

~~JACKSON DISTRICT~~

I. Allotment Information

A. Leadville (0141)	Permittee:	Doane Western Co.
	Category (M)	Priority (8)

B. Allotment Description

The allotment is approximately 19 miles long in a north to south direction and 8 miles wide in a west to east direction. The typical physiographic features of the allotment are the high elevation north-south trending mountain ranges, the numerous buttes and mesas with rim rock bluffs and steep rocky canyons to gentle rolling terrain and the valley floors.

Vegetation types in this allotment include those from the saltbush big sagebrush-mixed shrub-grass types (elevation 5,800') to the low sagebrush-bluegrass (elevation 7,800').

Land Status

Public Acres	Other Acres
54,572	1,989

C. Livestock Use

1. Total Preference 4,570 AUMs
Active Preference 2,567 AUMs
Suspended Preference 2,003 AUMs

2. Season-of-Use 04/01-10/31

3. Kind and Class of Livestock: Cattle, cow/calf

4. Appropriate Management Levels for Horses

5. Set by MFP Decision 1982 is 248 horses and 2976 AUM's.

6. Grazing System

The grazing system in the Leadville Allotment is a Deferred Rest Rotation under a four (4) pasture rotation. This grazing system was finalized May 28, 1969.

The Leadville Allotment contains 54,760 acres of Federal Range and is divided into four (4) pastures which are designated as follows:

#1 - Smokey Field 16,515 acres

#2 - Lower Field	14,100 acres
#3 - Leadville Field	13,362 acres
#4 - Swingle Place Field	10,783 acres

Grazing treatment allows for season long use in one pasture, complete rest in one pasture and deferred use until June 15 and August 1 on the remaining two pastures. Under the deferred rest rotation system the season long use pasture receives more use than the other grazed pastures.

Grazing Treatment - Leadville

A	: : Graze :	: : :
B	: Rest grass until : seed ripe : Graze : June 15-July 1 :	: : : : :
C	: : Rest :	: : :
D	: Rest Bitterbrush : until seed ripe : Graze : August 1 :	: : : : :
April 15		December 1

Treatment A - is graze from April 15 to December 1.

Treatment B - is rest until peak flowering bluebunch wheatgrass
- approximately June 15-July 1.

Treatment C - is complete rest.

Treatment D - is graze from August 1 to December 1 (After
Bitterbrush seed ripe)

Available records indicate the grazing system has been followed during the period 1979-1987 and stocking levels have been near full active preference. During the years 1983, 1984, 1985, the allotment was rested from livestock use.

Pastures and Sequence of Use (1979-1987)

Year	Smokey	Pastures Lower	Leadville	Swingle
* 1987	4/1-10/31	Rest	7/10-10/31	6/10-10/31
* 1986	Rest	4/01-10/31	6/10-10/31	7/10-10/31
1985	Non use			
1984	Non use			
1983	Non use			
1982	8/1-10/31	4/01-10/31	6/15-10/31	Rest
1981	Rest	8/01-10/31	4/01-10/31	6/01-10/31
1980	6/1-10/31	Rest	8/01-10/31	4/01-10/31
1979	4/1-10/31	6/15-10/31	Rest	8/01-10/31

* During 1986 and 1987 the period-of-use deviated from previous use with a 6/10 and 7/10 turnout rather than 6/15 and 8/1.

Licensed Use		Leadville Allotment
Year	Active Preference	
1987	1043 AUMs	
1986	2450 AUMs	
1985	2569 AUMs	
1984	2569 AUMs	Nonuse
1983	2569 AUMs	Nonuse
1982	2569 AUMs	Nonuse
1981	2569 AUMs	
1980	2567 AUMs	

Other

The Middle Fork fire occurred in 1985. As a result of this fire, during 1986, cattle numbers were reduced to 75 head in the Leadville pasture. The period-of-use in Leadville pasture did not deviate from the grazing system and was 6/10-10/31. During 1987 the stocking level was reduced over the allotment. From 04/01-06/18, 225 cattle grazed the Smoky pasture. For the period 6/10-10/31, cattle numbers were reduced to 104 on the allotment and grazed the Smoky, Leadville and Swingle Fields.

D. Allotment Objectives

1. Short Term

- a. Utilization of key plant species in 424 acres of wetland riparian habitat shall not exceed 50%. (WL-1.10)

- b. Total utilization shall not exceed the allowable use for the following wildlife key forage and cover species.
(WL-1.7 & WL-1.9)

Quaking aspen (POTR5)	40%
Serviceberry (AMAL)	40%
Snowberry (SYMPH)	40%

Mtn. Mahogany (CELE3)	50%
Salix (SALIX)	30%
Antelope bitterbrush (PTUR2)	50%
Cinquefoil (POTEN)	20%
Sandberg bluegrass (POSA12)	30% (winter and spring)

c. Maintain an acceptable allowable use level on key forage species as listed in the following table.

LEADVILLE

<u>PLANT</u>			
<u>CODE</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>ALLOWABLE USE</u>
STTH2	Stipa thurberiana	Thurber needlegrass	40%
SIHY	Sitanion hystrix	Bottlebrush squirreltail	40%
POA	Poa spp.	Bluegrass	50%
AGSP	Agropyron spicatum	Bluebunch wheatgrass	50%
FEID	Festuca idahoensis	Idaho fescue	40%
ELCI2	Elymus cinereus	Great Basin wildrye	50%
ORHY	Oryzopsis hymenoides	Indian ricegrass	50%
GRSP	Grayia spinosa	Spiny hopsage	20%
PUTR2	Purshia tridentata	Bitterbrush	50%
CELE3	Cercocarpus ledifolius	Curleaf mountain mahogany	50%
SYMPH	Symphoricarpos spp.	Snowberry	40%

AKSF	Atemisisa spinescens	Bud sage	30%
POTR5	Populus tremuloides	Quaking aspen	40%
AMELA	Amelaunchier	Serviceberry	40%
SALIX	Salix	Willow	30%
POTEN	Potentilla	Cinquefoil	20%
POSAL2	Poa Secunda	Sandberg bluegrass	30%

winter/spring

* This is a list of probable key forage species for livestock in the Leadville Allotment.

