporation
5. Pueblo East Phase III LLC, a Colorado limited liability company
6. Hwy 47 Investment LLC, a Colorado limited liability company

The Stock Power transfer documents and the Membership Interest Assignment documents for the Acquired Entities reflecting the transfer of the equity of the applicable corporation or limited liability company of each are attached hereto as Exhibit B and Exhibit C, respectively.

Subsequently, pursuant to the Statement of Merger filed and stamped by the Colorado Secretary of State on July 22, 2024 (attached hereto as Exhibit D), each of the Acquired Entities merged with and into Oldcastle. As a result of the merger, all assets, rights, properties, and contractual interests of the Acquired Entities, including permits, leases, and real property interests, became the assets and obligations of Oldcastle by operation of law.

We hope this letter clarifies the steps involved in the Transaction and satisfies your requests. Should you have any questions or if there is further information we can provide, please do not hesitate to contact us.

Sincerely,

K. Scott Voelker  
Deputy General Counsel  
CRH Americas, Inc.

EXHIBIT A

STATEMENTS OF TRADE NAME

See attached



Colorado Secretary of State  
Date and Time: 04/19/2019 09:48 AM  
ID Number: 20191179338  
Document number: 20191330622  
Amount Paid: \$10.00

Document must be filed electronically.  
Paper documents are not accepted.  
Fees & forms are subject to change.  
For more information or to print copies  
of filed documents, visit [www.sos.state.co.us](http://www.sos.state.co.us).

ABOVE SPACE FOR OFFICE USE ONLY

**Statement of Correction of Trade Name Information**  
**Correcting the Trade Name**

filed pursuant to § 7-90-305 of the Colorado Revised Statutes (C.R.S.)

1. The entity ID number, if applicable, the trade name ID number, and the name of the person transacting business or conducting activities under the trade name are

Entity ID number <i>(if applicable)</i>	<u>19871465104</u> <i>(Colorado Secretary of State ID number)</i>
Trade name ID number	<u>20191179338</u> <i>(Colorado Secretary of State ID number)</i>
Name	<u>FREMONT PAVING AND REDI-MIX, INC.</u>

2. The document number of the document that is corrected and the trade name as stated in the statement of trade name are

Document number	<u>20191179338</u>
Trade name	<u>All Rite Paving and Redi-Mix</u>

3. The statement of the trade name in the document identified above is incorrect.

4. Such trade name, as corrected, is  
All Rite Paving and Redi-Mix, Inc.

5. *(If applicable, adopt the following statement by marking the box and include an attachment.)*

☐ This document contains additional information as provided by law.

**Notice:**

Causing this document to be delivered to the Secretary of State for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that such document is such individual's act and deed, or that such individual in good faith believes such document is the act and deed of the person on whose behalf such individual is causing such document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S. and, if applicable, the constituent documents and the organic statutes, and that such individual in good faith believes the facts stated in such document are true and such document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the Secretary of State, whether or not such individual is identified in this document as one who has caused it to be delivered.

6. The true name and mailing address of the individual causing this document to be delivered for filing are

<u>Ranson</u>	<u>Richard</u>	<u>Paul</u>	
<small>(Last)</small>	<small>(First)</small>	<small>(Middle)</small>	<small>(Suffix)</small>
<u>1040 Hunters Ridge Dr</u>			
<small>(Street number and name or Post Office Box information)</small>			
<hr/>			
<u>Colorado Springs</u>	<u>CO</u>	<u>80919</u>	
<small>(City)</small>	<small>(State)</small>	<small>(Zip/Postal Code)</small>	
<u>United States</u>			
<small>(Province – if applicable)</small>		<small>(Country – if not US)</small>	

(If applicable, adopt the following statement by marking the box and include an attachment.)

☐ This document contains the true name and mailing address of one or more additional individuals causing the document to be delivered for filing.

**Disclaimer:**

This form/cover sheet, and any related instructions, are not intended to provide legal, business or tax advice, and are furnished without representation or warranty. While this form/cover sheet is believed to satisfy minimum legal requirements as of its revision date, compliance with applicable law, as the same may be amended from time to time, remains the responsibility of the user of this form/cover sheet. Questions should be addressed to the user's legal, business or tax advisor(s).



Document must be filed electronically.  
Paper documents are not accepted.  
Fees & forms are subject to change.  
For more information or to print copies  
of filed documents, visit [www.sos.state.co.us](http://www.sos.state.co.us).

Colorado Secretary of State  
Date and Time: 02/27/2019 09:27 AM  
ID Number: 20191179338  
Document number: 20191179338  
Amount Paid: \$20.00

ABOVE SPACE FOR OFFICE USE ONLY

### Statement of Trade Name of a Reporting Entity

filed pursuant to §7-71-103 and §7-71-107 of the Colorado Revised Statutes (C.R.S)

1. For the reporting entity delivering this statement, its ID number, true name, form of entity and the jurisdiction under the law of which it is formed are

ID Number	<u>19871465104</u> <small>(Colorado Secretary of State ID number)</small>
True name	<u>FREMONT PAVING AND REDI-MIX, INC.</u>
Form of entity	<u>Corporation</u>
Jurisdiction	<u>Colorado</u>

2. The trade name under which such entity transacts business or conducts activities or contemplates transacting business or conducting activities in this state is

All Rite Paving and Redi-Mix

3. A brief description of the kind of business transacted or activities conducted or contemplated to be transacted or conducted in this state under such trade name is

aggregate material, concrete paving

4. (If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ This document contains additional information as provided by law.

5. (Caution: Leave blank if the document does not have a delayed effective date. Stating a delayed effective date has significant legal consequences. Read instructions before entering a date.)

(If the following statement applies, adopt the statement by entering a date and, if applicable, time using the required format.)

The delayed effective date and, if applicable, time of this document are \_\_\_\_\_  
(mm/dd/yyyy hour:minute am/pm)

#### Notice:

Causing this document to be delivered to the Secretary of State for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that such document is such individual's act and deed, or that such individual in good faith believes such document is the act and deed of the person on whose behalf such individual is causing such document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S. and, if applicable, the constituent documents and the organic statutes, and that such individual in good faith believes the facts stated in such document are true and such document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the Secretary of State, whether or not such individual is identified in this document as one who has caused it to be delivered.

6. The true name and mailing address of the individual causing this document to be delivered for filing are

<u>Ranson</u>	<u>Richard</u>	<u>Paul</u>	<u></u>
<small>(Last)</small>	<small>(First)</small>	<small>(Middle)</small>	<small>(Suffix)</small>
<u>1040 Hunters Ridge Dr</u>			
<small>(Street number and name or Post Office Box information)</small>			
<hr/>			
<u>Colorado Springs</u>	<u>CO</u>	<u>80919</u>	
<small>(City)</small>	<small>(State)</small>	<small>(Postal/Zip Code)</small>	
<u></u>	<u>United States</u>		
<small>(Province – if applicable)</small>	<small>(Country – if not US)</small>		

(If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ This document contains the true name and mailing address of one or more additional individuals causing the document to be delivered for filing.

**Disclaimer:**

This form/cover sheet, and any related instructions, are not intended to provide legal, business or tax advice, and are furnished without representation or warranty. While this form/cover sheet is believed to satisfy minimum legal requirements as of its revision date, compliance with applicable law, as the same may be amended from time to time, remains the responsibility of the user of this form/cover sheet. Questions should be addressed to the user's legal, business or tax advisor(s).





Document must be filed electronically.  
Paper documents are not accepted.  
Fees & forms are subject to change.  
For more information or to print copies  
of filed documents, visit [www.sos.state.co.us](http://www.sos.state.co.us).

Colorado Secretary of State  
Date and Time: 05/03/2019 03:13 PM  
ID Number: 20191386394  
Document number: 20191386394  
Amount Paid: \$20.00

ABOVE SPACE FOR OFFICE USE ONLY

### Statement of Trade Name of a Reporting Entity

filed pursuant to §7-71-103 and §7-71-107 of the Colorado Revised Statutes (C.R.S)

1. For the reporting entity delivering this statement, its ID number, true name, form of entity and the jurisdiction under the law of which it is formed are

ID Number	<u>19871465104</u> <small>(Colorado Secretary of State ID number)</small>
True name	<u>FREMONT PAVING AND REDI-MIX, INC.</u>
Form of entity	<u>Corporation</u>
Jurisdiction	<u>Colorado</u>

2. The trade name under which such entity transacts business or conducts activities or contemplates transacting business or conducting activities in this state is

Ary Corporation

3. A brief description of the kind of business transacted or activities conducted or contemplated to be transacted or conducted in this state under such trade name is

Heavy civil construction

4. (If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ This document contains additional information as provided by law.

5. (Caution: Leave blank if the document does not have a delayed effective date. Stating a delayed effective date has significant legal consequences. Read instructions before entering a date.)

(If the following statement applies, adopt the statement by entering a date and, if applicable, time using the required format.)

The delayed effective date and, if applicable, time of this document are \_\_\_\_\_  
(mm/dd/yyyy hour:minute am/pm)

#### Notice:

Causing this document to be delivered to the Secretary of State for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that such document is such individual's act and deed, or that such individual in good faith believes such document is the act and deed of the person on whose behalf such individual is causing such document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S. and, if applicable, the constituent documents and the organic statutes, and that such individual in good faith believes the facts stated in such document are true and such document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the Secretary of State, whether or not such individual is identified in this document as one who has caused it to be delivered.

6. The true name and mailing address of the individual causing this document to be delivered for filing are

<u>Ary</u>	<u>Joshua</u>	<u>Paul</u>	<u></u>
<small>(Last)</small>	<small>(First)</small>	<small>(Middle)</small>	<small>(Suffix)</small>
<u>839 MacKenzie Ave</u>			
<small>(Street number and name or Post Office Box information)</small>			
<hr/>			
<u>Canon City</u>	<u>CO</u>	<u>81212</u>	
<small>(City)</small>	<small>(State)</small>	<small>(Postal/Zip Code)</small>	
<u></u>	<u>United States</u>		
<small>(Province – if applicable)</small>	<small>(Country – if not US)</small>		

(If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ This document contains the true name and mailing address of one or more additional individuals causing the document to be delivered for filing.

**Disclaimer:**

This form/cover sheet, and any related instructions, are not intended to provide legal, business or tax advice, and are furnished without representation or warranty. While this form/cover sheet is believed to satisfy minimum legal requirements as of its revision date, compliance with applicable law, as the same may be amended from time to time, remains the responsibility of the user of this form/cover sheet. Questions should be addressed to the user's legal, business or tax advisor(s).



Document must be filed electronically.  
Paper documents are not accepted.  
Fees & forms are subject to change.  
For more information or to print copies  
of filed documents, visit [www.sos.state.co.us](http://www.sos.state.co.us).

Colorado Secretary of State  
Date and Time: 02/27/2019 09:07 AM  
ID Number: 20191179198  
Document number: 20191179198  
Amount Paid: \$20.00

ABOVE SPACE FOR OFFICE USE ONLY

### Statement of Trade Name of a Reporting Entity

filed pursuant to §7-71-103 and §7-71-107 of the Colorado Revised Statutes (C.R.S)

1. For the reporting entity delivering this statement, its ID number, true name, form of entity and the jurisdiction under the law of which it is formed are

ID Number	<u>19871465104</u> <small>(Colorado Secretary of State ID number)</small>
True name	<u>FREMONT PAVING AND REDI-MIX, INC.</u>
Form of entity	<u>Corporation</u>
Jurisdiction	<u>Colorado</u>

2. The trade name under which such entity transacts business or conducts activities or contemplates transacting business or conducting activities in this state is

Hard Rock Paving and Redi-Mix

3. A brief description of the kind of business transacted or activities conducted or contemplated to be transacted or conducted in this state under such trade name is

aggregate material, concrete paving

4. (If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ This document contains additional information as provided by law.

5. (Caution: Leave blank if the document does not have a delayed effective date. Stating a delayed effective date has significant legal consequences. Read instructions before entering a date.)

(If the following statement applies, adopt the statement by entering a date and, if applicable, time using the required format.)

The delayed effective date and, if applicable, time of this document are \_\_\_\_\_  
(mm/dd/yyyy hour:minute am/pm)

#### Notice:

Causing this document to be delivered to the Secretary of State for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that such document is such individual's act and deed, or that such individual in good faith believes such document is the act and deed of the person on whose behalf such individual is causing such document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S. and, if applicable, the constituent documents and the organic statutes, and that such individual in good faith believes the facts stated in such document are true and such document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the Secretary of State, whether or not such individual is identified in this document as one who has caused it to be delivered.

6. The true name and mailing address of the individual causing this document to be delivered for filing are

<u>Ranson</u>	<u>Richard</u>	<u>Paul</u>	<u></u>
<small>(Last)</small>	<small>(First)</small>	<small>(Middle)</small>	<small>(Suffix)</small>
<u>1040 Hunters Ridge Dr</u>			
<small>(Street number and name or Post Office Box information)</small>			
<hr/>			
<u>Colorado Springs</u>	<u>CO</u>	<u>80919</u>	
<small>(City)</small>	<small>(State)</small>	<small>(Postal/Zip Code)</small>	
<u></u>	<u>United States</u>		
<small>(Province – if applicable)</small>	<small>(Country – if not US)</small>		

(If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ This document contains the true name and mailing address of one or more additional individuals causing the document to be delivered for filing.

**Disclaimer:**

This form/cover sheet, and any related instructions, are not intended to provide legal, business or tax advice, and are furnished without representation or warranty. While this form/cover sheet is believed to satisfy minimum legal requirements as of its revision date, compliance with applicable law, as the same may be amended from time to time, remains the responsibility of the user of this form/cover sheet. Questions should be addressed to the user's legal, business or tax advisor(s).

EXHIBIT B

STOCK POWER

TRANSFER DOCUMENTS

See attached

## **STOCK POWER**

July 19, 2024

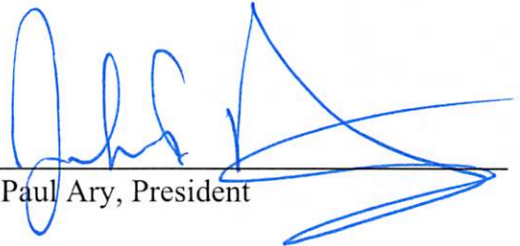
FOR VALUE RECEIVED, the undersigned hereby irrevocably assigns and transfers unto Oldcastle SW Group, Inc., a Colorado corporation ("Purchaser"), 127,500 voting shares of common stock of Fremont Paving and Redi-Mix, Inc., a Colorado corporation (the "Company"), standing in the name of the undersigned on the books of the Company represented by Certificate No. 7, together with all rights and benefits appurtenant thereto (the "Shares"). The undersigned hereby irrevocably constitutes and appoints any authorized officer of Purchaser as attorney-in-fact to transfer the Shares on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*

IN WITNESS WHEREOF, this Stock Power is executed effective as of the date first written above.

**FRE HOLDINGS, INC.,**

a Colorado corporation

A handwritten signature in blue ink, appearing to read 'John Paul Ary', is written over a horizontal line. The signature is stylized with large loops and a long, sweeping tail that extends to the right.

John Paul Ary, President

## **STOCK POWER**

July 19, 2024

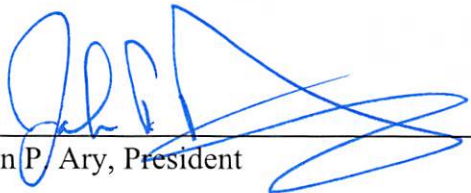
FOR VALUE RECEIVED, the undersigned hereby irrevocably assigns and transfers unto Oldcastle SW Group, Inc., a Colorado corporation ("Purchaser"), 122,500 nonvoting shares of common stock of Fremont Paving and Redi-Mix, Inc., a Colorado corporation (the "Company"), standing in the name of the undersigned on the books of the Company represented by Certificate No. 8, together with all rights and benefits appurtenant thereto (the "Shares"). The undersigned hereby irrevocably constitutes and appoints any authorized officer of Company as attorney-in-fact to transfer the Shares on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*



IN WITNESS WHEREOF, this Stock Power is executed effective as of the date first written above.

**FRE HOLDINGS, INC.,**  
a Colorado corporation

  
\_\_\_\_\_  
John P. Ary, President

## **STOCK POWER**

July 19, 2024

FOR VALUE RECEIVED, the undersigned hereby irrevocably assigns and transfers unto Oldcastle SW Group, Inc., a Colorado corporation ("Purchaser"), 97,960 voting shares of common stock of Ary Brothers Trucking, Inc., a Colorado corporation (the "Company"), standing in the name of the undersigned on the books of the Company represented by Certificate No. 17, together with all rights and benefits appurtenant thereto (the "Shares"). The undersigned hereby irrevocably constitutes and appoints any authorized officer of Purchaser as attorney-in-fact to transfer the Shares on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*

IN WITNESS WHEREOF, this Stock Power is executed effective as of the date first written above.

