



June 5, 2015

TO: Tim Cazier
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Phillips Ranch Property Gravel Pit #2, File No. M-2000-046
Response to Preliminary Adequacy Review

Dear Mr. Cazier,

Please accept the following corrections, clarifications and additional information in response to the application adequacy review correspondence dated May 27, 2015.

APPLICATION

1. Item 6 on Page 2 of the application lists the Colorado State Land Board as owner of subsurface rights. The corrected application page is enclosed.
2. Item 11 on Page 3 of the application lists the Colorado State Land Board as landowners. The corrected application page is enclosed.
3. Page 8 is certified with Pioneer Sand Company Inc.'s corporate seal and officer signature. The corrected application page is enclosed.

6.4.3 EXHIBIT C

4. The X lines are identified as fences on Exhibit C.
5. The next 20-acre phase is delineated. Clay lenses are scattered within the target gravel making it difficult to form a long term mine plan. The applicant commits to submitting a Technical Revision to update the mine plan map prior to disturbing any area outside the delineated phase.
6. The buffer zone along the Hardscrabble Creek and Low Back Creek are identified and labeled as areas not to be disturbed.

HAND DELIVERED ON SITE
6/9/2015
REC'D BY TC1

RECEIVED
JUN 09 2015
DIVISION OF RECLAMATION
MINING AND SAFETY

Environmental Alternatives Inc.

1107 Main Street, Cañon City, CO 81212
www.envalternatives.com • e-mail: eai@bresnan.net
Phone: 719-275-8951 • Fax: 719-275-1715

6.4.4 EXHIBIT D

7. The stratum immediately beneath the material to be mined is described as follows in Exhibit D: **Clay loam is present immediately beneath the target gravel reserve.**
8. The perimeter berm of undisturbed native material is not constructed but rather left undisturbed during site development forming a perimeter berm. This mining practice is implemented at the Phillips Pit current disturbance and is visible on Google Earth.
9. Pioneer accepts a phased bonding approach with two (2) phases bonded at a time. The maximum disturbance will be 40 acres with 20 acres under reclamation and 20 acres in active mining. Based on the current market, a 20-acre phase will be mined out in approximately five (5) years.

6.4.5 EXHIBIT E

10. Rick Romano of the US Department of Agriculture Soil Conservation Service in Fremont County Soil District reviewed the 1997 and 2000 department reports and determined the seed mix was appropriate for reclamation. The December 29, 2014 email from Mr. Romano is enclosed along with the newer seed mix that contained a lower seed rate. Table 1 contains the newer seed mix.
11. Reclamation will occur concurrently with mining. As a new portion of a phase is prepared for mining, growth media will be removed from the new mine face and place on the mined out disturbance. Pioneer commits to completing reclamation for each phase within five (5) years of completing mining in each phase. In the event growth media is not replaced on backfill area within a time short enough to avoid deterioration of the growth media, the growth media will be vegetated.

6.4.6 EXHIBIT F

12. The full scale map is enclosed.
13. The reclamation grading and perimeter slopes are corrected.
14. Backfill will not be needed because 3H:1V perimeter slopes will be maintained during mining.

6.4.7 EXHIBIT G

15. With presentation of the corrected Exhibit F, this exhibit remains as initially submitted.

6.4.9 EXHIBIT I

16. Cover soil ranges in thickness from three (3) inches to 1.5 feet. NRCS soils descriptions are enclosed.
17. Enclosed is Figure I.1 depicting soil type with corresponding vegetation and annual average production of air-dry vegetation. Also enclosed is the Range Production Diagram.

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6.4.12 EXHIBIT L

18. Quantities were not adjusted. Backfill will not be necessary because slopes will be maintained at 3H:1V during mining. As described in Item 8, the perimeter native material is not a constructed berm but rather undisturbed native perimeter material.
19. The maximum disturbed area in a given phase that will at one time require grading, top soiling and revegetation will be 20 acres.

6.4.14 EXHIBIT N

20. The minerals lease between Pioneer Sand Company and the Colorado State Land Board is enclosed.

6.4.15 EXHIBIT O

21. The Colorado State Land Board is listed as owner of minerals in the southeast quarter of Section 36 and the state patent is enclosed.

6.4.19 EXHIBIT S

22. The structure agreement between Pioneer Sand and San Isabel Electric Association is enclosed.

OTHER CONCERNS

23. The operator is not applying for intermittent status for this site.

Please feel free to call me directly at 719-275-8951 or email at angela@envlaternatives.com with any questions.

Respectfully submitted,



Angela M. Bellantoni Ph.D.

Environmental Alternatives Inc.

1107 Main Street, Cañon City, CO 81212
www.envlaternatives.com • e-mail: eai@bresnan.net
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Enclosures:

1. Application pages 2, 3, and 8
2. Exhibit C
3. Email from Richard Romano of USDA NRCS Dec. 12, 2014
4. USDA grass seed mix provided Dec. 12, 2014
5. Exhibit F full size
6. Soil series descriptions
7. Figure I.1: Typical vegetation vs. soil type diagram
8. Range Production figure derived from NRCS Web Survey
9. Exhibit N
10. State of Colorado State Land Board sand and gravel lease FL 109558
11. Exhibit O
12. State of Colorado Patent No. 2555
13. Exhibit S
14. San Isabel Electric Association structure agreement dated June 2, 2015

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6. **Name of owner of subsurface rights of affected land:** Colorado State Land Board
If 2 or more owners, "refer to Exhibit O".

7. **Name of owner of surface of affected land:** William J. and J.R. Phillips

8. **Type of mining operation:** ☒ Surface ☐ Underground

9. **Location Information:** The center of the area where the majority of mining will occur:

COUNTY: Fremont

PRINCIPAL MERIDIAN (check one): ☒ 6th (Colorado) ☐ 10th (New Mexico) ☐ Ute

SECTION (write number): S 36

TOWNSHIP (write number and check direction): T 19 ☐ North ☒ South

RANGE (write number and check direction): R 69 ☐ East ☒ West

QUARTER SECTION (check one): ☐ NE ☐ NW ☐ SE ☒ SW

QUARTER/QUARTER SECTION (check one): ☐ NE ☐ NW ☐ SE ☐ SW

GENERAL DESCRIPTION: (the number of miles and direction from the nearest town and the approximate elevation): _____
Approximately 4 miles south of Florence, CO on CR 19. Elevation 5350 ft.

10. **Primary Mine Entrance Location** (report in either Latitude/Longitude **OR** UTM):

Latitude/Longitude:

Example: (N) 39° 44' 12.98"
(W) 104° 59' 3.87"

Latitude (N): deg 38 min 20 sec 14.32 (2 decimal places)

Longitude (W): deg 105 min 03 sec 49.11 (2 decimal places)

OR

Example: (N) 39.73691°
(W) -104.98449°

Latitude (N) _____ (5 decimal places)

Longitude(W) _____ (5 decimal places)

OR

Universal Transverse Mercator (UTM)

Example: 201336.3 E NAD27 Zone 13
4398351.2 N

UTM Datum (specify NAD27, NAD83 or WGS 84) Nad 83 Zone 13

Easting _____

Northing _____

11. **Correspondence Information:**

APPLICANT/OPERATOR (name, address, and phone of name to be used on permit)

Contact's Name: Mike Ausburn Title: Vice President
Company Name: Pioneer Sand Company Inc.
Street/P.O. Box: 5000 Northpark Drive P.O. Box: 7650
City: Colorado Springs
State: Colorado Zip Code: 80933
Telephone Number: (719) - 599-8100
Fax Number: (719) - 599-7509

PERMITTING CONTACT (if different from applicant/operator above)

Contact's Name: Angela Bellantoni Title: Consultant
Company Name: Environmental Alternatives Inc.
Street/P.O. Box: 1107 Main Street P.O. Box: _____
City: Canon City
State: Colorado Zip Code: 81212
Telephone Number: (719) - 275-8951
Fax Number: (719) - 275-1715

INSPECTION CONTACT

Contact's Name: Mike Ausburn Title: Vice President
Company Name: Pioneer Sand Company Inc.
Street/P.O. Box: 5000 Northpark Drive P.O. Box: 7650
City: Colorado Springs
State: Colorado Zip Code: 80933
Telephone Number: (719) - 599-8100
Fax Number: (719) - 599-7509

CC: STATE OR FEDERAL LANDOWNER (if any)

Agency: Colorado State Land Board
Street: 1127 Sherman Street
City: Denver
State: Colorado Zip Code: 80203
Telephone Number: (303) - 866-3454

CC: STATE OR FEDERAL LANDOWNER (if any)

Agency: _____
Street: _____
City: _____
State: _____ Zip Code: _____
Telephone Number: () -

Certification:

As an authorized representative of the applicant, I hereby certify that the operation described has met the minimum requirements of the following terms and conditions:

1. To the best of my knowledge, all significant, valuable and permanent man-made structure(s) in existence at the time this application is filed, and located within 200 feet of the proposed affected area have been identified in this application (Section 34-32.5-115(4)(e), C.R.S.).
2. No mining operation will be located on lands where such operations are prohibited by law (Section 34-32.5-115(4)(f), C.R.S.);
3. As the applicant/operator, I do not have any extraction/exploration operations in the State of Colorado currently in violation of the provisions of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Section 34-32.5-120, C.R.S.) as determined through a Board finding.
4. I understand that statements in the application are being made under penalty of perjury and that false statements made herein are punishable as a Class 1 misdemeanor pursuant to Section 18-8-503, C.R.S.

This form has been approved by the Mined Land Reclamation Board pursuant to section 34-32.5-112, C.R.S., of the Colorado Land Reclamation Act for the Extraction of Construction Materials. Any alteration or modification of this form shall result in voiding any permit issued on the altered or modified form and subject the operator to cease and desist orders and civil penalties for operating without a permit pursuant to section 34-32.5-123, C.R.S.

Signed and dated this 14th day of January, 2015.

PIONEER SAND COMPANY, INC.

Applicant/Operator or Company Name

If Corporation Attest (Seal)

Signed: [Signature]

Signed: [Signature]

Corporate Secretary or Equivalent

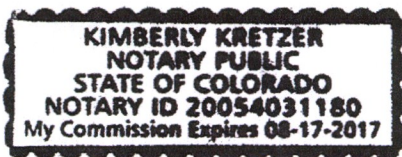
Town/City/County Clerk

Title: CHIEF EXECUTIVE OFFICER

State of Colorado)

County of El Paso) ss.