2/ Key forage species whose use serves as an indicator to the degree of use of associated species; or those species which must, because of their importance, be considered in a management program.

2. Long Term

a. Improve or maintain the condition of 424 acres of wetland riparian habitat from early seral to late seral or higher.
(WL-1.10)

b. Protect sage grouse strutting grounds and nesting habitat and improve brooding habitat by:

1) Following NDOW's guidelines for Vegetal Control Programs in Sage Grouse Habitat in Nevada.

- 2) Maintain sagebrush canopy at 30% in sage grouse nesting areas where sagebrush does not exceed three (3) feet in height.
- c. Maintain or improve 72 acres of mtn. mahogany thicket and 70 acres of aspen woodland to late seral status or equivalent.
(WL-1.9)
 - d. Manage, maintain and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 179 AUMs for mule deer, 67 AUMs for pronghorn and 176 AUMs for bighorn sheep by:
 - 1) Maintaining 21,391 acres of mule deer habitat in Hog Ranch Mtn. DS-6 and E. Granites DW-6 in good condition.
 - 2) Improving 898 acres of pronghorn habitat in Swingle AW-6 from fair to good condition.
 - 3) Improving Leadville allotment portions of potential bighorn habitat in Division Peak BY-5 and Buffalo/Granites BY-2 from 70% and 65% respectively to 90% of optimum.
 - e. Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with an initial stocking level of 2567 AUMs.

- f. Manage, maintain and improve public rangeland conditions to provide an initial level of 2976 AUMs of forage on a sustained yield basis for 248 (AMLs) 1/ wild horses in the Calico Mountains Herd Use Area.
- g. Maintain and improve the free-roaming behavior of wild horses and burros by protecting and enhancing their home ranges.
- h. Maintain/improve wild horse/burro habitat by assuring free access to water.

E. Monitoring and Inventory Data

1. Climatological Data

Four weather stations are available for data; Leonard Creek, Dufurrena Ponds, Dry Canyon RAWS Station and Denio.

Leonard Creek station is located approximately 15 miles northeast of Soldier Meadows Ranch. Dufurrena Ponds is located approximately 30 miles west of Denio on Sheldon Antelope range.

The Remote Automated Weather Systems (RAWS) meteorological station (Dry Canyon) is approximately nine miles north of

Soldier Meadows Ranch on the west side of the Black Rock Range
at an elevation of 4,900'.

The following table depicts moisture received of Leonard Creek
Station for the period 1977-1987.

Leonard Creek Station

<u>Year</u>	<u>Precipitation in Inches</u>		<u>Departure From Normal*</u>	
	<u>Growing Season</u>	<u>Annual Total</u>	<u>Growing Season</u>	<u>Annual</u>
1977	4.33	8.23	+ .09	-1.99
1978	4.81	10.20	+ .57	- .02
1979	5.84	12.26	+1.60	+2.04
1980	3.45	8.55	- .79	-1.67
1981	4.29	11.43	+ .05	+1.21
1982	2.38	8.87	-1.86	-1.35
1983	6.94	17.74	+2.70	+7.52
1984	3.00	8.50	-1.24	-1.72
1985	2.48	6.82	-1.76	-3.40
1986	4.85	9.60	+ .61	- .62
1987				

* - Normal = 10 year average = 10.22" Annual

= 4.24" Growing Season

The following chart depicts moisture received at Dry Creek (RAWS) station since July 1986 when it was established and compares readings with those of Denio, Nevada.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1986 (RAWS)								.0	.7	-	.1	.3	1.2
1986 (Denio)				2.05	1.68	.69	.00	.08	.24				
1987 (RAWS)	.9	.6	.7	1.3	2.7	1.1	.1	.0	.4	.3	.3	.3	8.7
1987 (Denio)			1.17	1.05		2.61	.61	T					

The following chart depicts moisture received at Dufurrena Ponds for the period 1977-1985.

Dufurrena Ponds

Year	Precipitation in Inches
1977	7.35
1978	10.33
1979	11.10
1980	8.18
1981	7.19
1982	4.13
1983	11.18
1984	10.77
1985	3.53
1986	8.56
1987	no data

The 10 year average = 8.23" Annual

F. 1. Actual Use

Actual use data has not been collected in Leadville Allotment.

2. Utilization

3. Use Pattern Mapping

Use Patter Mapping (UPM) conducted in 1985 indicated no use to slight use over the allotment. The allotment was rested from livestock use in 1985. Use was heavy at two spring sites in Swingle Place Field. Butte Spring Hills received moderate use.

UPM conducted in 1986 indicated utilization ranging from light to heavy over the allotment. Lower Field received heavy use over the pasture and received season long use. Utilization in Swingle Field varied from moderate to heavy use and was grazed 7/1-10/31. In Leadville Field use was light to heavy and was grazed 6/10-10/31. Smoky Field was rested and was not mapped. The allotment was stock with 350 cattle during 1986.

