PFM Consulting LLC

Colorado Division of Reclamation, Mining and Safety
Attn: Ursula Armstrong, Environmental Protection Specialist
1313 Sherman Street, Room 215
Denver, CO 80203

RE: McClave Ranch Pit M2024-038, Adequacy Review #1

October 9, 2024

Ms. Armstrong,

Please see the responses to Adequacy Review #1 items below.

1. Please see the updated legal description.
2. The updated legal description keeps the property wholly in Section 35 and is updated and attached.
3. Please see the updated Index Map.
4. Please see the updated Index Map.

5-8 and 10-12. Please see the updated Pre-Mining and Mining Plan Maps.

9. The Mining Plan Map has been updated. There will be no fuel/oil storage onsite and there will be no sediment ponds, sumps, ditches, etc.

13. Each phase will take approximately 6 months. There will be approximately 11 phases.

14. Phase 1, 10 acres, will be mined initially and will remain active throughout the life of the mine, as it will contain the processing area, scales, etc. However, Phase 1 will be backfilled as mining proceeds towards Phase 2. When Phase 2 mining commences, Phase 1 will be backfilled to a 3H:1V grade or gentler and will be ready for final reclamation items of topsoiling and seeding. As all structures on this phase are portable, there will be no further dirt work needed once the machinery is removed from the site and Phase 1 is prepped for seeding. Thus, the maximum disturbed area will be 20 acres, 10 of which will be of active mining.

15. Phase 1 will continue to be used for processing throughout the life of the mine. This may change, as conditions onsite change and mining progresses south and southeast. If the processing area moves closer to the active mine area, Phase 1 will have topsoil and seeding completed in all areas outside of the haul

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road to County Road JJ. Thus, the 10-acre processing area could move further through the mine but again would be fully backfilled to a 3H:1V or gentler slope and would only require topsoil and seeding to complete final reclamation.

16. The seed mixture for the stockpiles will be the same as the mixture for reclamation of the site.
17. Please see the updated Mining Map, which now has the permit boundary encompassing the location of a new haul road into the site. The road will be 50 feet wide and will be graveled. Per the landowner's request, this road will remain following reclamation.
18. Please see #17. Since the road will remain following reclamation, the bond estimate is not impacted.
19. All structures are portable with no demolition needed for removal. Stormwater management structures may include straw waddles which will be removed during final reclamation.
20. The affected area will equal the permit area.
21. This operation does not anticipate being intermittent, but is fully dependent on the local economy and demand.
22. The operator has decades of experience in reclamation, farming and ranching in the arid parts of eastern Colorado. Vegetation is hard, regardless of the topsoil depth, but is attainable at 3 inches which is the current topsoil depth of the undisturbed property. If the Division feels that it is necessary to reclaim at a 6-inch topsoil depth, please advise and the reclamation plan can be updated accordingly.
23. Fertilizer will not be used during reclamation.
24. The Reclamation Plan has been updated to include straw mulch to be crimped in at a rate of 400 pounds per acre.
25. Yes, the seed mixture will be broadcast with the straw mulch crimped in.
26. As stated in #15 above, a total of 20 acres will be disturbed. There will be a total of 10 acres that will need to be topsoiled and seeded, while the second 10 acres will be active mining. The maximum acreage needing topsoil and seeding is 20. There will be 20 acres that may need disking or chiseling.
27. Disking or chiseling will be the method of roughening prior to seeding.
28. All structures are portable and will be hauled out during final reclamation. As they will be on the mine area that will be reclaimed back to a 3H:1V slope or gentler, the only reclamation items left in the areas of these portable structures would be to add topsoil, roughen prior to seeding, seeding, and crimping in straw mulch. The haul road will be the only structure remaining following reclamation, as noted above.
29. As stated above, the haul road will remain, will be 50 feet in width and will be surfaced in gravel. Exhibit F has been updated to include this information.
30. The operator will use backfill methods for reclamation. There is adequate overburden onsite to reclaim to the 3H:1V or gentler slopes.

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31. Please see the attached weed management plan.

32 and 33. Please see the updated Reclamation Plan Map.

34. It is estimated that onsite water needs will not exceed 5-acre feet per year. This estimate is anticipated for all stages of mining and reclamation. Flow rates will be determined by the pump used at the offsite facility that water will be obtained from and cannot be verified for any given timeframe.

35. Water may be obtained from the Hasty/McClave municipality. Exhibit G has been updated accordingly.

36. See #35.

37. The original application did not indicate onsite material washing, and no such operation is planned at this site.

38. Stockpile berms will be used onsite around the perimeter to manage stormwater flows. Water detained will percolate within 72 hours.