The foregoing instrument was acknowledged before me this 14th day of January, 2015, by Michael McGrady as CEO of Pioneer Sand Company



[Signature]
Notary Public

My Commission expires: _____

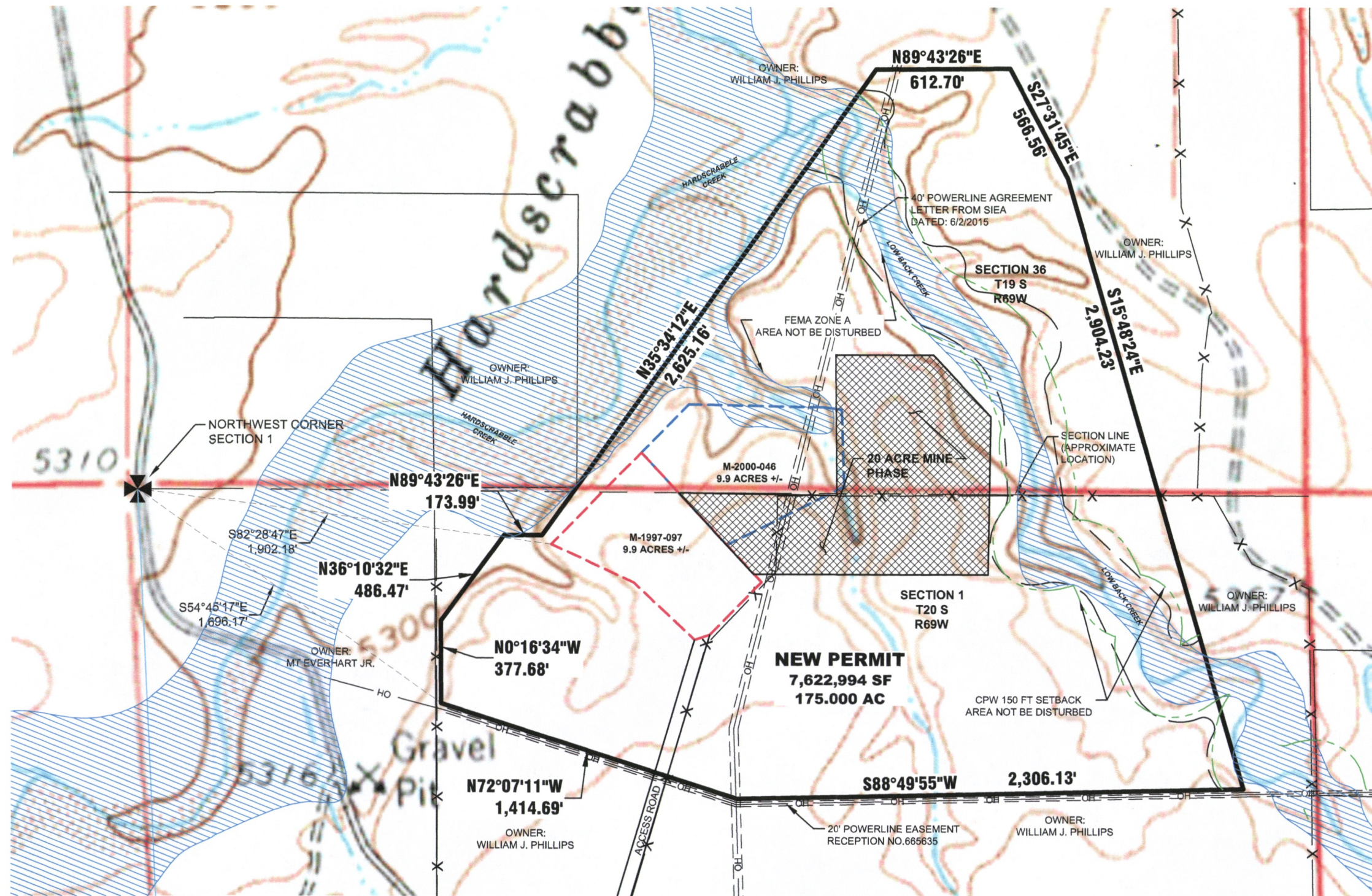
SIGNATURES MUST BE IN BLUE INK

You must post sufficient Notices at the location of the proposed mine site to clearly identify the site as the location of a

EXHIBIT C

PHILLIPS RANCH PROPERTY GRAVEL PIT #2

PERMIT # M-2000-046



VEGETATION INFORMATION

THE PROPOSED PHILLIPS RANCH PROPERTY GRAVEL PIT IS CHARACTERIZED BY GRAZING LAND. BASED ON A 1997 NRCS REPORT (PROVIDED), NATIVE VEGETATION INCLUDES BLUE GRAMA, RED THREE-AWN, CHEATGRASS, RING MUHLY, SAND DROPSEED, BUCKWHEAT, HAIRY GOLDASTER, YELLOW SWEETCLOVER, SCARLET GLOBE MALLOS, CURLY CUP GUMWEED, GROUNDSEL, WALKING STICK CHOLLA, FOURWING SLATBUSH, PLAINS PRICKLYPEAR AND BROOM SNAKEWEED.

- PERMIT BOUNDARY M-2000-046
- PERMIT BOUNDARY M-1997-097
- NEW PERMIT BOUNDARY
- X --- EXISTING FENCE

- OH --- OVERHEAD POWER LINES
- EASEMENT AGREEMENT
- FEMA ZONE A "NO BASE FLOOD ELEVATIONS DETERMINED"

NOTE: SOILS INFORMATION AND MAP IS PROVIDED IN SUBSECTION 6.4.9

NO.	REVISIONS	DESCRIPTION	DATE

EDWARD-JAMES SURVEYING, INC.
 4732 Eagle Ridge Circle
 Pueblo, CO 81008
 Office: (719) 545-6240
 Fax: (719) 545-6247



EXHIBIT C
 PHILLIPS RANCH PROPERTY GRAVEL PIT #2

PERMIT # M-2000-046
 A PORTION OF SECTION 30, T19S, R69W & SECTION 1, T20S, R69W OF THE 6TH P.M.,
 COUNTY OF FREMONT, STATE OF COLORADO

DRAWN BY	RRN
CHECKED BY	ERF
H-SCALE	1"=500'
JOB NO.	1405-00
DATE CREATED	12/09/14
DATE ISSUED	06/05/15
SHEET NO.	1 OF 1

Angela Bellantoni

To: Romano, Richard - NRCS, Canon City, CO
Subject: RE: JR Phillips Pits

Angela

New email: angela@envalternatives.com

From: Romano, Richard - NRCS, Canon City, CO [<mailto:richard.romano@co.usda.gov>]
Sent: Monday, December 29, 2014 12:23 PM
To: Angela Bellantoni
Subject: RE: JR Phillips Pits

Angela,

The report is probably consistent with the current situation. I did not see the seed plan, so could you send that as well? Otherwise, if you cannot find the old seed plan, use the attached seed plan. Or check the newer seed plan against the old one and if they are similar, use the old one, especially if it includes some forbs.

Thanks!

Rick

From: Angela Bellantoni [<mailto:angela@envalternatives.com>]
Sent: Monday, December 22, 2014 10:13 AM
To: Romano, Richard - NRCS, Canon City, CO
Subject: JR Phillips Pits

Good morning Rick.

JR and Pioneer Sand are expanding the gravel mine south of Florence. I found the attached 1997 report. Is it still appropriate? Pioneer used it in 2000 when they permitted the second 10 acre pit. The proposed application is approx. 175 acres.

Thank you in advance.

Angela M. Bellantoni Ph.D.

New email: angela@envalternatives.com

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Grass Seeding: Part I - Planned

69 Dry, Native Reclamation

Aug-04

Planner:	Rick Romano			Date:	9-Mar-10	
Producer:	Phillips Pit					
MLRA:	G 69	Contract/Agreement #:			Item Num:	
Seeding Operation:	Acres to be seeded:	1				
	Seedbed Prep:	Limited: less than 3 tillage operations	Cropland:			
	Planting Dates:	NOV 1 - APR 30				
	Planting Depth (in.):	1/4 - 1/2				
	Drill Type:	grass				
	Drill Spacing (in.):	7-10"				
Fertilizer:	Pounds per acre recommended			(planned and applied requires practice standard 590)		
	Nitrogen (N)	Phosphorus (P)	Potassium (K)			
Weed Control:	Dates:	as needed	(planned and applied requires practice standard 595)			
	Description:					
Cover:	Amount:	4000#				
	Description:	Small Grain Straw or Native Hay				
	Application Method:	Hand Spread/Mulch Crimper				

Seed Recommendations:							
Species	Variety (table 6: PMTN 59)	PLS Rates Irr/Non-Irr	PLS/Ac to use (100%)	% in mix	Rate (PLS lb/ac)	Acres to be seeded	Total PLS
Western wheatgrass	Barton or Arriba	16.0 / 8.0	16.0	30	4.8	1.0	4.8
Sideoats grama	Vaughn/Butte/EIreno	9.0 / 4.5	9.0	30	2.7	1.0	2.7
Blue grama	Alma or Hachita	3.0 / 1.5	3.0	20	0.6	1.0	0.6
Galleta grass (caryopsis)	Viva	4.0 / 2.0	4.0	10	0.4	1.0	0.4
Little bluestem	Pastura	7.0 / 3.5	7.0	10	0.7	1.0	0.7
Totals			39.0	100.0	9.2	1.0	9.2

Notes: Use adapted improved varieties and cultivars in the following order of preference, when available:

1. certified name varieties, 2. named varieties, 3. common seed

PLS = Pure Live Seed

Double drilled seeding rate to obtain broadcast seeding rate.

For critical area seedings use the irrigated rate.

Certified Planner: _____

Date: _____

Fremont County Area, Colorado

3—Aquic Ustifluvents

Map Unit Setting

National map unit symbol: jqj0

Elevation: 4,950 to 5,100 feet

Mean annual precipitation: 11 to 13 inches

Mean annual air temperature: 51 to 53 degrees F

Frost-free period: 155 to 170 days

Map Unit Composition

Aquic ustifluvents and similar soils: 80 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aquic Ustifluvents

Setting

Landform: Flood plains, stream terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Stratified alluvium

Typical profile

A - 0 to 13 inches: loam

Cg1 - 13 to 40 inches: stratified fine sandy loam to loam

Cg2 - 40 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.60 to 6.00 in/hr)

Depth to water table: About 12 to 48 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Calcium carbonate, maximum in profile: 10 percent

Salinity, maximum in profile: Nonsaline to moderately saline (2.0 to 16.0 mmhos/cm)

Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 4w

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: B

Data Source Information

Soil Survey Area: Fremont County Area, Colorado
Survey Area Data: Version 13, Sep 24, 2014

Fremont County Area, Colorado

16—Cascajo very gravelly sandy loam, 10 to 40 percent slopes

Map Unit Setting

National map unit symbol: jqhj
Elevation: 5,000 to 5,400 feet
Mean annual precipitation: 11 to 13 inches
Mean annual air temperature: 50 to 53 degrees F
Frost-free period: 150 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Cascajo and similar soils: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cascajo

Setting

Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly alluvium

Typical profile

A - 0 to 6 inches: very gravelly sandy loam
Bk - 6 to 21 inches: extremely cobbly sandy loam
C - 21 to 60 inches: extremely cobbly sand

Properties and qualities

Slope: 10 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A

Ecological site: Gravel breaks (R069XY064CO)

Data Source Information

Soil Survey Area: Fremont County Area, Colorado
Survey Area Data: Version 13, Sep 24, 2014

LOCATION CASCAJO

CO+NM

Established Series

RJL/GB

07/97

CASCAJO SERIES

The Cascajo series consists of deep, excessively drained soils that formed in very gravelly and sandy alluvium over shale or sandstone at depths of 4 to 20 feet. Cascajo soils are on terraces, terrace edges and ridges and have slopes of 2 to 40 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 52 degrees F.

