OGMCOAL DNR <ogmcoal@utah.gov>

0250005 Coal Hollow Reference Area evaluation

Priscilla Burton <priscillaburton@utah.gov> Tue, Aug 2, 2016 at 3:01 PM
To: OGMCOAL DNR <ogmcoal@utah.gov>

——— Forwarded message ———
From: **Kirk Nicholes** <knicholes@altoncoal.com>
Date: Tue, Aug 2, 2016 at 2:41 PM
Subject: June 13th OSM oversite inspection
To: Lisa Reinhart <lreinhart@utah.gov>, "Priscilla Burton (priscillaburton@utah.gov)" <priscillaburton@utah.gov>
Cc: "Daron Haddock (daronhaddock@utah.gov)" <daronhaddock@utah.gov>

All,

As per the June 13th OSM oversite inspection Item #13-7, I have attached the results for the NRCS evaluation of Coal Hollow reference areas.

Thank You

Kirk Nicholes

Environmental Specialist

Alton Coal Development, LLC

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NRCS Range Site Evaluations.pdf
11432K

Woodland Planning Worksheet

5-May-05

USDA - NRCS

Field Sheet for Determining Yields on Woodlands

Cooperator: P/J reference site

Ecological Site Name: _____

Planner Zac Orton

Worksheet Number: _____

Date: 7-28-16

1/4 Section ____ Section _____ T _____ R_____

Plot Size: _____

Plot Shape: Rectangle __; circle __; Square __;

Zigzag X

Site Index: _____

Tree Species: Pinyon & Juniper

1	2	3	4	5	6	7	8	9	10	11
No.	Distance Between Trees	Tree Height	Age of Tree	DBH Taken at 1 ft. 4.5 ft.	Average Crown Width	Foliage Density	Basal Area	Volume in Cords	Number of Posts	Pounds Airdry
1	18	18		8"	5'					J
2	4	7		3"	2'					J
3	9	15		6"	8'					J
4	21	17		8"	3'					J
5	8	17		6"	6'					J
6	2	20		10"	7'					J
7	20	8		8"	4'					J
8	7	7		3"	2'					J
9	30	3		2"	1'					J
10	4	9		3"	4'					P
11	8	25'		24"	15'					J
12	4	5		2"	2"					P
13	20	10'		6"	7'					J
14	12	15'		6"	4'					J
15	22	15'		12"	10'					J
16	50'	4'		1"	2'					P
17	10'	4'		2"	2'					J
18	25'	8'		4"	5'					P
19	10'	7'		5"	4'					J
20	24'	1'		1"	1'					J
Total	304									
Aver.	15.2									
Total /Acre	188									

Volume in Cords per Acre	
Volume in Cords per Acre per Year	
Number of Posts per Acre	
Estimated Number of Posts per Acre per Year	
Reproduction on plot under 4 1/2 feet	
% Under 4 1/2 feet of Crown	

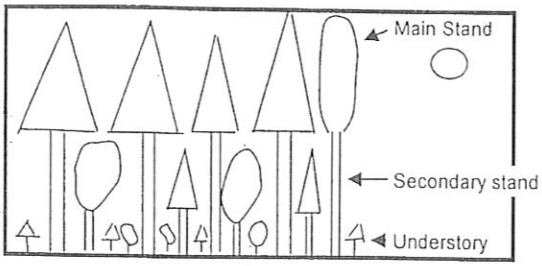
Tree Species:

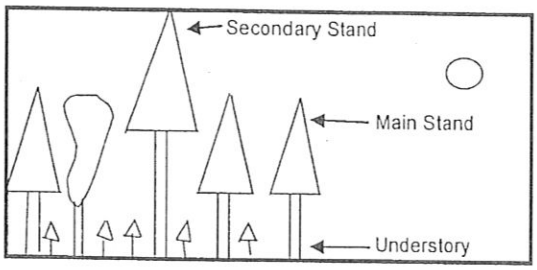
1	2	3	4	5	6	7	8	9	10	11
No.	Distance Between Trees	Tree Height	Age of Tree	DBH Taken at 1 ft. 4.5 ft.	Average Crown Width	Foliage Density	Basal Area	Volume in Cords	Number of Posts	Pounds Airdry
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
Total										
Aver.										
Total /Acre										

