Susana Martinez Governor

David Martin Cabinet Secretary

Brett F. Woods, Ph.D. Deputy Cabinet Secretary David R. Catanach Division Director Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition

to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 5 - 9 - 15Well information; Operator <u>Anshuctz</u>, Well Name and Number <u>Ponderosa #1</u>

API# <u>30.039-31316</u>, Section <u>24</u>, Township <u>24</u> (N/S, Range

Conditions of Approval:

(See the below checked and handwritten conditions)

- Notify Aztec OCD 24hrs prior to casing & cement.
- Hold C-104 for directional survey & "As Drilled" Plat
- Mold C-104 for NSL, NSP, DHC
- Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84

Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

NMOCD Approved by Signature

1220 South St. Francis Drive • Santa Fe, New Mexico 87505 Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-3 OIL CONS. DIV DIST. 3		RECEIVED FORM APPROVED OMB No. 1004.0137					
(March 2012)	Expires October 31, 2014						
DEPARTMENT OF THE	5. Lease Serial No. NMNM106653 & NMNM-128374						
APPLICATION FOR PERMIT TO	DRILL OR	REENTER	on Field	Office	e or Tribe Nan	ne	
		Suicau Of La	and Mana	agement 7 If Unit or CA Ag	reement. Name	and No.	
Ia. Type of work: ✓ DRILL	ER			pending			
Ib. Type of Well: 🖌 Oil Well 🗌 Gas Well 🗌 Other	Sing	gle Zone 🗸 Multip	le Zone	8. Lease Name and Ponderosa #1	Well No.		
2. Name of Operator Anshuctz Exploration Company				9. API Well No.	2121	/	
3a Addrase	3b Phone No	(include area code)		10. Field and Pool or Exploratory			
54. Auurss 555 Seventheenth Street, Suite 2400, Denver, CO 80202		Gavilan DK,GR,GH & Gavilan-Mancos					
4. Location of Well (Report location clearly and in accordance with an	ty State requiremen	nts.*)		11. Sec., T. R. M. or J	Blk. and Survey	or Area	
At surface Unit H, SECT 24, T24N, R2W 2104' FNL & 9	01' FEL	4	SENE	SECT 24, T24N, R2W			
At proposed prod. zone SAME AS SURFACE - VERTICAL	WELL					0	
 Distance in miles and direction from nearest town or post office* 3.8 miles SE of Lindrith, NM (post office) 				12. County or Parish Rio Arriba County	13. N	M State	
15. Distance from proposed* 901'	16. No. of acr 640 ac - Ma	res in lease	17. Spacin	ng Unit dedicated to this well			
property or lease line, ft. (Also to nearest drig. unit line, if any)	320 ac (E/2)	- Dakota	All OI Sei	action 24			
18. Distance from proposed location* 400	19. Proposed I	Depth	20. BLM/E	MBIA Bond No. on file			
applied for, on this lease, ft.	8295' GL COB00			10327			
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	c.) 22. Approximate date work will start*				23. Estimated duration		
7397' GL	07/15/2015			12 days			
	24. Attach	ments		0			
The following, completed in accordance with the requirements of Onsho	re Oil and Gas O	rder No.I, must be at	tached to the	s form:			
 Well plat certified by a registered surveyor. A Drilling Plan 		4. Bond to cover the Item 20 above).	e operation	is unless covered by ar	n existing bond	on file (see	
3. A Surface Use Plan (if the location is on National Forest System	Lands, the	5. Operator certific	ation				
SUPO must be filed with the appropriate Forest Service Office).		6. Such other site s BLM.	specific info	rmation and/or plans a	s may be requi	red by the	
25. Signature	Name (1	Printed/Typed)			Date		
Title	Paul II	nompson			05/04/201	5	
Engineer/Agent for Anschutz Exploration Company							
Approved by (Signature)	Name (1	Printed/Typed)			Date	1 -	
Title) Office	oy Salyer	15		+12	712015	
Petroleum Engineer (Acting AFI	4) FI	FO					
Application approval does not wave int or certify that the applicant hold	ls legal or equital	ble title to those right	s in the subj	ect lease which would	entitle the appli	icant to	
Conditions of approval, if any, are attached.							
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a c States any false, fictitious or fraudulent statements or representations as	rime for any pers to any matter wit	son knowingly and w hin its jurisdiction.	villfully to m	ake to any department	or agency of the	e United	
(Continued on page 2) RIMS AI	PROVAL	OR ACCEPTAN	CE OF	THIS *(Inst	tructions or	1 page 2)	
This action is subject to technical ACTION DOES NOT RELIEVE THE LESSEE AND							
and procedural review pursuant to OPERATO	OR FROM C	BTAINING AN	OPERA	TIONSAUTHOR	LING OPER	ATIONS	
pursuant to 43 CFR 3165.4 ON FEDE	RAL AND I	NDIAN LAND	S	COMPLIA "GENER	NCE WITH	ATTACHED	
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Attachment To Application For Permit To Drill. Drilling program

