

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

Site Type: Rangeland

Site ID: R042XA053NM

Site Name: Gravelly Sand

Precipitation or Climate Zone: 8-10 inches

Phase: \_\_\_\_\_

**PHYSIOGRAPHIC FEATURES**

**Narrative:**

This upland site is relatively level to undulating. Inclusions of narrow swales and drainageways are commonly associated with this site. Slopes are 5 to 30 percent (0-15 % common). Elevations are from 4,500 feet above sea level to 6,000 feet.

**Land Form:**

- 1. Plain

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- 2. Swale

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- 3. Drainageway

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**Aspect:**

- 1. Not significant.

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- 2.

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- 3.

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	Minimum	Maximum
Elevation (feet)	4500	6,000
Slope (percent)	5	30
Water Table Depth (inches)	N/A	N/A

	Minimum	Maximum
Flooding: Frequency	Occasional	Occasional
Duration	Very brief	Very brief

	Minimum	Maximum
Ponding: Depth (inches)	N/A	
Frequency	N/A	
Duration	N/A	

**Runoff Class:**

N/A

## CLIMATIC FEATURES

### Narrative:

This site has an arid climate with distinct seasonal temperature variations and large annual and diurnal temperature changes characteristic of a continental climate.

Precipitation averages 8 to 10 inches annually. Deviations of 4 inches or more from the average are quite common. Fifty percent of the moisture is received from July to November, which is the dominant growing season of native plants. Summer moisture is characterized by high intensity, short duration rainstorms. Winter precipitation averages less than one half per month, usually in the form of rain. There are occasional snow storms of short duration.

Temperatures vary from a mean monthly average of 77F in July to 34F in January, with the maximum being 104F and the minimum 10F below zero. The average last killing frost in the spring is April 15, and the average first killing frost in the fall is October 28. Frost free season is an average of 185 days. Temperatures are conducive for native grass and forb growth from March through November.

Spring winds of 15 to 40 miles per hour are common from February to June. These winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface often resulting in structural damage to native plants, especially young seedlings.

	Minimum	Maximum
Frost-free period (days):	<u>140</u>	<u>165</u>
Freeze-free period (days):	<u>190</u>	<u>213</u>
Mean annual precipitation (inches):	<u>8.00</u>	<u>10.00</u>

### Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.31	0.44	34.1	36.2
February	0.31	0.46	39.3	42.0
March	0.25	0.54	46.3	48.8
April	0.33	0.52	53.3	56.5
May	0.34	0.50	62.5	64.5
June	0.46	0.70	70.6	74.3
July	1.18	2.35	75.3	78.5
August	1.64	2.47	73.0	75.9
September	1.00	1.56	66.5	68.6
October	0.89	1.25	55.5	57.4
November	0.36	0.54	43.7	45.4
December	0.44	0.57	35.1	37.2

Climate Stations:					
Station ID	NM0915	Location	Bernardo	From:	Period 1962 To 1990
	_____		_____		: _____
Station ID	NM0983	Location	Bingham	From:	Period 1961 To 1990
	_____		_____		: _____
Station ID	NM0234	Location	Albuquerque	From:	Period 1961 To 1990
	_____		_____		: _____
Station ID	NM5150	Location	Los Lunas	From:	Period 1961 To 1990
	_____		_____		: _____
					Period

**INFLUENCING WATER FEATURES**

Narrative:  
 This site is not influenced by water from wetland or stream.

Wetland description:

System	Subsystem	Class
_____	_____	_____

If Riverine Wetland System enter Rosgen Stream Type:

**REPRESENTATIVE SOIL FEATURES**

Narrative:

These moderately sloping to moderately steep gravelly soils are well drained. Surface textures are very gravelly sandy loam or loam. Substratums are calcareous gravelly and very gravelly loamy sand, loam, sandy loam, or loamy sand. Permeability is moderate (0.63 to 2.0 inches per hour) to very rapid (greater than 10 inches per hour). Moisture holding capacity is 0.03 to 0.15 inches per inch. Reaction is 7.4 to 9.0 pH. Salinity is 0 to 4 millimhos per centimeter.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed ig/sed/met

Surface Texture:

- |  |
|--|
| 1. Gravelly-sandy loam, gravelly loamy sand, gravelly-loamy coarse sand, gravelly-sand |
| 2. Gravelly-coarse loam, gravelly-fine sandy loam                                      |

Surface Texture Modifier:

- |   |
|---|
| 1. GR-SL, GRV-LS, GRV-SL, GRV-LCOS, GR-S, GRV-FSL |
| 2.  |

Subsurface Texture Group: N/A

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (% Volume): N/A

Subsurface Fragments >=3" (% Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Excessively
Permeability Class:	Moderately rapid	Very rapid
Depth (inches):	>72	>72
Electrical Conductivity (mmhos/cm):	0	8.00
Sodium Absorption Ratio:	0	5.00
Soil Reaction (1:1 Water):	7.4	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	1	4
Calcium Carbonate Equivalent (percent):	N/A	N/A

## **PLANT COMMUNITIES**

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

**Plant Community Narrative:**

The aspect and biomass of vegetation on this site is dominantly grassland characterized by short and mid grasses. Perennial shrubs, half shrubs, and forbs are present in appreciable amounts. Annual forbs and grasses occur in relatively large amounts in years of above average growing conditions. When the plant community deteriorates, there is a marked increase in shrubs, half shrubs, and cacti. Mesquite often invades this site.

