

ALLOTMENT MANAGEMENT PLAN
FOR THE
BLACK CANYON ALLOTMENT
BLACK MESA RANGER DISTRICT
APACHE - SITGREAVES NATIONAL FORESTS

PERMITTEE NAME James W. Porter DATE: 1-25-02
DISTRICT RANGER Kate Klein DATE: 1/25/02

I. INTRODUCTION

The Black Canyon Allotment is located south of Heber, Arizona with portions of Townships 11 and 12N and ranges 15 and 16E, Gila and Salt River Meridian (G&SRM), Arizona. Elevations range from 6,500 feet along Black Canyon to near 7,100 feet in the southern part of the allotment. The terrain is relatively gentle and sloping. Ponderosa pine forest dominates the landscape with a minor amount of pinyon/juniper woodland.

This allotment management plan (AMP) shall set forth the objectives, management requirements, improvements needed and monitoring and evaluation standards for the Black Canyon Allotment as outlined in the Forest Plan and the Decision Notice signed by the District Ranger on November 20, 1998.

II. OBJECTIVES

A. Range Conditions

- The long-term goals for range conditions on the allotment in the ponderosa pine are 60% good and 40% fair on full capacity range. Plant composition contains an almost equal distribution of cool and warm season grasses and forbs. Range conditions in the pinyon-juniper woodland are 10% good, 80% fair and 10% or less in poor on full capacity range. Strive to achieve within 25 to 30 years after full implementation of this AMP.
- The short-term objective to meet the long-term goal is to strive to achieve a 10-15% increase in Fair range condition within 10 years after full implementation of this AMP.

B. Browse

- Browse stands are vigorous and well represented on suitable sites. These stands will be considered healthy when no decadence is apparent, plant vigor is indicated by long leader lengths and growth forms are consistent with natural conditions (e.g. browse not clubbed in appearance and trees are not dwarfed or exhibit shrub form). Objective is to achieve in 10 years after full implementation
- Browse should make up 5 to 15% of the total plant composition and of that percent, 45% should be "A" species and 35% should be "B" species (A, B and C species are specified in 1982 Allotment Analysis Handbook "Species Classification list for trees and shrubs"). Strive to achieve within 25 to 30 yrs after full implementation.
- Increase browse density by 20% above current levels. Strive to achieve with 25 to 30 yrs after full implementation.

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- Increase the density and distribution of aspen and oak, over at least 20% of the capable areas. Aspen and oak are satisfactorily reproducing and all age classes are represented. Utilization across the range does not exceed 20% on terminal bud in the seedling/sapling age classes.

C. Watershed and Soils

- In woodland stands where the canopy cover is <20%, there is a 60% ground cover. Strive to achieve within 25 to 30 yrs after full implementation.
- In the grasslands on FC range, have effective herbaceous ground cover of 80%. Strive to achieve within 25 to 30 yrs after full implementation.
- The ponderosa pine upland on Full Capacity (FC) range, have effective herbaceous ground cover of 80%.
- Residual cover is at least 6 inches for cool season species and 4 inches for warm season species.
- Watershed conditions are stable along Black Canyon, West Fork of Black Canyon and their tributaries.

D. Riparian

- Establish and maintain riparian broad-leaved forests (cottonwood, aspen and oak) in a healthy condition. Emphasize a mix of age classes of broad-leaved species in riparian areas, increase the density and distribution of soil holding herbaceous plants such as sedges and rushes and reduce streambank trampling by ungulates. Manage for a desired use level of 20% on riparian species to promote survival of regeneration within drainages.
- Range conditions in riparian areas are at good or better condition. Reproduction is occurring. Utilization of shrub and trees does not exceed 20% of terminal buds within reach of ungulates. All age classes are occurring.

E. Wildlife

- Have 50% of the available forage for wild ungulates. Strive to achieve within 5 years. This will be measured by monitoring wildlife utilization in areas of the herd unit with no cattle grazing (rested pastures/cattle exclosures).
- The herbaceous vegetation is managed through proper allowable utilization levels to provide for suitable habitat for the various prey species of the northern goshawk and Mexican spotted owl.

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III. MANAGEMENT

The Term Grazing Permit will be issued for 60 head of Cow/calves with a 5-month season of use (June 1 to October 31). The grazing rotation is as follows:

2002

Porter	6/1 to 6/23
Sharp Hollow	6/24 to 8/4
Stermer	8/5 to 9/2
King Phillip	9/3 to 10/14
Nelson	10/15 to 10/31

2003

King Phillip	6/1 to 7/14
Sharp Hollow	7/15 to 8/24
Stermer	8/25 to 9/22
Nelson	9/23 to 10/6
Porter	10/7 to 10/31

2004

Stermer	6/1 to 7/1
Nelson	7/2 to 7/15
Porter	7/16 to 8/7
King Phillip	8/8 to 9/17
Sharp Hollow	9/18 to 10/31

2005

Sharp Hollow	6/1 to 7/14
Stermer	7/15 to 8/12
King Phillip	8/13 to 9/22
Nelson	9/23 to 10/6
Porter	10/7 to 10/31

2006

Porter	6/1 to 6/25
King Phillip	6/26 to 8/5
Sharp Hollow	8/6 to 9/15
Stermer	9/16 to 10/14
Nelson	10/15 to 10/31

2007

Nelson	6/1 to 6/16
Porter	6/17 to 7/9
Stermer	7/10 to 8/7
King Phillip	8/8 to 9/17
Sharp Hollow	9/18 to 10/31

2008

King Phillip	6/1 to 7/14
Sharp Hollow	7/15 to 8/24
Stermer	8/25 to 9/22
Nelson	9/23 to 10/6
Porter	10/7 to 10/31

2009

Stermer	6/1 to 7/1
Nelson	7/2 to 7/15
Porter	7/16 to 8/7
King Phillip	8/8 to 9/17
Sharp Hollow	9/18 to 10/31

2010

Sharp Hollow	6/1 to 7/14
Stermer	7/15 to 8/12
Porter	8/13 to 9/4
Nelson	9/5 to 9/18
King Phillip	9/19 to 10/31

2011

Porter	6/1 to 6/25
King Phillip	6/26 to 8/5
Sharp Hollow	8/6 to 9/15
Stermer	9/16 to 10/14
Nelson	10/15 to 10/31

These dates serve only as a guide and may need to be adjusted annually.