TAXONOMIC CLASS: Sandy-skeletal, mixed, mesic Ustic Haplocalcids

TYPICAL PEDON: Cascajo very gravelly sandy loam, grassland. (Colors are for dry soil unless otherwise noted.)

A--0 to 6 inches; light brown (7.5YR 6/4) very gravelly sandy loam, dark brown (7.5YR 4/4) moist; moderate medium granular structure; slightly hard, very friable; common very fine roots; 40 percent pebbles, 15 percent cobbles; weakly calcareous; moderately alkaline; clear wavy boundary. (2 to 6 inches thick)

AC--6 to 10 inches; light brown (7.5YR 6/4) very gravelly sandy loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable; common very fine roots; 40 percent pebbles, 10 percent cobble; slightly calcareous; moderately alkaline; clear irregular boundary. (0 to 8 inches thick)

Ck--10 to 21 inches; very pale brown (10YR 8/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; weak medium subangular blocky structure; slightly hard, loose; few very fine roots; 40 percent pebbles, 5 percent cobbles; strongly calcareous and thick line coatings on pebbles and cobbles; moderately alkaline; clear wavy boundary. (10 to 24 inches thick)

C--21 to 48 inches; very pale brown (10YR 7/3) stratified very gravelly loamy coarse sand and very gravelly sand, brown (10YR 5/3) moist; single grain; loose; 40 percent pebbles, 15 percent cobbles; strongly calcareous; moderately alkaline.

TYPE LOCATION: Pueblo County, Colorado; northwest 1/4 of southeast 1/4 of Sec. 15, T. 21 S., R. 64 W.

RANGE IN CHARACTERISTICS: Mean annual soil temperature is about 52 degrees F., mean summer soil temperature is about 69 degrees F. Colors throughout the profile range from 7.5YR through 2.5Y in hue, 2 through 4 in chroma, and 4 through 8 in value. Texture of the A, AC, and Ck horizons are modified with pebbles and cobbles and range from gravelly sandy loam through very gravelly or extremely cobbly sand or sandy loam.

The C horizon may range to extremely cobbly loamy sand or sand.

The A horizon is mildly to moderately alkaline.

Volume of coarse fragments in the C ranges from 35 to 80 percent with 5 to 30 percent larger than 3 inches.

COMPETING SERIES: The closely related Pala soils lack a calcic horizon.

GEOGRAPHIC SETTING: Cascajo soils are on terrace edges, hills, knolls and ridges. Slopes range from 2 to 40 percent. The soils formed in very gravelly and sandy alluvium that ranges from about 4 to 20 feet thick over shale or sandstone. Mean annual precipitation is about 12 inches and average annual temperature is about 52 degrees F.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the [Otero](#), [Harvey](#), [Stoneham](#), and the competing Pala soils. Otero soils lack a calcic horizon and are coarse, loamy. Harvey and Stoneham soils are fine, loamy.

DRAINAGE AND PERMEABILITY: Excessively drained; rapid permeability; slow runoff.

USE AND VEGETATION: Primarily used for grazing, dominantly short and mid grasses. Many areas are used as source of sand and gravel.

DISTRIBUTION AND EXTENT: Eastern Colorado and New Mexico. The series is of moderate extent and individual areas are long and narrow, usually bordering major drainageways.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES ESTABLISHED: Upper Rio Puerco Reconnaissance Soil Survey, New Mexico, 1940.

REMARKS: Cascajo soils have been correlated in Prowers County, Otero County, Bent County, Crowley County, and Pueblo County Area of Colorado, and in all areas are sandy-skeletal.

National Cooperative Soil Survey
U.S.A.

Fremont County Area, Colorado

36—Fort Collins loam, cool, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: jqj7
Elevation: 5,300 to 6,600 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 49 to 52 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Fort collins, cool, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fort Collins, Cool

Setting

Landform: Fans, fan terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 4 inches: loam
Bt - 4 to 16 inches: loam
Bk - 16 to 21 inches: loam
C - 21 to 60 inches: loam, clay loam
C - 21 to 60 inches:

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Very high (about 15.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B

Ecological site: Loamy foothill 11-14 inches p.z. (R049XD202CO)

Data Source Information

Soil Survey Area: Fremont County Area, Colorado
Survey Area Data: Version 13, Sep 24, 2014

LOCATION FORT COLLINS

CO+MT WY

Established Series

Rev. GB/LLC

11/2005

FORT COLLINS SERIES

The Fort Collins series consists of very deep, well drained soils that formed in mixed eolian sediments and alluvium. Fort Collins soils are on terraces, hills, plains, and alluvial fans and have slopes of 0 to 10 percent. The mean annual precipitation is about 38 centimeters (5 inches) and the mean annual temperature is about 8 degrees C. (47 degrees F.)

TAXONOMIC CLASS: Fine-loamy, mixed, superactive, mesic Aridic Haplustalfs

TYPICAL PEDON: Fort Collins loam - grassland. (Colors are for dry soil unless otherwise noted).

A--0 to 13 centimeters (0 to 5 inches); light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate fine granular structure; soft, very friable; neutral (pH 7.2); clear smooth boundary. (8 to 15 centimeters (3 to 6 inches) thick)

BA--13 to 20 centimeters (5 to 8 inches); light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure parting to fine granular; hard, very friable; few faint clay films on faces of peds; neutral (pH 7.2); clear smooth boundary. (8 to 10 centimeters (3 to 4 inches) thick)

Bt--20 to 46 centimeters (8 to 18 inches); brown (10YR 5/3) heavy loam, brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate fine subangular blocks; very hard, very friable; common distinct clay films on faces of peds, and as coatings in root channels and pores; slightly alkaline (pH 7.6); gradual smooth boundary. (13 to 30 centimeters (5 to 12 inches) thick)

Bck--46 to 61 centimeters (18 to 24 inches); pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; hard, very friable; few faint clay films on faces of peds; few faint clay films in some root channels; some visible secondary calcium carbonate occurring mostly as concretions; strongly effervescent; moderately alkaline (pH 8.0); gradual smooth boundary. (10 to 25 centimeters (4 to 10 inches) thick)

Ck--61 to 152 centimeters (24 to 60 inches); pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; massive; hard, very friable; visible calcium carbonate occurring as concretions and in thin seams and streaks; violently effervescent; moderately alkaline (pH 8.2); gradual smooth boundary.

TYPE LOCATION: Larimer County, Colorado; approximately 1 block north of LaPorte Avenue on North Shields Street, and 152 meters (500 feet) west of North Shields Street in Sec. 11, T. 7 N., R. 69 W.

RANGE IN CHARACTERISTICS:

Mean annual soil temperature: 8 to 13 degrees C. (47 to 55 degrees F.)

Mean summer soil temperature: 15 to 22 degrees C. (59 to 72 degrees F.)
Depth to the base of the Bt: 28 to 76 centimeters (11 to 30 inches)
Depth to calcareous material: 20 to 51 centimeters (8 to 20 inches)
Organic carbon upper 38 centimeters (15 inches): ranges from .6 to 2 percent (weighted average .8 percent)
Average sand/clay ratio: 1 to 3
Base saturation: 90 to 100 percent
Rock fragments: 0 to 15 percent, (typically less than 5 percent)
Moisture control section: not dry in all part for more than 1/2 of the time that the soil temperature is above 5 degrees C. (41 degrees F.) (moist in some or all parts during May and June)
Moisture control section: not dry for 45 consecutive days following July 15.

A horizon:

Hue: 10YR or 2.5Y
Value: 5 to 7, 3 to 5 moist
Chroma: 2 or 3

When the value of the surface horizon is as dark as 5 dry and 3 moist the horizon must be thin enough so that if the soil is mixed to 7 inches it will have an ochric epipedon or it must contain less than 1 percent organic matter.
Structure: usually granular but may be weak subangular blocky
Firmness: soft or slightly hard
Reaction: neutral to slightly alkaline.

Bt horizon:

Hue: 2.5Y to 7.5YR
Value: 5 to 7, 4 or 5 moist
Chroma: 2 to 4
Texture: loam or clay loam
Clay content: 18 to 35 percent
Silt content: 20 to 50 percent
Sand content: 20 to 50 percent (more than 15 percent but less than 35 percent being fine sand or coarser)
Structure: prismatic but subangular blocky in some pedons
Reaction: neutral or slightly alkaline.

Bk or C horizon:

Hue: 2.5Y or 10YR
Value: 6 or 7, 5 or 6 moist
Chroma: 2 to 6
Reaction: moderately alkaline or strongly alkaline
Calcium carbonate equivalent: 5 to 15 percent
Textures: loam or clay loam and less commonly sandy clay loam.

COMPETING SERIES: These are the [Arnor](#), [Arwite](#), [Augustine](#), [Bigbow](#), [Bosonoak](#), [Carri](#), [Celacy](#), [Celavar](#), [Dalhart](#), [Deekay](#), [Dermala](#), [Elwop](#), [Evpark](#), [Flugle](#), [Gateson](#), [Goesling](#), [Iwela](#), [Lykorly](#), [Navajita](#), [Nyjack](#), [Oldwolf](#), [Olnest](#), [Orlie](#), [Parkelei](#), [Pinitos](#), [Rauzi](#), [Ribera](#), [Rockybutte](#), [Stoneham](#), [Toluca](#) and [Wagonhound](#) series. Arnor and Rauzi soils are redder hues and Arnor soils contain 15 to 30 percent rock fragments. Augustine, Dalhart, Goesling, & Pinitos soils have thicker argillic layers with the base of the Bt in excess of 56 centimeters (22 inches).

Augustine soils may have a calcic horizon below 102 centimeters (40 inches).

Arwite, Deekay and Wagonhound soils are dry for 45 consecutive days in July through September.

Bosonoak soils have secondary carbonates in the surface.

Carri, Celacy, Celavar, Elwop, Evpark, Gateson, Nyjack, Oldwolf, and Ribera soils have a lithic or paralithic contact above 102 centimeters (40 inches).

Flugle soils have greater than 35 percent fine sand and coarser in the particle size control section.

Iwela soils have a lithologic discontinuity of stones at 66 centimeters (26 inches) and the moisture control section is dry in [may](#) and June.

Lykorly soils have up to 25 centimeters (10 inches) of overburden over a lithologic discontinuity with additional clay content and have a moisture control section that is dry in May and June.

Navajita soils have a 5 to 10 percent pararock fragments.

Orlie and Parkelei soils are dry in most parts of the moisture control section in May and June when the soil temperature at 51 centimeters (20 inches) is greater than 5 degrees C. (41 degrees F.)

Pinitos and Ribera soils have moisture control sections that are dry in May and June.

Olnest and Rockybutte soils may have rock fragments through out the profile.

Stoneham soils have less than 15 percent fine sand or coarser.

Toluca soils are noncalcareous above 25 centimeters (10 inches).