Anschutz Exploration Company

555 Seventeenth Street, Suite 2400 Denver, CO 80202 U.S.A

PONDEROSA #1

Vertical Dakota - Mancos Oil and Gas Well Surface Location: 2104' FNL – 901' FEL Section 24, T24N, R2W Ungraded GL Elev = 7397' Lat. = 36.297685 deg N Long. = 106.995431 deg W NAD83 Rio Arriba County, New Mexico

Drilling program written in compliance with onshore Oil and Gas Order No. 1 (001 III.D.3, effective May 2007) and Onshore Order No. 2 Dated November 18,1988

1. ESTIMATED TOPS FOR IMPORTANT GEOLOGICAL FORMATIONS

Formation Tops	Surface (TVD)
San Jose	Surface
Ojo Alamo	2915
Pictured Cliffs	3295
Lewis	3455
Huerfanito Bentonite	3695
Chacra	4305
Cliff House	5055
Menefee	5385
Point Lookout	5575
Mancos	5695
Ojito	6740
Greenhorn	7700
Dakota	7845
Burro Canyon	8095
Total Depth	8295

Drilling Plan

Drill 12 $\frac{1}{2}$ hole to 625' then set 9 5/8" casing. Drill 8 3/4" vertical hole with fresh water mud to an approximate TD of 8,295'. Run 5-1/2" casing and cement to surface in two stages.

2. ANTICIPATED DEPTHS OF PROSPECTIVE OIL GAS AND OTHER HYDROCARBONS

Primary objective is the Mancos formation encountered first at 5695' as well as the Dakota formation encountered at 7845'

See formation listings in #1 above for additional zones of interest.

3. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL EQUIPMENT

A. Wellhead Equipment 3000 PSI System (See Exhibit A)

- 1. 9 5/8" slip-on / welded x 11" 3,000 psi casing head.
- 2. One 11" 3,000 psi WP double-ram preventer with one (1) set of blind rams on top & one (1) set of pipe rams on bottom complete with hand wheels and extension arms.
- 3. The choke and kill lines will be connected to outlets between the bottom and top rams, utilizing either the ram body outlet or a drilling spool with side outlets for 2" kill line and minimum 3" choke line
- 4. One 11" x 3,000 psi WP Hydril GK (or equivalent) annular preventer.
- 5. Accumulator Four Station Koomey (or equivalent) 120 gallon closing unit with remote, backup. The accumulator shall have sufficient capacity to open the hydraulically-controlled gate valve and close all rams plus the annular preventer, with a 50% safety factor and retain a minimum of 200 psi above the precharge on the closing manifold without the use of the closing unit pumps. The reservoir capacity shall be double the usable accumulator capacity, and the fluid level shall be maintained at the manufacturer's recommendations.

- 6. The BOP system shall have two (2) independent power sources (electric and air) available for powering the closing unit pumps. Sufficient nitrogen bottles are suitable as a backup power source only, and shall be recharged when the pressure falls below manufacturer's specification.
- 7. A valve shall be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.

All BOP equipment will be hydraulically operated with controls accessible both on the rig floor.

The wellhead BOP equipment will be nippled-up on the 9-5/8" x 11" 3,000 psi WP casing head prior to drilling out from under surface casing. All ram preventers and related equipment will be tested to 3,000 psi for 10 minutes. Annular preventers will be tested to 50% of rated working pressure for 10 minutes. Surface casing will be tested to 70% of internal yield pressure. All preventers and surface casing will be tested before drilling out of surface casing. BOP equipment will be tested every 14 days, after any repairs are made to the BOP equipment, and after the BOP equipment is subjected to pressure. Annular preventers will be functionally operated at least once per week. Pipe rams will be activated daily and blind rams shall be activated each trip or at least weekly. The New Mexico Oil & Gas Conservation Commission and the BLM will be notified 24 hours in advance of testing of BOPE.9 5/8" slip-on / welded x 11" 3,000 psi casing head.

