

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

ELY DISTRICT OFFICE HC33 BOX 150 ELY, NEVADA 89301-9408



26/91

IN REPLY REFER TO:

4400.3 (NV-047) JUL 26 1991

Commission For The Preservation of Wild Horses Stewart Facility Capitol Complex Carson City, NV 89710

Dear Participant:

We appreciate your interest in being involved in the allotment evaluation consultation process and enclosed for your information and review are the Newark, Steptoe, and Medicine Butte allotment monitoring evaluation(s). This is your opportunity again to provide allotment specific information and also provide comments to the evaluation which will be incorporated into Section VII, Management Action Selection Report. We would appreciate receiving your information and/or comments by August 23, 1991, to allow adequate time to review all input and to adhere to our deadlines. All of the information received will be evaluated and considered in the final portion of the evaluation which is the selection of a management action.

We appreciate your participation and solicit your continued involvement in the consultation process.

Sincerely,

Leve L. Drais

Gene L. Drais, Manager Egan Resource Area

3 Enclosures

- 1. Newark
- 2. Steptoe
- 3. Medicine Butte

MEDICINE BUTTE ALLOTMENT (501) EVALUATION SUMMARY

I. INTRODUCTION

. 15

The Medicine Butte Allotment encompasses 287,368 acres. Public lands comprise approximately 98% of the total acreage with the remaining 2% or roughly 5,690 acres in private land holdings. Bert and Pete Paris are the allotment permittees. Bert runs sheep while his brother, Pete, manages a cow/calf operation. The allotment is categorized as an "I" or improve selective management category allotment. A draft Allotment Management Plan (AMP) has been initiated for the allotment. All pertinent information has been included in the evaluation summary. The final decision of the allotment evaluation process will substitute for the AMP in the interim.

II. <u>INITIAL STOCKING LEVEL</u> A. LIVESTOCK USE

The adjudicated preference in the Medicine Butte Allotment total 15,174 AUM's all of which are active with none suspended. The adjudication is based upon total native forage and was established from the 1939-1940 range survey which was checked and completed in 1945. There is no separate breakdown of AUM's for sheep and cattle. Part of the active preference is a domestic horse permit for 30 head/year or 360 AUM's. Total adjudicated grazing preference for the allotment by designated forage use areas are listed in Table I.

Table I.-<u>ACTIVE GRAZING PREFERENCE IN</u> THE MEDICINE BUTTE ALLOTMENT

UNIT	AUM'S	
Hunter Point Use Area	2,060	
Telegraph Use Area	2,510	
Land Based		(1, 279)
Water Based		(1, 231)
Pony Mountain Use Area	2,578	
Paris Seeding	658	
Snow Creek Seedings	1,210	
North		(623)
South		(360)
West		(227)
Native Range in Conjunction	456	
w/ North Snow Creek Seeding		(265)
w/ South Snow Creek Seeding		(191)
Butte Valley Use Area	4,338	1
Slough Meadows Use Area	1,046	
Black Mt./Canyon	318	
Total Active AUM's in the	15,174	
Medicine Butte Allotment		

Licensed use for cattle, sheep, and domestic horses in the Medicine Butte Allotment from 1976-1990 is illustrated in Table II.

Table	e II <u>Licensed Use (AUM's) for Cattle/Sheep/Horses</u>						
	in the M	edicine Bu	utte Allotme	ent from 1	976-1990		
YEAR	CATTLE	SHEEP	HORSES	TOTAL	NONUSE		
1976	6,896	6,088	360	13,344	1,830		
1977	7,369	7,515	360	15,244	Ø		
1978	6,150	7,170	360	13,680	1,494		
1979	6,600	6,500	360	13,100	2,074		
1980	7,280	5,868	360	13,508	1,666		
1981	5,080	6,699	360	12,139	3,035		
1982	4,262	5,771	360	10,393	4,781		
1983	4,500	5,596	360	10,456	4,718		
1984	4,747	5,750	360	10,857	4,317		
1985	2,759	5,995	360	9,114	6,060		
1986	4,625	3,943	360	8,928	6,246		
1987	5,108	4,080	360	9,548	5,626		
1988	5,852	4,204	360	10,416	4,758		
1989	4,389	3,120	360	7,509	7,665		
1990	3,165	2,815	360	6,340	8,834		

Overall average licensed use for the period 1976-1990 is 10,972 AUM's; 5252 AUM's cattle, 5408 AUM's sheep, 360 AUM's horses.

The three year average (calculated for 1979-1981) in the Egan Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) as well as the Egan Rangeland Program Summary (RPS) is 9,673 AUM's. *As noted from the table, the 3 year average is 12,915. The Land Use Plan appears to be in error.

The season of use generally followed by sheep is April 15-November 15. Cattle normally graze the allotment from March 10-January 31.

Voluntary non-use or non-use in general has varied from zero to 8,834 AUM's from 1976-1990. This range in AUM's is attributed to many factors. Annual fluctuations in the livestock market is a major influence. Other factors include precipitation amounts in relation to forage production, increased competition for forage by wild horses, and availability of forage on other permits and on private lands or rented pastures. Availability of snow for sheep in areas devoid of water where water haul is not feasible dictates the degree of use made in the allotment.

B. WILD HORSE USE

The Medicine Butte Allotment is within the Butte, Buck and Bald, and Cherry Creek Herd Management Areas (HMA). Of the total wild horse use for the herd areas, the RPS objective for this allotment is to provide forage for 105 horses or 1,260 AUM's. Existing wild horse use is estimated at 3,000 AUM's.

There are three burros that reside in the Medicine Butte Allotment. Their forage demand is 36 AUM's.

The major herd use areas are seasonally defined with summer use occurring primarily on the Butte Mountains and Egan and Cherry Creek Ranges and in the Butte Valley slough. Fall, winter, and spring wild horse grazing occurs on benchlands of the aforementioned mountain ranges and in Butte Valley proper. Yearlong wild horse use takes place in the Long Valley Wash or Paris Seeding in the northwest corner of the allotment. Yearlong use by a limited number of bands also can occur in any of the seasonal use areas identified above.