39. Please see the attached weed management plan.

40. Onsite conditions show that vegetation varies dependent on precipitation. Vegetation onsite can range from 50% coverage to 85% coverage with 100% being grasses and forbs.

41. The soil report shows the site makeup of Cascajo very gravelly sandy loam, Kimera loam, Olney Sandy loam, Stanta loam, and Travessilla-Olney Sandy loam. These soil types tend to be well-drained. With the arid climate and the above soil types, vegetation tends to be sparce and depended on years with abundant moisture. Vegetation that tends to do well includes those that are found onsite, Sideoats Grama, Western Wheatgrass, cactus, sagebrush and yucca. The environment doesn't normally sustain any tall or low shrubs well.

42. The carrying capacity of the area for rangeland is approximately 40 acres per head of cattle.

43. Please see the following data obtained from Weatherworld.com:

Bent County Monthly Climate Averages

12 Month Climate Scroll

Month	January	February	March	April	May
Avg. Temperatures	Hi 46°F Lo 26°F	Hi 49°F Lo 27°F	Hi 61°F Lo 37°F	Hi 68°F Lo 44°F	Hi 77°F Lo 53°F
Avg. Wind Speed	8 mph	9 mph	11 mph	12 mph	11 mph

Bent County Monthly Climate Averages

12 Month Climate Scroll

Month	June	July	August	September	October
Avg. Temperatures	Hi 90°F Lo 65°F	Hi 93°F Lo 70°F	Hi 91°F Lo 68°F	Hi 85°F Lo 61°F	Hi 69°F Lo 46°F
Avg. Wind Speed	11 mph	10 mph	9 mph	10 mph	9 mph

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Bent County Monthly Climate Averages

12 Month Climate Scroll °F °C

Month	August	September	October	November	December
Avg. Temperatures °F	Hi 91°F Lo 68°F	Hi 85°F Lo 61°F	Hi 69°F Lo 46°F	Hi 58°F Lo 35°F	Hi 46°F Lo 26°F
Avg. Wind Speed	9 mph	10 mph	9 mph	9 mph	8 mph

44. The exhibit has been updated to state a maximum mining area of 40 acres.
45. Please see the updated Exhibit L.
46. Please see the updated Exhibit L.
47. The approximate haul distance from the topsoil and overburden stockpiles to the pit when undergoing reclamation is 1000'.
48. The operator will disc or chisel the soil prior to seeding and not ripping. The task has been added.
49. The operator believes broadcast will be the best method. Unless the division is requiring it, the task has remained as broadcasting.
50. All tasks are calculated at 1 acre and then at the bottom of the calculation it states "Area Reclaimed" and shows 40 acres, at which point the total expense for 1 acre is then multiplied by 40 to get the full reclamation cost for all disturbed acres. Please review and let me know if you have any further questions, as no changes are needed.
51. No fertilizer is planned for onsite use.
52. No structures will remain onsite. All structures are portable and will require no demolition.
53. Equipment can be rented in Prowers County.
54. Please see the updated Mining Map.
55. Exhibit M has been updated to include the Stormwater Discharge Permit and APEN, both of which have been applied for.
56. This is confirmation of such.
57. The source of water has been updated to a local municipality; any stormwater structures will meet all requirements.
58. Please see the enclosed proof of filing with the Bent County Clerk and Recorder.

Warm Regards,

Jodi Schreiber

Jodi Schreiber, Owner
PFM Consulting LLC

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McClave Ranch Pit

Construction Material

Regular 112 Operation

Reclamation Permit Application Package

Colorado Division of Reclamation, Mining and Safety

June 2024

6.4.1 Exhibit A

Legal Description

The McClave Ranch Pit is located 38.099477°, - 102.887844 °. The pit will be accessed through Bent County Road JJ approximately 3.74 miles east of Hasty, CO. The site is approximately 111.3 acres and is described by the following legal description:

Location: Bent County, CO

NW ¼ , SW ¼ , SE ¼ of the NW ¼ of S35 T25S R49W

Entrance: 38.09949°, - 102.88687°

6.4.2 Exhibit B

Index Map

6.4.3 Exhibit C

Pre-Mining and Mining Plan Map

of Affected Lands

6.4.4 Exhibit D

Mining Plan

The McClave Ranch Pit will be a regular 112 Operation in Bent County. Access to the site will be from Bent County Road JJ at the northwest corner of the site.