**ABT HOLDINGS, INC.,**  
a Colorado corporation



---

John Paul Ary, President

## **STOCK POWER**

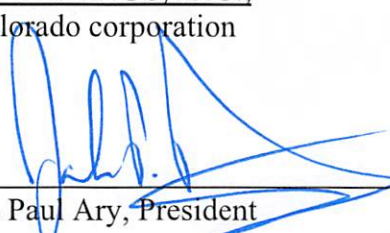
July 19, 2024

FOR VALUE RECEIVED, the undersigned hereby irrevocably assigns and transfers unto Oldcastle SW Group, Inc., a Colorado corporation ("Purchaser"), 41,456 voting shares of common stock of A&S Construction Co., a Colorado corporation (the "Company"), standing in the name of the undersigned on the books of the Company represented by Certificate No. 13, together with all rights and benefits appurtenant thereto (the "Shares"). The undersigned hereby irrevocably constitutes and appoints any authorized officer of Purchaser as attorney-in-fact to transfer the Shares on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*

**IN WITNESS WHEREOF**, this Stock Power is executed effective as of the date first written above.

**AS HOLDINGS, INC.,**  
a Colorado corporation



---

John Paul Ary, President

## **STOCK POWER**

July 19, 2024

FOR VALUE RECEIVED, the undersigned hereby irrevocably assigns and transfers unto Oldcastle SW Group, Inc., a Colorado corporation ("Purchaser"), 5,000 voting shares of common stock of Crane Services of Colorado, Inc., a Colorado corporation (the "Company"), standing in the name of the undersigned on the books of the Company represented by Certificate No. 12, together with all rights and benefits appurtenant thereto (the "Shares"). The undersigned hereby irrevocably constitutes and appoints any authorized officer of Purchaser as attorney-in-fact to transfer the Shares on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*

**IN WITNESS WHEREOF**, this Stock Power is executed effective as of the date first written above.

**CRANE HOLDINGS, INC.,**  
a Colorado corporation

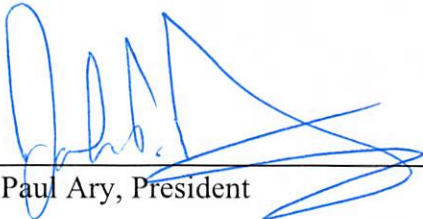
  
\_\_\_\_\_  
John Paul Ary, President

EXHIBIT C

MEMBERSHIP INTEREST ASSIGNMENTS

See attached



## **MEMBERSHIP INTEREST ASSIGNMENT**

July 19, 2024

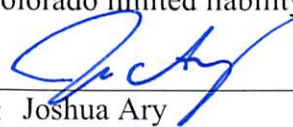
FOR VALUE RECEIVED, the Members identified on **Exhibit A** hereby irrevocably assign and transfer unto Oldcastle SW Group, Inc., a Colorado corporation ("Purchaser"), their respective ownership, identified in **Exhibit A**, totaling a transfer of 100% of the membership interest in Hwy 47 Investment, LLC, a Colorado limited liability company (the "Company"), together with all rights and benefits appurtenant thereto (collectively, the "Interests"). The undersigned hereby irrevocably constitute and appoint any authorized officer of Purchaser as attorney-in-fact to transfer the Interests on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*

**IN WITNESS WHEREOF**, this Membership Interest Assignment is executed effective as of the date first written above.

**MEMBERS:**

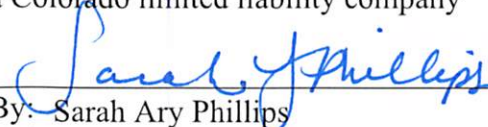
JC Ary Properties, LLC,  
a Colorado limited liability company

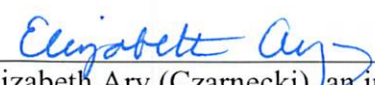
  
\_\_\_\_\_  
By: Joshua Ary  
Title: Member

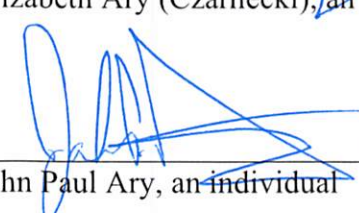
CS Rose Properties, LLC,  
a Colorado limited liability company

  
\_\_\_\_\_  
By: Samantha Ary  
Title: Member

N&S Properties, LLC,  
a Colorado limited liability company

  
\_\_\_\_\_  
By: Sarah Ary Phillips  
Title: Member

  
\_\_\_\_\_  
Elizabeth Ary (Czarnecki), an individual

  
\_\_\_\_\_  
John Paul Ary, an individual

**EXHIBIT A**  
(Membership)

<b><u>Member</u></b>	<b><u>Interest Transferred</u></b>
John Paul Ary	10%
JC Ary Properties, LLC	22.5%
CS Rose Properties, LLC	22.5%
N&S Properties, LLC	22.5%
Elizabeth Ary (Czarnecki)	22.5%

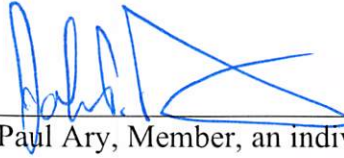
## **MEMBERSHIP INTEREST ASSIGNMENT**

July 19, 2024

FOR VALUE RECEIVED, the undersigned hereby irrevocably assigns and transfers unto Oldcastle SW Group, Inc., a Colorado corporation (“Purchaser”), a 100% membership interest in Pueblo East Phase III, LLC, a Colorado limited liability company (the “Company”), together with all rights and benefits appurtenant thereto (the “Interest”). The undersigned hereby irrevocably constitutes and appoints any authorized officer of Purchaser as attorney-in-fact to transfer the Interest on the books of the Company with full power and substitution in the premises.

*[Signature Page Follows]*

**IN WITNESS WHEREOF**, this Membership Interest Assignment is executed effective as of the date first written above.

A handwritten signature in blue ink, appearing to read "John Paul Ary", is written over a horizontal line.

John Paul Ary, Member, an individual

EXHIBIT D

STATEMENT OF MERGER

See attached

**Statement of Merger  
(Surviving Entity is a Domestic Entity)**

Business Program

Colorado Secretary of State

1700 Broadway, Ste. 550 Denver, CO 80290

Phone: 303-894-2200

Fax: 303-869-4864

Email: [Business@coloradosos.gov](mailto:Business@coloradosos.gov)

Website: [www.coloradosos.gov](http://www.coloradosos.gov)

20241757420

\$300.00

SECRETARY OF STATE

07/22/2024 14:53:27

This form must be typed. Documents may be submitted by mail or dropped off at our office along with payment.

Document processing fee: \$150.00

Filed pursuant to § 7-90-203.7 of the Colorado Revised Statutes (C.R.S.)

1. For each **merging** entity, its ID number (if applicable), entity name or true name, form of entity, jurisdiction under the law of which it is formed, and principal address are:

Colorado Secretary of State ID Number:

19871342310

Entity name or true name:

A & S Construction Co.

Form of entity:

Corporation

Jurisdiction:

Colorado

The principal office address of the entity's principal office is:

**Street Address**

Street Address 1

839 Mackenzie Ave

Street Address 2

City

Canon City

State

CO

ZIP code

81212



Province (if applicable)	Country

**Mailing Address (Leave blank if same as street address)**

Mailing Address 1

PO Box 566

Mailing Address 2

City	State	ZIP code
Canon City	CO	81212

Province (if applicable)	Country
	USA

---

**Colorado Secretary of State ID Number:**

19871280796

**Entity name or true name:**

Ary Brothers Trucking, Inc.

**Form of entity:**

Corporation

**Jurisdiction:**

Colorado

**The principal office address of the entity's principal office is:**

**Street Address**

**Street Address 1**

839 Mackenzie Ave

**Street Address 2**

City	State	ZIP code
Canon City	CO	81212



Province (if applicable)  Country

**Mailing Address (Leave blank if same as street address)**

Mailing Address 1

Mailing Address 2

City  State  ZIP code

Province (if applicable)  Country

---

Colorado Secretary of State ID Number:

Entity name or true name:

Form of entity:

Jurisdiction:

The principal office address of the entity's principal office is:

**Street Address**

Street Address 1

Street Address 2

City  State  ZIP code

Province (if applicable)

Country

**Mailing Address (Leave blank if same as street address)**

Mailing Address 1

Mailing Address 2

City

State

ZIP code

Province (if applicable)

Country

---

If the following statement applies, adopt the statement by marking the box and include an attachment:

☒

**There are more than three merging entities and the ID number (if applicable), entity name or true name, form of entity, jurisdiction under the law of which it is formed, and the principal address of each additional merging entity is stated in an attachment.**

2. For the **surviving** entity, its entity ID number (if applicable), entity name or true name, form of entity, jurisdiction under the law of which it is formed, and principal address are:

Colorado Secretary of State ID Number:

Entity name or true name:

Form of entity:

Jurisdiction:

Colorado

The principal office address of the entity's principal office is:

**Street Address**

Street Address 1

2273 River Rd

Street Address 2

City

Grand Junction

State

CO

ZIP code

81505

Province (if applicable)

Country

USA

**Mailing Address (Leave blank if same as street address)**

Mailing Address 1

Mailing Address 2

City

State

ZIP code

Province (if applicable)

Country

3. Each merging entity has been merged into the surviving entity.

4. If the following statement applies, adopt the statement by marking the box:

☐

**The plan of merger provides for amendments to a constituent filed document of the surviving entity and an appropriate statement of change or other document effecting the amendments will be delivered to the Secretary of State for filing pursuant to Part 3 of Article 90 of Title 7, C.R.S.**

5. If the following statement applies, adopt the statement by marking the box and state the appropriate document number(s):

☐ **One or more of the merging entities is a registrant of a trademark described in a filed document in the records of the secretary of state and the document number of each filed document is:**

Document 1

Document 2

Document 3

If the following statement applies, adopt the statement by marking the box and include an attachment:

☐ **There are more than three trademarks and the document number of each additional trademark is stated in an attachment.**

6. If applicable, adopt the following statement by marking the box and include an attachment:

☐ **This document contains additional information as provided by law.**

7. The delayed effective date and/or time (mm/dd/yyyy hour:minute am/pm) of this document is (if applicable):

Caution: Leave blank if the document does not have a delayed effective date. Stating a delayed effective date has significant legal consequences. If you don't enter a specific time, the filing will take effect at 11:59 PM. Times are MST/MDT.

**Notice:**

Causing this document to be delivered to the Secretary of State for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that such document is such individual's act and deed, or that such individual in good faith believes such document is the act and deed of the person on whose behalf such individual is causing such document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S. and, if applicable, the constituent documents and the organic statutes, and that such individual in good faith believes the facts stated in such document are true and such document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the Secretary of State, whether or not such individual is identified in this document as one who has caused it to be delivered.

8. The name and mailing address of the individual causing the document to be delivered for filing are:

**Filer Information**

Last name	First name	Middle	Suffix
Williams	Nanci		

**Address 1**

1 E Washington ST Ste 1200
----------------------------

**Address 2**

--

City	State	ZIP code
Phoenix	AZ	85004

Province (if applicable)	Country

This document contains the true name and mailing address of one or more additional individuals causing the document to be delivered for filing.  
If applicable, mark this box and include an attachment stating the additional individuals.

☐ More information will be attached.

**Disclaimer:**

This form/cover sheet, and any related instructions, are not intended to provide legal, business or tax advice, and are furnished without representation or warranty. While this form/cover sheet is believed to satisfy minimum legal requirements as of its revision date, compliance with applicable law, as the same may be amended from time to time, remains the responsibility of the user of this form/cover sheet.

Questions should be addressed to the user's legal, business or tax advisor(s).

**ATTACHMENT TO COLORADO STATEMENT OF MERGER  
ADDITIONAL MERGING ENTITIES**

**1.**

Colorado Secretary of State ID Number:	19871465104
Entity Name or True Name:	Fremont Paving and Redi-Mix, Inc.
Form of Entity:	Corporation
Jurisdiction:	Colorado
Street Address:	839 Mackenzie Ave, Canon City, CO 81212, USA
Mailing Address (leave blank if same as street address)	PO Box 841, Canon City, CO 81215, USA

**2.**

Colorado Secretary of State ID Number:	20181635649
Entity Name or True Name:	Pueblo East Phase III, LLC
Form of Entity:	Limited Liability Company
Jurisdiction:	Colorado
Street Address:	839 Mackenzie Ave, Canon City, CO 81212, USA
Mailing Address (leave blank if same as street address)	PO Box 566, Canon City, CO 81215, USA

**3.**

Colorado Secretary of State ID Number:	20221676677
Entity Name or True Name:	Hwy 47 Investment, LLC
Form of Entity:	Limited Liability Company
Jurisdiction:	Colorado
Street Address:	839 Mackenzie Ave, Canon City, CO 81212, USA
Mailing Address (leave blank if same as street address)	PO Box 1091, Canon City, CO 81215, USA



# WARRANTY DEED

THIS DEED is dated the 25th day of May, 2022, and is made between

State Doc Fee: \$8.80  
Recording Fee: \$13.00

Etta Pearl Clayton  
(whether one, or more than one), the "Grantor" of the County of Bent  
and State of Colorado and

Nathaniel Isaiah Wertz and Megan Rose Wertz  
the "Grantees", whose legal address is 21390 Road JJ, McClave, CO  
81057 of the County of Bent and State of Colorado

WITNESS, that the Grantor, for and in consideration of the sum of ( \$88,000.00 ) Eighty Eight Thousand Dollars and No Cents, the receipt and sufficiency of which is hereby acknowledged, hereby grants, bargains, sells, conveys and confirms unto the Grantees and the Grantees' heirs and assigns forever, not in tenancy in common but in joint tenancy, all the real property together with any improvements thereon, located in the County of Bent and State of Colorado described as follows:

**Township 22 South, Range 50 West of the 6th P.M.**

**Section 27:** S1/2

**Section 33:** NE1/4

**Section 34:** NW1/4NW1/4, N1/2SW1/4NW1/4, SW1/4SW1/4NW1/4, N1/2N1/2SE1/4SW1/4NW1/4, N1/2SE1/4NW1/4, SE1/4SE1/4NW1/4, E1/2SW1/4SE1/4NW1/4 and N1/2NW1/4SW1/4SE1/4NW1/4

County of Bent,  
State of Colorado.

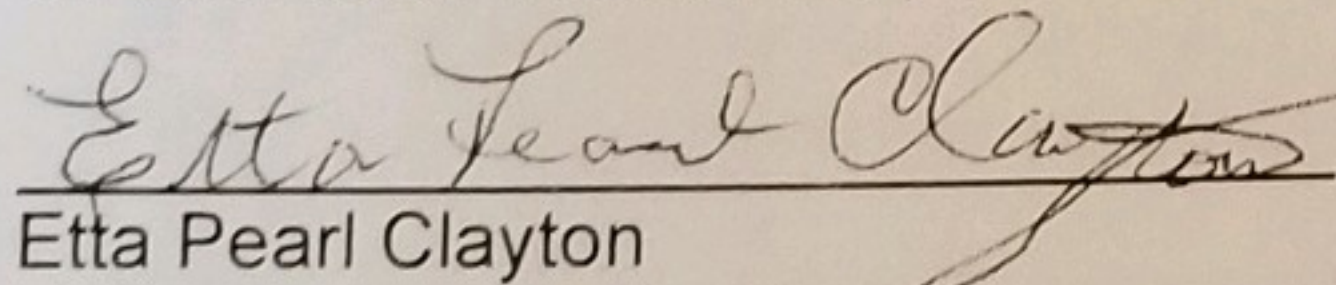
also known by street and number as: 21390 Road JJ, McClave, CO 81057

**TOGETHER** with all and singular the hereditaments and appurtenances thereto belonging, or in anywise appertaining, the reversions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the Grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

**TO HAVE AND TO HOLD** the said premises above bargained and described, with the appurtenances, unto the Grantees, and the Grantees' heirs and assigns forever.  
The Grantor, for the Grantor and the Grantor's heirs and assigns, does covenant, grant, bargain, and agree to and with the Grantees, and the Grantees' heirs and assigns: that at the time of the ensealing and delivery of these presents, the Grantor is well seized of the premises above described; has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, and in fee simple; and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form as aforesaid; and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, except and subject to:

And the Grantor shall and will WARRANT AND FOREVER DEFEND the above described premises, in the quiet and peaceable possession of the Grantees, and the heirs and assigns of the Grantees, against all and every person or persons lawfully claiming the whole or any part thereof.

