District I
1625 N French Dr , Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St , Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St Francis Dr , Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

HOBBS OCD
JUN 01 2012
RECEIVED

Form C-101
Revised December 16, 2011

Permit

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
SandRidge Expl & Prod , LLC 123 Robert S Kerr, Oklahoma City, OK 73102	270265
	[3] API Number 30-025-07900

[4] Property Code	[5] Property Name	[6] Well No
309279	Nu Mex	1

[7] Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
C	16	21S	38E		330	North	2485	West	Lea

[8] Pool Information

Littman,San Andres (39330)	

Additional Well Information

[9] Work Type	[10] Well Type	[11] Cable/Rotary	[12] Lease Type	[13] Ground Level Elevation
Deepen	Oil		State	3557 GR
[14] Multiple	[15] Proposed Depth	[16] Formation	[17] Contractor	[18] Spud Date
	4800'	San Andres	Lariat Services	03/02/53

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water

[19] Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
N-80 ST & C	17"	14"	72#	80'	N/A	Surface
J-55 ST & C	12.25"	8.625"	24#	1627'	65	Surface
J-55 LT & C	7.875"	7"	20#	4325'	250	1490'

Casing/Cement Program: Additional Comments

SandRidge proposes to drill an additional 400' to an estimated depth of 4750' The new section will be open hole and will have an acid frac job performed on it See Attached

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer

Permit Expires 2 Years From Approval Date Unless Drilling Underway

Deepen

I hereby certify that the information given above is true and complete to the best of my knowledge and belief
I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature

Printed name Spence Laird

Title Regulatory Analyst

E-mail Address slaird@sandridgeenergy com

Date 5/23/2012 Phone 405-429-6518

OIL CONSERVATION DIVISION

Approved By

Title PETROLEUM ENGINEER

Approved Date: Expiration Date

JUN 05 2012

Conditions of Approval Attached

JUN 07 2012 Chm

Well name: **NuMex State #1**

Field	LITTMAN	
State, County	New Mexico,Lea	
Location	Sec 16, T21S, R38E	
TD	4,385'	
PBTD	4,352'	
TOC	Est TOC @ 1490'	
KB	3,571'	
GL	3,557'	
Wellhead	Larkin Head	
Misc info	5 5" x OH annular fluid	10 25 ppg Drilling Fluid
	5 5" casing fluid	4% KCL Water
	BHT	112 °F at 7816'

Engineer in Charge. **Torrey Wetsel Office· 405-429-6429, Cell: 405-365-6529, twetsel@sandridgeenergy.com**

CSG	OD	ID	Drift	GRADE	THD	WT/FT	TOP	BTM	# JTS	BIT SZE	DEPTH	SXS	Burst	Collapse
Surface	8 625"	8 097"	7 972"	J-55	ST&C	24 00#	0'	00'	?	12 250"	1627'	65	2,950	1,370
Prod	7 000"	4 892"	4 767"	J-55	LT&C	20 00#	0'	4,325'	?	7 875"	4325'	250	7,740	6,290
Production Tubing	2 375"	2 441"	2 347"	J-55	EUE	4 70#	0'	4,306'	138	-	-	-	7,260	7,680

80% of 5-1/2" casing burst: **6,192 psig**
80% of 2-7/8" tubing· **5,808 psig**
80% of 2-7/8" N-80 Workstring **8,453 psig**

PURPOSE· The purpose of this recompletion procedure is to deepen the existing San Andres open hole interval approximately 400 ft and fracture stimulate the open hole interval with the Bass multi-stage system