The site consists of Cascajo very gravelly sandy loam, Kimera loam, and Olney sandy loam. It is anticipated that shale will be found immediately beneath the material to be mined. The target gravel source is located beneath limited topsoil of 0-6 inches and overburden of an additional 1-3 feet. Aggregate material is anticipated to be an additional 10 feet in depth. Topsoil and overburden will be saved for reclamation of the mine site. The primary commodities of this site are landscape aggregate, gravel and road base. Incidental materials not used for construction material will be used to reconstruct the pit floor and lessen the pit slopes.

The life of the proposed operation is difficult to quantify due to the changing economic conditions in the construction industry and aggregate quality. Extraction will be limited to 70,000 tons per year. At this rate, the life of the mine would be approximately 10-15 years depending on local economic conditions.

Mining will proceed to the south of the entrance and then proceed east. Extracted material will be moved to the processing area that is anticipated to be in the north central portion of the pit. Earthmoving will be accomplished using front end loaders. Aggregate will be processed and sized using a crusher and screens. All equipment will be portable. The highwall will be no greater than 200’ in length and less than 10’ in height. Mining will occur in 10-acre phases. Reclamation will occur concurrently to mining and as one 10-acre phase is completed, a second phase will open.

All plant growth material and topsoil will be salvaged and stockpiled for reclamation use. These stockpiles will be located at the perimeter of the site and posted as reclamation topsoil. Waste rock and overburden will be stockpiled and used to rebuild the pit floor and slopes during reclamation. Established stockpiles will be stored onsite and seeded with the approved seed mix to reduce the chance of erosion. These stockpiles will be located separate from the landscape aggregate and gravel stockpiles.

Overburden perimeter stormwater berms will be constructed as excavation and reclamation progresses. These berms will serve to control erosion and keep sedimentation from reaching any drainage. Water for dust suppression will be obtained from Hasty/McClave and hauled onsite.

There will be no storage of fuel or lubricants onsite. Fuel will be hauled onsite as needed by vendor trucks.

Mining will develop a gravel pit to a depth of approximately 10 feet. No groundwater is expected to be encountered during excavation and mining; therefore, no impact to the hydrologic balance is anticipated. No acid or toxic producing materials will be exposed during mining. No explosives will be used in conjunction with mining or reclamation. All interior haul roads will be temporary and will be reclaimed after the mining has been completed. The current road in the site will remain at the owner's request.

This is a privately owned site and does not require the State Historic Preservation Office requirements for a cultural or historic study. If the operator encounters any structure of note, the State Historic Preservation Office will be notified.

6.4.5 Exhibit E

Reclamation Plan

Reclamation of the site will be of back to the original rangeland use of the site. The land has historically been rangeland and will be returned to such uses following mining operations.

Slopes will be returned to a 3H:1V slope or flatter when mining has concluded, thus allowing for reclamation to immediately follow mining as the site progresses. As topsoil, waste rock and overburden are removed from the working face, they will be stockpiled for future reclamation use. Throughout mining, slopes will be maintained at a 3H:1V minimum, except for the active mine face. Waste rock and overburden will be placed on the pit floor as quantity allows. Three inches of topsoil will be replaced on affected surfaces. If necessary, surfaces will be roughened prior to seeding. All materials used for backfilling will be generated from onsite sources. Onsite topsoil will be adequate for reclamation purposes. No importation of materials for reclamation purposes will be necessary.

No trees, shrubs, or bushy-type vegetation will be planted in the rangeland area of the site. Only the appropriate grasses selected by the NRCS will be used. The operator will use the seed mix on this site. The seed will be broadcast at the rates below. Straw will be crimped in at a rate of 400 pounds per acre.

Table S - Proposed Seed Mix

	Common Name	Scientific Nomenclature	Variety	Precip Zone	Keystone Ecological Specieis	Lifeform	Specifications / Re: PLS / lb.	Specifications / Re: Applied PLS lbs/ac
Grasses	Green needlegrass	*Nassella viridula*	Lodorm	12		NC	181,000	0.50
	Indian Ricegrass	*Achnatherum hymenoides*		8		NC	141,000	0.50
	Little Bluestem	*Schizachyrium scoparium*	Aldous	14		NW	260,000	0.40
	Sand Dropseed	*Sporobolus cryptandrus*		8	XX	NW	5,298,000	0.15
	Sand Lovegrass	*Eragrostis trichodes*	Nebraska 27			NW	1,500,000	0.15
	Sideoats Grama	*Bouteloua curtipendula*	Vaughn	12	XX	NW	191,000	0.50
	Western Wheatgrass	*Pascopyrum smithii*	Arriba	10	XX	NC	110,000	2.00
	Total							**4.20**

ECS Quote
$58.75/AC

All mining structures, including interior haul roads and stormwater diversion structures, will be reclaimed following all mining operations. All buildings are portable. Upon commencement of reclamation, the area will be monitored for noxious weeds. The access road to the site from County Road JJ will be remain when the site has completed all mining operations.