The desired utilization levels by both wildlife and livestock will be as follows: 25% of herbaceous forage species, 20% of terminal buds of riparian shrubs and trees, and 45% on browse species (see monitoring section for more details).

Livestock shall not enter the allotment until the scheduled date identified on the AOP or Grazing Permit. The Permittee shall provide at least 5 days advance notice of entering the allotment, the location of entry, and the means by which the livestock will be placed on the allotment. All livestock, including strays shall be removed from the allotment by the last day shown on the AOP and Grazing Permit.

All livestock must be branded or marked, as identified on the current brand certificates in the Term Grazing Permit.

A request for an extension of the grazing season must be received in writing at least 30 days before the end of the season, which shall state the reason for extension. Excess forage is not automatic grounds for approving extensions. Approval will be determined on resource needs (soil protection, seed crop for next year, etc.) and not based on permittee convenience. Approval applies to only current year and previous years' approval does not constitute automatic approval for succeeding years. Any extensions will be paid for at the current grazing fee rate. A request for non-use must be received in writing at least 45 days prior to the grazing season.

Livestock may be moved from pasture to pasture within 3 days of the planned rotation dates. At least 90 percent of the permitted livestock must be moved by the scheduled date, and all livestock must be moved into the correct pasture within 3 days after the scheduled leave date. The permittee must notify the District Ranger if there is a need to deviate from planned rotation dates.

Livestock allowed to remain in pastures beyond the specified rotation date, allowed to drift between pastures, or allowed in a rested pasture will be considered a violation of the Term Grazing Permit. Animals on the allotment after the "off" date may be billed for at the unauthorized use rate and may be subject to other administrative actions on the permit.

Livestock will be managed to avoid concentrated use in any one area, especially riparian areas. A full-time rider may be necessary to disperse livestock and deter concentrations in preferred areas. Permittee shall manage livestock to utilize the less preferred areas by hauling water, placing salt or supplement feed, and herding as needed to achieve proper use.

Salt and mineral blocks may be placed in lightly used areas until the desired level of forage use is achieved. Blocks will not be placed in areas within a quarter mile of water or a riparian area and ideally no closer than 1/2 mile. Blocks will not be placed in over-used areas, meadow bottoms, along roads, along trails, or in heavily used recreation areas. Every time blocks are put out, they need to be placed at different sites. Blocks will be placed on sites not susceptible to erosion.

The permittee is encouraged to have off-Forest range to use in the event drought, excess forage utilization or other unforeseen events necessitate early livestock removal. When these conditions occur, the District Ranger, with input from the permittee, will make the determination if livestock removal is required for resource protection. Drought situations may alter grazing sequence or length of grazing period. The season or numbers may be adjusted in proportion to the amount of moisture that has been received to date.

The number of livestock and/or season of use may be adjusted if the forage use standards or other management objectives are not being met. Livestock will be moved to the next pasture in the grazing schedule or off the Forest when utilization standards are exceeded.

IV. Improvements

The range improvements planned for the allotment include:

Build a livestock riparian enclosure fence (2.5 miles) parallel to Forest Road 86, in the King Phillip Pasture. Forest Service will build, and then it will become the permittees maintenance responsibility to maintain.

Construct a 10,000 gallon trick tank in Nelson Pasture. The Forest will build with funding from grants.

Construct new corrals in sec. 36 of the Stermer Pasture. The permittee will construct and he will furnish his own materials.

Rebuild or complete heavy maintenance on 7 miles of the west allotment boundary fence along Porter and Nelson Pasture. The permittee will construct the fence and the Forest Service will supply the materials.

Range Improvement Standards

All assigned range improvements will be maintained by the permittee. When the annual grazing application is approved, in whole or in part, livestock will not be placed on an allotment or moved into pastures if permit requirements concerning range improvement maintenance are not met. Proper maintenance of the range improvements will insure that the condition of the improvements is adequate to hold livestock in a pasture and will extend the useful life of the improvements. Forest officers periodically will inspect assigned improvements for compliance with maintenance standards prior to livestock entry or movement dates. All range improvements are the property of the U.S. Government.

A permit modification will be prepared for approved projects each year. Permittee will sign a permit modification form for the project and will sign for materials furnished by the Forest. Ground disturbing activities will not be initiated by the permittee until proper clearances have been approved. Annual fence maintenance does not require approval.

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A. Fences. Standards for maintenance and construction are:

1. All allotment boundary fences are to be maintained prior to livestock entering National Forest lands. Livestock will not be permitted to enter the Forest until fences have been properly maintained to keep livestock where they are placed.

2. Each permittee is responsible for the maintenance of all or a portion of an allotment boundary fence. A permittee will not be allowed to place livestock on the allotment if the neighboring permittee does not maintain their assigned allotment boundary fence.

3. Pasture fences will be maintained before moving livestock to a new pasture.

4. Old wire and steel fence posts will be removed from the Forest.

5. Broken wire will be spliced with good quality double strand, 12-1/2 gauge barbed or smooth wire.

6. Wire spacing will be similar to original spacing. The top wire height will not exceed 42 inches. The bottom wire will be smooth wire. The bottom wire will be 18 inches from the ground. The remaining wire strands will be spaced as follow, counting from the bottom wire: 18 inches, 24 inches, 32 inches, and 42 inches.

7. Wire will not be over tightened and will be stretched to remove slack.

8. Broken posts or rotten wood posts will be replaced with a steel post or a juniper or treated wood post greater than 5 inches in diameter.

~~9. Brace posts will be maintained in tight and serviceable condition.~~

~~10. Steel posts that have settled may need to be jacked up and possibly moved. Leaning steel posts will be straightened.~~

11. Gates will be maintained so they can be opened easily. Gate sticks will be 2-3 inches in diameter. Smooth wire will be used for gate loops.

12. At least 90 percent of fence stays will be sound. Replacement stays will be good quality wood, 1-1/2-inch by 3 inches in diameter. The bottom of each stay will rest on the ground. Galvanized stay wire will be used for tying stays. For 20-foot spacing between posts, three stays shall be used.

