



October 9, 2019

Ms. Kate Graves
Reclamation Representative
Kerr-McGee Oil & Gas Onshore LP
501 N Division Blvd.
Platteville, Colorado 80651

**RE: Colorado Oil & Gas Conservation Commission (COGCC)
Vegetation Assessment Report (Interim Reclamation Completion Notice)
Dejane State 2N-36HZ (327868)
Kerr-McGee Oil & Gas Onshore LP (Operator: 47120)**

Dear Ms. Graves:

Apex Companies, LLC (Apex) is presenting this letter to Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) documenting the results of a vegetation assessment that demonstrates successful completion of interim reclamation efforts, per COGCC Rule 1003, on the above-referenced location. Attached is a topographic location map and site map with additional location information.

Based on site visits and the completed vegetation assessment, Apex inspectors confirmed that the unused portions of the reduced production footprint have been stabilized and seeded with a mixture consistent with species composition and reseeding practices common to the area.

On July 29, 2019, modified step-point vegetation surveys were conducted on the reclaimed portion of the well pad, and on adjacent 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 reference area. Vegetation survey points were identified using a bullseye target tool. The survey methodology employed by Apex is based on the *step-point method* described in an interagency technical reference published by the Bureau of Land Management (BLM, 1996).

Noxious weeds listed by the Colorado Department of Agriculture (USDA) were excluded from the percent of reference vegetative coverage calculations, per COGCC Rule 1003.e (2). To ensure reclamation vegetative composition meets the standards of Kerr-McGee and the COGCC, undesirable cover is also quantified in the attached Summary of Field Data. Undesirable cover includes species identified by the USDA Natural Resource Conservation Service (NRCS) as introduced and not native to the lower 48 states, and not considered beneficial for reclamation purposes.

Survey results indicate the reclaimed area has a foliar vegetative cover that is 85.4% of the reference area. Vegetation survey results are provided in the attached survey summary table 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 the site map illustrating vegetation survey efforts.

Apex appreciates the opportunity to provide environmental consulting services on this project. Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Apex Companies, LLC



Adam Roll

Environmental Scientist

970-589-6111

Adam.Roll@apexcos.com

Attachments:

1. Vegetation Survey - Summary of Field Data
2. Topographic Location Map
3. Vegetation Survey Site Map
4. Vegetation Assessment Photo Log
5. Vegetation Survey (Field Data Tables)

Reference:

United States (U.S.) Department of Agriculture (USDA), Forest Service (USFS), Natural Resource Conservation Service (NRCS) and U.S. Department of the Interior (USDOI) Bureau of Land Management (BLM). "Sampling Vegetation Attributes, Interagency Technical Reference, 1996 (Revised in 1997, and 1999)". USDOI BLM Technical References #1734-4.

Date Accessed: 2 August, 2017

Vegetation Survey - Summary of Field Data

Client	Kerr-McGee
COGCC Location Name (ID)	DEJANE STATE 2N-36HZ (327868)
Assessment Date	7/29/2019
Inspector Name	Carolyn Craveiro De Sa

Based on the survey methodology, the foliar cover (%) in each survey area is calculated by summing the total number of foliar occurrences, excluding noxious weeds, and dividing by the total occurrences in the transects. For this location:

Reclaim Area (Foliar Cover)	Reference Area (Foliar Cover)
$(34 + 15 + 0) / 156 = 31.4\%$	$(58 + 6 + 0) / 174 = 36.8\%$

For the purposes of this assessment, the undesirable foliar cover (%) is calculated by summing the total number of undesirable* foliar occurrences and dividing by the total occurrences in the transects, excluding noxious weeds. For this location:

Reclaim Area (Undesirable Foliar Cover)	Reference Area (Undesirable Foliar Cover)
$5 / (34 + 15 + 0) = 10.2\%$	$10 / (58 + 6 + 0) = 15.6\%$

The percent of reference used to evaluate the reclamation area for compliance with COGCC Rule 1003.e(2) is calculated by dividing the foliar cover (%) in the reclaim area by the foliar cover (%) in the reference area. For this location:

Percent of Reference (Reclaim % / Reference %)
$31.4\% / 36.8\% = 85.4\%$

Reclaim Area Vegetation		Reference Area Vegetation	
Desirable Foliar Cover	28.21%	Desirable Foliar Cover	31.03%
Desirable Basal Cover	10.26%	Desirable Basal Cover	6.90%
Non Vegetated	53.85%	Non Vegetated	45.40%
Noxious Weeds Cover	4.49%	Noxious Weeds Cover	8.05%
Undesirable Cover	3.21%	Undesirable Cover	8.62%
Quality Assurance Total <i>(must equal 100)</i>	100.0%	Quality Assurance Total <i>(must equal 100)</i>	100.0%
Grass (Foliar)	34	Grass (Foliar)	58
Forb (Foliar)	15	Forb (Foliar)	6
Shrubs (Foliar)	0	Shrubs (Foliar)	0
Noxious Weed (Foliar)	7	Noxious Weed (Foliar)	10
Grass (Basal)	13	Grass (Basal)	15
Forb (Basal)	3	Forb (Basal)	2
Shrubs (Basal)	0	Shrubs (Basal)	0
Noxious Weed (Basal)	0	Noxious Weed (Basal)	4
Bare Ground	65	Bare Ground	10
Litter	19	Litter	69
Rock	0	Rock	0
Total Occurrences	156	Total Occurrences	174

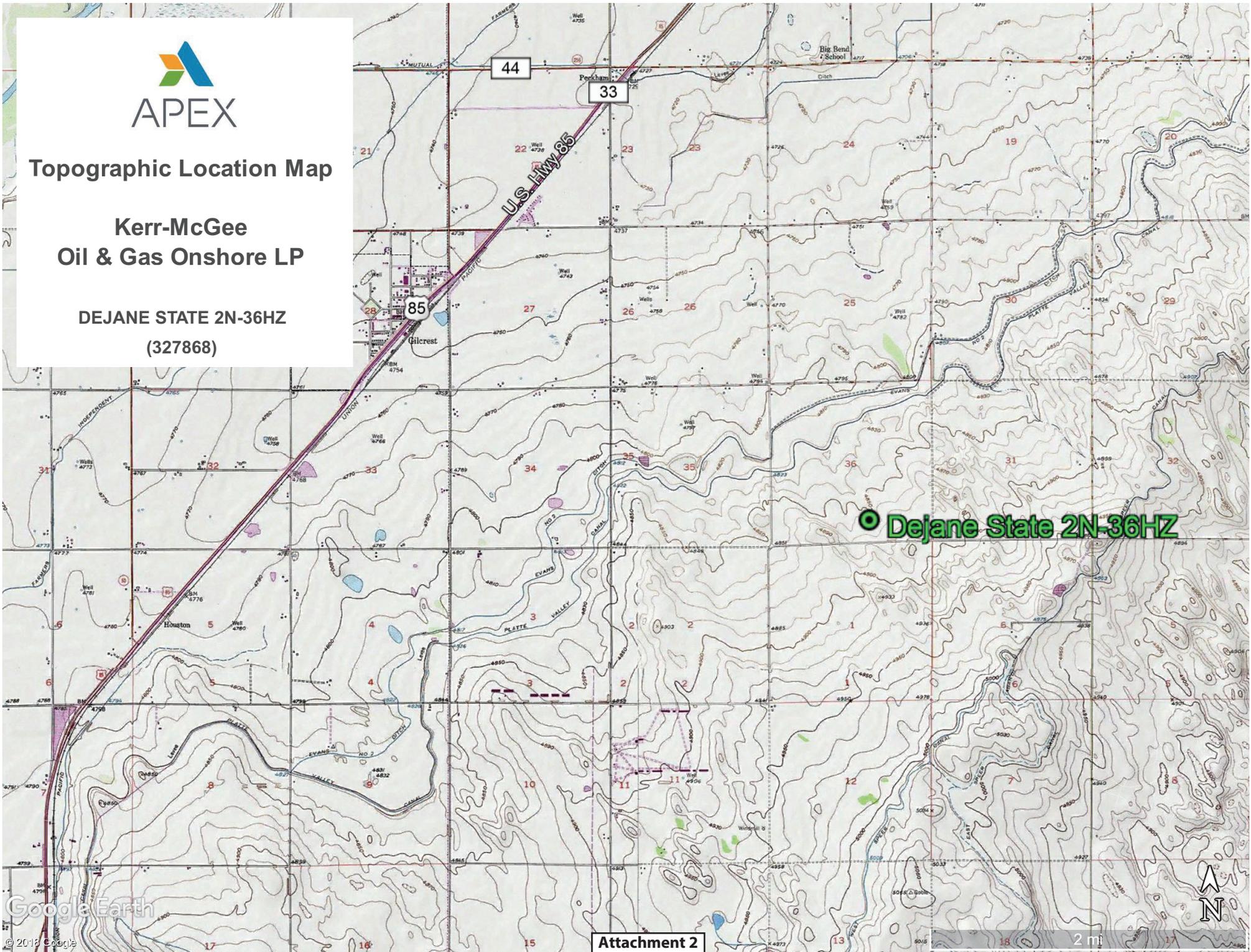
* Identified by the USDA NRCS as introduced and non-native to the lower 48 states, and not considered beneficial for reclamation purposes