Determination of Wild Horse Actual Use

Portions of three wild horse Herd Management Areas lie within the Medicine Butte Allotment. They are the Butte, Cherry Creek, and Buck and Bald HMA's. In addition, the Maverick-Medicine HMA lies to the north of the Elko-White Pine County line in the Elko District. No horses have been observed or documented in the Medicine Butte allotment during aerial census of the Cherry Creek Herd Management Area (June 1985, Feb. 1987 and 1989). Census was flown in the Butte HMA in June 1987, March 1989, and March 1990. The Buck and Bald HMA census was conducted in September 1985, December 1985, June 1987, and March 1989.

Use in the Medicine Butte Allotment can be broken out by seasonal use areas. The Pony Mountain use area is utilized yearlong by a percentage of horses from the Butte, Buck & Bald and Maverick-Medicine HMA's. Spring use concentrates primarily on the Paris Seeding and adjacent west benchlands of Pony Mountain and the upper reaches of Long Valley Wash. The west side of Butte Valley (east Pony Mt.) provides spring range as well as winter forage for horses wintering in Butte Valley. Pony Mountain proper provides the bulk of summer range, and some fall use occurs prior to winter storms.

The Telegraph use area provides the other key summer range for wild horses that winter in Butte Valley, especially in the Hunter Point area. North and central Butte Valley is utilized primarily as winter range by horses from both the Buck and Bald and Butte herds. However, summer use is made by Maverick-Medicine herd horses in the slough (Owens/Rebecca Fields) in the north end of the valley as well as on the east bench of the Butte Mountains in conjunction with Butte Spring. Wild horses utilize the Butte Mountains for spring range until the snow melts off at which time they move to areas with live water.

Table III.-Aerial Census of Wild Horses in the Medicine Butte

	Allo	tment by Spe	cific Us	e Areas.	
<u>DATE</u> 9/85	PONY/PARIS SDG. * 30	TELEGRAPH ***	BUTTE ***	HUNTER ***	SLOUGH ***
12/85	* 58	* * *	* * *	***	* * *
6/87	* 153	119	Ø	6	Ø
3/89	* 64	11	26	120**	3
3/90	40	30	48	100**	14
<u>DATE</u> 3/89	BLACK MT./CANYON 19				

* These numbers represent horses in the Buck and Bald HMA utilizing the Pony Mountain use area in the Medicine Butte Allotment.

3/90

7

** These numbers represent horses in the Butte HMA utilizing the Hunter Point Use Area on the Medicine Butte and Thirty Mile Allotments. The numbers of horses allocated to each allotment is covered in the Hunter Point section of the "Summary of Studies Data" section.

*** These areas were not covered during the time aerial census was flown.

The number of horses in the allotment at the time of census multiplied by 12 months/year equals the total AUM's. This is the formula by which actual use is derived. However, this number is only an approximation since wild horses are constantly moving across Herd Management Area and allotment boundaries. Nonetheless, the total AUM figures in Table IV serve as the best information available to determine actual use. Breakdown of these AUM's by use area is based upon numbers/locations documented during census.

4

Table IV.- Wild Horse AUMs By Use Area

DATE	Pony	Telegraph	Butte	Hunter	Slough
9/85	360	*	*	*	*
12/85	708	*	*	*	*
6/87	1,836	1,428	Ø	72	
3/89	768	132	312	1,440	36
3/90	480	360	576	1,200	168
DATE	<u>Black Mt</u>	./Canyon			
3/89	228	1			
3/90	84				× 1

* These areas were not covered when the aerial census was flown.

C. WILDLIFE USE

Mule deer populations within the Medicine Butte Allotment are static at moderately low levels. The majority of the area is made up of Nevada Department of Wildlife's mule deer Management Area 12. The northwest portion (Butte Mountains) of the allotment is within NDOW Management Area 10. Total deer numbers are approximately 2500 animals. (Larry T. Gilbertson, Biologist, Nevada Department of Wildlife, personal communication)

Pronghorn antelope use the allotment yearlong in relatively low numbers. A total of 17 antelope were observed in July 1988. The Medicine Butte Allotment has been identified as a potential antelope augmentation area.

The allotment has a significant sage grouse population. A total of 8 leks have been documented.

Game bird brooding is active at all perennial water sources.

Eight Ferruginous hawk nest sites have been documented in the allotment. In the past five years, as many as five of these sites have been occupied.

A Goshawk nest site has been documented in Paris Canyon on the east central portion of the allotment.

D. Riparian

Riparian areas, the green zones along the banks of rivers and streams and around springs, wet meadows, lakes and ponds, are among the most productive ecosystems found on public lands. They display a greater diversity of plant and wildlife species and vegetation structure than adjoining drier upland ecosystems. The 1982 Water Resource Inventory indicated that the Medicine Butte Allotment had 53 water resource sites. These include 23 springs, 12 reservoirs, 7 pipelines, 6 wells, 3 drill holes and 2 perennial streams (Snow Creek and Paris Creek). Appendix I gives the legal locations of these riparian sites.

III. <u>ALLOTMENT PROFILE</u> A. Description

The Medicine Butte Allotment is located in Butte Valley, broadly situated between the Butte Mountains to the west and the Egan and Cherry Creek Ranges to the east. The allotment encompasses 287,368 acres. Of this total, 5,690 acres are private lands. Elevation ranges from 6,200 feet in Butte Valley to 10,542 feet on the top of the Cherry Creek Range.

B. Allotment Specific Objectives

1. Land Use Plan Objectives

a. <u>Rangeland Management</u>- "All vegetation will be managed for those successional stages which would best meet the objective of this proposed plan." (Egan Resource Area Record of Decision (ROD), p.3).

b. <u>Wild Horse and Burros</u>- "Wild horses will be managed at a total of 700 animals in the Buck and Bald Herd Use Area, 60 in the Butte Herd Use Area and 11 in the Cherry Creek Herd Use Area." (Egan ROD, p.6). Actual wild horse numbers will be determined by this evaluation in conjunction with monitoring data to maintain a thriving natural ecological balance and prevent deterioration of the rangeland.

c. <u>Wildlife</u>- "Habitat will be manged for "reasonable numbers" of wildlife species as determined by the Nevada Department of Wildlife." (Egan ROD, p.6). -"Reintroductions of big game species will be accomplished in cooperation with the Nevada Department of Wildlife, where such reintroductions would not conflict with existing uses and if sufficient forage is available." (Egan ROD, p.6).