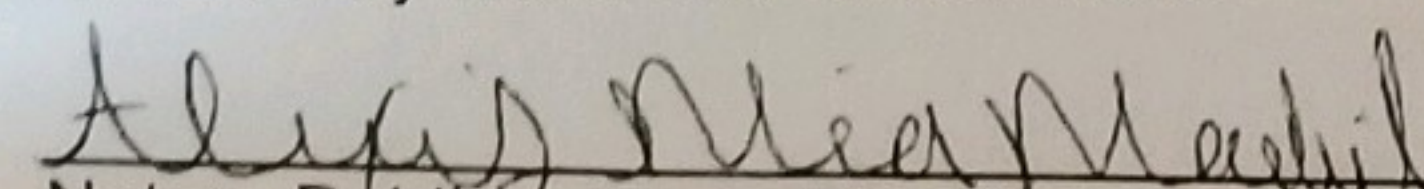
IN WITNESS WHEREOF, the Grantor has executed this deed on the date set forth above.

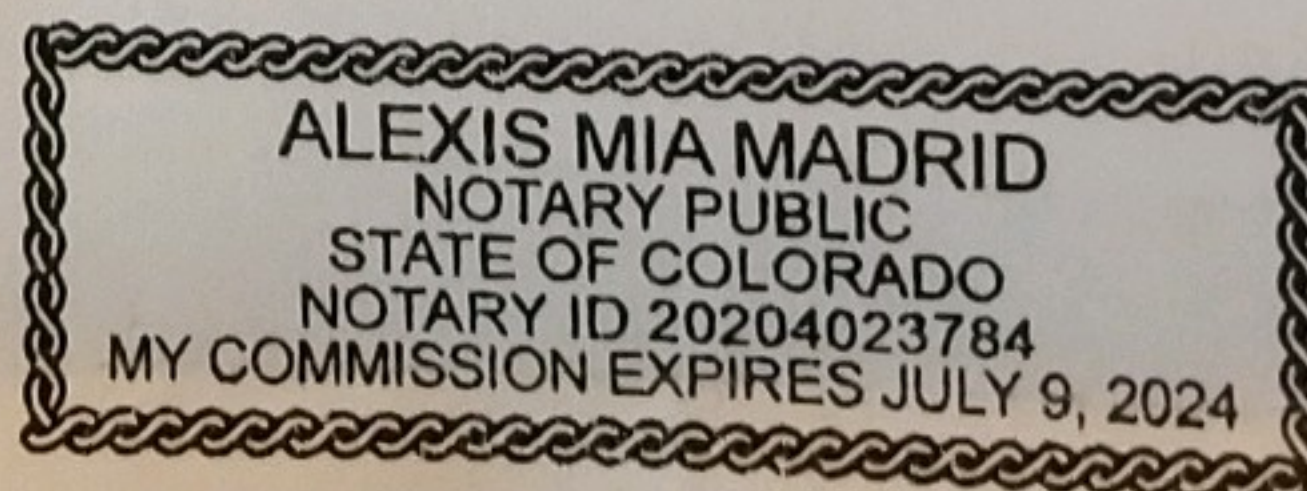
  
Etta Pearl Clayton

State of Colorado  
County of Prowers

The foregoing instrument was acknowledged before me this 25th day of May, 2022 by Etta Pearl Clayton.

Witness my hand and official seal.

  
Notary Public: Alexis Mia Madrid  
My commission expires: July 09, 2024





## GRAVEL LEASE AMENDMENT

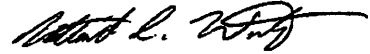
This Gravel Lease Amendment is dated this 28<sup>th</sup> of JULY, 2022 (hereafter referred to as the "Lease Amendment") and is by and between Nathan and Megan Wertz (Lessor), whose address is 21390 County Road JJ, McClave, CO and All Rite Paving & Redi Mix, Inc., a Colorado Corporation (the Company) whose address is PO Box 841, Canon City, CO.

### Agreement

The Lessors have been updated to reflect the new ownership of the property within this lease agreement.

IN WITNESS WHEREOF, this Gravel Lease Amendment has been duly executed as of the date first written above.


Wertz Pit



BY: Megan A. Wertz

Nathan and Megan Wertz, Owner

Fremont Paving and Redi Mix, Inc.

BY: 

John P. Ary, President



## Gravel Property Lease

This Gravel Property Lease (this "Lease"), dated this 20<sup>th</sup> day of MARCH, 2020, (hereinafter referred to as the "Lease"), by and between Etta Clayton ("Lessor"), whose address is 21390 CR JJ, McClave, CO 81057, and Fremont Paving & Redi Mix, Inc., a Colorado Corporation ("Company"), whose address is 839 Mackenzie, Canon City, CO 81212.

### Recitals

In consideration of the sum of Ten Dollars (\$10) paid by the Company to Lessor, the receipt and sufficiency of which is hereby acknowledged by Lessor, and on and subject to the terms and conditions provided in this Lease, Lessor hereby leases, lets and demises to the Company the Materials as defined herein, in, on and under the following described real property situate in Bent County, Colorado with a legal description as follows:

See attached Assessor Sheet

the exclusive right to sample, drill, and test for, develop, mine, quarry, extract, process, convey, sell, use, and remove them during the Term of this Lease, along with the right to locate and operate and /or sublease aggregate, asphalt and concrete plants and with associated easements as provided herein.

### 1. Definitions.

- a. Lease Year shall mean a period of one year beginning on the date the Term of the Lease commences, as set forth in Subsection e, below, or on any annual anniversary thereof.
- b. Materials shall mean stone, sand and gravel, aggregate and any overburden or other material, other than hydrocarbon minerals such as coal, oil, and gas and associated liquid hydrocarbons, that are removed incident to sand and gravel operations hereunder and which are saleable and recoverable from the Property in the course of such operations.
- c. Net Sales Ton shall mean 2000 pounds of Materials from the Property actually removed from said Property.
- d. Plant shall mean a portable and/or fixed facility for processing, storing, washing, sorting, handling loading and shipping of Materials, along with ancillary facilities, and shall also mean a concrete or asphalt batch plant.

Lessor Initials EL  
Lessee Initials RM

- e. Term. The Term of this lease shall be for a period of Ten (10) years commencing on \_\_\_\_\_, 2020 . The lease shall renew at the end of the Ten (10) year term with the consent of both parties.

2. Sales Royalties.

- a. Subject to Paragraph 3.B. and 4, for all Materials sold from the Property during each calendar month, the Company shall pay to Lessor a "Sales Royalty" calculated as follows:
- b.
- i. \$1.00 per ton for all sand and gravel, aggregate, overburden or any other material.
  - ii. All payments shall be made within twenty (20) days after the close of each calendar month.
  - iii. At the end of five (5) years, the parties agree to negotiate in good faith new royalty rates.
- c. The Company shall keep and maintain adequate and accurate records of the quantities of Materials mined and sold. The Sales Royalty payments shall be accompanied by a monthly statement with the royalty calculation that includes an accounting of the tons of Materials mined from the Property and sold or deemed sold for the month. Lessor shall have the right at all reasonable times during business hours and upon reasonable prior notice to examine such records of the Company at the offices of the Company and to verify the quantities of Material removed and sold, and the accuracy of the scales used to weigh the Materials.

3. Weighing of Materials; Commingling. For purpose of calculation of Sales Royalty, quantities of Materials removed from the Property on which Sales Royalty is due will be measured as follows:

- a. Use of Scales: All materials shall be weighed on a certified scale upon sale and removal from the Property. If materials on which sales royalty is due are mixed with non-excavated materials (for example, in case of mixing sand and gravel with water and Portland Cement in the concrete batch plant), then for purpose of calculating the sales royalty, the weight of the Subject material used in the mixture will be determined using the certified scales at the Property to measure the weight of the materials that comprise the mixture and deducting the weight of the added non-excavated materials, if necessary.
- b. Scale Adjustments: Accuracy of the scale shall be checked and adjustments made at least as often as required to continue to be

Lessor Initials EP  
Lessee Initials h.h.

certified. Records of the accuracy check and adjustments shall be preserved and made available in the same manner as other records.

4. Operations.

- a. The Company shall conduct its operations on the Property in a prudent and workmanlike manner and in accordance with good and accepted mining and business practices and in compliance with all applicable federal, state, and local laws, rules and regulations and all applicable permits. The timing, nature, manner and extent of mining operations, processing and sales shall be within the sole discretion of the Company, and the Company shall not be required to mine, preserve or protect in its operations any Materials which, under good mining practices, cannot be mined or sold at a reasonable profit to the Company at the time they are encountered.
- b. The Company shall have the right to construct, maintain, use roads, power lines, telephone lines, conveyors and stockpile areas and any right of way it deems necessary or desirable for its operations on the Property related to the Company's operations under this Lease but must first notify the landowner for permission. Any roads constructed will remain permanently on the property and the owner will sign a letter stating agreement of such. The Company shall have the right during the Term of this Lease and without payment to Lessor to strip and remove overburden and otherwise to use and occupy the Property as is reasonably required in connection with mining, quarrying, extracting, processing (including tailings-washed fines storage facilities), storage, transportation, sale and removal of Materials from the Property and from other properties on which the Company is conducting operations.
- c. The Company shall have the right to construct and maintain Plants on the Property at a location selected by the Company, and Lessor agrees that the Company shall have full right of access for the construction, use and maintenance of the Plants and for stockpiling Materials processed or to be processed, whether from the Property or from other properties on which the Company is conducting operations. Any access easement and conveyor easement shall be 50 feet in width within the Property. Any conveyor easement shall include but not limited to the right to construct, operate, maintain, repair and remove a conveyor system and similar, related or incidental improvements for purposes of transporting Materials across the Property. The Company shall have the right to place fines from the Property in mined out areas at no additional cost to Company under this Lease.

Lessor Initials ELB  
Lessee Initials M.A.

- d. Lessor shall have the right to continue use of the surface of the Property during the Term of this Lease. The reserved surface use includes, but may not be limited to, residential, water hauling operations; equipment storage, cow-calf livestock operations, and hay stack yard. Any lease or other agreement for such use shall be made expressly subject to the Company's right hereunder, and the Company shall have no obligation to pay Lessor or any surface use for impairing such use in connection with the Company's operations hereunder.
5. **Obligations of Company under the Terms of this Agreement.**
- a. The Company shall be responsible to provide the appropriate reclamation bonding.
  - b. The Company shall be responsible to provide seed and planting of grass associated with reclamation of the mining site.
  - c. The Company shall provide all labor, materials, and equipment to properly mine the property set forth herein.
  - d. The Company shall retain onsite existing topsoil for future reclamation or provide such.
  - e. The Company shall provide appropriate portable toilets and drinking water.
  - f. The Company shall comply with all other local and/or State Health Department regulations for operation of a mining permit.
  - g. The Company shall be obligated to mine the area in a safe and appropriate manner according to all local, state or Federal regulations, including but not limited to providing safety berms, waste water treatment, fueling containment and control waste water generated on the mining site.
  - h. The Company shall be responsible to reapply overburden and to properly slope and grade the used mining sites as provided in the application for mining permit as the mining progresses.
6. **Waiver of Lateral Support.** Lessor hereby waives lateral support as reasonably necessary for mining purposes for the portions of the Property abutting boundary lines between the Property and adjacent properties that are or hereafter be owned or leased by the Company. Company shall replace or restore any improvements such as fences damaged by removal of lateral support.
7. **Ingress and Egress.** The Company shall have the right of ingress and egress to and from the said property.
8. **Liabilities.**

Lessor Initials   
Lessee Initials 

- a. Company shall defend and indemnify and hold harmless the Lessor and Lessor's agents and employees from and against any and all claims, demands, judgments and liability, including reasonable attorney fees and expert fees, by or to any and all third parties that may arise as a result of the negligent acts or omissions of Company or its agents, representatives, officers, employees, lessees and contractors, in or about the Property.
- b. The Company shall defend, indemnify, and hold harmless Lessor from any and all liability resulting from the Company operations hereunder pursuant to all local, state and federal environmental laws, ordinances, rules and regulations, including but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. § 9601 *et seq.*) and the Resource Conservation and Recovery Act (42 U.S.C. § 6901 *et seq.*), as any of such laws, ordinances, rules and regulations have been or are amended from time to time.
- c. The foregoing indemnifications shall all survive the termination of this Lease. The indemnity provisions set forth in this Lease shall apply to amounts paid in settlement of a claim by an indemnified party only if such settlement is approved by the indemnifying party, which approval shall not be unreasonably withheld and shall include any and all legal fees, costs and expert witness fees incurred by the party being indemnified.

9. Insurance.

- a. The Company shall maintain at its sole expense and at all times statutory Workers Compensation Insurance coverage as required under the laws and regulations of the State of Colorado for all its officers and employees who perform work for the Company hereunder.
- b. The Company shall purchase, at its sole expense, and shall maintain at all times the following minimum insurance protection with Lessor designated as an additional insured providing for written notice to Lessor thirty (30) days prior to cancellation. Company shall provide Lessor with a certificate of such insurance annually and add the Lessor as an additional insured.
  - i. Comprehensive General Liability in the amount of \$1,000,000 combined single limit;
  - ii. Employer's Liability Insurance in the amount of \$500,000 each occurrence;
  - iii. Automobile Liability Insurance in the amount of \$1,000,000 combined single limit; and

Lessor Initials EP  
Lessee Initials ALA

- iv. Adequate and reasonable insurance for other risks ordinarily insured against in similar operations.
  - c. The Company agrees that it shall require all contractors and subcontractors who perform work on the Company's behalf in connection with the Property to have similar and adequate insurance in full force and effect.
10. Title and Other Conditions.
- a. Lessor warrants that Lessor owns the surface estate and the materials within the Property subject to easements, restrictions and reservations of record or in use, and Lessor agrees to defend said title against all adverse claims.
  - b. The Company has accepted Lessor's title as marketable, to the best of its knowledge, as of the date of this Lease. If subsequent thereto the Company determines that Lessor's title to the Property and Materials is not good and marketable, the Company shall so notify Lessor in writing, in which case Lessor, at Lessor's cost, shall correct the specified title defects. If any title defects which render the title unmarketable or adversely affect the Company's right to mine are not cured within sixty days after receipt of such notice, the Company, at its option, may terminate this Lease without any further obligation to Lessor or, at its option may resolve the adverse claim and deduct the cost incurred from payments otherwise due Lessor.
  - c. Without regard to the warranties of title given to the Company by Lessor, if Lessor own less than one hundred percent (100%) of the Materials under all or any portion of the Property, then the amounts payable to Lessor hereunder as Sales Royalties shall be reduced in the proportion that the interest of the Lessor in the Materials bears to one hundred percent (100%) of the Materials within the Property.
  - d. The Company's obligation under this Lease is conditioned upon the Company obtaining all required permits for mining and access to the public roadway on terms reasonably satisfactory to the Company. If the Company cannot, after exercising reasonable diligence, obtain such permits on terms reasonably satisfactory to the Company within six months after commencement of this Lease, then the Company may, at its election, terminate this Lease by notice to the Lessor.
  - e. This Lease shall be subject to any and all existing and/or subsequent oil and gas or other mineral leases or other agreements regarding oil and gas or other mineral operations of the Property during the Term of this Lease. If the whole or any part of the Property is affected by any

Lessor Initials   *EL*    
Lessee Initials   *EL*

oil and gas production at any time during the term of this Lease, Lessor and the Company shall each be entitled to share in the award to the extent of their respective interests in the Property with respect to any damages or losses. In the event only a portion of the Property is affected, and if notwithstanding such production the Company will be able to continue to conduct its business in the remainder of the Property in substantially the manner it was being conducted immediately prior to such production, this Lease shall cease only as to the part affected. If, however, by reason of the oil and gas production there is not sufficient property left in or upon the Property for the Company to conduct its business in substantially the manner in which it was being conducted immediately prior to such production, then and in such event this Lease shall terminate. All damages or losses awarded on account of the interest of the Lessor shall be paid to the Lessor and all awards on account of Company's leasehold interest shall be paid to Company. The allocation of any lump sum award for any damages or losses between Lessor and Company shall be made by agreement between them, if possible, or if the parties cannot agree (i) the value of Lessor's interest in the property affected by such taking and under this Lease, and (ii) the value of Company's interest therein under the Lease.

- f. Lessor represents to the best of its information and knowledge that the Property constitutes a legal lot under applicable law and that no subdivision approval is required for the Company's operation on the Property or for the granting of this Lease.