4. PROPOSED BIT AND CASING PROGRAM

A. Bit Program

7

26" Conductor = surface to 50' 12 1/4" Surface Hole = Surface to 625' 8 3/4" = 8,295'

B. Casing Program - all casing stings are new casing

Weight	Grade	Coupling	Setting Depth (MD) 0' - 60-ft BGL	Comments New casing.
36 ppf	K-55	LT&C	0' - 625'	New casing. Cement to surface.
17 ppf	J55	LT&C	0' - 8295'	New Casing. Cement to surface.
	Weight 36 ppf 17 ppf	Weight Grade 36 ppf K-55 17 ppf J55	Weight Grade Coupling 36 ppf K-55 LT&C 17 ppf J55 LT&C	WeightGradeCouplingSetting Depth (MD)0' - 60-ft BGL36 ppfK-55LT&C0' - 625'17 ppfJ55LT&C0' - 8295'

Casing strings below the conductor casing will be tested to .22 psi per foot of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield.

Minimum casing design factors used:	Collapse -	1.125
	Burst -	1.0
	Jt. Strength -	1.60

Surface casing shall have a guide shoe, 2 joint shoe track, float collar. One BS centralizer stop-locked on the first joint, then on BS centralizer on each of the next two joints then one on every other joint to surface. Approximately 8 BS centralizers total.

The production casing will have a float shoe, 2 joint shoe track, float collar, casing to DV tool. **DV tool placed at ~ 3450**, then casing to surface. Production casing will be centralized using 1 BS centralizer stop locked in the middle of the first joint, one BS centralizer for the next two joints, one BS centralizer every 4th join to ~ 5663'. Run 1 BS centralizer below and above the DV tool. Run 1 BS centralizer every 4th joint to 2800'. Will run approximately 23 BS centralizers total. Will strategically place 2 cement baskets below the DV tool.

5. PROPOSED CEMENTING PROGRAM

The proposed cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

a) The proposed cementing program is as follows:

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help

isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

<u>Surface Casing Single Stage Job – (0-625'):</u> Excess – 100% over gauge hole – 12-1/4" hole and 9-5/8" casing (0.3132ft3/ft) Top of Cement - Surface

Lead – 85 sx (254 cf)– 11.5 ppg, conventional cement containing: Cement – Halliburton VARICEM CEMENT 0.125# Poly-E-Flake 0.25# Kwick Seal Yield – 2.989 cuft/sx

Tail - 100 sx (183 cf) – 13.5 ppg, conventional cement containing: Cement – Halliburton VARICEM CEMENT 0.125# Poly-E-Flake 0.25# Kwick Seal Yield – 1.831 cuft/sx

Compressive strength: 24 hr - 1000+ psi

Total sacks of cement pumped = 185 sx

Production Casing – Two Stage Job (0-8295'): Excess – 20% over gauge hole – 8-3/4" hole and 5-1/2" casing (0.2526 ft3/ft) Top of Cement – Surface.

1st Stage

1

Lead - (7500' – 3450'): 410 sx (1225 cf) – 11.5 ppg, conventional cement containing: Cement – Halliburton VARICEM CEMENT 0.125# Poly-E-Flake 0.25# Kwick Seal Yield – 2.989 cuft/sx

Compressive strength: 24 hr - 1000+ psi

Tail - (8295' – 7500'): 130 sx (256 cf) – 12.0 ppg, conventional cement containing: Cement – Halliburton HALCEM 0.05% sa-1015 5 LBM Kol-Seal 0.125 Poly-E-Flake Yield – 1.97 ft3/sx, Compressive strength: 24 hr – 1500+ psi

2nd^t Stage

Lead - (2800' – Surf): 285 sx (852 cf) – 11.5 ppg, conventional cement containing: Cement – Halliburton VARICEM CEMENT 0.125# Poly-E-Flake 0.25# Kwick Seal Yield – 2.989 cuft/sx

Compressive strength: 24 hr - 1000+ psi

Tail - (3450' – 2800'): 100 sx (197 cf) – 12.0 ppg, conventional cement containing: Cement – Halliburton HALCEM 0.05% sa-1015 5 LBM Kol-Seal 0.125 Poly-E-Flake Yield – 1.97 cuft/sx

Compressive strength: 24 hr - 1500+ psi

<u>Total sacks of cement pumped = 925 sx</u> Cement volumes are minimums and may be adjusted based on caliper log results & hole conditions. Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected.

