

District I
1625 N. French Drive, Hobbs, NM 88240

District II
811 S. First St., Artesia, NM 88210

District III
1000 Rio Brazos Road, Aztec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-107A
Revised August 1, 2011

APPLICATION TYPE
☒ Single Well
☐ Establish Pre-Approved Pools
EXISTING WELLBORE
☒ Yes ☐ No

APPLICATION FOR DOWNHOLE COMMINGLING

Dugan Production Corp.

P. O. Box 420, Farmington, NM 87499-0420

DHG 4503

Operator
NM-29560

Jeffers Federal 2 #23

Address
K-2-23N-8W

San Juan

Lease

Well No.

Unit Letter-Section-Township-Range

County

OGRID No. 006515 Property Code 003716 API No. 30-045-24439 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Basin Fruitland Coal		Nageezi Gallup <i>oil</i>
Pool Code	71629		47540
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	1798'-1804'		4763'-5349'
Method of Production (Flowing or Artificial Lift)	Rod Pump		Rod Pump
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	460 psia @ 1798' Measured 12/1/11		±1400 psia @ 4763' Estimated 8/15/11
Oil Gravity or Gas BTU (Degree API or Gas BTU)	Gas - 1,050 btu		Gas - 1450 btu Oil - 45° API
Producing, Shut-In or New Zone	New Completion		SI
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: 12/1/11 Rates: 7 mcf + 3 BWPD	Date: Rates:	Date: 8/15/11 Rates: 2.1 BOPD + 5 mcf + 0.35 BWPD
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil 0% <i>0.5%</i> Gas 0% <i>0.5%</i>	Oil 0% <i>0.5%</i> Gas 0% <i>0.5%</i>	Oil 0% <i>0.5%</i> Gas 0% <i>0.5%</i>

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones?
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?

Yes ☐ No ☒
Yes ☒ No ☐

Are all produced fluids from all commingled zones compatible with each other?

Yes ☒ No ☐

Will commingling decrease the value of production?

Yes ☐ No ☒

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?

Yes ☒ No ☐

NMOC Reference Case No. applicable to this well: N/A

Attachments:

- C-102 for each zone to be commingled showing its spacing unit and acreage dedication. - Attachment No. 1
- Production curve for each zone for at least one year. (If not available, attach explanation.) - Attachment No. 2
- For zones with no production history, estimated production rates and supporting data. - Attachment No. 2
- Data to support allocation method or formula. - Attachment No. 3
- Notification list of working, royalty and overriding royalty interests for uncommon interest cases. - Attachment No. 4
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

- List of other orders approving downhole commingling within the proposed Pre-Approved Pools
- List of all operators within the proposed Pre-Approved Pools
- Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
- Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE John D. Roe TITLE Engineering Manager DATE January 20, 2012

TYPE OR PRINT NAME John D. Roe TELEPHONE NO. (505) 325-1821

E-MAIL ADDRESS johnroe@duganproduction.com

Correction
ALLOTE
ANY GAS
VOLUME GT
5 MCFD TO
B-F.R.C.

**Attachment No. 3
Proposed Allocation Method
Jeffers Federal 2 Well No. 23**

The Nageezi Gallup completion has produced for approximately 30 years and as of shutting in on 8/15/11, had produced 24,025 bbl oil and 49,466 mcf of gas. Production comes from 24 fine grained, low permeability tight sandstone/siltstone reservoir intervals perforated between 4763' & 5349' (a 586' interval). Due to the low permeability and large reservoir thickness, low production rates are anticipated to exist as long as operating economics warrant continued operations. An average production rate is very difficult to determine, but using a fairly stable **five year period 2006 thru 2010, production did average 2.1 BOPD and 5 mcf/d** (of which 2.70 mcf/d was used to fuel the pumping unit engine and \pm 2.3 mcf/d was vented). The associated **gas has an average heating value of 1450 btu/cf.**

The Basin Fruitland Coal completion is in a coal approximately 6' thick and during completion tested a rate of **7 mcf/d + 3 BWPD on 12/1/11 with a flowing tubing pressure of 25 psia.** The perforations have been broken down and acidized and upon obtaining a pipeline connection for gas sales, we plan to continue testing and evaluate the feasibility/need for additional stimulation. To date, we have not frac'd the Fruitland Coal. The Fruitland Coal in this general area has not been developed and within the eight adjacent sections, there is only one other Fruitland coal completion which is the South Blanco Coal 36 Well No. 1 (API No. 30-045-30516) operated by Elm Ridge Exploration in Unit L, Section 36, T-24N, R-8W approximately 1¼ mile to the northeast. This well was completed 12/27/01 and to date has produced 60.6 mmcf gas with a peak gas of 42 mcf/d during May, 2004. Production during May and June, 2011 averaged 21 mcf/d with no water. **The Fruitland Coal gas in this area has a heating value of 1050 btu/cf.**

For allocation of commingled production, we propose the following method;

- A. **Oil** – 100% of the oil allocated to the Gallup completion
B. **Gas** – From the total gas volume metered, 5.0 mcf/d will be considered to be from the Gallup completion and all gas volumes greater than 5 mcf/d will be credited to the Fruitland Coal. This method will account for the 30+ years of production history established by the Gallup completion.

With the gas heating values being 1050 (Fruitland Coal) and 1450 (Gallup) btu/cf, it will be a fairly simple procedure to verify the mix of the commingled gas stream and if indicated that we need to modify our gas allocation method to more accurately represent the gas production from each zone, we will amend the allocation procedure as needed. For demonstration purposes, this can be done as follows;

<u>Sales Meter Btu</u>	<u>% gas from Fruitland Coal</u>	<u>% gas from Gallup</u>
1050	100	0
1150	75	25
1250	50	50
1350	25	75
1450	0	100

- C. **Water** – From the total water, 0.35 BWPD will be allocated to the Gallup based upon its 30+ year production history and all water volumes greater than 0.35 BWPD will be allocated to the Fruitland Coal.

Jones, William V., EMNRD

From: John Roe [johnroe@duganproduction.com]
Sent: Thursday, February 23, 2012 3:27 PM
To: Jones, William V., EMNRD
Subject: DHC-4505

Hi Will. Hope this finds you doing good at your end. The subject DHC order for Dugan's Jeffers Fed 2 No. 23 well (API 30-045-24439);

1. includes a fixed percent allocation for the gas production, which is ok with me, but probably won't be correct for gas volumes higher than 12 mcf/d. Our application proposed 5mcf/d for the Gallup and any volumes over 5 would be credited to the Fruitland Coal. We can live with the fixed factor but would prefer the subtraction method.

Software Error Reviewing the application copy in the OCD's ONLINE imaging file, image No. 12 is totally black. This should be page 3 of Attachment No.2. Please check to see what happened.

Also, will you be working on our 2/14/12 application to ad one well to Dugan's Kenny Gas Gathering System? I need to tell Encana about when we will have OCD approval as they are currently completing their first horizontal well and will soon be ready to produce. I think we have satisfied all notice issues and since Dugan and Encana are the only interest owners, hopefully we won't have any objections from interest owners!!!!

John Roe
Dugan Production Corp
PO Box 420
Farmington NM, 87499-0420
(505) 325-1821 Office
(505) 327-4613 Fax
johnroe@duganproduction.com