

TO: Feliz Toprak, Mining Consultant, SRK Consulting, Inc.
 CC: Jeff Smith, Chief Operating Officer, NMCC
 FROM: Katie Emmer, Permitting & Environmental Compliance Manager, NMCC
 DATE: 20 March 2018
 SUBJECT: Seed Mix Quotes – Average cost \$175.00/acre PLS

The purpose of this memorandum is to summarize research into seed mix costs for seed mixes identified in the Copper Flat Mine Operation & Reclamation Plan (MORP) and to present the estimated cost of pure live seed (PLS) per acre.

The MORP calls for a specific seed mix and rate of application for interim and final reclamation:

Table E7: Interim and Final Reclamation Seed Mixes

Scientific Name	Common Name	PLS/ac ¹	
		Interim	Final
Grasses – Warm Season			
<i>Bothriochloa barbinodis</i>	Cane bluestem	0.15	0.20
<i>Bouteloua curtipendula</i>	Sideoats grama	1.00	1.10
<i>Bouteloua gracilis</i>	Blue grama	0.20	0.25
<i>Pleuraphis jamesii</i>	Galleta	0.75	1.10
<i>Leptochloa dubia</i>	Green sprangletop	0.15	0.20
<i>Seteria vulpiseta</i>	Plains bristlegrass	0.20	0.30
<i>Sporobolus cryptandrus</i>	Sand dropseed	0.03	0.04
Grasses – Cool, Intermediate Season			
<i>Achnatherum hymenoides</i>	Indian ricegrass	0.60	1.30
<i>Eragrostis intermedia</i>	Plains lovegrass	0.05	0.04
<i>Hesperostipa newmexicana</i>	NM feathergrass	0.70	0.50
Shrubs			
<i>Atriplex canescens</i>	Four-wing saltbush	0.30	1.75
<i>Ericamerica nauseosus</i>	Rubber rabbitbrush	0.10	0.35
<i>Fallugia paradoxa</i>	Apache plume	--	0.10
<i>Krascheninnikovia lanata</i>	Winterfat	0.15	0.70
Forbs			
<i>Dalea candida</i>	White prairie clover	0.10	0.40
<i>Linum lewisii</i>	Blue flax	0.15	0.35
<i>Ratibida colomnifera</i>	Prairie coneflower	--	0.10
<i>Sphaeralcea ambigua</i>	Desert globemallow	0.10	0.40
	Total	4.73	9.18

Notes:

¹ - Rate is in pounds of pure live seed (PLS) per acre; Substitutions may change seeding rates.

In the week of 12 March 2018, I requested recommendations for seed mix suppliers from knowledgeable personnel at the Bureau of Land Management (BLM) Las Cruces office and Golder & Associates.

Emily Clark, Soil Scientist at Golder, indicated that they commonly work with Granite Seed. Shannon Gentry, Rangeland Management Specialist, suggested Bamert Seed, Granite Seed, and Curtis & Curtis Seed companies. Based on these recommendations, I contacted all three companies and provided MORP Table E7 and requested quotes on PLS/acre that would be certified weed free at the final reclamation rate. I instructed each company that comparable seed substitutions could be made based on availability. Quotes for PLS/acre were received from each company and are presented in the table below.

Seed Mix Quotes for MORP Table E7, Final Rate, March 2018

Company	Date	Price quote PLS/acre	Notes
Curtis & Curtis, Inc.	15 March 2018	\$174.72	Low acreage Quote attached
Curtis & Curtis, Inc.	15 March 2018	\$163.79	100 acres+ Quote attached
Granite Seed	15 March 2018	\$186.50	Quote attached
Bamert Seed	16 March 2018	\$750.00	Quote via email, attached.

In further correspondence with Bamert, the supplier speculated the quote could be decreased “as much as 2/3rds” if strategic substitutions of similar seeds were made based on availability. If the Bamert quote was decreased by 67%, it would be about \$247.50/acre. Based on the difference in price from the other two suppliers, I conclude this quote is an outlier that is based on differing assumptions from those communicated in the quote request and have not included it in our estimated average seed mix cost.

Based on these quotes, attached, I conclude the average cost of PLS that would meet MORP requirements for final seed rates shown in Table E7 would be \$175.00 per acre.

Attachments:

- Curtis & Curtis, Inc. Quote
- Granite Seed Quote
- Bamert Seed Quote (via email)

CURTIS & CURTIS, INC.

4500 North Prince, Clovis, New Mexico 88101
 PH: 575-762-4759 FAX: 575-763-4213

Irrigated Pasture Grasses
 Mountain Pasture Grasses
 Native Pasture Grasses

Yard and Playground Grasses
 Golf Course Grasses
 Alfalfa/Clovers

PRICE QUOTATION

TO:	Themac Resources	DATE:	March 15, 2018
ATTENTION:	Katie Emmer	SALESPERSON:	Tyler Stuemky
PHONE:	505-400-7925	SHIPPING DATE:	As Directed
EMAIL:	kemmer@themacresourcesgroup.com	FOB:	Clovis
PROJECT:	Sierra County Mine Reclamation	TERMS:	30 Days Net

DESCRIPTION	PRICE	AMOUNT
Custom Seed Mix:	\$174.72/Acre (Low Acreage)	
	\$163.79/Acre (100 Acres+)	