13. Missing staples and fence clips will be replaced.

14. All trees, which have fallen across the fence line will be cut and removed from the fence right-of-way.

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B. Water. Issuance of this grazing permit and the permittee's acceptance of the permit does not convey ownership of a water right to the permittee(s) but allows the use of a portion of it within the terms of the appropriation. The Forest has filed for water rights on these waters with the State of Arizona. Grazing domestic livestock may not be possible without these water rights. The Forest will retain ownership of the water rights as appropriated to the United States Forest Service (USFS) for current and future grazing permittees as well as for wildlife and recreation consumptive needs. Ownership of the water rights belonging to the USFS will assure that the use of the water will be appurtenant to the land and will be available for both current and future grazing permittees.

Stock water is important for proper livestock distribution. Water must be used to demonstrate beneficial use in order to maintain water rights. If natural water is not available, the permittee may haul water to obtain proper livestock distribution. The following will be done:

1. Trick Tanks.

a. Fences around water sources and equipment shall be maintained annually to FS standards.

b. Collection boxes, inlet pipes, and water troughs will be clean of sediment and debris before the improvement is used and during the grazing season as needed.

c. Broken pipe will be repaired or replaced. Material not usable will be removed from the Forest and disposed of properly.

d. Troughs that leak will be repaired. Troughs should be level. Overflow pipes should be placed to avoid creating a boggy area at the trough. Rusted out troughs need to be replaced through a permit modification.

e. Float valves will be cleaned and set to prevent overflow. They shall be checked regularly when pasture is in use and shall contain a protective cover to prevent damage from livestock.

f. Troughs shall have escape ramps for small mammals and birds. Escape ramps shall also be maintained.

g. Trick tank support structure and tin shall be inspected annually to insure that the improvement is sound. All damages need to be repaired.

2. Stock Tanks.

a. Check stock tanks for seepage.

b. As a general rule, spillways need to be free of debris and obstructions. Eroded portions need to be repaired when they exist.

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c. Tanks need to be cleaned to their original capacity whenever drought or other circumstances occur that result in the tanks being dry. Special care will be taken during cleaning to prevent future water loss. The work will be coordinated with the District Ranger prior to initiating repairs.

V. Monitoring and Evaluation

It should be recognized that monitoring is not an in depth analysis but a measure of indicators that may trigger further detailed analysis of a particular resource. Either monitoring or detailed analysis may trigger immediate corrective action on the allotment on a seasonal basis or as a change in the AMP and permit.

The following techniques will be used to monitor grazing management:

A. UTILIZATION

Utilization should be determined according to a methodology described in "Utilization Studies and Residual Measurements". Compare actual utilization with allowable standards to determine compliance. Validation of grazing dates and stocking rates can be determined based on actual livestock use in comparison to utilization data.

Three to four places in each pasture were selected for utilization monitoring. These areas are identified on the enclosed map, and will be referred to as Key Areas.

Utilization Data will be collected from key areas in each pasture, which are identified on the enclosed key area map. Key species will be monitored in each key area for actual use. Key species for the respective key areas are:

Nelson Pasture

Key Area #1: western wheatgrass (*Agropyron smithii*) and blue grama (*Bouteloua gracilis*)

Key Area #2: blue grama and western wheatgrass

Key Area #3: blue grama and mountain muhly (*Muhlenbergia montana*)

Porter Pasture

Key Area #1: Arizona fescue (*Festuca arizonica*) and mountain muhly

Key Area #2: blue grama and mountain muhly

Key Area #3: Arizona fescue, blue grama and western wheatgrass

King Phillip Pasture

Key Area #1: western wheatgrass and blue grama

Key Area #2: western wheatgrass and blue grama

Key Area #3: Kentucky bluegrass (*Poa pratensis*), blue grama and narrowleaf cottonwood (*Populus angustifolia*)

Key Area #4: blue grama

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Sharp Hollow Pasture

Key Area #1: blue grama, Kentucky bluegrass and Arizona fescue

Key Area #2: blue grama and Arizona fescue

Key Area #3: blue grama, Kentucky bluegrass and narrowleaf cottonwood

Key Area #4: blue grama

Stermer Pasture

Key Area #1: blue grama and western wheatgrass

Key Area #2: blue grama and western wheatgrass

Key Area #3: blue grama and western wheatgrass

Key areas and key species may need adjusting, based on better information, additional improvements, etc.

The desired utilization levels by both wildlife and livestock of these key species (herbaceous) in key areas is 25%. Utilization could not be expected to exactly meet 25% each year, therefore in the long-term a 20 to 30% use would be considered within the acceptable range for this analysis. If annual utilization is above 30% or trends of annual utilization are above 25%, district personnel and the permittee need to re-evaluate the annual stocking. The above ranges apply both to the key species and key areas. If utilization falls outside of these ranges, either high or low, the stocking levels and/or management will be reevaluated. If utilization of one key area or key species is above 30%, then management of that key area should be reassessed, such as salt placement, water locations, etc. The desired utilization levels of browse species is set at 45% and riparian species is set at 20% of the terminal buds.

Utilization monitoring is the responsibility of the Permittee. The measurements should be taken within 5 days after the scheduled pasture move date specified in the Annual Operating Plan. The data sheets should be turned into the District Ranger within 8 days of the scheduled move date. Pasture use monitoring should be documented and filed in 2210/2230. Successive monitoring data will be used in validating pasture and allotment capacities. Current information on precipitation, forage production, and/or use levels may be used to adjust annual grazing use. The permittee should also keep a copy for their records.

B. COMPOSITION AND DENSITY

To determine changes in composition and density, long-term validation will be accomplished through re-reading Parker 3 Step clusters and/or establishing Daubenmire (cover/frequency) transects as per R3 Rangeland Guide. These range clusters are suitable for determining long-term trend in vegetation and should be read before the 5th year and again the ninth or tenth year after the signature of the decision. Great changes may not occur during the 10-year period but trend indications should be detected. The trend indications gathered from transects, should be measured against the desired condition/objectives.

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New clusters may be located within each pasture and should be established and read before the 5th year and read again the ninth or tenth year after the signature of the decision.

C. GROUND COVER

Determination of ground cover can be replicated at range clusters. In most cases, an increase in vegetation cover from baseline measures is considered as moving toward Desired Conditions (DC), a decrease is considered as not accomplishing DC. Data will be collected on transects during the ninth or tenth year (same as vegetation monitoring).