LOG INFORMATION
OPEN HOLE LOGS
CASED HOLE LOGS
CORRELATION

SAN ANDRES DEEPEN & RECOMPLETION

1 MIRU flow/swab testing tank and hard-line to the wellhead ND wellhead

2 MIRU WSU POOH AND LD rods and pump ND wellhead NU stripping head

3 NU 5000 psi hydraulic BOP (2-3/8" pipe rams on top and blind rams on bottom)

4 POOH and LD 2-3/8" 4 7 ppf J-55 EUE production tubing Visually inspect tubing while POOH ND stripping head

5. MIRU Drilling Rig w/ Foamed Air Unit POOH AND LD rods and pump NU flow cross and circulation pits

6 MI & talley ~4800' of new 2-7/8" 6 5 #/ft, J55 EUE 8rd tubing (must be cleaned & inspected) Tubing will be used as production tubing once deepening operations are complete

7 PU & RIH with 6-1/8" Tri-Cone-Center Jet-Rock Bit, bit sub, 6 - 4-3/4" drill collars and 2-7/8" 6 5 #/ft J55 tubing to bottom of 7" casing shoe @ 4324 ft (Install 2-String Floats in tubing & 3-check valves w/ "weep" holes plus 1- JU Stripper Rubber)

8 RU Foamed Air Unit, Reverse Unit with pump & pit system PU power swivel and establish circulation down tubing with foamed 2% KCL water(add corrosion inhibitor as needed to protect casing and tubulars) If unable to establish circulation, contact operations engineer in OKC office

9 Clean out 6-1/4" Open Hole section from 7" csg shoe @ 4325' to TD @ ~4385' Drill additional **San Andres open hole** from 4385' to ~ 4785' Circulate hole clean TOOH laying down bit, bit sub,drill collars and SB WS

10) PU and TIH w/ the following tubing and BHA assembly (see attached schematic)

a Halliburton 4' perforated sub with Bull Plug
b 3 jts 2 7/8" 6 5#, J-55, EUE tubing + 1 ~15' sub of 2 7/8" 6 5#, J-55, EUE tubing
c Halliburton BASS tool #1 in closed position (ID = 1 562" for 1-5/8" ball)
d 3 jts 2 7/8" 6 5#, J-55, EUE tubing + 1 ~15' sub of 2 7/8" 6 5#, J-55, EUE tubing
e Halliburton BASS tool #2 in closed position (ID = 1 687" for 1-3/4" ball)
f 3 jts 2 7/8" 6 5#, J-55, EUE tubing + 1 ~15' sub of 2 7/8" 6 5#, J-55, EUE tubing.
g Halliburton BASS tool #3 in closed position (ID = 1 812" for 1-7/8" ball)
h 3 jts 2 7/8" 6 5#, J-55, EUE tubing + 1 ~15' sub of 2 7/8" 6 5#, J-55, EUE tubing
i Halliburton BASS tool #4 in closed position (ID = 1 937" for 2" ball)
j ~12 jts 2 7/8" tubing
k 5 1/2" Halliburton PLT packer w/ XL On-Off tool
l ~ 131 joints 2-7/8" tubing to surface

Space out BASS tools evenly across the vertical section with Perf sub @ ~4780', BASS tool # 1 @ ~4680', BASS tool #2 @~4580', BASS tool #3 @ ~4480', BASS tool #4 @ ~4380' and PLT packer @ ~4310' (just above 15" casing shoe) Depths may be adjusted to space out according to well-plan provided by Halliburton

11) Set PLT Packer MIRU pump truck Tie onto Tubing casing annulus and pressure test packer and casing to 3,000 psig Bleed off pressure and release packer MI, set and load 2 lined acid tanks with 25,000 gals 20% NE-Fe HCl The night before pumping the job, MI hot oiler and heat acid to 140 deg F

