KM

Form 3160 -3 (August 2007)

# M.M. Oil Cons. DIV-Dist. 2 1301 W. Grand Avenue UArtesia NM 88210

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

JUN - 2 2009

FORM APPROVED OMB No 1004-0137 Expires July 31, 2010

5. Lease Serial No.

٠.	Lease Seliai	INO.
		NM-0560397

6. If Indian, Allotee or Tribe Name

APPLICATION FOR PERMIT TO	O DRILL O	R REENTER		6. If Indian, Afforce of	r iribe name
la. Type of work:	ITER			7. If Unit or CA Agreen	nent, Name and No.
Ib. Type of Well: Oil Well Gas Well Other?	gm ✓s	ingle Zone Multip	ole Zone	8. Lease Name and We Round Tank I	
2. Name of Operator Armstrong Energy Corporation				9. API Well No. 30-005-	4118
3a. Address P.O. Box 1973 Roswell, NM 88202		0. (include area code) 5-625-2222		10. Field and Pool, or Ex Round Tank Queen	
4. Location of Well (Report location clearly and in accordance with At surface 715' FNL & 825' FEL (Unit "A")  At proposed good good good.	any State requirer	nents.*)		11. Sec., T. R. M. or Blk Sec. 30-T15	•
At proposed prod. zone Same  14. Distance in miles and direction from nearest town or post office*  13 miles N-NW of Loco Hills, NM				12. County or Parish Chaves	13. State NM
15 Distance from proposed* 715' location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of	acres in lease		g Unit dedicated to this we NW/NE Sec. 30 40 Acres	111
<ol> <li>Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. Propose	ed Depth 1,600'	20 BLM/I	/BIA Bond No. on file NM-1826	
21 Elevations (Show whether DF, KDB, RT, GL, etc.) GL 3786'	22. Approx 07/15/20	imate date work will sta 09	rt*	23. Estimated duration 30 days	
The following, completed in accordance with the requirements of On-		chments		ELL CONTROLLED WA	TER BASIN *
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Systems SUPO must be filed with the appropriate Forest Service Office).</li> </ol>	em Lands, the	4 Bond to cover t Item 20 above). 5. Operator certification	he operatio	ns unless covered by an e	·
25 Signature 3 A Stubble	I	e (Printed Typed) se A. Stubbs			Date 05/05/2009
Title Vice President - Operations	-				
Approved by (Signature) /S/ Angel Mayes  Title Assistant Field Manager,  Lands And Minerals	Name Offic	e (Printed Typed) Angel  ROSWELL F	lane IELD OF	S (	Date ### 2 0 200°
Application approval does not warrant or certify that the applicant h conduct operations thereon.  Conditions of approval, if any, are attached.	nolds legal or equ	nitable title to those right	nts in the sub	ject lease which would en APPROVED FO	title the applicant to -
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it States any false, fictitious or fraudulent statements or representations	a crime for any as to any matter	person knowingly and within its jurisdiction.	willfully to r	nake to any department or	agency of the United

MICLARED WATER BASIN

(Continued on page 2)

CEMENT BEHIND THE . 25".

CASING MUST BE CIRCULATED

WITNESS

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED

\*(Instructions on page 2)