D. CAPACITY ESTIMATES

Objective is to determine if original capacity estimates based on desired use levels are correct for individual pastures, considering vegetation, landscape, resource conditions, and forage preference. A combination of utilization monitoring, composition and density and ground cover will be used to validate capacity estimates. The utilization monitoring, composition, density and ground cover data, yearly precipitation data from local stations and any other pertinent information should be reviewed by the District Ranger, Range and Wildlife personnel from the Forest Service, along with the permittee, between the 5th and 6th years. Due to the unpredictability of the results of the data collected, evaluations of stocking will need to be made at this time. Validation of capacity estimates may result in further adjustments in stocking rates, season of use, or both, either up or down.

E. ACTIONS

Monitoring will be used to adjust or amend previously described actions in the decision document or AMP. Information on monitoring should be shared with the permittee and others concerned with the decision. If the monitoring data is not achieving or moving toward the Desired Conditions, Forest Service personnel must analyze the problem and decide on a course of action. If necessary, an ID Team may be instituted to determine the corrective action needed. Re-initiation of NEPA may not be necessary if the action is still within the scope of the original decision.

Black Canyon Allotment
Nelson Pasture
5/2001 JK

Key Area #2

Key Area #1

Key Area #3

Key Area #1
Bouteloua gracilis (Bogr) blue grama
Agropyron smithii (Agsm) western wheat

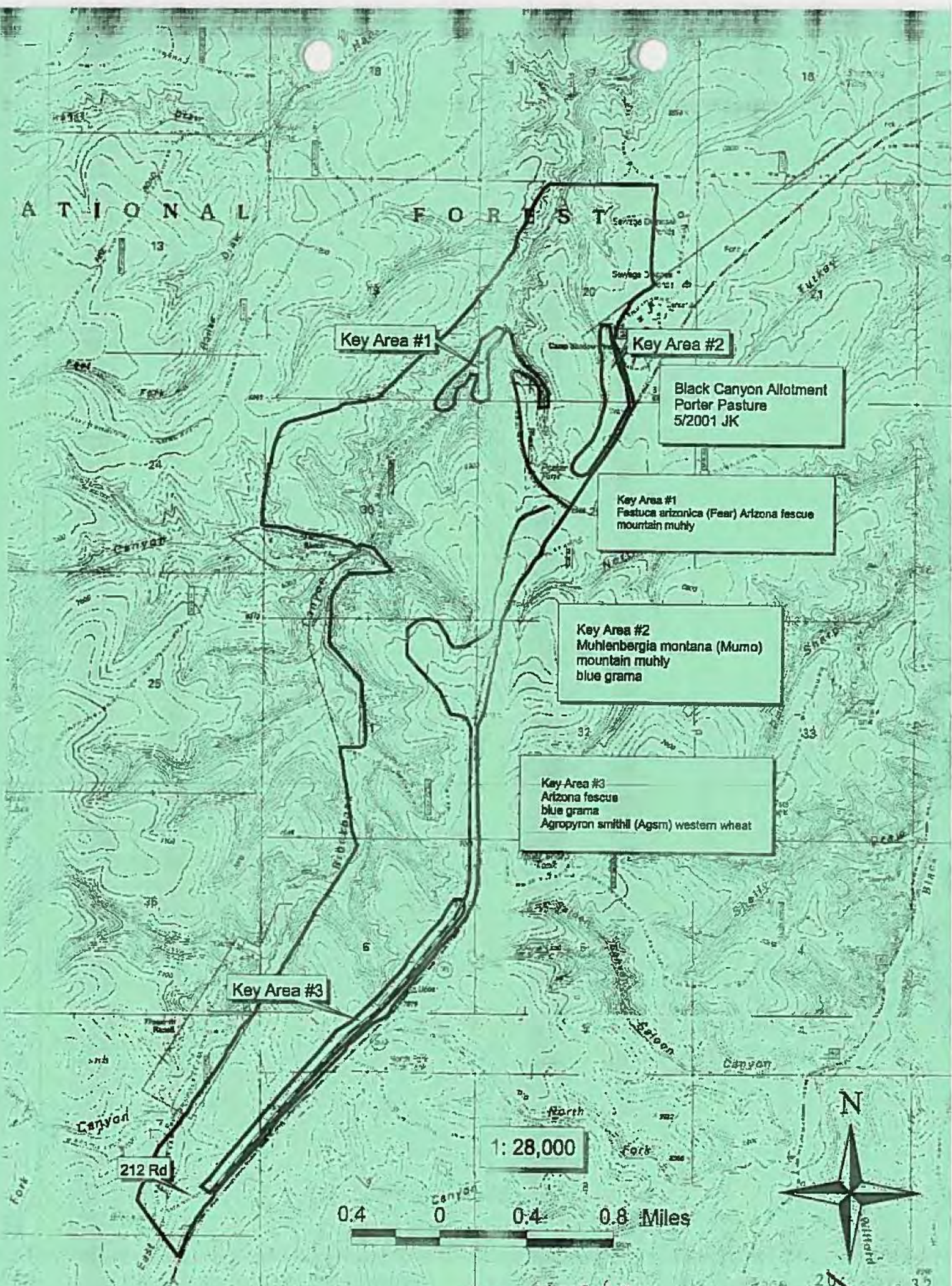
Key Area #2
blue grama
western wheat

Key Area #3
blue grama
Muhlenbergia montana (Mumo)
mountain muhly

1:24,000

0.2 0.4 Miles

F O R E S T



NATIONAL FOREST

Key Area #1

Key Area #2

Black Canyon Allotment
Porter Pasture
5/2001 JK

Key Area #1
Festuca arizonica (Fear) *Arizona fescue*
mountain muhly

Key Area #2
Muhlenbergia montana (Mumo)
mountain muhly
blue grama

Key Area #3
Arizona fescue
blue grama
Agropyron smithii (Agsn) western wheat

Key Area #3

1: 28,000

0.4 0 0.4 0.8 Miles



Black Canyon Allotment
King Phillip Pasture
5/2001 JK

Key Area #4
Bouteloua gracilis (*Bogr*) blue grama

Key Area #1
western wheat
blue grama

Key Area #4

Key Area #1

Key Area #2

Key Area #2
Agropyron smithii (*Agsm*) western wheat
blue grama

Key Area #3

Key Area #3
blue grama
Poa pratensis (*Popr*)
Kentucky bluegrass
Populus angustifolia (*Poan*)
narrow leaf cottonwood