11. Labor and Materials. The Company agrees to keep the Property free and clear of liens charges, claims or demand arising from the Company's operations hereunder and to promptly pay for all labor performed on the Property and for all supplies, materials, and equipment used or placed on the Property. The Company shall defend, indemnify and hold harmless Lessor from and against any and all claims, charged, demands, causes of action, damages and liability, including reasonable attorneys fees and expert fees, that arise from or are connected to the acts or omissions of the Company hereunder or to those of its contractors, subcontractors, employees, officers, agents or lessees in regard to providing labor and acquiring in installing materials, equipment and supplies for operations under this Lease. The Company may contest in good faith any claim; provided that the Company shall not allow title to the Property or any portion of it to be lost.

12. Termination.

- a. Lessor shall have the right at Lessor's option to terminate this Lease if the Company fails to perform any of its obligations hereunder as follows;

Lessor Initials LP  
Lessee Initials MA

- i. If the Company fails to pay when due any amounts to be paid hereunder, Lessor may at Lessor's option give the Company written notice of such failure and the Company shall have thirty (30) days from the date it receives notice to pay the amounts owed to Lessor. If the Company fails to pay the past due amounts to Lessor within ninety (60) day period, Lessor may at Lessor's option declare the Company in default and terminate this Lease.
  - ii. If the Company defaults in the performance of any obligation hereunder other than the obligation to pay money when due, Lessor may at Lessor's option give written notice by certified mail of such default to the Company, and the Company shall have ninety (90) days from the date it received such notice to cure the default. If the Company fails to cure the default within the ninety-day period, Lessor may at Lessor's option terminate this Lease; provided, however, that if the default is minor and the default can be fully compensated for damages, than such default shall not be a basis for cancellation or forfeiture of this Lease or any of Company's rights hereunder if the Company pays the full amount of damages within ninety (90) days after demand by Lessor. If through no fault of the Company, such failure is impracticable to correct within the 90-day prior, Lessor shall have no right to terminate this Lease if the Company commences in good faith to correct the failure and provided that the Company diligently pursues and completes the correction within a reasonable time.
- b. The Company shall have the right, at its option, to terminate this Lease at the end of any Lease Year during the Term by giving at least sixty (60) days prior written notice to Lessor.
- c. Upon termination of this Lease for any reason, the Company shall continue to be liable for the performance of all of Company's obligations and the satisfaction of all Company's liabilities to Lessor including, but not limited to, the payment of royalties which have accrued prior to the date of termination and the compliance with all laws, regulations, and permit conditions that apply to the Property and the operations on the Property including, but not limited to all reclamation environmental and land use laws, regulations and permit conditions.
- d. Upon termination of this Lease with respect to all or any part of the Property, the Company agrees to furnish Lessor with a document reasonably satisfactory to Lessor verifying such termination and release of Lease.
- e. Upon termination of this Lease by the Company for any reason, all sums paid hereunder to Lessor shall remain the property of Lessor and

Lessor Initials ELP  
Lessee Initials ELP



shall not be recoupable or refundable except to the extent that they have already been recouped or refunded as of the effective date of termination, or except as expressly provided in Paragraphs 10.B and C above.

13. End of Term. The Company shall have the right for six (6) months from the date of the expiration or termination of the Lease to dismantle and remove machinery, equipment, improvements, and other facilities installed or constructed on the Property by the Company and also to sell and remove Materials then stockpiled on the Property, subject to its obligation to pay Sales Royalties pursuant to Section 3.
14. No Development Covenant. There is no implied covenant or obligation of the Company to explore, develop or mine the Property or to sell Materials. The Company may maintain this Agreement in effect for its term and any allowed extensions by making the payments set forth herein.
15. Restoration of Property. Within one (1) year after the expiration or earlier termination of this Lease, the Company is required to substantially restore the Property to the condition required by law and by the applicable permits and approvals required for the Company to conduct operations hereunder. Thereafter, the Company shall continue to have the right to access and enter the Property and to effect on the Property such final reseedling, restoration, repair, rehabilitation and reclamation as may be required for the Company to obtain release of any security or bond provided by the Company to secure its performance of reclamation require by its governmental permits and authorizations. Following the expiration or termination of this Lease for any reason, Lessor covenants that Lessor will not extract or allow others to extract Materials until Lessor or others effect the transfer of the Colorado Division of Reclamation, Mining and Safety permit in their names for reclamation or rehabilitation of the Property and the release of any security or bond provided by the Company to secure its performance or discharge its responsibilities.
16. Assignment. The provisions of this Lease shall extend to and be binding upon the heirs, personal representatives, successors, assigns and sub lessees of Lessor and the Company. The Company shall have the right to assign this lease with the express written consent of the Lessor.
17. Notice. Notices of default or of cancellation or termination of this Lease and all other notices required or permitted hereunder shall be given by personal delivery or by registered or certified mail, postage prepaid, addressed to the parties as follows;

If to the Company: 839 Mackenzie  
Canon City, CO 81212

Lessor Initials Ed  
Lessee Initials W.A.

If to Lessor:

21390 CR JJ  
McClave, CO 81057

18. **Condemnation.** If the whole or any part of the Property shall be taken by any public authority under the power of eminent domain at any time during the term of this Lease, Lessor and the Company shall each be entitled to share in the award to the extent of their respective interests in the Property with respect to any taking. In the event only a portion of the Property is taken, and if notwithstanding such taking the Company will be able to continue to conduct its business in the remainder of the Property in substantially the manner it was being conducted immediately prior to such taking, this Lease shall cease only as to the part taken. If, however, by reason of the condemnation there is not sufficient property left in or upon the Property for the Company to conducting its business in substantially the manner in which it was being conducted immediately prior to such taking, then and in such event this Lease shall terminate. All condemnation awards on account of the interest of the Lessor shall be paid to the Lessor and all awards on account of Company's leasehold interest shall be paid to Company. The allocation of any lump sum award for any taking between Lessor and Company shall be made by agreement between them, if possible, or if the parties cannot agree (i) the value of Lessor's interest in the property affected by such taking and under this Lease, and (ii) the value of Company's interest therein under the Lease.
19. **Non-Business Day Deadlines.** If a date for notice, performance or payment falls on a holiday or weekend, the time for performance or payment shall be extended to the next business day, and if notice, performance or payment has occurred on such weekend or holiday or after 5:00p.m. On any business day, it shall be deemed to have occurred on the next business day.
20. **Confidentiality; Recording.** The parties agree that the terms and conditions of this Lease are confidential and shall not be disclosed to any third party without the consent of the other. Neither party shall record this Lease without the consent of the other. The parties agree to execute a short lease for recording to provide record notice of this Lease without disclosing the economic terms hereof.
21. **Entire Agreement.** This Lease contains the entire agreement between the parties hereto, and neither it nor any part of it may be changed, altered, modified, or limited orally or by any agreement between the parties unless such agreement be expressed in writing, signed, and acknowledged by the Lessor and the Company, or their respective heirs, personal representatives, successors and assigns.

Lessor Initials   
Lessee Initials 

22. Counterparts. This Lease may be executed in one or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same Lease.
23. Choice of Law. This agreement and its provisions shall be interpreted and enforced under the laws of the State of Colorado.
24. Severability. All agreements and covenants contained herein are severable, and in the event any of them shall be held to be invalid by any competent Court, this agreement shall be interpreted as if such invalid agreements or covenants were not contained.
25. Attorney's Fees. In the event either party is required to seek counsel or seek redress in a Court of law for enforcement of this contract, the prevailing party in such dispute shall be entitled to reimbursement of reasonable attorney's fees and costs, in addition to any damages found to be due.
26. A one-time payment of \$10,000 will be made to Lessor when the site is fully permitted.
27. This lease will follow the property if the property is sold.
28. If Lessor is not able to receive payments, payments should be made in equal shares to Loretta Johnson, Cheryl Baldwin, Vicki Burgess and Valeri Noecker until the end of the contract.

Lessor Initials ELP  
Lessee Initials AKA

IN WITNESS WHEREOF, this Gravel Property Lease has been duly executed as of the date first above written.

By: *Etha Clayton*

FREMONT PAVING & REDIMIX, INC.

By: *John P. Ary*  
John P. Ary, President

STATE OF COLORADO )  
COUNTY OF Prowers )

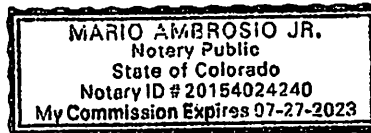
The foregoing instrument was acknowledged before me this 20<sup>th</sup> day of MARCH, 2020, by *Etha Clayton*, property owners.

Witness my hand and official seal.

My Commission Expires: 7/27/23

*M. A. Jr.*  
Notary Public

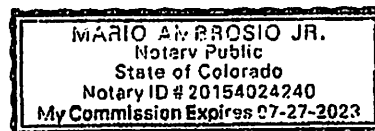
STATE OF COLORADO )  
COUNTY OF Prowers )



The foregoing instrument was acknowledged before me this 20<sup>th</sup> day of MARCH, 2020, by Fremont Paving and Redi Mix, Inc. by *John P. Ary*, its President.

Witness my hand and official seal.

My Commission Expires: 7/27/23



Lessor Initials *ELC*  
Lessee Initials *JP*

## Wertz

Structure	Structure Owner	Distance (ft)
County Road JJ	Bent County	25
Fence	Nathan Wertz	56
Power Poles	Lamar Light and Power	57

The structures listed herein are all at or further away from operations than the slopes analyzed in the following slope stability exhibit. This demonstrates that no structures are at risk.

# RULE 6.5: GEOTECHNICAL STABILITY EXHIBIT

There are no known geologic hazards on the proposed site. Based on a slope stability analysis, buildings or other structures within 200' of the Wertz Pit affected area will not be affected by mining excavation. The mine plan specifies a minimum buffer of 25-ft to the closest structure of power lines and poles. A standard slope was analyzed for stability.

The material properties are derived from Table 2.5 in the SME Mining Reference Handbook<sup>1</sup>, as there is no site-specific strength data of the material available. Therefore, all materials are matched to a classification from this table that best matches the materials in terms of description. The native alluvial material is best classified as sand and gravel with a mixed grain size. A layer of soil and sand lies atop the sand and gravel deposit. This material is best described as loose sand, mixed grain size. A summary of the material properties can be seen in Table GS-1.

**Table GS-1. Material Properties**

Material	Unit Weight (lbs/ft)	Cohesion	Friction Angle
Sand and gravel, mixed grain size	110	0	45
Loose sand, mixed grain size	99	0	34

The final reclamation (3H:1V) slope was analyzed. The final reclaimed slope crest will be the closest excavation comes to any structures.

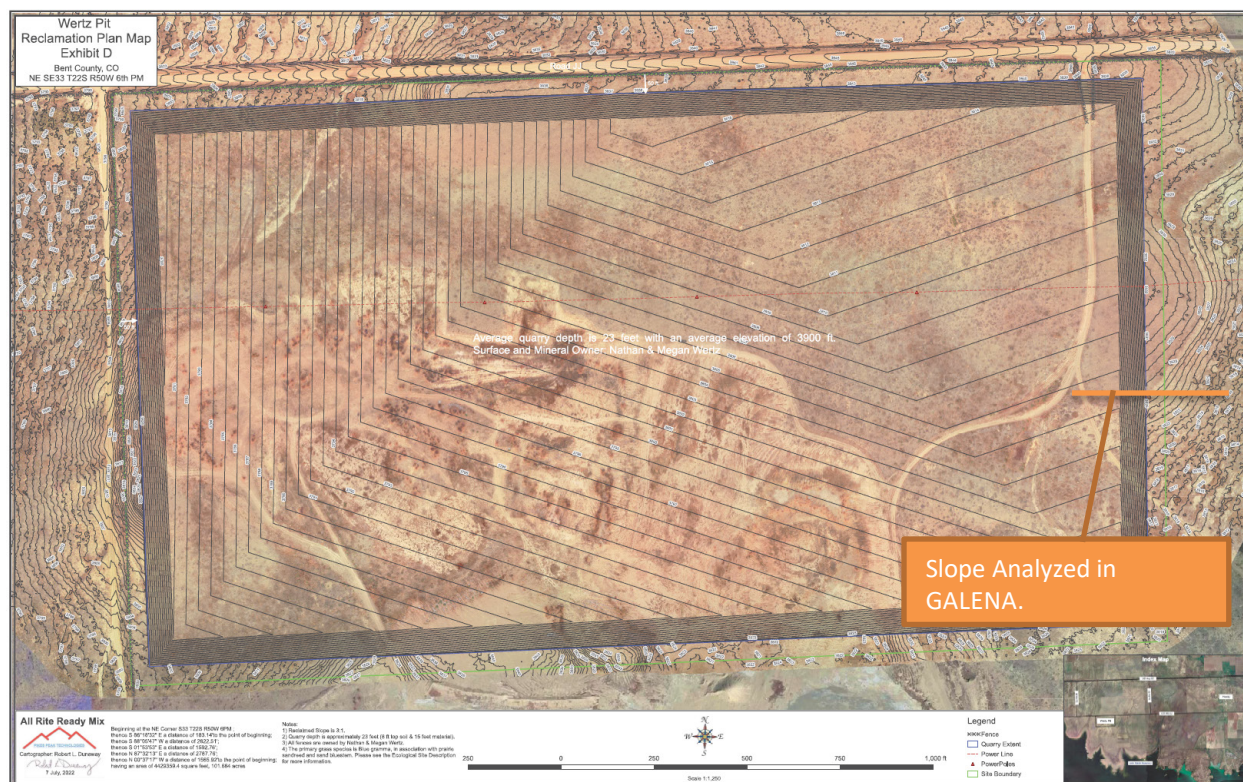
## 1. Reclamation Slopes

Factor of Safety is expressed in terms of strength divided by stress as a ratio. It is arrived at by an iterative computer process where a slope failure is assumed, the strength and stress of that slope failure are calculated, and those values are compared to determine a lowest factor of safety. In the case of the Wertz Pit slope stability analysis, the Bishop's Method of Slices was the iterative calculation used, and the software GALENA was used to model slopes and calculate the factor of safety. One slope (see Figure GS-1) was analyzed to look at the factor of safety. Table GS-2 lists the analysis conducted and their respective factors of safety.

GALENA data tables and analysis result figures are attached as Appendix GS-1.

---

<sup>1</sup> Original source: Hoek and Bray 1977



**Table GS-2. Factors of Safety for Slope Stability**

Slope Condition	Lowest Factor of Safety (static)	Lowest Factor of Safety (seismic)	Nearest Structure
Final Reclamation	3.06	2.49	Power poles

## 2. Conclusion

The Final Reclamation slope has a minimum factor of safety (FoS = 3.06) of greater than 1.5 for static conditions. This Factor of Safety is greater than the CDRMS minimum for critical structure of 1.5. The seismic condition analysis is similarly above the CDRMS minimums for critical structures:  $2.49 > 1.3$

The slope stability analysis in this permit has been prepared according to appropriate engineering standards and practices.



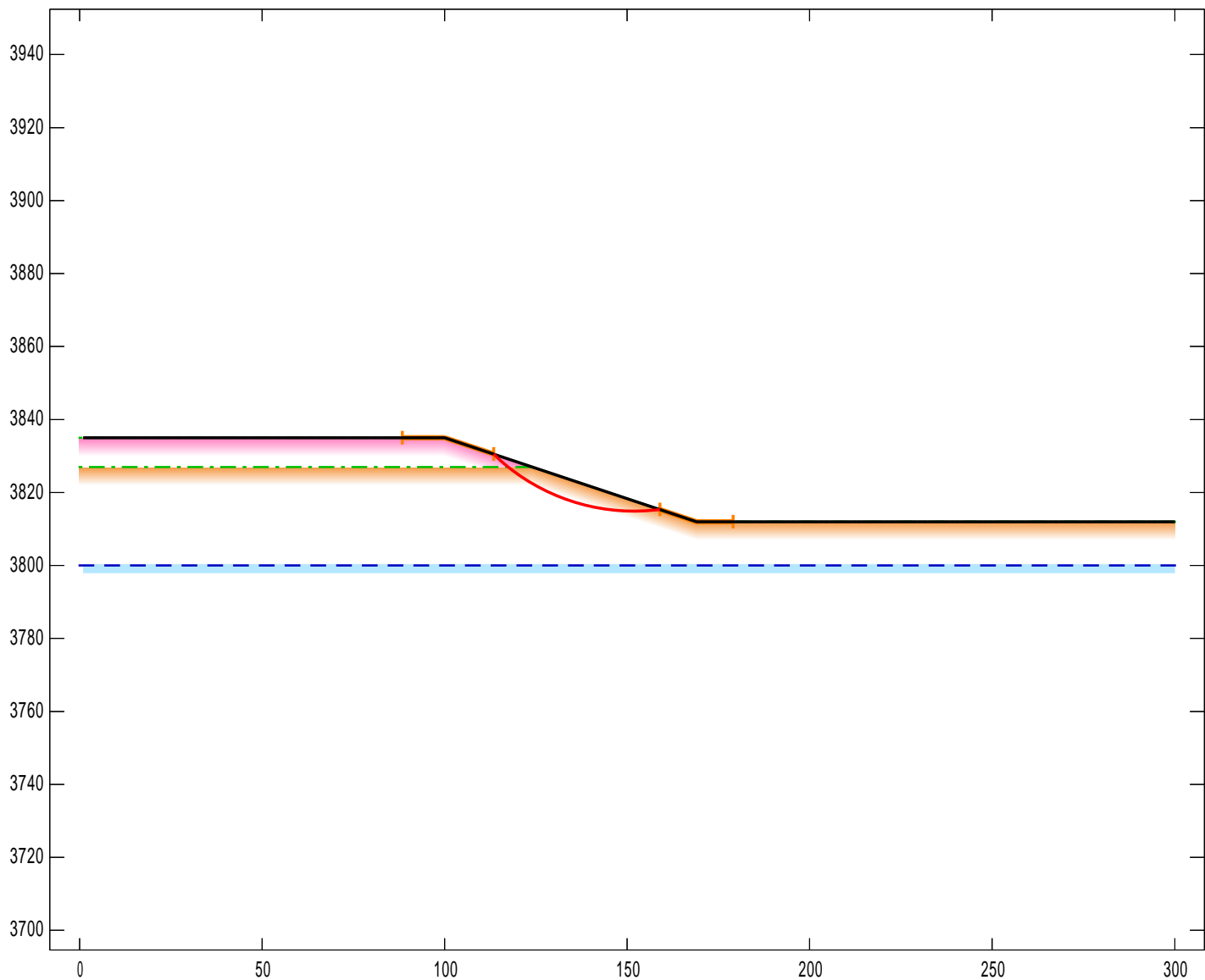
Ben Langenfeld, P.E.

