



March 13, 2023

Perry Neil
Crossfire Aggregate Services LLC
P.O. Box 352
Ignacio, CO 81137

RE: Kelly's Pond, M-2023-006, 111(1)(b) Mining Application Second Adequacy Review

Dear Perry Neil,

The Division received Crossfire Aggregate Services' responses to the Division's Preliminary Adequacy Review (PAR) on March 13, 2023. The Division has completed reviewing the responses to the PAR and has the following adequacy items;

Reclamation Cost Estimate

1. The Division has calculated the reclamation liability for the Kelly's Pond to be \$7,196.00. The reclamation estimate was calculated with information provided by the applicant. The Division received a check for the financial warranty with the application in the amount of \$6,000.00. Please review the attached reclamation estimate. Additional monies in the amount of \$1,196.00 is required to be submitted to fully bond for the reclamation activities associated with this application. The additional bond money can be submitted to the Division's Denver office in the form of a check.

This is a secondary review. Other issues may arise from other agency comments, and as more information is supplied. This application cannot be approved until all issues brought forth by Division staff are adequately addressed. Please submit a response to the following issues as soon as possible, but no later than March 15, 2023, so the decision due date set for March 18, 2023 can be met. If your response or a written extension request are not received by March 18, 2022 this application may be denied. This concludes the Division's preliminary adequacy review of the Crossfire Aggregate Services LLC mining application. If you have any questions or concerns, please contact me at clayton.wein@state.co.us or by phone (303)-866-3567 x8185.

Sincerely,

Clayton Wein
Environmental Protection Specialist

cc: Travis Marshall, Senior Environmental Protection Specialist



COST SUMMARY WORK

Task description: Reclamation Estimate Summary

Site: Kelly's Pond

Permit Action: 2023 Application

Permit/Job#: M2023006

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/13/2023

County: Archuleta

Filename: M006-000

User: CCW

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Rip 1.1 Acres of dry land before seeding.	RIPPER	1	1.80	\$356
002	Replace 1.1 acres of Topsoil	DOZER	1	10.46	\$2,007
003	Revegetate 1.1 acres dry land	REVEGE	1	0.00	\$2,182
004	Equipment Mobilization for Reclamation	MOBILIZE	1	2.32	\$1,516
<u>SUBTOTALS:</u>				14.58	\$6,061

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 0.00
Profit: 10.00

Total = \$122

Total = \$64

Total = \$0

Total = \$606

TOTAL O & P = \$792

CONTRACT AMOUNT (direct + O & P) = \$6,853

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 0.00

Total = \$0

Reclamation management and/or administration: 5.00

\$343

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$1,135

TOTAL BOND AMOUNT (direct + indirect) = \$7,196

BULLDOZER RIPPING WORK

Task description: Rip 1.1 Acres of dry land before seeding.

Site: Kelly's Pond

Permit Action: 2023 Application

Permit/Job#: M2023006

PROJECT IDENTIFICATION

Task #: 001

State: Colorado

Abbreviation: None

Date: 3/13/2023

County: Archuleta

Filename: M006-001

User: CCW

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D6T LGP

Horsepower: 200

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$75.83	NA
Operating Cost/Hour:	\$66.34	100
Ripper Ownership Cost/Hour:	\$8.37	NA
Ripper Operating Cost/Hour:	\$4.99	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$196.83	
Total Fleet Cost/Hour:	\$196.83	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 1.10 acres

Rip Depth (ft): 1.50

Volume: 2,662

BCY or CCY

Source of estimated quantity: DRMS

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>1.64</u>	feet/pass
Average Ripping Width:	<u>6.58</u>	feet/pass
Average Ripping Length:	<u>250.00</u>	feet/pass
Average Dozer Speed:	<u>88.00</u>	feet/minute
Average Maneuver Time:	<u>0.25</u>	minutes/pass
Production per unit area:	<u>0.733</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.733 Acres/hr