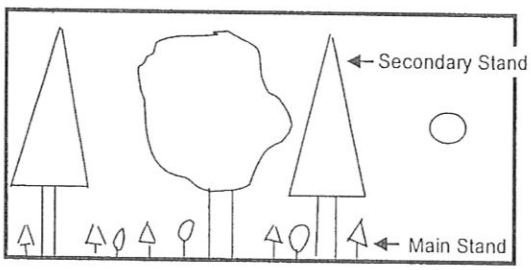
Volume in Cords per Acre	
Volume in Cords per Acre per Year	
Number of Posts per Acre	
Estimated Number of Posts per Acre per Year	
Reproduction on plot under 4 1/2 feet	
% Under 4 1/2 feet of Crown	

Type of Stand

Select the type of stand that is being inventoried
Place a mark in the appropriate circle







Columns

2- Measure the distance between trees and record to the nearest 1/10 foot.
3- Measure height of tree and record to the nearest 1/2 foot
4- Get ages of enough trees in the transect to get average age of each stand and the age spread of the community
5- Measure the diameter of each tree and record to the nearest 1/10 inch. For Junipre and Pinion this measurement is taken at 1 foot from the ground. For all other trees this measurement is taken 4/5 feet from the ground (=Breast Height). Mark at top of column where measurement was taken.
6- Measure the average crown spread of each tree and record it to the nearest 1/2 foot. If the trees are not uniform in shape, measure the tree in two directions at right angles to each other and determine the average
7- Determine whether the foliage is Dense; Medium; or Sparce and record **D**; M or **S** for each tree.
8- Get the Basal area from the Woodland Management book page W-117.
9- Get the Volume in Cords from the Woodland Management book page W-113
10- Record the number of posts that can be taken from each tree. Posts should be at least 8 ft. long and 3 inches minium top diameter and reasonably straight.
11- Look up pounds of air dry production on yield tables.

Plot Sizes

Zigzag -	Number of trees per acre = 43560 / The average tree spacing squared. Example 43560 / (12 X 12) = 303trees per acre
Rectangle -	1000 ft. X 4 ft. 4 1/4 inches = 1/10 ac. 500 ft.X 4 ft. 4 1/4 inches = 1/20 ac.
Square -	66 ft. X 66 ft. = 1/10 ac. 20 ft. 1 1/2 in. X 20 ft. 1 1/2 in. = 1/100 ac.
Circular -	Radius of circle = 11.78 ft. = 1/100 ac. Radius of circle = 37.23 ft. = 1/10 ac.

UT-ECS-Range 2 Rev. 10/06

Worksheet # Sagebrush/grass Pasture _____

Ecological Site _____ Ranch/Landowner mine

Rangeland Management Specialist: Zac Orton Date: 7-28-16

circle one: CLIPPED or OCULAR ESTIMATE

1	2	3	4	5	6	7	8	9	10	11
Plant Group	Plant Name or Symbol	Green Wt. lbs/ac	% Dry Wt	Lbs/ac Dry Wt	Reconstruction Factor	Reconstructed Dry Wt lbs/ac	lbs/ac Forage	Proper Use Factor	lbs/ac Climax (from ESD)	lbs/ac Allowable for Similarity Index
Grasses and grass likes	Needle Thread	30								
	Fescue	120								
	wire grass	30								
	cheatgrass	10								
Forbs										
Shrubs	Sage brush	3500								
	gaff	500								
	Rabbit brush	100								
	Snakeweed	100								
	TOTALS	100%								
	(15) Similarity Index ((12/14) * 100)	(14) Production for this site from ESD			(13) Total Annual Production		(8) Total Forage Production		(12) Total allowable	lbs

LOCATION

Section:
Township:
Range:
MLRA:
Office:
Soil:
Slope:_____ Exposure: _____ Elev._____
GPS Coordinates NAD83:
N:_____ E:_____
(P)% of Normal Production:___

