



January 15, 2016

Mr. Paul Schwarz  
Kerr-McGee Oil & Gas Onshore LP  
1099 18th Street, Suite 1800  
Denver, Colorado 80202

**RE: Colorado Oil & Gas Conservation Commission (COGCC)  
Form 4 (Interim Reclamation Completion Notice)  
Shurview 13N-3HZ (Location: 330461)  
Kerr-McGee Oil & Gas Onshore LP (Operator: 47120)**

Dear Mr. Schwarz:

Apex Companies, LLC (Apex) is pleased to present this letter to Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) documenting results of a vegetation assessment that demonstrates successful completion of interim reclamation efforts per COGCC Rule 1003 on the above referenced location in Weld County, Colorado. Attached is a topographic map, which identifies the referenced location.

Based on communications with Kerr-McGee personnel and subsequent site visits, Apex inspectors confirmed that the unused portions of the reduced production footprint have been stabilized and seeded with Anadarko Dryland Pasture Mix. This seed mixture was applied at 25 pounds pure live seed (pls) per acre, and is composed of Tetraploid Perennial Ryegrass (19.68%), Smooth Brome, Lincoln (18.66%), Intermediate Wheatgrass, Oahe (14.76%), Dahurian Wildrye (14.44%), Orchardgrass, Paiute (14.29%), and Pubescent Wheatgrass Luna (13.35%).

On July 23, 2015, modified step-point vegetation surveys were conducted on the reclaimed portion of the well pad, and on adjacent undisturbed reference areas. Foliar and basal cover, along with non-vegetated, and noxious weed occurrences were documented; 100 survey points were recorded within the reclaimed disturbance and 100 survey points were recorded within the undisturbed reference area. Noxious weeds listed by the Colorado Department of Agriculture were excluded from the vegetative coverage calculation.

Survey results indicate the reclaimed area has a foliar vegetative cover that is 109.89% of the undisturbed reference area. Vegetation survey results are provided in the attached survey summary tables and data sheets. Based on the results of the survey, interim reclamation as defined by COGCC Rule 1003.e (2) has been achieved. Photographs required by COGCC Rule 1003.e (3) are also attached along with a diagram illustrating vegetation survey efforts.

Apex appreciates the opportunity to provide environmental consulting services to Kerr-McGee with this project. Should you have any questions or require additional information, please don't hesitate to contact me.

Sincerely,  
**Apex Companies, LLC**

A handwritten signature in black ink, appearing to read 'Chris Hines', written over a horizontal line.

Chris Hines  
Project Manager  
970-261-1127  
[chris.hines@apexcos.com](mailto:chris.hines@apexcos.com)

Attachments:

1. Vegetation Survey (Summary of Field Data)
2. Site Diagram
3. Topographic Location Map
4. Vegetation Survey (Photos)
5. Vegetation Survey (Field Data Tables)



## Vegetation Survey (Summary of Field Data)

<b>Client</b>	Kerr McGee Oil & Gas Onshore LP
<b>COGCC Location Name (ID)</b>	Shurview 13N-3HZ (330461)
<b>Assessment Date</b>	7/23/2015
<b>Inspector Name - Title</b>	Zac Tuthill- Environmental Scientist
<b>Data Processor Name - Title</b>	Tyler Dooley- Environmental Scientist

Based on the survey methodology, the Foliar Cover % in each survey area is calculated by summing the total number of foliar occurrences, minus noxious weeds, and dividing by the total occurrences in the transect. For this location:

<b>Reclaim Area (Foliar Cover)</b>	<b>Reference Area (Foliar Cover)</b>
$(43 + 3 + 0) / 146 =$ <b>31.51%</b>	$(28 + 12 + 1) / 143 =$ <b>28.67%</b>

The Percent of Reference (%) used to evaluate each reclaim area for compliance with COGCC Rule 1003.e(2) for determining interim reclamation success, is calculated by dividing the Foliar Cover % in the Reclaim Area by the Foliar Cover % in the Reference Area. For this location:

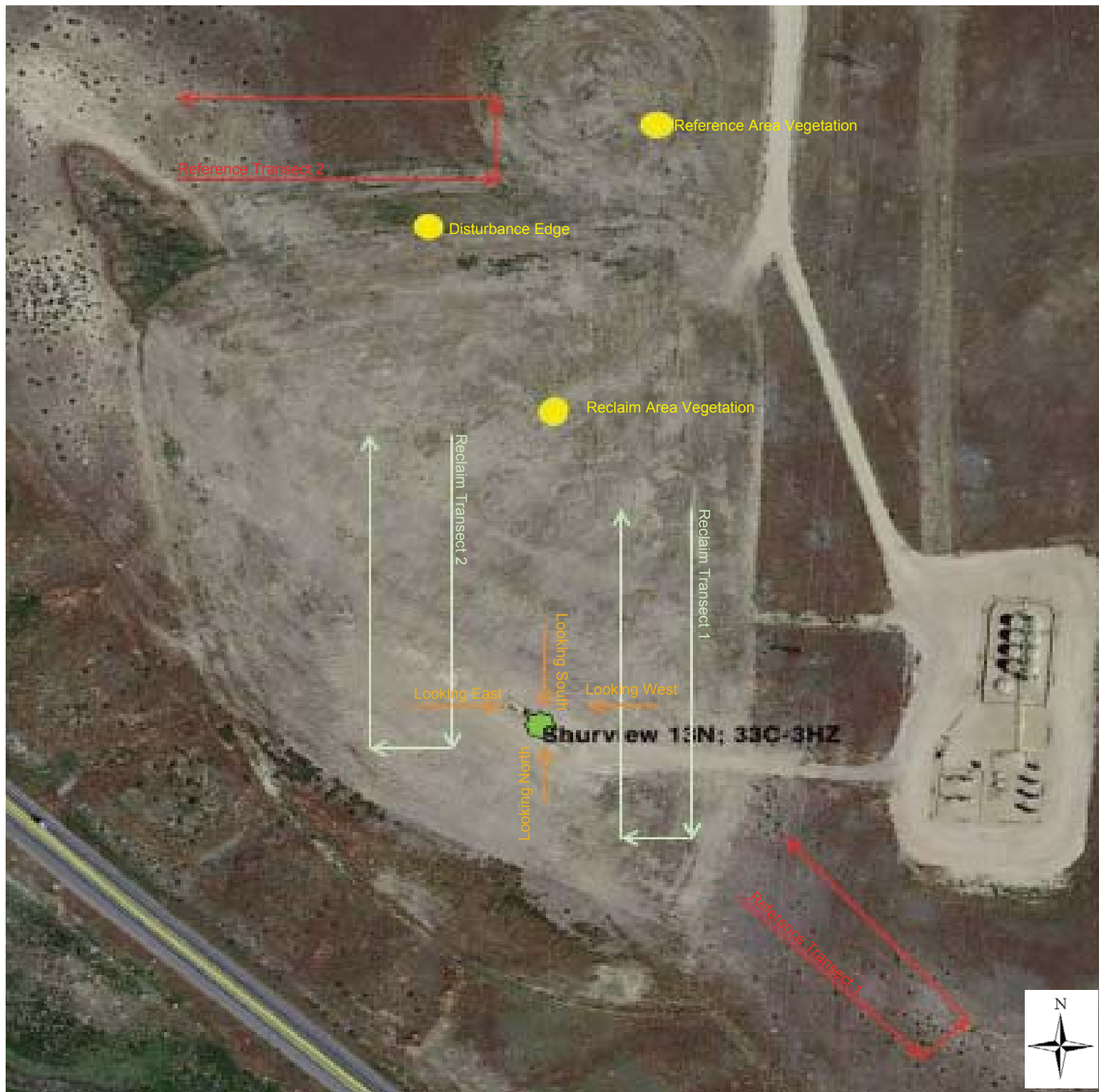
<b>Percent of Reference (Reclaim % / Reference %)</b>
$31.51\% / 28.67\% =$ <b>109.89%</b>