Topographic Location Map

Kerr-McGee
Oil & Gas Onshore LP

DEJANE STATE 2N-36HZ
(327868)





Vegetation Survey Site Map

Kerr-McGee Oil & Gas Onshore LP

DEJANE STATE 2N-36HZ
(327868)

	Vegetation Photo Point
	Cardinal Direction Photos
	Reclaim Transect
	Reference Transect

Legal Description: SWSE, Sec. 36, T4N-R66W

Lat/Long: 40.263261 / -104.722753

County: Weld

Land Use: Non-Cropland

Reference Area Foliar Cover: 36.8%

Reclaim Area Foliar Cover: 31.4%

Cover Ratio (Reclaim/Reference): 85.4%

Inspector: Carolyn Craveiro De Sa

Assessment Date: 7/29/2019

Aerial Imagery Date: 9/12/2018

**Please reference coordinate disclaimer on the photo log pages.*



Vegetation Assessment Photo Log

Date Completed - 07/29/2019

Client - Kerr-McGee Oil & Gas Onshore LP

Location Name (ID) - DeJane State 2N-36HZ (327868)



Photo Point A: Edge of Disturbance - Facing South

*Geographic coordinates provided in the borders of all attached photos are based on points identified by the mobile phone or tablet which collected the photo. Coordinate accuracy in this format is typically no greater than 5 meters, while the points illustrated in the site diagram associated with this submittal were collected with a high accuracy GPS unit with sub-meter accuracy. Discrepancies between the site diagram and photo coordinates will exist.

Vegetation Assessment Photo Log

Date Completed - 07/29/2019

Client - Kerr-McGee Oil & Gas Onshore LP

Location Name (ID) - DeJane State 2N-36HZ (327868)



Photo Point B: North of Disturbance - Facing South



Photo Point C: South of Disturbance - Facing North



Photo Point B: West of Disturbance - Facing East



Photo Point D: East of Disturbance - Facing West

Vegetation Assessment Photo Log

Client - Kerr-McGee Oil & Gas Onshore LP

Date Completed - 07/29/2019

Location Name (ID) - DeJane State 2N-36HZ (327868)

DIRECTION
E (T)

40.26454°N
104.72419°W

ACCURACY 5 m
DATUM WGS84



2019-07-29
10:15:57-06:00

Photo Point A: Reclaim Area Vegetation - Facing South-Southeast

Vegetation Assessment Photo Log

Client - Kerr-McGee Oil & Gas Onshore LP

Date Completed - 07/29/2019

Location Name (ID) - DeJane State 2N-36HZ (327868)



Transect Photo E: Reclaim Transect 1 - Facing South



Photo Point D: Reclaim Transect 2 - Facing West

Vegetation Assessment Photo Log

Date Completed - 07/29/2019

Client - Kerr-McGee Oil & Gas Onshore LP

Location Name (ID) - DeJane State 2N-36HZ (327868)



Photo Point F: Reference Area Vegetation - Facing West

Vegetation Assessment Photo Log

Client - Kerr-McGee Oil & Gas Onshore LP

Date Completed - 07/29/2019

Location Name (ID) - DeJane State 2N-36HZ (327868)