GEOGRAPHIC SETTING:

Parent materials: alluvium (may be modified by a thin mantle of eolian deposits)

Landscape: terraces, hills, plains, or alluvial fans

Slopes: 0 to 10 percent

Mean annual precipitation: 33 to 43 centimeters (13 to 17 inches)

Mean annual temperature: 7 to 12 degree C. (45 to 53 degrees F.)

Mean summer temperature: 14 to 21 degrees C. (57 to 70 degrees F.)

GEOGRAPHICALLY ASSOCIATED SOILS: These are the competing [Stoneham](#) and [Olnest](#) soils.

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:

Drainage: well drained

Runoff: medium

Saturated Hydraulic Conductivity: moderately high

USE AND VEGETATION: These soils are used as native pastureland and as dry and irrigated cropland.

Principal irrigated crops are small grains, alfalfa, corn, sorghums, and sugar beets.

Dryland crops are limited primarily to winter wheat.

Native vegetation is blue grama grass, wheatgrass and some buffalo grass.

DISTRIBUTION AND EXTENT: Eastern Colorado, Montana, and Wyoming. The series is of large extent.
MLRA 67

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES ESTABLISHED: The Greeley Area, Colorado, 1904.

REMARKS: Diagnostic horizons and features recognized in this pedon are:

Argillic horizon: 20 to 46 centimeters (8 to 18 inches)

This series is changed in class from Ustollic Haplargids to Aridic Haplustalfs due to update and revision of higher moisture levels in the moisture control section.

Last updated by the state 3/94.

10/2005 JCR LM Changed to semitab format, added metric conversion and changed permeability to saturated hydraulic conductivity.

National Cooperative Soil Survey
U.S.A.

Fremont County Area, Colorado

50—Kim loam, cool, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: jqjr
Elevation: 5,300 to 6,100 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 48 to 51 degrees F
Frost-free period: 125 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Kim, cool, and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kim, Cool

Setting

Landform: Fan terraces, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium and/or eolian deposits

Typical profile

A - 0 to 3 inches: loam
C - 3 to 60 inches: loam, fine sandy loam
C - 3 to 60 inches:

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Available water storage in profile: Very high (about 17.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B

Ecological site: Loamy foothill 11-14 inches p.z. (R049XD202CO)

Data Source Information

Soil Survey Area: Fremont County Area, Colorado

Survey Area Data: Version 13, Sep 24, 2014

LOCATION KIM

CO+KS MT NM WY

Established Series

Rev. AJC/GB/PRF

01/2000

KIM SERIES

The Kim series consists of very deep, moderately permeable, well drained soils that formed in alluvium and mixed eolian and alluvial material derived from sandstone and shale. Kim soils are on alluvial fans below escarpments of sedimentary rock and uplands. Slopes are 0 to 20 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 51 degrees F.

TAXONOMIC CLASS: Fine-loamy, mixed, active, calcareous, mesic Ustic Torriorthents

TYPICAL PEDON: Kim loam - grassland. (Colors are for dry soil unless otherwise noted.)

A--0 to 6 inches; grayish brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) moist; moderate very fine granular structure; soft, very friable; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary. (4 to 8 inches thick)

AC--6 to 14 inches; grayish brown (10YR 5/2) clay loam, dark grayish brown (10YR 4/2) moist; weak medium prismatic structure parting to weak medium subangular blocky; hard, very friable, plastic; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary. (6 to 10 inches thick)

C--14 to 60 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; hard, very friable; 5 percent sandstone fragments; some visible calcium carbonate occurring as small soft masses; violently effervescent; moderately alkaline (pH 8.0).

TYPE LOCATION: Bent County, Colorado; 50 feet west and .85 mile south of the northwest corner of Sec. 3, T. 26 S., R. 52 W.

RANGE IN CHARACTERISTICS: Mean annual soil temperature ranges from 49 to 58 degrees F., and mean summer soil temperature ranges from 59 to 78 degrees F. The surface 15 inches has approximately .8 percent organic matter and the sand/clay ratio ranges from 1 to about 3. The particle-size control section is typically loam, sandy clay loam, or light clay loam, and less commonly in the lower part a fine sandy loam. It has 18 to 35 percent clay, 20 to 55 percent silt, and 15 to 60 percent sand, with more than 15 percent but less than 45 percent being fine or coarser sand. Rock fragments are typically less than 10 percent and range from 0 to 15 percent. Exchangeable sodium percentage is usually less than 3 and is less than 15 in any layer as thick as 4 inches. This soil is not dry in all parts of the moisture control section for more than one-half the time that the soil temperature is above 41 degrees F. (225 to 235 days) and is not dry for 45 consecutive days following July 15.

A horizon

Hue: 5Y through 7.5YR

Value: 5 through 7 dry, 3 through 6 moist

Chroma: 2 through 4

Structure: granular structure, but has subangular blocky structure in some pedons.

Consistence: soft to slightly hard

Carbonates: In some pedons it is leached to depths of 2 to 8 inches.

Reaction: slightly alkaline or moderately alkaline (pH 7.6 to 8.2)

When the surface horizons have value as dark as 5 dry and 3 moist they contain less than 1 percent organic carbon, or they are thin enough that if mixed to depth of 7 inches the soil has an ochric epipedon.

C horizon:

Hue: 5Y through 7.5YR

Value: 6 or 7 dry, 4 through 6 moist

Chroma: 2 through 6

Reaction: moderately to strongly alkaline (pH 8.0 to 8.6)

Calcium carbonate equivalent: 1 to 14 percent

Calcium carbonate: soft masses occurs at any depths in this horizon, but it should not be concentrated into a consistent horizon of secondary carbonate accumulation.

COMPETING SERIES: These are the [El Rancho](#), [Kishona](#), [Mikim](#), [Neville](#), [Paradox](#), [Pojoaque](#), [Shavano](#), [Sixmile](#), [Thedalund](#), [Theedle](#), and (T) [Tsosie](#) series. Shavano, Sixmile, Thedalund, and Theedle soils have bedrock at some point above a depth of 40 inches. El Rancho, Neville, and Pojoaque soils have hue of 5YR or redder. Kishona soils have cooler annual soil temperature and have moisture control sections that are dry more than one-half the time, cumulative, that the soil temperature at 20 inches is above 41 degrees F. Kishona soils are also dry in all parts of the moisture control section for at least 60 consecutive days following July 16. Mikim and Paradox soils are dry in some parts of the moisture control section for 15 consecutive days from [May](#) 15 to July 15 when the soil temperature at 20 inches is greater than 41 degrees F. In addition, Paradox soils have hues of 5YR and redder. Tsosie soils are dry in all parts of the soil moisture control section from April 15 to July 1.

GEOGRAPHIC SETTING:

Slope: 0 to 20 percent

Landform: alluvial fans usually below escarpments of sedimentary rock

Landscape: uplands

Parent material: parent sediments derived from a variety of rocks, including sandstone, shale, and similar materials.

Mean annual precipitation: 11 to 14 inches, with peak periods of precipitation occurring during the spring and early summer.

Mean annual temperature: 47 to 53 degrees F.

Mean annual summer temperature is 74 degrees F.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the [Shingle](#) soils and the competing [Thedalund](#) soils. The three series often form a toposequence. Shingle soils have bedrock at depths of 10 to 20 inches.

DRAINAGE AND PERMEABILITY:

Drainage: Well

Runoff: low to high

Permeability: moderate

USE AND VEGETATION: These soils are used principally as native pastureland; however, they are used as

dry or irrigated cropland in some localities. Native vegetation typically consists of short grasses, of which blue grama predominates.

DISTRIBUTION AND EXTENT: Eastern Colorado, southeastern Wyoming, and northeastern New Mexico in MLRA 69. The series is of moderate extent.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Denver, Colorado

SERIES ESTABLISHED: Big Horn County (Big Horn Area), Montana, 1970.

REMARKS: Diagnostic features include an ochric epipedon and free lime carbonate at 7 to 20 inches. Last updated by the state 2/94.

Updated by the MLRA Office-5 on 1/12/2000 to update the parent materials in the first paragraph and to move to a semi-tab format.

National Cooperative Soil Survey
U.S.A.

Fremont County Area, Colorado

52—Kim-Cascajo complex, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: jqjt
Elevation: 5,000 to 6,000 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 49 to 53 degrees F
Frost-free period: 125 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Kim and similar soils: 50 percent
Cascajo and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kim

Setting

Landform: Stream terraces, fan terraces, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly alluvium

Typical profile

A - 0 to 4 inches: loam
C - 4 to 60 inches: loam

Properties and qualities

Slope: 2 to 10 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: B
Ecological site: Loamy plains (R069XY006CO)

Description of Cascajo

Setting

Landform: Stream terraces, fan terraces, fans

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

A - 0 to 6 inches: very gravelly sandy loam

Bk - 6 to 21 inches: extremely cobbly sandy loam

C - 21 to 60 inches: extremely cobbly sand

Properties and qualities

Slope: 10 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 40 percent

Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

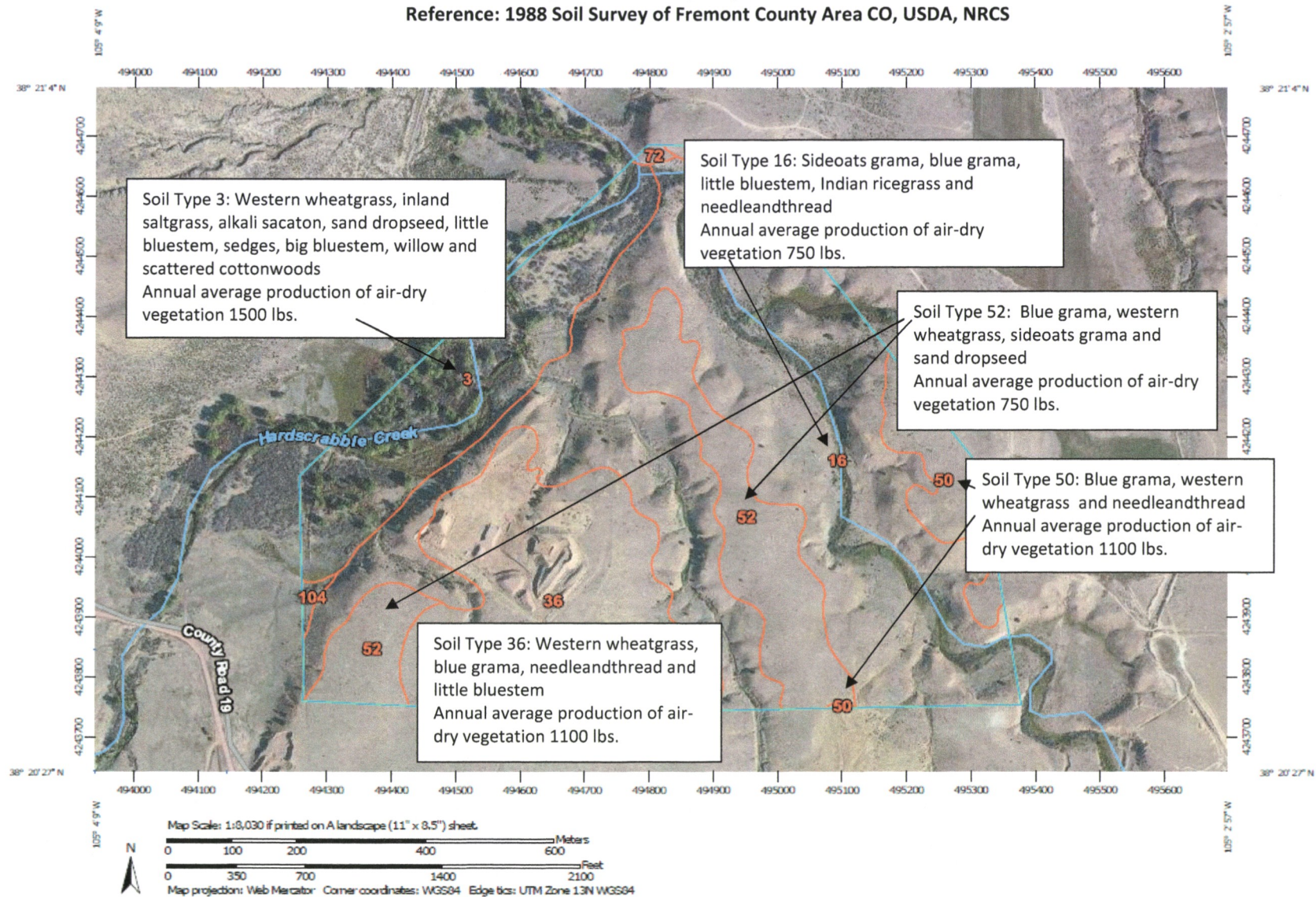
Ecological site: Gravel breaks (R069XY064CO)