N

APPARENT TREND

Circle One: Rangeland or Planned

Indicators	+	0	-
Plant Vigor			X
Reproduction		X	
Composition Change			X
Litter & Mulch		X	
Soil Surface Cond		X	
App Trend:	UP	N / A	DOWN

GROUND COVER

100 points dot count	1st Raindrop Impact	Sub Canopy
Bare	⊠ ⊡ 34	
Rock		
Bio Crust		
Litter	6	
Grass	10	
Forb	2	
Shrub	⊠ ⊠ 44	
Total		

USE HISTORY

Kind and Class of Animal:
Season of Use:
Burning History:
Present Utilization: _____ % of Key Species
Key Species:
Estimate Harvest Efficiency: _____%

LANDSCAPE DATA

Topography(Terrain): Broken:__ Rolling:__ Flat:__

Miles to food:_____ cover:_____ water:_____

Notes: SB = weight unit = 25 g production x 14 units x 10 = 3,500 good reference
Fescue = weight unit = 3 g production x 4 units x 10 = 120 good may be high
- Note: ~~grass~~ shrub cover could be as high as 50.

Departure from Expected	Code
None to Slight	N-S
Slight to Moderate	S-M
Moderate	M
Moderate to Extreme	M-E
Extreme to Total	E-T

Instructions for Evaluation Sheet, Page 2

(1) Assign 17 indicatior ratings. If indicator not present, rate None to Slight.
(2) In the tree grids below, write the indicator number in the appropriate column for each indicator that is applicable to the attribute.
(3) Assign overall rating for each attribute based on preponderance of evidence.
(4) Justify each attribute rating in writing.

Indicator	Rating	Comments
1. Rills	S H: N-S	
2. Water-flow Patterns	S H: N-S	
3. Pedestals and/or Terracettes	S H: N-S	
4. Bare ground 34 %	S H: N-S	
5. Gullies	S H: N-S	
6. Wind-scoured, blowouts, and/or deposition areas	S: N-S	
7. Litter movement	S: N-S	
8. Soil Surface resistance to erosion	S H B: S-M	encroaching P/J
9. Soil Surface loss or degradation	S H B: N-S	
10. Plant community composition and distribution relative to infiltration	H: N-S	
11. Compaction layer	S H B: N-S	
12. Functional/structural groups	B: S-M	encroaching P/J
13. Plant mortality/decadence	B: N-S	
14. Litter amount	H B: N-S	
15. Annual production	B: N-S	
16. Invasive plants	B: M	encroaching P/J, cheatgrass
17. Reproductive capability of perennial plants	B: N-S	

Attribute Rating Justification
Soil & Site Stability:

E-T	M-E	M	S-M	N-S
				11
				9
				7
				6
				5
				4
				3
				2
			8	1

S (10 indicators):
Soil & Site Stability Rating: N-S

Attribute Rating Justification
Hydrologic Function:

E-T	M-E	M	S-M	N-S
				14
				4
				7
				5
				4
				3
				2
			8	1

H (10 indicators):
Hydric Function Rating: N-S

Attribute Rating Justification
Biotic Integrity:

E-T	M-E	M	S-M	N-S
				17
				15
				14
				13
				11
			12	10
		16	8	9

B (10 indicators):
Biotic Integrity Rating: N-S - S-M

Note: Some encroaching P/J. This will outcompete understory in future. Also cheatgrass. Overall there is N-S from esd.

UT-ECS-Range 2 Rev. 10/06

Worksheet # Meadow - wet Pasture _____

Ecological Site _____ Ranch/Landowner _____

Rangeland Management Specialist: Zac Orton Date: 7-28-16

1	2	3	4	5	6	7	8	9	10	11
Plant Group	Plant Name or Symbol	Green Wt. lbs/ac	% Dry Wt	Lbs/ac Dry Wt	Reconstruction Factor	Reconstructed Dry Wt lbs/ac	lbs/ac Forage	Proper Use Factor	lbs/ac Climax (from ESD)	lbs/ac Allowable for Similarity Index
Grasses and grass likes	Kentucky Blue	2,000								
	Rush's	500								
	Sedges	580								
Forbs	Sunflower	100								
	Bull thistle	10								
	Other Forbs	100								
Shrubs	None									
	TOTALS	100%								
	(15) Similarity Index ((12/14) * 100)	(14) Production for this site from ESD			(13) Total Annual Production		(8) Total Forage Production		(12) Total allowable	lbs

circle one: CLIPPED or OCULAR ESTIMATE

LOCATION

Section: _____
Township: _____
Range: _____
MLRA: _____
Office: _____
Soil: _____
Slope: _____ Exposure: _____ Elev. _____
GPS Coordinates NAD83:
N: _____ E: _____
(P)% of Normal Production: ___

