

Determination of Public Land (Rangeland) Health for 65038 NORTH RANCH SEC. 3

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these Standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the Public Lands within the North Ranch Sec 3 Allotment #65038 meet the Upland Sites Standard and (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard. There are no Public Land riparian areas on this allotment, therefore this Standard will not be addressed.

/s/ T. R. KREAGER

Assistant Field Manager

09/29/2003

Date

Standards of Public Land Health

Evaluation of 65038 NORTH RANCH SEC. 3

Allotment

[09/02/2003]

The Roswell Field Office conducted rangeland health assessments at one study site within the NORTH RANCH SEC. 3 Allotment #65038. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65038-BIG- D091-SEC 3 (*)	X			X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the North Ranch Sec. 3 allotment 65038; 10 of these assessed soil/site stability, 11 assessed hydrologic functions and 13 assessed biotic integrity. These qualitative assessments along with quantitative information from long-term monitoring studies on 1 study area were utilized to assess the rangeland health of the public land within the allotment. These quantitative evaluations were performed by the Roswell Field office staff starting in the early 1980's. These included ground and vegetative cover and composition, production, frequency, and ecological condition as calculated from these collections which have been scheduled approximately every 5 years.

Drought has had an impact on this allotment over the last few years with less than average precipitation occurring. Assessment of the indicators for rangeland health were performed on Big Pasture, a SD-3 Shallow/Sandy ecological site, which corresponds to the study/trend plot location in section 25. The soil phase is Sotim-Simona, moderately undulating, fine sandy. Total acres for the assessment area is 400 or approximately 190 hectares. Pedestals and terracettes rated Moderate as there were some occasional terracettes present on threeawn (*Aristida* spp.) and black grama (*Bouteloua eriopoda*) plants. Bareground rated at Moderate as the present estimation of 30% slightly exceeded the ESD percentage of 25%. This also slightly exceeds the reading from 2001 at 17%. Litter movement was created primarily by water flow, as litter had accumulated in depressions and against obstructions. Functional/structural groups rate at Moderate as some of the F/S groups have been moderately reduced. Black grama and blue grama (*Bouteloua gracilis*) have been modified somewhat in favor of threeawn and burrograss

(*Scleropogon brevifolius*). Bush Muhly (*Muhlenbergia porteri*) is still growing within shrubs but not as abundant. Litter amount falls within the expected range for the ESD and rates Slight to Moderate. Annual production is only at half of the ESD average and slightly lower than the percentage for the 2001 collection. This is expected with the prevailing dry conditions. This indicator rated Moderate for this biotic attribute. There has been some conservative use by livestock in this pasture, but the major factor in this site's lower production is below average precipitation. Invasive plants rated Moderate to Extreme as mesquite (*Prosopis glandulosa*) is fairly common throughout. There is some evidence of physical crusting especially in the flow paths and depressional areas, with some continuity. A rating of Slight to Moderate was assigned to this indicator.

The pasture has rated moderate for bareground. The drought, water, and wind erosion conditions that has possibly increased the amount of bareground. The drought and the affects of water and wind erosion has possibly had a negative affect on the amount of litter present and movement. Litter is loosely concentrated near and around obstructions and has been displaced. Sand and gravel, clay, and silt that occur in the area are from Quaternary pediment deposits. Sandstone and conglomerate that occur in the area are from the Santa Rosa Formation.

It is the professional opinion of the Assessment Team that the public land within the North Ranch Sec. 3 allotment meets the Upland and Biotic Standards. See recommendations for additional information regarding this ecological site.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: It is strongly recommended that this site be put into a more rigorous monitoring schedule to enable future evaluations to be more reliable. Long-term datum is very vital in performing assessments, since they offer more than just a one-time look at a particular site. The presence of brush invasion can better be analyzed so actions can be taken to curtail this and other foreseeable problems. Further evaluation of this site is warranted, due to it's high potential for productivity and sustainability.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65038-BIG-D091-SEC 3			
Legal Land Desc	NWSE 25 0080S 0260E Meridian 23	Acreage	400
Ecosite	042CY002NM SHALLOW SAND SD-3	Photo Taken	Y
Watershed	13060003220 FILLMORE		
Observers	SPAIN/NAVARRO	Observation Date	09/23/2003
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	SNB	Soil Taxon Name	SOTIM
Texture Class	NM644 FSL	Soil Phase	SOTIM- SIMONA
Texture Modifier	NM644 FINE SANDY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	11.8	NOAA Growing Season Precipitation	7.46
NOAA Avg Annual Precipitation	11.89	NOAA Avg Growing Season Precipitation	9.54
Disturbances and Animal Use:			

Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments: Occasional terracettes.						
S H	Bare Ground			X		
Comments: Bareground at present is slightly above the expected range for the ESD.						

