



COLORADO

Oil & Gas Conservation
Commission

Department of Natural Resources

1120 Lincoln Street, Suite 801
Denver, CO 80203

October 30, 2015

Thomas L. Spring, LLC
7400 E. Orchard Rd., Suite 2000
Greenwood Village, CO 8011
kathleenspring3@gmail.com

Delivered Electronically

RE: Order No. 1V-437
Thomas L. Spring, LLC ("Spring") (Operator No. 81480)
Reclamation Compliance Plan and Notice of Presentation at December Hearing

Ms. Spring,

On October 23, 2015, Spring submitted a reclamation plan to Field Inspection and Reclamation Staff. This plan has now been reviewed and approved by Denise Arthur, Reclamations Supervisor, with the Conditions of Approval ("COA") attached.

Colorado Oil and Gas Conservation Commission ("COGCC") Order No. 1V-437 (approved October 28, 2013) at paragraph 9 requires that Spring "continue to monitor and adapt as necessary, site stabilization and re-establishment of vegetative cover until such time as the site has passed a staff final reclamation inspection." Spring has not yet taken the required actions to satisfy this requirement.

At the October 26, 2015 Hearing of the COGCC, Commissioners requested an update on Spring's reclamation efforts at the Gregory #1-21X Well ("Well") (API No. 05-061-06628) pursuant to Order No. 1V-437.

At the December 7-8, 2015 COGCC Hearing, Staff will report on Spring's compliance with Order 1V-437 to date and Spring's compliance with the approved Reclamation Plan and COAs. The Commission will likely have questions for both Staff and Spring, so it is recommended that Spring attend this Hearing.

Please do not hesitate to contact me with any questions.

Respectfully,

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Commissioners: Thomas L. Compton - Chairman, Richard Alward, John H. Benton, DeAnn Craig,

James W. Hawkins, Tommy Holton, Andrew L. Spielman, Mike King, Dr. Larry Wolk

John W. Hickenlooper, Governor | Mike King, Executive Director, DNR | Matthew J. Lepore, Director





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RE: Thomas L Spring LLC
Gregory 1-21X Well Site
API 05-061-06628

Reclamation Plan Review and Conditions of Approval

The Colorado Oil and Gas Conservation Commission (COGCC) has received the Reclamation Plan (Plan) which was required as part of the Corrective Action on Field Inspection Report (FIR) Document #673502809. During this inspection, conducted on September 29, 2015, COGCC observed and evaluated the reclamation status of the Gregory 1-21X Location. This field assessment work documents that additional reclamation activities are necessary to successfully reclaim the location.

The COGCC has met with Thomas Spring LLC (Spring), has conducted numerous inspections, and provided comments on plans and proposals, however, failure of reclamation as required under Admsintration Order on Consent 1V-437 have been apparent since least May 28, 2013. Upon review of the most recent reclamation plan, submitted on October 23, 2015, the COGCC has identified certain elements of the plan that are inadequate. The COGCC has added a number of specific Conditions of Approval (COA) that shall be performed to maintain compliance with Admsintrative Order on Consent 1V-437.

A summary of the COGCC response to the Plan along with a list of the specific COAs follows:

Reclamation Plan Response

- **Dust and Erosion Control**

1. Operator states that “vegetation (albeit mostly comprised of weedy species) has grown this season in the blowout area that provides wind protection, it may not be necessary to repair this wind fence.”
 - a. The vegetation in the blowout area, as observed and noted in FIR #673502809, was mostly comprised of weedy species. Weedy species are not appropriate for soil stabilization; Russian thistle (*Salsola* sp.) noted as tumble weeds are known to break off at the lower stem just above ground level and blow away, thus not providing effective soil stabilization.
 - b. The landowner and the COGCC have significant concerns that the tumble weed will break off and infect the land owner’s property, and potentially others. Also, the “blow out area” had little to no seeded

vegetation germinating (FIR #673502809 and Documents #673502824, #6735028236).

2. The wind fence was insufficient and did not function to protect the site from erosion and, therefore, repair is not necessary. However, functional, well designed, erosion control measures will be installed and maintained in this area.
3. Inspecting on a quarterly basis for erosion stabilization will not be accepted. The location is not adequately stabilized, and is susceptible to further erosion and, therefore quarterly inspections are not sufficient to determine whether wind scour and water erosion is occurring that could damage the reclamation.
4. Additionally, once wind scour has occurred the damage has likely already taken place. Thus the seeds have likely been blown away during the wind event. The operator has proven that their monitoring/self-inspection was not sufficient to determine that the wind fence was ripped apart and therefore not functioning as shown in the COGCC September inspection.