6.4.6 Exhibit F

Reclamation Plan Map

6.4.7 Exhibit G

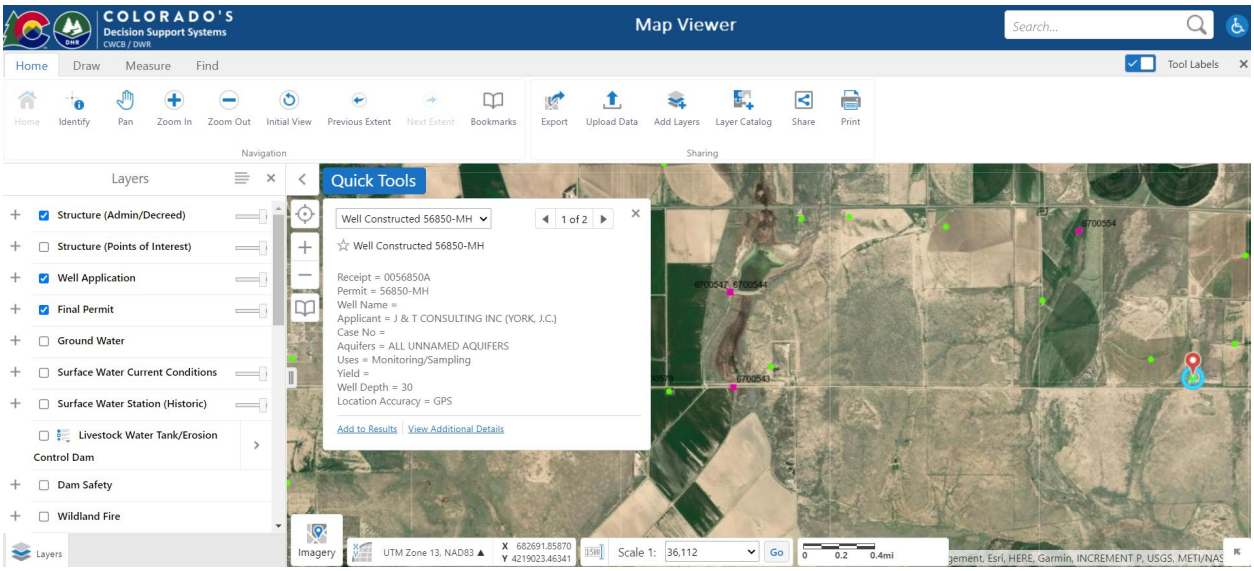
Water Information

Mining is expected to have no impact on the prevailing hydrologic balance. Groundwater will not be exposed, and stormwater will not leave the site. The site will not discharge stormwater or process water drainage. Water depth is anticipated to be greater than the 10 feet mining depth, as noted below with a nearby depth recorded at 30 feet.

Runoff occurs as overland flow to natural drainage ravines in the vicinity. Stormwater best management practices such as waddles, straw bales, and perimeter berms will be placed to effectively manage stormwater. Historic flow will be maintained during mining.

Consumptive use of water may occur as dust suppression on the haul road and affected areas. The operator will use water from a nearby source, Hasty/McClave and haul onsite .

The permittee will complete a stormwater management plan. Diversionary berms and impoundments will be constructed as recommended by the Water Quality Division.



6.4.8 Exhibit H

Wildlife Information

The property is used for rangeland. The site will be returned to rangeland during reclamation. Colorado Parks and Wildlife was contacted for comment during the permit application process. Their response is attached for review.

Forage and cover for wildlife is very limited due to the arid climate. Small animals, including rabbits, foxes, etc. are found in the surrounding environment. The site is within range for white tail deer, antelope, prairie dog, various snakes, various lizards, and ring-necked pheasant. Impacts to wildlife will be mitigated through a weed management plan and reseeding all mined areas with a diverse and native rangeland seed mix.