P.E.# 0047151



## APPENDIX GS-1

## GALENA INFORMATION



**GALENA** Version 7.1

Licensed to: Greg Lewicki and Associates

### Material Keys

- 1: Sand and gravel, mixed grain size
- 2: OB - loose sand, mixed grain size

### Analysis 1

Multiple Stability Analysis

Method: Bishop Simplified

Surface: Circular

### Results

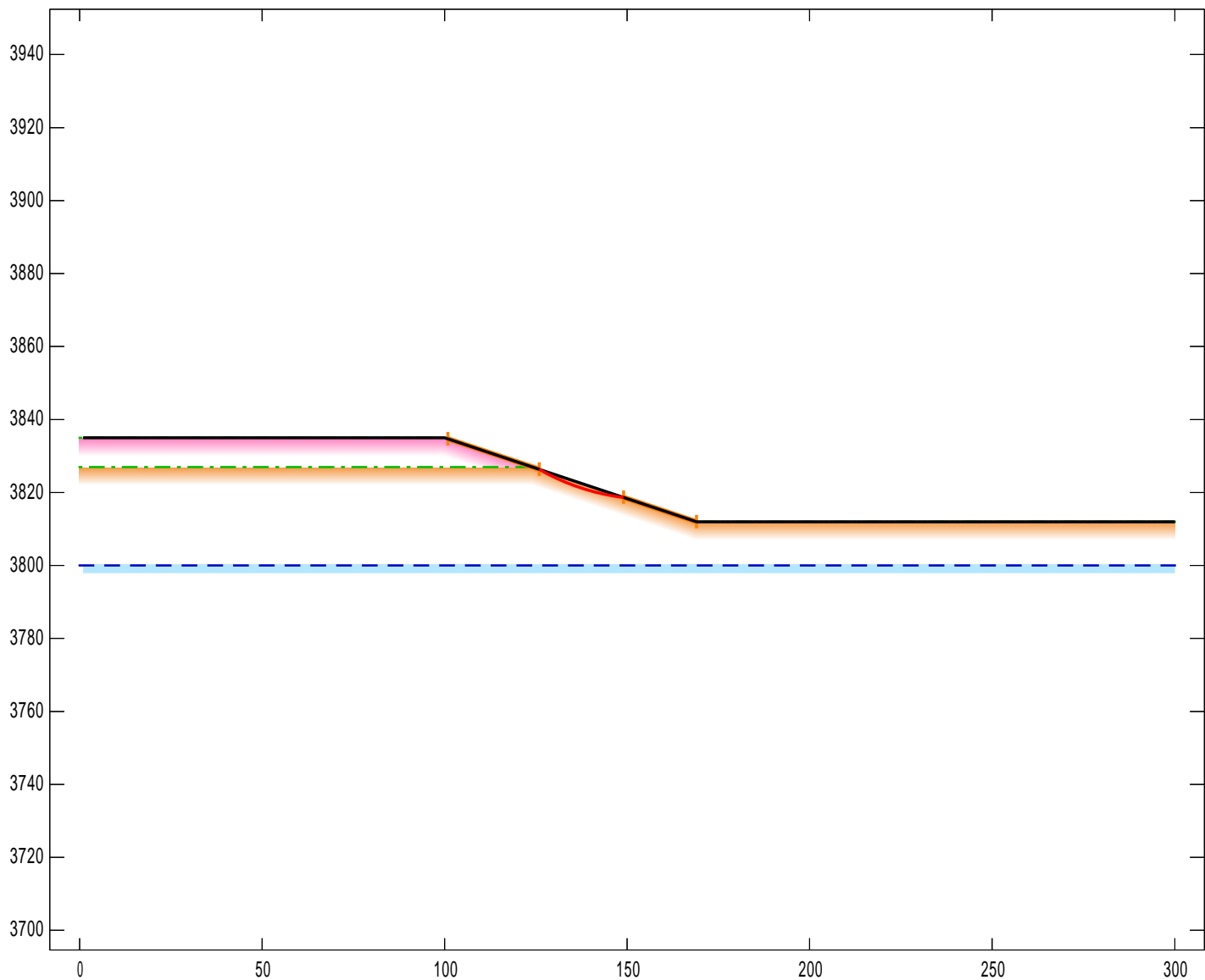
Critical Factor of Safety: 3.28

Edited: 20 Nov 2024  
Processed: 20 Nov 2024

**Project** Wertz Pit  
Reclaimed Condition

File: E:\Work\GLA Dropbox\Ben Langenfeld\United Companies\Wertz Pit\Slope Stability\Wertz Slope Stability.gmf





**GALENA** Version 7.1

Licensed to: Greg Lewicki and Associates

### Material Keys

- 1: Sand and gravel, mixed grain size
- 2: OB - loose sand, mixed grain size

### Analysis 2

Multiple Stability Analysis

Method: Bishop Simplified

Surface: Circular (Critical Seed)

### Results

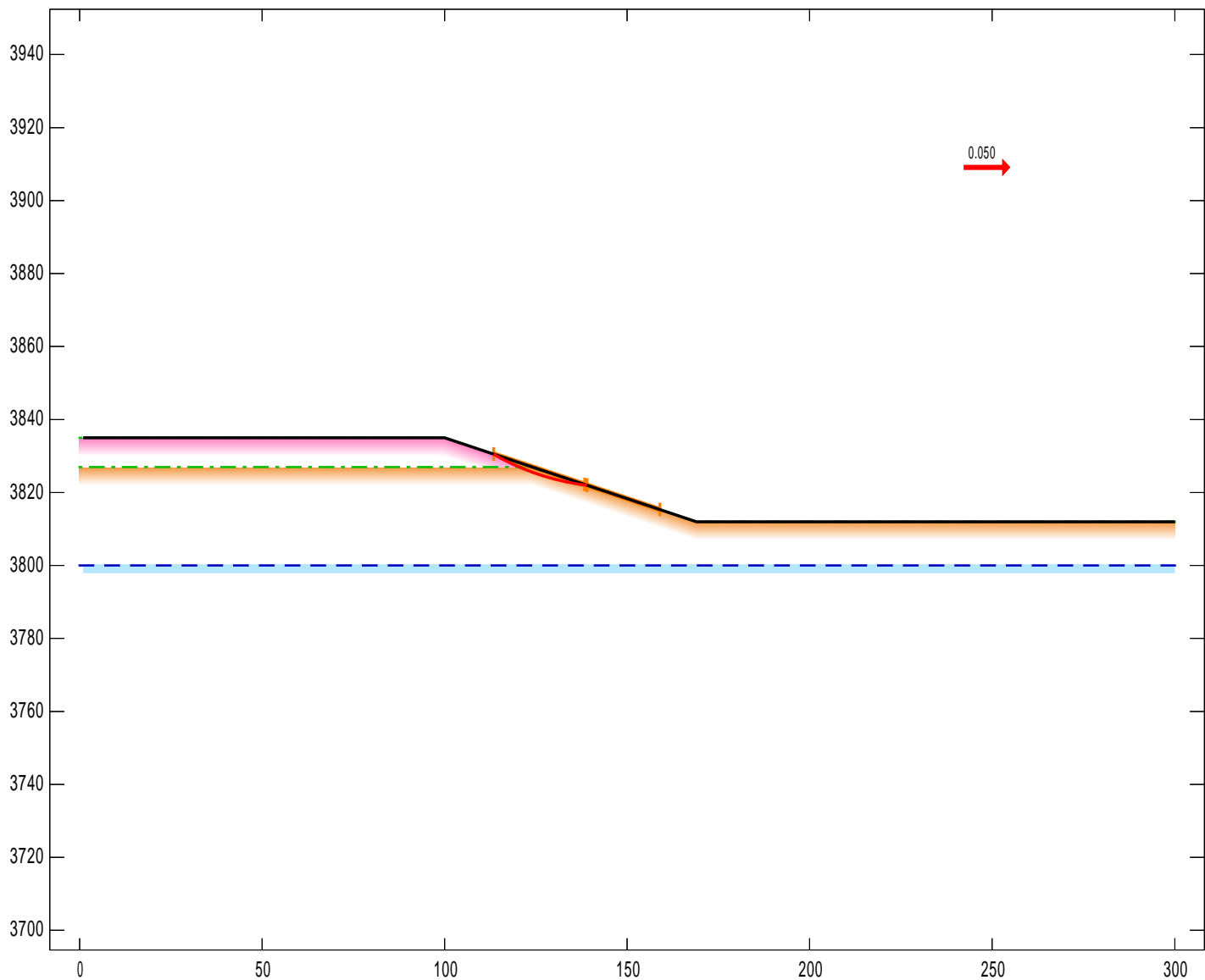
Critical Factor of Safety: 3.06

Edited: 20 Nov 2024  
Processed: 20 Nov 2024



**Project** Wertz Pit  
Reclaimed Condition

File: E:\Work\GLA Dropbox\Ben Langenfeld\United Companies\Wertz Pit\Slope Stability\Wertz Slope Stability.gmf



**GALENA** Version 7.1

Licensed to: Greg Lewicki and Associates

### Material Keys

- 1: Sand and gravel, mixed grain size
- 2: OB - loose sand, mixed grain size

### Analysis 3

Multiple Stability Analysis

Method: Bishop Simplified

Surface: Circular (Critical Seed)

### Results

Critical Factor of Safety: 2.49

Edited: 20 Nov 2024  
Processed: 20 Nov 2024



Project Wertz Pit  
Reclaimed Condition

File: E:\Work\GLA Dropbox\Ben Langenfeld\United Companies\Wertz Pit\Slope Stability\Wertz Slope Stability.gmf

---

Project: Wertz Pit

File: E:\Work\GLA Dropbox\Ben Langenfeld\United Companies\Wertz Pit\Slope Stability\Wertz Slope Stability.gmf

Processed: 20 Nov 2024 15:15:39

---

---

DATA: Analysis 1 - Mining Condition

Material Properties (4 materials)

-----  
Material: 1 (Mohr-Coulomb Isotropic) - Sand and gravel, mixed grain size

Cohesion Phi UnitWeight Ru

0.00 45.0 110.00 Auto

Material: 2 (Mohr-Coulomb Isotropic) - OB - loose sand, mixed grain size

Cohesion Phi UnitWeight Ru

0.00 34.0 99.00 Auto

Material: 3 (Mohr-Coulomb Isotropic) - Bedrock - claystone

Cohesion Phi UnitWeight Ru

20000.00 25.0 110.00 Auto

Material: 4 (Mohr-Coulomb Isotropic) - Slurry Wall

Cohesion Phi UnitWeight Ru

Unsaturated: 0.00 0.0 112.00 Auto

Saturated: 0.00 0.0 115.00 Auto

Water Properties

-----  
Unit weight of water: 62.400 Unit weight of water/medium above ground: 0.000

Material Profiles (2 profiles)

-----  
Profile: 1 (2 points) Material beneath: 2 - OB - loose sand, mixed grain size

0.00 3835.00 300.00 3835.00

Profile: 2 (2 points) Material beneath: 1 - Sand and gravel, mixed grain size

0.00 3827.00 300.00 3827.00

Slope Surface (4 points)

-----  
1.00 3835.00 100.00 3835.00 169.00 3812.00 300.00 3812.00

Phreatic Surface (2 points)

-----  
0.00 3800.00 300.00 3800.00

Piezometric Surfaces (1 surface)

-----  
Failure Surface

-----  
Initial circular surface for critical search defined by: XL,XR,R

Intersects: XL: 100.90 YL: 3834.70 XR: 169.00 YR: 3812.00

Centre: XC: 145.96 YC: 3856.37 Radius: R: 50.00

#### Variable Restraints

-----  
Parameter descriptor: XL XR R  
Range of variation: 25.00 20.00 10.50  
Trial positions within range: 10 10 10

#### RESULTS: Analysis 1 - Mining Condition

##### Bishop Simplified Method of Analysis - Circular Failure Surface

##### Critical Failure Surface Search using Multiple Circle Generation Techniques

Factor of Safety for initial failure surface approximation: 4.035

There were: 997 successful analyses from a total of 1001 trial surfaces  
4 analyses terminated due to unacceptable geometry

Critical (minimum) Factor of Safety: 3.28

---

#### Results Summary - Lowest 99 Factor of Safety circles

-----

Circle	X-Left	Y-Left	X-Right	Y-Right	X-Centre	Y-Centre	Radius	FoS	
1	113.40	3830.53	159.00	3815.33	151.93	3870.13	55.25	3.283	<-- Critical Surface
2	113.40	3830.53	159.00	3815.33	151.52	3868.90	54.08	3.298	
3	113.40	3830.53	159.00	3815.33	151.11	3867.66	52.92	3.313	
4	113.40	3830.53	161.22	3814.59	152.86	3869.21	55.25	3.317	
5	110.62	3831.46	159.00	3815.33	150.31	3869.90	55.25	3.324	
6	113.40	3830.53	159.00	3815.33	150.69	3866.41	51.75	3.331	
7	113.40	3830.53	161.22	3814.59	152.44	3867.96	54.08	3.334	
8	110.62	3831.46	159.00	3815.33	149.89	3868.64	54.08	3.341	
9	113.40	3830.53	159.00	3815.33	150.28	3865.16	50.58	3.349	
10	113.40	3830.53	161.22	3814.59	152.02	3866.70	52.92	3.351	
11	113.40	3830.53	163.44	3813.85	153.77	3868.25	55.25	3.353	
12	110.62	3831.46	159.00	3815.33	149.47	3867.39	52.92	3.360	
13	110.62	3831.46	161.22	3814.59	151.22	3868.93	55.25	3.363	
14	113.40	3830.53	159.00	3815.33	149.85	3863.90	49.42	3.370	
15	107.84	3832.39	159.00	3815.33	148.67	3869.61	55.25	3.370	
16	113.40	3830.53	161.22	3814.59	151.60	3865.44	51.75	3.371	
17	113.40	3830.53	163.44	3813.85	153.35	3866.99	54.08	3.372	
18	110.62	3831.46	159.00	3815.33	149.05	3866.12	51.75	3.381	
19	110.62	3831.46	161.22	3814.59	150.80	3867.66	54.08	3.382	
20	107.84	3832.39	159.00	3815.33	148.25	3868.34	54.08	3.391	
21	113.40	3830.53	159.00	3815.33	149.43	3862.62	48.25	3.392	
22	113.40	3830.53	161.22	3814.59	151.18	3864.17	50.58	3.392	
23	113.40	3830.53	163.44	3813.85	152.93	3865.71	52.92	3.392	