#### District I

1625 N. French Dr., Hobbs, NM 88240

1301 W. Grand Avenue, 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 & Natural Resources Department

### OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005 Submit to Appropriate District Office

State Lease - 4 Copies

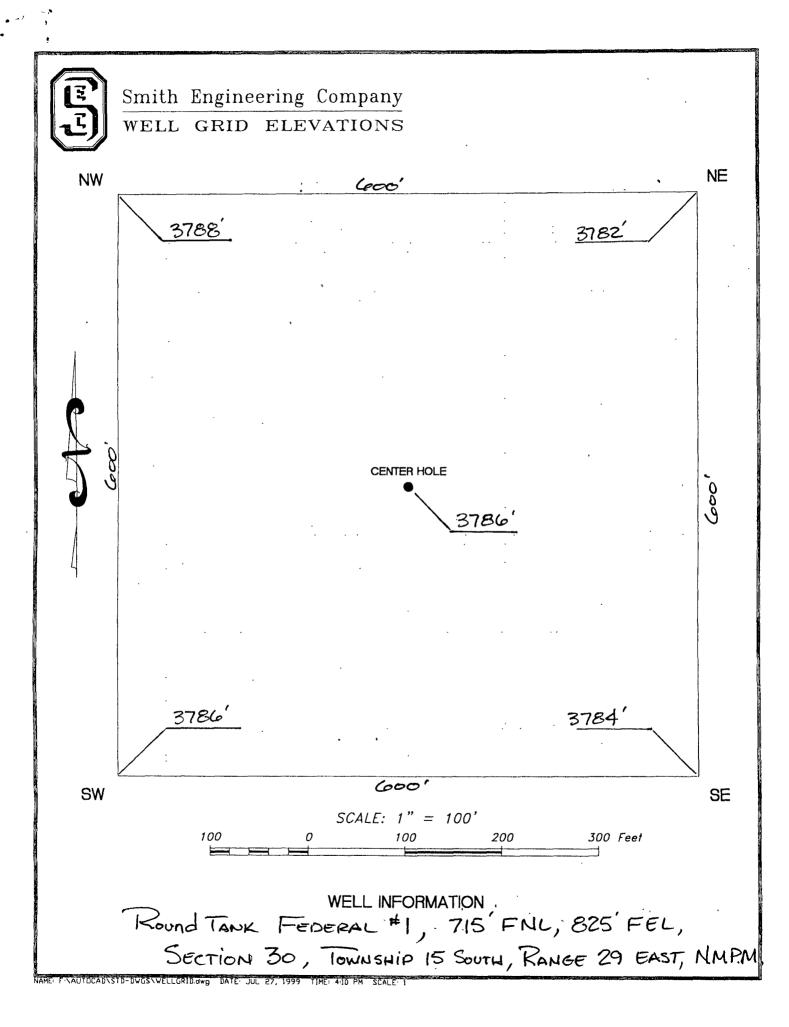
Fee Lease - 3 Copies

☐ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT <sup>2</sup> Pool Code <sup>1</sup> API Number Round Tank Oueen (Assoc.) 30-005-64113 52780 6 Well Number <sup>4</sup> Property Code <sup>5</sup> Property Name Round Tank Federal 8 Operator Name 9 Elevation **Armstrong Energy Corporation** 3786 001092 Surface Location UL or lot no. Feet from the North/South line Feet from the East/West line County Section Township Range Lot Idn A 30 15S 29E 715 North 825 East Chaves <sup>11</sup> Bottom Hole Location If Different From Surface Lot Idn Feet from the North/South line Feet from the East/West line County UL or lot no. Section Township 12 Dedicated Acres <sup>13</sup> Joint or Infill S Order No. 4 Consolidation Code 40 N

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16		71	5' 825'	17 OPERATOR CERTIFICATION  I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
		.,		Signature 5-1-09 Date  Bruce A. Stubbs Printed Name
		Lease No:	NM-0560397	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. April 14, 209
,	:		,	Date of Survey  Signature and Seal of Professional Surveyor:  6290  Certificate Number



Armstrong Energy Corporation Round Tank Federal #1 Queen Injection Well 715' FNL & 825' FEL Section 30-T15S-R29E Chaves County, New Mexico

### **Drilling Program**

1. The Estimated tops of geological markers are as follows:

Surface Formation: Permian – Quaternary

Quaternary	Surface
Rustler	140'
Yates	770'
Queen	1500'

2. The estimated depth at which anticipated water, oil or gas formations are expected to be encountered:

Water	140'
Oil	1500'

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Any potential surface fresh water sands will be protected by setting 8 5/8" casing at 150' and circulating cement back to surface. The salt section will be protected by setting 5 1/2" casing to 1600' and circulating cement back to surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing with sufficient cement to circulate back to surface.

- 3. Pressure Control Equipment: The blowout preventer equipment (BOP) shown in Exhibit A will consist of a rotating head and a Hydril bag-type (1000 psi WP) minimum preventer. This unit will be hydraulically operated and the bag type preventer will be capable of a complete shut-off with drillpipe out of the hole. The BOP will be nippled up on the 8 5/8" surface casing and tested to 500 psi using the rig pump and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 500 psi before drilling out of surface casing. The Hydril will be operationally checked each 24-hour period. These checks will be noted on the daily tour sheets.
- 4. Auxiliary Equipment: Other accessories to the BOP equipment will include a Kelly cock and floor safety valve and choke lines and choke manifold (Exhibit A) with a minimum 1000 psi WP rating.
- 5. Proposed Casing and Cementing Program:

A. Casing Program:

Hole Size	Casing Size	Wt./Ft.	Grade	Coupling	<u>Interval</u>	Cond.
11"	8 5/8"	24 #/ft.	J-55	ST&C	0-150'	New
7 7/8"	5 ½"	15.5 #/ft.	J-55	LT&C	0-1600'	Used
Minimum	casing design	factors: Collaps	e 1.125	, Burst 1.0, '	Tensile Strength	1.8

B. Cementing Program:

String	Ū	Sacks	Type	Weight	<u>Yield</u>	<u>T.O.C.</u>
Surface		105	Class "C" w/ 2% CaCl <sub>2</sub>	14.8 PPG	$1.32  \mathrm{ft}^3$	Circ.
Production		120	EconoCem-C	11.9 PPG	$2.46  \mathrm{ft}^3$	Circ.
		100	Class "C" w/.5% LAP-1	, 14.8 PPG	$1.38  \mathrm{ft}^3$	1100'
			.5% CFR-3, 3.0 #/sx. Sa	lt,		
			3 #/sx. Gilsonite,			
			.25 #/sx. D-Air			

6. Mud Program and Auxiliary Equipment: The well will be drilled to TD with air. The applicable depths and properties of this system are as follows:

<u>Interval</u>	Type	<u>Weight</u>	Viscosity	Fluid loss
0-150'	Air & Mist			N.C.
150-1600'	Air & Mist			N.C.

7. Testing, logging and coring programs:

DST's: No DST's are planned.

Mud Logging: No mudlogger will be used.

Electric Logging: A cased hole GR-Neutron log will be run from surface to T.D.

Coring: No coring is anticipated at this time.

8. Abnormal pressure, temperature or other hazards

Lost Circulation Zones: Records on nearby wells do not report any major lost circulation

zones. Appropriate materials will be available to combat any lost

circulation that is encountered.

High Pressure: Records available from nearby wells do not indicate any over

pressured zones. The Queen formation BHP is estimated at 50 PSI.