6.4.9 Exhibit I

Soils Information

A Custom Soil Resource Report for Bent County, specific to this site, is attached for review. The site is made up of Cascajo very gravelly sandy loam, Kimera loam, Olney Sandy loam, Satanta loam, and Travessilla-Olney Sandy loam.

The Kimera Series is a very deep, well-drained soil. It is formed in alluvium deposits derived from sedimentary rock. It is found on plains, interfluves, fans, ridges, and hills. The Casajo Series consists of deep, excessively drained soils that formed in very gravelly and sandy alluvium over shale or sandstone. It is usually found to a depth of 4-20 feet and are on terraces, terrace edges and ridges.

Topsoil is found at a depth of 0-6 inches onsite, with overburden accounting for approximately 1-3 feet onsite. Mineable aggregate is then found up to a depth of approximately 10 feet.

6.4.10 Exhibit J

Vegetation Information

The McClave Ranch Pit is characterized by rangeland. Native vegetation includes Sideoats Grama, Western Wheatgrass, Little Bluestem, cactus, yucca, and sagebrush.

6.4.11 Exhibit K

Climate

Climate data was pulled from the U.S Climate Data website for the Bent County, Colorado area.

Monthly | Daily | History | Geo & Map

Climate Las Animas - Colorado

	Jan	Feb	Mar	Apr	May	Jun
Average high in °F	47	51	61	70	79	89
Average low in °F	15	20	28	37	48	57
Av. precipitation in inch	0.38	0.41	0.93	1.24	1.94	1.87
Av. snowfall in inch	5	3	4	1	0	0

	Jul	Aug	Sep	Oct	Nov	Dec
Average high in °F	95	92	83	71	58	47
Average low in °F	63	61	51	38	24	16
Av. precipitation in inch	2.24	1.69	1.16	1.08	0.42	0.37
Av. snowfall in inch	0	0	0	1	2	3

6.4.12 Exhibit L

Reclamation Costs

Reclamation cost estimates were calculated on a per acre basis and applied to maximum active mining area of 20 acres.

Direct Tasks	Unit	Quantity	Cost	Total Cost
Grading Highwalls				
3H:1V Pushdown (200'x10') Dozer	Hours	35		$7,700.00
Placing Topsoil/Fines 20 Acres				
Bull Dozer	Hours	6	$145.00	$870.00
Loader	Hours	6	$145.00	$870.00
Seeding				
Discing/Chiseling	Hours	2	$300.00	$1,500.00
Broadcasting	Hours	3	$300.00	$900.00
Seed Mix	Acre	1	$1200.00	$1,200.00
Mulch	Acre	1	$187.50	$187.50
Tracking seed/mulch				
Dozer	Hours	0.33	$154.00	$50.82
Area Reclaimed	Acre	20		$119,266.00
Mobilization Fee	Hours	1	$1000	$1,000.00
Indirect Tasks				
Liability Insurance			0.0155	$1,849.00
Performance Bond			0.015	$1,789.00
Profit			0.1	$11,926.00
Job Superintendent	Hours	20	$88.00	$1,760.00
Miscellaneous Indirect			0.0925	$11,032.00
Total Bond				$148,622.00

6.4.13 Exhibit M

Other Permits and Licenses

- Bent County Special Use Permit
- CDPHE Stormwater Discharge Permit
- CDPHE Air Pollutant Emissions Notice

6.4.19 Exhibit N

Source of Legal Right to Enter

Please see enclosed the agreement between the landowner and the permittee.

6.4.15 Exhibit O

Owner of Record of Affected Land

Surface Area and Substance to be Mined

See enclosed deed.

6.4.16 Exhibit P

Municipalities Within Two Miles

There are no towns within two miles of the proposed mining operation.

6.4.17 Exhibit Q

Proof of Mailing Notices to Board of County Commissioners and Soil Conservation District