Data Source Information

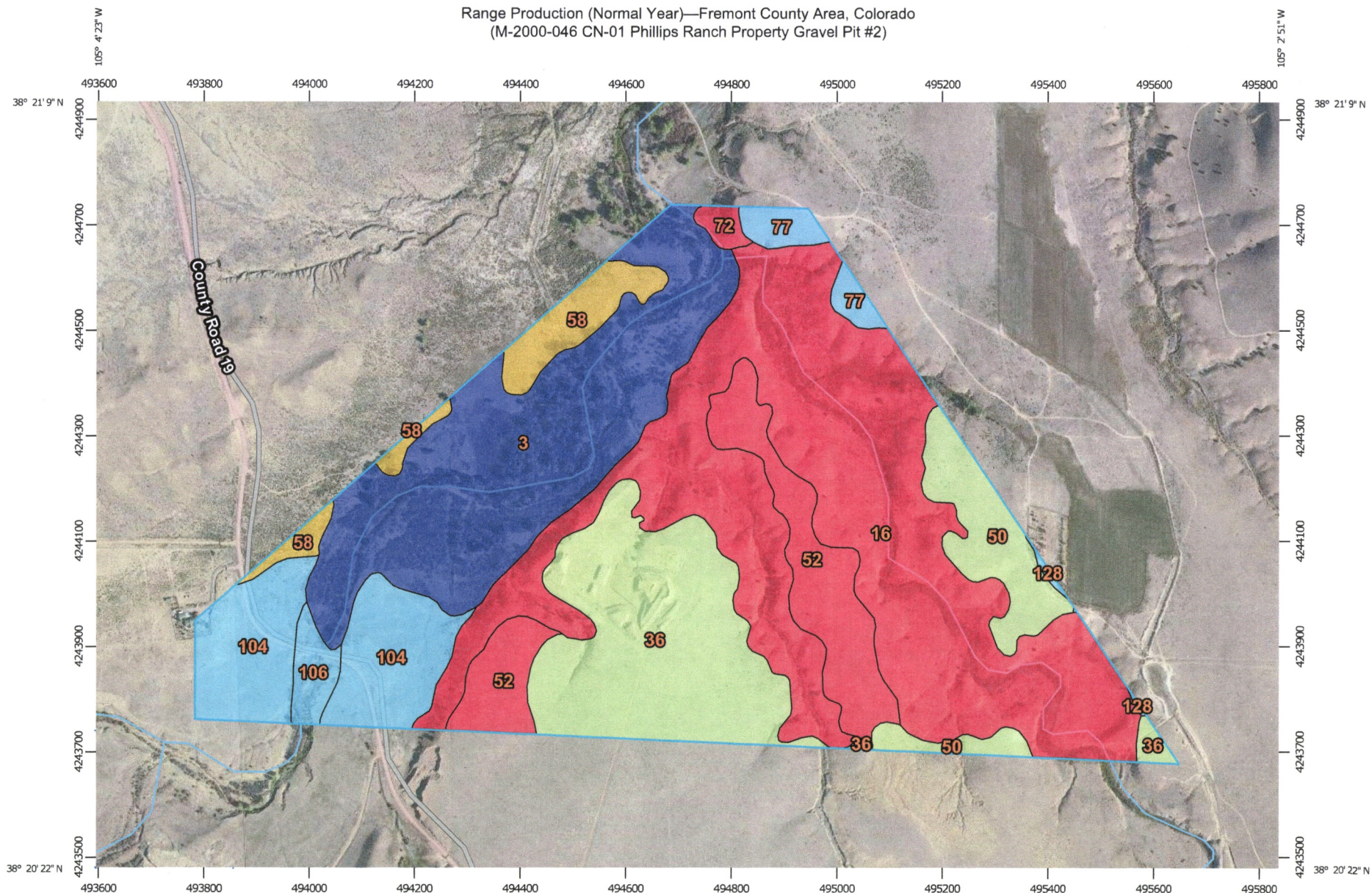
Soil Survey Area: Fremont County Area, Colorado

Survey Area Data: Version 13, Sep 24, 2014

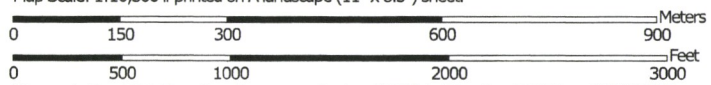
Figure I.1: Typical vegetation vs. soil type diagram
Phillips Ranch Property Gravel Pit #2 Pit
 Reference: 1988 Soil Survey of Fremont County Area CO, USDA, NRCS



Range Production (Normal Year)—Fremont County Area, Colorado
(M-2000-046 CN-01 Phillips Ranch Property Gravel Pit #2)



Map Scale: 1:10,300 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

5/29/2015
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)


 Area of Interest (AOI)

Soils




Soil Rating Polygons

-  ≤ 788
-  > 788 and ≤ 1000
-  > 1000 and ≤ 1100
-  > 1100 and ≤ 1300
-  > 1300 and ≤ 1500
-  Not rated or not available


Soil Rating Lines

-  ≤ 788
-  > 788 and ≤ 1000
-  > 1000 and ≤ 1100
-  > 1100 and ≤ 1300
-  > 1300 and ≤ 1500
-  Not rated or not available






Soil Rating Points

-  ≤ 788
-  > 788 and ≤ 1000
-  > 1000 and ≤ 1100
-  > 1100 and ≤ 1300
-  > 1300 and ≤ 1500
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fremont County Area, Colorado
Survey Area Data: Version 13, Sep 24, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2010—Nov 18, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Range Production (Normal Year)

Range Production (Normal Year)— Summary by Map Unit — Fremont County Area, Colorado (CO637)				
Map unit symbol	Map unit name	Rating (pounds per acre per year)	Acres in AOI	Percent of AOI
3	Aquic Ustifluvents	1500	58.5	20.2%
16	Cascajo very gravelly sandy loam, 10 to 40 percent slopes	750	105.5	36.4%
36	Fort Collins loam, cool, 2 to 5 percent slopes	1100	42.2	14.6%
50	Kim loam, cool, 3 to 8 percent slopes	1100	15.0	5.2%
52	Kim-Cascajo complex, 2 to 15 percent slopes	779	23.5	8.1%
58	Limon silty clay loam, saline	1000	9.9	3.4%
72	Midway-Cascajo complex, 10 to 40 percent slopes	788	1.5	0.5%
77	Nunn loam, 2 to 5 percent slopes	1200	4.3	1.5%
104	Shanta loam, 0 to 3 percent slopes	1300	25.7	8.9%
106	Shanta-Nederland association	1247	3.5	1.2%
128	Wiley loam, cool, 2 to 6 percent slopes	1200	0.4	0.1%
Totals for Area of Interest			289.9	100.0%

Description

Total range production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation. In a normal year, growing conditions are about average. Yields are adjusted to a common percent of air-dry moisture content.

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Rating Options

Units of Measure: pounds per acre per year

Aggregation Method: Weighted Average

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: Yes

6.4.14 Exhibit N

Source of Legal Right to Enter

Pioneer Sand Company has entered into a lease with Phillips Ranch whose address is 1203 Sherman, Cañon City, CO and Colorado State Land Board whose address is 1127 Sherman Street, Suite 300, Denver, CO 80203.



State of Colorado
Department of Natural Resources
STATE BOARD OF LAND COMMISSIONERS
1127 Sherman Street, #300
Denver, Colorado 80203

SAND & GRAVEL LEASE NO. GL 109558

This Sand and Gravel Lease (the "Lease"), is made in duplicate and entered into this 8th day of May, 2015, by and between the State of Colorado, acting through its STATE BOARD OF LAND COMMISSIONERS, hereinafter referred to as Lessor, and PIONEER SAND COMPANY, INC., 5000 Northpark Drive, Colorado Springs, CO, 80918 hereinafter referred to as "Lessee":

WITNESSETH: Lessor, for and in consideration of the sum of Five hundred eighty and no/100 Dollars (\$580.00), receipt of which is hereby acknowledged as payment of the filing fee in the amount of \$100.00, first year's rent in the amount of \$480.00, and a bonus in the amount of \$ - 0-, and in further consideration of Lessee's agreement to pay Three and no/100 Dollars (\$ 3.00) per acre or fraction thereof annually as rental in advance of the anniversary date of this Lease so long as said Lease shall remain in effect; and in further consideration of the terms, conditions and agreements herein and of the payment of royalties reserved herein, to be kept and performed by Lessee, its successors and assigns, does hereby lease to Lessee the right and privilege of exploring and prospecting for, developing, and mining of and taking of sand and gravel minerals from the lands herein described, situated in the County of Fremont, State of Colorado, to wit:

<u>ACRES</u>	<u>SUBDIVISION</u>	<u>SEC-TWP-RGE</u>	<u>PATENT</u>
160.00	SE	36 - 19S - 69W (6 th PM)	2555

FUND: School

containing 160.00 acres, more or less, (the "Leased Premises") together with the right to use as much of the surface as may be reasonably required, including the right to reasonable ingress and egress; the right to make excavations, stockpiles, and other improvements as may be reasonably necessary in the mining and removal of said minerals; subject, however, to all existing easements and rights-of-way of third parties, and the rights of surface lessees and surface owners, and further subject to the terms, conditions and agreements set out in this Lease. The above-mentioned rights may be exercised in connection with mining on other or adjacent lands only when mining on such lands is carried on in conjunction with the actual mining on the Leased Premises. The benefits, terms, and obligations of this Lease shall extend to and be binding upon the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

RESERVING, however, to Lessor:

- A. All rights and privileges of every kind and nature, except as are herein specifically granted.
- B. The right to use or lease the Leased Premises or any part thereof at any time for any purpose, including the right to explore and prospect said premises, which use and leasing of said premises shall be for purposes other than and not inconsistent with the rights and privileges herein specifically granted.
- C. The right at all times during the life of this Lease to go upon said premises and every part thereof for the purpose of inspecting said premises, and the books of accounts and records of mineral workings therein, and of ascertaining whether or not said Lessee and those holding thereunder by and from it, are carrying out the terms, covenants and agreements in this Lease contained.