- Weeds

1. During the September 29, 2015 COGCC inspection (FIR #673502809 and document #673502824) quantitative vegetation assessments indicated that Russian thistle was the predominate vegetation species growing, 18% cover compared to 0% cover by this weedy species in the reference area. Additionally, there was 41% bare soil compared to the reference area with 22% bare soil .
2. Annual weeds have the potential to cause poor establishment by desirable species because they compete for water, space, light, and nutrients. Weed control is necessary to promote the best possibility for desirable vegetation establishment. Springs indicated that the weedy vegetation was declining however there is insufficient evidence to show a declining trend. Controlling the weeds to promote desirable species establishment and to keep the weeds from spreading will be required to meet AOC.

- Mowing

1. The plan to “mow” the weeds is an acceptable method as long as it is performed with hand equipment.
2. Heavier machinery could damage the desirable vegetation.
3. COGCC is requiring that all the weedy material must be removed from the site properly disposed of after mowing. Additionally, all future weed control practices of mowing should be performed before the weed seeds on the plants have a chance to develop/mature. Any future weed control that have seed heads must be controlled and disposed of as indicated above.
4. The COGCC does not recommend chemical controls be applied to the location.

5. The reclamation plan noted that “observations of infestations on similar arid and semi-arid land reclamation areas that these weedy species will decrease to acceptable levels over time.” At this point the “wait and see” approach is not an acceptable method. At this time there are many areas with little to no perennial/desirable vegetation germination so the ecological processes that drive the decline in Russian thistle dominance is not in place. The well was plugged in 2009 so there has been adequate time for the ecological process to occur if the reclamation had been installed properly, but it has not.

- Revegetation

1. The reclamation plan only provides qualitative observations of the re-vegetation status. Data required for an adequate assessment includes species composition, cover, or seedling establishment. Photographic documentation from the reclamation plan (photographs 3 & 4) does not specify what species may be growing at the site except “grass species”. The grass species could have been cheatgrass or some other undesirable species.
2. Data or information regarding whether the species growing were seeded species or even desirable grass species is required.
3. Photograph 3 does not adequately show that “grass” species were present, dormant or otherwise.
4. COGCC inspection #673502809, performed on September 29th, 2015 provided both qualitative and quantitative assessment of the vegetation establishment at the location and along the access road. The qualitative assessment indicated areas where vegetation was beginning to establish and also areas where establishment was not observed. A quantitative vegetation transect was performed at the location and a reference area. As indicated by the transect data collected within the disturbed area, there was no desirable seeded species growing along the 100 ft. transect. There is a possibility that some germinating species could have been missed underneath the dominate Russian thistle, using this method, however, any germination of desirable species would have been noted on the data sheet if they were present.
5. Based on both the quantitative and qualitative observations the COGCC will require additional seeding efforts in areas that failed to germinate/establish vegetation to maintain compliance with the AOC
6. The 2015 growing season provided adequate moisture for germination of the seeded species as evidenced by the fact that some of the areas had germinating seeded species. However, the COGCC assessments indicate that some seeded portions of the location failed to germinate. It is likely that the inadequate stabilization method was one of the main reasons this occurred. COGCC reviewed the Spring plan submitted in October, 2014 and provided several comments (e-mail from Denise Arthur 10-3-2014) that outlined potential issues associated with the plan including the stabilization method. Proper mulching or other erosion control products have many benefits including soil stabilization and water retention. If Spring had used a functioning stabilization method then it is likely there would have been better desirable species germination and eventual establishment.

7. The COGCC will not accept waiting and monitoring. In order to accelerate the revegetation establishment and ultimately the stabilization of the site, and return the land to useful acreage for the land owner, every effort must be made to ensure the success of the reclamation at the Gregory 1-21X location.

- Other Issues

A statement was made in the Thomas Spring Reclamation Plan in regard to the two track road which has developed directly south of the original access road. This two track is within the Right-of-Way of the Gregory 1-21X location. Therefore, Thomas L Spring LLC is responsible for this disturbance. The two track disturbance is believed to be the result of equipment and vehicles used during the reclamation process. Photographs taken during the COGCC site visit of April 28th, 2015 show the presence of the two track at the time of the site visit. Additionally, it is noted in the Spring Reclamation Plan in photograph 6 from the contractor October 16th 2015 visit that a vehicle appears to be parked near the location.