S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement			X		
Comments:	In flow paths, depressions and against obstructions.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Only minor.					
S H B	Compaction Layer					X
Comments:	Oil and gas pad nearby, but not affecting the site.					
B	Functional/Structural Groups				X	
Comments:	Number of species groups slightly modified. Javelinabush (<i>Condalia</i> spp.) is found on the slopes as well as creosotebush (<i>Larrea tridentata</i>).					
B	Plant Mortality/Decadence				X	
Comments:	Approximately 20% is dead and/or decadent.					
H B	Litter Amount				X	
Comments:	Falls within the range expected for the ESD.					
B	Annual Production			X		
Comments:	1/2 of the average for the ESD. Presently only about 300-400 lbs/ac or kg/ha is on site.					
B	Invasive Plants		X			
Comments:	Mesquite (<i>Prosopis glandulosa</i>) common.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Drought influences with some livestock use.					
S	Physical/Chemical/Biological Crusts				X	

Comments:	Some physical crusts evident.					
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	5	4
H	Hydrologic	0	0	2	6	3
B	Biotic	0	1	1	8	3

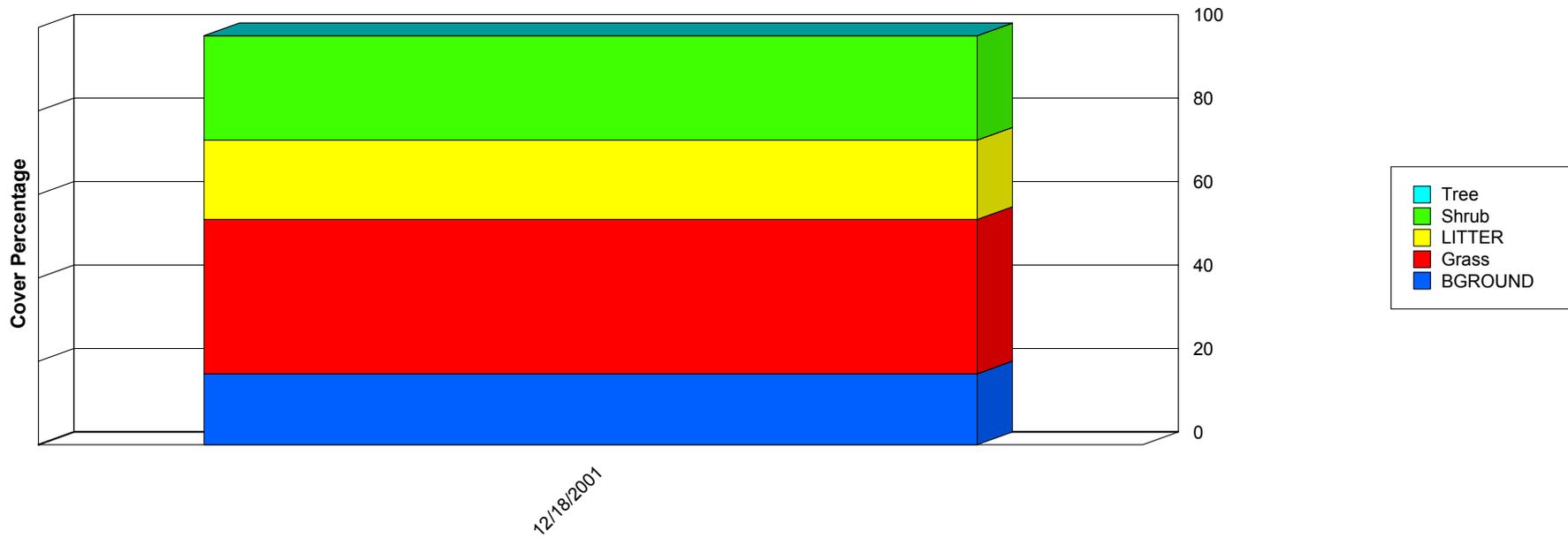
B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	2	9

