

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary-Designate

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey, Division Director**  
Oil Conservation Division



November 21, 2013

Mr. Butch Butler  
HPOC, LLC  
P. O. Box 5046  
Buena Vista, CO 81211

**RE: Downhole Commingling Exception**

Ojo Encino 21 Federal DWS Well No. 2                      API No. 30-031-21111  
Unit K, Sec 21, T20N, R5W, NMPM, McKinley County, New Mexico  
Pool: Ojo Encino; Entrada (48030)

Dear Mr. Butler:

Reference is made to your request on behalf of HPOC, LLC (OGRID 246238; the "operator") received by the Division on November 13, 2013, for the above named well. The operator requested a determination by the Division if the well completion required an administrative order for downhole commingling (DHC) under Rule 19.15.12.11 NMAC.

It is our understanding that the operator recently completed the referenced well with perforations in both the Entrada formation and the Todilto formation. The proposed well completion was designed to enhance recovery from the Entrada formation while limiting the production of the water below the oil/water contact in the Entrada formation. Following completion of the well, the operator recognized that the perforations extended into the Todilto formation which overlies the Entrada formation.

Based on the completion, the operator requested an exception for the requirement for a DHC order for this well since the Todilto formation does not contribute any hydrocarbon production. The operator provided a section of the log suite presenting the lack of porosity in the Todilto formation and delineating the production zone in the Entrada formation.

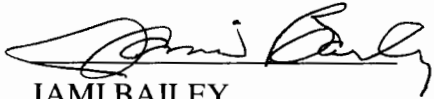
Following review of the information provided by HPOC, LLC, and after consultation with Division District III, the Division Director does not find justification for requiring an application for downhole commingling under Rule 19.15.12.11 NMAC since production is from the single pool.

DHC Exception  
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The Division Director may rescind this exception if it becomes apparent that there is hydrocarbon production from the Todilto formation or if correlative rights are impaired as a result of the current well completion.

Sincerely,

  
JAMI BAILEY  
Director

JB/prg

cc: Oil Conservation Division – Aztec Office  
Bureau of Land Management – Farmington Office  
Well File API 30-031-21111

## Goetze, Phillip, EMNRD

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**From:** Brooks, David K., EMNRD  
**Sent:** Thursday, November 14, 2013 11:37 AM  
**To:** Goetze, Phillip, EMNRD  
**Cc:** Perrin, Charlie, EMNRD; Hoppe, William, EMNRD; Dawson, Scott, EMNRD  
**Subject:** FW: HPOC; Perfs in Todilto Formation above the Entrada - need for downhole commingling order?  
**Attachments:** HPOC\_OE21FedDWS2\_NSL app-all to OCD\_2013-10-30.pdf

Good morning Phillip

The question to be decided is whether down-hole commingle approval is required in the circumstances described below.

We had a similar situation about a year ago, and I believe the Director decided, after all of us bandied it about, that we would not require a DHC for a formation that would have a 0% allocation, if our geologists agreed that the formation was wholly unproductive.

Please look at the email below, and a later one on which you were also copied, and confer with Bill Hoppe about it as your judgment directs, so we can decide what to tell Mr. Butler.

David

**From:** Butch Butler [<mailto:bbutler@resourcedrillingllc.com>]  
**Sent:** Wednesday, November 13, 2013 5:36 PM  
**To:** Brooks, David K., EMNRD; [philip.goetz@nm.state.us](mailto:philip.goetz@nm.state.us)  
**Cc:** Richard Mrlik  
**Subject:** HPOC; Perfs in Todilto Formation above the Entrada - need for downhole commingling order?

Good afternoon David & Philip. HPOC has been working on getting an approved C-104 from the Aztec office so we can produce our newly completed Ojo Encino 21 Federal DWS 2 well. This well's API # is 30-031-21111. The well is located in the Ojo Encino Entrada pool (48030) in Unit K of section 21-T20N-R5W, McKinley County, NM.