24	113.40	3830.53	165.67	3813.11	154.68	3867.26	55.25	3.392
25	110.62	3831.46	161.22	3814.59	150.38	3866.39	52.92	3.403
26	110.62	3831.46	159.00	3815.33	148.63	3864.84	50.58	3.403
27	110.62	3831.46	163.44	3813.85	152.12	3867.93	55.25	3.404
28	113.40	3830.53	165.67	3813.11	154.25	3865.98	54.08	3.413
29	107.84	3832.39	161.22	3814.59	149.57	3868.60	55.25	3.413
30	107.84	3832.39	159.00	3815.33	147.82	3867.06	52.92	3.413
31	113.40	3830.53	163.44	3813.85	152.50	3864.43	51.75	3.414
32	113.40	3830.53	161.22	3814.59	150.75	3862.89	49.42	3.415
33	113.40	3830.53	159.00	3815.33	149.00	3861.34	47.08	3.416
34	105.07	3833.31	159.00	3815.33	147.02	3869.27	55.25	3.422
35	110.62	3831.46	163.44	3813.85	151.70	3866.64	54.08	3.425
36	110.62	3831.46	161.22	3814.59	149.95	3865.10	51.75	3.426
37	110.62	3831.46	159.00	3815.33	148.20	3863.55	49.42	3.427
38	113.40	3830.53	167.89	3812.37	155.57	3866.23	55.25	3.433
39	113.40	3830.53	165.67	3813.11	153.82	3864.68	52.92	3.435
40	107.84	3832.39	161.22	3814.59	149.14	3867.31	54.08	3.436
41	107.84	3832.39	159.00	3815.33	147.39	3865.76	51.75	3.437
42	113.40	3830.53	163.44	3813.85	152.07	3863.14	50.58	3.437
43	113.40	3830.53	161.22	3814.59	150.32	3861.60	48.25	3.439
44	113.40	3830.53	159.00	3815.33	148.57	3860.05	45.92	3.442
45	110.62	3831.46	165.67	3813.11	153.01	3866.89	55.25	3.446
46	105.07	3833.31	159.00	3815.33	146.58	3867.97	54.08	3.446
47	110.62	3831.46	163.44	3813.85	151.26	3865.35	52.92	3.448
48	110.62	3831.46	161.22	3814.59	149.51	3863.80	50.58	3.453
49	110.62	3831.46	159.00	3815.33	147.76	3862.26	48.25	3.454
50	113.40	3830.53	167.89	3812.37	155.14	3864.93	54.08	3.456
51	107.84	3832.39	163.44	3813.85	150.46	3867.55	55.25	3.458
52	113.40	3830.53	165.67	3813.11	153.39	3863.38	51.75	3.459
53	107.84	3832.39	161.22	3814.59	148.71	3866.01	52.92	3.460
54	113.40	3830.53	163.44	3813.85	151.64	3861.84	49.42	3.463
55	107.84	3832.39	159.00	3815.33	146.96	3864.46	50.58	3.463
56	113.40	3830.53	170.11	3812.00	156.20	3865.47	55.25	3.466
57	113.40	3830.53	161.22	3814.59	149.89	3860.29	47.08	3.467
58	105.07	3833.31	161.22	3814.59	147.90	3868.21	55.25	3.469
59	110.62	3831.46	165.67	3813.11	152.58	3865.59	54.08	3.470
60	113.40	3830.53	159.00	3815.33	148.14	3858.74	44.75	3.471
61	105.07	3833.31	159.00	3815.33	146.15	3866.67	52.92	3.472
62	110.62	3831.46	163.44	3813.85	150.83	3864.04	51.75	3.474
63	110.62	3831.46	161.22	3814.59	149.08	3862.49	49.42	3.479
64	102.29	3834.24	159.00	3815.33	145.34	3868.87	55.25	3.481
65	113.40	3830.53	167.89	3812.37	154.70	3863.62	52.92	3.481
66	110.62	3831.46	159.00	3815.33	147.33	3860.95	47.08	3.482
67	107.84	3832.39	163.44	3813.85	150.02	3866.24	54.08	3.483
68	113.40	3830.53	165.67	3813.11	152.95	3862.07	50.58	3.486
69	107.84	3832.39	161.22	3814.59	148.27	3864.70	51.75	3.487
70	113.40	3830.53	163.44	3813.85	151.20	3860.52	48.25	3.491
71	110.62	3831.46	167.89	3812.37	153.89	3865.82	55.25	3.491
72	113.40	3830.53	170.11	3812.00	155.77	3864.15	54.08	3.491
73	107.84	3832.39	159.00	3815.33	146.52	3863.15	49.42	3.492
74	105.07	3833.31	161.22	3814.59	147.46	3866.90	54.08	3.495
75	110.62	3831.46	165.67	3813.11	152.14	3864.27	52.92	3.496
76	113.40	3830.53	161.22	3814.59	149.45	3858.97	45.92	3.496

77	105.07	3833.31	159.00	3815.33	145.71	3865.35	51.75	3.500
78	110.62	3831.46	163.44	3813.85	150.39	3862.72	50.58	3.501
79	113.40	3830.53	172.33	3812.00	156.61	3864.97	55.25	3.503
80	107.84	3832.39	165.67	3813.11	151.33	3866.47	55.25	3.505
81	102.29	3834.24	159.00	3815.33	144.90	3867.55	54.08	3.507
82	110.62	3831.46	161.22	3814.59	148.64	3861.17	48.25	3.507
83	113.40	3830.53	167.89	3812.37	154.26	3862.29	51.75	3.508
84	107.84	3832.39	163.44	3813.85	149.58	3864.92	52.92	3.510
85	110.62	3831.46	159.00	3815.33	146.89	3859.62	45.92	3.514
86	113.40	3830.53	165.67	3813.11	152.51	3860.74	49.42	3.515
87	107.84	3832.39	161.22	3814.59	147.83	3863.37	50.58	3.516
88	110.62	3831.46	167.89	3812.37	153.45	3864.49	54.08	3.518
89	105.07	3833.31	163.44	3813.85	148.77	3867.12	55.25	3.518
90	113.40	3830.53	170.11	3812.00	155.33	3862.81	52.92	3.519
91	113.40	3830.53	163.44	3813.85	150.76	3859.19	47.08	3.521
92	107.84	3832.39	159.00	3815.33	146.08	3861.82	48.25	3.523
93	105.07	3833.31	161.22	3814.59	147.02	3865.57	52.92	3.524
94	110.62	3831.46	165.67	3813.11	151.70	3862.94	51.75	3.524
95	110.62	3831.46	170.11	3812.00	154.52	3865.01	55.25	3.528
96	113.40	3830.53	161.22	3814.59	149.00	3857.64	44.75	3.529
97	105.07	3833.31	159.00	3815.33	145.26	3864.02	50.58	3.531
98	113.40	3830.53	172.33	3812.00	156.18	3863.62	54.08	3.531
99	102.29	3834.24	161.22	3814.59	146.20	3867.76	55.25	3.531

#### Critical Failure Surface (circle 1)

-----

Intersects: XL: 113.40 YL: 3830.53 XR: 159.00 YR: 3815.33

Centre: XC: 151.93 YC: 3870.13 Radius: R: 55.25

Generated failure surface: (20 points)

113.40	3830.53	115.32	3828.75	117.32	3827.07	119.40	3825.48	121.55	3823.98
123.77	3822.60	126.05	3821.32	128.39	3820.15	130.78	3819.09	133.22	3818.14
135.71	3817.32	138.23	3816.61	140.78	3816.02	143.35	3815.55	145.94	3815.20
148.55	3814.98	151.17	3814.88	153.78	3814.91	156.40	3815.06	159.00	3815.33

#### Slice Geometry and Properties - Critical Failure Surface (circle 1, 39 slices)

-----

Slice	X-S			Base				PoreWater		Normal	Test	
	X-Left	Area	Angle	Width	Length	Matl	Cohesion	Phi	Weight	Force	Stress	Factor
1	113.40	0.27	42.9	0.96	1.31	2	0.00	34.0	27.08	0.00	23.71	1.15
2	114.36	0.82	42.9	0.96	1.31	2	0.00	34.0	81.23	0.00	71.13	1.15
3	115.32	1.40	40.2	1.00	1.31	2	0.00	34.0	138.23	0.00	117.79	1.12
4	116.32	1.91	40.1	1.00	1.31	2	0.00	34.0	188.73	0.00	160.83	1.11
5	117.32	2.48	37.4	1.04	1.31	1	0.00	45.0	249.20	0.00	194.49	1.02
6	118.36	2.95	37.4	1.04	1.31	1	0.00	45.0	304.47	0.00	237.63	1.02
7	119.40	3.50	34.7	1.08	1.31	1	0.00	45.0	368.79	0.00	283.14	1.00
8	120.47	3.91	34.7	1.08	1.31	1	0.00	45.0	418.78	0.00	321.51	1.00
9	121.55	4.43	32.0	1.11	1.31	1	0.00	45.0	479.85	0.00	363.29	0.99
10	122.66	4.79	32.0	1.11	1.31	1	0.00	45.0	523.91	0.00	396.64	0.99
11	123.77	1.05	29.3	0.23	0.27	1	0.00	45.0	115.40	0.00	423.09	0.98
12	124.00	4.76	29.3	1.02	1.17	1	0.00	45.0	524.10	0.00	436.82	0.98
13	125.02	5.00	29.3	1.02	1.17	1	0.00	45.0	550.41	0.00	458.77	0.98
14	126.05	5.97	26.6	1.17	1.31	1	0.00	45.0	656.17	0.00	486.58	0.97
15	127.22	6.19	26.6	1.17	1.31	1	0.00	45.0	681.31	0.00	505.22	0.97



16	128.39	6.53	23.9	1.20	1.31	1	0.00	45.0	718.14	0.00	528.84	0.96
17	129.59	6.69	23.9	1.20	1.31	1	0.00	45.0	735.35	0.00	541.55	0.96
18	130.78	6.94	21.1	1.22	1.31	1	0.00	45.0	763.07	0.00	559.39	0.96
19	132.00	7.02	21.2	1.22	1.31	1	0.00	45.0	771.79	0.00	565.75	0.96
20	133.22	7.18	18.4	1.24	1.31	1	0.00	45.0	789.55	0.00	577.42	0.96
21	134.47	7.18	18.4	1.24	1.31	1	0.00	45.0	789.53	0.00	577.40	0.96
22	135.71	7.24	15.7	1.26	1.31	1	0.00	45.0	796.62	0.00	582.48	0.96
23	136.97	7.16	15.7	1.26	1.31	1	0.00	45.0	787.59	0.00	575.91	0.96
24	138.23	7.12	13.0	1.27	1.31	1	0.00	45.0	783.45	0.00	574.13	0.96
25	139.50	6.96	13.0	1.27	1.31	1	0.00	45.0	765.15	0.00	560.70	0.96
26	140.78	6.81	10.3	1.29	1.31	1	0.00	45.0	749.59	0.00	551.70	0.96
27	142.06	6.56	10.3	1.29	1.31	1	0.00	45.0	721.92	0.00	531.34	0.96
28	143.35	6.32	7.6	1.30	1.31	1	0.00	45.0	694.83	0.00	514.85	0.97
29	144.65	5.98	7.6	1.30	1.31	1	0.00	45.0	657.78	0.00	487.36	0.97
30	145.94	5.63	4.9	1.30	1.31	1	0.00	45.0	619.33	0.00	463.01	0.98
31	147.25	5.21	4.9	1.30	1.31	1	0.00	45.0	572.94	0.00	428.35	0.98
32	148.55	4.76	2.1	1.31	1.31	1	0.00	45.0	523.47	0.00	395.81	0.99
33	149.86	4.25	2.1	1.31	1.31	1	0.00	45.0	467.88	0.00	353.78	0.99
34	151.17	3.71	-0.6	1.31	1.31	1	0.00	45.0	408.04	0.00	312.79	1.00
35	152.48	3.12	-0.6	1.31	1.31	1	0.00	45.0	343.38	0.00	263.21	1.00
36	153.78	2.49	-3.3	1.31	1.31	1	0.00	45.0	273.93	0.00	213.42	1.02
37	155.09	1.82	-3.3	1.31	1.31	1	0.00	45.0	200.61	0.00	156.28	1.02
38	156.40	1.11	-6.0	1.30	1.31	1	0.00	45.0	122.46	0.00	97.21	1.04
39	157.70	0.37	-6.0	1.30	1.31	1	0.00	45.0	40.85	0.00	32.43	1.04

-----

X-S Area: 177.59 Path Length: 49.72 X-S Weight: 19404.93

---



---



---

DATA: Analysis 2 - Mining Condition

Material Properties (4 materials)

-----

Material: 1 (Mohr-Coulomb Isotropic) - Sand and gravel, mixed grain size

Cohesion Phi UnitWeight Ru

0.00 45.0 110.00 Auto

Material: 2 (Mohr-Coulomb Isotropic) - OB - loose sand, mixed grain size

Cohesion Phi UnitWeight Ru

0.00 34.0 99.00 Auto

Material: 3 (Mohr-Coulomb Isotropic) - Bedrock - claystone

Cohesion Phi UnitWeight Ru

20000.00 25.0 110.00 Auto

Material: 4 (Mohr-Coulomb Isotropic) - Slurry Wall

Cohesion Phi UnitWeight Ru

Unsaturated: 0.00 0.0 112.00 Auto

Saturated: 0.00 0.0 115.00 Auto

Water Properties

-----

Unit weight of water: 62.400 Unit weight of water/medium above ground: 0.000

#### Material Profiles (2 profiles)

-----  
Profile: 1 (2 points) Material beneath: 2 - OB - loose sand, mixed grain size  
0.00 3835.00 300.00 3835.00  
Profile: 2 (2 points) Material beneath: 1 - Sand and gravel, mixed grain size  
0.00 3827.00 300.00 3827.00

#### Slope Surface (4 points)

-----  
1.00 3835.00 100.00 3835.00 169.00 3812.00 300.00 3812.00

#### Phreatic Surface (2 points)

-----  
0.00 3800.00 300.00 3800.00

#### Piezometric Surfaces (1 surface)

#### Failure Surface (Critical, from previous analysis)

-----  
Initial circular surface for critical search defined by: XL,XR,R  
Intersects: XL: 113.40 YL: 3830.53 XR: 159.00 YR: 3815.33  
Centre: XC: 151.93 YC: 3870.13 Radius: R: 55.25

#### Variable Restraints

-----  
Parameter descriptor: XL XR R  
Range of variation: 25.00 20.00 10.50  
Trial positions within range: 10 10 10

#### RESULTS: Analysis 2 - Mining Condition

#### Bishop Simplified Method of Analysis - Circular Failure Surface

#### Critical Failure Surface Search using Multiple Circle Generation Techniques

Factor of Safety for initial failure surface approximation: 3.283

There were: 1001 successful analyses from a total of 1001 trial surfaces

Critical (minimum) Factor of Safety: 3.06

---

#### Results Summary - Lowest 99 Factor of Safety circles

-----  
Circle X-Left Y-Left X-Right Y-Right X-Centre Y-Centre Radius FoS  
1 125.90 3826.37 149.00 3818.67 156.19 3878.74 60.50 3.055 <-- Critical Surface  
2 125.90 3826.37 149.00 3818.67 155.81 3877.61 59.33 3.058  
3 125.90 3826.37 149.00 3818.67 155.44 3876.48 58.17 3.060  
4 125.90 3826.37 149.00 3818.67 155.06 3875.34 57.00 3.063  
5 125.90 3826.37 149.00 3818.67 154.68 3874.21 55.83 3.065