12) MIRU Halliburton stimulation crew Hold PJSM and pressure test lines to 5500 psig Establish circulation down tubing with 2% KCL Once circulation is established, pump ~14 bbls Halliburton Chemical packer and displace into annulus with 30 bbls 2% KCL Set PLT packer Confirm volumes with service company Catch sample of chemical packer and place in heat bath Tie pumps onto tubing-casing annulus and pressure test to 500 psig Leave pressure on backside and monitor throughout the job Allow at least 1 hour for chemical packer to set Confirm that sample in the heat bath has set up before proceeding Acid frac San Andres OH (~4,324'- 4780' OA) down 2 7/8" tbg with 25,000 gals 20% NE-Fe HCL as per attached recommendation at 18 BPM or max lower rate without exceeding a treating pressure of 5000 psig RDMO Halliburton stimulation crew

a Frac interval per attached pump schedule

b All gelled 20% NE-Fe HCl to contain corrosion inhibitor designed to inhibit acid for 24 hours at 101 deg F, non-ionic surfactant, clay stabilizer and 20 ppt gelling agent (See service company for additive volumes)

c Monitor pressures while dropping balls and pump at no more than 5 BPM until ball is landed and sleeve is opened

d Monitor annular pressure during job Record ISIP, and 5, 10, and 15 min SIPs SI for at least 2 hours to allow gel to break, acid to spend, and chemical packer to dissolve

13) NU ball catcher Open well on 16/64" choke to swab tank and flow well back until FTP is 0 psig Release packer TOH with tubing, packer and BHA SB tubing and LD packer and BASS tools PU and TIH w/ 6-1/8" bit, bit sub and 2 7/8" tubing and DO/CO to TD at ~ 4721' Attempt to circulate hole clean with 2% KCL TOH to bottom of 7" casing shoe at 4,321' RIH w/ swab and swab well until fluids are clean TOH w/ tubing, bit sub and bit

14) PU and TIH with the following tubing assembly (Same as previously pulled)

a 4 1/2" slotted joint Gas Anchor w/ bull plug on bottom
b 2-7/8" x 4-1/2" change over
c. 2-7/8" seat nipple
d 4 joints 2-7/8" tubing
d 2-7/8" x 5-1/2" TAC
e ~130 jts 2-7/8" tubing to surface

Set bottom of 4 1/2" Gas Anchor at ~ 4315' (6' above 7" csg shoe) Set TAC at ~4160' w/ SN at ~4282' and EOT at ~ 4,315' ND Stripping head, BOP, and flange NU WH Set TAC w/ 16 points tension Flange up WH

15) PU and RIH w/ the following pumping assembly (Same as previously pulled)

a 14' x 1-1/4" gas anchor w/ 124 - 1/4" diamter holes on bottom
b Exchanged 2-1/2" x 1-3/4" x 24' RHBC pump
c 1 stabilizer bar
d 11 - 1-1/2" Grade "C" SBs alternated w/ 5 stabilizer bars
e 8 - 3/4" D90 rods
f 77 - 7/8" D90 rods
g 71 - 1" D90 rods
h Ponies as needed and PR w/ PRL

Space out and seat pump Load and test tubing and hang well on Start pumping unit with a 144" stroke length (middle hole) at 8 SPM and check pump action RDMO WSU **NOTE: This PU and rod design will move 334 BFPD w/ a 144" stroke length at 8 SPM w/ 85% pump fillage at pumped off conditions (see attached XROD design).**

16) Put well on production and report to OKC daily for 10 days Well to be tested daily for 10 days after first oil production then at least weekly for one month