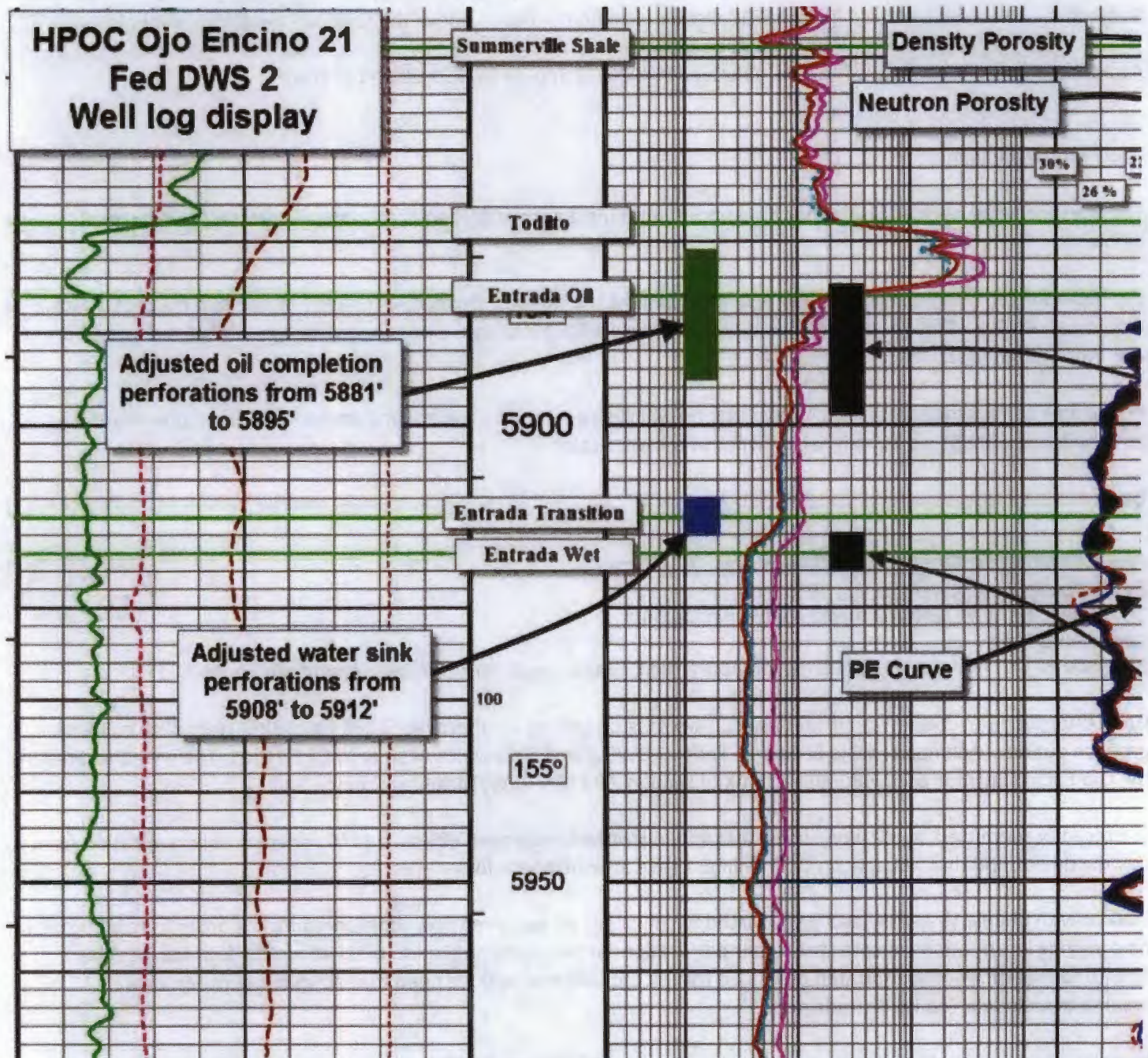
We recently submitted an NSL app, which was administratively approved effective 11/4 per email communication from David. I do not find that NSL app on OCD Online. I have attached here for reference.

I talked with Charlie yesterday and he indicated we must get an approved downhole commingling order as recent cased hole logging information indicates the upper perforations in this dual completion cross above the Entrada into the Todilto formation. He also indicated our NSL is for the Entrada pool and we need to redo this application as well, I assume to include a Todilto-Entrada pool.

Below is a log picture of the completion. The DWS in the well name is for "Downhole Water Sink." The idea behind this completion is to create a water/pressure sink at the oil/transition zone contact and prevent the contact from moving up into the oil completion at the top of the zone. Water coning has been a major problem in the Entrada historically. When the perforations were made in two separate stages of our completion, we believed the perfs were where the two black boxes are in the display below. When we were doing the final stage of the completion and placing our packer in between the two sets of perfs, we had different cased hole tools onsite and realized the perfs were actually 4' higher than we'd previously believed. So I adjusted the perf depths up 4 feet and submitted our completion report (also not on OCD Online yet), which has the tops and perf depths. From our perspective, this adjustment does not affect the quality of the completion. If we had been 4' low, it would have been a different story!



The Aztec office saw that we were perforated in the Todilto and hence Charlie has made the request to us for a downhole commingling application. I pointed out to Charlie that the Todilto is a very hard, dense carbonate with 0% to perhaps 1% porosity. This unit is the seal for the underlying Entrada sandstone oil reservoir. See log response below, including the PE readings of 5, indicating calcite mineralogy. No fluid is present in this rock (i.e. essentially 0% porosity), let alone moveable fluid.



If we are to submit the C-107-A application, the % fluid allocation for the Todilto will of course be 0.

Please review and discuss with the director on how you want us to proceed. HPOC would like to get this well producing and generating revenue for the working interest owners, the BLM/Federal royalty coffers as well as pay our NM state production taxes!

Call me if you have any questions. Thanks in advance for your attention to this matter.

Regards,

b

PS-FYI, we are proceeding with a second DWS completion in the near future in our Eagle Springs 8 Federal 2M well about 6-7 miles from this Ojo Encino DWS well. In that well, we have an open-hole completion and the 7" casing is set in the Todilto formation there. So there will be some Todilto in the interval above the swell packer we'll be using in this wellbore to separate the water sink from the oil completion. I hope what we do here now will also be applicable in this completion!



**HPOC**

Butch Butler – Manager

PO Box 5046

Buena Vista, CO 81211

719-395-8059 office

719-207-0164 cell



# Full Log Section from HPOC e-mail dated November 13, 2013