TO HAVE AND TO HOLD the above described Leased Premises unto Lessee, its heirs, successors, assigns, or legal representatives for the primary term of 10 years, and until Twelve O'clock noon on the 8th day of May, 2025 (the "Primary Term"). The Lease may continue in effect for an additional 10 years to the 8th day of May, 2035 (the "Secondary Term") as long as sand and gravel are being produced in paying quantities from the Leased Premises and subject to the terms of paragraph 4 of this Lease, and the royalties and rentals provided for herein are being paid, subject to the following terms, conditions and agreements, to wit:

1. ADVANCE MINIMUM ROYALTY -- As minimum and advance royalty, without relation to the amount of minerals mined from the Leased Premises, Lessee shall pay annually in advance to Lessor the following amounts:

<u>LEASE YEAR</u>	<u>AMR</u>
1-10	\$0

If Lessee does not extract minerals from the Leased Premises sufficient to return to the Lessor the minimum amounts above specified, it is nevertheless understood that the above sums of money are due and payable to Lessor whether or not minerals are mined, but that such advance minimum royalty shall be credited upon the first royalties due as herein provided for minerals actually produced from the Leased Premises. In the absence of production of minerals in continuous paying quantities before the expiration date of the Lease, all advance minimum royalties shall be forfeited to Lessor.

In case of assignment of this Lease, all advance minimum royalty paid to the Lessor shall be carried forward and credited to the new assignee.

2. PRODUCTION ROYALTY -- Lessor reserves as royalty, and Lessee agrees to pay to Lessor on or before the last day of each calendar month following a month of production of sand and gravel the following amounts:
 - The royalty rate shall be \$ 0.50 per ton (2000 pounds), of sand & gravel produced and sold from the Leased Premises.

Further, at the end of each five-year period, commencing from the original Lease date, for so long as this Lease remains in effect, Lessor may increase the rate or amount of production royalty to be paid by Lessee by a rate not to exceed the rate of increase of the average Producer's Price Index for Construction Sand, Gravel and Crushed Stone for the previous 5-year period, as published by the U.S. Department of Labor, Bureau of Labor Statistics. Failure to comply with any new royalty rate set by Lessor may subject this Lease to cancellation by thirty-day written notice by Lessor.

Reporting of production royalty that is credited against advanced minimum royalty is also due on or before the last day of each calendar month for mining during the preceding calendar month.

3. EXTENSION -- Lessee may have a preferential right to renew the Lease or to receive a new lease, whichever may be determined by Lessor to be in the best interest of the Lessor, under the following conditions precedent:
 - A. An advance minimum royalty, the amount to be negotiated before expiration of the Lease, will be due and payable annually commencing on the date this Lease is renewed or a new lease is executed and shall continue until the expiration of the new or renewed lease. This amount may be adjusted by Lessor at the end of each five-year period of the effective date of the renewed or new lease.
 - B. Lessee shall furnish to Lessor satisfactory evidence of plans for mining during the term of the renewed Lease or during the term of a new lease.
 - C. Lessee shall furnish adequate geological evidence to Lessor that the acreage subject to the renewed or new lease is in fact an integral part of and contains reserves in a logical mining unit. Whether the acreage is or is not a part of a logical mining unit will be determined by Lessor.
 - D. An extension of this Lease as determined by Lessor would be in the best interest of Lessor.
4. EXTENSION BY PRODUCTION - The Lease may continue in effect for a Secondary Term of 10 years to the 8th day of May, 2035 as long as sand and gravel are being produced in paying quantities from the Leased Premises. Paying quantities is defined as production and removal from the Leased Premises of a quantity sufficient to return to Lessor production royalty payments of a minimum of \$5,000.00 per year of the Lease.
5. REPORTS AND RECORDS -- After operations begin, it is agreed that on or before the last day of each month during the term of this Lease Lessee shall submit a sworn, verified, written report to Lessor, in which report shall be entered and set down the exact amount in weight of all products and the assay thereof mined and removed from said Leased Premises during the preceding calendar month. Lessee agrees to keep and to have in possession complete and accurate books and records showing the production and disposition of any and all substances produced on the Leased Premises and to permit Lessor at all reasonable hours, to examine the same or to furnish copies of same to Lessor within 60 days following written request along with purchaser's support documentation. All said books and records shall be retained by Lessee and made available in Colorado to Lessor for a period of not less than 10 years. If any such

examination shall reveal, or if either party shall discover any error or inaccuracy in its own or the other party's statement, payment, calculation, or determination, then proper adjustment or correction thereof shall be made as promptly as practicable thereafter, except that no adjustment or correction shall be made if more than 10 years have elapsed between the time the error or inaccuracy occurred and the discovery by either party of said error or inaccuracy; provided such error or inaccuracy was not intentional or willful.

Further, Lessee shall furnish annually a complete operations report to Lessor disclosing the number of tons or cubic yards and the assay thereof of all ores, minerals and other materials mined from the Leased Premises during the preceding year. Lessee shall also furnish in said report any geologic interpretations and recoverable reserve calculations, and maps and cross sections showing location of any mineral-bearing outcrops, drill holes, trenches, and other prospecting and exploration activities, completed during the previous year. The records required to be maintained by Lessee and provided to Lessor upon request include logs of all strata penetrated and all geologic and hydrologic conditions encountered, and copies of in-hole surveys; this information to be collected and prepared under the supervision of a qualified geologist, geological engineer, or civil or mining engineer. Other qualified persons may collect and prepare this data, if agreed to in writing between Lessee and Lessor. Any request to keep certain information confidential should be in writing to Lessor at the time such information is submitted to Lessor, and such data may be kept confidential as consistent with State law. Lessee shall submit, if requested by Lessor, such additional reports, records or documents regarding Lessee's operation on the Leased Premises as necessary for the compliance with Lease provisions.

6. OVERRIDING ROYALTY LIMITATIONS - It is agreed that this Lease or any subsequent assignment hereof shall not be burdened with overriding royalties the aggregate of which exceeds two percent (2%) of the gross value of the minerals or ore at the first point of sale. Lessor must be notified of all overriding royalties accruing to this Lease.
7. DEVELOPMENT -- Lessee will diligently explore and develop the Leased Premises by utilizing methods of exploration commonly used in the industry, such as mapping, sampling, drilling, trenching, geophysical exploration, and laboratory analysis and will expend as a minimum annually the amounts set forth below:

<u>LEASE YEAR</u>	<u>MIN EXPEND</u>	<u>LEASE YEAR</u>	<u>MIN EXPEND</u>
NA	NA	NA	NA

Indirectly related exploration and development work such as work done on adjacent properties, or design or construction of a mill will not be considered as diligent development of the Leased Premises unless approved by Lessor.

8. PENALTIES -- A penalty shall be imposed for, but not limited to, late payments, improper payments, operational deficiencies of any kind whatsoever, violations of any covenants of this Lease, or any false statements made to Lessor. Penalties shall be determined by

Lessor unless otherwise provided for by law and may be in the form of, but not limited to, interest, fees, fines, and/or lease cancellation. A penalty schedule shall be prepared by Lessor and shall become effective immediately after public notice. Said schedule may be changed from time to time after such notice.

9. ASSIGNMENT -- Lessee, only with prior written consent of Lessor, may assign this Lease as to the leasehold interest of such Lessee in all or part of the lands covered hereby; not less, however, than tracts of approximately forty (40) acres or governmental lots corresponding to a quarter-quarter section for any partial assignment. Any transfer or assignment, or attempted transfer or assignment, of any of the rights granted, without such consent in writing, shall be absolutely void, and at the option of the Lessor, shall terminate this Lease.

No assignment of undivided interests or retention or reservation of overriding royalties will be recognized or approved by Lessor, and the effect, if any, of any such assignments or reservations will be strictly and only as between the parties thereto and outside the terms of this Lease. No dispute between parties to any assignment or reservation shall operate to relieve Lessee from performance of any terms or conditions hereof or to postpone the time therefore. Lessor will at all times be entitled to look solely to Lessee or his assignee shown on Lessor's books as being sole owner hereof, and for the sending of all notices required by this Lease, for the performance of all terms and conditions hereof.

If an assignment of a part of this Lease is approved, a new lease designated as an assignment lease will be issued to the assignee covering the lands assigned for the balance of the term of the base lease on the mining lease form in use at the time of assignment and limited as to term as said lease is limited.

10. ASSIGNMENT CONSIDERATION -- The consideration for approval of assignment by Lessor shall be 10% of the value of any consideration tendered to Assignor by Assignee for the assignment. Divulgence of the value of these considerations shall be mandatory, in affidavit form, which form shall be presented to Lessor along with the other assignment instruments in order to obtain Lessor's approval for the assignment. An assignment approved by the Lessor does not constitute a new lease but is a continuation of this Lease. Any attempt to withhold this information shall be construed as an attempt to defraud the State of Colorado and shall render this Lease terminated at the discretion of the Lessor, and all moneys paid to Lessor shall be forfeited to Lessor. In addition, the current statutory fees will be paid at the time the assignment record form is submitted.

11. WEIGHTS -- It is agreed that all ores, minerals and other materials mined and taken from the Leased Premises shall be weighed and assayed and the weight and assay thereof shall be entered in due form in weight and assay records kept for such purposes by Lessee.

Ton means 2000 pounds. Ton shall be determined by Colorado State certified scales or other methods approved by Lessor.