N

APPARENT TREND

Circle One: Rangeland or Planned

Indicators	+	0	-
Plant Vigor			
Reproduction			
Composition Change			
Litter & Mulch			
Soil Surface Cond			
App Trend:	UP	N / A	DOWN

GROUND COVER

100 points dot count	1st Raindrop Impact	Sub Canopy
Bare		
Rock		
Bio Crust		
Litter		
Grass		
Forb		
Shrub		
Total		

USE HISTORY

Kind and Class of Animal:
Season of Use:
Burning History:
Present Utilization: _____ % of Key Species
Key Species:
Estimate Harvest Efficiency: _____%

LANDSCAPE DATA

Topography(Terrain): Broken:__ Rolling:__ Flat:__
Miles to food:_____ cover:_____ water:_____

Notes: Folded in half hoop = 154g x 20 = 3,080 - good estimate
- Meadow area. No sense in doing transect. Dense grass meadow

Departure from Expected	Code
None to Slight	N-S
Slight to Moderate	S-M
Moderate	M
Moderate to Extreme	M-E
Extreme to Total	E-T

Instructions for Evaluation Sheet, Page 2

(1) Assign 17 indicatior ratings. If indicator not present, rate None to Slight.

(2) In the tree grids below, write the indicator number in the appropriate column for each indicator that is applicable to the attribute.

(3) Assign overall rating for each attribute based on preponderance of evidence.

(4) Justify each attribute rating in writing.

Indicator	Rating	Comments
1. Rills	S H	
2. Water-flow Patterns	S H	
3. Pedestals and/or Terracettes	S H	
4. Bare ground _____%	S H	
5. Gullies	S H	
6. Wind-scoured, blowouts, and/or deposition areas	S	
7. Litter movement	S	
8. Soil Surface resistance to erosion	S H B	
9. Soil Surface loss or degradation	S H B	
10. Plant community composition and distribution relative to infiltration	H	
11. Compaction layer	S H B	
12. Functional/structural groups	B	
13. Plant mortality/decadence	B	
14. Litter amount	H B	
15. Annual production	B	
16. Invasive plants	B	
17. Reproductive capability of perennial plants	B	

E-T	M-E	M	S-M	N-S

S (10 indicators):
Soil & Site Stability
Rating:_____

Attribute Rating Justification
Soil & Site Stability:

E-T	M-E	M	S-M	N-S

H (10 indicators):
Hydric Function
Rating:_____

Attribute Rating Justification
Hydrologic Function:

E-T	M-E	M	S-M	N-S

H (10 indicators):
Integrity

Biotic Rating:

Attribute Rating Justification
Biotic Integrity:

UT-ECS-Range 2 Rev. 10/06

Worksheet # Meadow - dry Pasture

Ecological Site Ranch/Landowner Mine

Rangeland Management Specialist: Zac Orton Date: 7-28-16

1	2	3	4	5	6	7	8	9	10	11
Plant Group	Plant Name or Symbol	Green Wt. lbs/ac	% Dry Wt	Lbs/ac Dry Wt	Reconstruction Factor	Reconstructed Dry Wt lbs/ac	lbs/ac Forage	Proper Use Factor	lbs/ac Climax (from ESD)	lbs/ac Allowable for Similarity Index
Grasses and grass likes	Rush	300								
	Sedge	250								
	Kent Blue	50								
Forbs	Yarrow	10								
	Other forbs	50								
	Thistle	20								
Shrubs	Sage brush	20								
	Rabbit brush	20								
	TOTALS	100%								
	(15) Similarity Index ((12/14) * 100)	(14) Production for this site from ESD				(13) Total Annual Production	(8) Total Forage Production		(12) Total allowable	lbs

circle one: CLIPPED or OCULAR ESTIMATE

LOCATION

Section:
Township:
Range:
MLRA:
Office:
Soil:
Slope:_____ Exposure: _____ Elev._____
GPS Coordinates NAD83:
N:_____ E:_____
(P)% of Normal Production:___