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

Hole Size Density Viscosity Fluid Loss TVD (ft) Mud Type (in) (lb/gal) (sec/qt) (cc)8.3-9.4 28-42 12 1/4" 0-625' **FreshWater** NC Fresh Water 8 3/4" 625'-3695' 8.6-9.2 35 - 70 8-10 LSND Fresh Water

I SND

6. PROPOSED DRILLING FLUIDS PROGRAM a) Vertical Portion

3695'-8295'

b) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud tests shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

8.6-9.2

40-54

< 6

c) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals, including fresh water and oil-based operations. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Drill cuttings will be buried on site in compliance with NMOCD Rule 19. Any waste water not utilized in the drilling process will be disposed of properly at TnT Environmental Disposal facility.

7. TESTING, CORING and LOGGING

8 3/4"

- a) Drill Stem Testing None anticipated
- b) Coring-None anticipated.
- c) Mud Logging Mud loggers will be on location from surface casing point to TD.
- d) Logging-834" section only, See Below

Open Hole Logs: Triple Combo w/ Dipole Sonic (TD to surface casing). NMR Log, ES Image log, Dielectric log, MDT/SPT (over selected intervals)

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The maximum anticipated bottom hole pressure is +/- 2970 psi based on a 9.0 ppg at 8295' (Total Depth). No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H_2S is encountered, the guidelines in Onshore Order No. 6 will be followed.

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on July 15, 2015. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

It is anticipated that the drilling of this well will take approximately 12 days.

southeast corners, and a maximum cut of 3 feet at the north center edge. No additional surfacing material is anticipated for construction.

- 6. Well pad construction will involve preparing a level area for the equipment that will drill and complete the well. The existing well pad will be constructed to accommodate a 230-foot by 300-foot level well pad area, resulting in approximately 1.58 acres of new surface disturbance. Construction of the well pad would include a 50-foot construction buffer zone around the perimeter of the pad, creating an additional 1.45 acres of new surface disturbance. The total permitted area for the construction of the well pad is 3.03 acres.
- 7. The well pad will be constructed from the earthen materials present on-site. Well pad will be topped with gravel to stabilize the driving surface.
- 8. Stormwater will be diverted to flow around the well pad at the upslope (northern) side.
- 9. The operator has proposed a closed-loop system. No drilling pits will be used for the proposed project.
- 10. Construction of the well pad will take approximately two weeks.

G. Methods for Handling Waste

- 1. Drill Cuttings
 - a. Drilling operations will utilize a closed-loop system with water based mud. The operator will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation and removal of the closed-loop systems. No blow pit will be used. Closed-loop tanks will be adequately sized for containment of all fluids.
 - b. Drill cuttings will be disposed on-site in burial cells. The operator will obtain an approved Form C-144 per NMOCD's Pit Rule NMAC 19.15.17 prior to on-site disposal of drill cuttings. The drill cuttings will be temporarily stored in above ground steel tanks until drilling completion. After drill rig demobilization, the operator will transfer the drill cuttings into the burial cells. The burial cells will be lined and capped with a minimum of 4 feet of clean fill dirt. Prior to disposal, the drill cuttings will be dried and mixed with a bonding agent or clean fill for stabilization.
- 2. Drilling Fluids
 - c. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted locations or returned to the vendor for re-use, as practical. Residual fluids will be vacuumed from the storage tanks and disposed of at an appropriate waste disposal facility.
 - d. Drilling fluid storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.
- 3. Flowback Water
 - a. The water-based solution that flows back to the surface during and after completion operations will be placed in storage tanks on location.
 - b. Flowback water will be confined to a storage tank for a period not to exceed 90 days after initial production and will be disposed of in an approved disposal facility, or recycled.
- Spills any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site. Spills less than 10 barrels do not require reporting. Spills and releases will be reported according to NMOCD and BLM requirements.

Adkins Consulting, Inc

Directions from the Intersection of Hwy 550 & Hwy 64 in Bloomfield, NM To: ANSCHVTZ EXPLORATION CORPORATION PONDEROSA #1 2104' FNL & 901' FEL, Section 24, T24N, R2W, N.M.P.M., Rio Arriba, New Mexico Latitude: 36° 17' 51.644" N Longitude: 106° 59' 43.553" W NAD 83

Go south on Hwy 550 for 83.65 miles to Hwy 96, Turn left (north) on Hwy 96 11.9 miles to Hwy 95, Turn left (west-northwesterly) on Hwy 95 for 10.1 miles, Turn right (easterly) on CR 394 for 0.9 miles, Stay left (northeasterly)for 1.4 miles, Turn left (northerly then easterly) for 0.6 miles, Turn right(southeasterly) for 300' to east side of the compressor site, To the beginning of new access, which continues (northeasterly) for 520.2' to the new well location.

Exhibit A

WELLHEAD BLOWOUT CONTROL SYSTEM