High Temperature: BHT measured in nearby wells indicates a normal temperature

gradient in this area. (75°F @ 1600')

Hydrogen Sulphide: No hydrogen sulfide has been monitored in Queen producing wells

in the area. An H<sub>2</sub>S monitor will be placed below the rig floor and at

the flow line to alert personnel to any release of  $H_2S$ . Should a release of  $H_2S$  be detected a  $H_2S$  Plan will be implemented.

9. Anticipated starting date: Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is July 15, 2009. Once commenced, the drilling operation should be finished in approximately 5 days. The completion and installation of injection equipment will require approximately 30 additional days to complete.

#### 10. Contacts

### **Armstrong Energy Corporation Call List:**

Name	Office	Cell	Home
Bruce Stubbs	575-625-2222	575-626-0973	575-623-6466
Rock Ray		575-420-6371	575-398-3522
Tom King	575-625-2222	575-420-0901	575-752-3750

### **Agency Call List:**

#### Roswell

State Police	622-7200
City Police	624-6770
Sheriff's Office	
Ambulance	
Fire Department	624-7590
LEPC (Local Emergency Planning Committee)	
NMOCD (Artesia)	748-1283
Bureau of Land Management,	

#### **Emergency Services**

Boots -& Coots IWC	1 800-256-9688 or (281)931-8884
	(915)699-0139 or (915)563-3356
Halliburton	
B. J. Services	746-3569
Flight For Life-Lubbock, TX	(806)743-9911
Aerocare-Lubbock, TX	(806)747-8923

Med Flight Air Amb-Albuquerque, NM ......(505)842-4433 Lifeguard Air Med Svc. Albuquerque, NM .....(505)272-3115 Armstrong Energy Corporation
Round Tank Federal #1
Queen Injection Well
715' FNL & 825' FEL
Section 30-T15S-R29E
Chaves County, New Mexico

### MULTI-POINT SURFACE USE AND OPERATIONS PLAN

- 1. Existing roads: Exhibit B is an aerial map showing the wells and roads in the vicinity of the proposed location. The wellsite is located approximately 13 miles north-northwest of Loco Hills, New Mexico and the access road is indicated in yellow (ROW No: NM-114130) and the proposed new access road is indicated in red.
  - A. Directions: From Loco Hills, New Mexico, From the intersection of Co. Rd #217 and Hwy #82, go north on Co. Rd #217, 11 miles, turn left at Co. Line Rd. and go northwest 4.7 miles, turn right, go northeast 0.3 mile and turn left go north 0.2 mile, to location.
- 2. Planned access road: 0.3 mile of the existing two-track road will be upgraded and 0.2 mile of new access road will be constructed. The access road is approximately 0.5 mile (160 rods) from the existing road to the southeast side of the location. Exhibit C
  - A. The Maximum width of the running surface will be 14'. The road will be crowned and ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
  - B. The average grade will be less than 1%.
  - C. One turnout is planned.
  - D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.
  - E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or downsizing of locations.

    The proposed access road as shown in Exhibit C has been centerline flagged by Smith Engineering, Roswell, New Mexico.
- 3. Location of existing wells: Exhibit D shows existing wells within a one-mile radius of the proposed location. The following table lists the wells within the one-mile radius of the Round Tank Federal #1.

<u>API</u>	LEASE NAME	<u>#</u>	<b>OPERATOR NAME</b>	LOCATION	STATUS
30005004680001 S	TATE A	2	GANDY M C & DALE	30 15S 29E	OIL-WO
30005640270000 E	SKIMO STATE	1	MACK ENERGY CORP	19 15S 29E SW SE SW	OIL
30005640260000 ES	SKIMO STATE	2	MACK ENERGY CORP	19 15S 29E SW NE SW	OIL
30005600900000 S	TATE JW	1	ELK OIL COMPANY	30 15S 29E	OIL