N

APPARENT TREND

Circle One: Rangeland or Planned

Indicators	+	0	-
Plant Vigor			
Reproduction			
Composition Change			
Litter & Mulch			
Soil Surface Cond			
App Trend:	UP	N / A	DOWN

GROUND COVER

100 points dot count	1st Raindrop Impact	Sub Canopy
Bare		
Rock		
Bio Crust		
Litter		
Grass		
Forb		
Shrub		
Total		

USE HISTORY

Kind and Class of Animal:
Season of Use:
Burning History:
Present Utilization: _____ % of Key Species
Key Species:
Estimate Harvest Efficiency: _____%

LANDSCAPE DATA

Topography(Terrain): Broken:__ Rolling:__ Flat:__
Miles to food:_____ cover:_____ water:_____

Notes: half hoop = weight = 30 x 20 = 600 - good estimate - higher is some spots.
- Little brush species. Encroaching on meadow area

Departure from Expected	Code	Instructions for Evaluation Sheet, Page 2
None to Slight	N-S	(1) Assign 17 indicatior ratings. If indicator not present, rate None to Slight.
Slight to Moderate	S-M	(2) In the tree grids below, write the indicator number in the appropriate column for each indicator that is applicable to the attribute.
Moderate	M	
Moderate to Extreme	M-E	(3) Assign overall rating for each attribute based on preponderance of evidence.
Extreme to Total	E-T	(4) Justify each attribute rating in writing.

Indicator	Rating	Comments
1. Rills	S H N-S	
2. Water-flow Patterns	S H N-S	
3. Pedestals and/or Terracettes	S H N-S	
4. Bare ground <15 %	S H N-S	
5. Gullies	S H N-S	
6. Wind-scoured, blowouts, and/or deposition areas	S N-S	
7. Litter movement	S N-S	
8. Soil Surface resistance to erosion	S H B N-S	
9. Soil Surface loss or degradation	S H B N-S	
10. Plant community composition and distribution relative to infiltration	H N-S	
11. Compaction layer	S H B N-S	
12. Functional/structural groups	B S-M	Some Rabbit brush / sage encroaching
13. Plant mortality/decadence	B N-S	
14. Litter amount	H B N-S	
15. Annual production	B N-S	
16. Invasive plants	B S-M	Some Rabbit brush / sage encroaching
17. Reproductive capability of perennial plants	B N-S	

E-T	M-E	M	S-M	N-S
				11
				9
				8
				7
				6
				5
				4
				3
				2
				1

Attribute Rating Justification
Soil & Site Stability:

S (10 indicators):
Soil & Site Stability
Rating:_____

E-T	M-E	M	S-M	N-S
				15
				14
				11
				10
				9
				8
				5
				4
				3
				2
				1

Attribute Rating Justification
Hydrologic Function:

H (10 indicators):
Hydric Function
Rating:_____

E-T	M-E	M	S-M	N-S
				17
				15
				14
				13
				11
			16	9
			12	8

Attribute Rating Justification
Biotic Integrity:

B (10 indicators):
Biotic Integrity
Biotic Rating:

Note: Overall N-S departure from ESD. Good reference site for dry meadow. Some rabbit brush encroaching.

