Form 3160-5 (April 2004)

# UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

	DEPARTMENT OF THE			Expires: March 31, 2007	
	BUREAU OF LAND MAN			5. Lease Serial No.	
	NOTICES AND REP			14-20-603-2168	
Do not use the abandoned we	nis form for proposals t ell. Use Form 3160-3 (A	o dři[[] or\to 4PD) for such	réfenter an 15	6. If Indian, Adlottee or Tribe Name Navajo	
	IPLICATE- Other instr	uctions on re	RECEIVERECE Pyerse side.	of the season of	
. Type of Well Oil Well	Gas Well Other		0:0:788	8. Well Name and No.	
. Name of Operator Richardson	Operating Company			NV Navajo 34 #2  9. API Well No.	
3a. Address 3100 La Piata Highway, Farmington, NM, 87401  4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1080' FNL & 1870' FWL Sec. 34, T29N, R14W				30-045-31039  10. Field and Pool, or Exploratory Area	
				B. Fruitland Coal/West Kutz PC Ext  11. County or Parish, State	
<u> </u>				San Juan County, New Mexico	
	PPROPRIATE BOX(ES) TO	INDICATE NA	ATURE OF NOTICE, I	REPORT, OR OTHER DATA	
TYPE OF SUBMISSION	- <del></del>	<u> </u>	TYPE OF ACTION	· · · · · · · · · · · · · · · · · · ·	
Notice of Intent	Acidize  Alter Casing	Deepen Fracture Treat	Production (S	Start/Resume) Water Shut-Off Well Integrity	
Subsequent Report	Casing Repair	New Constru		Other Downhole	
Final Abandonment Notice	Change Plans	Plug and Abar			
	Convert to Injection	Plug Back	Water Disposa	al Application	
sandstone reservoirs in p reservoir engineering pro An attachment is enclose Methodology". The NV #2 is currently producing perforated as follows: Basin Fruitland Coal: West Kutz Pictured Cliff All working, royalty and	roportion to the recoverable rectices. The methodology was dentitled "Supplement to Downayajo 34 #2 is completed in the form only the Basin Fruitlan  1,119' - 1,126' KB Is Ext: 1,136' - 1,146' KB overriding royalty interests a	eserves in-place of thoroughly reviewnhole Comming he Basin Fruitland d Coal with a bri	alculated for each reserved with the BLM and Ning Application - Fruitlad Coal and West Kutz Pidge plug set over the West Commingled zones. The	e produced fluids from all commingled zones	
based upon a split of Bas	sin Fruitland Coal - 90.842% a	ınd West Kutz Pi	ctured Cliffs Ext - 9.1589	s requesting approval to allocate production %. the bridge plug as soon as possible. 7	
14. I hereby certify that the for	regging is true and correct				
Name (Printed/Typed) Thomas M. Er		7	itle Production Superin	ntendent OCT 2008	
Signature Morras	W/2		Date 9/27/06	S S DIN	
	THIS SPACE FOR	FEDERAL	OR STATE OFFIC	EUSE E	
Approved by for F	tewith		Title Geo	Date 10 3 - 06	
Conditions of approval, if any, ar				Service Control of the Control of th	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

## LANCE OIL & GAS COMPANY, INC.

## NV NAVAJO 34 #2 NENW Section 34, T29N - R14W San Juan County, New Mexico

## Supplement to Downhole Commingling Application Fruitland Coal - Pictured Cliffs Sandstone Allocation Methodology

The NV Navajo 34 #2 is capable of producing from both the Basin Fruitland Coal and the West Kutz Pictured Cliffs Ext intervals. Currently, open perforations exist in both intervals; however, a plug is inplace over the Pictured Cliffs perforations keeping production from this interval behind pipe until downhole commingling is approved. Pursuant to Order R-11363, Lance Oil and Gas seeks approval to downhole commingle the "Pre-approved pools and areas": Basin Fruitland Coal (71629) and West Kutz PC Ext (79680) in this well.