6.4.18 Exhibit R

Proof of Filing with County Clerk and Recorder

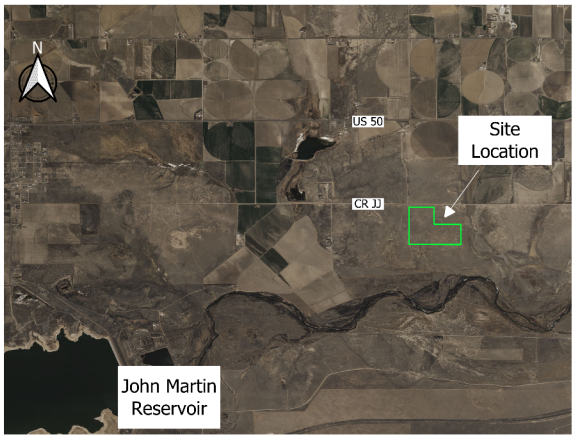
6.4.19 Exhibit S

Permanent Man-made Structures

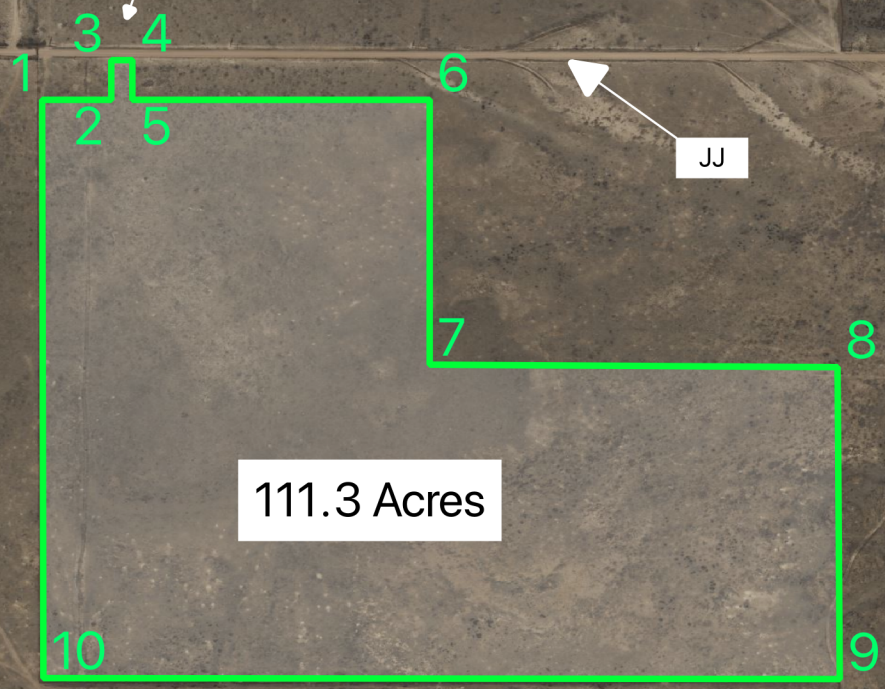
Bent County Road JJ and a Southeast Colorado Power Association power line are within 200 feet of the site. Structure agreements for both are enclosed for review.

McClave Ranch Pit
Legal Description Exhibit A/B

10/4/24
Map By Randall Clark
Flight Eyes



Approximate Entrance
38.09949,-102.88687



N

0 660 1,320 ft

Legend

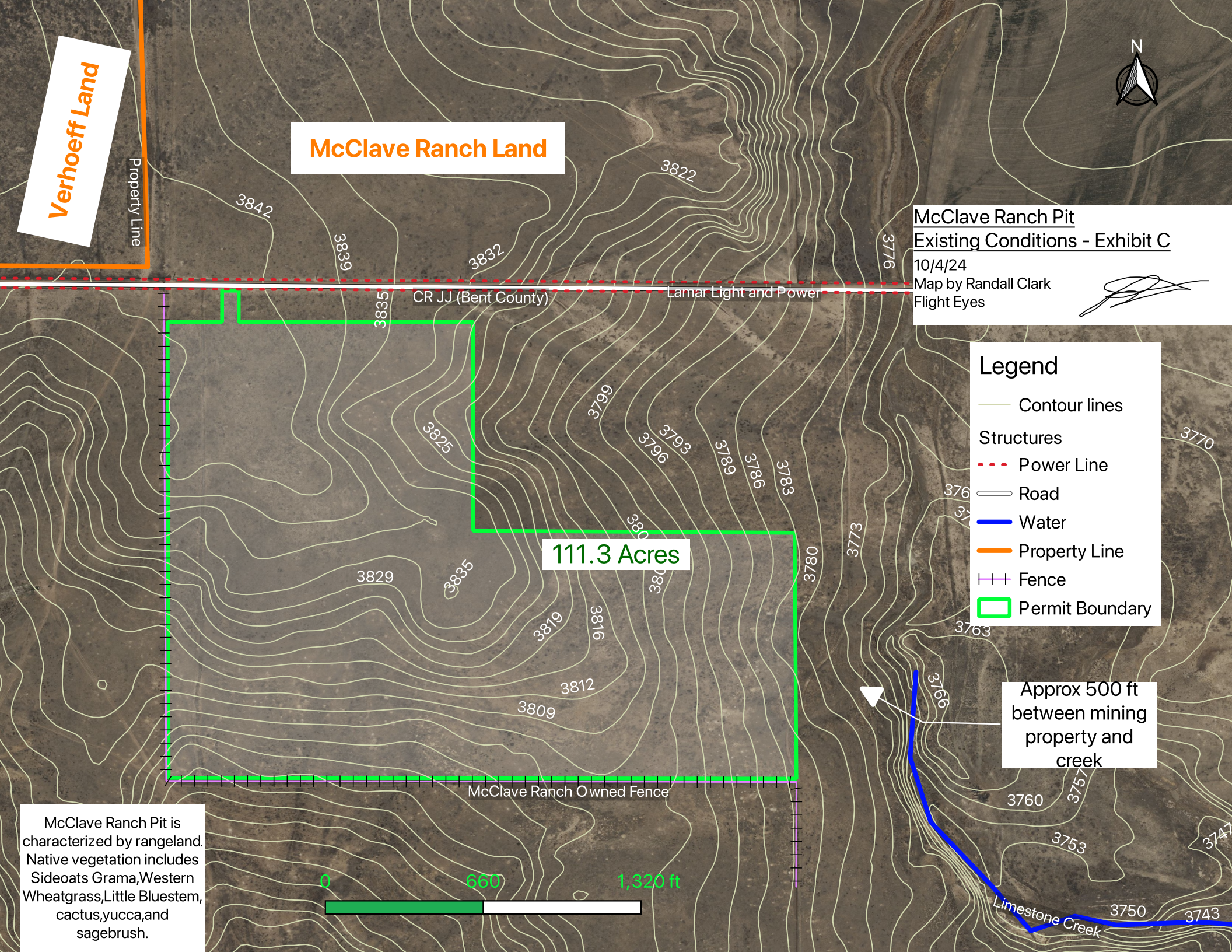
Mine Coordinates (WGS 84)

