District I	State of New Mexico	Form.C-101
1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 <u>District 11</u>	Energy Minerals and Natural Resources	Revised July 18, 2013
811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720	Oil Conservation Division	AMENDED REPORT
District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170	1220 South St. Francis Dr.	OIL CONS. DIV DIST. 3
District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462	Santa Fe, NM 87505	JUN 19 2015

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DE	EEPEN, PLUGBACK, OR ADD A ZONE
Coperator Name and Address	² OGRID Number

	3150	erty Code	Anschutz 5 17th Stree	30-0	³ OGRID Number 146906 3 API Number 3 API API Number 3 API	333 II No.				
i			I		^{7.} Su	Schmitz Irface Location	1		<u>,</u>	~
22	UL - Lot I	Section 1	Township 24N	Range 2W	Lot Idn	Feet from 1708'	N/S Line South	Feet From 949'	E/W Line East	County Rio Arriba
7	L				* Propose	ed Bottom Hol	e Location			
	UL - Lot I	Section 1	Township 24N	Range 2W	Lot Idn	Feet from 1708'	N/S Line South	Feet From 949'	E/W Line East	^{County} Rio Arriba
					^{9.} Po	ol Information	n			
	Gavilan C	Greenhor	n-Graneros	-Dakota / G	Pool avilan - Man	Name COS				Pool Code
					Addition	al Well Inform	nation			·

		A	iunional wen mormation			
^{11.} Work Type	^{12.} Well Type		^{12.} Well Type ^{13.} Cable/Rotary		е Туре	^{15.} Ground Level Elevation
N		0	R	P		7336'
^{16.} Multiple	^{17.} Proposed Depth		^{17.} Proposed Depth ^{18.} Formation ^{19.} Contractor		ractor	^{20.} Spud Date
Y		8424'	Dakota	TB	D	7/15/2015
Depth to Ground water 140'		Distance from nearest fresh water well: 2106'		,	 Distance to n 	earest surface water 700°
-						
				د ۱		

 $\underline{\mathbf{X}}$ We will be using a closed-loop system in lieu of lined pits

11" 3M

^{21.} Proposed Casing and Cement Program

3M

Туре	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	26"	16"	42	50'	n/a	n/a
Surface	12-1/4"	9-5/8"	36#/J55	625'	85 sx(254 cf) &100 sx (183 cf)	Surface
Production	8-3/4"	5-1/2"	17#/J55	8424'	1 st stg: 455sx(1359cf) & 215sx(424cf) 2 nd stg: 275sx(821cf)& sx(197cf)	Surface
		22.	Proposed Blowout Pre	vention Program	· · · · · · · · · · · · · · · · · · ·	
Type Working Pressure			Test Pre	ssure ·	Manufacturer	

best of my knowledge and b	e complied with 19.15.14.9 (A) NMACE and/or if applicable.	OIL CONSERVATION DIVISION Approved By: Mark New 7-2-2015 Title: SUPERVISOR DISTRICT #3 Approved Date III 0 2 2015 Expiration Dates UL 0 2 2017
E-mail Address: John@wal	sheng.net	
Date: 6/5/2015	Phone: 505.327.4892	Conditions of Approv SEE ATTACHED NMOCD
Turue Sub Curent	mittal use Forms	CONDITIONS OF APPROVA

3M

Cameron

DISTRICT I 1825 N. French Dr., Hobbs, N.M. 88240 Phone: (575) 393-6161 Fax: (575) 393-0720

. . I.