Nu-Mex #1
San Andres (4325' - 4785') Pump Schdule
Lea County, New Mexico

SANDRIDGE
THE POWER OF US™

Stage 1 ... San Andres Interval

Stage	#	Fluid Type	Stage Clean Vol (Gals)	Stage Clean Vol (Bbls)	Cum Clean Vol (bbls)	Total Rate BPM	Stage Prop #'s	*Prop Total #"s*	Prop Type	*BH Conc PPG*	*Clean Fluid Stage Vol (bbls)*	*Clean Fluid Total Vol (bbls)*	*Cum Time Mins*
Pre-Pad	1	2% KCL w/ 55 gals SI	1,500	35 7	35 7	18	0			*0.00*	*35.7*	*35.7*	1 98
Pad	2	30# LG	3,000	71 4	107 1	18	0	-		*0.00*	*71.4*	*107.1*	5 95
Acid	3	20% gelled NE-Fe HCl Acid	2,500	59 5	166 7	18	0	-		*0.00*	*59.5*	*166.7*	9 26
Pad	4	30# LG	2,500	59 5	226 2	18	0	-		*0.00*	*59.5*	*226.2*	12 57
Acid	5	20% gelled NE-Fe HCl Acid	2,500	59 5	285 7	18	0	-		*0.00*	*59.5*	*285.7*	15 87
Flush	6	2% KCL	3,000	71 4	357 1	18	0	-		*0.00*	*71.4*	*357.1*	19 84
Ball # 1	7	2% KCL	1,194	28 4	385 6	5	0	-		*0.00*	*28.4*	*385.6*	25 53
Pre-Pad	8	2% KCL w/ 55 gals SI	1,500	35 7	421 3	18	0			*0.00*	*35.7*	*421.3*	27 51
Pad	9	30# LG	3,000	71 4	492 7	18	0	-		*0.00*	*71.4*	*492.7*	31 48
Acid	10	20% gelled NE-Fe HCl Acid	2,500	59 5	552 2	18	0	-		*0.00*	*59.5*	*552.2*	34 79
Pad	11	30# LG	2,500	59 5	611 8	18	0	-		*0.00*	*59.5*	*611.8*	38 09
Acid	12	20% gelled NE-Fe HCl Acid	2,500	59 5	671 3	18	0	-		*0 00*	*59.5*	*671.3*	41 40
Flush	13	2% KCL	3,000	71 4	742 7	18	0	-		*0.00*	*71.4*	*742.7*	45 37
Ball # 2	14	2% KCL	1,166	27 8	770 5	5	0	-		*0.00*	*27.8*	*770.5*	50 92
Pre-Pad	15	20% KCL w/ 55 gals SI	1,500	35 7	806 2	18	0			*0.00*	*35.7*	*806.2*	52 90
Pad	16	30# LG	3,000	71 4	877 6	18	0	-		*0.00*	*71 4*	*877.6*	56 87
Acid	17	20% gelled NE-Fe HCl Acid	2,500	59 5	937 1	18	0	-		*0.00*	*59.5*	*937.1*	60 18
Pad	18	30# LG	2,500	59 5	996 7	18	0	-		*0.00*	*59.5*	*996.7*	63 49
Acid	19	20% gelled NE-Fe HCl Acid	2,500	59 5	1056 2	18	0	-		*0.00*	*59.5*	*1056.2*	66 79
Flush	20	2% KCL	3,000	71 4	1127 6	18	0	-		*0.00*	*71.4*	*1127.6*	70 76
Ball # 3	21	2% KCL	1,137	27 1	1154 7	5	0	-		*0.00*	*27.1*	*1154.7*	76 18
Pre-Pad	22	2% KCL w/ 55 gals SI	1,500	35 7	1190 4	18	0			*0.00*	*35 7*	*1190.4*	78 16
Pad	23	30# LG	3,000	71 4	1261 8	18	0	-		*0.00*	*71.4*	*1261.8*	82 13
Acid	24	20% gelled NE-Fe HCl Acid	2,500	59 5	1321 4	18	0	-		*0.00*	*59.5*	*1321.4*	85 44
Pad	25	30# LG	2,500	59 5	1380 9	18	0	-		*0.00*	*59.5*	*1380.9*	88 74
Acid	26	20% gelled NE-Fe HCl Acid	2,500	59 5	1440 4	18	0	-		*0.00*	*59.5*	*1440.4*	92 05
Flush	27	2% KCL	3,000	71 4	1511 8	18	0	-		*0.00*	*71.4*	*1511.8*	96 02
Ball # 4	28	2% KCL	1,109	26 4	1538 2	5	0	-		*0.00*	*26.4*	*1538 2*	101 30
Pre-Pad	29	2% KCL w/ 55 gals SI	1,500	35 7	1574 0	18	0			*0.00*	*35.7*	*1574.0*	103 28
Pad	30	30# LG	3,000	71 4	1645 4	18	0	-		*0.00*	*71.4*	*1645.4*	107 25
Acid	31	20% gelled NE-Fe HCl Acid	2,500	59 5	1704 9	18	0	-		*0.00*	*59.5*	*1704.9*	110 56
Pad	32	30# LG	2,500	59 5	1764 4	18	0	-		*0.00*	*59.5*	*1764.4*	113 86
Acid	33	20% gelled NE-Fe HCl Acid	2,500	59 5	1824 0	18	0	-		*0.00*	*59 5*	*1824.0*	117 17
Flush	34	2% KCL	3,000	71 4	1895 4	18	0	-		*0.00*	*71.4*	*1895.4*	121 14