Photo Point F: Reference Transect 1 - Facing West



Transect Photo G: Reference Transect 2 - Facing South

Vegetation Survey (Field Data Table)

Client: Kerr-McGee
 COGCC Location Name (ID): DEJANE STATE 2N-36HZ (327868)
 Transect ID: Reclaim Transect 1
 Transect Length: 320 ft.
 Assessment Date: 7/29/2019
 Inspector: Carolyn Craveiro De Sa

Point	Foliar	Species	Basal	Species
1	Grass	<i>Secale cereale</i>	Grass	<i>Secale cereale</i>
2			Non Vegetative	Bare Ground
3	Grass	<i>Bromus inermis</i>	Non Vegetative	Bare Ground
4			Non Vegetative	Bare Ground
5			Non Vegetative	Litter
6	Forb	<i>Ambrosia psilostachya</i>	Forb	<i>Ambrosia psilostachya</i>
7	Grass	<i>Bromus inermis</i>	Grass	<i>Bromus inermis</i>
8			Non Vegetative	Litter
9	Grass	<i>Secale cereale</i>	Grass	<i>Secale cereale</i>
10	Grass	<i>Secale cereale</i>	Non Vegetative	Bare Ground
11			Non Vegetative	Litter
12	Grass	<i>Secale cereale</i>	Non Vegetative	Bare Ground
13			Non Vegetative	Bare Ground
14	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
15			Non Vegetative	Litter
16	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
17			Non Vegetative	Bare Ground
18			Non Vegetative	Bare Ground
19			Non Vegetative	Bare Ground
20			Non Vegetative	Litter
21	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Litter
22			Non Vegetative	Litter
23			Non Vegetative	Bare Ground
24	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
25	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
26	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
27			Non Vegetative	Bare Ground
28			Non Vegetative	Bare Ground
29			Non Vegetative	Litter
30	Forb	<i>Ambrosia psilostachya</i>	Forb	<i>Ambrosia psilostachya</i>
31	Forb	<i>Salsola L</i>	Non Vegetative	Litter
32	Forb	<i>Ambrosia psilostachya</i>	Non Vegetative	Bare Ground
33	Forb	<i>Ambrosia psilostachya</i>	Non Vegetative	Litter
34	Forb	<i>Salsola L</i>	Non Vegetative	Litter
35			Non Vegetative	Litter
36			Non Vegetative	Bare Ground
37	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
38			Non Vegetative	Bare Ground
39	Noxious Weed C	<i>Bromus tectorum</i>	Non Vegetative	Bare Ground
40			Non Vegetative	Bare Ground
41	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
42			Non Vegetative	Bare Ground
43	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Litter
44			Non Vegetative	Bare Ground
45			Non Vegetative	Bare Ground
46			Non Vegetative	Litter
47	Grass	<i>Secale cereale</i>	Non Vegetative	Bare Ground
48			Non Vegetative	Bare Ground
49	Grass	<i>Bromus inermis</i>	Non Vegetative	Bare Ground
50	Grass	<i>Secale cereale</i>	Non Vegetative	Bare Ground

Vegetation Survey (Field Data Table)

Client: Kerr-McGee
COGCC Location Name (ID): DEJANE STATE 2N-36HZ (327868)
Transect ID: Reclaim Transect 2
Transect Length: 302 ft.
Assessment Date: 7/29/2019
Inspector: Carolyn Craveiro De Sa