UPM data for 1987 indicates utilization to be moderate in the Lower Field and moderate to heavy in Swingle Filed. The Lower Field was rested from livestock use in 1987. Swingle Field was grazed for the period 6/10-10/31. Utilization in Smoky Field

was generally light with moderate and heavy use occurring in the Little Smoky Creek drainage. Smoky Field was grazed season long (4/1-10/31). Utilization in Leadville Field varied from light to heavy with the moderate and heavy use occurring near the developed spring sources and along Leadville drainage. Leadville field was grazed 7/1-10/31.

During 1987 the base cattle herd was reduced from full active preference of 367 cattle to 225 for the period 4/1-6/18. On 6/19 the herd size was again reduced to 104 cattle for the period 6/19-10/31.

B. Key Forage Plant Method

Utilization data has been collected at key areas in the allotment in accordance with Key Forage Plant Method (KFPM) procedure.

1987

"KFPM" data indicates utilization to be moderate and heavy at key area locations. There is one key area in the Lower Leadville and Swingle Fields and moderate use was found at each. In Smoky field at four key areas, use was heavy at one, moderate at two and light at one.

1986

KFPM data was collected at one key area in each of the Leadville, Swingle Place and Lower pastures. Data indicates moderate use occurred at each site in all three pastures. Data was not collected on the rested Smoky Field.

1985

KFPM data indicates slight use occurred in the Smoky and Lower field. No use was recorded in Leadville Field and moderate use occurred in Swingle Place Field.

4. Trend

Trend has been established at eight (8) study sites in the allotment. Four trend study sites have been established in the Smokey Pasture, and one trend study has been established in each of the other three (3) pastures. Trend study data was collected in 1971, 1972, 1977, 1980, 1982. Years vary by site, usually three (3) years. Quadrat frequency and Photo Plot data have been collected at each site.

Trend Index Photo Plot data in Smokey Pasture indicates no change, decreasing trend and improving trend at the four sites. The litter component was constant or improving at each site and

cover was erratic. Quadrat frequency data was erratic at two sites and static to improving at one site and static to decreasing at plot 4.

The trend data in Lower Field as indicated by trend index shows erratic change over three (3) years. The cover and litter components are improving. Quadrat frequency here indicates an improving trend.

Trend data in Leadville Field indicates the trend index to be erratic, but improving and the Quadrat frequency data is erratic. The cover component is down while the litter is constant or slightly improving.

The Swingle Field trend as indicated by trend index is decreasing. The cover component is improving while litter is constant or slightly decreasing. Quadrat frequency data is erratic.

5. Ecological Site Inventory

Ecological site data has not been collected on the Leadville allotment.

6. Stream Survey

Stream survey data has not been collected on the Leadville allotment.

7. Habitat Inventory (attached)

8. Water Quality

Water quality data is not available for the Leadville allotment.

E. Monitoring and Inventory Data Analysis

1. Habitat Inventory and Evaluation

a. Inventory

- 1) A big game habitat inventory was completed during 1987. The data were used to establish the long term objectives for California bighorn sheep, mule deer and pronghorn. Long term trend data are gathered in conjunction with the standard rangeland frequency information.

A portion of the Middle Fork Fire of 1985 is in the Leadville Allotment which is being monitored as to its impacts on big game habitat as well as use, and small mammal diversity and abundance.

- 2) To date 1 sage grouse strutting ground and 1 brooding area have been identified. These are located in the following pastures:

Lower Pasture 1 strutting ground

Leadville Pasture 1 brooding area.

- 3) Crucial habitats

Wetland Riparian 424 acres

Aspen Woodlands 70 acres

Mtn. Mahogany Thickets 72 acres

b. Evaluation

- 1) Upland forage utilization in the allotment is within the proper use levels wetland riparian, however, are receiving utilization in excess of 50%.
- 2) No data are available to quantify the impacts of management actions on the strutting ground, brooding area, and nesting habitat. Use pattern mapping, however, indicates nesting habitat has not declined. Brooding areas are usually tied to wetland riparian.

Use pattern mapping indicates the key plant species utilization objective is being exceeded in the allotment. We can assume, therefore, brood areas may be in a stable to downward trend.

- 3) Baseline data collected during the establishment of the monitoring indicates the aspen woodland and mtn. mahogany thickets are stable at this time in a good condition for mule deer.
- 4) One year's trapping data are insufficient to determine small mammal trend response to fire. Preliminary data collection does show a higher diversity of species in the unburned sites.

9. Past Inventories

Range Condition class as cited from the Sonoma-Gerlach EIS for Leadville Allotment is as follows:

Total Acres	<u>Range Condition Uses</u>					
	Acres	<u>Good</u> %	Acres	<u>Fair</u> %	Acres	<u>Poor</u> %
54,572	21,829	40%	22,920	42%	9,823	18%

Estimated trend direction as indicated from the EIS is:

Trend Direction

Total Acres	Upward Acres	Stable Acres	Downward Acres
54,572	---	---	54,572

Trend Plots (Data cited from Sonoma-Gerlach URA)

Seven trend photo plots were established within the allotment in 1971 and 1972. A trend photo plot, a 100-foot line-intercept base line and Tueller's frequency sampling method were used for data collection at the seven different locations. The following is a summarization of the data collected in 1977:

Trend - downward

Vigor - low

Condition - fair

Composition - generally decreasing

Erosion - moderate

10. Wild horse and Burro

Baseline Wild horse and Burro data has not been collected.

F. Management Actions

1. Wild Horse and Burros

Population Data

	Census 7/83	Est 7/84	Est 7/85	Est 7/86	Census 6/86	Est 1/87 after gather	Est 7/87	Est 7/88
Calico Mountain	279	310	344	382	449	329	365	405

Population estimates based on a 11% yearly increase.