6	125.90	3826.37	151.22	3817.93	157.22	3878.13	60.50	3.067
7	125.90	3826.37	149.00	3818.67	154.30	3873.08	54.67	3.068
8	123.12	3827.29	149.00	3818.67	154.70	3878.90	60.50	3.069
9	125.90	3826.37	151.22	3817.93	156.84	3876.99	59.33	3.070
10	125.90	3826.37	149.00	3818.67	153.92	3871.94	53.50	3.071
11	123.12	3827.29	149.00	3818.67	154.32	3877.76	59.33	3.072
12	125.90	3826.37	151.22	3817.93	156.46	3875.86	58.17	3.072
13	125.90	3826.37	149.00	3818.67	153.55	3870.80	52.33	3.075
14	123.12	3827.29	149.00	3818.67	153.94	3876.62	58.17	3.075
15	125.90	3826.37	151.22	3817.93	156.08	3874.72	57.00	3.076
16	125.90	3826.37	149.00	3818.67	153.17	3869.66	51.17	3.078
17	123.12	3827.29	149.00	3818.67	153.56	3875.48	57.00	3.079
18	120.34	3828.22	149.00	3818.67	153.20	3879.02	60.50	3.079
19	125.90	3826.37	151.22	3817.93	155.71	3873.58	55.83	3.079
20	125.90	3826.37	153.44	3817.19	158.24	3877.49	60.50	3.079
21	125.90	3826.37	149.00	3818.67	152.79	3868.52	50.00	3.082
22	123.12	3827.29	149.00	3818.67	153.18	3874.34	55.83	3.082
23	125.90	3826.37	151.22	3817.93	155.33	3872.44	54.67	3.082
24	123.12	3827.29	151.22	3817.93	155.72	3878.26	60.50	3.082
25	120.34	3828.22	149.00	3818.67	152.82	3877.88	59.33	3.083
26	125.90	3826.37	153.44	3817.19	157.86	3876.35	59.33	3.083
27	123.12	3827.29	149.00	3818.67	152.80	3873.20	54.67	3.086
28	123.12	3827.29	151.22	3817.93	155.34	3877.12	59.33	3.086
29	125.90	3826.37	151.22	3817.93	154.94	3871.30	53.50	3.086
30	125.90	3826.37	153.44	3817.19	157.48	3875.21	58.17	3.086
31	120.34	3828.22	149.00	3818.67	152.44	3876.73	58.17	3.087
32	117.57	3829.14	149.00	3818.67	151.68	3879.11	60.50	3.087
33	123.12	3827.29	151.22	3817.93	154.96	3875.97	58.17	3.089
34	123.12	3827.29	149.00	3818.67	152.42	3872.06	53.50	3.090
35	125.90	3826.37	153.44	3817.19	157.10	3874.07	57.00	3.090
36	125.90	3826.37	151.22	3817.93	154.56	3870.15	52.33	3.090
37	120.34	3828.22	149.00	3818.67	152.05	3875.58	57.00	3.091
38	117.57	3829.14	149.00	3818.67	151.30	3877.96	59.33	3.092
39	125.90	3826.37	155.67	3816.44	159.26	3876.84	60.50	3.093
40	123.12	3827.29	151.22	3817.93	154.58	3874.83	57.00	3.093
41	123.12	3827.29	149.00	3818.67	152.04	3870.91	52.33	3.094
42	125.90	3826.37	153.44	3817.19	156.72	3872.92	55.83	3.094
43	125.90	3826.37	151.22	3817.93	154.18	3869.01	51.17	3.094
44	120.34	3828.22	151.22	3817.93	154.21	3878.35	60.50	3.095
45	120.34	3828.22	149.00	3818.67	151.67	3874.44	55.83	3.096
46	114.79	3830.07	149.00	3818.67	150.16	3879.16	60.50	3.096
47	123.12	3827.29	153.44	3817.19	156.74	3877.60	60.50	3.097
48	125.90	3826.37	155.67	3816.44	158.88	3875.69	59.33	3.097
49	117.57	3829.14	149.00	3818.67	150.92	3876.80	58.17	3.097
50	123.12	3827.29	151.22	3817.93	154.20	3873.68	55.83	3.097
51	125.90	3826.37	153.44	3817.19	156.34	3871.78	54.67	3.098
52	123.12	3827.29	149.00	3818.67	151.66	3869.76	51.17	3.098
53	125.90	3826.37	151.22	3817.93	153.80	3867.86	50.00	3.099
54	120.34	3828.22	151.22	3817.93	153.83	3877.20	59.33	3.100
55	120.34	3828.22	149.00	3818.67	151.29	3873.29	54.67	3.101
56	123.12	3827.29	153.44	3817.19	156.35	3876.45	59.33	3.101
57	125.90	3826.37	155.67	3816.44	158.50	3874.54	58.17	3.101
58	123.12	3827.29	151.22	3817.93	153.81	3872.53	54.67	3.102

59	125.90	3826.37	153.44	3817.19	155.96	3870.63	53.50	3.103
60	117.57	3829.14	149.00	3818.67	150.53	3875.65	57.00	3.103
61	114.79	3830.07	149.00	3818.67	149.77	3878.00	59.33	3.103
62	123.12	3827.29	149.00	3818.67	151.27	3868.61	50.00	3.103
63	120.34	3828.22	151.22	3817.93	153.44	3876.05	58.17	3.105
64	123.12	3827.29	153.44	3817.19	155.97	3875.30	58.17	3.105
65	125.90	3826.37	155.67	3816.44	158.11	3873.39	57.00	3.106
66	120.34	3828.22	149.00	3818.67	150.90	3872.13	53.50	3.106
67	123.12	3827.29	151.22	3817.93	153.43	3871.38	53.50	3.107
68	125.90	3826.37	153.44	3817.19	155.57	3869.48	52.33	3.107
69	125.90	3826.37	157.89	3815.70	160.27	3876.16	60.50	3.108
70	112.01	3831.00	149.00	3818.67	148.62	3879.17	60.50	3.109
71	117.57	3829.14	151.22	3817.93	152.69	3878.41	60.50	3.109
72	117.57	3829.14	149.00	3818.67	150.14	3874.49	55.83	3.109
73	120.34	3828.22	151.22	3817.93	153.06	3874.90	57.00	3.110
74	123.12	3827.29	153.44	3817.19	155.59	3874.15	57.00	3.110
75	114.79	3830.07	149.00	3818.67	149.38	3876.83	58.17	3.110
76	125.90	3826.37	155.67	3816.44	157.73	3872.24	55.83	3.110
77	120.34	3828.22	149.00	3818.67	150.52	3870.98	52.33	3.111
78	123.12	3827.29	151.22	3817.93	153.04	3870.23	52.33	3.112
79	123.12	3827.29	155.67	3816.44	157.74	3876.91	60.50	3.112
80	125.90	3826.37	153.44	3817.19	155.19	3868.32	51.17	3.113
81	120.34	3828.22	153.44	3817.19	155.21	3877.66	60.50	3.113
82	125.90	3826.37	157.89	3815.70	159.88	3875.00	59.33	3.113
83	117.57	3829.14	151.22	3817.93	152.30	3877.25	59.33	3.114
84	123.12	3827.29	153.44	3817.19	155.20	3872.99	55.83	3.114
85	120.34	3828.22	151.22	3817.93	152.67	3873.74	55.83	3.115
86	125.90	3826.37	155.67	3816.44	157.34	3871.09	54.67	3.115
87	117.57	3829.14	149.00	3818.67	149.76	3873.33	54.67	3.116
88	123.12	3827.29	155.67	3816.44	157.36	3875.75	59.33	3.117
89	112.01	3831.00	149.00	3818.67	148.23	3878.00	59.33	3.117
90	123.12	3827.29	151.22	3817.93	152.66	3869.07	51.17	3.117
91	114.79	3830.07	149.00	3818.67	148.99	3875.67	57.00	3.117
92	120.34	3828.22	149.00	3818.67	150.13	3869.82	51.17	3.118
93	125.90	3826.37	157.89	3815.70	159.50	3873.85	58.17	3.118
94	120.34	3828.22	153.44	3817.19	154.83	3876.50	59.33	3.118
95	125.90	3826.37	153.44	3817.19	154.80	3867.17	50.00	3.118
96	123.12	3827.29	153.44	3817.19	154.81	3871.83	54.67	3.120
97	117.57	3829.14	151.22	3817.93	151.91	3876.09	58.17	3.120
98	120.34	3828.22	151.22	3817.93	152.29	3872.58	54.67	3.121
99	125.90	3826.37	155.67	3816.44	156.96	3869.93	53.50	3.121

Critical Failure Surface (circle 1)

-----

Intersects: XL: 125.90 YL: 3826.37 XR: 149.00 YR: 3818.67

Centre: XC: 156.19 YC: 3878.74 Radius: R: 60.50

Generated failure surface: (20 points)

125.90	3826.37	127.02	3825.73	128.16	3825.12	129.31	3824.54	130.47	3823.98
131.65	3823.44	132.83	3822.93	134.03	3822.44	135.23	3821.98	136.45	3821.55
137.67	3821.14	138.90	3820.76	140.14	3820.40	141.39	3820.08	142.65	3819.77
143.91	3819.50	145.17	3819.25	146.44	3819.03	147.72	3818.83	149.00	3818.67

Slice Geometry and Properties - Critical Failure Surface (circle 1, 38 slices)

Slice	X-S			Base					PoreWater		Normal	Test	
	X-Left	Area	Angle	Width	Length	Matl	Cohesion		Phi	Weight	Force	Stress	Factor
1	125.90	0.04	29.4	0.56	0.65	1	0.00	45.0	4.00	0.00	6.01	0.97	
2	126.46	0.11	29.4	0.56	0.65	1	0.00	45.0	12.03	0.00	18.07	0.97	
3	127.02	0.18	28.2	0.57	0.65	1	0.00	45.0	19.82	0.00	29.65	0.97	
4	127.59	0.25	28.2	0.57	0.65	1	0.00	45.0	27.05	0.00	40.48	0.97	
5	128.16	0.31	27.0	0.57	0.65	1	0.00	45.0	34.20	0.00	50.99	0.96	
6	128.74	0.37	27.0	0.57	0.65	1	0.00	45.0	40.61	0.00	60.53	0.96	
7	129.31	0.43	25.8	0.58	0.65	1	0.00	45.0	47.03	0.00	69.90	0.96	
8	129.89	0.48	25.8	0.58	0.65	1	0.00	45.0	52.60	0.00	78.18	0.96	
9	130.47	0.53	24.5	0.59	0.65	1	0.00	45.0	58.27	0.00	86.38	0.96	
10	131.06	0.57	24.5	0.59	0.65	1	0.00	45.0	62.93	0.00	93.29	0.96	
11	131.65	0.62	23.3	0.59	0.65	1	0.00	45.0	67.78	0.00	100.26	0.95	
12	132.24	0.65	23.3	0.59	0.65	1	0.00	45.0	71.55	0.00	105.84	0.95	
13	132.83	0.69	22.1	0.60	0.65	1	0.00	45.0	75.51	0.00	111.51	0.95	
14	133.43	0.71	22.1	0.60	0.65	1	0.00	45.0	78.39	0.00	115.74	0.95	
15	134.03	0.74	20.9	0.60	0.65	1	0.00	45.0	81.44	0.00	120.11	0.95	
16	134.63	0.76	20.9	0.60	0.65	1	0.00	45.0	83.37	0.00	122.95	0.95	
17	135.23	0.78	19.6	0.61	0.65	1	0.00	45.0	85.48	0.00	125.98	0.95	
18	135.84	0.79	19.7	0.61	0.65	1	0.00	45.0	86.46	0.00	127.41	0.95	
19	136.45	0.80	18.4	0.61	0.65	1	0.00	45.0	87.58	0.00	129.01	0.95	
20	137.06	0.80	18.4	0.61	0.65	1	0.00	45.0	87.58	0.00	129.01	0.95	
21	137.67	0.80	17.2	0.62	0.65	1	0.00	45.0	87.70	0.00	129.21	0.95	
22	138.29	0.79	17.2	0.62	0.65	1	0.00	45.0	86.71	0.00	127.74	0.95	
23	138.90	0.78	16.0	0.62	0.65	1	0.00	45.0	85.78	0.00	126.45	0.95	
24	139.52	0.76	16.0	0.62	0.65	1	0.00	45.0	83.79	0.00	123.52	0.95	
25	140.14	0.74	14.8	0.62	0.65	1	0.00	45.0	81.81	0.00	120.73	0.95	
26	140.77	0.72	14.8	0.62	0.65	1	0.00	45.0	78.81	0.00	116.29	0.95	
27	141.39	0.69	13.5	0.63	0.65	1	0.00	45.0	75.75	0.00	111.94	0.95	
28	142.02	0.65	13.5	0.63	0.65	1	0.00	45.0	71.74	0.00	106.02	0.95	
29	142.65	0.61	12.3	0.63	0.65	1	0.00	45.0	67.57	0.00	100.05	0.96	
30	143.28	0.57	12.3	0.63	0.65	1	0.00	45.0	62.56	0.00	92.63	0.96	
31	143.91	0.52	11.1	0.63	0.65	1	0.00	45.0	57.30	0.00	85.04	0.96	
32	144.54	0.47	11.1	0.63	0.65	1	0.00	45.0	51.24	0.00	76.06	0.96	
33	145.17	0.41	9.9	0.64	0.65	1	0.00	45.0	44.89	0.00	66.82	0.96	
34	145.81	0.34	9.9	0.64	0.65	1	0.00	45.0	37.81	0.00	56.28	0.96	
35	146.44	0.28	8.7	0.64	0.65	1	0.00	45.0	30.35	0.00	45.33	0.96	
36	147.08	0.20	8.7	0.64	0.65	1	0.00	45.0	22.25	0.00	33.23	0.96	
37	147.72	0.12	7.4	0.64	0.65	1	0.00	45.0	13.69	0.00	20.53	0.97	
38	148.36	0.04	7.4	0.64	0.65	1	0.00	45.0	4.55	0.00	6.83	0.97	

-----

X-S Area: 20.07 Path Length: 24.52 X-S Weight: 2207.99

---



---

DATA: Analysis 3 - Mining Condition

Material Properties (4 materials)

-----

Material: 1 (Mohr-Coulomb Isotropic) - Sand and gravel, mixed grain size

Cohesion Phi UnitWeight Ru  
 0.00 45.0 110.00 Auto  
 Material: 2 (Mohr-Coulomb Isotropic) - OB - loose sand, mixed grain size  
 Cohesion Phi UnitWeight Ru  
 0.00 34.0 99.00 Auto  
 Material: 3 (Mohr-Coulomb Isotropic) - Bedrock - claystone  
 Cohesion Phi UnitWeight Ru  
 20000.00 25.0 110.00 Auto  
 Material: 4 (Mohr-Coulomb Isotropic) - Slurry Wall  
 Cohesion Phi UnitWeight Ru  
 Unsaturated: 0.00 0.0 112.00 Auto  
 Saturated: 0.00 0.0 115.00 Auto

#### Water Properties

-----  
 Unit weight of water: 62.400      Unit weight of water/medium above ground: 0.000

#### Material Profiles (2 profiles)

-----  
 Profile: 1 (2 points) Material beneath: 2 - OB - loose sand, mixed grain size  
 0.00 3835.00 300.00 3835.00  
 Profile: 2 (2 points) Material beneath: 1 - Sand and gravel, mixed grain size  
 0.00 3827.00 300.00 3827.00

#### Slope Surface (4 points)

-----  
 1.00 3835.00 100.00 3835.00 169.00 3812.00 300.00 3812.00

#### Phreatic Surface (2 points)

-----  
 0.00 3800.00 300.00 3800.00

#### Piezometric Surfaces (1 surface)

#### Failure Surface (Critical, from previous analysis)

-----  
 Initial circular surface for critical search defined by: XL,XR,R  
 Intersects: XL: 125.90 YL: 3826.37 XR: 149.00 YR: 3818.67  
 Centre: XC: 156.19 YC: 3878.74      Radius: R: 60.50

#### Earthquake Force

-----  
 Pseudo-static earthquake (seismic) coefficient: 0.050

#### Variable Restraints

-----  
 Parameter descriptor:      XL      XR      R  
 Range of variation:      25.00      20.00      10.50  
 Trial positions within range:      10      10      10

-----

## RESULTS: Analysis 3 - Mining Condition

### Bishop Simplified Method of Analysis - Circular Failure Surface

#### Critical Failure Surface Search using Multiple Circle Generation Techniques

Factor of Safety for initial failure surface approximation: 2.614

There were: 981 successful analyses from a total of 1001 trial surfaces  
20 analyses terminated due to unacceptable geometry