Black Canyon Allotment
Sharp Hollow Pasture
5/2001 JK

Key Area #3
Kentucky bluegrass
blue grama
Populus angustifolia (Poan)
narrowleaf cottonwood

Key Area #4
Bouteloua gracilis (Bogr)

Key Area #4

Key Area #3

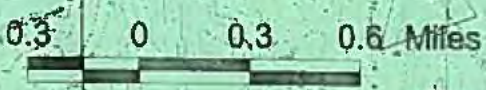
Key Area #2

Key area #2
Festuca arizonica (Fear) Arizona fescue
blue grama

Key Area #1

Key Area #1
blue grama
Poa pratensis (Popr)
Kentucky bluegrass
Arizona fescue

1: 30,000



Black Canyon Allotment
Stermer Pasture
5/2001 JK

Key Area #3
Bouteloua gracilis (Bogr) blue grama

Key Area #3

Guzzler

Key Area #2
blue grama
western wheat

Key Area #1
blue grama
Agropyron smithii (Ags) western wheat

Key Area #1

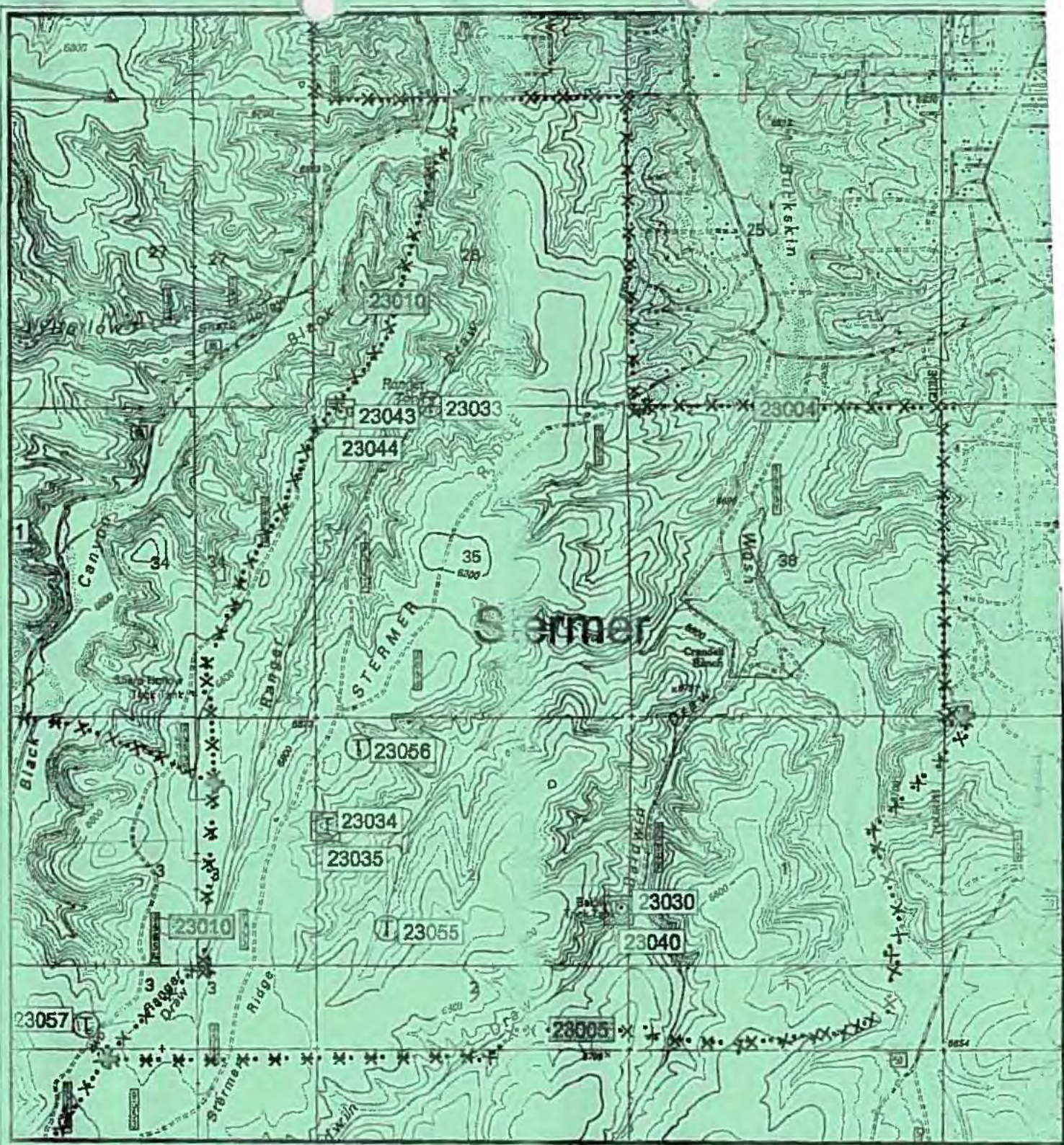
Key Area #2

Scale 1: 24,000

2000 0 2000 4000 Feet



Improvement Name	Improvement Number	Improvement Type	Miles	Maintenance Responsibility
BC -WC Allot Bdy Fence	23001	fence		Black Canyon Permittee
BC -Heber Mud tank Fence	23002	fence		Black Canyon Permittee
BC - Heber Oil Well Fence	23003	fence		Heber Permittee
BC FS - Pivate BDRY fence	23004	fence		Black Canyon Permittee
BC - Heber Bunger Fence	23005	fence		Heber Permittee
BC SH-Heber Bunger Fence	23006	fence		Heber Permittee
BC SH -Heber Gentry fence	23007	fence		Heber Permittee
BC Porter -Heber Nelson fence	23008	fence		Black Canyon Permittee
KP -SH Pasture Div Fence	23009	fence		Black Canyon Permittee
KP -SH - Stermer Pasture Div Nelson HP Fence	23010	fence		Black Canyon Permittee
	23011	fence		Black Canyon Permittee
Job Corp - Porter Fence	23012	fence		Black Canyon Permittee
Porter - HP #1 Fence	23013	fence		Black Canyon Permittee
Turkey Stock Tank	23014	Tank		Black Canyon Permittee
Turkey Stock Tank Fence	23015	fence		Black Canyon Permittee
Red's Stock Tank	23016	Tank		Black Canyon Permittee
Red's stock Tank Fence	23017	fence		Black Canyon Permittee
Upper Sharp Stock tank	23018	Tank		Black Canyon Permittee
Upper Sharp Stock Tank Fence	23019	fence		Black Canyon Permittee
King Phillip Stock Tank	23020	Tank		Black Canyon Permittee
Sharp Hollow Stock Tank	23021	Tank		Black Canyon Permittee
Sharp Hollow Stock Tank Fence	23022	fence		Black Canyon Permittee