Pad % 58%
Prop Conc -

7 in. Casing Shoe: 4325'
Vertical Open Hole Section: 4325' to ~ 4785'
Bass Tools:

Max Pressure = 5000 psig
Anticipated treating pressures = 2,800 psig
HHP = 2200 (liquid side w/o backup)
Ramped Proppant injection.

Fluid Requirements

1 Frac fluid to have minimum temp of ~ 70° F 12 hours prior to treatment
2 BHT = 103° F (BHP Survey)
3 Est FG = 0 65 psi/ft
5 Recommended live breaker (1-2 gpt)
6 All fresh water will be treated with biocide and crystalline KCl to achieve a minimum of 2% KCl by volume
7 All 20% NE-Fe HCl to contain corrosion inhibitor designed to inhibit acid for 24 hours at 103 deg F, non-ionic surfactant, clay stabilizer and 20 ppt gelling agent (See service company for additive volumes)
8 Stage 1, 8, 15, 22, and 29 to contain 55 gals of Champion Gyptron T-249 (or equivalent) Scale Inhibitor

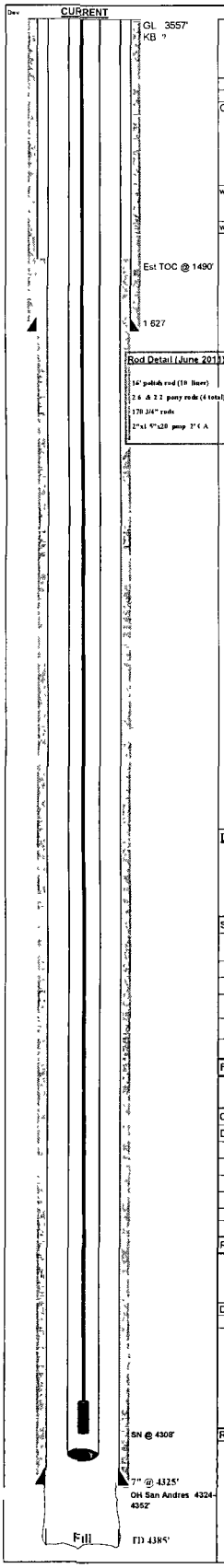
Operational Considerations

1 Frac Tanks = 3 filled with treated water
2 2 lined acid tanks filled with 25,000 gals 20% NE-Fe HCl total
3 Heat acid to 140 deg F the night before the job
4 Slow rate to drop balls Watch pressures after dropping balls and SD if necessary to stay below max pressure
5 Flush volumes to be determined on location pending BASS tool depths

WELLBORE SCHEMATIC

Dev

CURRENT



Rod Detail (June 2011)

1½" polish rod (18' liner)
2 & 2 2 pony rods (4 total)
170 3/4" rods
2"x1 5"x20 pump 3' GA

WELL NAME	NuMex State #1	SPOT	330' FNL 2485' FWL	OPERATOR	Sandridge Energy	SPUD DATE	03/02/53
API NO	30-025-07900	LOCATION	Sec 16 T21S, R38E	ZONE	San Andres	RR DATE	
WI	100 00000%	FIELD	LITTMAN	ELEVATION	3,557'	MCW	
RI	80 75000%	COUNTY	Lea	TD	4,385	COMPL DATE	05/05/53
Corp ID	119830	STATE	New Mexico	PBTD	4,352'	AFE NO	

