

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-101

May 27, 2004

Submit to appropriate District Office

MAY 22 2008

☐ AMENDED REPORT

OCD-ARTESIA

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

Operator Name and Address Devon Energy Production, L.P. 20 North Broadway Oklahoma City, OK 73102-8260		OGRID Number 6137
Property Code		API Number 30 - 015-35339
Property Name Algerita 32 State Com		Well No 1
Proposed Pool 1 Happy Valley; Delaware		Proposed Pool 2 29665

Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	32	22S	26E		660	South	1160'	West	Eddy

Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Additional Well Information

Work Type Code N	Well Type Code O	Cable/Rotary Rotary	Lease Type Code S	Ground Level Elevation 3354'
Multiple No	Proposed Depth 5200'	Formation Delaware	Contractor	Spud Date 5/23/08
Depth to Groundwater		Distance from nearest fresh water well		Distance from nearest surface water
Pit: Liner: Synthetic <input type="checkbox"/> _____ mils thick Clay <input type="checkbox"/> Pit Volume: _____ bbls Drilling Method: _____ Closed-Loop System <input checked="" type="checkbox"/> Fresh Water <input checked="" type="checkbox"/> Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
14 3/4"	11 3/4"	42# H40 STC	725'	400 sx C	
10 5/8"	8 5/8"	32# K55 BTC	1720'	385 sx C	
7 7/8"	5 1/2"	15.5# I55 BTC	5200'	900 sx C	

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.
(See BJ Services' cementing report)

REDUCED TD TO 5200' PER ATTACHED SUNDRY.

23 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 ☐.

Printed name: Judy A. Barnett

Title: Regulatory Analyst

E-mail Address: Judith.Barnett@dmn.com

Date: 5/22/08

Phone: 405-228-8699

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐



Proposal No: 215854305A

Devon Energy Corp
Algerita 32 State Com #1

API # 30-015-35339-0000

Sec. 32-22S-26E
Eddy County, New Mexico
April 29, 2008

Well Recommendation

Prepared for:

Don Webb
Drilling Engineer
Oklahoma City, Oklahoma
Bus Phone: (405) 228-7540

Prepared by:

John Parks
Region Technical Rep.
Oklahoma City, Oklahoma
Bus Phone: (405) 228-4302



Service Point:

Artesia
Bus Phone: (505) 746-3140
Fax: (505) 746-2293

Service Representatives:

Michael Palmer
District Sales Supervisor
Artesia, New Mexico

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Surface Casing
Date: April 29, 2008



Proposal No: 215854305A

JOB AT A GLANCE

Depth (TVD)	725 ft
Depth (MD)	725 ft
Hole Size	14.75 in
Casing Size/Weight :	11 3/4 in, 42 lbs/ft
Pump Via	11 3/4" O.D. (11.084" I.D) 42
Total Mix Water Required	3,393 gals
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Lead Slurry	
35:65:6 Poz:Class C	250 sacks
Density	12.8 ppg
Yield	1.83 cf/sack
Tail Slurry	
Class C	150 sacks
Density	14.8 ppg
Yield	1.35 cf/sack
Displacement	
Mud	82 bbls
Density	9.0 ppg

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Surface Casing
Date: April 29, 2008



Proposal No: 215854305A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
14.750 HOLE	725	725

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
11.750	11.084	42	725	725

Float Collar set @	685 ft
Mud Density	9.00 ppg
Est. Static Temp.	87 ° F
Est. Circ. Temp.	80 ° F

VOLUME CALCULATIONS

523 ft	x	0.4336 cf/ft	with	100 % excess	=	453.7 cf
202 ft	x	0.4336 cf/ft	with	100 % excess	=	175.0 cf
40 ft	x	0.6701 cf/ft	with	0 % excess	=	26.8 cf (inside pipe)
TOTAL SLURRY VOLUME					=	655.5 cf
					=	117 bbls

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Surface Casing
Date: April 29, 2008



Proposal No: 215854305A

FLUID SPECIFICATIONS

Spacer 10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	454	/ 1.83	= 250 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 93.6% Fresh Water
Tail Slurry	202	/ 1.35	= 150 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water

Displacement 81.8 bbls Mud @ 9 ppg

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	12.80	14.80
Slurry Yield (cf/sack)	1.83	1.35
Amount of Mix Water (gps)	9.76	6.35
Estimated Pumping Time - 70 BC (HH:MM)	4:45	2:30

COMPRESSIVE STRENGTH

8 hrs @ 80 ° F (psi)		500
12 hrs @ 80 ° F (psi)	200	1000
24 hrs @ 80 ° F (psi)	350	1700
72 hrs @ 80 ° F (psi)	500	2500

IF CIRCULATION IS LOST DURING DRILLING PUMP 250 SX CLASS H + 10% A-10 (GYPSUM) + 1% CACL2 + 10 PPS GILSONITE + 1/4 PPS CELLO FLAKE. MIX CEMENT @ 14.6 PPG (6.16 GPS WATER) AND PUMP AHEAD OF THE LEAD CEMENT LISTED ABOVE.