12. STEWARDSHIP TRUST STIPULATION -- This paragraph is deleted.

13. MINING METHODS -- Only mining methods that will insure the extraction of the greatest possible amount of minerals consistent within the laws and with prevailing good mining practice shall be used.
14. OPERATION PLAN -- All plans for exploration and mining shall be submitted to Lessor for approval by Lessor before such operations begin.
15. ENVIRONMENTAL ANALYSIS -- Lessee shall comply with all applicable federal, state, and local laws, rules, regulations, permits, codes and ordinances, including the rules, regulations and requirements of the Colorado Division of Reclamation, Mining and Safety ("DRMS") to identify and reduce adverse impacts to the environment, and the public health, safety and welfare. Prior to any surface occupancy on the Leased Premises, Lessee must perform environmental analyses that are required by any local, state or federal agency or regulation, including, but not limited to, the study of the impacts of the mining operation on wildlife, air, water, soil, or other biological resources. Lessor may require that Lessee submit the environmental analysis, including proposed mitigation plans, for review by Lessor before any exploration or mining begins.
16. RECLAMATION -- To the extent reasonably practical, Lessee shall submit all plans for restoration and reclamation of Leased Premises to Lessor for Lessor's approval before submitting the appropriate permit or permits pursuant to the Colorado Mined Land Reclamation Act 34-32-101 ET SEQ., C.R.S. 1973 as amended. Rules and regulations as set forth by DRMS for recovery and restoration of mined land will apply where applicable to the Leased Premises. Variations from the reclamation plan as originally submitted to the Lessor for approval may be granted only with the written approval of Lessor.
17. LESSOR'S APPROVAL -- Whenever approval by Lessor is required or contemplated by Lessee, approval must be in writing and shall be within the sole and absolute discretion of Lessor.
18. OTHER STATE AGENCIES -- Lessor may determine that instruments and documents required by other State agencies satisfy certain requirements of this Lease. In the event that Lessee is required to file instruments and documents with other State agencies, including DRMS, Lessee shall notify Lessor of said filing and Lessor reserves the right to request and obtain copies of such instruments and documents from the agency or from Lessee.
19. INSPECTION -- It is agreed that during all proper hours and at all times during the continuance of this Lease, Lessor or Lessor's duly authorized agent, is authorized to check assays and scales as to their accuracy, to go through or on any part or all of the Leased Premises to examine, inspect, survey and take measurements of the same and to take samples of any kind and to examine and make extracts from or copies of all books and weight and volume sheets and records which show in any way the ore output, ore values, payments and royalties from and of the Leased Premises. All conveniences

necessary for such inspection, survey, or examination shall be furnished to Lessor. Lessor may require Lessee to provide all instruments and documents of any kind and nature whatever which affect Lessor's interests.

20. NOTICES -- Any notice required to be given to Lessee under the provisions of this Lease shall be sent by certified mail to the address set forth at the beginning of this Lease or to such other address as Lessee may indicate in writing to Lessor, and such service by mail shall be deemed sufficient and in full compliance with the terms of this Lease as of the date it is postmarked. Notice to Lessor shall be given in like manner, addressed to the State Board of Land Commissioners' Denver, Colorado address.
21. NOTIFICATION OF MINING OPERATIONS--It is understood that Lessor does not own the surface estate of Leased Premises, Lessee shall be responsible for identifying such ownership, and shall notify all such parties in advance of any on-site activity. Lessee shall closely coordinate any on-site activity with the surface owner, and make a reasonable effort to protect the integrity of surface owner's fences, gates, cattleguards, and other property.
22. PROTECTION AGAINST SURFACE DAMAGE - This paragraph is deleted.
23. INDEMNIFICATION -- Lessee shall indemnify Lessor against all liability and loss, and against all claims and actions, including the defense of such claims or actions, based upon or arising out of damage or injury, including death, to persons or property caused by or sustained in connection with this Lease or by conditions created thereby, or based upon any violation of any statute, ordinance, or regulation.
24. LIENS AND CLAIMS -- Lessee shall not suffer or permit to be enforced against the Leased Premises, or any part thereof, or any improvements thereon, any liens arising from, or any claim for damage growing out of the work of any construction, repair, restoration, replacement or improvement, or any other claims or demand howsoever the same may arise, but Lessee shall pay or cause to be paid all of said liens, claims, or demands before any action is brought to enforce the same against the Leased Premises or improvements. Lessee agrees to defend, indemnify and hold Lessor and the Leased Premises free and harmless from all liability for any and all such liens, claims, demands, and actions together with reasonable attorney fees and all costs and expenses in connection therewith.

Lessee shall, upon execution of this Lease, at its cost, prepare a Notice, pursuant to C.R.S. § 38-22-105 and cause the same to be posted for the purpose of protecting Lessor against any liens or encumbrances upon the Leased Premises by reason of work, labor, services or materials contracted for or supplied to Lessee.
25. BOND -- It is agreed that no operations are to be commenced on the lands herein described unless and until Lessee or Lessee's agent has filed a good and sufficient bond with Lessor in an amount fixed by Lessor, to secure the payment for damages caused by Lessee's or Lessee's agent's operations on said lands. Lessor reserves the right to grant

relief from the foregoing bond requirements. Lessor may require such bond to be held in full force and effect for one year after cessation of operations for which the bond was intended. This requirement may be satisfied by the financial warranty requirements of DRMS.

26. WATER -- If Lessee initiates or establishes any water rights for which the point of surface diversion or ground water withdrawal is on the Leased Premises, title to such water rights shall, upon termination of this Lease, become the property of the surface owner without cost, and title to the water rights shall be conveyed to the surface owner immediately upon termination, except that if Lessor is the surface owner the water right shall be taken in the name of Lessor in the first instance and shall be the property of Lessor without cost.

27. SURRENDER AND RELINQUISHMENT -- Lessee may, at any time, by paying to Lessor all amounts then due as provided herein, surrender and cancel this Lease insofar as the same covers all or any portion of the Leased Premises and upon written approval and acceptance by the Lessor of full performance by Lessee for such surrendered Leased Premises be relieved from further obligations or liability hereunder with respect to the surrendered Leased Premises; provided that no partial surrender or cancellation of this Lease shall be for less than tracts of approximately forty (40) acres or governmental lot corresponding to a quarter-quarter section, the rental being reduced proportionately. The Lessee shall not be released from further obligations or liabilities for such surrendered Leased Premises pursuant to this Paragraph 27 for breaches of this Lease by Lessee which were unknown by Lessor at the time of the surrender by Lessee.

This surrender clause and option herein reserved to Lessee shall cease and become absolutely inoperative immediately and concurrently with the institution of any suit in any court of law by Lessee, Lessor or any assignee of either to enforce this Lease, or any of its terms, express or implied, but in no case shall surrender be effective until Lessee shall have made full provision for conservation of the minerals and protection of the surface rights of the Leased Premises as may be determined by Lessor.

Notwithstanding the foregoing, no surrender and relinquishment of this Lease shall be effective unless and until all reports, documents and information of any kind required to be submitted to Lessor under this Lease, or to such state agencies as provided in this Lease have been submitted to Lessor or such state agency.

28. RIGHT OF REMOVAL -- In the event this Lease is terminated pursuant to Paragraph 27, or the expiration of its term, and all obligations of Lessee under this Lease are satisfied, all Lessee's improvements, equipment, man-made objects of any type, including stockpiles and dumps except as these stock piles and dumps may be disposed of pursuant to the reclamation plan, shall be removed from the Leased Premises within six months from the date of such termination at Lessee's expense. Such removal is to be accomplished without unnecessary waste or damage to the premises and Lessee shall restore the surface of the Leased Premises to the same condition as immediately prior to the execution of this lease as it pertains to such removal.

29. CONDEMNATION - If the Leased Premises shall be taken in any condemnation proceeding, this Lease shall automatically terminate as of the date of taking. The award for such condemnation shall be paid to Lessor, except for any specific award(s) paid to Lessee for severed minerals reserves, in which event a percent of such specific award(s) equal to royalty shall be paid to Lessor in lieu of royalty lost by virtue of the condemnation. Improvements shall be removed by Lessee per terms in the RIGHT OF REMOVAL paragraph herein. If only a portion of the Leased Premises is taken by condemnation, Lessor may, at its option, terminate this Lease or terminate only that portion of the Lease so taken.
30. COMPLIANCE WITH LAW --Lessee shall comply fully with all the provisions, terms, conditions of all laws, whether state or federal, and orders issued thereunder, which may be in effect during the continuance hereof, which in any manner affect or control mining or other operations of Lessee, and Lessee further agrees that good mining methods shall be used at all times of active mining so long as said methods are consistent within the law.

Lessee shall comply with all applicable federal, state and local environmental, wetlands protection, health and hazardous waste laws, ordinances and regulations. In addition to the foregoing, and not in limitation thereof, Lessee shall not cause or permit any Hazardous Material to be brought upon, kept or used in or about the Leased Premises by Lessee or Lessee's agents, employees, contractors or invitees, without the prior written consent of Lessor. If Lessee breaches the obligations stated in the preceding sentence, or if the presence of Hazardous Material on the Leased Premises caused or permitted by Lessee results in contamination of the Leased Premises, or if contamination of the Leased Premises by Hazardous Material otherwise occurs for which Lessee is legally liable, then Lessee shall indemnify, defend and hold Lessor harmless from any and all claims, judgments, damages, penalties, fines, costs, liabilities or losses (including, without limitation, diminution in value of the Leased Premises, damages for the loss or restriction on use of the Leased Premises, damages arising from any adverse impact on future leasing of the Leased Premises, and sums paid in settlement of claims, attorney fees, consultant fees and expert fees) which arise during or after the lease term as a result of such contamination. This indemnification of Lessor by Lessee includes, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal, or restoration work required by any federal, state, or local governmental agency or political subdivision because of Hazardous Material present in the soil or ground water on or under the Leased Premises.

Without limiting the foregoing, if the presence of any Hazardous Material on the Leased Premises caused or permitted by Lessee results in any contamination of the Leased Premises, Lessee shall promptly take all actions at Lessee's sole expense as are necessary to return the Leased Premises to the condition existing prior to the introduction of any such Hazardous Material to the Leased Premises; provided that Lessor's approval of such actions shall first be obtained. As used herein, the term "Hazardous Material" means any hazardous or toxic substance, material or waste which is or becomes regulated by any local governmental authority, the State of Colorado or the United States Government. The term "Hazardous Material" includes, without limitation, any material or substance

that is (i) defined or designated as a "hazardous substance", "hazardous waste" or a "regulated substance" under appropriate state or federal law.

31. ARCHAEOLOGY -- It is contrary to State law to excavate, appropriate or disturb any historical, prehistoric or archaeological site or resource on any lands administered by Lessor. Discovery of a suspected site or resource shall be immediately brought to the attention of Lessor and the State Archaeologist or Lessee shall provide evidence that no significant archaeological sites exist on the Leased Premises which could be destroyed by Lessee's operations.

32. DEFAULT AND FORFEITURE -- If for any reason Lessee fails to keep each and every one of the covenants and conditions herein, and if such default continues for a period of thirty (30) days after service of written notice thereof by certified mail upon Lessee, Lessor shall have the right to declare this Lease forfeited, and to enter onto the Leased Premises either with or without process of law, and to expel, remove and put out Lessee or any person occupying the premises, using such force as may be necessary to do so.

In the event of the termination of the Lease by reason of breach of the covenants herein contained, Lessee shall surrender and peaceably deliver to Lessor the above-described premises, and such premises shall be in good mining condition. If, upon termination of this Lease for any reason, whether by surrender, forfeiture or expiration of term or otherwise, Lessee shall not have fully complied with the terms of this Lease, Lessor shall hold and retain possession of the property, improvements, and equipment of Lessee as security unto Lessor for the payment of rents and royalties due Lessor, or to protect Lessor against liens, or to indemnify Lessor against any loss or damage sustained by Lessor by reason of the default of Lessee, for which purpose Lessor is hereby given a lien upon all such property, improvements, and equipment, which lien shall attach as the same are placed upon the premises. In the event Lessor shall foreclose the lien in this article given to Lessor by Lessee, Lessor may itself be a purchaser at any sale thereof under such foreclosure. Upon the termination of this Lease for any cause, if Lessee shall remain in possession of said premises, Lessee shall be guilty of an unlawful detainer under the statutes in such case made and provided, and shall be subject to all the conditions and provisions thereof and to eviction and removal, forcibly or otherwise, with or without process of law, as above provided.