30005601050000 JW-STATE	2	ELK OIL COMPANY	30	15S 29E	GAS
30005602010001 JACK FEDERAL		MCCLELLAN OIL CORP		15S 29E	D&AW
30005602550000 CHRISTINE-FEDERAL		ELK OIL COMPANY	31	15S 29E	D&A
30005606180000 MARK FEDERAL		ELK OIL COMPANY	19	15S 29E	OIL
30005004650001 FEDERAL		GANDY M C & DALE		15S 29E	OIL-WO
30005004660000 FEDERAL		GANDY M C & DALE	30	15S 29E	OIL
30005004660001 CHRISTINE FEDERAL		ELK OIL COMPANY		15S 29E	J&AW
30005004520001 USA-FITZGERALD		ELK OIL COMPANY		15S 29E	D&AW
30005004680000 STATE A		PRAY MAX		15S 29E	OIL
30005004610000 STATE-MULLIS A		KERN COUNTY LAND CO			OIL
30005101480000 USA-FITZGERALD		TENNECO OIL CO		15S 29E	OIL
30005602550001 CHRISTINE FEDERAL	_			15S 29E	OIL-WO
30005603360000 FEDERAL /A/		LARUE & MUNCY			D&A
30005004510000USA-FITZGERALD				15S 29E	OIL
30005004510001 FITZGERALD-FEDERAL		TENNECO OIL CO		15S 29E	OIL-WO
30005004620000 STATE-MULLIS B		KERN COUNTY LAND CO			OIL
30005004620001 STATE-MULLIS B		KERN COUNTY LAND CO			OIL-WO
30005004630000 STATE-MULLIS C		KERN COUNTY LAND CO			OIL
30005004650000 STATE-MOLLIS C		PRAY MAX		15S 29E	OIL
30005604820000 PEDERAL		ELK OIL COMPANY	-	15S 29E	OIL
30005004520000 CARISTINE FEDERAL 30005004520000 USA-FITZGERALD				15S 29E	OIL
				15S 29E	
30005004670000 STATE A		GANDY M C & DALE		15S 29E SW NW SW	OIL
30005640720000 ESKIMO STATE 30005004530000 MCCURDY ETAL		MACK ENERGY CORP			
		GEN AMER OIL CO		15S 29E	TA
30005004640000 BRAINARD		MOAB DRLG CO		15S 29E	D&A-OG
30005602010000 JACK FEDERAL		KINCAID&WATSON DRLG			D&A-O
30005634600000 EXCALIBUR `20` FEDERAL COM				15S 29E NW	A&d
30005640950000 ROUND TANK SWD		MACK ENERGY CORP		15S 29E C NE SW	
30005640510000 ESKIMO STATE		MACK ENERGY CORP		15S 29E NE NE SW	0.11
30005640530000 ESKIMO STATE		MACK ENERGY CORP		15S 29E SW NW NW	OIL
30005640940000 FAIRBANKS FEDERAL		MACK ENERGY CORP		15S 29E NW SW SE	
30005640960000 WHITEHORSE FEDERAL		MACK ENERGY CORP		15S 29E SW NW SE	
30005640970000 WHITEHORSE FEDERAL		MACK ENERGY CORP		15S 29E SW SW SE	
30005641020000 VICTORIA FEDERAL		MACK ENERGY CORP		15S 29E SW SW NE	
30005640160000 SEAHAWKS FEDERAL		MACK ENERGY CORP		15S 29E SW NW SE	
30005640540000 ESKIMO STATE		MACK ENERGY CORP	-	15S 29E SW SW NW	
30005625050000 FEDERAL `MO`		MCCLELLAN OIL CORP		15S 29E NE NE	D&A
30005640850000 ESKIMO STATE		MACK ENERGY CORP		15S 29E NE NE NW	
30005640860000 ESKIMO STATE		MACK ENERGY CORP		15S 29E NE SW SW	
30005640880000 VICTORIA FEDERAL		MACK ENERGY CORP		15S 29E SW NW SW	
30005640890000 VICTORIA FEDERAL		MACK ENERGY CORP		15S 29E SW SW SW	
30005640930000 SEAHAWKS FEDERAL		MACK ENERGY CORP		15S 29E SW NE SE	
30005640520000 ESKIMO STATE		MACK ENERGY CORP		15S 29E NE SE SW	
30005640490000 ESKIMO STATE		MACK ENERGY CORP		15S 29E NE NE NW	OIL
30005640500000 ESKIMO STATE		MACK ENERGY CORP		15S 29E NE SE NW	
30005640320000 PACKERS FEDERAL		MACK ENERGY CORP		15S 29E NE SE NE	OIL
30005004610001 MULLIS-STATE A		ELK OIL COMPANY		15S 29E	GAS-WO
30005004500000 BRAINARD-FED	1	BRAINARD FRED		15S 29E	D&A-O
30005641030000 VICTORIA FEDERAL	3	MACK ENERGY CORP	30	15S 29E SW NW NE	

4. Location of existing and/or proposed facilities: The well is planned to be an injection well and the necessary injection facilities will be installed at the Christine Federal #3 location and an

injection line run to the Round Tank Federal #1. No electrical power or gas pipeline will be will be required for this well.

- 5. Location and type of water supply: It is planned to drill the proposed well using air on the surface hole and on the production hole. Any needed water will be obtained from commercial sources and will be hauled to location by truck over the existing and proposed roads shown in Exhibit A.
- 6. Source of construction material: It is planned to use the caliche from downsizing existing locations on this location and road. The dirt contractor will locate the nearest pit and obtain any permits and materials needed for construction should the location need any additional materials.

### 7. Method of handling waste disposal:

- A. Drill cutting will be collected in haul-off bins and hauled to an OCD approved disposal site. Gandy-Marley, Inc., Permit No.:NM-711-1-002, is the planned repository of the drill cuttings, mud and miscellaneous drilling waste.
- B. Fluids will be stored in steel tanks.
- C. Water for injection will be obtained from the San Andres wells in the area.
- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- E. All trash, junk and other waste will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved landfill. Burial on site is not approved.
- 8. Ancillary facilities: None
- 9. Wellsite layout:
  - A. Exhibit E shows the relative location and dimensions of the well pad, the location of the drilling equipment, rig orientation and access road approach.
  - B. An area 600' x 600' with a 100' wide access road was archaeologically cleared by Boone Archaeological Services, LLC.

#### 10. Plans for restoration:

- A. After the completion of the drilling and completion operations, all equipment and other materials not needed for additional operations will be removed. The location will be cleared of all trash and junk to leave the wellsite in an aesthetically pleasing a condition as possible.
- B. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.
- 11. Surface Ownership: U.S.

Lessee: The well site and lease is located entirely on Federal surface. We have notified the surface lessee of the impending operations. According to BLM the leasee is Bogel Limited Company, Lewis Derrick, P.O. Box 460 Dexter, NM 88230.