COMMON NAME	BOTANICAL NAME	PLS/ACRE
Cane Bluestem Sub. Buffalograss	<i>Bouteloua dactyloides</i>	0.20
Sideoats Grama	<i>Bouteloua curtipendula</i>	1.10
Blue Grama	<i>Bouteloua gracilis</i>	0.25
Galleta Grass	<i>Pleuraphis jamesii</i>	1.10
Green Sprangletop	<i>Leptochloa dubia</i>	0.20
Plains Bristlegrass	<i>Setaria vulpisetia</i>	0.30
Sand Dropseed	<i>Sporobolus cryptandrus</i>	0.04
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	1.30
Plains Lovegrass Sand Lovegrass	<i>Eragrostis trichodes</i>	0.04
NM Feathergrass Needle and Thread	<i>Hesperostipa comata</i>	0.50
Four-Wing Saltbush	<i>Atriplex canescens</i>	1.75
Rubber Rabbitbrush	<i>Ericameria nauseosa</i>	0.35
Apache Plume Sub. Three-Leaf Sumac	<i>Rhus trilobata</i>	0.10
Winterfat	<i>Krascheninnikovia lanata</i>	0.70
White Prairie Clover Sub. Purple Prairie Clover	<i>Dalea purpurea</i>	0.40
Blue Flax	<i>Linum lewisii</i>	0.35
Prairie Coneflower	<i>Ratibida columnifera</i>	0.10
Desert Globemallow	<i>Sphaeralcea ambigua</i>	0.40

THIS QUOTE IS GOOD FOR 10 DAYS

ALL PRICES SUBJECT TO AVAILABILITY**SUBJECT TO BEING UNSOLD

Here is our quotation on the goods named, subject to the conditions noted:

The prices and terms on this quotation are not subject to verbal changes or other agreements unless approved in writing by the Home Office of the Seller. All quotations and agreements are contingent upon strikes, accidents, fires, availability of materials and all other causes beyond our control. Prices are based on costs and conditions existing on date of quotation and are subject to change by the Seller before final acceptance.

Typographical and stenographic errors are subject to correction. Purchaser agrees to accept either overage or shortage not in excess of ten percent to be charged for pro-rata. Purchaser assumes liability for patent and copyright infringement when goods are made to Purchaser's specifications. When quotation specifies material to be furnished by the purchaser, ample allowance must be made for reasonable spoilage and material must be of suitable quality to facilitate efficient production. Conditions not specifically stated herein shall be governed by established trade customs. Terms inconsistent with those stated herein, which may appear on Purchaser's formal order will not be binding on the Seller.

QUOTE

Tren Hagman
 1697 West 2100 North
 Lehi, UT 84043

tren@graniteseed.com
 Phone: (801) 768-4422
 Fax: (801) 701-9413

Date: March 15, 2018
To: Katie Emmer
Company: Themac Resources
From: Tren Hagman
Re: Seed Quote

Katie,

We can provide the mix below for \$186.50/acre

Species	PLS lbs./acre
Cane beardgrass (<i>Bothriochloa barbinodis</i>)	0.20
Sideoats grama (<i>Bouteloua curtipendula</i>)	1.10
Blue grama (<i>Bouteloua gracilis</i>)	0.25
Galleta grass (<i>Pleuraphis jamesii</i>)	1.10
Green sprangletop (<i>Leptochloa dubia</i>)	0.20
Plains bristlegrass (<i>Setaria vulpiseta</i>)	0.30
Sand dropseed (<i>Sporobolus cryptandrus</i>)	0.04
Indian ricegrass (<i>Achnatherum hymenoides</i>)	1.30
Fourwing saltbush (<i>Atriplex canescens</i>)	1.75
Rubber rabbitbrush (<i>Ericameria nauseosa</i>)	0.35
Apache plume (<i>Fallugia paradoxa</i>)	0.10
Winterfat (<i>Krascheninnikovia lanata</i>)	0.70
White prairie clover (<i>Dalea candida</i>)	0.40
Blue flax (<i>Linum perenne</i>)	0.35
Prairie coneflower (<i>Ratibida columnifera</i>)	0.10
Desert globemallow (<i>Sphaeralcea ambigua</i>)	0.40
Toal:	8.64

If you have any questions, please contact me at the number above or by email tren@graniteseed.com.

Thanks

Katie Emmer

From: Colby Scroggins <cscroggins@bamertseed.com>
Sent: Friday, March 16, 2018 12:18 PM
To: Katie Emmer
Subject: RE: Seed mix quote

Katie,

I would estimate that the attached blend may be near \$750 per acre.

Please let me know if I may be of help in the future!

Have a great day,

Colby F. Scroggins

Reclamation Specialist

cscroggins@BamertSeed.com

Office | 800.262.9892

Fax | 888.378.0419

www.BamertSeed.com



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From: Katie Emmer [<mailto:kemmer@themacresourcesgroup.com>]
Sent: Wednesday, March 14, 2018 4:25 PM
To: Colby Scroggins <cscroggins@bamertseed.com>
Subject: Seed mix quote

Here's the seed mix I'm looking at, see attached.

Katie Emmer | [Permitting & Environmental Compliance Manager](#)

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