



Kerr-McGee Oil & Gas Onshore L.P
1099 18th Street, Suite 1800
Denver, Colorado 80202
720-929-6000 Fax 720-929-7000

December 18, 2015

Mr. Chris Binschus
Colorado Oil & Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

Re: COGCC Inspection Corrective Actions
Como 13N-14HZ Well Pad
COGCC Document Number 682400031

Dear Mr. Binschus:

Kerr-McGee Oil and Gas Onshore, LP (Kerr-McGee) submits this response to COGCC Document Number 682400031 regarding the October 30, 2015 inspection at the Como 13N-14HZ well pad (COGCC Location ID 327259).

Kerr-McGee was granted a verbal 45 day extension on November 19, 2015 for the completion of the corrective actions detailed in the subject document. Form 4 Document Number 400938065 was submitted to confirm the extension. All required action items have been completed or are in the process of being completed, as noted in our responses below.

COGCC Action Item

Straw bales in northwestern location (Photo 17 Doc. #682400039) need to be removed by Corrective Action date of November 16, 2015.

Kerr-McGee Response

During the November 12, 2015 site visit, COGCC provided Kerr-McGee the option to postpone removal of the straw bales until after interim reclamation commences or to utilize the straw bales in future production or reclamation operations.

COGCC Action Item

Vegetative growth and cover at time of this current inspection is inadequate. Perennial vegetation needs to be seeded on all berms and topsoil stockpiles by Corrective Action date of November 30, 2015. Refer to photo 10 and 14 in Doc. #682400039.

Kerr-McGee Response

Kerr-McGee employed a well pad perimeter ditch and berm control as part of our Stormwater Management Program. The topsoil stockpile was stabilized using a soil binding agent and hydro-mulch to prevent degradation from wind and water erosion on October 3, 2014.

Interim reclamation operations will commence on or before February 1, 2016, weather dependent. At the time of reclamation operations commencing, the top soil stockpile will be re-contoured to pre-disturbance topographic conditions and the berms will be removed. Once all topsoil has been spread on location, the site will be seeded with a seed mix, as specified by the landowner.

COGCC Action Item

Field bindweed (Convolvulus arvensis), Canada thistle (Cirsium arvense), and Musk thistle (Carduus nutans) are present on location. All are Colorado State listed noxious weeds and need to be removed by Corrective Action date of November 16, 2015 and monitored/managed in future growing seasons. Refer to photos in Doc. #682400039.

Kochia (Kochia sp.) and Russian thistle (Salsola sp.) exists throughout location and must continue to be managed/mowed to prevent large drying thistle debris from spreading onto adjacent lands.

Kerr-McGee Response

The noxious weeds that were present on the perimeter of the Como 13N-14HZ well pad were sprayed with herbicide on November 16, 2015. To document compliance, Kerr-McGee submitted a Form 42, Document Number 400938035, on November 16, 2015.

The undesirable species, Kochia (Kochia sp.) and Russian thistle (Salsola sp.), located along the perimeter of the well pad were controlled on December 17, 2015 utilizing mechanical means. Mechanical control will aid in preventing encroachment on to adjacent lands.

COGCC Action Item

Location does not meet reclamation regulations. Submit a Form 4 attached with a reclamation plan, and a map detailing interim reclamation for areas on the well pad no longer needed for production operations by Corrective Action date of November 16, 2015. The plan should include, at a minimum, a detailed schedule for reclamation activities, weed management plan, seed mixture, seed application method, interim stormwater controls with soil stabilization until the land can be returned to agricultural production, mulch type, and if needed, fertilizer/soil amendments and water.

Reclamation activities shall begin no later than November 30, 2015.

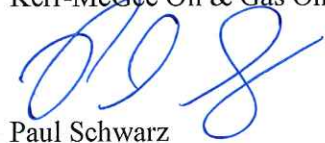
Kerr-McGee Response

The Como 13N-14HZ Reclamation Plan with the requested information is attached to this letter report. Interim reclamation operations will commence on or before February 1, 2016 (weather dependent). The surface owner, has requested the well pad not be returned to dry land crop as permitted, but instead seeded with a dry land pasture seed mixture as noted in the reclamation plan.