Minerals: BLM Lease No.: NM-0560397

#### 12. Other information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is native scrub-grass-with sagebrush. The primary use of the surface is for grazing.
- B. There is no permanent or live water in the immediate area.
- C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

#### 13. Operator's representative:

Mr. Bruce A. Stubbs Armstrong Energy Corporation P.O. Box 1973 Roswell, New Mexico 88202 Phone 505-625-2222 bastubbs@armsrongenergycorp.com

#### 14. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Armstrong Energy Corporation and it's contractors and sub contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: May 5, 2009

Bruce A. Stubbs

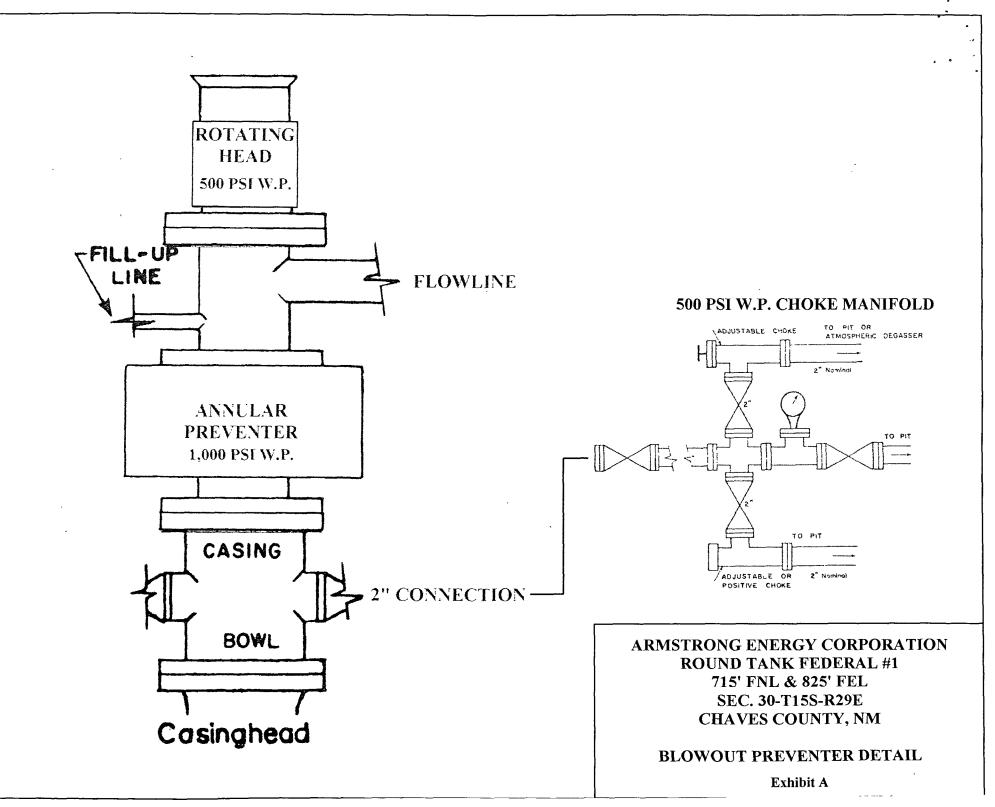
Vice President – Operations Armstrong Energy Corporation

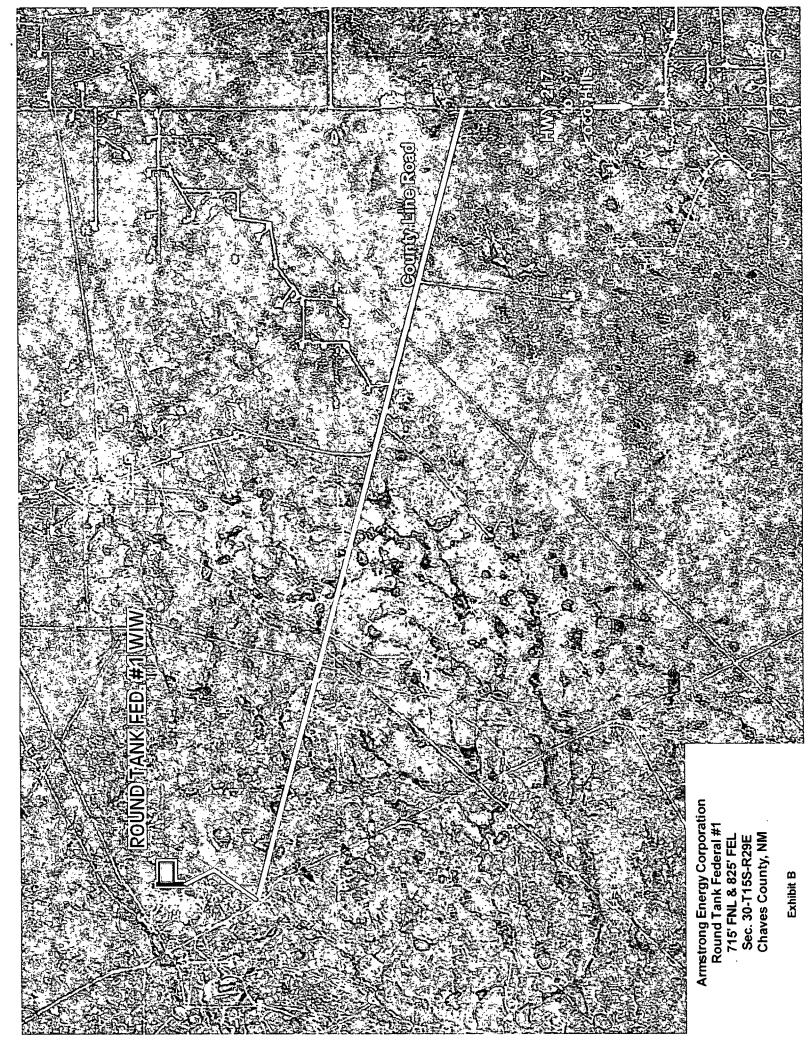
Address: P.O. Box 1973, Roswell, NM 88202