-"Forage will be provided for "reasonable numbers" of big game as determined by the Nevada Department of Wildlife." (Egan ROD, p. 8).

d. <u>Riparian</u>- "Where management objectives are not being obtained through application of management practices, fencing will be considered." (Egan ROD, p.13).

e. <u>Watershed</u>- "Establish utilization limits to maintain watershed cover, plant vigor and soil fertility in consideration of plant phenology, physiology, terrain, water availability, wildlife needs, grazing system and aesthetic values." (Egan ROD, p.44).

2. Rangeland Program Summary Objectives

Range

a. "Provide forage for up to 12,915 AUM's of livestock use. (Preference is actually 15,174 AUM's). Improve ecological condition of the spring range in Butte Valley. Maintain or improve current ecological condition of remainder of native range. Maintain the Snow Creek Seedings and Paris Seeding in good or better condition. Maintain or enhance native vegetation with utilization levels not to exceed NRMH levels on key species." Maximum utilization on native key species is 50% with utilization on crested wheatgrass 60%.

Wild Horses

b. "Initially manage rangeland habitat to support Appropriate Management Level (AML) of 105 horses in the Medicine Butte Allotment as part of the Butte HMA (38 horses), Cherry Creek HMA (4 horses), and Buck and Bald HMA (63 horses). Provide forage for up to 1,260 AUM's of wild horse use (453 AUM's-Butte HMA; 44 AUM's -Cherry Creek HMA; 755 AUM's-Buck and Bald HMA)." Actual wild horse numbers will be determined by this evaluation in conjunction with monitoring data to maintain a thriving natural ecological balance and prevent deterioration of the rangeland. (Note: The 1260 AUM's (105 horses yearlong) identified in the RPS is no longer a valid AML. The Interior Board of Land Appeals June 7, 1989 decision (IBLA 88-591, 88-638, 88-648, 88-679) ruled in part, "an AML established purely for administrative reasons because it was the level of wild horse use at a particular point in time cannot be justified under the statute" (<u>Dahl</u> vs. <u>Clark</u>, <u>Supra</u> at 595). The IBLA further ruled that the AML must be established through monitoring "in terms of the optimum number which results in a thriving natural ecological balance and avoids a deterioration of the range.")

Wildlife/Riparian

c. "Manage rangeland habitat and forage condition to support reasonable numbers of wildlife as follows: mule deer 417 AUM's antelope 81 AUM's." Utilization of key species will not exceed the levels listed in 2 a. above.

d. "Maintain or improve mule deer yearlong habitat in good or better condition." This is also accomplished by limiting utilization to the levels listed in 2 a. above.

e. "Maintain habitat condition of meadows and riparian areas in good or better condition for pronghorn antelope, mule deer, sage and blue grouse. Utilization levels will not exceed 55% on the perennial grasses and the grass-like species and 45% on shrubs along stream riparian areas and mesic meadows."

f. "Protect sage grouse breeding complexes." This is accomplished by maintaining the big sagebrush sites within two miles of active strutting grounds in mid to late seral stage with a minimum of 30% shrub composition by weight.

g. "Protect Ferruginous hawk nest sites."

h. "Manage stands of aspen in early or mid seral stage and white fir in a late seral stage desired for blue grouse."

i. "Maintain/improve 5.0 miles of stream riparian habitat condition to good or better."

3. Key Species Identification

The Snow Creek seedings offer crested wheatgrass (<u>Agropyron</u> <u>cristatum</u>) as the key species for spring and fall forage for cattle and sheep and the Paris Seeding provides spring forage for sheep and yearlong forage for wild horses. Occasional use by mule deer also occurs in both seedings.

The key winter forage species in Medicine Butte for cattle and wild horses is winterfat (<u>Ceratoides lanata</u>). The secondary species is shadscale (<u>Atriplex confertifolia</u>). The <u>most</u> preferred species is sweetsage (<u>Atriplex falcata</u>) but due to the scattered, limited quantities, it is not identified as a key species. Sheep do not winter in the allotment.

Native perennial grasses are key species to all users during spring greenup providing succulent, palatable, nutritious forage to animals coming off of dry, winter forage. Indian ricegrass (<u>Oryzopsis hymenoides</u>) is the most preferred with bottlebrush squirreltail (<u>Sitanion hystrix</u>) and needle-and-thread grass (<u>Stipa</u> <u>comata</u>) as important secondary species. Forbs are critical to the diet of wildlife and provide important late spring/early summer forage but no species is present in sufficient quantity to be considered key.

The primary key species for sheep and mule deer on the mountain brush summer range is bitterbrush (<u>Purshia tridentata</u>) with snowberry (<u>Symphoricarpos spp.</u>) and serviceberry (<u>Amelanchier utahensis</u>) being secondary. In areas where preferred species are limited, both sheep and mule deer utilize mountain big sage (<u>Artemisia tridentata vaseyana</u>), silver sage (<u>Artemisia cana</u>) and low sage (<u>Artemisia arbuscula</u>). Wild horses utilize these seasonal use areas extensively in conjunction with domestic livestock and wildlife. However, horses are primarily grass eaters and dietary overlap with mule deer is minimal. The key grasses consumed by horses include needle-and-thread grass, bluebunch wheatgrass (<u>Agropyron spicatum</u>) and indian ricegrass.

Key summer forage species for cattle are provided on the saline meadows. Numerous alkali-tolerant perennial grasses occur on these sites which provide the bulk of summer grazing by cattle. These grasses include inland saltgrass (<u>Distichlis stricta</u>), alkali sacaton (<u>Sporobolus airoides</u>) and alkali cordgrass (<u>Spartina gracilis</u>). The west side of the Cherry Creek Range from Box Canyon to Paris Canyon provides key summer forage for cattle. Scattered bitterbrush and perennial native grasses are key species for cattle on mountain slopes/canyons.