Upper Turkey Stock Tank	23023	Tank		Black Canyon Permittee
Upper Turkey Stock Tank Fence	23024	fence		Black Canyon Permittee
Fred Baca HP Corral	23025	Corrals		Black Canyon Permittee
Sink Stock Tank	23026	Tank		Black Canyon Permittee
Jeep Stock Tank	23027	Tank		Black Canyon Permittee
King Phillip Guzzler	23028	guzzler		Arizona G & F
Hoyle Stock Tank	23029	Tank		Black Canyon Permittee
Baldwin Trick Tank	23030	trick tank		Black Canyon Permittee
North Fork Trick Tank	23031	trick tank		Black Canyon Permittee
Porter Stock Tank	23032	Tank		Black Canyon Permittee
Ranger Stock Tank	23033	tank		Black Canyon Permittee
Topsy Stock Tank	23034	Tank		Black Canyon Permittee
Topsy Stock Tank fence	23035	fence		Black Canyon Permittee
Clay Stock Tank	23036	tank		Black Canyon Permittee
Clay Stock Tank Fence	23037	fence		Black Canyon Permittee
Brookbank Stock Tank	23038	tank		Black Canyon Permittee
North Fork Trick Tank fence	23039	fence		Black Canyon Permittee
Baldwin TT fence	23040	fence		Black Canyon Permittee
Sharp Hollow Trick Tank	23041	trick tank		Black Canyon Permittee
Sharp Hollow TT fence	23042	fence		Black Canyon Permittee
Ranger Trick Tank	23043	trick tank		Black Canyon Permittee
Ranger Trick Tank Fence	23044	fence		Black Canyon Permittee
Nelson Shipping Corral	23045	Corrals		Black Canyon Permittee
Nelson stock tank	23046	Tank		Black Canyon Permittee
Nelson Stock tank fence	23047	Fence		Black Canyon Permittee



Map Legend:

**Black Canyon Allotment
Black Mesa R. D.
Apache-Sitgreaves N. F.'s
Range Improvements -
Stermer Pasture**

Disclaimer Statement:
The USDA Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those for which they were intended may yield inaccurate or misleading results. The USDA Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. This map is not a legal land use or ownership document. Public lands are subject to change and leasing, and may have access restrictions; check with local offices. Obtain permission before entering private land.

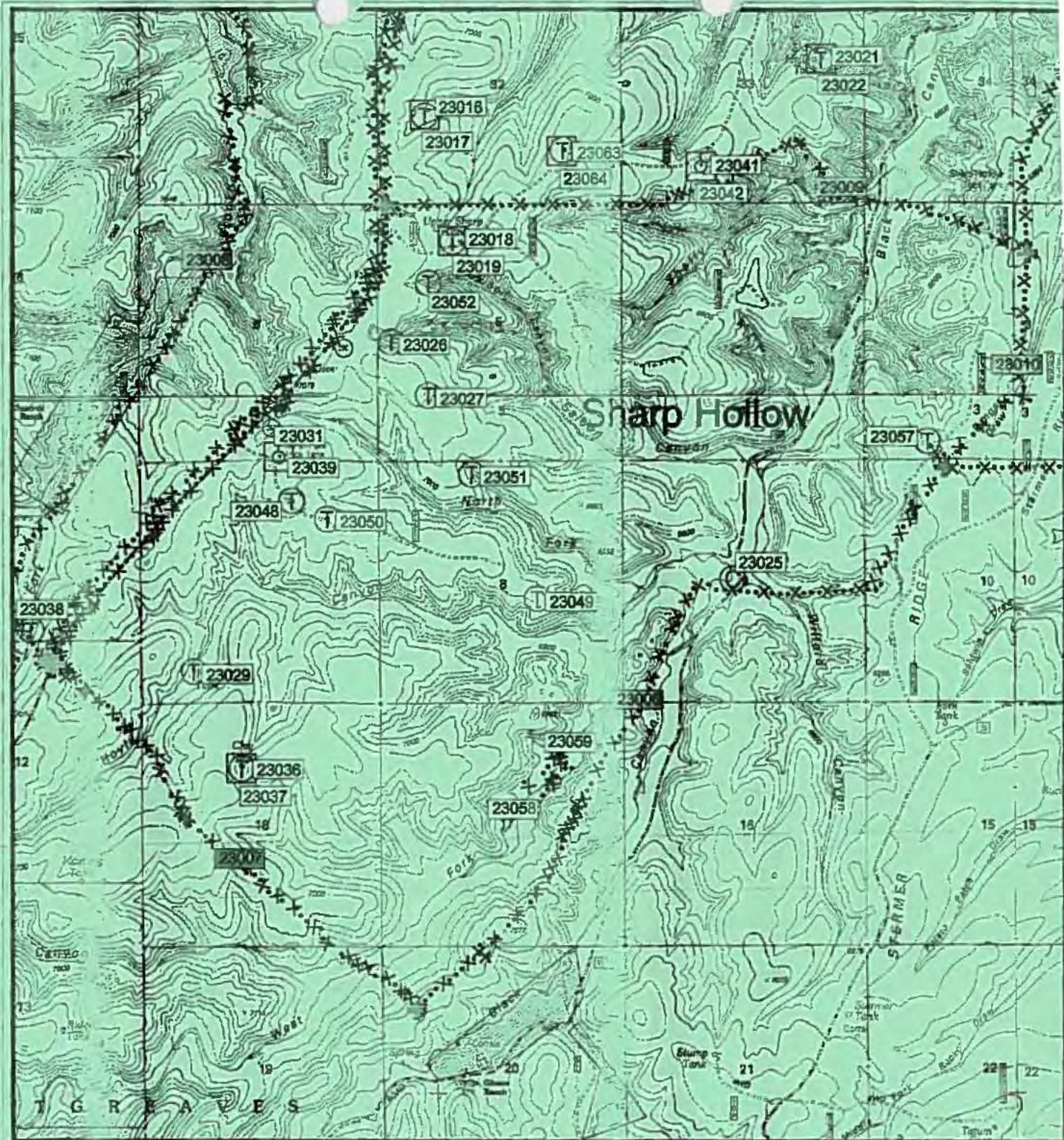
Map Prepared By: S. Richardson Date: 01/16/2008
c:\pfa\black_mesa\range_improvements\stermer_improvements 8 1/2 x 11 layout