Critical (minimum) Factor of Safety: 2.49

#### Results Summary - Lowest 99 Factor of Safety circles

Circle	X-Left	Y-Left	X-Right	Y-Right	X-Centre	Y-Centre	Radius	FoS	
1	113.40	3830.53	139.00	3822.00	146.55	3887.32	65.75	2.490	<-- Critical Surface
2	113.40	3830.53	139.00	3822.00	146.17	3886.18	64.58	2.494	
3	113.40	3830.53	139.00	3822.00	145.80	3885.05	63.42	2.498	
4	113.40	3830.53	139.00	3822.00	145.42	3883.92	62.25	2.503	
5	113.40	3830.53	139.00	3822.00	145.04	3882.78	61.08	2.507	
6	113.40	3830.53	139.00	3822.00	144.66	3881.65	59.92	2.512	
7	116.18	3829.61	139.00	3822.00	148.03	3887.13	65.75	2.513	
8	116.18	3829.61	139.00	3822.00	147.65	3886.00	64.58	2.516	
9	113.40	3830.53	139.00	3822.00	144.28	3880.51	58.75	2.517	
10	116.18	3829.61	139.00	3822.00	147.28	3884.87	63.42	2.520	
11	113.40	3830.53	139.00	3822.00	143.90	3879.37	57.58	2.523	
12	116.18	3829.61	139.00	3822.00	146.90	3883.75	62.25	2.523	
13	116.18	3829.61	139.00	3822.00	146.53	3882.62	61.08	2.526	
14	113.40	3830.53	139.00	3822.00	143.52	3878.24	56.42	2.528	
15	116.18	3829.61	139.00	3822.00	146.15	3881.49	59.92	2.530	
16	113.40	3830.53	141.22	3821.26	147.58	3886.70	65.75	2.530	
17	116.18	3829.61	139.00	3822.00	145.77	3880.36	58.75	2.534	
18	113.40	3830.53	139.00	3822.00	143.14	3877.09	55.25	2.534	
19	113.40	3830.53	141.22	3821.26	147.20	3885.57	64.58	2.535	
20	116.18	3829.61	139.00	3822.00	145.40	3879.23	57.58	2.537	
21	113.40	3830.53	141.22	3821.26	146.82	3884.43	63.42	2.539	
22	116.18	3829.61	139.00	3822.00	145.02	3878.09	56.42	2.542	
23	118.96	3828.68	139.00	3822.00	149.50	3886.91	65.75	2.543	
24	113.40	3830.53	141.22	3821.26	146.44	3883.29	62.25	2.544	
25	118.96	3828.68	139.00	3822.00	149.13	3885.78	64.58	2.545	
26	116.18	3829.61	139.00	3822.00	144.64	3876.96	55.25	2.546	
27	118.96	3828.68	139.00	3822.00	148.75	3884.66	63.42	2.547	
28	116.18	3829.61	141.22	3821.26	149.07	3886.54	65.75	2.547	
29	113.40	3830.53	141.22	3821.26	146.06	3882.15	61.08	2.548	
30	118.96	3828.68	139.00	3822.00	148.38	3883.54	62.25	2.549	
31	116.18	3829.61	141.22	3821.26	148.69	3885.41	64.58	2.549	
32	118.96	3828.68	139.00	3822.00	148.00	3882.42	61.08	2.551	
33	116.18	3829.61	141.22	3821.26	148.31	3884.28	63.42	2.552	
34	113.40	3830.53	141.22	3821.26	145.68	3881.01	59.92	2.553	
35	118.96	3828.68	139.00	3822.00	147.63	3881.29	59.92	2.554	
36	116.18	3829.61	141.22	3821.26	147.94	3883.15	62.25	2.556	

37	118.96	3828.68	139.00	3822.00	147.25	3880.17	58.75	2.556
38	113.40	3830.53	141.22	3821.26	145.30	3879.87	58.75	2.558
39	118.96	3828.68	139.00	3822.00	146.88	3879.04	57.58	2.559
40	116.18	3829.61	141.22	3821.26	147.56	3882.01	61.08	2.559
41	118.96	3828.68	139.00	3822.00	146.50	3877.92	56.42	2.562
42	116.18	3829.61	141.22	3821.26	147.18	3880.88	59.92	2.563
43	113.40	3830.53	143.44	3820.52	148.60	3886.07	65.75	2.563
44	113.40	3830.53	141.22	3821.26	144.92	3878.72	57.58	2.564
45	118.96	3828.68	139.00	3822.00	146.13	3876.79	55.25	2.564
46	118.96	3828.68	141.22	3821.26	150.55	3886.34	65.75	2.565
47	135.62	3823.13	139.00	3822.00	157.36	3882.70	63.42	2.566
48	135.62	3823.13	139.00	3822.00	157.73	3883.81	64.58	2.566
49	135.62	3823.13	139.00	3822.00	156.25	3879.38	59.92	2.566
50	135.62	3823.13	139.00	3822.00	155.88	3878.27	58.75	2.566
51	135.62	3823.13	139.00	3822.00	158.10	3884.92	65.75	2.566
52	135.62	3823.13	139.00	3822.00	156.62	3880.49	61.08	2.566
53	135.62	3823.13	139.00	3822.00	156.99	3881.59	62.25	2.566
54	135.62	3823.13	139.00	3822.00	154.77	3874.95	55.25	2.566
55	135.62	3823.13	139.00	3822.00	155.14	3876.06	56.42	2.566
56	135.62	3823.13	139.00	3822.00	155.51	3877.17	57.58	2.566
57	116.18	3829.61	141.22	3821.26	146.80	3879.74	58.75	2.567
58	138.40	3822.20	143.44	3820.52	161.70	3883.68	65.75	2.567
59	138.40	3822.20	143.44	3820.52	160.96	3881.47	63.42	2.567
60	138.40	3822.20	143.44	3820.52	160.59	3880.36	62.25	2.567
61	138.40	3822.20	143.44	3820.52	161.33	3882.58	64.58	2.567
62	118.96	3828.68	141.22	3821.26	150.17	3885.22	64.58	2.567
63	138.40	3822.20	143.44	3820.52	160.22	3879.25	61.08	2.567
64	135.62	3823.13	141.22	3821.26	158.82	3883.40	64.58	2.567
65	138.40	3822.20	143.44	3820.52	159.48	3877.04	58.75	2.568
66	135.62	3823.13	141.22	3821.26	159.19	3884.51	65.75	2.568
67	138.40	3822.20	143.44	3820.52	159.11	3875.93	57.58	2.568
68	138.40	3822.20	143.44	3820.52	159.85	3878.15	59.92	2.568
69	135.62	3823.13	141.22	3821.26	158.45	3882.29	63.42	2.568
70	138.40	3822.20	143.44	3820.52	158.74	3874.82	56.42	2.568
71	135.62	3823.13	141.22	3821.26	158.09	3881.18	62.25	2.568
72	113.40	3830.53	143.44	3820.52	148.22	3884.93	64.58	2.568
73	135.62	3823.13	141.22	3821.26	157.72	3880.07	61.08	2.568
74	138.40	3822.20	143.44	3820.52	158.37	3873.71	55.25	2.568
75	132.84	3824.05	139.00	3822.00	156.69	3885.33	65.75	2.568
76	135.62	3823.13	141.22	3821.26	157.35	3878.97	59.92	2.568
77	135.62	3823.13	141.22	3821.26	156.98	3877.86	58.75	2.568
78	132.84	3824.05	139.00	3822.00	156.32	3884.22	64.58	2.568
79	132.84	3824.05	139.00	3822.00	155.95	3883.11	63.42	2.568
80	135.62	3823.13	141.22	3821.26	156.61	3876.75	57.58	2.568
81	135.62	3823.13	141.22	3821.26	156.24	3875.64	56.42	2.568
82	132.84	3824.05	139.00	3822.00	155.58	3882.00	62.25	2.568
83	132.84	3824.05	139.00	3822.00	154.84	3879.78	59.92	2.568
84	132.84	3824.05	139.00	3822.00	155.21	3880.89	61.08	2.568
85	135.62	3823.13	141.22	3821.26	155.87	3874.53	55.25	2.569
86	132.84	3824.05	139.00	3822.00	154.47	3878.68	58.75	2.569
87	132.84	3824.05	139.00	3822.00	154.10	3877.57	57.58	2.569
88	132.84	3824.05	139.00	3822.00	153.73	3876.46	56.42	2.569
89	138.40	3822.20	145.67	3819.78	162.79	3883.26	65.75	2.569



90	132.84	3824.05	139.00	3822.00	153.36	3875.35	55.25	2.569
91	138.40	3822.20	145.67	3819.78	162.05	3881.04	63.42	2.569
92	138.40	3822.20	145.67	3819.78	162.42	3882.15	64.58	2.569
93	118.96	3828.68	141.22	3821.26	149.80	3884.09	63.42	2.569
94	113.40	3830.53	141.22	3821.26	144.54	3877.58	56.42	2.570
95	138.40	3822.20	145.67	3819.78	161.68	3879.93	62.25	2.570
96	135.62	3823.13	143.44	3820.52	160.28	3884.08	65.75	2.570
97	138.40	3822.20	145.67	3819.78	161.31	3878.82	61.08	2.570
98	135.62	3823.13	143.44	3820.52	159.91	3882.97	64.58	2.570
99	138.40	3822.20	145.67	3819.78	160.94	3877.71	59.92	2.570

#### Critical Failure Surface (circle 1)

-----  
Intersects: XL: 113.40 YL: 3830.53 XR: 139.00 YR: 3822.00  
Centre: XC: 146.55 YC: 3887.32 Radius: R: 65.75

Generated failure surface: (20 points)

113.40	3830.53	114.64	3829.83	115.90	3829.15	117.17	3828.49	118.46	3827.87
119.76	3827.27	121.07	3826.70	122.40	3826.16	123.73	3825.65	125.08	3825.17
126.44	3824.72	127.80	3824.29	129.18	3823.90	130.56	3823.54	131.95	3823.21
133.35	3822.90	134.76	3822.63	136.17	3822.39	137.58	3822.18	139.00	3822.00

#### Slice Geometry and Properties - Critical Failure Surface (circle 1, 39 slices)

Slice	X-S -----			Base -----					PoreWater		Normal Test	
	X-Left	Area	Angle	Width	Length	Matl	Cohesion	Phi	Weight	Force	Stress	Factor
1	113.40	0.05	29.6	0.62	0.72	2	0.00	34.0	4.51	0.00	6.28	1.00
2	114.02	0.14	29.7	0.62	0.72	2	0.00	34.0	13.54	0.00	18.87	1.00
3	114.64	0.23	28.4	0.63	0.72	2	0.00	34.0	22.34	0.00	30.97	0.99
4	115.27	0.31	28.4	0.63	0.72	2	0.00	34.0	30.45	0.00	42.23	0.99
5	115.90	0.39	27.2	0.64	0.72	2	0.00	34.0	38.53	0.00	53.16	0.99
6	116.54	0.46	27.2	0.64	0.72	2	0.00	34.0	45.71	0.00	63.07	0.99
7	117.17	0.54	25.9	0.64	0.72	2	0.00	34.0	52.99	0.00	72.79	0.98
8	117.82	0.60	25.9	0.64	0.72	2	0.00	34.0	59.24	0.00	81.37	0.98
9	118.46	0.66	24.7	0.65	0.72	2	0.00	34.0	65.65	0.00	89.84	0.98
10	119.11	0.72	24.7	0.65	0.72	2	0.00	34.0	70.91	0.00	97.03	0.98
11	119.76	0.73	23.4	0.62	0.68	2	0.00	34.0	72.53	0.00	104.05	0.98
12	120.38	0.85	23.4	0.69	0.75	1	0.00	45.0	85.65	0.00	105.94	0.93
13	121.07	0.86	22.2	0.66	0.72	1	0.00	45.0	88.30	0.00	114.57	0.93
14	121.74	0.89	22.2	0.66	0.72	1	0.00	45.0	93.48	0.00	121.31	0.93
15	122.40	0.93	20.9	0.67	0.72	1	0.00	45.0	98.94	0.00	128.37	0.93
16	123.07	0.95	20.9	0.67	0.72	1	0.00	45.0	102.99	0.00	133.66	0.93
17	123.73	0.38	19.7	0.27	0.28	1	0.00	45.0	42.12	0.00	138.21	0.93
18	124.00	0.78	19.7	0.54	0.57	1	0.00	45.0	86.21	0.00	139.54	0.93
19	124.54	0.79	19.7	0.54	0.57	1	0.00	45.0	86.99	0.00	140.83	0.93
20	125.08	1.00	18.4	0.68	0.72	1	0.00	45.0	109.76	0.00	142.67	0.93
21	125.76	1.00	18.4	0.68	0.72	1	0.00	45.0	109.76	0.00	142.68	0.93
22	126.44	1.00	17.2	0.68	0.72	1	0.00	45.0	109.93	0.00	143.12	0.93
23	127.12	0.99	17.2	0.68	0.72	1	0.00	45.0	108.68	0.00	141.48	0.93
24	127.80	0.98	15.9	0.69	0.72	1	0.00	45.0	107.52	0.00	140.27	0.93
25	128.49	0.95	15.9	0.69	0.72	1	0.00	45.0	105.05	0.00	137.03	0.93
26	129.18	0.93	14.7	0.69	0.72	1	0.00	45.0	102.55	0.00	134.12	0.94
27	129.87	0.90	14.7	0.69	0.72	1	0.00	45.0	98.82	0.00	129.22	0.94
28	130.56	0.86	13.4	0.70	0.72	1	0.00	45.0	94.97	0.00	124.57	0.94

29	131.26	0.82	13.4	0.70	0.72	1	0.00	45.0	89.96	0.00	118.01	0.94
30	131.95	0.77	12.2	0.70	0.72	1	0.00	45.0	84.74	0.00	111.54	0.94
31	132.65	0.71	12.2	0.70	0.72	1	0.00	45.0	78.45	0.00	103.25	0.94
32	133.35	0.65	10.9	0.70	0.72	1	0.00	45.0	71.84	0.00	94.95	0.95
33	134.05	0.58	11.0	0.70	0.72	1	0.00	45.0	64.26	0.00	84.92	0.95
34	134.76	0.51	9.7	0.70	0.72	1	0.00	45.0	56.28	0.00	74.71	0.95
35	135.46	0.43	9.7	0.70	0.72	1	0.00	45.0	47.41	0.00	62.92	0.95
36	136.17	0.35	8.5	0.71	0.72	1	0.00	45.0	38.05	0.00	50.76	0.95
37	136.87	0.25	8.5	0.71	0.72	1	0.00	45.0	27.89	0.00	37.20	0.95
38	137.58	0.16	7.2	0.71	0.72	1	0.00	45.0	17.17	0.00	23.03	0.96
39	138.29	0.05	7.2	0.71	0.72	1	0.00	45.0	5.72	0.00	7.67	0.96

-----                      -----                      -----  
X-S Area:    25.15    Path Length:    27.18                      X-S Weight:    2689.89


---





---



---

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature  <input checked="" type="checkbox"/> <i>Nathan Wertz</i>      <input type="checkbox"/> Agent  <input type="checkbox"/> Addressee</p>
<p>1. Article Addressed to:  <i>Nathan Wertz  21390 CR 11  McClave, CO 81057</i></p>	<p>B. Received by (Printed Name) _____ C. Date of Delivery  <i>3-10-25</i></p>
<p>2. Article Number (Transfer from service label)  <b>7022 0410 0001 2407 9399</b></p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes  If YES, enter delivery address below: <input type="checkbox"/> No</p>
 9590 9402 6507 0346 4877 09	<p>3. Service Type</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) </div> <div style="width: 45%;"> <input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery </div> </div>
PS Form 3811, July 2020 PSN 7530-02-000-9053 <span style="float: right;">Domestic Return Receipt</span>	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature  <input checked="" type="checkbox"/> <i>Tobe A Wright</i>      <input type="checkbox"/> Agent  <input type="checkbox"/> Addressee</p>
<p>1. Article Addressed to:  <i>Bent County  725 Bent County  PO Box 350  Las Animas, CO 81564</i></p>	<p>B. Received by (Printed Name) _____ C. Date of Delivery  <i>Tobe A Wright 3/10/25</i></p>
<p>2. Article Number (Transfer from service label)  <b>7022 0410 0001 2407 9382</b></p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes  If YES, enter delivery address below: <input type="checkbox"/> No</p>
 9590 9402 7064 1225 3141 82	<p>3. Service Type</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) </div> <div style="width: 45%;"> <input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery </div> </div>
PS Form 3811, July 2020 PSN 7530-02-000-9053 <span style="float: right;">Domestic Return Receipt</span>	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature  <input checked="" type="checkbox"/> <i>Lisa E. Denman</i>      <input type="checkbox"/> Agent  <input type="checkbox"/> Addressee</p>
<p>1. Article Addressed to:  <i>Lamar Light &amp; Power  100 North 2nd Street  Lamar, CO 81052</i></p>	<p>B. Received by (Printed Name) _____ C. Date of Delivery  <i>Lisa E. Denman 3/10/25</i></p>
<p>2. Article Number (Transfer from service label)  <b>7022 0410 0001 2407 9450</b></p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes  If YES, enter delivery address below: <input type="checkbox"/> No</p>
 9590 9402 7064 1225 3141 99	<p>3. Service Type</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Adult Signature  <input type="checkbox"/> Adult Signature Restricted Delivery  <input type="checkbox"/> Certified Mail®  <input type="checkbox"/> Certified Mail Restricted Delivery  <input type="checkbox"/> Collect on Delivery  <input type="checkbox"/> Collect on Delivery Restricted Delivery  <input type="checkbox"/> Insured Mail  <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) </div> <div style="width: 45%;"> <input type="checkbox"/> Priority Mail Express®  <input type="checkbox"/> Registered Mail™  <input type="checkbox"/> Registered Mail Restricted Delivery  <input type="checkbox"/> Signature Confirmation™  <input type="checkbox"/> Signature Confirmation Restricted Delivery </div> </div>
PS Form 3811, July 2020 PSN 7530-02-000-9053 <span style="float: right;">Domestic Return Receipt</span>	