Private meadows and agricultural lands also furnish significant forage to sheep, cattle, wild horses, and mule deer.

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this evaluation is to assess whether or not current livestock management practices are meeting the multiple use objectives for the allotment and to determine the appropriate stocking level and management system for domestic livestock and appropriate stocking level for wild horses.

B. Summary of Studies Data

Monitoring studies have been implemented throughout the allotment in varying degrees. They can be tied directly to specific use areas identified within the allotment. The following tables illustrate use pattern mapping, actual use, estimated carrying capacity and recalculated livestock preference and wild horse aums by specific use areas. During any given year, a specific use area may not have been entirely mapped due to time and access constraints. This is indicated by the <u>Not Mapped</u> column in the Use Pattern Mapping Summary.

Hunter Point Use Area

1. Use Pattern Mapping Summary (in acres)

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
6/87	7916 (20%)	14824 (38%)	2244 (6%)	Ø	Ø	14276 (36%)
4/88	7597 (19%)	5527 (14%)	6175 (16%)	10075 (26%)	Ø	9886 (25%)
4/89	6942 (18%)	2148 (5%)	7193 (18%)	5813 (15%)	127 (1%)	17037 (43%)
11/89	12325 (31%)	4938 (13%)	8227 (21%)	9095 (237)	34Ø9 (9%)	1266 (3%)
4/90	Ø	10935 (28%)	6021 (15%)	6121 (16%)	9300 (24%)	6883 (17%)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Wild Horses*
1987	908	673	468**
1988	1064	772	491**
1989	938	617	487**

* Horse census counts in 3/89 and 3/90 are attributed to the 1988 and 1989 grazing years respectively.

** Seasonal wild horse use between the Hunter Point and Telegraph Use Areas has been determined to be 65% and 35% respectively based on field observations and professional judgement. Also, wild horses in the Hunter Point Use Area move continuously between the Medicine Butte Allotment and the Thirty Mile Spring Allotment. Wild horse use was proportioned between the two allotments by acreage. The Hunter Point Area encompasses 82,100 acres of which 39,260 acres (48%) are within the Medicine Butte Allotment. Therefore, 48% of the census counts from 1987-1989 are attributed to the Medicine Butte Allotment. The 52% portion will be evaluated in the 30-Mile Spring evaluation.

Year	Actual Use(AUMs)	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired AUMs*	
1987	2049	71%	1.04	74%	50%	1384	
1988	2327	76%	1.06	81%	50%	1436	
1989	2042	90%	.79	71%	50%	1438	

3. Livestock and Wild Horse Estimated Carrying Capacity

*The "Desired AUMs" are calculated using the following formula:

<u>Actual Use (AUMs)</u>	=	Desired	Use	(AUMs)
Adjusted Util.(%)		Desired	Use	(%)

4. Recalculated Livestock Preference and Wild Horse AUMs

Supply:	Desired Aums (3 Year Average)	.1419	Aums
Demand:	Adjudicated Preference Wild Horses (last count: 3/90) Total	487	Aums
Deficit:		.1128	Aums
Reductio	m:		
New Live	stock Preference:	.1154	Aums
New Wild	Horse AML:	273	Aums

Telegraph Use Area

1. Use Pattern Mapping Summary (in acres)

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped	
1987	5Ø82 (16%)	15302 (47%)	2668 (8%)	41 (<1%)	Ø	9133 (28%)	
1988	2115 (7%)	7025 (22%)	2975 (9%)	661 (2%)	Ø	19450 (60%)	
1989	4767 (15%)	4202 (13%)	10665 (33%)	4932 (15%)	Ø	766Ø (24%)	

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Wild Horses*	Deer
1987	1173	Ø	252**	1172
1988	1272		264**	1197
1989	1283	Ø	262**	1070

* Horse census counts in 3/89 and 3/90 are attributed to the 1988 and 1989 grazing years respectively.

** Seasonal wild horse use between the Hunter Point and Telegraph Use Areas has been determined to be 65% and 35% respectively based on field observations and professional judgement. Also, wild horses in the Hunter Point Use Area move continuously between the Medicine Butte Allotment and the Thirty Mile Spring Allotment. Wild horse use was proportioned between the two allotments by acreage. The Hunter Point Area encompasses 82,100 acres of which 39,260 acres (48%) are within the Medicine Butte Allotment. Therefore, 48% of the census counts from 1987-1989 are attributed to the Medicine Butte Allotment. The 52% portion will be evaluated in the 30-Mile Spring evaluation.

3. Livestock and Wild Horse Estimated Carrying Capacity

Year	Actual* Use(AUMs)	Measured Util.(%)	Yield Index	Adjusted Util.(%)	Desired Use(%)	Desired AUMs	
	000 (1101107		11102 1	0000000000	<u></u>		
1987	1425	50%	1.04	52%	50%	1370	
1988	1536	50%	1.06	53%	50%	1449	
1989	1545	62%	.79	49%	50%	1577	

* Actual use figures do not include deer since the key vegetative species used to measure utilization and calculate carrying capacity are not a major component of the dietary intake of deer.

4. Recalculated Livestock Preference and Wild Horse AUMs

Supply:	Desired Aums (3 Year Average)1465	Aums	
Demand:	Adjudicated Preference	Aums	
Deficit:		Aums	
Reduction			
New Lives	stock Preference:	Aums	
New Wild	Horse AML:	Aums	

Pony Mountain/Paris Seeding Use Area

1. Use Pattern Mapping Summary (in acres)

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
8/88	Ø	15917 (27%)	2233Ø (38%)	14326 (24%)	2374 (4%)	3404 (7%)
7/89	3877 (7%)	18352 (31%)	14255 (24%)	2764 (5%)	Ø	19103 (33%)
10/89	966 (2%)	20092 (34%)	8242 (14%)	6905 (12%)	2312 (4%)	19834 (34%)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Wild Horses*	, ×	
1987	552	Ø	1836		
1988	614	Ø	768		
1989	Ø	Ø	480**		

* Horse census counts in 3/89 and 3/90 are attributed to the 1988 and 1989 grazing years respectively.