2. Removal Data

July/August, 1986 120

3. If funding allows, horses will be removed to management level (AML) in Nov/Dec 1988. 492 head is scheduled for removal, but this includes the Soldier Meadows, Calico and Buffalo Hills Allotments.

4. Change in Wildlife Population

The Nevada Department of Wildlife (NDOW) does not provide wildlife population data by allotment. However, overall population trends in the management units involved appear to be up. Based on density data provided by NDOW we have the following AUM demand in the Leadville allotment.

California bighorn sheep: 0 AUMs
Mule Deer: 246 AUMs
Pronghorn: 100 AUMs

Note: The methodology used in calculating reasonable numbers versus existing numbers and the reclamation of use area boundaries does not allow for a determination of significance of change in forage demand at this time.

II. Management Evaluation

A. Short term objectives

1. Utilization of key plant species in 424 acres of wetland riparian habitat shall not exceed 50%. (WL-1.10)

The purpose of this objective is to help determine if progress is being made toward achieving long term objective 2b(1).

Use pattern mapping indicates this objective is not being met on any of the wetland riparian grazing system the meadows and upland sites should receive 2 years rest. This may be adequate to maintain or improve meadow condition except for other ungulate use. During the periods of livestock rest wild horse and wild ungulate use is still present. Wild horses, however, do not usually over-utilize wet meadows to the extent livestock do. Late summer high utilization should be a benefit to sage grouse.

- b. Total utilization shall not exceed the allowable use for the following wildlife key forage and cover species. (WL-1.7 & WL-1.9)

Quaking aspen (POTR5)	40%
Serviceberry (AMAL)	40%
Snowberry (SYMPH)	40%
Mtn. Mahogany (CELE3)	50%
Salix (SALIX)	30%
Antelope bitterbrush (PTUR2)	50%
Cinquefoil (POTEN)	20%
Sandberg bluegrass (POSA12)	30% (winter and spring)

The purpose of this objective is to help determine if long term objectives 2b(3) and 2b(4).

Use pattern mapping indicates this objective is not being met especially on the Middle Fork Fire. The emergence of succulent, green forage on a recovering burn are an attractant to grazing animals. Because the fire has been closed to grazing wild horses and wild ungulates have heavily utilized the burn.

3. Maintain an acceptable allowable use level on key forage species 2/ that will provide a sustained yield.

Utilization and UPM data indicates AULs are being exceeded in some areas. Riparian areas and areas near waters are being used above AULs. Based on UPM data collected in 1986-1987 utilization in some upland locations is heavy (61-100%). Heavy use was found in the season long grazed pasture. During 1986 and 1987 heavy use also occurred in the deferred pastures.

4. Improve range/ecological condition 1/ from poor to fair on 9,823 acres and from fair to good on 22,920 acres and good to excellent on 21,829 acres.

The range/ecological conditions in this document are forage condition that will be replaced with ecological status condition as information becomes available. The objective will be redefined/quantified to obtain a particular ecological status when site potential and identified uses are combined to meet vegetative objectives.

B. Long Term Objectives.

1. Improve or maintain the condition of 424 acres of wetland riparian habitat from early seral to late seral or higher.
(WL-1.10)

Baseline and trend data are not yet sufficient to determine if this objective is being met. Non-attainment of short term

objective 1b(1), however, indicates this objective is not being achieved. Causes for this are discussed in A2 above.

2. Protect sage grouse strutting grounds and nesting habitat and improve brooding habitat by:

- a. Following NDOW's guidelines for Vegetal Control Programs in Sage Grouse Habitat in Nevada.
- b. Maintain sagebrush canopy at 30% in sage grouse nesting areas where sagebrush does not exceed three (3) feet in height.

Baseline and trend data are not yet sufficient to determine if this objective for strutting grounds is being met. Present trend and baseline data do indicate the nesting habitat objective is being met. Non-attainment of short term objective 1b(1), however, indicates the brooding habitat objective is being met. This objective is in conflict with the wetland riparian objective. The apparent conflict should be resolvable within the grazing system.

3. Maintain or improve 72 acres of mtn. mahogany thicket and 70 acres of aspen woodland to late seral status or equivalent. (WL-1.9)

Baseline and trend data are lacking to quantify this objective. Observations during the big game inventory indicates it is being met except in Leadville Canyon.

4. Manage, maintain and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 179 AUMs for mule deer, 67 AUMs for pronghorn and 176 AUMs for bighorn sheep by:
 - a. Maintaining 21,391 acres of mule deer habitat in Hog Ranch Mtn. DS-6 and E. Granites DW-6 in good condition.
 - b. Improving 898 acres of pronghorn habitat in Swingle AW-6 from fair to good condition.
 - c. Improving Leadville allotment portions of potential bighorn habitat in Division Peak BY-5 and Buffalo/Granites BY-2 from 70% and 65% respectively to 90% of optimum.

Baseline data indicates this objective has not been achieved for 898 acres of pronghorn habitat (AW-6) and 18,930 acres of bighorn sheep habitat. Long term trend data are not sufficient to date to determine if the objective is being moved toward achievement. However, it

appears this objective can be met through a combination of the grazing system, proper wild horse management, improving forb and shrub grass for pronghorn and bighorn sheep). Specific rangeland improvements (water for bighorn sheep) and a positive adequate recovery of the Middle Fork Fire.

5. Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with an initial stocking level of 2567 AUMs.

Available trend data for three years at the eight (8) sites indicate improving, decreasing declining trends. This long-term data seems to be erratic in change over the allotment.

AUL have been exceeded during 1986 and 1987

6. Manage, maintain and improve public rangeland conditions to provide an initial level of 2976 AUMs of forage on a sustained yield basis for 248 (AMLs) 1/ wild horses in the Calico Mountains Herd Use Area.