A micro-site within this site may have creosotebush as 10 percent of the total composition.

**Ground Cover (Average Percent of Surface Area).**

Grasses & Forbs – plant density	15
Trees and Shrubs - canopy	5
Bare ground	65
Surface gravel	10
Surface cobble and stone	1
Litter (percent)	5
Litter (average depth in cm.)	1

**Plant Community Annual Production (by plant type):**

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	225	337	450
Forb	30	45	60
Tree/Shrub/Vine	45	68	90
Lichen			
Moss			
Microbiotic Crusts			
Totals	300	450	600

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOER4	Black grama	135	180
2	MUPO2	Bush muhly	45	68
3	BOGR2	Blue grama	23	45
4	HENE5	New Mexico feathergrass	68	90
	HECO26	Neddle and thread		
5	ELEL5	Bottlebrush squirreltail	23	45
6	BOCU	Sideoats grama	23	45
7	PLJA	Galleta	45	68
8	ARIST	Three Awn spp.	9	36
9	TRAL2	Hairy tridens (White)	23	45
10	TRMUE	Rough tridens (Slim)	23	45
11	SPCR	Sand dropseed	9	36
12	BOSA	Silver bluestem	23	45
13	ACHY	Indian ricegrass	23	45

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	LYPA	Wolfberry (Pale)	9	23
	BAPT	Yerba de pasmo		
15	GUSA4	Broom snakeweed	9	23
16	KRLA2	Wintefat	14	36
17	KRER	Range ratany	9	23
18	OPIM	Cholla	5	14
	OPPO	Plains pricklypear		

Plant Type – Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
19	AMSIN	Fiddleneck	0	9
20	MEMU3	Stickleaf	0	9
21	SENEC	Groundsel spp.	0	9
22	ERIOG	Buckwheat spp.	0	14
23	KOSC	Kochia	0	9
24	OXLA3	Locoweed	0	14
25	SODI	White horsenettle	0	9
26	ERIGE2	Fleabane	5	14

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site would include: Fluffgrass, Ring muhly, Sixweeks grama

Other woody plants include: Creosote bush

Other forbs include: Desert senna, Globemallow, Prickly poppy, Yerba-de-pasma

Plant Growth Curves

Growth Curve ID NM-2221

Growth Curve Name: HCPC

Growth Curve Description: SD-1 Gravelly Sand HCPC Warm Season Plant Community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		3	5	10	10	25	30	12	5		

Plant Growth Curves

Growth Curve ID NM-2222

Growth Curve Name: HCPC

Growth Curve Description: SD-1 HCPC Gravelly Sand Cool Season Plant Community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		15	20	20	2	5	10	15	13		

## ECOLOGICAL SITE INTERPRETATIONS

### Animal Community:

This site provides habitats which support a resident animal community that is characterized by coyote, black tailed jack rabbit, desert cottontail, Merriam's kangaroo rat, southern plains woodrat, scaled quail, house finch, loggerhead shrike, prairie rattlesnake, glossy snake, and little striped whiptail.

### Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

#### Hydrologic Interpretations

Soil Series	Hydrologic Group
Nickel gravelly fine sandy loam	B
Kokan gravelly sand	A
Scholle gravelly loam	B
Caliza very gravelly sandy loam	A

### Recreational Uses:

This site has limited potential for recreational use.

### Wood Products:

This site has no potential for wood products.

### Other Products:

This site is well suited for year long grazing use by cattle, sheep, horses, antelope, and burros.

### Other Information:

#### Guide to Suggested Initial Stocking Rate Acres per Animal Unit Year

Similarity Index	Ac/AUY
100 - 76	64 – 100
75 – 51	80 – 160
50 – 26	106 – 213
25 – 0	106 - 320

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Black grama	<i>Bouteloua eriopoda</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Bush muhly	<i>Muhlenbergia porteri</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue grama	<i>Bouteloua gracilis</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sideoats grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Indian ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico feathergrass	<i>Hesperostipa neomexicana</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Needle&Thread	<i>Hesperostipa comata</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bottlebrush squirreltail	<i>Elymus elymoides</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Hairy tridens (White)	<i>Tridens albescens</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Silver bluestem	<i>Bothriochloa saccharoides</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sand dropseed	<i>Sporobolus cryptandrus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Three Awn spp	<i>Aristida spp.</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Fluffgrass	<i>Dasyochloa pulchella</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Sixweeks grama	<i>Bouteloua barbata</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Ring muhly	<i>Muhlenbergia torreyi</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U

**SUPPORTING INFORMATION**

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

Inventory Data References (narrative):

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Inventory Data References:

Data Source	# of Records	Sample Period	State	County

State Correlation:

This site has been correlated with the following sites: \_\_\_\_\_

Type Locality:

Type Locality:

General Legal Description:

State:	Latitude:	Longitude:
County:	Section:	Township: Range:

Narrative Location Description:

Relationship to Other Established Classifications:
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Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Valencia, Socorro and Bernalillo.

Characteristic Soils Are:

Caliza very gravelly sandy loam	Nickel gravelly fine sandy loam
Scholle gravelly loam	Kokan gravelly sand

Other Soils included are:

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Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/12/1979	Don Sylvester	07/12/1979

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Santiago Misquez	04/12/02	George Chavez	02/14/03