** The 480 AUMs are for the Butte HMA only.

3. Livestock and Wild Horse Estimated Carrying Capacity

Year	Actual <u>Use(AUMs)</u>	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired <u>AUMs</u>
1987	2388	80%	1.04	83%	60%	1726
1988	1382	84%	1.06	89%	60%	932
1989	480	80%	.79	63%	60%	457

14

4. Recalculated Livestock Preference and Wild Horse AUMs

Supply:	Desired Aums (3 Year Average)1038 Aums
Demand:	Adjudicated Preference
Deficit:	
Reduction	n:
New Live	stock Preference:
New Wild	Horse AML:

North Snow Creek Seeding and Adjacent Native Range

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
1987	Ø	Ø	1491 (30%)	378 (8%)	Ø	312Ø (62%)
1989	Ø	Ø	1533 (31%)	368 (7%)	Ø	3088 (62%)

1. Use Pattern Mapping Summary (in acres)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	<u>Cattle</u>	Domestic	Horses
1987	Ø	303	41	
1988	85	272	41	
1989	12	335	41	

3. Livestock and Domestic Horse Estimated Carrying Capacity

Year	Actual <u>Use(AUMs)</u>	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired AUMs
1987	344	54%	1.04	56%	60%	369
1988	398	54%	1.06	57%	60%	419
1989	388	53%	.79	42%	60%	554

15

4. Recalculated Livestock Preference

Supply:	Desired Aums (3 Year Average)447	Aums	
Demand:	Adjudicated Preference	Aums	
Deficit:		Aums	
Reduction	n:		
New Lives	stock Preference:	Aums	

South Snow Creek Seeding and Adjacent Native Range

1. Use Pattern Mapping Summary (in acres)

Year	<u>Slight</u> (1-20%)	Light (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
1987	Ø	276 (7%)	610 (15%)	174 (4%)	2Ø (<1%)	2959 (73%)
1989	Ø	Ø	899 (22%)	311 (8%)	Ø	2829 (70%)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Domestic Horses	
1987	Ø	460	41	
1988	46	438	41	
1989	16	481	41	

3. Livestock and Domestic Horse Estimated Carrying Capacity

	Actual	Manager	Vinld	Addiveted	Decised	Desired
Year	<u>Use(AUMs)</u>	Measured <u>Util.(%)</u>	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	<u>AUMs</u>
1987	501	63%	1.04	65%	60%	462
1988	525	67%	1.06	71%	60%	444
1989	538	70%	.79	55%	60%	587

4. Recalculated Livestock Preference

Supply:	Desired Aums (3 Year Average)498 Aums	
Demand:	Adjudicated Preference	
Deficit:		
Reduction	10%.	
New Lives	stock Preference:	

West Snow Creek Seeding

1. Use Pattern Mapping Summary (in acres)

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
1987	Ø	527 (70%)	12Ø (16%)	Ø.	34 (4%)	74 (10%)
1989	Ø	Ø	680 (70%)	Ø	Ø	75 (10%)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Domestic	Horses
1987	Ø	228	7	
1988	\oslash	279	7	
1989	Ø	176	7	

3. Livestock and Domestic Horse Estimated Carrying Capacity

Year	Actual Use(AUMs)	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired <u>AUMs</u>
1987	235	54%	1.04	56%	60%	252
1989	183	53%	.79	42%	60%	261

4. Recalculated Livestock Preference

Supply: Desired Aums (3 Year	Average)257	Aums	
Demand: Adjudicated Preferen	ce227	Aums	
Surplus:		Aums	
Increase:			
New Livestock Preference:		Aums	

Butte Valley Use Area

1. Use Pattern Mapping Summary (in acres)

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
4/89	Ø	15395 (17%)	23244 (26%)	16454 (18%)	219 (<1%)	35617 (38%)
4/91	Ø	13175 (14%)	20560 (23%)	20955 (23%)	471Ø (5%)	31529 (35%)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Wild Horses*	Deer
1987	849	1982	Ø	1172
1988	1018	842	312	1197
1989	558	1249	576	1070
1990	664	1080	576**	1169

* Horse census counts in 3/89 and 3/90 are attributed to the 1988 and 1989 grazing years respectively.

** The 576 Wild Horse AUMs are used in calculating carrying capacity for 1990 since it is the last documented count available in Butte Valley.

3. Livestock and Wild Horse Estimated Carrying Capacity

Year	Actual* <u>Use(AUMs)</u>	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired <u>AUMs</u>
1988	2172	70%	1.06	74%	50%	1468
1990	2320	86%	.90	77%	50%	1506

* Actual use figures do not include deer since the key vegetative species used to measure utilization and calculate carrying capacity are not a major component of the dietary intake of deer.

4. Recalculated Livestock Preference and Wild Horse AUMs

Supply:	Desired Aums (2 Year Average)1487 Aums
Demand:	Adjudicated Preference
Deficit:	
Reduction	r:
New Lives	stock Preference:
New Wild	Horse AML:

Slough Meadows Use Area

10.14

1. Use Pattern Mapping Summary (ir	1 acres)
------------------------------------	----------

Year	<u>Slight</u> (1-20%)	Light (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
10/88	Ø	5383 (14%)	6021 (16%)	5080 (14%)	Ø	20847 (56%)
4/91	Ø	7955 (21%)	8641 (23%)	5676 (15%)	Ø	15Ø59 (41%)

2. Estimated Actual Use Summary (AUM's)

Year	Sheep	Cattle	Domestic Horses	Wild Horses*
1987	Ø	1462	268	Ø
1988	Ø	1691	268	36
1989	Ø	1168	268	168
1990	Ø	1163	268	168**

* Horse census counts in 3/89 and 3/90 are attributed to the 1988 and 1989 grazing years respectively.

** The 168 Wild Horse AUMs are use in calculating carrying capacity for 1990 since it is the last documented count available in the Slough Meadows.

