United States Department of Agriculture
Soil Conservation Service
420½ Adams
Wray, CO 80758

March 10, 1981

Wilburn Lamm
Yuma County Administrative Assistant
Yuma County Commissioners
Wray, CO 80758

RE: Ekberg pit

The following information is for the Ekberg Gravel pit for approximately 3 acres present and 40 acres proposed. This pit is located in the E½ of the SE¼, Section 36 T4S, R43W. Our assistance will be limited to soils information, existing vegetation inventory, reclamation plan, and reclamation costs sheet for component practices for 1981.

SOILS INFORMATION

Attached copy of soil survey sheet DUD-5HH-186 showing approximate pit and proposed area. Soil series descriptions are for depths of 0-60 inches. Soils in this proposed site are: 86-D-Colby loam 6-15% slopes, 102 Colby loar, gullies, 15-25% slopes.

VEGETATIVE INFORMATION

The range sites for the area consists of loamy slopes on the 96-D soils and loess breaks on the 102 soils. The potential plant community for these sites are very similar-sideoats grama, little bluestem, western wheat and blue grama and perenial forbs tend to dominate. Blue grama and buffalo grass will become the main dominant species when over grazed. Optiman cover for the site is 25%.

Existing vegetation on the proposed 40 acres of pit area consists of primarily blue grama, sideoats grama, and western wheat. Also present in lesser amounts are buffalo grass, little bluestem and various native forbs. Present annual forage yield approximately 1200 pounds/acre. Present ground cover for the area is about 25%.

RECLAMATION PLAN

The planned area will be reclaimed for rangeland.

1. Top soil removal-The top soil layer will need to be removed and stock-piled prior to extension of pit operations.
2. Reconstruction of mined area-Ideally all bank slopes should be shaped and graded to 3:1 or flatter. On this site natural slopes are 6-15% and all banks should be sloped to 6% prior to seeding. Any boundary

slopes that exceed 6% will need a constructed diversion terrace at the head of the slope to protect the critical area while reseeding is becoming established.

3. Top soil application-Stockpiled topsoil should be uniformly applied to the shaped and graded gravel pit area.
4. Seedbed preperation-Top soil will be tilled by discing or other methods to provide good firm weed free seedbed. On site assistance may be needed for best recommendation for soil and site condition at time of reclamation.
5. Cover crop-Seed area to hybrid sorghum across slope at rate of 6-10 pounds per acre, from June 1 to July 15. Sorghum stubble residue should be left on the site for late fall grass seeding.
6. Grass seeding-Grass seeding operations are to be done in late fall to early spring, November 1 to May 1.
7. Seeding method-Use grass reed drill with depth band controlled double disc opener. Seed across slope on contour if at all possible.
8. Seed mixture-120%

Species	% mix	pounds pure live seed per acre
Blue grama	40	0.60
Sideoats grama	50	2.25
Western wheat grass	30	2.40

9. Deferred grazing-All livestock will be excluded from reclaimed area until grass is well established. Minimum establishment-deferment time is three full years after grass seeding.

RECLAMATION COSTS

Cost information is provided on a per acre basis using figures from the Northeastern Colorado Great Plains Conservation Cost Share Docket for 3/1/81.

ITEM	UNIT	UNIT PRICE	
Top soil removal	cubic yard	$ 0.56	
Top soil backfilling	cubic yard	0.50	
Seedbed preperation	per acre	12.90	
Seed & seeding cover crop	per acre	3.50	
Seed & seeding permanent grass	per acre	35.00	
Fencing for deferred grazing	per lineal ft.	0.37	
Grading & shaping-earthwork	per acre	500.00	maximum
terace construction-level	per lineal ft.	0.28	

These figures were included for use in reclamation cost estimates. The gravel pit area present and proposed are quite different, and useable time table on the pit can negate the cost data.

Leonard Hadachek

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District conservationist