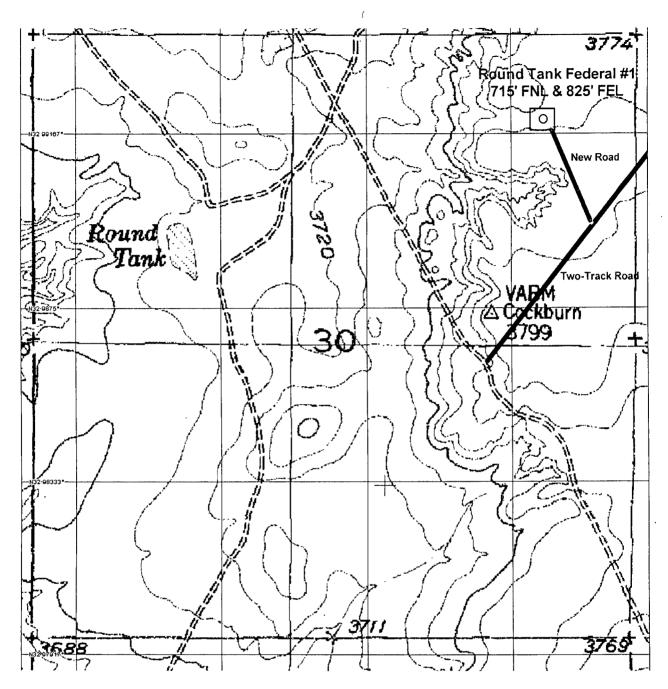
Telephone: 575-625-2222

E-mail: bastubbs@armstrongenergycorp.com

Field Representative: Rocky Ray
Address: P.O. Box 1973, Roswell, NM 88202
Telephone: Cell 575-420-6371