The Appropriate Management Level for the Calico HMA located in the Leadville Allotment was established in July 1982. Herd numbers have exceeded AML from 13% to 81%. This objective has not been met.

The 1985 horse removal left that portion of the Calico HMA contained in the Leadville Allotment 81 head (33%) above AML.

7. Maintain/improve wild horse/burro habitat by assuring free access to water.

Wild horses and burros within the allotment have free access to all waters. The objective has been met.

III. Conclusion

- A. The short term upland utilization objectives are not being met in all four pastures over the allotment for the following reasons:

1. Utilization of the allotment by a combination of livestock, wild horses and wildlife exceeds the carrying capacity because
 - a. Wildhorse numbers have exceeded AML's from 13% to 81% through the period of this evaluation 1983-1987.
 - b. Emigration of pronghorn mule deer from the Hog Ranch Mountain Mine Area.
 - c. The deferred rest-rotation grazing system allows for season long livestock use in one pasture where use levels can be expected to be greater than the deferred pastures.

B. Further Quantify the following objectives:

1. Quantify utilization collection by kind of ungulate.

IV. Recommendations

A. Range

Data tends to indicate that a change in management would help to achieve program toward meeting allotment objectives.

1. Negotiate a reduction in active grazing preference by 10%.

Also negotiate a reduction in wild horse number by 10% while maintaining wild horse populations at \pm 25% of AML's.

2. Continue with the grazing system and monitor utilization particularly in the season long use pasture where utilization levels can be expected to be higher than the other pastures.

3. Maintain the existing grazing management system for the Leadville Allotment as follows:

Year	#1	#2	#3	#4
	Graze	Graze	Rest	Graze
	A	B	C	D
	4/1-10/31	6/15-10/31		7/15-10/31
	Graze	Rest	Graze	Graze
	B	C	D	A
	6/15-10/31		7/15-10/31	4/1-10/15
	Rest	Graze	Graze	Graze
	C	D	A	B
		7/15-10/31	4/1-10/31	6/15-10/31
	Graze	Graze	Graze	Rest
	D	A	B	C
	7/15-10/31	4/1-10/31	6/15-10/31	

- #1 - Smokey Field A. - Graze 4/1-10/31
#2 - Lower Field B. - Rest until seedripe Graze 6/15-10/31
#3 - Leadville Field C. - Complete Rest
#4 - Swingle Place Field D. - Rest Putrj to seedripe Graze 7/15-10/31

On 6/15 move 244 cattle or 2/3 of herd out of the spring pasture leaving 122 or 1/3 in the grazing pasture for the remainder of the grazing season until 10/31. Move 1/3 of the herd or 122 cattle into each of the remaining pastures which have been rested until after seedripe on 6/15 and again on 7/15. Cattle will remain here until the remainder of the grazing season 10/31.

Benefits:

Grazing by livestock is deferred until after seedripe on two pastures. The pasture receiving season-long use is either completely rested or grazed after seedripe for the remaining three years of four year cycle.

Negative Impacts:

The pasture receiving season-long use 4/1-10/31 receives the majority of use. Use levels on this pasture will be more than the other pasture and could exceed AULs.

4. Same as above except make one move on 6/15 to two pastures rather than moving twice, once on 6/15 once on 7/15.

Continue with the four pasture deferred rest rotation system stocking at active preference of 2567 AUMs as follows:

Benefits:

Only one cattle move is made after seedripe rather than two moves, one on 6/15 and one on 7/15.

Stocking levels are reduced on the season long pasture as compared to the existing situation by 15 days.

B. Wildlife

1. BLM in cooperation with NDOW will determine level of mule deer and pronghorn impacts on their habitat.

2. Rest Middle fork burn within the Leadville Pasture until 1989.
3. Allow key sage grouse brooding areas to improve to late seral and then graze to the benefit of sage grouse within the prescribed grazing schedule.

C. Wild horse

1. Review proposed range improvements/developments to ensure that the free roaming behavior is not adversely impact.
2. Ensure that existing waters both developed/undeveloped and any future water developments are not designed or modified to exclude free access by wild horses.
3. Complete Habitat Suitability Index on the Calico HMA.

Monitoring And Inventory Needs

A. Monitoring

1. Actual Use
2. Utilization
3. Trend
4. Wild horse distribution and seasonal movements.
5. Collect climate data from existing stations
6. Water quality

B. Inventory

1. Wildlife habitat condition
2. Ecological Status
3. Riparian condition
4. Soil Survey

VI. General Information

A. The following documents have been reviewed for this evaluation:

1. Sonoma-Gerlach Environmental Impact Statement (1981).
2. Sonoma-Gerlach Land Use Plan/MFP III.
3. Sonoma-Gerlach RPS
4. Sonoma-Gerlach HMA and WH&B Inventory and Population estimate Records.
5. Leadville Study File
6. Draft Habitat Management Plan for Fox Mountain. WHA-T-1
7. Draft Habitat Management Plan for Black Rock Range. WHA-T-6
8. Winnemucca District Coordinated Monitoring Plan.
9. Evans, Carol. 1986. Effects of Cattle Grazing on Sage Grouse Use on Meadows in the Sheldon NWR. Thesis.
10. Wildlife Habitat in Managed Rangelands - The Great Basin of Southeastern Oregon.
11. Sonoma-Gerlach RA Method for Evaluating and Monitoring Riparian Habitat in Relation to Terrestrial Needs.
12. Bighorn Sheep Habitat Monitoring Plan For Sonoma-Gerlach R.A.
13. BLM Manual Supplement 6630-Big Game Studies.
14. BLM Manual Supplement 6671-Stream Surveys.
15. Armentrout & Gardetto. Habitat Suitability Rating System For California Bighorn Sheep.

