

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

NMOC Original

Form C-103
June 23, 2006

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30 - 039 - 20549
5. Indicate Type of Lease STATE ☐ FEE ☒
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Old Rock Com.
8. Well Number #2
9. OGRID Number 225774
10. Pool name or Wildcat Basin Dakota

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well ☐ Gas Well ☒ Other	
2. Name of Operator RESOURCE DEVELOPMENT TECHNOLOGY, LLC (RDT)	
3. Address of Operator PO BOX 1020, MORRISON, CO 80465	
4. Well Location Unit Letter: 'P': 830' feet from the South line and 850' feet from the East line Section: 28 Township 25 North Range 6 West NMPM Rio Arriba County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) KB 6410' GL 6397'	
Pit or Below-grade Tank Application ☐ or Closure ☐	
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____	
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☒	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	RCVD SEP 10 '07 OIL CONS. DIV. DIST. 3
OTHER: Obtain Multi-Zone BHP Data ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

RDT believes that excessive water production in this well is coming from Lower Dakota Fm. Perfs. 6718'-6774' OA (Brushy Canyon Mbr.). RDT plans to:

1. MIRU PU. Blow Down well. NU BOPE. Confirm PBTD @ 6800'. POOH Tubing. RIH Bit & Scraper & POOH.
2. Load casing as necessary w/ 4% KCl Water. RU WL Unit. Run CBL & MIT Log (evaluate casing/cement). RD WL Unit
3. RIH & Set RBP @ 6675'. Swab well to confirm that isolation below 6675' has ended water influx. POOH RBP.

IF the water influx was deemed ended by the RBP isolation, then proceed to Abandon Lower Dakota Fm. Perfs. 6684'-6774' OA:

4. RU WL Unit. Set Cement Retainer @ 6670'. RD WL Unit.
5. RIH w/ Tubing & Sting-In Retainer & squeeze w/ 50 Sx. Class 'C' Cement to 1000#. Sting-Out, Reverse Clean & POOH.
6. After WOC then RIH Bit & Scraper & C/O & Circ. to 6660'. Swab well to evaluate Upper Dakota Zone Productivity. POOH.

Evaluate Other Pays using Schlumberger Cased Hole Dynamic Tester:

- 7. IF necessary then RIH & Set RBP @ 6470'. Dump 2 sx. sand on plug. Circ. hole full w/ 4% KCl Water. POOH Tubing.
8. RU Schlumberger WL Unit. Complete CBL if necessary. RIH w/ Cased-Hole Dynamic Tester & Obtain Current BHP's until the Core Tool ceases to drill in the following intervals: Graneros Fm. @ 6447' & Gallup Fm. @ 5680' & as additionally needed & Mesaverde Fm. @ 4782' & 4382' & 4445' & Chacra Fm. @ 3120' & Pictured Cliffs Fm. @ 2261'. Test all welds to 500#. POOH & RD Schlumberger.
9. RIH & Circ. off RBP & Retrieve Same.

(CONTINUED NEXT PAGE)

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOC guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE R. A. Schwering, PE TITLE Operations Manager DATE 09/04/2007
Type or print name R. A. Schwering, PE E-mail address: ras.rdt@mindspring.com Telephone No.: (303) 716-3200

For State Use Only

APPROVED BY: H. Villanueva TITLE Deputy Oil & Gas Inspector, District #3 DATE SEP 10 2007
Conditions of Approval (if any):

Sundry Notice to NMOCD Form C-103
Abandon Lower Dakota Perfs.
Evaluate Casing & Cement
Evaluate Alternative Pays
Recomplete Upper Dakota Fm.