33. TAXES -- Lessee shall be liable for all taxes lawfully assessed on property of Lessee located on the Leased Premises.

IN WITNESS WHEREOF, Lessor has caused these presents to be executed in duplicate by the State Board of Land Commissioners and sealed with the official seal of said Board, and Lessee has hereunto set his hand and seal, all on the day and year first above written.

Recommended:


Phillip J. Courtney, Minerals Leasing Manager

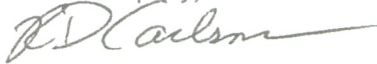
LESSOR:

STATE OF COLORADO acting through the
STATE BOARD OF LAND COMMISSIONERS


Pete Milonas, Minerals Director

LESSEE:

Pioneer Sand Company, Inc.

By: 

Its: CFO

ATTEST

State of Colorado

County of El Paso

The foregoing instrument was acknowledged before me this 26th day of May, 2015, by Robert D Carlson as being authorized to execute same on behalf of Lessee.



Notary Public _____

My Commission Expires 2-25-16

EXHIBIT A
SAND AND GRAVEL LEASE # GL 109558

dated
May 8, 2015

between

State of Colorado, acting through the State Board of Land Commissioners, Lessor
and

Pioneer Sand Company, Inc., Lessee

Legal Description

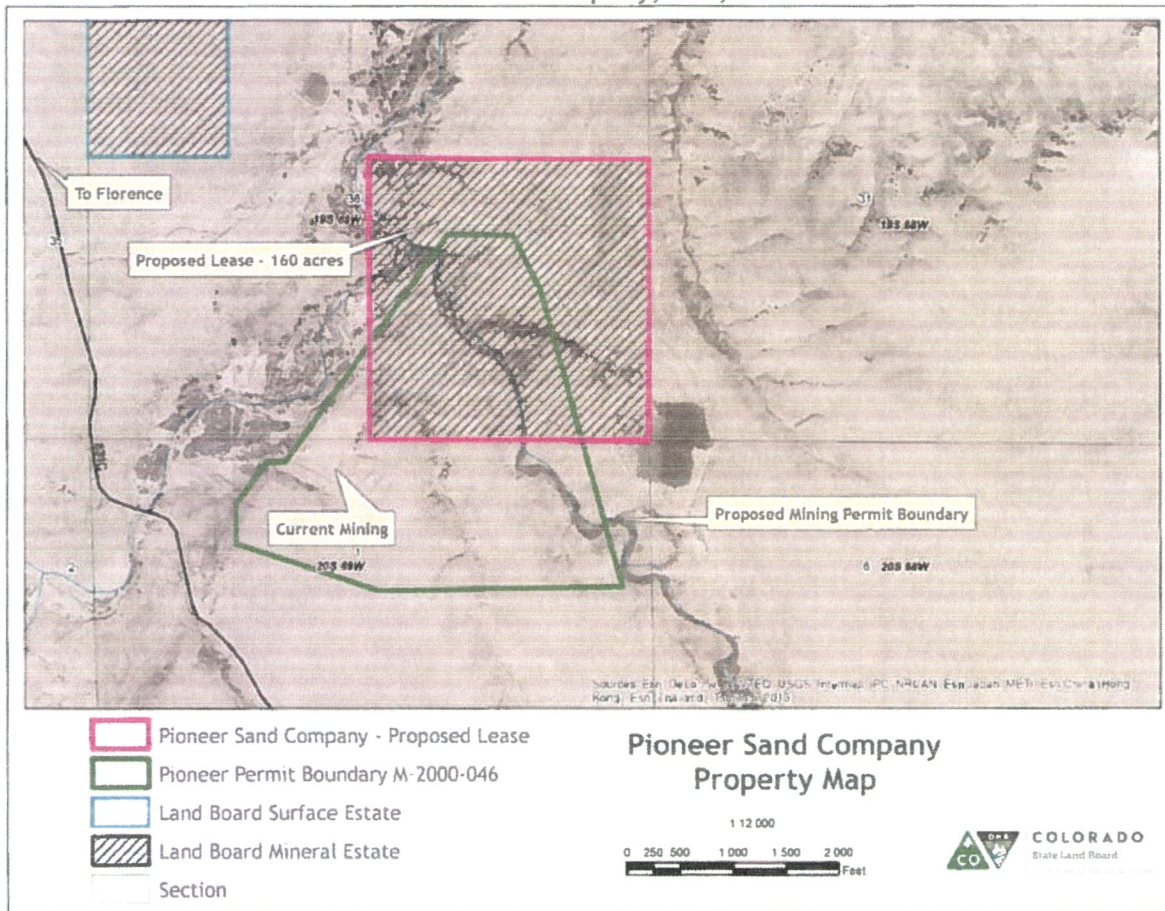
SE of Section 36 Township 19 South Range 69 West (6th PM) - 160.00 acres

Existing leases, right-of ways, and agreements:

<u>Lease #</u>	<u>Lessee</u>	<u>Lease Type</u>
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None issued by the Land Board

MAP EXHIBIT
SAND AND GRAVEL LEASE # GL 109558
Dated May8, 2015
between
State of Colorado, acting through the State Board of Land Commissioners, Lessor
and
Pioneer Sand Company, Inc., Lessee



6.4.15 Exhibit O Owners of Record of Affected Land (Surface Area) And Owners of Substance to be Mined

The property deed for the property purchase by William J and J.R. Phillips in 1997 is provided.

Patent No. 2555 by the State of Colorado indicating State Land Board ownership of minerals in the southeast quarter of Section 36 is provided.



STATE OF COLORADO

Patent No. 2555

To all unto whom these Presents shall come Greeting:

WHEREAS

John M. Phillips

of the

County of *Fremont* and State of Colorado, in accordance with the provisions of the acts of the General Assembly of the State of Colorado, approved and in force at the time of the purchase of the land herein designated and described, and at the time of the execution of this conveyance, has made full payment as appears from the records of the State Board of Land Commissioners, of and for the following described real estate, lying and situate in the County of *Fremont*

and State of Colorado, to-wit:

The Southeast quarter (SE 1/4) of Section Thirty-six (36) in Township Nineteen (19) South of Range Sixty-nine (69) West of the Sixth (6th) Principal Meridian, containing One hundred sixty (160) acres more or less according to United States Survey.

Reserving, however, to the State of Colorado all rights to any and all minerals now and hereafter discovered and all coal and peat oil and other like substances in or under said land and the right of ingress and egress for the purpose of mining, together with enough of the surface of same as may be necessary for the proper and convenient working of such minerals and substances and all easements or rights of way heretofore or hereafter lawfully obtained and now in full force and effect, as they be.

which said described tract of *School* land has been purchased by the said *John M. Phillips* for the sum of *Five hundred sixty and no/100 (560.00)* DOLLARS,

Now Know Ye, That the State of Colorado in consideration of the premises, and in conformity with the Act of the General Assembly, in such case provided, has sold and granted, and by these presents does sell and grant unto the said

John M. Phillips

and to *his* heirs and assigns, the said tract above described: TO HAVE AND TO HOLD the same as above specified, together with all the rights, privileges, immunities and appurtenances of whatsoever nature hereunto belonging, unto the said

John M. Phillips

and to

his heirs and assigns forever.

In Testimony Whereof, I, *John T. Shafroth*, Governor of the State of Colorado, have caused these letters to be made Patent, and the Great Seal of the State of Colorado to be hereunto attached.

Given under my hand at the City of Denver, the *10th* day of *January* A. D. 19*10*.

Attest:

James B. Pearce

Secretary of State of the State of Colorado.

*Certificate of Purchase No. 589-30004
Land Sold June 22, 1909*

B. L. Jefferson

Register State Board of Land Commissioners.

(Seal of State Land Board)

Filed for record this *11th* day of *January* A. D. 19*10*, at *10* o'clock A. M.

B. L. Jefferson

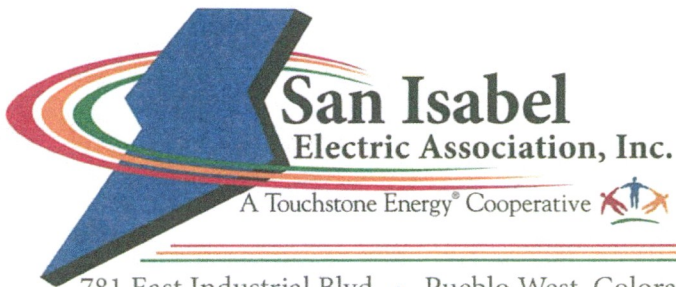
Register.

6.4.19 Exhibit S

Permanent Man-Made Structures Within 200 Feet of Affected Area

Structure	Owner	Damage Compensation Agreement Date
Ranch fences	Phillips Ranch	Covered as a component of lease renewal
Electric power distribution lines	San Isabel Electric Association	June 2, 2015

Permanent man-made structures within 200 feet of the affected area include interior ranch fences and electricity distribution lines. Damage compensation agreements are provided.



781 East Industrial Blvd. • Pueblo West, Colorado 81007 • Telephone (719) 547-2160 • www.siea.com

June 2, 2015

Pioneer Sand & Gravel

RE: Phillips Ranch Property Gravel Pit

File #M-97-097

Pit Located in Section 36, Township 19S, Range 69W, Section 1, Township 20S, Range 69W, Fremont County, Colorado

This letter is to advise you that San Isabel Electric Association, Inc. has no objection to the operation of said gravel pit under certain conditions.

1. That the operations of said pit do not interfere with the operations and maintenance of existing electrical facilities.
2. No equipment will be operated within twenty (20') feet of any electrical facility. (Horizontal or Vertical)
3. The applicant will reimburse San Isabel Electric Association, Inc. for any and all costs arising from any damages to said facilities or disruption of electrical services.
4. Enclosed is a drawing showing the area to be left undisturbed and made part of the operation.
5. San Isabel Electric Association, Inc. requests extreme caution be exercised when working around or near said facilities for the protection of property owners, contractors, and the general public.

Please Note

If you have any questions please contact this office at 719-547-2160.

SAN ISABEL ELECTRIC ASSOCIATION, INC.

By: Leslie Amidei-Bak

Manager of Engineering Services

State of Colorado
County of Fremont

The foregoing instrument was acknowledged before this 3 day of June, 2015

By Fred Sola

Notary Public Leslie Amidei-Bak

My Commission Expires 5/16/18

My Address is 781 East Industrial Blvd

81007 **S**ervice **I**ntegrity **E**xcellence **A**ccountability

Our story since 1938

LESLIE AMIDEI-BAK
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20024010596
MY COMMISSION EXPIRES MAY 16, 2018