DISTRICT II 611 S. First St., Artenia, N.M. 68210 Phone: (575) 748-1283 Fax: (576) 748-9720 DISTRICT III

1000 Rio Brazos Rd., Astec, N.M. 87410 Phone: (505) 334-6178 Pax: (505) 334-6170 DISTRICT IV

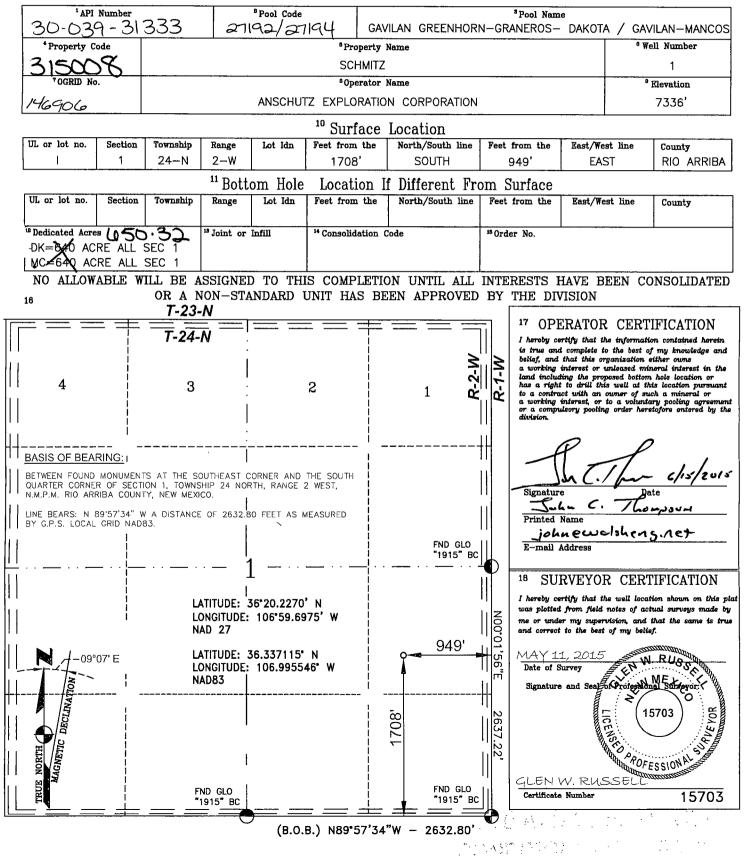
1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 478-3462 State of New Mexico Energy, Minerals & Natural Resources Department

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

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

□ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT



Attachment To Application For Permit To Drill. Drilling program

Anschutz Exploration Company

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

SCHMITZ #1

Vertical Dakota - Mancos Oil and Gas Well Surface Location: 1708' FSL – 949' FEL Section 1, T24N, R2W Ungraded GL Elev = 7336' Lat. = 36.337115 deg N Long. = 106.995546 deg W NAD83 Rio Arriba County, New Mexico

1. ESTIMATED TOPS FOR IMPORTANT GEOLOGICAL FORMATIONS

Formation Tops	Surface (TVD)
San Jose	Surface
Ojo Alamo	3124
Pictured Cliffs	3394
Lewis	3474
Huerfanito Bentonite	3836
Chacra	4394
Cliff House	5114
Menefee	5236
Point Lookout	5634
Mancos	5794
Ojito	6884
Greenhorn	7714
Dakota	7854
Burro Canyon	8074
Total Depth	8424

Drilling Plan

- . e.

Drill 12 ¼" hole to 625' then set 9 5/8" casing. Drill 8 3/4" vertical hole with fresh water mud to an approximate TD of 8,424'. 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 5794' as well as the Dakota formation encountered at 7854'

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 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. <u>Bit Program</u>

νt.

26" Conductor = surface to 50' 12 1/4" Surface Hole = Surface to 625' 8 3/4" = 8,424'

B. Casing Program - all casing stings are new casing

Casing & Hole Size	Weight	Grade	Coupling	Setting Depth (MD)	Comments
16" Conductor				0' - 60-ft BGL	New casing.
9-5/8" (12 1/4")	36 ppf	K-55	LT&C	0' - 625'	New casing. Cement to surface.
5-1/2" (8 ¾")	17 ppf	J55	LT&C	0' - 8424'	New Casing. Cement to surface.