3. Livestock and Wild Horse Estimated Carrying Capacity

Year	Actual <u>Use(AUMs)</u>	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired <u>AUMs</u>
10/88	1995	70%	1.06	74%	50%	1348
4/91	1599	70%	.90	63%	50%	1269

4. Recalculated Livestock Preference and Wild Horse AUMs

Supply:	Desired	Aums	(2	Year	Average)	1309	Aums
---------	---------	------	----	------	----------	------	------

	Adjudicated Preference	Aums
Surplus:		lums
Increase	:	

New	Livestock	Preference:) Aums

Black Mountain/Canyon Use Area

Year	<u>Slight</u> (1-20%)	<u>Light</u> (21-40%)	<u>Moderate</u> (41-60%)	<u>Heavy</u> (61-80%)	<u>Severe</u> (81-100%)	Not Mapped
1988	Ø	622 (3%)	829 (4%)	659 (3%)	Ø	17378 (90%)
1989	Ø	1408 (7%)	32 (<1%)	162 (1%)	Ø	17886 (91%)

1. Use Pattern Mapping Summary (in acres)

2. Estimated Actual Use Summary (AUM's)

Year	<u>Sheep</u>	<u>Cattle</u>	Wild Horses*
1988	193		228
1989	Ø	Ø	84

* Horse census counts in 3/89 and 3/90 are attributed to the 1988 and 1989 grazing years respectively.

3. Livestock and Wild Horse Estimated Carrying Capacity

Year	Actual <u>Use(AUMs)</u>	Measured Util.(%)	Yield <u>Index</u>	Adjusted Util.(%)	Desired <u>Use(%)</u>	Desired <u>AUMs</u>
1988	421	70%	1.06	74%	50%	284
1989	84	70%	.79	55%	50%	76

4. Recalculated Livestock Preference and Wild Horse AUMs

Supply:	Desired Aums (2 Year Average)180 Aums
Demand:	Adjudicated Preference
Deficit:	
Reduction	n;
New Live	stock Preference:143 Aums
New Wild	Horse AML:

Summary:

		*
UNIT	LIVESTOCK (AUM)	WILD HORSES (AUM)
Hunter Point Use Area	1154	273
Telegraph Use Area	1330	139
Pony Mountain Use Area	906	134
(includes Paris Seeding)		
Snow Creek Seedings		
North	445	Ø
South	496	Ø
West	257	Ø
Butte Valley Use Area	1301	173
Slough Meadows Use Area	1130	181
Black Mt./Canyon Use Area	143	38
Total	7162	938

Monitoring Determined Livestock and Wild Horse Carrying Capacities for the Medicine Butte Allotment

C. Riparian Data Summary

- 1) Perennial Streams
 - a) Paris Creek T25N, R62E, S24,25 Stream habitat overall rating was 49% in 1989 compared to 65% in 1980. However, off bank stream riparian condition was rated 97% and bank cover and stability were rated in good/excellent condition. The difference between the ratings was due to a drop in the pool/riffle ratio which is not a function of grazing.
 - b) Snow Creek T26N, R63E, S31,32 and T25N, R62E, S1,2,3 Off bank stream riparian condition survey rated Snow Creek in good condition in 1989. Due to the lack of water in the creek caused by the drought, pool/riffle ratio was not read in 1989.

2) Springs

 a) The following spring sources have been eliminated from monitoring due to inaccessibility of site.

T25N, R62E, S13 NWSW T25N, R62E, S24 NWNE T25N, R60E, S36 SESW b) The following spring sources are nonexistent at the legal location specified.

T25N, R62E, SØ1 SW T25N, R62E, S13 SENW T24N, R60E, S22 NESW T21N, R62E, S15 SENW T25N, R62E, SØ8 SESW T25N, R63E, S18 SWNE

c) The following springs are located on private ground.

T21N, R62E, S21 SWSW T25N, R62E, SØ5 SENW T25N, R62E, S12 SENW T26N, R62E, S33 NWNE

d) The following spring sites are in good or better condition with utilization levels not exceeding 55% on perennial grasses and grass-like species and 45% on shrubs along riparian areas and mesic meadows.

T24N, R60E, S01 NWSW T24N, R62E, S29 SENW T25N, R60E, S12 NESW T25N, R63E, S18 SENE T25N, R63E, S18 SWSE T25N, R63E, S18 SWSW T21N, R62E, S15 SWNW T25N, R60E, S12 SENW T25N, R61E, S31 NWNW

4. Climate

11.5

a. Precipitation

Data from the National Oceanic and Atmospheric Administration weather station located at Ely is being used for this evaluation with the exception of the Pony Mountain and Slough Meadows use areas. The Ruby Valley weather station data is being applied in these areas. The normal crop year precipitation for Ely for the period 1951-1980 was 7.75". Crop yield is the effective precipitation for plant growth. It is the "crop year" precipitation that is measured to compute yield indices. The crop year precipitation is measured from September of the previous year through June of the growth year in the Intermountain Big Sagebrush Region (Sneva et. al. 1983). Table II illustrates the yield index for Ely from 1987-1990. Table II. - Yield Index For Ely

Year		Crop Yield	Precipiation Index			Yield Index	
	1987	8.02		103%		104%	
	1988	8.17		105%		106%	
	1989	6.44		83%		79%	
	1990	7.12		92%		90%	

Annual precipitation varies from 7-12 inches. The general precipitation pattern is one of limited moisture, yet moisture is normally available during the growing season. There is a slight increase in precipitation with a rise in elevation. Much of the total precipitation occurs during the winter months in the form of snow.

b. Temperatures

Temperatures vary considerably in the area with extremes of 100 degrees in the summer to -30 degrees in the winter with wind chill making it even colder. Average temperatures in the summer are 68 degrees Fahrenheit and 24 degrees Fahrenheit in the winter. Temperatures may vary daily as much as 45 degrees.

c. Growing Season

The growing season is short with approximately 100 frost-free days annually. In the valley and on the adjacent benches, spring growth normally begins in mid-March and continues through late May/early June. In the mountains, at higher elevations, growth is on the average of 30-45 days later. Heavy snowfall may occur in December/January ending the grazing season until spring.