The Basin Fruitland Coal is perforated from 1,119' - 26' KB. The West Kutz PC Ext is perforated from 1,136' to 46' KB. Lance Oil & Gas Company, Inc. (Lance) requests downhole commingling of production from the two zones with an allocation of future production to each zone that is not evenly split. Further, Lance intends to allocate production to the Basin Fruitland Coal and the Pictured Cliffs sandstone reservoir in proportion to the recoverable reserves in-place calculated for each reservoir, rather than by a production-based method.

In requesting this approach, Lance is acknowledging the fact that coal reservoirs and sandstone reservoirs are very different in their gas storage capacity and productive performance. The reserves extracted from each reservoir horizon, therefore, will be substantially disproportionate over the expected life of the well. Lance recommends this reserve-based allocation method because production-based methods suffer from the fact that once the juxtaposed coal and sand reservoirs are frac'd, they communicate with each other and the production attributable to each is very difficult to determine accurately. In addition, because sandstone and coal reservoirs perform so differently, the proportion of production attributable to each change very significantly over the life of the well as drawdown occurs. This adds yet another level of uncertainty and complexity to production-based allocation methods.

Calculations of reserves, on the other hand, can be done with accuracy in either reservoir type, and in accord with legally-accepted standard reservoir engineering practices. Lance advocates using this approach to allocating the total recoverable resource because it is a more fair way of assessing the resource volume that will be eventually produced from either zone. The reserves method acknowledges that all of the recoverable reserves in each zone will be extracted over the life of the well, and assures that respective parties will be properly credited for those reserves. The approach also avoids problematic issues with determining relative rates of production from each reservoir – particularly after frac'ing – and the change in those rates that occurs over time. Instead it leaves in-place a fixed proportion of production from each reservoir until all reserves are recovered. This further simplifies accounting for companies and interest owners by keeping the allocation constant over time until the end of the well's productive life.

On July 13<sup>th</sup>, 2006, Lance Oil & Gas Company, Inc. presented the results of a reservoir study to the BLM and NMOCD that demonstrated how reserves for each reservoir can be determined with accuracy using this method for our wells and how an allocation by this method would work. The reserve calculation is accomplished using industry-accepted and legally-accepted engineering and geological methods for calculating gas-in-place for CBM reservoirs and for gas sand reservoirs.

For CBM reservoirs the volume of recoverable reserves is given by

#### $RGIP = Rf^*[1359.7*A*h*RhoB*Gc]$

#### Where:

A = The drainage area of the well, which is taken as the spacing unit for the reservoir and is in this area being developed at 160 Acres.

h = Thickness of the coal using a density cutoff of 2.0 g/cc.

RhoB = Average bulk density of the coal seam.

Gc = In-situ average gas content of the coal seam(s).

For Gas Sand reservoirs, this is given by:

## $RGIP = Rf^*[(43,560*A*h*(1-Sw)*PHIe)/Bg]$

#### Where:

Rf = Recovery Factor, determined by the ratio of final gas formation volume factor to initial gas formation volume factor in the reservoir.

A = The drainage area of the well, which is taken as the spacing unit for the reservoir and is in this area being developed at 160 Acres.

h = Thickness of the reservoir interval over which there is sufficient gas saturation (1-Sw) for significant productivity.

Sw = The average total water saturation in the reservoir over the interval having sufficient gas saturation for significant productivity.

PHIe = Average "effective" porosity in the reservoir over the interval having sufficient gas saturation for significant productivity.

By using this method, the proposed allocation we propose for the NV Navajo 34 #2 is:

Fruitland Coal - 90.842% Pictured Cliffs - 9.158%

If you have any questions about the proposal, please contact Mr. Bill Lyons with Lance Oil and Gas Company, Inc, San Juan Basin Business Unit, 1099 18<sup>th</sup> Street, Suite 1200, Denver, CO 80202