Point	Foliar	Species	Basal	Species
1			Non Vegetative	Bare Ground
2			Non Vegetative	Bare Ground
3	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
4			Non Vegetative	Bare Ground
5	Noxious Weed C	<i>Tribulus terrestris</i>	Non Vegetative	Bare Ground
6			Non Vegetative	Bare Ground
7	Grass	<i>Bromus inermis</i>	Non Vegetative	Bare Ground
8	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Litter
9	Noxious Weed C	<i>Tribulus terrestris</i>	Non Vegetative	Bare Ground
10	Forb	<i>Tragopogon spp.</i>	Non Vegetative	Bare Ground
11	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
12			Non Vegetative	Bare Ground
13	Forb	<i>Ambrosia psilostachya</i>	Forb	<i>Ambrosia psilostachya</i>
14	Forb	<i>Salsola L</i>	Non Vegetative	Bare Ground
15	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Bare Ground
16			Non Vegetative	Bare Ground
17			Non Vegetative	Bare Ground
18	Grass	<i>Bromus inermis</i>	Non Vegetative	Bare Ground
19	Noxious Weed C	<i>Tribulus terrestris</i>	Non Vegetative	Bare Ground
20	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Bare Ground
21	Forb	<i>Lactuca serriola</i>	Non Vegetative	Bare Ground
22	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
23			Non Vegetative	Bare Ground
24			Non Vegetative	Bare Ground
25			Non Vegetative	Bare Ground
26	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
27	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Bare Ground
28	Forb	<i>Ambrosia psilostachya</i>	Non Vegetative	Litter
29	Noxious Weed C	<i>Tribulus terrestris</i>	Non Vegetative	Bare Ground
30			Non Vegetative	Bare Ground
31	Grass	<i>Bromus inermis</i>	Non Vegetative	Bare Ground
32	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Bare Ground
33			Non Vegetative	Bare Ground
34	Noxious Weed C	<i>Bromus tectorum</i>	Non Vegetative	Bare Ground
35			Non Vegetative	Bare Ground
36	Forb	<i>Salsola L</i>	Non Vegetative	Bare Ground
37			Non Vegetative	Bare Ground
38	Forb	<i>Ambrosia psilostachya</i>	Non Vegetative	Bare Ground
39	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
40			Non Vegetative	Bare Ground
41			Non Vegetative	Bare Ground
42			Non Vegetative	Bare Ground
43	Noxious Weed C	<i>Tribulus terrestris</i>	Non Vegetative	Bare Ground
44	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Bare Ground
45	Forb	<i>Ambrosia psilostachya</i>	Non Vegetative	Bare Ground
46	Grass	<i>Thinopyrum intermedia</i>	Grass	<i>Thinopyrum intermedia</i>
47	Forb	<i>Ambrosia psilostachya</i>	Non Vegetative	Bare Ground
48			Non Vegetative	Bare Ground
49	Grass	<i>Thinopyrum intermedia</i>	Non Vegetative	Bare Ground
50			Non Vegetative	Bare Ground

Vegetation Survey (Field Data Table)

Client: Kerr-McGee
COGCC Location Name (ID): DEJANE STATE 2N-36HZ (327868)
Transect ID: Reference Transect 1
Transect Length: 320 ft.
Assessment Date: 7/29/2019
Inspector: Carolyn Craveiro De Sa

Point	Foliar	Species	Basal	Species
1	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
2	Grass	<i>Secale cereale</i>	Grass	<i>Bromus inermis</i>
3	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
4			Non Vegetative	Litter
5	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
6	Grass	<i>Secale cereale</i>	Grass	<i>Bromus inermis</i>
7	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
8			Non Vegetative	Litter
9	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
10	Grass	<i>Bromus inermis</i>	Grass	<i>Bromus inermis</i>
11			Non Vegetative	Litter
12	Grass	<i>Secale cereale</i>	Grass	<i>Bromus inermis</i>
13			Non Vegetative	Litter
14	Grass	<i>Secale cereale</i>	Grass	<i>Bromus inermis</i>
15	Grass	<i>Secale cereale</i>	Grass	<i>Bromus inermis</i>
16			Non Vegetative	Litter
17	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
18	Grass	<i>Secale cereale</i>	Noxious Weed C	<i>Bromus tectorum</i>
19	Noxious Weed C	<i>Bromus tectorum</i>	Non Vegetative	Litter
20	Forb	<i>Tragopogon spp.</i>	Grass	<i>Bromus inermis</i>
21	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
22	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
23	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
24	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
25	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
26			Non Vegetative	Litter
27	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
28			Non Vegetative	Litter
29	Grass	<i>Secale cereale</i>	Grass	<i>Bromus inermis</i>
30	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
31	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
32	Grass	<i>Bromus inermis</i>	Grass	<i>Bromus inermis</i>
33			Non Vegetative	Litter
34			Non Vegetative	Litter
35	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
36	Grass	<i>Cenchrus longispinus</i>	Non Vegetative	Litter
37	Noxious Weed C	<i>Bromus tectorum</i>	Grass	<i>Cenchrus longispinus</i>
38	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
39			Non Vegetative	Litter
40			Non Vegetative	Litter
41	Grass	<i>Bromus inermis</i>	Grass	<i>Bromus inermis</i>
42	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
43	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
44			Non Vegetative	Litter
45	Grass	<i>Bromus inermis</i>	Grass	<i>Bromus inermis</i>
46	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
47			Non Vegetative	Litter
48	Forb	<i>Cleome serrulata</i>	Non Vegetative	Litter
49	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
50			Non Vegetative	Litter