B. Participants involved with this evaluation:

1. Area Manager - Gerald Brandvold

2. Supervisory Range Conservationist - Paul Jancar
3. Range Conservationist - Chris Mayer
4. Wildlife Biologist - Don Armentrout
5. Wild Horse Specialists - Tom Seley/Dick Wheeler
6. District Wildlife Biologist - Dennis Tol
7. District Range Staff Officer - Ron Kay

AGREEMENT FOR IMPLEMENTATION AND CHANGES IN
AVAILABLE LIVESTOCK FORAGE AND LIVESTOCK
GRAZING USE ADJUSTMENTS FOR THE
LEADVILLE ALLOTMENT

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I. INTRODUCTION

This agreement is based on the Leadville Allotment Evaluation attached and documents the changes in existing livestock grazing practices on the Leadville Allotment.

The agreed upon changes in livestock use, as documented below, are made in order to achieve the management objectives for the public lands under Bureau of Land Management control identified in the Sonoma-Gerlach land use plan, which are specifically related to authorized livestock grazing use on the Leadville Allotment.

This agreement was prepared in consultation cooperation, and coordination with affected permittee, Benny Romero.

II. ALLOTMENT SPECIFIC OBJECTIVES AND ANALYSIS, INTERPRETATION, AND EVALUATION OF EXISTING MONITORING DATA

A. Allotment Objectives

1. Short Term

- a. Utilization of key plant species in 424 acres of wetland riparian habitat shall not exceed 50%. (WL-1.10)
- b. Utilization of key plant species 2/ in upland habitats shall not exceed 50% except where adjusted by an approved activity plan. (WL-1.7 & WL-1.9)

2/ Key forage species serve as an indicator of the degree of use of associated species; and because of their importance, be considered in a management program.

2. Long Term

- a. Improve to and maintain 424 acres of riparian and meadow habitat types in good condition. 1/ (WL 1.10)
- b. Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with an initial stocking level of 2567 AUMs.
- c. Improve range/ecological condition 1/ from poor to fair on 9,823 acres and from fair to good on 22,920 acres and good to excellent on 21,829 acres.

A. From (Description of Existing Use)

1. Kind, Class and number of Livestock:

Cow-calf Cattle
367 C (April 1 to October 31)

2. Period of Use:

April 1 to October 31

3. The Allotment to be Used:

Leadville Allotment

4. The Amount of Use (AUMs):

Total Preference 4,570 AUMs
Active Preference 2,567 AUMs
Susp. Preference 2,003 AUMs

5. Percent Federal Range:

100%

6. Grazing System

The grazing system in the Leadville Allotment is a Deferred Rest Rotation under a four (4) pasture rotation. This grazing system was finalized May 28, 1969.

The Leadville Allotment contains 54,760 acres of Federal Range and is divided into four (4) pastures which are designated as follows:

#1 - Smokey Field	16,515 acres
#2 - Lower Field	14,100 acres
#3 - Leadville Field	13,362 acres
#4 - Swingle Place Field	10,783 acres

Grazing treatment allows for season long use in one pasture, complete rest in one pasture and deferred use until June 15 and August 1 on the remaining two pastures.

Grazing Treatment - Leadville

Year	#1	#2	#3	#4
1	Graze A 6/15-10/30	Graze B 4/1-10/30	Rest C	Graze D 7/15-10/30
2	Graze B 4//1-10/30	Rest C	Graze D 7/15-10/30	Graze A 6/15-10/30
3	Rest C	Graze D 7/15-10/30	Graze A 6/15-10/30	Graze B 4/1-10/30
4	Graze D 7/15-10/30	Graze A 6/15-10/30	Graze B 4/1-10/30	Rest C

- #1 - Smokey Field A. - Rest until seedripe Graze 6/15-10/31
- #2 - Lower Field B. - Graze 4/1-10/31
- #3 - Leadville Field C. - Complete Rest
- #4 - Swingle Place Field D. - Rest PUTR₅ to seedripe Graze 7/15-10/31

Available records indicate the grazing system has been followed during the period 1979-1987 and stocking levels have been near full active preference. During the years 1983, 1984, 1985, the allotment was rested from livestock use.

Pastures and Sequence of Use (1979-1987)

Year	Smokey	Pastures Lower	Leadville	Swingle
* 1987	4/1-10/31	Rest	7/10-10/31	6/10-10/31
* 1986	Rest	4/01-10/31	6/10-10/31	7/10-10/31
1985	Non use			
1984	Non use			
1983	Non use			
1982	8/1-10/31	4/01-10/31	6/15-10/31	Rest
1981	Rest	8/01-10/31	4/01-10/31	6/01-10/31
1980	6/1-10/31	Rest	8/01-10/31	4/01-10/31
1979	4/1-10/31	6/15-10/31	Rest	8/01-10/31

* During 1986 and 1987 the period-of-use deviated from previous use with a 6/10 and 7/10 turnout rather than 6/15 and 8/1.

7. Wildlife

The Nevada Department of Wildlife (NDOW) does not provide wildlife population data by allotment. However, overall population trends in the management units involved appear to be up. Based on density data provided by NDOW we have the following AUM demand in the Leadville allotment.