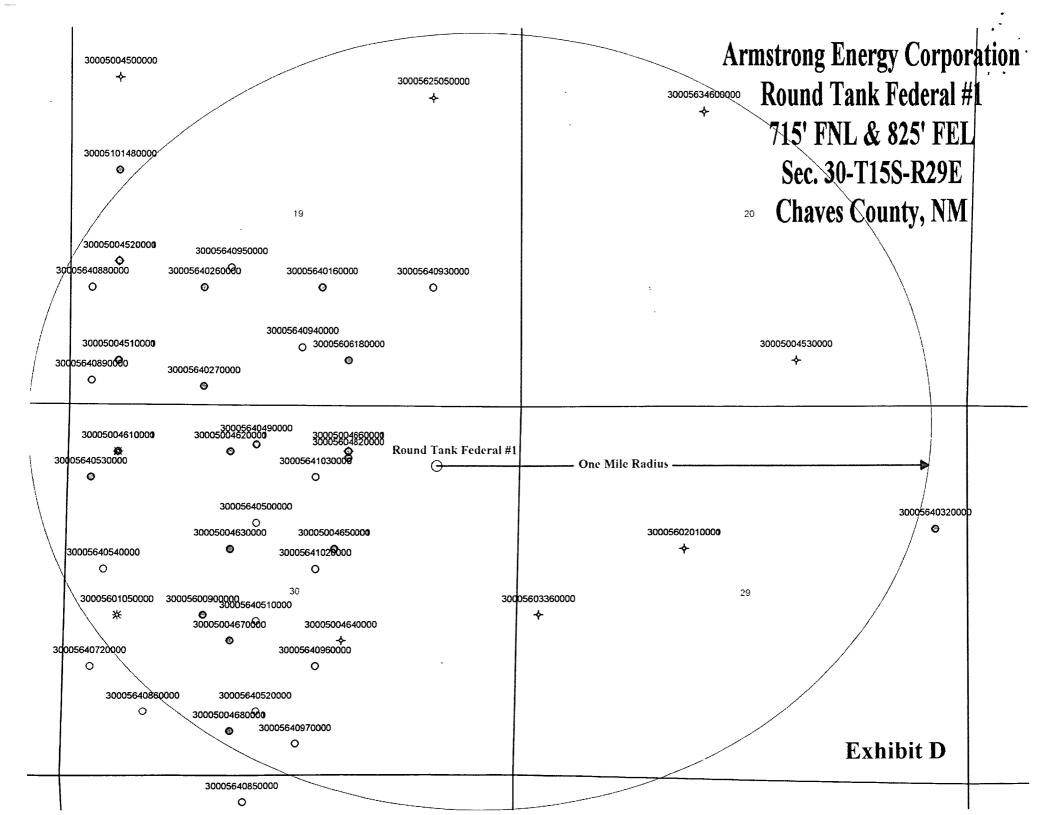


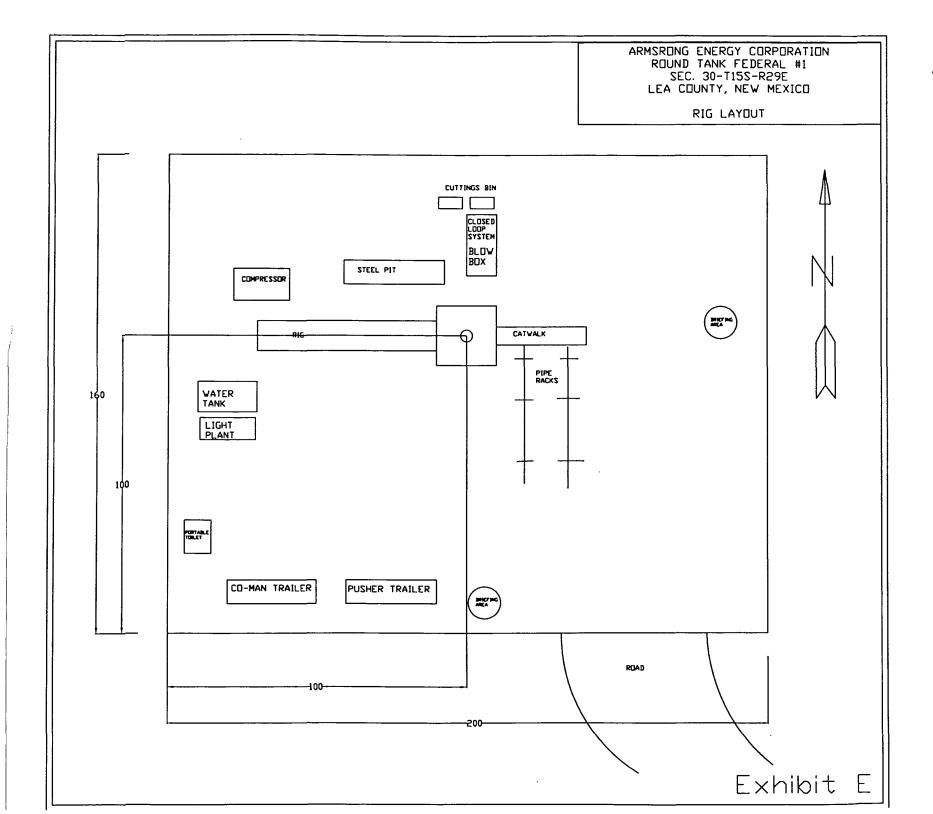


Armstrong Energy Corporation Round Tank Federal #1 715' FNL & 825' FEL Sec. 30A-T15S-R29E Chaves County, New Mexico

Elevation GR 3786'

## **Exhibit C**





### PECOS DISTRICT - RFO CONDITIONS OF APPROVAL

May 20, 2009

OPERATORS NAME: Armstrong Energy Corporation LEASE NO.: NM-0560397 WELL NAME & NO: Round Tank Federal No. 1 SURFACE HOLE FOOTAGE: 715' FNL' & 825' FEL LOCATION: Section 30, T. 15 S., R. 30 E., NMPM COUNTY: Chaves County, New Mexico

Environmental Assessment: DOI-BLM-NM-P010-2009-23-EA Archeological Report: 09-R-070-A

#### **GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

#### I. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD (Filing of a Sundry Notice is required for this 60 day extension).

#### II. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

#### III. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

#### IV. CONSTRUCTION

#### A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 at least 3 working days prior to commencing construction of the access road and/or well pad. A BLM monitor will need to be present during construction of the well pad.

When construction operations are being conducted on this well, the operator shall have the approved Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

#### B. TOPSOIL:

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil adjacent to the constructed well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction of the well pad.

#### C. CLOSED SYSTEMS OR STEEL TANKS:

A closed system or steel tanks will be used in lieu of reserve pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### D. FEDERAL MINERAL MATERIALS PIT:

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Roswell Field Office at (505) 627-0236.

#### E. WELL PAD SURFACING:

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational need.

### F. ON LEASE ACCESS ROADS:

#### **Road Egress and Ingress**

The on lease access road shall be constructed to access the corner of the well pad.

#### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

#### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

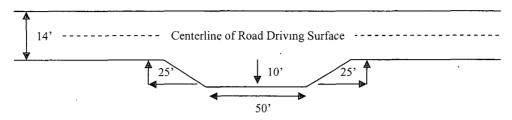
#### Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

#### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

#### Standard Turnout - Plan View

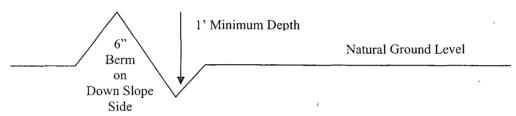


#### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

### **Cross Section Of Typical Lead-off Ditch**



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

#### Formula For Spacing Interval Of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 
$$\frac{400'}{4\%}$$
 + 100' = 200' lead-off ditch interval

