



STATE OF
COLORADO

Andrews - DNR, Doug <doug.andrews@state.co.us>

RE: Form 2A review for Kerr-McGee's BADDING 16C-35HZ location - Doc #400466333

3 messages

Kucera, Lauren <Lauren.Kucera@anadarko.com>

Thu, Oct 10, 2013 at 11:20 AM

To: "Andrews - DNR, Doug" <doug.andrews@state.co.us>

Hi Doug,

- 1.) Yes, I was referring to two temporary 500 bbl frac tanks for use of the pre-spud rig only.
- 2.) This BMP should have been left off of this Form 2A as there are not any facilities on the location. Will you please remove this BMP?
- 3.) The liquids will be transported to the facility via flowlines, not pipelines. Is flowline information required for the facilities section of the 2A? Will you please remove the pipeline verbiage?
- 4.) Thank you for changing the distance.
- 5.) Thank you for changing the depth. Since this permit was submitted, we have changed our method of determining depth to groundwater.
- 6.) Thank you for changing the distance.

I apologize for the discrepancies on the permits you have received. We are working though them and hope this will not be an issue on permits you are receiving now and will receive in the future. I know this takes a lot of your time.

Thank you,

Lauren Kucera

Regulatory Affairs – Rockies GWA

Anadarko Petroleum Corporation

(720) 929-6107 - Direct

From: Andrews - DNR, Doug [<mailto:doug.andrews@state.co.us>]

Sent: Thursday, October 03, 2013 8:47 AM

To: Kucera, Lauren

Subject: Form 2A review for Kerr-McGee's BADDING 16C-35HZ location - Doc #400466333

Lauren,

I have reviewed the referenced Form 2A Oil & Gas Location Assessment and have a few comments.

1) In the Facilities section of the Form 2A you have indicated that two Temporary Large Volume Above Ground Storage Tanks will be used at the oil and gas location. I suspect these are actually skid mounted 500 barrel frack tanks we talked about in our recent phone conversation. Please confirm if this is the case and if so I will change the Facilities section to reflect this.

2) In the BMP section of the Form 2A you have a BMP that indicates for Green Completions Kerr-McGee will install Vapor Recovery Unit(s) and Environmental Control Devices. However, this equipment is not included in the Facilities section of the Form 2A. Vapor Recovery Units are in the list of common production equipment in the Facilities section and ECDs should be listed in the Other Facilities section. Please provide me the anticipated number of each of these types of equipment and I will add them to the Facilities section of the Form 2A.

3) In the BMP section of the Form 2A you have a BMP that indicates for Green Completions Kerr-McGee will pipe produced oil and gas off location. However the Other Facilities section, which is where a description of all oil, gas, and/or water pipelines should be included per Rule 303.b.(3)C, does not have this information. Please provide me with a pipeline description and I will add it to the Form 2A.

4) In the Cultural Distance Information section of the Form 2A you have indicated the distance to the nearest Building Unit is 5,280 feet. A review of aerial photographs indicates the nearest building unit (a house) approximately 2,260 feet northeast of the oil and gas location. Therefore I will change the distance to the nearest Building Unit to 2,260 feet on the Form 2A.

5) In the Water Resources section of the Form 2A you have given the basis for determining the depth to groundwater as the base of the Fox Hills Aquifer and have listed an estimated depth to groundwater of 1,250 feet. The purpose in providing an estimated depth to groundwater is to determine if shallow groundwater is present in the area of the oil and gas location. Should a spill or release of fluids occur at this location it is helpful to know if shallow groundwater is present which could be impacted. Its is very unlikely that a surface release or spill at this location will impact the Fox Hills Aquifer located a thousand feet deep. Your basis should be how you determined how shallow groundwater is at the oil and gas location. During my review, several water wells in the area of oil and gas location lists a depth to groundwater ranging from 19 to 29 feet. Therefore, I will change the estimated depth to groundwater on the Form 2A from 1,250 feet to 24 feet and modify the statement concerning the basis for depth to groundwater to what I have used above.

6) According to the information you recently provided me, the water well that plots on our COGIS mapping tool as being 259 feet from the oil and gas location was not observed in the field by your surveyors. This is often the case with water wells where their permit indicates the location accuracy as "spotted from quarters". The next closest water well with a better location

accuracy is approximately 2,190 feet west. Therefore I will change that distance in the Water Resources section of the Form 2A from 259 feet to 2,190 feet.

Your list of BMPs are some of the better ones I've seen on Form 2A's. Thank you for being thorough and detailed with them. Many operators BMPs are sparse and generic to the point they are of very little use in our review.

If you have any questions, please feel free to contact me. Thank you.

—

Doug Andrews

Oil & Gas Location Assessment Specialist - Northeast Area

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Andrews - DNR, Doug <doug.andrews@state.co.us>
To: "Kucera, Lauren" <Lauren.Kucera@anadarko.com>

Thu, Oct 10, 2013 at 1:07 PM

Lauren,

The COGCC's definition of flowlines mean those segments of pipe from the wellhead downstream through the production facilities. Where the segment ends depends on if they are gas lines, oil lines or water lines. See the COGCC Rules 100 Series for the full definition of flowlines. More to the point for the Form 2A, a description of all oil, gas, and/or water pipelines should include all flowlines that go from the wellhead downstream through the production facilities. These lines can be a source of leaks/spills/releases on the oil and gas location which is why we want a description of them (number of each lines, their size, what their made of, the distance and direction they flow to, etc.)

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Kucera, Lauren <Lauren.Kucera@anadarko.com>

Tue, Oct 15, 2013 at 10:16 AM

To: "Andrews - DNR, Doug" <doug.andrews@state.co.us>

Thank you for the clarification, Doug. Please add the following statement for flow lines:

"Five flow lines will be utilized during production and will flow northwest to the production facility. The size of flow lines is typically 2". Flow lines are constructed from steel pipe, are buried, and vary in length generally equaling the distance between the well heads and the tank battery (typically ranging from 75' to 3500" feet).

Five fuel gas supply lines will also be installed from the well head to the production facility. During operations the supply lines will flow southeast from the production facility to the well head. The size of the supply lines is typically 1". Supply lines are constructed from poly or steel pipe, buried, and vary in length generally equaling the distance between the well heads and the tank battery (typically ranging from 75' to 3500" feet).

Gas lift lines are occasionally installed (one per well) from the well head to the production facility. During operation flow direction in the gas lift lines will be from the production facility to the well head. The size of the gas lift lines is typically 2". Gas lift lines are constructed from steel pipe, buried, and vary in length generally equaling the distance between the well heads and the tank battery (typically ranging from 75' to 3500" feet)."

Please let me know if you have any questions.

Thank you,

Lauren Kucera

From: Andrews - DNR, Doug [<mailto:doug.andrews@state.co.us>]

Sent: Thursday, October 10, 2013 1:08 PM

To: Kucera, Lauren

Subject: Re: Form 2A review for Kerr-McGee's BADDING 16C-35HZ location - Doc #400466333

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