California bighorn sheep:	0 AUMs
Mule Deer:	246 AUMs
Pronghorn:	100 AUMs

8. Wild Horses

Population Data	
<u>Est. July 1987</u>	<u>Est. July 1988</u>
365	405

B. To (Description of Agreed Upon Changes)

1. Kind, Class, and Number of Livestock: *

Cattle	cow/calf
Year 1	150 C
Year 2	200 C
Year 3	250 C
Year 4	300 C
Year 5	367 C

2. Period of Use:

No change
04/01 - 10/31

3. The Allotment to be Used:

Leadville Allotment

4. The Amount of Use AUMs:

Total Preference	4,570
Suspended Preference	2,003
Active Preference	2,567
Voluntary Reduction	1,517 AUMs year 1
	1,167 AUMs year 2
	817 AUMs year 3
	467 AUMs year 4
	0 AUMs year 5

* Pastures will be stocked in proportion to numbers agreed to in III,B,1.

5. Percent Federal Range:

100%

6. Grazing System

Maintain the existing grazing management system for the Leadville Allotment. Implement a change in rotation allowing for the season long use pasture to be completely rested the following season rather than again grazed as follows:

: #1	: #2	: #3	: #4
: Smokey	: Lower	: Leadville	: Swingle
: Field	: Field	: Field	: Place Field
: Graze	: Graze	: Rest	: Graze
: A	: B	: C	: D
: 6/15-10/30	: 4/1-10/30	:	: 7/15-10/30
: Graze	: Rest	: Graze	: Graze
: B	: C	: D	: A
: 4/1-10/30	:	: 7/15-10/30	: 6/15-10/30
: Rest	: Graze	: Graze	: Graze
: C	: D	: A	: B
:	: 7/15-10/30	: 6/15-10/30	: 4/1-10/30
: Graze	: Graze	: Graze	: Rest
: D	: A	: B	: C
: 7/15-10/30	: 6/15-10/30	: 4/1-10/30	:

- #1 - Smokey Field A. - Rest until seedripeness Graze 6/15-10/31
 #2 - Lower Field B. - Graze 4/1-10/31
 #3 - Leadville Field C. - Complete Rest
 #4 - Swingle Place Field D. - Rest until seedripeness Graze 7/15-10/31

On 6/15 move 244 cattle or 2/3 of herd out of the spring pasture leaving 122 or 1/3 in the grazing pasture for the remainder of the grazing season until 10/31. Move 1/3 of the herd or 122 cattle into each of the remaining pastures which have been rested until after seedripeness on 6/15 and again on 7/15. Cattle will remain here until the remainder of the grazing season 10/31.

IV. SPECIFIC MONITORING PROGRAM

- A. Utilization and actual use studies will be conducted annually to determine whether or not utilization levels on key species are exceeding proper use levels identified in the objectives.
- B. Frequency and production studies will be read to evaluate trend and ecological condition.
- C. An evaluation will be conducted in 5 years (1993) to analyze the changes in management described in this agreement.

An evaluation will be conducted in 5 years (1993) to analyze the results of the changes made in management described in this agreement and at this time a change in management and/or preference may be made.

VI. AUTHORITY

43 CFR 4110.3-3, 4130-6

VII. The agreed upon changes in available livestock forage and/or livestock use adjustments identified above are binding on any successor interest or future transferees with such modifications as approved or required by the authorized officer.