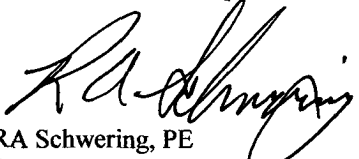
9/4/2007
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IF the Upper Dakota Fm. productivity is NOT adequate then:

10. RU WL Unit & RIH & Re-Perforate the Upper Dakota Fm. Perfs. @ 120 deg Phasing as follows:
6639' - 6649': 10' @ 2 SPF: 21 Holes.
6632' - 6636': 4' @ 2 SPF: 9 Holes.
6601' - 6611': 10' @ 2 SPF: 21 Holes. RD WL Unit.
11. RIH Bit & Scraper 6650'. POOH.
12. RIH w/ Tubing & Treating Packer & Set @ 6550'. Load & Test Annulus to 500#. Drop standing valve & test tubing to 3500#. Retrieve Standing Valve & Swab well dry & evaluate Flow & BHP.
13. Treat well w/ 2000 Gallons Methanol foll/ w/ 850 Gallons 7.5% NE FE Acid + 80 Ball Sealers. Swab & Evaluate Productivity.
14. Blow Down or Kill Well w/ 4% KCl Water as necessary. Release Packer & KO Balls & POOH.
15. RIH Completion Assembly IF the completion is adequate. ND BOPE. NU Tree. Resume Production

OR, If the Upper Dakota Fm. Productivity is STILL NOT adequate, then:

16. PU NEW Treating Packer & NEW 2-3/8" N-80 Tubing & Hydro-Test in the Hole (Above-the-Slips) to 10,000 PSI. Set the Packer @ 6350'.
17. RU Frac Crew. Apply 500# pressure to Annulus & monitor throughout job reducing it when SICP is greater than 700#. Frac the Upper Dakota Fm. f/ 6601' - 6649' w/ 100,000# 20/40 Mesh Ottawa Sand in 61,030 Gallons 20# Gel System.
18. Monitor SIP. RD Treating Iron. Flow well to tank to clean-up. Swab if necessary.
19. Kill as necessary w/ 4% KCl Water & Release Packer & POOH.
20. RIH w/ Completion Assembly & Clean-Out to 6660' & Land Tubing. ND BOPE. NU Tree. Resume Production.


RA Schwering, PE
Operations Manager: NM & WYO
Resource Development Technology, LLC

Expect To Start Work
9/17/2007


PHONE LIST FOR RESOURCE DEVELOPMENT TECHNOLOGY, LLC:

RA Schwering, PE: Operations Manager
PHONE: (303) 716-3200
FAX: (303) 716-5780
Colo. Cell: (303) 919-6826
NM Cell: (505) 947-3072

Mr. Arthur Sullivan: Pumper
Cell: (505) 320-1983
Home: (505) 632-9126

Attachments:

Existing Wellbore Diagram
Calculated Cement Coverage

Wellbore Diagram

Old Rock #2

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



12 1/4" Hole
Lost Circ. @ 50'
Cement: Circ. to Surt.
175 sx 'B' + 2% Cal. @
8 1/2" 20# H-40 STAC @
TN @ 235' 235' →

Cement 2nd Stage;
? sx. 50/50 Poz'C + 2% Cal.
IF 50 sx. Est TOC @ 2150

Stage Tool @ 2356' →

Cement 2nd Stage;
? sx. 50/50 Poz'C + 2% Cal.
IF 170 sx. Est TOC @ 4130

Stage Tool @ 4986' →

Cement 3rd Stage;
? sx. 50/50 Poz'H + 2% Cal.
IF 280 sx. Est TOC @ 5400

Drilled out FC @ 6777'

POD @ 6800'
5 1/2" 15.5# J-55 U/S C. →
@ 6820' TOC @ 6822' →

Surveys:

1/2" @ 235'
1/4" @ 1744'
1/2" @ 1246'
3/4" @ 1651'
2" @ 1902' ? Doghouse
1 1/2" @ 2434'
1 1/4" @ 2841'
3/4" @ 3365'

Tbg. Detail: KB = 9'
211 STs 2 3/8" Tbg. 6,612'
3' Pent Pipe 3'
1 w/ JT 2 3/8" 31'
BTM @ 6,658'
SN @ 6,623'

MU

Coals:

3850'

↓

4440'

Stage Tool @ 2356'

Stage Tool @ 4986'