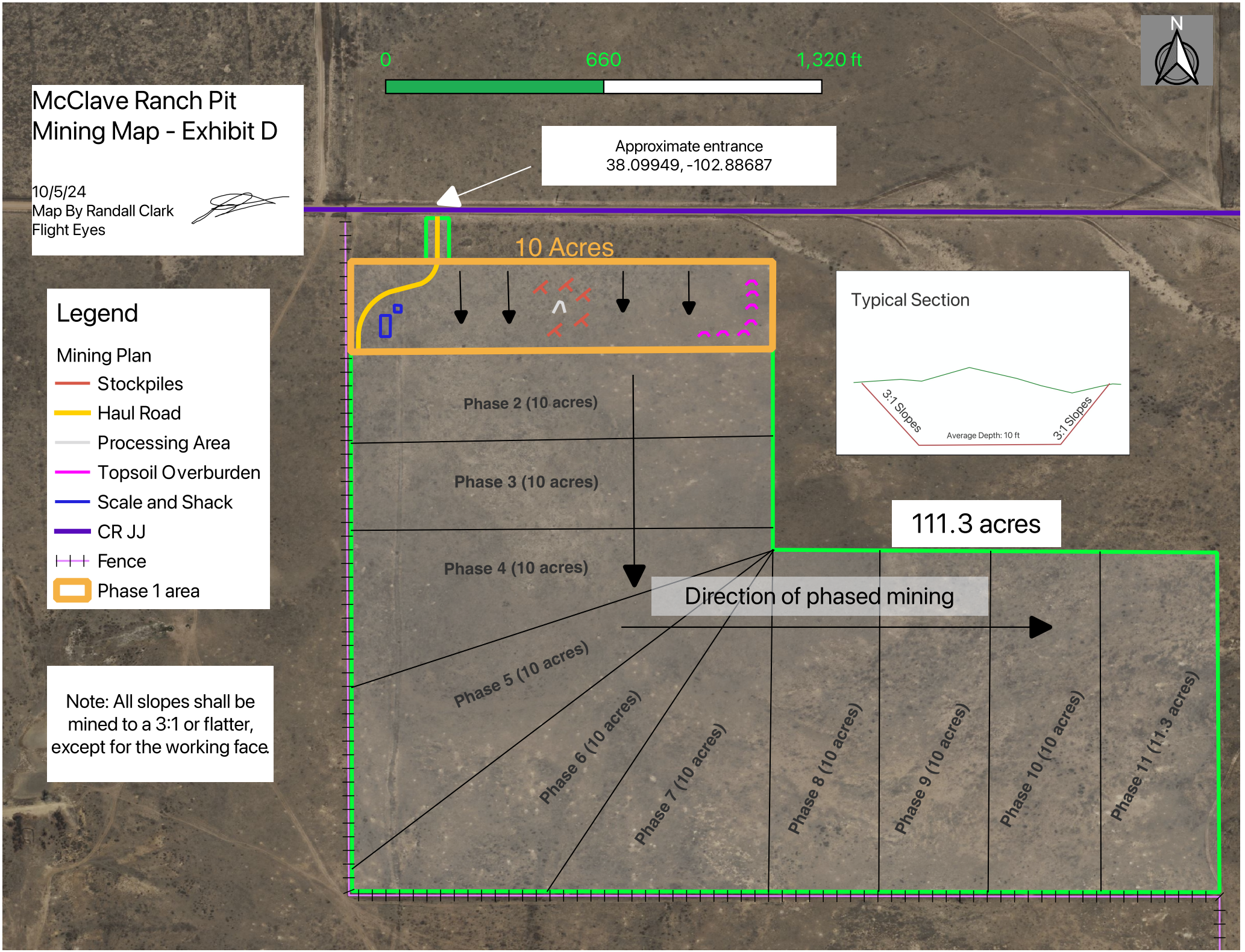
1	38.09900, -102.88778
2	38.09900, -102.88699
3	38.09945, -102.88699
4	38.09945, -102.88675
5	38.09900, -102.88675
6	38.09900, -102.88335
7	38.09597, -102.88335
8	38.09594, -102.87867
9	38.09237, -102.87865
10	38.09238, -102.88777