UT-ECS-Range 2 Rev. 10/06

Worksheet # V-03-(SB) Pasture

Ecological Site Ranch/Landowner Mine

Rangeland Management Specialist: Zac Orton Date: 7-28-16

1	2	3	4	5	6	7	8	9	10	11
Plant Group	Plant Name or Symbol	Green Wt. lbs/ac	% Dry Wt	Lbs/ac Dry Wt	Reconstruction Factor	Reconstructed Dry Wt lbs/ac	lbs/ac Forage	Proper Use Factor	lbs/ac Climax (from ESD)	lbs/ac Allowable for Similarity Index
Grasses and grass likes	Crested	50								
	Kent. Blue	50								
	Fescue	50								
	Brome	20								
Forbs										
Shrubs	Sagebrush (Black)	1000								
	Wyoming	500								
	Rabbit brush	100								
	TOTALS	100%								
	(15) Similarity Index ((12/14) * 100)	(14) Production for this site from ESD			(13) Total Annual Production		(8) Total Forage Production		(12) Total allowable	lbs

circle one: CLIPPED or OCULAR ESTIMATE

LOCATION

Section:
Township:
Range:
MLRA:
Office:
Soil:
Slope:_____ Exposure: _____ Elev._____
GPS Coordinates NAD83:
N:_____ E:_____
(P)% of Normal Production:___

N

APPARENT TREND

Circle One: Rangeland or Planned

Indicators	+	0	-
Plant Vigor		X	
Reproduction		X	
Composition Change		X	
Litter & Mulch		X	
Soil Surface Cond		X	
App Trend:	UP	N / A	DOWN

GROUND COVER

100 points dot count	1st Raindrop Impact	Sub Canopy
Bare		
Rock		
Bio Crust		
Litter		
Grass		
Forb		
Shrub		
Total		

USE HISTORY

Kind and Class of Animal:
Season of Use:
Burning History:
Present Utilization: _____ % of Key Species
Key Species:
Estimate Harvest Efficiency: _____%

LANDSCAPE DATA

Topography(Terrain): Broken:__ Rolling:__ Flat:__
Miles to food:_____ cover:_____ water:_____

Notes: Ocular estimated. GPS point was @ small section. Not enough to do a transect. More grass species & production than other SB site & less sage.

Departure from Expected	Code	Instructions for Evaluation Sheet, Page 2
None to Slight	N-S	(1) Assign 17 indicatior ratings. If indicator not present, rate None to Slight.
Slight to Moderate	S-M	(2) In the tree grids below, write the indicator number in the appropriate column for each indicator that is applicable to the attribute.
Moderate	M	
Moderate to Extreme	M-E	(3) Assign overall rating for each attribute based on preponderance of evidence.
Extreme to Total	E-T	(4) Justify each attribute rating in writing.

Indicator	Rating	Comments
1. Rills	S H: N-S	
2. Water-flow Patterns	S H: N-S	
3. Pedestals and/or Terracettes	S H: N-S	
4. Bare ground 30 %	S H: N-S	Not big enough to do transect. Estimation
5. Gullies	S H: N-S	
6. Wind-scoured, blowouts, and/or deposition areas	S: N-S	
7. Litter movement	S: N-S	
8. Soil Surface resistance to erosion	S H B: N-S	
9. Soil Surface loss or degradation	S H B: N-S	
10. Plant community composition and distribution relative to infiltration	H: N-S	
11. Compaction layer	S H B: N-S	
12. Functional/structural groups	B: S-M	Some rabbit brush invading
13. Plant mortality/decadence	B: N-S	
14. Litter amount	H B: N-S	
15. Annual production	B: N-S	
16. Invasive plants	B: S-M	some rabbit brush invading
17. Reproductive capability of perennial plants	B: N-S	

E-T	M-E	M	S-M	N-S
				11
				9
				8
				7
				6
				5
				4
				3
				2
				1

Attribute Rating Justification
Soil & Site Stability:

S (10 indicators):
Soil & Site Stability Rating:

E-T	M-E	M	S-M	N-S
				14
				11
				10
				9
				8
				5
				4
				3
				2
				1

Attribute Rating Justification
Hydrologic Function:

H (10 indicators):
Hydric Function Rating:

E-T	M-E	M	S-M	N-S
				17
				15
				14
				13
				11
			16	9
			12	8

Attribute Rating Justification
Biotic Integrity:

B (10 indicators):
Biotic Integrity Rating:

Overall N-S. Small site but good production on grass.