Vegetation Survey (Field Data Table)

Client: Kerr-McGee
 COGCC Location Name (ID): DEJANE STATE 2N-36HZ (327868)
 Transect ID: Reference Transect 2
 Transect Length: 310 ft.
 Assessment Date: 7/29/2019
 Inspector: Carolyn Craveiro De Sa

Point	Foliar	Species	Basal	Species
1			Non Vegetative	Litter
2			Non Vegetative	Bare Ground
3	Forb	<i>Taraxacum officinale</i>	Forb	<i>Taraxacum officinale</i>
4			Non Vegetative	Litter
5	Forb	<i>Tragopogon spp.</i>	Non Vegetative	Bare Ground
6	Grass	<i>Cenchrus longispinus</i>	Non Vegetative	Litter
7	Grass	<i>Cenchrus longispinus</i>	Non Vegetative	Litter
8			Non Vegetative	Litter
9			Non Vegetative	Litter
10	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
11	Grass	<i>Cenchrus longispinus</i>	Non Vegetative	Litter
12	Noxious Weed C	<i>Convolvulus arvensis</i>	Non Vegetative	Bare Ground
13	Noxious Weed C	<i>Convolvulus arvensis</i>	Non Vegetative	Bare Ground
14	Grass	<i>Bromus inermis</i>	Non Vegetative	Bare Ground
15	Grass	<i>Bouteloua gracilis</i>	Non Vegetative	Litter
16	Forb	<i>Taraxacum officinale</i>	Forb	<i>Taraxacum officinale</i>
17	Grass	<i>Cenchrus longispinus</i>	Non Vegetative	Litter
18	Grass	<i>Cenchrus longispinus</i>	Non Vegetative	Litter
19	Forb	<i>Cleome serrulata</i>	Non Vegetative	Litter
20	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
21	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
22	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
23	Grass	<i>Bromus inermis</i>	Non Vegetative	Litter
24	Grass	<i>Secale cereale</i>	Noxious Weed C	<i>Convolvulus arvensis</i>
25	Grass	<i>Secale cereale</i>	Noxious Weed C	<i>Bromus tectorum</i>
26	Noxious Weed C	<i>Bromus tectorum</i>	Non Vegetative	Litter
27			Non Vegetative	Bare Ground
28			Non Vegetative	Litter
29			Non Vegetative	Litter
30			Non Vegetative	Litter
31			Non Vegetative	Litter
32	Grass	<i>Bouteloua gracilis</i>	Non Vegetative	Litter
33			Non Vegetative	Litter
34	Noxious Weed C	<i>Bromus tectorum</i>	Non Vegetative	Litter
35	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
36	Noxious Weed C	<i>Convolvulus arvensis</i>	Non Vegetative	Bare Ground
37	Noxious Weed C	<i>Convolvulus arvensis</i>	Non Vegetative	Bare Ground
38	Grass	<i>Secale cereale</i>	Grass	<i>Cenchrus longispinus</i>
39	Grass	<i>Secale cereale</i>	Grass	<i>Secale cereale</i>
40	Noxious Weed C	<i>Convolvulus arvensis</i>	Non Vegetative	Litter
41	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
42	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
43	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
44	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
45	Grass	<i>Secale cereale</i>	Noxious Weed C	<i>Convolvulus arvensis</i>
46	Grass	<i>Secale cereale</i>	Non Vegetative	Litter
47	Noxious Weed C	<i>Convolvulus arvensis</i>	Non Vegetative	Bare Ground
48			Non Vegetative	Litter
49	Grass	<i>Secale cereale</i>	Non Vegetative	Bare Ground
50	Grass	<i>Secale cereale</i>	Grass	<i>Cenchrus longispinus</i>