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

#### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

#### Fence Requirement

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

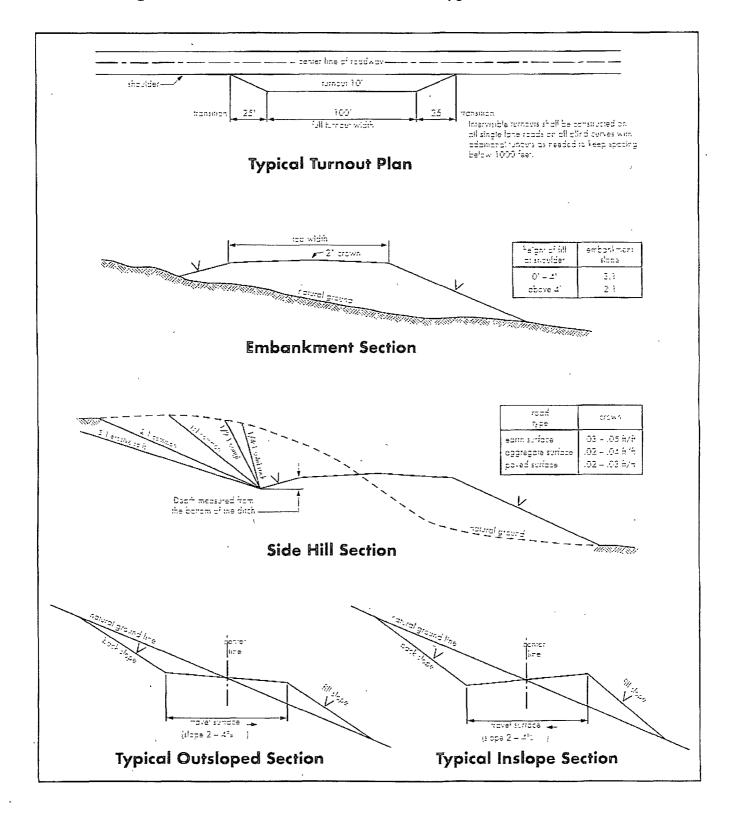
#### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



#### V. DRILLING

#### A. DRILLING OPERATIONS REQUIREMENTS:

- 1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 910-6024. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.
- 2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
  - a. Spudding well
  - b. Setting and/or Cementing of all casing strings

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

**BOPE** Tests

- 3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- 4. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.
- 5. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion
- 6. Air, air-mist or fresh water and non toxic drilling mud shall be used to drill to the base of the usable water protection casing string(s). Any polymers used will be water based and non-toxic.

#### B. CASING

1. The 8 5/8 inch usable water protection casing string(s) shall be set at approximately 150 feet in competent bedrock. Operator may set surface casing at a depth range of 150 feet to 210 feet but at no time will the operator set deeper than 210 feet without just cause.

If not the operator is required to set usable water protecting casing in the next thick competent bedding (i.e. 15 to 25 ft or greater) encountered and cemented to the surface.

a. If cement does not circulate to the surface, the Roswell Field Office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is <u>sufficient to</u> <u>tie back 500 feet above the uppermost perforation in the pay zone</u>. If cement does not circulate, a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
- 3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 4. All casing shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the authorized officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

#### C. PRESSURE CONTROL:

- 1. Before drilling below the <u>8-5/8</u> inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve.
- 2. Before drilling below the 8-5/8 inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.
- 3. The BOPE shall be installed before drilling below the <u>8-5/8</u> inch surface casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
- a. The BLM Roswell Field office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- b. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart will be submitted to the BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

- d. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- e. Testing must be done in a safe workman like manner. Hard line connections shall be required.
- f. A variance to test the BOPE to the reduced pressure of  $\underline{500}$  psi prior to drilling below the  $\underline{8-5/8}$  inch surface casing is approved.

#### VI. PRODUCTION

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, <u>Juniper Green</u> (Standard Environmental Color Chart June 2008).

#### VRM Facility Requirement – VRM Class IV

Low-profile tanks not greater than eight-feet-high shall be used.

#### VII. INTERIM RECLAMATION

Earthwork for interim and final reclamation must be completed within 6 months of well completion or well plugging (weather permitting).

During the life of the development, all disturbed areas not needed for active support of production operations should undergo "interim" reclamation in order to minimize the environmental impacts of development on other resources and uses.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, in order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be

allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Common Name		Pounds of Pure
and Preferred Variety	Scientific Name	Live Seed Per Acre
Black grama	(Bouteloua eriopoda)	3.00 lbs.
or Blue grama,	(Bouteloua gracilis)	
Sideoats grama	(Bouteloua curtipendula)	2.00 lbs.
Sand dropseed	(Sporobolus cryptandrus)	1.50 lbs.
or Mesa dropseed	(S. flexuosus)	
or Spike dropseed	(S. contractus)	
Desert or Scarlet	(Sphaeralcea ambigua)	1.00 lb.
Globemallow or	(S. coccinea)	
Croton	(Croton spp.)	<u>1.00 lb.</u>
TOTAL POUNDS PURE L	IVE, SEED (pls) PER ACRE	8.50 lbs.

Certified Weed Free Seed. If one species is not available, increase all others proportionately. Use no less than 4 species, including 1 forb. No less than 8.5 pounds pls per acre shall be applied

### C. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

- a. Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.
- b. Upon abandonment of the well, all casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). The well bore shall then be covered with a metal plate at least ¼ inch thick and welded in place, or a 4-inch pipe, 10 feet in length, shall be installed 4 feet above ground and embedded in cement. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).
- c. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.