5. Ecological Condition

Ecological condition mapping was conducted in the Medicine Butte Allotment in 1987 using the Order III soil survey. However, the allotment was not completed nor are summaries available at this time.

Ecological condition was read on the key use area MB-01 in the Hunter Point Use Area. The study area is a 2B-B-13 ecological site dominated by winterfat.

9/3/87....MB-01....48% or Mid-seral ecological condition

V. Conclusions

. . . .

1. Land Use Plan Objectives

III., B., 1., (a)-Not Met

<u>Rationale:</u> Existing vegetation in specific key use areas is not in the appropriate successional stages. Silty winterfat sites are in late seral stages with grasses increasing and winterfat, the key species, decreasing.

III., B., 1., (b)-Not Met

<u>Rationale:</u> Proper utilization levels are being exceeded in all areas where wild horses are present. The level of use is jeopardizing the thriving natural ecological balance of the vegetation and contributing to the deterioration of the range.

Rationale: Allowable use levels on deer key species have not been exceeded in most seasonal use areas in the allotment. However, augmentation of big game species may cause conflict with existing uses in the allotment until such a time that livestock and wild horse numbers can be reduced and brought into balance with existing vegetation.

III., B., 1., (d) - Met

Rationale: Utilization levels are not exceeding 55% on perennial grasses and grass-like species and 45% on shrubs along stream riparian areas and mesic meadows.

III., B., 1., (e)-Not Met

Rationale: Allowable use levels on livestock and wild horse key species have been exceeded on portions of the allotment.

2. Rangeland Program Summary Objectives

Range

1.3 .

III., B., 2., (a)-Not Met

Rationale: Due to the current competition for forage by all users on the allotment, there are not 12,915 AUM's available for livestock use. The Butte Valley native range is not being maintained in the desired seral stage of ecological condition. Proper utilization levels in the Paris seeding have been exceeded resulting in a poor overall condition rating for the seeding. Utilization levels on the key species in large portions of the allotment have exceeded proper use levels.

Wild Horses

III., B., 2., (b)-Not Met

Rationale: Monitoring studies indicate that the rangeland habitat is not adequate to support previously established Appropriate Management Levels (AML) of wild horses. The last census count of the Buck and Bald HMA and the Butte HMA indicate that wild horse numbers exceed twice the allowable AML preventing the maintainence of a thriving ecological balance of the rangeland and contributing to further deterioration of the range resource.

Wildlife

III., B., 2., (c)-Met

<u>Rationale:</u> Deer habitat is in the appropriate condition and providing for at least "reasonable numbers" of deer and antelope.

III., B., 2., (d)-Met

<u>Rationale:</u> Areas used by mule deer are in appropriate seral stages and allowable use levels are not being exceeded on deer key species.

III., B., 2., (e) - Met

<u>Rationale:</u> Utilization levels are not exceeding 55% on perennial grasses and grass-like species and 45% on shrubs along stream riparian areas and mesic meadows. III., B., 2., (f)-Met

Rationale: Sage grouse breeding complexes are being maintained.

III., B., 2., (g)-Not Met

<u>Rationale:</u> Utilization on white sage flats within two miles of ferruginous hawk nest sites exceed proper use.

III., B., 2., (h)-Met

Rationale: Aspen stands are in an early or mid seral stage and white fir is in a late seral stage.

III., B., 2., (i)-Met

<u>Rationale:</u> 5.0 miles of stream riparian habitat is in good or better condition as surveyed in 1989.

VI. Technical Recommendations

A. Problem

x 63 x

The major resource problem on the Medicine Butte Allotment is the over utilization of key species by livestock and wild horses. The cause can be attributed to excessive numbers, poor distribution and yearlong grazing. This has led to a decrease in carrying capacity, undesirable ecological range condition and a deterioration of the range resource. The situation has been aggravated by a persistent five year drought.

- B. Solution
- 1. Short Term

Hunter Point Use Area

1) Reduce adjudicated preference for livestock from 2060 AUMs to 1154 AUMs as indicated by monitoring studies.

2) Establish wild horse use at 273 AUMs as indicated by monitoring studies.

 All trailing and bedding will be done in the black sage benchlands.

4) No saltblocks are to be located within 3/4 mile from water.

5) No sheep camps or water haul sites are to be located within 1/4 mile of winterfat/salt sage flats.

Telegraph Use Area

1 3 3

1) Reduce adjudicated preference for sheep from 2510 AUMs to 1330 AUMs as indicated by monitoring studies.

2) Establish wild horse use at 139 AUMs as indicated by monitoring studies.

3) Rotate the "circle" pattern of sheep use that is made on Telegraph to give the key species a chance to complete their physiological cycle once every two years.

4) No saltblocks are to be located within 3/4 mile from water.

5) No sheep camps or water haul sites are to be located within a 1/4 mile of winterfat/salt sage flats.

Pony Mountain Use Area (includes Paris Seeding)

1) Reduce adjudicated preference for livestock from 3236 AUMs to 906 AUMs as indicated by monitoring studies.

2) Establish wild horse use at 134 AUMs as indicated by monitoring studies.

3) Rotate late spring/early summer grazing use on Pony Mountain with the Sorenson permit on Bald Mountain, Elko County, every other year.

4) No saltblocks are to be located within 3/4 mile from water.

Snow Creek Seedings

1) Reduce adjudicated preference for livestock from 888 AUMs to 445 AUMs on the North Seeding as indicated by monitoring studies.

2) Reduce adjudicated preference for livestock from 551 AUMs to 496 AUMs on the South Seeding as indicated by monitoring studies.

3) Increase adjudicated preference for livestock from 227 AUMs to 257 AUMs on the West Seeding as indicated by monitoring studies.

4) Ensure maintenance of existing pipelines to encourage uniform distribution.

5) No use is authorized to be made in the seedings until 4/15 or until range readiness as determined by on site inspection.

Butte Valley Use Area

11 .