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 ~ 3480**, 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 (0-8425'): Excess – 20% over gauge hole – 8-3/4" hole and 5-1/2" casing (0.2526 ft3/ft) Top of Cement – Surface.

1st Stage

Lead: 455 sx (1359 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: 215 sx (424 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 Stage

Lead: 275 sx (821 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: 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 = 1045 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.

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Hole Size (in)	TVD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
12 1/4"	0-625'	FreshWater	8.3-9.4	28-42	NC
8 3/4"	625'-3836'	Fresh Water LSND	8.6-9.2	35 - 70	8-10
8 3/4"	3836'-8424'	Fresh Water LSND	8.6-9.2	40-54	< 6

6. PROPOSED DRILLING FLUIDS PROGRAM

a) Vertical Portion

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- 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.
- (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

- 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.

Schmitz #1 Well/Facility: Well Status: Proposed Date Drawn: 6/9/2015 (JCT) VALSI Anschutz **Operator:** Orig Oper: Lease/Op Agmt: Private Prod Interval: Gavilan GR/DK/Mancos API #: Field: 16" conductor to 50' County: Rio Arriba GR/KB: 7336' GL State: NM TD: 8424' KB PBTD: 12-1/4" Hole Spud: Comp. Date: WI: 1st Prod: NRI: Surface Casing: 9-5/8", 36#, J55 at 625' Xmas tree: 1708' fsl & 949' fel Section 1, T24N, R2W Surface Loc: Sec-Twn-Rge: Section 1, T24N, R2W Lead - 85 sx (254 cf)- 11.5 ppg, Comments: 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, Cement – Halliburton VARICEM CEMENT **Geologic Markers** 0.125# Poly-E-Flake MD Formation 0.25# Kwick Seal Surface San Jose Yield - 1.831 cuft/sx 3124' Ojo Alamo **Pictured Cliffs** 3394' 3474 Lewis 3836' Huerfanito Bentonite Chacra 4394' Cliff House 5114 5236' Menefee 5634 Point Lookout 5794' Mancos Shale DV tool at: 3480 6884' Ojito 7714' Greenhorn 7854' Graneros 8074' Dakota 8274' Burro Canyon 2nd stage Lead: 275 sx (821 cf) - 11.5 ppg, Hole Size: 8-3/4" Cement - Halliburton VARICEM CEMENT 0.125# Poly-E-Flake 0.25# Kwick Seal Yield - 2.989 cuft/sx Tail: 100 sx (197 cf) - 12.0 ppg Cement – Halliburton HALCEM 0.05% sa-1015 5 LBM Kol-Seal 0.125 Poly-E-Flake Yield - 1.97 cuft/sx 1 stage: Lead: 455 sx (1359 cf) - 11.5 ppg, Cement - Halliburton VARICEM CEMENT 0.125# Poly-E-Flake 0 25# Kwick Seal Yield - 2.989 cuft/sx Tail - (8295' - 7500'): 215 sx (424 cf) - 12.0 ppg, Cement - Halliburton HALCEM 0.05% sa-1015 5 LBM Kol-Seal 0.125 Poly-E-Flake Yield - 1.97 ft3/sx, 5-1/2", 17#, J55 at 8424'

Pickford, Katherine, EMNRD

From:	John Thompson <john@walsheng.net></john@walsheng.net>
Sent:	Thursday, June 25, 2015 10:47 PM
То:	Pickford, Katherine, EMNRD
Cc:	Deidre O'Callaghan
Subject:	RE: Schmitz #1 30-039-31333 APD

Hi Kate,

I'm going to copy the info I got regarding the pools and the spacing from the Anschutz land department (see below). Also, I will update the drilling plan to include some language regarding the protection of the fractured Mancos formation and get that to you via email if that's OK.