PIPE RECORD / **CEMENT & HOLE DATA**

CSG	OD	GRADE	THD	WT/FT	TOP	BTM	# JTS	BIT SZE	DEPTH	SXS	TYPE	TOC
Conductor	14 000"	N-80	ST&C	72 00#	00'	80'	1	NA	80'	NA	NA	Surface
Surface	8 625"	J-55	ST&C	24 00#	00'	1 627	?	12 250"	1,627'	65	NA	Surface
Prod	7 000"	J-55	LT&C	20 00#	00'	4,325'	?	7 875'	4,325'	250	NA 4321 4360 is OH	Est TOC @ 1490'
Tbg	2 375"	J-55	EUE	4 70#		4,306'	138		4,306'			

Well tools

WELL HISTORY

DATE	WORK DETAIL — FOR 2011 WORKOVER AFE# EW11156	PROD RESULTS
06/07/11	MIRU WSU POH w/ rods & LD pump rods full of paraffin Ran paraffin knife to 900' POH SWI & SDFN	
06/08/11	MIRU hot oiler Pmpd 20 BPW RDMO hot oiler Ran paraffin knife POH w/ remaining rods Swabbed 14 runs BFL @ 1800', LFL @ 3000' SWI & SDFN	
06/09/11	Swabbed 14 runs BFL @ 2100', LFL @ 3500' RIH w/ pump & rods Pmpd 50 BPW did not load POH w/ rods & LD pump SWI & SDFN	
06/10/11	ND WH NU BOP TOH w/ tbg TIH w/ tbg & bailer tagged fill @ 4322' & CO to 4352' (tagged solid) TOH scale & paraffin in cavity Tstd IH w/ BHA & tbg, rplcd 3 jts Set TAC @ 4087' w/ 12k tension, SN @ 4308' ND BOP & NU WH SWI & SDFN	
06/11/11	Swabbed 5 runs BFL @ 2100' FFL @ 3000' RIH w/ pump & rods Good pump action RDMO WSU RTP	
		6/12/2011 IP 0 MCF, 3 BO & 35 BW

Drilling Notations

Stimulation Treatment

Date	Zone	Sand (klbs)	Fluid (bbls)	Total Fluid Type (Pad/Prepad/Frac/Flush)	Prop Type	AIR(bpm)/ AIP(psig)	Frac Grad/ ISIP
?	SA		36	Acid			

PERFORATION HISTORY

DATE	TOP	BTM	ZONE	SPF(count)/ Phasing	Status
	4,324'	4,352'	San Andres	OH	Open 32' fill tagged solid 6/10/11 (4352-4385')

Frac Job Remarks (Screenouts or problems in Frac Job)

CIBP Record

Date	Depth	Type	Date Removed	Notes

Remarks

Downhole Jewelry

Length	Depth	Description

TUBULAR GOODS PERFORMANCE

Material (Halliburton Handbook)	ID (in)	Drift (in)	Collapse* (psi)	Burst* (psi)	Tensile* (Klbs)
8 625 J-55 ST&C 24#	8 097	7 972	1 370	2,950	244 000
7" J-55 LT&C 20#	4 892	4 767	6,290	7,740	397,000
2 375' J-55 EUE 4 7#	2 441	2 347	7,680	7 260	99,660

* Safety Factor Not Included

REMARKS

(Assumed diameter is 6-1/4" - Open hole from 4324-4352')

Packer Detail

ENGINEER	Torrey Wetsel		
GEOLOGIST			
LANDMAN			
PREPARED BY	Julie Finley		
PREPARED DATE	5/17/2012	UPDATED	
UPDATED		UPDATED	
UPDATED		UPDATED	

SandRidge ENERGY