Biotic	Biotic attribute; Invasive plants indicator, mesquite (<i>Prosopis glandulosa</i>) is common. Snakeweed (<i>Gutierrezia sarothrae</i>) is also abundant. This is the only biotic attribute of concern.	1	1	11
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Site Notes: The site is a shallow sandy ecological site. The dry conditions have had an obvious impact on this area. It appears there is some gravelly influence. The Sotim-Simona soil series in moderately undulating, with plenty of javelinabush (*Condalia* spp.) present along with mesquite (*Prosopis glandulosa*). This association has fairly rapid runoff. There have been only 2 years of data collection on this site. 1977 and 2001. Most of the indicators were rated using the ESD, but reference was made to the Siol Survey and ESD, for a more fair assessment

Ground Cover Trends



	12/18/2001
BGROUND	17.00
Grass	37.00
LITTER	19.00
Shrub	25.00
Tree	0.00
Total	98.00

Report Parameters

SITE NAME LIKE 65038-BIG-D091-SEC 3
 ON/AFTER 10/01/1977
 ON/BEFORE 09/30/2002

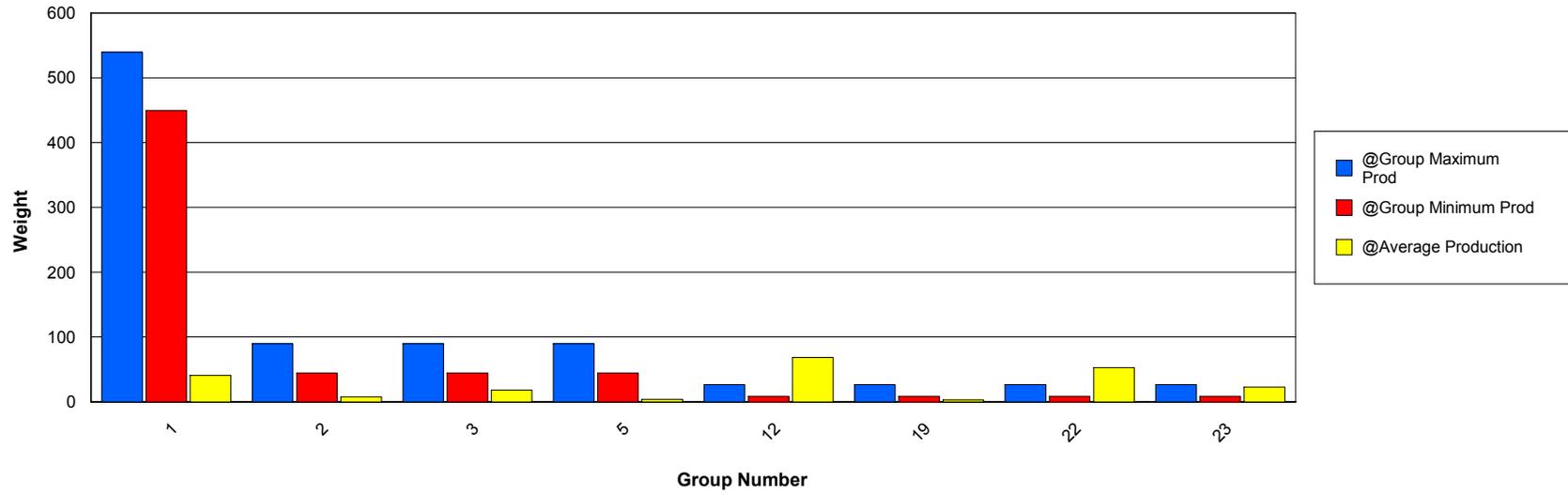
Functional / Structural Groups

Report Parameters

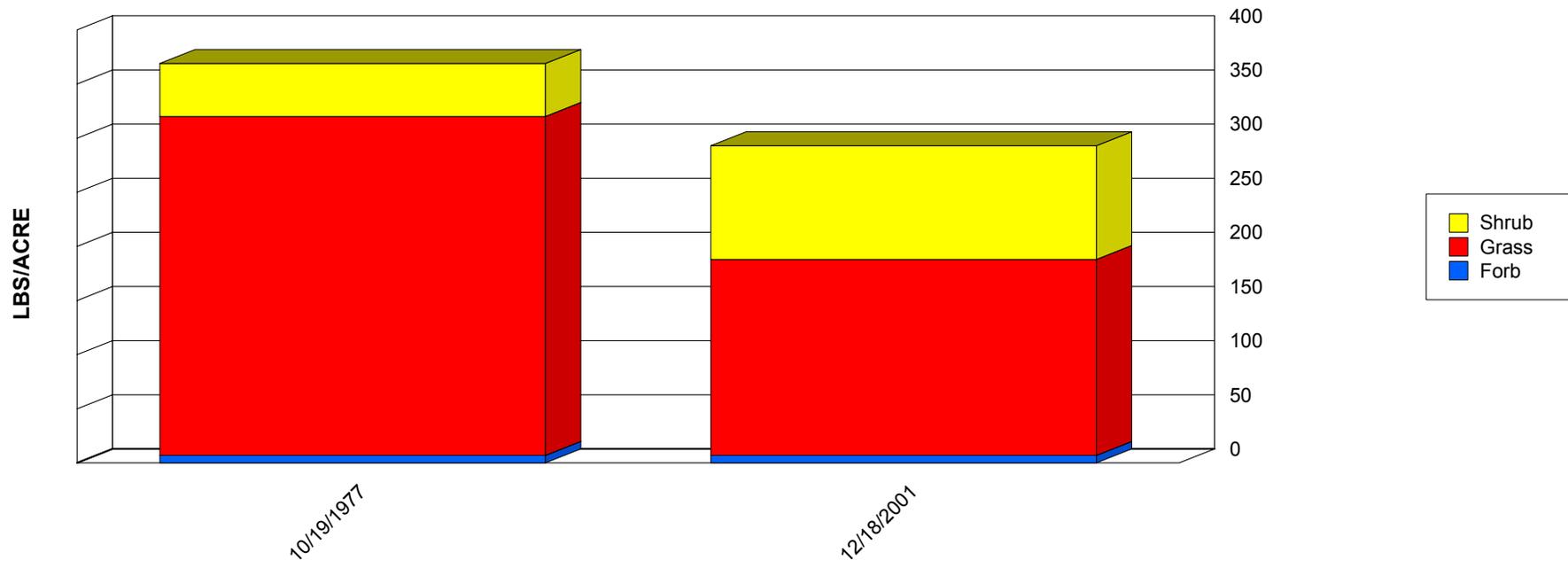
SITE NAME LIKE 65038-BIG-D091-SEC 3
 ON/AFTER 10/01/1977
 ON/BEFORE 09/30/2002
 MIN LBS TO GRAPH 1
 SELECTED ECOSITE 042CY002NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	450	540	3.00	79.00	41.00	38.00
2	Grass	MUPO2	45	90	0.00	16.00	8.00	8.00
3	Grass	BOGR2	45	90	6.00	31.00	18.50	12.50
5	Grass	ARIST	45	90	0.00	9.00	4.50	4.50
12	Grass	HIMU2	9	27	20.00	67.00	43.50	23.50
12	Grass	MUAR	9	27	0.00	2.00	1.00	1.00
12	Grass	MUTO2	9	27	0.00	2.00	1.00	1.00
12	Grass	SPORO	9	27	0.00	47.00	23.50	23.50
19	Forb	LESQU	9	27	0.00	5.00	2.50	2.50
19	Forb	PPFF	9	27	0.00	2.00	1.00	1.00
22	Shrub	GUSA2	9	27	47.00	59.00	53.00	6.00
23	Shrub	PRGL2	9	27	0.00	46.00	23.00	23.00

Group Plant Type Species Low Wt Allowed High Wt Allowed Minimum Maximum Average STDEV



Production Lbs/Acre Trends



	10/19/1977	12/18/2001
Forb	7.00	7.00
Grass	313.00	181.00
Shrub	49.00	105.00
Total	369.00	293.00