Feel free to contact me at 970-515-1431 if you have any questions regarding this information.

Sincerely,

Kerr-McGee Oil & Gas Onshore LP



Paul Schwarz
HSE Representative

cc: Ms. Margaret Ash, COGCC

Attachment - Como 13N-14HZ Well Pad Reclamation Plan

KERR-MCGEE RECLAMATION PLAN

COMO 13N-14HZ WELL PAD – COGCC LOCATION ID #327259

Site Description

The Como 13N-14HZ well pad - COGCC Location ID #327259 was field investigated by an H2 Enterprises, LLC (H2) Reclamation Scientist on August 11, 2014. The Como 13N-14HZ well pad is located in SWNW Sec 11, T1N, R68W in Weld County, Colorado (Figure 1). The area of disturbance is approximately 6.2 acres, including the access road. The pre-disturbance land use was dryland crops. The surface owner has requested that the location be returned to rangeland following reclamation.

During the investigation, H2 collected soil samples and walked the well pad area visually identifying plant species. Soil samples were analyzed to establish pre-disturbance soil physicochemical properties for reclamation planning (Table 1). Pre-disturbance soil sample results indicate that the location has fine textured (clayey) soils with elevated soil salinity and lime content below 10 inches in the east and southern portions of the location. There were no other reclamation limiting soil properties observed.

Vegetation data were used to determine the baseline species composition and percent ground cover. The percent cover of the ground surface was measured using the point intercept method along two transects in the location (Figure 1). The plant species list and estimated percent composition of each species is provided in Table 2. Percent cover by vegetation, bare ground, and litter and rock is provided in Table 3. *Portulaca* and *Convolvulus* species are weedy forbs and do not contribute to ground cover data.

Table 1. Soil chemical and physical data were collected during the field investigation and analyzed on August 14, 2014.

Depth (Inches)	pH (s.u.)	EC (dS/m)	SAR	Lime %	Saturation %	Sand %	Silt %	Clay %	Texture
Como 13N-14Hz North									
0 to 6	7.4	1.0	1.2	0.80	46	44	31	25	Loam
6 to 12	7.6	0.38	0.90	2.3	43	39	25	36	Clay Loam
12 to 24	7.7	0.36	1.2	3.6	51	34	31	35	Clay Loam
Como 13N-14Hz East									
0 to 5	7.7	0.79	0.70	2.6	44	42	27	31	Clay Loam
5 to 10	7.7	0.61	2.4	2.6	44	34	31	35	Clay Loam
10 to 24	7.7	3.6	4.7	7.8	44	34	33	33	Clay Loam
Como 13N-14Hz South									
0 to 6	7.3	0.66	2.4	1.7	47	40	25	35	Clay Loam
6 to 12	7.9	0.54	4.8	4.2	60	27	26	47	Clay
12 to 24	7.9	3.6	6.0	12.6	50	33	24	43	Clay

A recommended seed mix is provided in Table 4. The seed mix was developed using 60 pure live seeds (PLS) per square foot. The seed mix considers seed availability, post disturbance landuse, and inherent soil properties.

Site preparation is critically important to achieve reclamation success on the Como 13N-14HZ well pad. Appropriate site preparation procedures, seeding practices, erosion control measures, and a site specific Integrated Weed Management Plan should help expedite reclamation success. The reclamation plan is provided on Page 2.



Figure 1. Aerial image of the Como 13N-14HZ well pad.

Table 2. Baseline species list and estimated percent composition data were collected during the field investigation on August 11, 2014.

Common Name	Scientific Name	Percent Composition
Wheat	<i>Triticum spp.</i>	59%
Purslane	<i>Portulaca spp.</i>	38%
Field Bindweed	<i>Convolvulus arvensis</i>	3%

Table 3. Baseline ground cover data (by transect) were collected during the field investigation on August 11, 2014.