UT-ECS-Range 2 Rev. 10/06

Worksheet # V-06-Wet Pasture _____

Ecological Site _____ Ranch/Landowner Mine

Rangeland Management Specialist: Zac Orton Date: 7-28-16

1	2	3	4	5	6	7	8	9	10	11
Plant Group	Plant Name or Symbol	Green Wt. lbs/ac	% Dry Wt	Lbs/ac Dry Wt	Reconstruction Factor	Reconstructed Dry Wt lbs/ac	lbs/ac Forage	Proper Use Factor	lbs/ac Climax (from ESD)	lbs/ac Allowable for Similarity Index
Grasses and grass likes	Western Wheat	1500								
	Kentucky Blue	100								
	Rush	200								
	Sedge	200								
Forbs	Forbs	10								
Shrubs	Rabbit brush	50								
	Russian olive	200								
	Willow	100								
	TOTALS	100%								
	(15) Similarity Index ((12/14) * 100)	(14) Production for this site from ESD				(13) Total Annual Production	(8) Total Forage Production		(12) Total allowable	lbs

circle one: CLIPPED or OCULAR ESTIMATE

LOCATION

Section:
Township:
Range:
MLRA:
Office:
Soil:
Slope:_____ Exposure: _____ Elev._____
GPS Coordinates NAD83:
N:_____ E:_____
(P)% of Normal Production:___

N

APPARENT TREND

Circle One: Rangeland or Planned

Indicators	+	0	-
Plant Vigor			
Reproduction			
Composition Change			
Litter & Mulch			
Soil Surface Cond			
App Trend:	UP	N / A	DOWN

GROUND COVER

100 points dot count	1st Raindrop Impact	Sub Canopy
Bare		
Rock		
Bio Crust		
Litter		
Grass		
Forb		
Shrub		
Total		

USE HISTORY

Kind and Class of Animal:
Season of Use:
Burning History:
Present Utilization: _____ % of Key Species
Key Species:
Estimate Harvest Efficiency: _____%

LANDSCAPE DATA

Topography(Terrain): Broken:__ Rolling:__ Flat:__
Miles to food:_____ cover:_____ water:_____

Notes: Grass hoop = 104 x 20 = 2,080 lbs/acre
Encroaching PB on this site.

Departure from Expected	Code
None to Slight	N-S
Slight to Moderate	S-M
Moderate	M
Moderate to Extreme	M-E
Extreme to Total	E-T

Instructions for Evaluation Sheet, Page 2

(1) Assign 17 indicatior ratings. If indicator not present, rate None to Slight.
(2) In the tree grids below, write the indicator number in the appropriate column for each indicator that is applicable to the attribute.
(3) Assign overall rating for each attribute based on preponderance of evidence.
(4) Justify each attribute rating in writing.

Indicator	Rating	Comments
1. Rills	S H N-S	
2. Water-flow Patterns	S H N-S	
3. Pedestals and/or Terracettes	S H N-S	
4. Bare ground <10 %	S H N-S	
5. Gullies	S H N-S	
6. Wind-scoured, blowouts, and/or deposition areas	S NS	
7. Litter movement	S NS	
8. Soil Surface resistance to erosion	S H B N-S	
9. Soil Surface loss or degradation	S H B N-S	
10. Plant community composition and distribution relative to infiltration	H NS	
11. Compaction layer	S H B N-S	
12. Functional/structural groups	B S-M	RB invading
13. Plant mortality/decadence	B NS	
14. Litter amount	H B N-S	
15. Annual production	B NS	
16. Invasive plants	B S-M	RB invading
17. Reproductive capability of perennial plants	B NS	

E-T	M-E	M	S-M	N-S
				11
				9
				8
				7
				6
				5
				4
				3
				2
				1

Attribute Rating Justification
Soil & Site Stability:

S (10 indicators):
Soil & Site Stability Rating:_____

E-T	M-E	M	S-M	N-S
				14
				11
				10
				9
				8

Attribute Rating Justification
Hydrologic Function:

H (10 indicators):
Hydric Function Rating:_____

E-T	M-E	M	S-M	N-S
				17
				15
				14
				13
				11
			16	9
			12	8

Attribute Rating Justification
Biotic Integrity:

B (10 indicators): Biotic Integrity Rating:

Overall N-S, some rabbit brush invading into this site.