The Schmitz location falls within the Gavilan-Mancos pool, which provides for 640 acre spacing for the Mancos formation. Anschutz has applied for a non-standard unit for the Dakota, requesting a 640 acre unit for the Dakota formation, to conform the spacing unit to the Mancos unit, and intends to request an order to comingle the production, if appropriate, after testing is complete. The hearing for this application was held on June 11th, but Anschutz has not yet received the approved order from the OCD: Anschutz is requesting that the permit be approved with the spacing to be-subject to the pending order from the OCD.

Let me know if that sounds OK to you or if you need more info.

Thanks!

John C. Thompson

Walsh Engineering & Production Corp. O 505.327.4892 C 505.320.1748 E john@walsheng.net

Pickford, Katherine, EMNRD

Pickford, Katherine, EMNRD
Monday, June 22, 2015 11:52 AM
'John@walsheng.net'
McMillan, Michael, EMNRD; Jones, William V, EMNRD
Schmitz #1 30-039-31333 APD

John,

I am reviewing the APD for the above well, submitted by you on behalf of Anschutz. In reviewing the special pool rules (order R-7745) for the Gavilan Greenhorn-Graneros-Dakota, there are a few issues that appear to be in conflict with the application. It appears that the application proposes to DHC the Gavilan Greenhorn-Graneros-Dakota and the Gavilan Mancos. According to the noted rule, Production from the Gavilan Greenhorn-Graneros-Dakota and the Gavilan Mancos. According to the noted rule, Production from the Gavilan Greenhorn-Graneros-Dakota shall not be downhole commingled with production from any other pool. Additionally, the spacing unit for both the Gavilan Greenhorn-Graneros-Dakota and the Gavilan Mancos are 320 acres. The application dedicates 640 acres to each formation. There are also criteria in the order related to protection of the fractured Mancos formation in the mud and cementing programs. The mud program does not specify the need for these protections. Please review the above order and let me know how you would like to proceed with this application.

Thanks

Kate Pickford Geoscientist OCD District III 1000 Rio Brazos Rd Aztec, NM 87410 505-334-6178 Ext 114 505-334-6170 (fax)

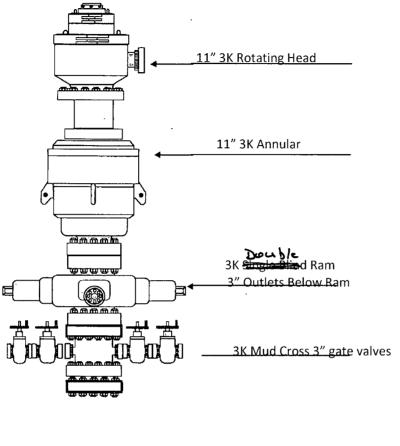


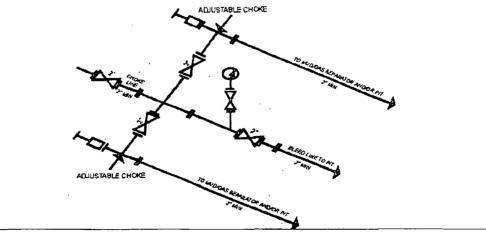
Directions from the Intersection of Hwy 550 & Hwy 64 in Bloomfield, NM To: ANSCHUTZ EXPLORATION CORPORATION SCHMITZ #1 1708' FSL & 949' FEL, Section 1, T24N, R2W, N.M.P.M., Rio Arriba County, New Mexico Latitude: 36° 20' 13.615" N Longitude: 106° 59' 43.967" W NAD 83

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 12.8 miles to CR 408, Turn right (easterly) on CR 408 for 1.8 miles, Which then becomes CR 395, Continue (easterly) on CR 395 for 0.5 miles Stay left (northeasterly) on CR 395 for 0.6 miles, To the beginning of new access, which continues (southerly) for 264.8' to the new well location.

Exhibit A

WELLHEAD BLOWOUT CONTROL SYSTEM





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 Conditions of Approval (C-101 Application for permit to drill)

- V Notify Aztec OCD 24hrs prior to casing & cement.
- o Hold C-104 for directional survey & "As Drilled" Plat
- Hold 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.