Mesa Verde Frac: Kiel Method: Max @ 1 1/2" / Gal.
BD each set at Pent w/ 500 Gal. 75% HCJ
Frac w/ 6133 Bl. 0.8% KCl Gelled Water + 50,000# 20/40 Mesh Screen

Mesa Verde Frac. Pents:

4438' - 4454': 1 SP2F: 10 Holes

4464' - 4474': 1 SP2F: 17 Holes

4486' - 4494': 1 SP3F: 4 Holes

4511 + 4514 + 4518 + 4521 + 4546 + 4550 + 4559 + 4559

4603 + 4606 + 4620 + 4624 + 4640 + 4644' 8 Holes

4730' - 4737': 1 SP2F: 4 Holes

4753' + 4756': 2 Holes

Squeeze w/ 150 sx. Cement

Nakota Frac: Kiel Method: Max @ 1 PPG
BD each set Pents in 550 Gal. 10% HCJ
Frac w/ 2719 Bl. 0.8% KCl Gelled Water + 704#

Nakota Pents:

6510' - 6516': 1 SP2F: 4 Holes

6602' - 6614': 1.5 SP2F: 18 Holes

6640' - 6650': 1 SP2F: 10 Holes

6684' - 6688': 1 SP2F: 4 Holes

6718' - 6724': 1 SP2F: 4 Holes

6734' - 6744': 1 SP2F: 26 Holes

ISIP =
8300#

Submission Says They Pumped:

352 cu. ft. 50/50 Pozmix 'A' + Class H'W/ 2% Gel

I am guessing this would be 2nd Stage:

Total Cement Reported is 500 sx.

1st Stage Yield = 1.26 cu. ft./sx Class H' + Pozmix 'A' + 2% Gel

Est. 1st stage: 280 sx. 50/50 Pozmix 'A' / Class H' Cement + 2% Gel.

$$\therefore \text{Yield} = 352.80 \text{ ft}^3$$

$$\text{Shoe} : 6777' - 6820' : 43' : .1336 \text{ ft}^3/\text{ft} = 5.72 \text{ ft}^3$$

$$\text{Caliper} : 6600' - 6820' : 8" : .1841 \text{ ft}^3/\text{ft} = 40.50 \text{ ft}^3$$

$$\begin{array}{l} \text{Est. } 600' - 6320' : 6000' - 6600' : 8.5" : .2291 \text{ ft}^3/\text{ft} = 137.40 \text{ ft}^3 \\ \quad \quad \quad 5450' - 6000' : 9" : .2768 \text{ ft}^3/\text{ft} = 152.84 \text{ ft}^3 \\ \hline 335.89 \text{ ft}^3 \end{array}$$

$$\text{Est. } 9" \text{ to TOC} : \frac{352.80 - 335.89}{.2768} = 61'$$

$$\therefore \text{Est. 1st Stage TOC @ } 5400'$$

So: Assume: 2nd Stage is 170 sx. 50/50 Pozmix 'C' + 2% Gel + 2% Gel.

$$\text{Yield} = 1.37 \text{ ft}^3/\text{sx} @ 170 \text{ sx} = 232.90 \text{ ft}^3$$

Stage Tool @ 4986':

$$\begin{array}{l} 4400' - 4986' : 586' : 9\frac{1}{8}" : .2892 \text{ ft}^3/\text{ft} = 144.60 \text{ ft}^3 \\ 4130' - 4400' : 270' : 9\frac{1}{2}" : .3272 \text{ ft}^3/\text{ft} = 88.34 \text{ ft}^3 \\ \hline 232.94 \text{ ft}^3 \end{array}$$

Est TOC 2nd Stage @ 4130'

So: Assume: 50 sx. 3rd Stage Cement: 50/50 Pozmix 'C' + 2% Gel + 2% Gel.

$$\text{Yield} = 1.37 \text{ ft}^3/\text{sx} @ 50 \text{ sx} = 68.50 \text{ ft}^3$$

Stage Tool @ 2356': 9 1/2" Hole : .3272 ft³/ft.

$$\therefore \text{Fill-Up} \approx 210'$$

$$\therefore \text{Est TOC @ } 2,150'$$