### Reclaim Area Vegetation

Foliar Cover	31.51%
Basal Cover	13.70%
Non Vegetated	54.79%
Noxious Weeds	0.00%
<b>QA Total</b> <i>(must equal 100)</i>	<b>100.00%</b>
Grass (Foliar)	43
Forb (Foliar)	3
Shrubs (Foliar)	0
Noxious Weed (Foliar)	0
Grass (Basal)	19
Forb (Basal)	1
Shrubs (Basal)	0
Noxious Weed (Basal)	0
Bare Ground	37
Litter	43
Rock	0
<b>Total Occurrences</b>	<b>146</b>

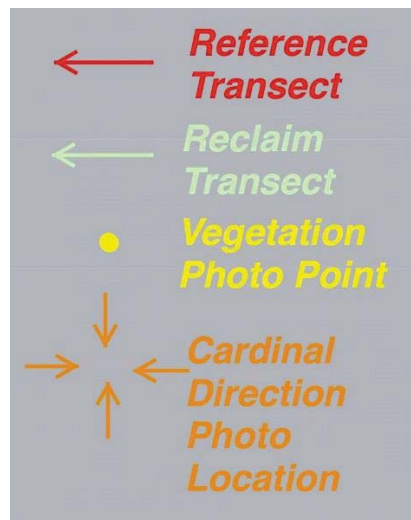
### Reference Area Vegetation

Foliar Cover	28.67%
Basal Cover	17.48%
Non Vegetated	52.45%
Noxious Weeds	1.40%
<b>QA Total</b> <i>(must equal 100)</i>	<b>100.00%</b>
Grass (Foliar)	28
Forb (Foliar)	12
Shrubs (Foliar)	1
Noxious Weed (Foliar)	2
Grass (Basal)	14
Forb (Basal)	10
Shrubs (Basal)	1
Noxious Weed (Basal)	0
Bare Ground	26
Litter	49
Rock	0
<b>Total Occurrences</b>	<b>143</b>



## Vegetation Survey Site Map

Shurview 13N-3HZ  
(330461)



Legal Description: NESE, Sec 3,  
T5N-R67W  
County: Weld

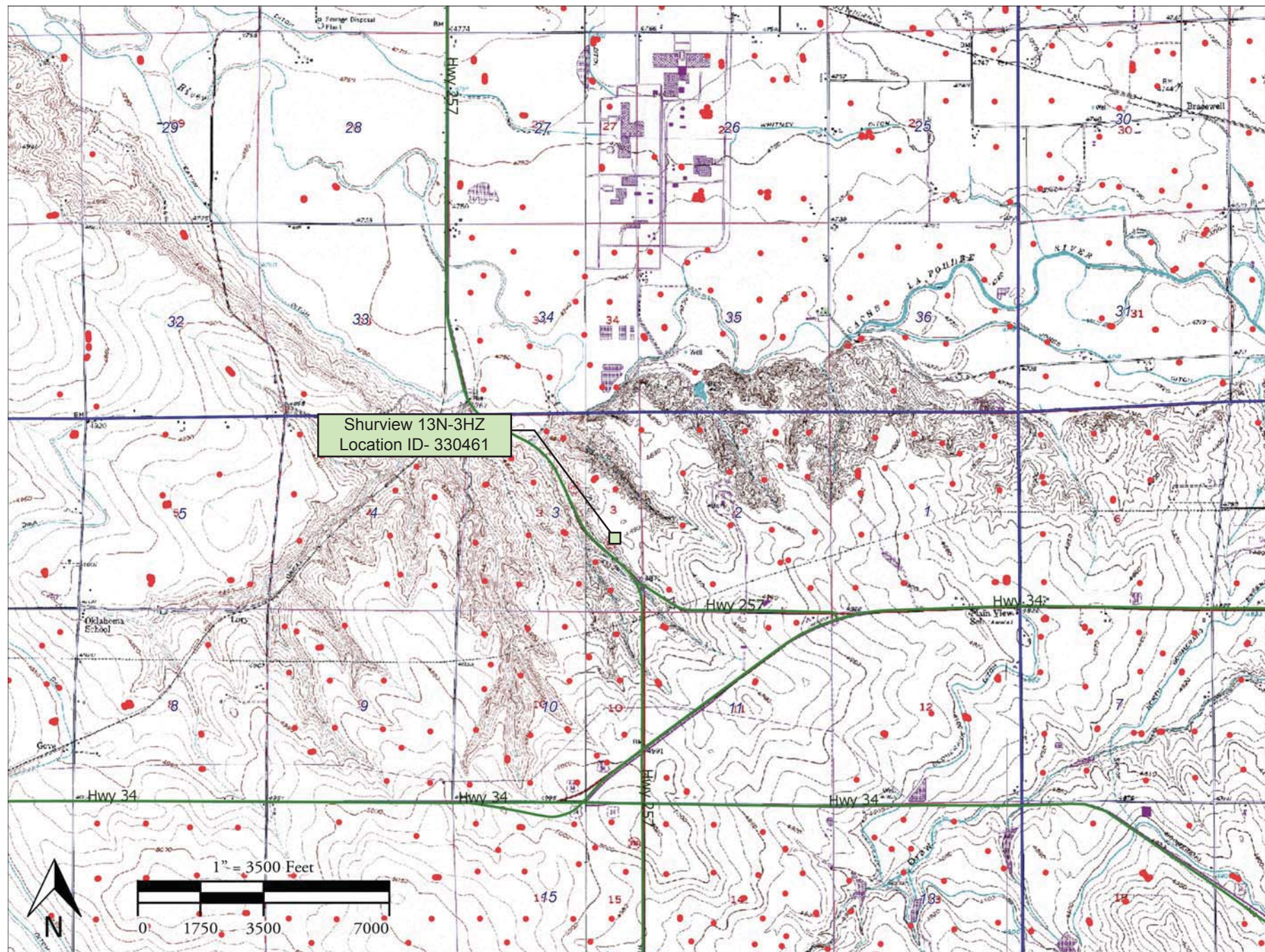
Land Use: Rangeland  
Reference Area Cover: 28.67%  
Reclamation Cover: 31.51%  
Cover Ratio  
(Reclaim/Reference): 109.89%