Map Scale = 1: 28,000

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Map Legend:

	Improvement 1		Improvement 2
	Improvement 3		Improvement 4
	Improvement 5		Improvement 6
	Improvement 7		Improvement 8
	Improvement 9		Improvement 10
	Improvement 11		Improvement 12
	Improvement 13		Improvement 14
	Improvement 15		Improvement 16
	Improvement 17		Improvement 18
	Improvement 19		Improvement 20
	Improvement 21		Improvement 22
	Improvement 23		Improvement 24
	Improvement 25		Improvement 26
	Improvement 27		Improvement 28
	Improvement 29		Improvement 30
	Improvement 31		Improvement 32
	Improvement 33		Improvement 34
	Improvement 35		Improvement 36
	Improvement 37		Improvement 38
	Improvement 39		Improvement 40
	Improvement 41		Improvement 42
	Improvement 43		Improvement 44
	Improvement 45		Improvement 46
	Improvement 47		Improvement 48
	Improvement 49		Improvement 50
	Improvement 51		Improvement 52
	Improvement 53		Improvement 54
	Improvement 55		Improvement 56
	Improvement 57		Improvement 58
	Improvement 59		Improvement 60
	Improvement 61		Improvement 62
	Improvement 63		Improvement 64
	Improvement 65		Improvement 66
	Improvement 67		Improvement 68
	Improvement 69		Improvement 70
	Improvement 71		Improvement 72
	Improvement 73		Improvement 74
	Improvement 75		Improvement 76
	Improvement 77		Improvement 78
	Improvement 79		Improvement 80
	Improvement 81		Improvement 82
	Improvement 83		Improvement 84
	Improvement 85		Improvement 86
	Improvement 87		Improvement 88
	Improvement 89		Improvement 90
	Improvement 91		Improvement 92
	Improvement 93		Improvement 94
	Improvement 95		Improvement 96
	Improvement 97		Improvement 98
	Improvement 99		Improvement 100

**Black Canyon Allotment
Black Mesa R. D.
Apache-Sitgreaves N. F.'s
Range Improvements -
Sharp Hollow Pasture**

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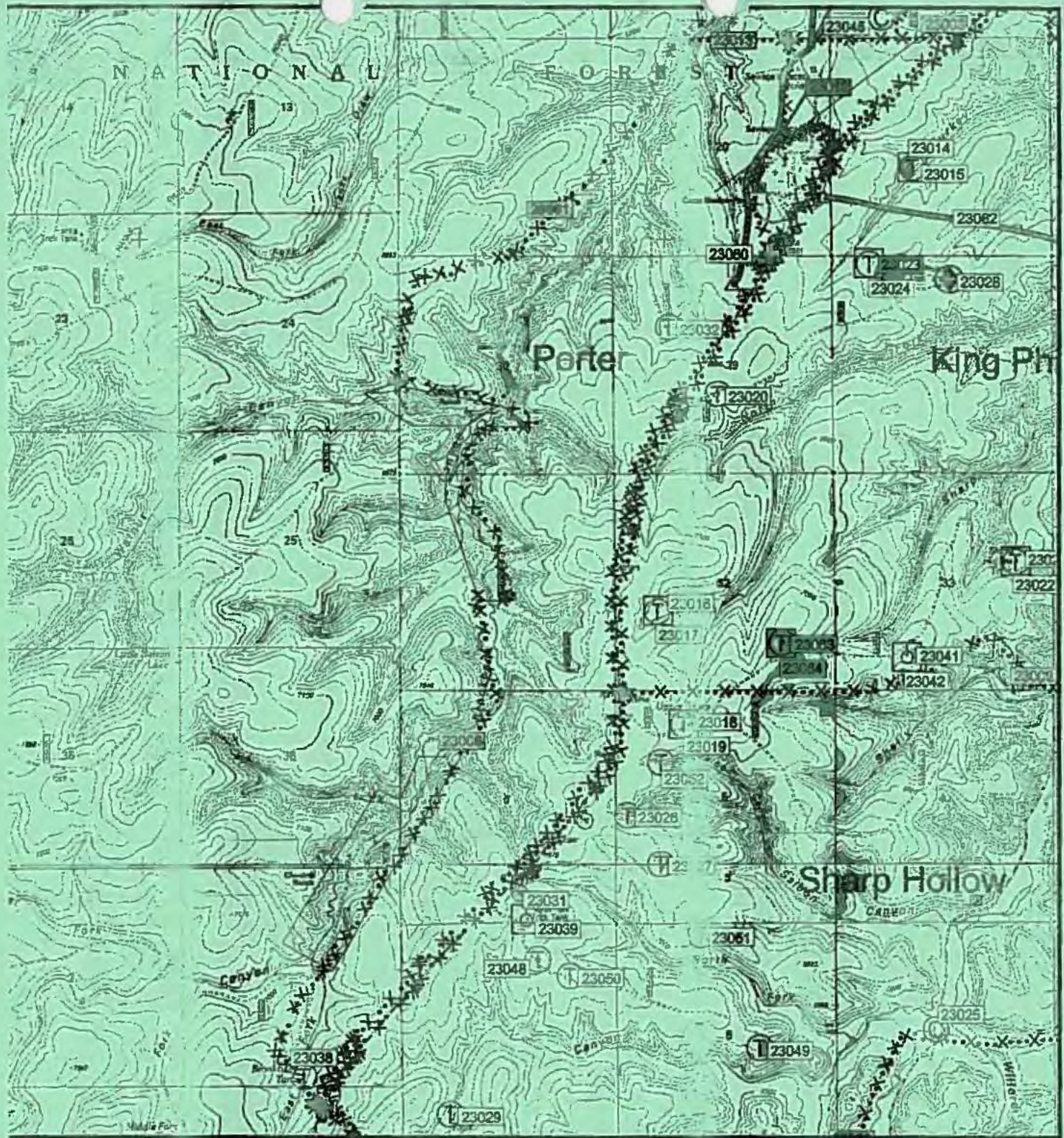
Map Prepared by: B. Richardson Date: 04/16/008
/s/ [Signature] /s/ [Signature]
Sharp Hollow Improvements Area
Sharp Hollow Improvements 8 1/2 x 11 layout