1) Reduce adjudicated preference for livestock from 4338 AUMs to 1301 AUMs as indicated by monitoring studies.

2) Establish wild horse use at 173 AUMs as indicated by monitoring studies.

3) No saltblocks are to be located within 3/4 mile from water.

4) No sheep camps or water haul sites are to be located within 1/4 mile of winterfat/salt sage flats.

Slough Meadows Use Area

1) Increase adjudicated preference for livestock from 1046 AUMs to 1130 AUMs as indicated by monitoring studies.

2) Establish wild horse use at 181 AUMs as indicated by monitoring studies.

3) No saltblocks are to be located within 3/4 mile from water.

4) Mitigate "early arrival" on the slough by implementing the Snow Creek Seeding IV which cattle would graze until June 15.

5) Eliminate domestic horse permit or confine horses to the fenced Snow Creek seedings.

Black Mt./Canyon Use Area

1) Reduce adjudicated preference for sheep from 318 AUMs to 143 AUMs as indicated by monitoring studies.

2) Establish wild horse use at 38 AUMs as indicated by monitoring studies.

3) No saltblocks are to be located within 3/4 mile from water.

2. Long Term

11 .

Long term projects will be initiated when time, funding, and manpower allows.

Hunter Point Use Area

1) Implement South Butte Fence Project to eliminate livestock drift and define allotment boundaries.

2) Reestablish Gulf Well to working condition to encourage more uniform distribution.

Pony Mountain Use Area (includes Paris Seeding)

1) Fence the Paris Seeding within the Pony Mountain Use Area.

2) Implement a brush control management program in the Paris seeding.

Snow Creek Seedings

1) Implement the Snow Creek Seeding IV and associated fence.

2) Implement a rotation grazing system after implemenation of the proposed Snow Creek Seeding IV.

 Implement a brush control management program in the Snow Creek seedings.

Butte Valley Use Area

1) Reestablish Old Well to working condition to encourage more uniform distribution.

2) Implement the Medicine Butte/Thirty Mile Boundary Fence which is in the feasibility phase. This fence would eliminate trespass and livestock drift and define allotment boundaries.

C. Additional Monitoring Data Required

Continue to conduct key forage plant utilization on key areas every 2-3 years to ensure correct stocking rates and utilization by livestock, wildlife and wild horses.

Continue to monitor livestock, wildlife and wild horse actual use.

Map ecological status for the allotment based on the completed third order soil survey and range site information.

Establish frequency trend study(s) on the native range as funding and manpower allows.

Appendix I.-1982 Water Resource Inventory on Medicine Butte

Site

11 3

Location

FRANK WELL	T22N	R61E	S2Ø	NWSE
BUTTE CHNG PPLN	T24N	R62E	SØ3	NENE
BUTTE CHNG PPLN	T24N	R62E	S15	NESW
DRILL HOLE	T22N	R61E	506	SW
DRILL HOLE	T22N	R61E	SØ7	SW
GULF WELL	T2ØN	R62E	514	SESE
NINE MILE WELL	T24N	R62E	514	SWSW
OLD WELL	T22N	R60E	S26	NESE
PARIS CREEK	T25N	R62E	S24	SE
PARIS WELL	T23N	R61E	SØ7	NESE
PONY SPRING	T24N	RGØE	SØ1	NWSW
RYE GRASS WELL	T22N	R61E	SØ7	NW
SNOW CREEK	T26N	R62E	S27	NE
SNOW CREEK PPLN	T26N	R62E	S34	NWNE
HUNTER TANK PPLN	T21N	R62E	S29	NESW
HUNTER TANK PPLN	T21N	R62E	S31	NW
JOHNSON SPRING	T24N	R62E	S29	SENW
UNNAMED PPLN END	T24N	R62E	S1Ø	NWSW
UNNAMED PPLN RES	T25N	R62E	S1Ø	NENE
UNNAMED PPLN RES	T24N	R62E	S1Ø	NENE
DRILL HOLE	T24N	R61E	529	SENE
UNNAMED RES	T22N	R61E	SØ5	SESW
UNNAMED RES	T24N	R61E	SØ1	NESE
UNNAMED RES	T24N	R62E	504	SENW
UNNAMED RES	T24N	R62E	SØ8	NENE
UNNAMED RES	T25N	R62E	S17	NW
UNNAMED RES	T25N	R62E	S21	NENE
UNNAMED RES	T25N	R62E	S26	SWNW
UNNAMED RES	T25N	R62E	S33	NESE
UNNAMED RES	T25N	R63E	S18	SESW
UNNAMED RES	T23N	R61E	S12	SWNW
UNNAMED SPRING	T21N	R62E	S15	SENW
UNNAMED SPRING	T25N	R62E	SØ8	SESW
UNNAMED SPRING	T25N	R63E	S18	SWNE
UNNAMED SPRING	T24N	R6ØE	S22	NESW
UNNAMED SPRING	T21N	R62E	S21	SWSW
UNNAMED SPRING	T24N	R62E	S12	SWNW
UNNAMED SPRING	T25N	R6ØE	S12	NESW
UNNAMED SPRING	T25N	R6ØE	536	SESW
UNNAMED SPRING	T25N	R62E	SØ1	SW
UNNAMED SPRING	T25N	R62E	SØ5	SENW
UNNAMED SPRING	T25N	R62E	S12	SENW
UNNAMED SPRING	T25N	R62E	S13	NWSW
UNNAMED SPRING	T25N	R62E	S13	SENW
UNNAMED SPRING	T25N	R62E	524	NWNE
UNNAMED SPRING	T25N	R63E	S18	SENE

UNNAMED SPRING	T25N	R63E	S18	SWSE	
UNNAMED SPRING	T25N	R63E	S18	SWSW	
UNNAMED SPRING	T26N	R62E	S33	NWNE	
WESTSIDE SPRING	T21N	R62E	S15	SWNW	
WHITE ROCK PPLN	T25N	R6ØE	SØ2	NESE	
WHITE ROCK SPRING	T25N	R6ØE	S12	SENW	
WILLOW SPRING	T25N	R61E	S31	NWNW	