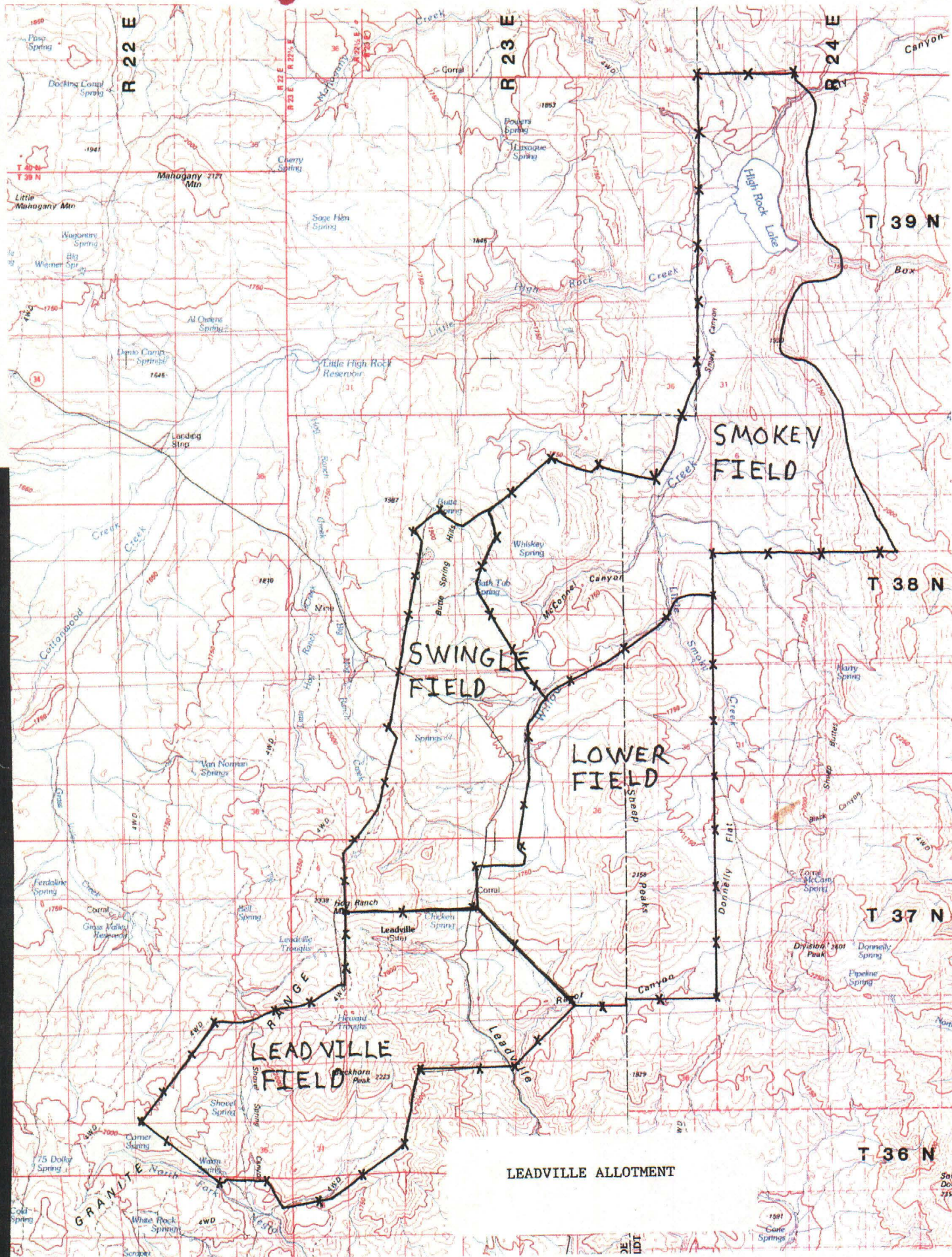
VIII. SIGNATURES

Benny Romero

Harold Brandford
Resource Area

Nov. 28, 1988
Date

Dec 16, 1988
Date



R 22 E

R 23 E

R 24 E

T 39 N

T 38 N

T 37 N

T 36 N

SMOKEY
FIELD

SWINGLE
FIELD

LOWER
FIELD

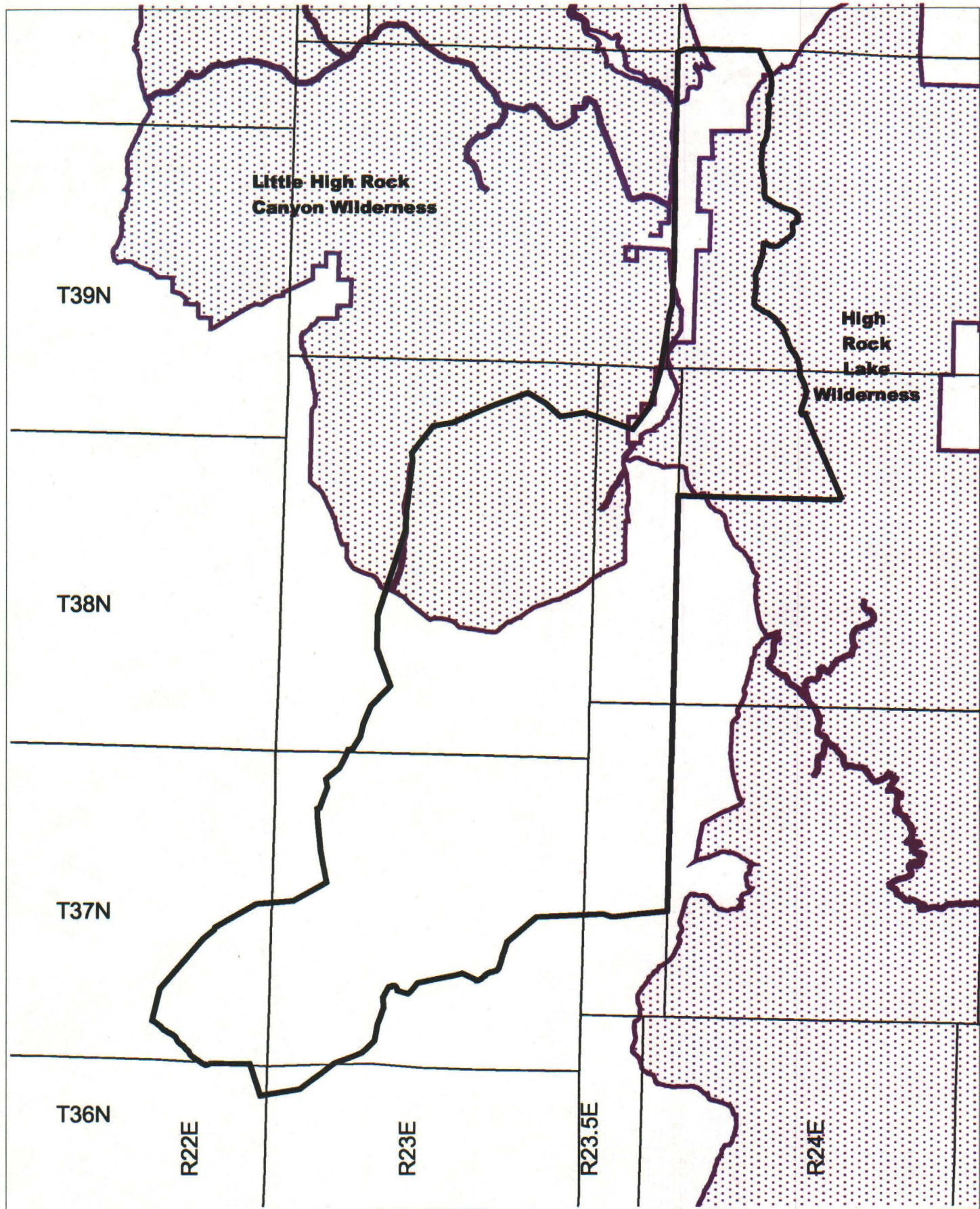
LEADVILLE
FIELD

LEADVILLE ALLOTMENT

GRANITE & NAZAR

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LEADVILLE ALLOTMENT WILDERNESS AREAS