Inspector: Zac Tuthill  
Assessment Date: July 23, 2015





# Shurview 13N-3HZ (330461) Topographic Location Map





Edge of Disturbance on North Side of Pad  
Looking East  
40.428173°/-104.873142°





**Kerr McGee Oil & Gas Onshore LP**  
**Form 4 (Interim Reclamation Completion Notice)**  
**Shurview 13N-3HZ (330461)**

Vegetation Assessment  
Completed - July 23, 2015



South of Disturbance  
Looking North  
40.426645° / -104.872836°



North of Disturbance  
Looking South  
40.426946° / -104.872821°



West of Disturbance  
Looking East  
40.426806° / -104.873096°



East of Disturbance  
Looking West  
40.426749° / -104.872573°





**Kerr McGee Oil & Gas Onshore LP  
Form 4 (Interim Reclamation Completion Notice)  
Shurview 13N-3HZ (330461)**

Vegetation Assessment  
Completed - July 23, 2015



Reclaim Area Vegetation  
40.427616°/-104.872907°





Reclaim Transect 1  
Looking South  
40.427221°/-104.872477°



Reclaim Transect 2  
Looking South  
40.427347°/-104.873254°





Reference Area Vegetation  
40.428416°/-104.872456°





Reference Transect 1  
Looking Southeast  
40.426202°/-104.872193°



Reference Transect 2  
Looking East  
40.428398°/-104.874190°





**VEGETATION MONITORING FORM - Kerr-McGee Oil & Gas Onshore LP**

COGCC Location Name (ID)- Shurview 13N - 3HZ (330461)