Permit Boundary

Legal Description

NW ¼ ,SW ¼ ,SE ¼ of the NW ¼ of S35 T22S R49W


Verhoeff Land
Property Line
McClave Ranch Land
N
McClave Ranch Pit
Existing Conditions - Exhibit C
10/4/24
Map by Randall Clark
Flight Eyes
CR JJ (Bent County)
Lamar Light and Power
111.3 Acres
McClave Ranch Owned Fence
Legend
Contour lines
Structures
Power Line
Road
Water
Property Line
Fence
Permit Boundary
Approx 500 ft between mining property and creek
Limestone Creek
McClave Ranch Pit is characterized by rangeland. Native vegetation includes Sideoats Grama,Western Wheatgrass,Little Bluestem, cactus,yucca,and sagebrush.
0
660
1,320 ft


McClave Ranch Pit
Mining Map - Exhibit D
10/5/24
Map By Randall Clark
Flight Eyes
0
660
1,320 ft
N
Approximate entrance
38.09949, -102.88687
10 Acres
Typical Section
3:1 Slopes
Average Depth: 10 ft
3:1 Slopes
Legend
Mining Plan
Stockpiles
Haul Road
Processing Area
Topsoil Overburden
Scale and Shack
CR JJ
Fence
Phase 1 area
Phase 2 (10 acres)
Phase 3 (10 acres)
Phase 4 (10 acres)
111.3 acres
Direction of phased mining
Phase 5 (10 acres)
Phase 6 (10 acres)
Phase 7 (10 acres)
Phase 8 (10 acres)
Phase 9 (10 acres)
Phase 10 (10 acres)
Phase 11 (11.3 acres)
Note: All slopes shall be mined to a 3:1 or flatter, except for the working face.

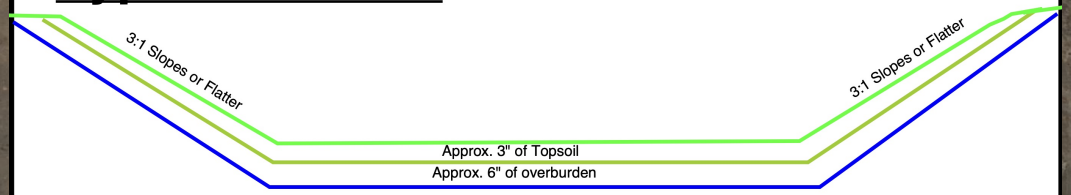
McClave Ranch Pit
Reclamation Plan - Exhibit F

10/6/24
Map by Randall Clark
Flight Eyes

N

3H:1V Slope

Typical Section



Reclamation of the site will be of back to the original rangeland use of the site.

3830
3825
3820
3815
3810
3805
3800
3775
3770

Direction of water flow

0 660 1,320 ft

Legend

Remaining Structures

- Haul Road
- CR JJ
- 3:1 Slope
- Fence
- Reclamation Contour