Report Parameters

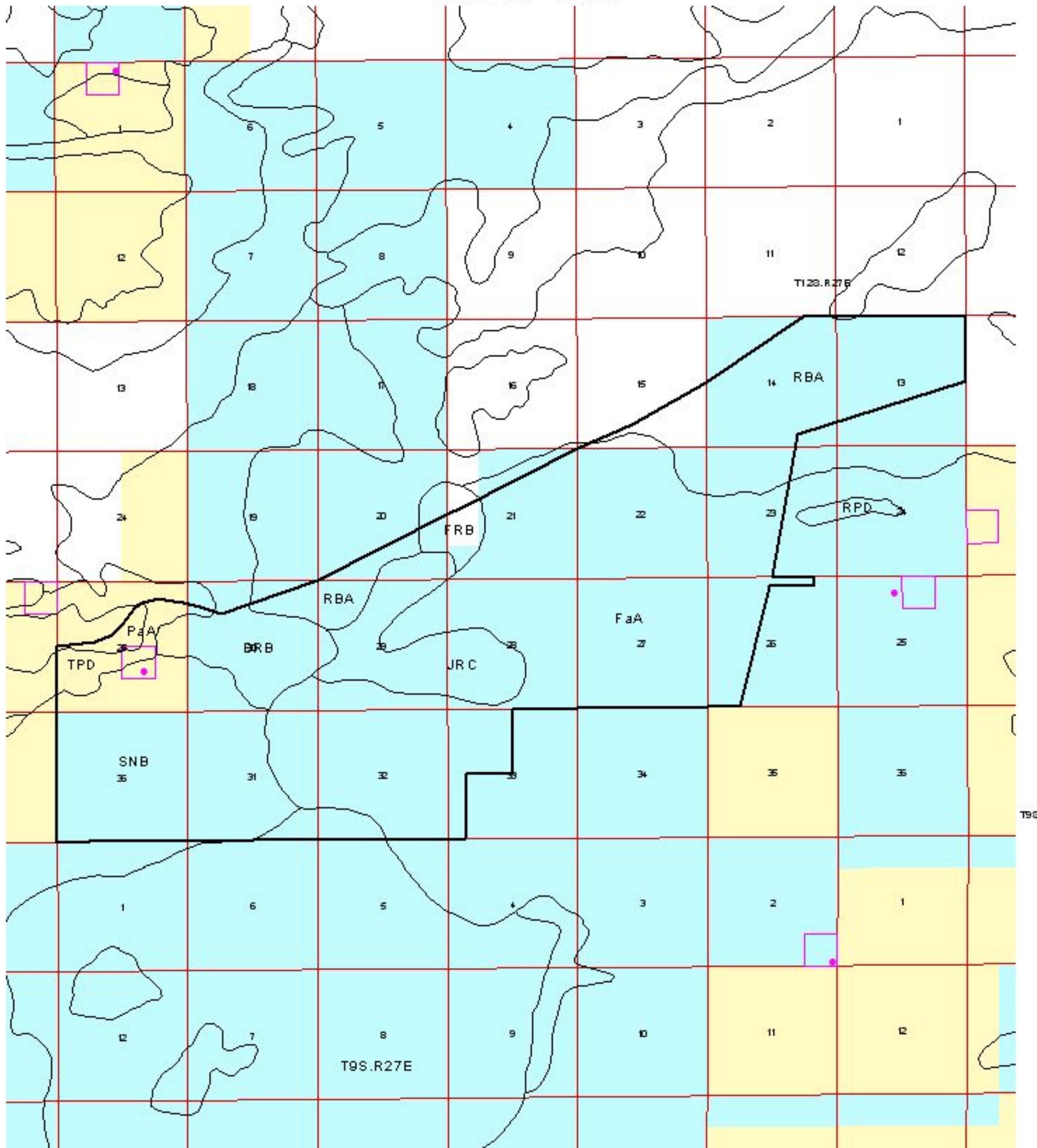
SITE NAME LIKE 65038-BIG-D091-SEC 3
 ON/AFTER 10/01/1977
 ON/BEFORE 09/30/2002



Rangeland Health Assessment

Soil Mapping Units

Allotment - 65038



0.5 0 0.5 1 Miles

Study Plots
 40 Acres

● Study Locations

State

Private

Public

Allotment Boundary

Soil Mapping Units

Produced by the Roswell Field Office
GIS Specialist on July 1, 2003.

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