CO # COP0038

Date of Assessment - 07/23/2015

Transect ID - Reclaim Transect 1

Length of Transect (ft.) - 700

Transect Type



Reclamation



Reference

Inspector(s) (Name and Title) - Zac Tuthill -Environmental Scientist

Weather at Time of Inspection - Partly cloudy, winds from nw, 93

Method - Step Point

Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
1	-		-		Bare Ground
2	Grass	Bromus biebrsteinii	B-Grass	Bromus biebrsteinii	-
3	Grass	Bromus biebrsteinii	B-Grass	Bromus biebrsteinii	-
4	Grass	Thinopyrum intermedia	-		Litter
5	-		-		Bare Ground
6	-		-		Litter
7	Grass	Thinopyrum intermedia	B-Grass	Thinopyrum intermedia	-
8	-		-		Bare Ground
9	-		-		Litter
10	-		-		Bare Ground
11	Grass	Dactylis glomerata	-		Litter
12	Grass	Dactylis glomerata	-		Litter
13	-		-		Bare Ground
14	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
15	-		-		Litter
16	Grass	Dactylis glomerata	-		Litter
17	-		-		Litter
18	Grass	Thinopyrum intermedia	-		Litter
19	-		-		Litter
20	-		-		Bare Ground
21	Grass	Bromus biebrsteinii	-		Bare Ground
22	-		-		Litter
23	Forb	Other spp. 3	-		Bare Ground
24	Forb	Other spp. 1	-		Litter
25	-		-		Litter
26	-		-		Litter
27	-		-		Litter
28	-		-		Bare Ground
29	-		-		Bare Ground



Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
30	Grass	Thinopyrum intermedia	-		Litter
31	Grass	Thinopyrum intermedia	-		Litter
32	-		-		Bare Ground
33	-		-		Litter
34	-		-		Litter
35	-		-		Litter
36	-		-		Litter
37	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
38	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
39	-		-		Litter
40	-		-		Bare Ground
41	Grass	Thinopyrum intermedia	-		Litter
42	Grass	Other spp. 1	B-Grass	Other spp. 1	-
43	Forb	Other spp. 3	B-Forb	Other spp. 3	-
44	Grass	Bromus biebrsteinii	B-Grass	Bromus biebrsteinii	-
45	-		-		Litter
46	-		-		Litter
47	Grass	Elymus trachycaulus	B-Grass	Elymus trachycaulus	-
48	-		-		Bare Ground
49	-		-		Litter
50	Grass	Thinopyrum intermedia	B-Grass	Thinopyrum intermedia	-

#### Photo Requirements

Representative photo looking down the length of each transect; including reference area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo facing each cardinal direction (N, E, S, W) from the center looking past well heads.	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Representative photo down edge of disturbance	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo that documents the total cover of live perennial vegetation of the undisturbed area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo that documents the total cover of live perennial vegetation of the disturbed area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO

**General Notes:** Grass other species 1 wild rye  
Forb other species 1 kochia, other species 2 black eyed Susan

#### INSPECTION CERTIFICATION

I certify that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of termination.

Inspector (Name)

Zac Tuthill-Environmental Scientist



Date: 07/23/2015



**VEGETATION MONITORING FORM - Kerr-McGee Oil & Gas Onshore LP**

COGCC Location Name (ID)- Shurview 13N - 3HZ (330461)

CO # COP00038

Date of Assessment - 07/23/2015

Transect ID - Reclaim Transect 2

Length of Transect (ft.) - 750

Transect Type



Reclamation



Reference

Inspector(s) (Name and Title) - Zac Tuthill-Environmental Scientist

Weather at Time of Inspection - Partly cloudy, winds from nw, 93

Method - Step Point

Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
1	-		-		Litter
2	Grass	Thinopyrum intermedia	B-Grass	Thinopyrum intermedia	-
3	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
4	Grass	Dactylis glomerata	-		Litter
5	Grass	Bromus biebrsteinii	-		Bare Ground
6	Grass	Bromus biebrsteinii	-		Litter
7	-		-		Bare Ground
8	-		-		Litter
9	-		-		Bare Ground
10	-		-		Bare Ground
11	Grass	Elymus trachycaulus	B-Grass	Elymus trachycaulus	-
12	-		-		Bare Ground
13	Grass	Dactylis glomerata	-		Bare Ground
14	-		-		Litter
15	-		-		Bare Ground
16	Grass	Dactylis glomerata	-		Bare Ground
17	-		-		Litter
18	-		-		Bare Ground
19	-		-		Litter
20	-		-		Bare Ground
21	Grass	Thinopyrum intermedia	-		Bare Ground
22	-		-		Bare Ground
23	Grass	Thinopyrum intermedia	-		Bare Ground
24	-		-		Bare Ground
25	-		-		Bare Ground
26	Grass	Thinopyrum intermedia	-		Bare Ground
27	-		-		Bare Ground
28	-		-		Litter
29	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-



Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
30	-		-		Bare Ground
31	-		-		Litter
32	Grass	Bromus biebrsteinii	-		Litter
33	Grass	Bromus biebrsteinii	-		Bare Ground
34	Grass	Thinopyrum intermedia	-		Litter
35	-		-		Bare Ground
36	Grass	Bromus biebrsteinii	B-Grass	Bromus biebrsteinii	-
37	-		-		Bare Ground
38	-		-		Litter
39	-		-		Litter
40	Grass	Thinopyrum intermedia	-		Bare Ground
41	-		-		Litter
42	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
43	Grass	Thinopyrum intermedia	-		Litter
44	Grass	Thinopyrum intermedia	B-Grass	Thinopyrum intermedia	-
45	-		-		Bare Ground
46	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
47	Grass	Thinopyrum intermedia	-		Litter
48	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
49	-		-		Litter
50	Grass	Thinopyrum intermedia	-		Bare Ground

#### Photo Requirements

Representative photo looking down the length of each transect; including reference area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo facing each cardinal direction (N, E, S, W) from the center looking past well heads.	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Representative photo down edge of disturbance	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo that documents the total cover of live perennial vegetation of the undisturbed area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo that documents the total cover of live perennial vegetation of the disturbed area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO

General Notes: Forb other species 1 kochia, other species 2 black eyed Susan

#### INSPECTION CERTIFICATION

I certify that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of termination.

Inspector (Name)

Zac Tuthill-Environmental Scientist



Date: 07/23/2015



**VEGETATION MONITORING FORM - Kerr-McGee Oil & Gas Onshore LP**

COGCC Location Name (ID)- Shurview 13N - 3HZ (330461)

CO # COP0038

Date of Assessment - 07/23/2015

Transect ID - Reference Transect 1

Length of Transect (ft.) - 650

Transect Type

☐ Reclamation

☒ Reference

Inspector(s) (Name and Title) - Zac Tuthill-Environmental Scientist

Weather at Time of Inspection - Partly cloudy, winds from nw, 93

Method - Step Point

Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
1	-		-		Litter
2	Grass	Bromus biebrsteinii	-		Litter
3	Noxious Weed	Other spp. 1	-		Litter
4	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
5	Noxious Weed	Other spp. 1	-		Litter
6	-		-		Bare Ground
7	-		-		Litter
8	-		-		Litter
9	-		-		Litter
10	Grass	Other spp. 1	-		Litter
11	Grass	Other spp. 1	-		Litter
12	-		-		Litter
13	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
14	Grass	Dactylis glomerata	B-Grass	Dactylis glomerata	-
15	-		-		Litter
16	-		-		Litter
17	Grass	Bromus biebrsteinii	B-Grass	Bromus biebrsteinii	-
18	-		-		Litter
19	-		-		Bare Ground
20	Forb	Other spp. 3	B-Forb	Other spp. 3	-
21	-		-		Litter
22	Forb	Other spp. 1	B-Forb	Other spp. 1	-
23	Forb	Other spp. 1	B-Forb	Other spp. 1	-
24	Grass	Bromus biebrsteinii	-		Litter
25	-		-		Litter
26	-		-		Litter
27	Grass	Thinopyrum intermedia	-		Litter
28	Grass	Thinopyrum intermedia	B-Grass	Thinopyrum intermedia	-
29	-		-		Bare Ground



Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
30	Grass	Bromus biebrsteinii	B-Grass	Bromus biebrsteinii	-
31	-		-		Litter
32	-		-		Bare Ground
33	Grass	Dactylis glomerata	-		Litter
34	-		-		Litter
35	-		-		Bare Ground
36	-		-		Litter
37	Grass	Other spp. 1	B-Grass	Other spp. 1	-
38	Grass	Bromus biebrsteinii	-		Litter
39	Grass	Thinopyrum intermedia	B-Grass	Thinopyrum intermedia	-
40	Grass	Thinopyrum intermedia	-		Litter
41	-		-		Litter
42	-		-		Bare Ground
43	Forb	Other spp. 1	B-Forb	Other spp. 1	-
44	Forb	Other spp. 1	B-Forb	Other spp. 1	-
45	-		-		Bare Ground
46	-		-		Bare Ground
47	Grass	Bromus biebrsteinii	-		Bare Ground
48	-		-		Litter
49	-		-		Litter
50	Forb	Other spp. 1	B-Forb	Other spp. 1	-

#### Photo Requirements

Representative photo looking down the length of each transect; including reference area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Photo facing each cardinal direction (N, E, S, W) from the center looking past well heads.	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
Representative photo down edge of disturbance	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
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Photo that documents the total cover of live perennial vegetation of the disturbed area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO

General Notes: Forb other species 1 kochia, other species 2 black eyed Susan

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Inspector (Name)

Zac Tuthill-Environmental Scientist



Date: 07/23/2015



**VEGETATION MONITORING FORM - Kerr-McGee Oil & Gas Onshore LP**

COGCC Location Name (ID)- Shurview 13N - 3HZ (330461)

CO # COP0038

Date of Assessment - 07/23/2015

Transect ID - Reference Transect 2

Length of Transect (ft.) - 750

Transect Type

☐ Reclamation

☒ Reference

Inspector(s) (Name and Title) - Zac Tuthill-Environmental Scientist

Weather at Time of Inspection - Partly cloudy, winds from nw, 93

Method - Step Point

Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
1	-		-		Litter
2	Forb	Other spp. 2	B-Forb	Other spp. 2	-
3	-		-		Litter
4	-		-		Litter
5	-		-		Litter
6	Grass	Nassella viridula	-		Bare Ground
7	-		-		Bare Ground
8	Grass	Nassella viridula	B-Grass	Nassella viridula	-
9	Grass	Nassella viridula	-		Bare Ground
10	-		-		Bare Ground
11	-		-		Litter
12	-		-		Bare Ground
13	Forb	Other spp. 3	B-Forb	Other spp. 3	-
14	-		-		Litter
15	-		-		Litter
16	Grass	Nassella viridula	B-Grass	Nassella viridula	-
17	-		-		Litter
18	-		-		Bare Ground
19	-		-		Bare Ground
20	Forb	Yucca	B-Forb	Yucca	-
21	Forb	Other spp. 3	-		Litter
22	-		-		Litter
23	-		-		Litter
24	-		-		Bare Ground
25	Grass	Nassella viridula	B-Grass	Nassella viridula	-
26	Grass	Nassella viridula	-		Bare Ground
27	-		-		Litter
28	-		-		Litter
29	-		-		Litter



Point	Foliar		Basal		Non-Vegetative
	Type	Species	Type	Species	
30	Forb	Other spp. 3	B-Forb	Other spp. 3	-
31	-		-		Litter
32	-		-		Litter
33	-		-		Bare Ground
34	-		-		Bare Ground
35	Grass	Nassella viridula	B-Grass	Nassella viridula	-
36	-		-		Litter
37	Forb	Other spp. 3	-		Bare Ground
38	Grass	Nassella viridula	B-Grass	Nassella viridula	-
39	-		-		Bare Ground
40	Grass	Nassella viridula	-		Bare Ground
41	-		-		Bare Ground
42	-		-		Bare Ground
43	-		-		Litter
44	Grass	Nassella viridula	-		Litter
45	Shrub	Other spp. 1	B-Shrub	Other spp. 1	-
46	-		-		Litter
47	-		-		Litter
48	Grass	Nassella viridula	B-Grass	Nassella viridula	-
49	-		-		Litter
50	-		-		Bare Ground

#### Photo Requirements

Representative photo looking down the length of each transect; including reference area	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
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Inspector (Name)

Zac Tuthill-Environmental Scientist



Date: 07/23/2015