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Intermediate Casing
Date: April 29, 2008



Proposal No: 215854305A

JOB AT A GLANCE

Depth (TVD)	1,720 ft
Depth (MD)	1,720 ft
Hole Size	10.625 in
Casing Size/Weight :	8 5/8 in, 32 lbs/ft
Pump Via	8 5/8" O.D. (7.921" I.D) 32
Total Mix Water Required	3,119 gals
Spacer	
Fresh Water	10 bbls
Density	8.3 ppg
Lead Slurry	
35:65:6 Poz:Class C	185 sacks
Density	12.7 ppg
Yield	1.95 cf/sack
Tail Slurry	
Class C	200 sacks
Density	14.8 ppg
Yield	1.35 cf/sack
Displacement	
Mud	102 bbls
Density	10.0 ppg

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Intermediate Casing
Date: April 29, 2008



Proposal No: 215854305A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
11.084 CASING	725	725
10.625 HOLE	1,720	1,720

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
8.625	7.921	32	1,720	1,720

Float Collar set @	1,680 ft
Mud Density	10.00 ppg
Est. Static Temp.	97 ° F
Est. Circ. Temp.	86 ° F

VOLUME CALCULATIONS

725 ft	x	0.2643 cf/ft	with	0 % excess	=	191.6 cf
387 ft	x	0.2100 cf/ft	with	100 % excess	=	162.5 cf
608 ft	x	0.2100 cf/ft	with	100 % excess	=	255.4 cf
40 ft	x	0.3422 cf/ft	with	0 % excess	=	13.7 cf (inside pipe)
TOTAL SLURRY VOLUME					=	623.2 cf
					=	111 bbls

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Intermediate Casing
Date: April 29, 2008



Proposal No: 215854305A

FLUID SPECIFICATIONS

Spacer 10.0 bbls Fresh Water @ 8.34 ppg

FLUID	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Lead Slurry	354	/ 1.95	= 185 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 6% bwoc Bentonite + 95.8% Fresh Water
Tail Slurry	269	/ 1.35	= 200 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water

Displacement 102.4 bbls Mud @ 10 ppg

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	12.70	14.80
Slurry Yield (cf/sack)	1.95	1.35
Amount of Mix Water (gps)	10.00	6.35
Estimated Pumping Time - 70 BC (HH:MM)	3:30	2:15

COMPRESSIVE STRENGTH

12 hrs @ 89 ° F (psi)	150	
24 hrs @ 89 ° F (psi)	350	
72 hrs @ 89 ° F (psi)	750	
8 hrs @ 97 ° F (psi)		500
12 hrs @ 97 ° F (psi)		1100
24 hrs @ 97 ° F (psi)		1700
72 hrs @ 97 ° F (psi)		2500

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Long String
Date: April 29, 2008



Proposal No: 215854305A

JOB AT A GLANCE

Depth (TVD)	5,200 ft
Depth (MD)	5,200 ft
Hole Size	7.875 in
Casing Size/Weight :	5 1/2 in, 15.5 lbs/ft
Pump Via	5 1/2" O.D. (4.950" I.D) 15.5
Total Mix Water Required	6,364 gals
Spacer	
Fresh Water	20 bbls
Density	8.3 ppg
Spacer	
Mud Clean II	1,000 gals
Density	8.5 ppg
Lead Slurry	
35:65:6 Poz:Class C	195 sacks
Density	12.7 ppg
Yield	1.88 cf/sack
Tail Slurry	
60:40 Poz:Class C (MPA)	705 sacks
Density	13.8 ppg
Yield	1.34 cf/sack
Displacement	
Displacement Fluid	123 bbls
Density	8.3 ppg

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Long String
Date: April 29, 2008



Proposal No: 215854305A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
7.921 CASING	1,720	1,720
7.875 HOLE	5,200	5,200

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
5.500	4.950	15.5	5,200	5,200