Cover Type	T1	T2	Average
Vegetation	55%	55%	55%
Bare Ground	30%	30%	30%
Litter and Rock	70%	70%	70%

Note:

Average baseline ground cover greater than 100% indicates multiple ground cover layers.

Table 4. Recommended seed mix.

Common Name	Scientific Name	# PLS/acre	PLS/sq ft	% of Mix
Smooth Brome	<i>Bromus inermis</i>	4.6	12.0	20%
Perennial Ryegrass	<i>Lolium perenne</i>	2.6	12.0	20%
Intermediate Wheatgrass	<i>Thinopyrum intermedium</i>	5.0	9.0	15%
Orchardgrass	<i>Dactylis glomerata</i>	0.7	9.0	15%
Pubescent Wheatgrass	<i>Elytrigia intermedia</i>	4.4	9.0	15%
Dahurian Wildrye	<i>Elymus dahuricus</i>	5.4	9.0	15%
Total	--	22.6	60.0	100%

KERR-MCGEE RECLAMATION PLAN

COMO 13N-14HZ WELL PAD – COGCC LOCATION ID #327259

(1) Seedbed Preparation

These recommended seedbed preparation steps will aid in successful reclamation. Steps may be omitted, conducted in different order, or changed to optimize success and efficiency depending on field conditions, sub-soil properties, and local terrain.

- Rip subsurface soils, prior to topsoil application, to a minimum depth of 18 inches to reduce soil compaction and improve drainage.
- Apply topsoil.
- Till the site to a depth of 4.0 to 6.0 inches to create a seedbed conducive to seedling establishment (disk and harrow, field cultivator, vibra-shank, or other alternative suitable for site conditions).

(2) Seeding

Seeding should be conducted using a drill seeder capable of direct seed placement into fine textured soils and the seed mix provided in Table 4. Seed depth is critical for most grass species. It is recommended that the seed be placed no deeper than ½ inch. The recommended seed mix provides approximately 60 PLS per square foot.

(3) Straw Mulching

Application of a certified weed free straw mulch is recommended to reduce potential water and wind erosion. Recommended straw mulch application rates are between 1.5 to 2.0 tons per acre. This will provide ground coverage of approximately 80 to 90 percent of the ground surface prior to crimping. Once applied, the straw mulch should be crimped into the soil. Upon successful crimping the straw mulch should be standing vertically with approximately 40 to 60 percent of the ground surface covered. Straw mulch should be at least 6.0 inches in length. Straw mulch should be crimped sufficiently to cause vertical cover that will not be dislodged by light breezes.

(4) Soil Amendments

To offset nitrogen immobilization due to the organic carbon additions (straw mulch), it is recommended that 50 pounds per acre of nitrogen be applied.

(5) Weed Management

Kerr-McGee will control weeds at the Como 13N-14HZ well pad to the standards defined in Rule 1003. Kerr-McGee will also conduct monthly inspections of the reclaimed area until all applicable reclamation standards have been met. The inspector will document undesirable species and noxious weeds encountered on the location. For inspections requiring follow-up weed control, Kerr-McGee will utilize the most appropriate weed control method (herbicides, mechanical, etc.) to manage the undesirable species and noxious weeds present on the location.

Kerr-McGee will submit a Form 4 Sundry Notice for the Como 13N-14HZ well pad once 1003 Reclamation Standards have been met.

Summary

(1) Seedbed Preparation

- Deep rip subsoil to a minimum depth of 18 inches
- Apply topsoil
- Till/Vibra-shank seedbed to a depth of 4.0 to 6.0 inches

(2) Seeding

- Drill seed to a depth no deeper than ½ inch using the recommended seed mix in Table 4

(3) Straw Mulching

- Apply 1.5 to 2.0 tons/acre of certified weed free straw mulch and crimp into soil surface

(4) Soil Amendments

- Apply 50 lbs/ac nitrogen

(5) Weed Management

- Implement site specific Integrated Weed Management Plan