COGCC inspectors routinely walk to the location to avoid creating disturbances or damaging ongoing reclamation.

COGCC Conditions of Approval COA) for the Gregory 1-21X Reclamation plan

The following conditions are to be added to the reclamation plan submitted October 23, 2015. Compliance with these COAs will be required to meet intent of AOC for a suspended fine.

- Control Access to the site.
 1. Access to the site will be conducted with the least possible disturbance and compaction possible. This may require the exclusion of Pickup truck vehicle traffic to the location.
 2. The additional road (two track) alongside the access road goes to the site and stops so is Springs responsibility to reclaim it.
 3. It is the responsibility of the operator to control/prohibit traffic that would damage undisturbed land or the reclamation within the right-of-way.
 4. Both access two tracks will be required to meet final reclamation standards.
- Weed control
 1. Weed control must be performed by November 30, 2015.
 2. Weed control shall be accomplished with hand equipment or by hand removal and bagging. All weeds must be removed, including those along the fence, from the location at the time of the weed control activity. All weed debris along the fence that has accumulated will also be removed from the location and property disposed of.
- Seeding

1. Additional hand seeding and raking to incorporate the seed into the soil shall be performed by November 30, 2015.
 2. All areas which have failed to establish vegetation will need additional seeding. This includes areas that have less than 4 seedlings per square foot.
 3. Seeding will be accomplished by first hand raking the soil to break the soil crust and then hand broadcast seeding.
 4. After hand broadcasting seeding is conducted the areas will be raked again to incorporate the seed into the soil and achieve good seed soil contact. Seeding rate will be no less than 75 seeds per square foot.
- Soil Stabilization

Spring shall add a wood straw mulch (must be a **WoodStraw®** product or equivalent) evenly applied by hand at 70% coverage to all areas which were hand seeded or need additional protection to sufficiently stabilize the soil and provide for adequate seedling establishment. Delivery of this wood straw product must be closely coordinated with the land owner and the operator so that issues associated with compaction, waste, and spillage on the location or adjacent areas do not arise from the delivery process.
 - Notification

Notify and coordinate with COGCC Reclamation Specialist Ryan Costa at least 7 days prior to performing the all above work via Form 42. Ryan Costa may be onsite to observe that the COA reclamation practices are being applied. All phases of the work must be noticed including but not limited to seeding and mulching.
 - Monitoring and Documentation
 1. A Form 4 must be submitted once all the reclamation has been conducted with photo documentation.
 2. Routine stormwater, erosion control, and wind erosion monitoring shall be conducted on a monthly basis by a professional consultant that has erosion control certification training and at least 10 years of experience in stormwater controls.
 3. Documentation of all monitoring visits must include photographic documentation and dates of inspections. At a minimum photographs will be taken of the areas shown on Ryan Costa's last inspection for comparison and will include all in place BMPs. Monitoring data will need to be collected and provided on a Form 4 no later than two weeks after the monitoring was conducted.

- Vegetative monitoring
 1. Point intercept vegetative monitoring shall include collection of qualitative and quantitative data by a reclamation consultant with at least 5 years of experience in vegetation monitoring.
 2. Monitoring will be conducted at an appropriate time in early spring and monthly until the end of September to assess the success of the reclamation/seeding.
 3. Point intercept vegetative transects will be conducted as well as plot frame seeded and weedy species seedling counts. The vegetation transects will be first hit data with notations of whether and how dense germinating species are below taller vegetation. A minimum of two disturbance vegetation transects (100 hits along a 100 foot long transect) and at least one reference area transect will be conducted. All areas will be sampled including areas that may have low vegetation and/or seedling counts. All plot frame seedling counts will be accompanied by at least one photo close enough to assess germination of the seeded species or weedy species, and one that includes the entire plot frame. The plot frame shall be at least 2 foot square in size or a hoop size approved by COGCC. Several monitoring data will need to be collected and provided on a Form 4 no later than two weeks after the monitoring was conducted. COGCC may in the future coordinate and/or choose vegetation monitoring locations with the operator or chosen consultant.

Denise T. Arthur Ph.D.
COGCC Reclamation Supervisor