Float Collar set @	5,160 ft
Mud Density	9.00 ppg
Mud Type	Water Based
Est. Static Temp.	132 ° F
Est. Circ. Temp.	108 ° F

VOLUME CALCULATIONS

500 ft	x	0.1772 cf/ft	with	0 % excess	=	88.6 cf
780 ft	x	0.1733 cf/ft	with	100 % excess	=	270.3 cf
2,700 ft	x	0.1733 cf/ft	with	100 % excess	=	935.6 cf
40 ft	x	0.1336 cf/ft	with	0 % excess	=	5.3 cf (inside pipe)
TOTAL SLURRY VOLUME					=	1299.8 cf
					=	232 bbls

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Job Description: Long String
Date: April 29, 2008



Proposal No: 215854305A

FLUID SPECIFICATIONS

Spacer 20.0 bbls Fresh Water @ 8.34 ppg
 Spacer 1,000.0 gals Mud Clean II @ 8.5 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	359	/ 1.88	= 195 sacks (35:65) Poz (Fly Ash):Premium Plus C Cement + 2% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 97.7% Fresh Water
Tail Slurry	941	/ 1.34	= 705 sacks (60:40) Poz (Fly Ash):Premium Plus C Cement + 1% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.75% bwoc BA-10A + 4% bwoc MPA-5 + 63.1% Fresh Water

Displacement 122.8 bbls Displacement Fluid @ 8.34 ppg

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	12.70	13.80
Slurry Yield (cf/sack)	1.88	1.34
Amount of Mix Water (gps)	10.19	6.21
Estimated Pumping Time - 70 BC (HH:MM)	3:30	2:45

COMPRESSIVE STRENGTH

12 hrs @ 85 ° F (psi)	125	
24 hrs @ 85 ° F (psi)	300	
72 hrs @ 85 ° F (psi)	800	
12 hrs @ 132 ° F (psi)		900
24 hrs @ 132 ° F (psi)		1700
72 hrs @ 132 ° F (psi)		2700

CEMENT VOLUME MAY VARY BASED ON CALIPER.



CONDITIONS

BJ Services' performance of services and sale of materials is expressly conditioned upon the applicability of the Terms and Conditions contained in the current BJ Services Price Book. The Terms and Conditions include, among other things, an indemnity in favor of BJ Services from Customer for damage to the well bore, reservoir damage, loss of the hole, blowouts and loss of control of the well, even if caused by the negligence or other fault of BJ Services. The Terms and Conditions also limit the warranties provided by the BJ Services and the remedies to which Customer may be entitled in the event of a breach of warranty by BJ Services. For these reasons, we strongly recommend that you carefully review a copy of the Terms and Conditions. **If you do not have a copy of the BJ Services Price Book, you can view the Terms and Conditions on BJ Services Web Site, www.bjservices.com.** By requesting that BJ Services perform the services described herein, Customer acknowledges that such Terms and Conditions are applicable to the services. Further, by requesting the services, Customer warrants that its representative on the well location or other service site will be fully authorized to acknowledge such Terms and Conditions by executing a Field Receipt or other document presented by BJ Services containing such Terms and Conditions.

In the event that Customer and BJ Services have executed a Master Services Agreement covering the work to be performed, such Master Services Agreement shall govern in place of the Terms and Conditions. If you are interested in entering into Master Services Agreement with BJ Services, please contact us through the "Go BJ" button on the BJ Services Web Site.

Operator: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Date: April 29, 2008



Proposal No: 215854305A

PRODUCT DESCRIPTIONS

BA-10A

Improves cement bonding and acts as a matrix flow control agent. BA-10A is effective in a wide variety of slurries.

Bentonite

Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.

Calcium Chloride

A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

Cello Flake

Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

LCM-1

A graded (8 to 60 mesh) naturally occurring hydrocarbon, asphaltite. It is used as a lost circulation material at low to moderate temperatures and will act as a slurry extender. Cement compressive strength is reduced.

MPA-5

Used to enhanced compressive, tensile, flexural strength development and reduced permeability

Mud Clean II

A water-base mud wash designed for use ahead of cement slurries to aid in mud and drilling debris removal and to prevent contamination of the cement slurry. It should be used only when water-base mud is used.

Poz (Fly Ash)

A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.

Sodium Chloride

At low concentrations, it is used an accelerator for cement slurries. At high concentrations, it is used for formation compatibility.

Operator Name: Devon Energy Corp
Well Name: Algerita 32 State Com #1
Date: April 29, 2008



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End of Report