Map Scale = 1 : 36,000

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Permit # 02053

Page ~~29~~ of 32
Permit # ~~02022~~



Map Legend:

	Quantity in legend will be used with symbols as noted
	Water
	Irrigated Area
	Pasture
	Contour
	Road
	Well
	Fence
	Water Storage Tank
	Range Improvement
	Allotment Boundary
	Range Improvement Boundary

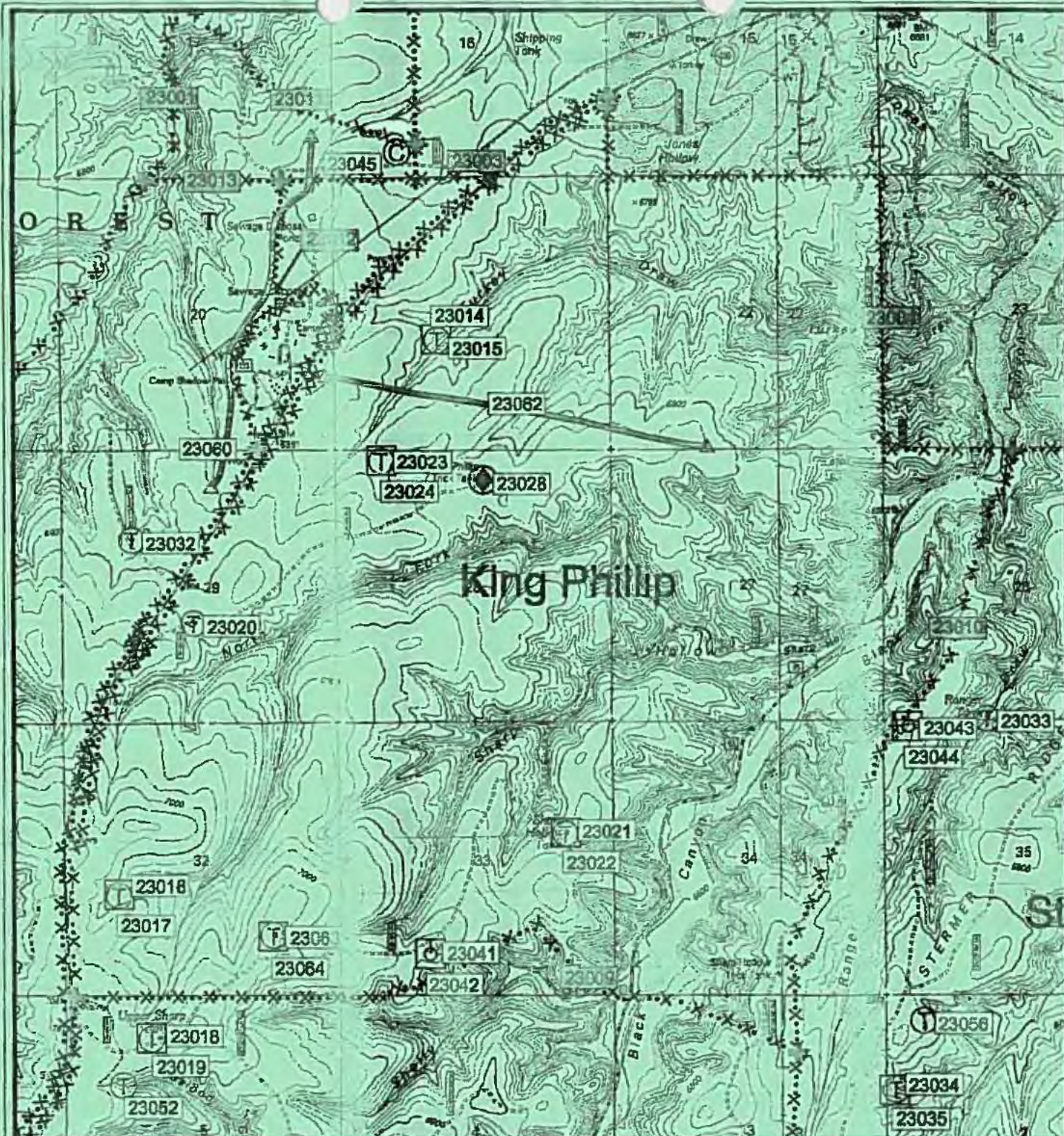
**Black Canyon Allotment
Black Mesa R. D.
Apache-Sitgreaves N. F.'s
Range Improvements -
Porter Pasture**

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Map Prepared By: S. Richardson Date: 04/14/2008
c:\fs\black_mesa\improvements\porter_improvements\porter_improvements 3/1/2011 layout



Map Scale = 1: 40,000



Map Legend:

	Change in segment to use with symbols in map		Well
			Spring
			Sign Post
			Weather Station
			Tool Shed
			Trap
			Water Storage Tank
	Range Improvement 1		Range Improvement 2
	Range Improvement 3		Range Improvement 4
	Range Improvement 5		Range Improvement 6
	Range Improvement 7		Range Improvement 8
	Range Improvement 9		Range Improvement 10

**Black Canyon Allotment
Black Mesa R. D.
Apache-Sitgreaves N. F.'s
Range Improvements -
King Phillip Pasture**

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Map Prepared By: S. Richardson Date: 01/18/2005
c:\gis\black_canyon\improvements\king_phillip_improvements_v10\king_phillip_improvements_8 1/2 x 11 layout



Map Scale = 1: 32,000