Site Altitude: 6,175 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr

Adjusted Hourly Fleet Production: 0.61 Acres/hr

JOB TIME AND COST

Fleet size: 1

Grader(s)

Total job time: 1.81

Hours

Unit cost: \$323.497

Per acre

Total job cost: \$356

BULLDOZER WORKTask description: **Replace 1.1 acres of Topsoil**Site: **Kelly's Pond**Permit Action: **2023 Application**Permit/Job#: **M2023006****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **3/13/2023**County: **Archuleta**Filename: **M006-002**User: **CCW**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D6T LGP**Horsepower: **200**Blade Type: **Straight**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$75.83	NA
Operating Cost/Hour:	\$66.34	100
Ripper own. Cost/Hour:	\$8.37	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA
Total unit Cost/Hour:	\$191.84	
Total Fleet Cost/Hour:	\$191.84	

MATERIAL QUANTITIESInitial Volume: **710**Swell factor: **1.215**Loose volume: **862 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell
factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **250 feet**Unadjusted hourly
production: **119.6 LCY/hr**Materials consistency description: **Partly consolidated stockpile 1.1**Average push
gradient: **0 %**Average site altitude: **6,175 feet**Material weight: **1,600 lbs/LCY**Weight description: **Top Soil****Job Condition Correction Factor****Source**

Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6893

Adjusted unit
production: 82.44 LCY/hr
Adjusted fleet
production: **82.44** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$2.327/LCY

Total job time: **10.46** Hours
Total job cost: **\$2,007**

REVEGETATION WORKTask description: Revegetate 1.1 acres dry landSite: Kelly's PondPermit Action: 2023 ApplicationPermit/Job#: M2023006PROJECT IDENTIFICATIONTask #: 003State: ColoradoAbbreviation: NoneDate: 3/13/2023County: ArchuletaFilename: M006-003User: CCWAgency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
Total Tilling Cost/Acre	\$117.18

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	1.85	5.99	\$12.03
Galleta	2.19	7.99	\$48.95
Needle and Thread	3.03	8.00	\$126.81
Western Wheatgrass - Native	2.76	6.97	\$16.56
Globemallow, Scarlet (or copper)	0.25	2.83	\$33.88
Basin Wildrye - Trailhead	3.03	12.31	\$46.69
Totals Seed Mix	13.11	44.09	\$284.90

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/Acre	\$232.00

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - 2,4D @ 1.0 pt/ac	1.10	ACRE	\$3.04	\$3.34
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$846.06

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Total Mulch Application Cost/Acre	\$73.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres:	1.1	Cost /Acre:	\$1,553.14
Estimated Failure Rate:	30%	Cost /Acre*:	\$1,435.96
*Selected Replanting Work Items:	SEEDING,MULCHING		
Initial Job Cost:	\$1,708.45		
Reseeding Job Cost:	\$473.87		
Total Job Cost:	\$2,182		
Job Hours:	0.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Equipment Mobilization for Reclamation**Site: **Kelly's Pond**Permit Action: 2023 ApplicationPermit/Job#: M2023006**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 3/13/2023County: ArchuletaFilename: M006-004User: CCWAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D6T LGP	28.63	\$84.20	\$101.82	1	\$186.02	\$101.82	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00

Subtotals: **\$260.49** **\$170.04** **\$500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$14.23	1	\$14.23	\$14.23

Subtotals: **\$14.23** **\$14.23**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>PAGOSA SPRINGS</u>	
Total one-way travel distance:	<u>29.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$1,499.41</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$16.51</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.58</u>	<u>0.58</u>
Return Time (Hours):	<u>0.58</u>	<u>0.58</u>
Loading Time (Hours):	<u>0.00</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.00</u>	<u>NA</u>
Subtotals:	<u>1.16</u>	<u>1.16</u>

JOB TIME AND COST

Total job time:	<u>2.32</u>	Hours
-----------------	-------------	-------

Total job cost:	<u>\$1,516</u>
-----------------	----------------