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

RECEIVED
JAN 27 2011
HOBBSOCD

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
June 16, 2008

Submit to appropriate District Office

☐ AMENDED REPORT

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

[1] Operator Name and Address	[2] OGRID Number
Three Rivers Operating Company, LLC	272295
	[3] API Number: 30 - 025 - 40042

[5] Property Code	[6] Property Name	[8] Well No.
38478	Mescalero Springs 29 State	001

[9] Proposed Pool 1	[10] Proposed Pool 2
~~Quail Ridge;~~ Wildcat Morrow (Gas) ~~83280~~ 97690	

[7] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	11S	32E		1311	N	660	E	Lea

[8] 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

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
New Well	Gas		State	4406
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
	11500	Morrow	N/A	2/15/2011

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17.5	13.675	54.5	400	440	0
12.25	8.625	32	3700	1465	0
8.75	5.5	20	11500	1000	11500

[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.

13 3/8 csg set @ 400', 440 sks "C" cmt + 2% bwoc Cacl + 0.25 lbs/sk cello flake + 56.3% fresh water, spud mud wt=8.4-9.4, vis=32-34, fil=N/C, pH=10.0 :8 5/8 csg set @ 3700',lead- 1265 35:65 poz "C" cmt + 6% bwoc bentonite + 5% bwow sodium Chloride + 5 lbs/sk LCM-1 + 106.7% fresh water, tail-200 sks "C" cmt, 400'-1100' native mud, wt=8.9-9.6, vis=32-34, fil=N/C, Ph=9.0, oil%= 3-4, 1100'-3700' native/br, wt=9.6-10.5, vis=32-36, fil= N.C-30cc, pH=9.0, oil%2-3 :5.5 csg set @ 11500, lead-340 sks 50:50 poz "H" + 10% bwoc bentonite + 3% bwow sodium chloride + 0.5% bwoc fl-52 + 3 lbs/sk lcm-1 + 133% fresh water, tail-660 sks 15:61:11 poz "C": cse-2 + 3% bwoc sodium chloride + 0.5% bwoc fl=25 + 0.5% bwoc fl-52 + 0.5% bwoc ba-10A + 3 lbs/sk lcm-1 + 74.7% fresh water, 3700'-7000',cut brine, wt=9.0-9.2,vis=28-29, fil=N/C, pH=10.0, 7000'-8300',sg/oil,wt=9.0-9.4, vis=36-40,fil=N.C-40cc, pH=10.0,oil=%4-5 8300'-11500', sg/oil/ws, wt=9.2-9.8, vis=40-45, fil=8-6cc, pH=10.0, oil%=2-3. 5000# double ram BOP

Permit Expires 2 Years From Approved Date Unless Drilling Underway

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: Angela Lightner

Printed name: Angela Lightner

Title: Regulatory Consultant

E-mail Address: angela@rkford.com

Date: 1/25/2011 Phone: 432-682-0440

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: FEB 10 2011 Expiration Date:

Conditions of Approval Attached ☐

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
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 and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-40042	~~83280~~ 97680	wildcat ~~Quail Ridge~~; Morrow (Gas)

Property Code	Property Name	Well Number
38478	MESCALERO SPRINGS 29 STATE	1

OGRID No.	Operator Name	Elevation
272295	THREE RIVERS OPERATING CO., LLC	4405'

Surface Location

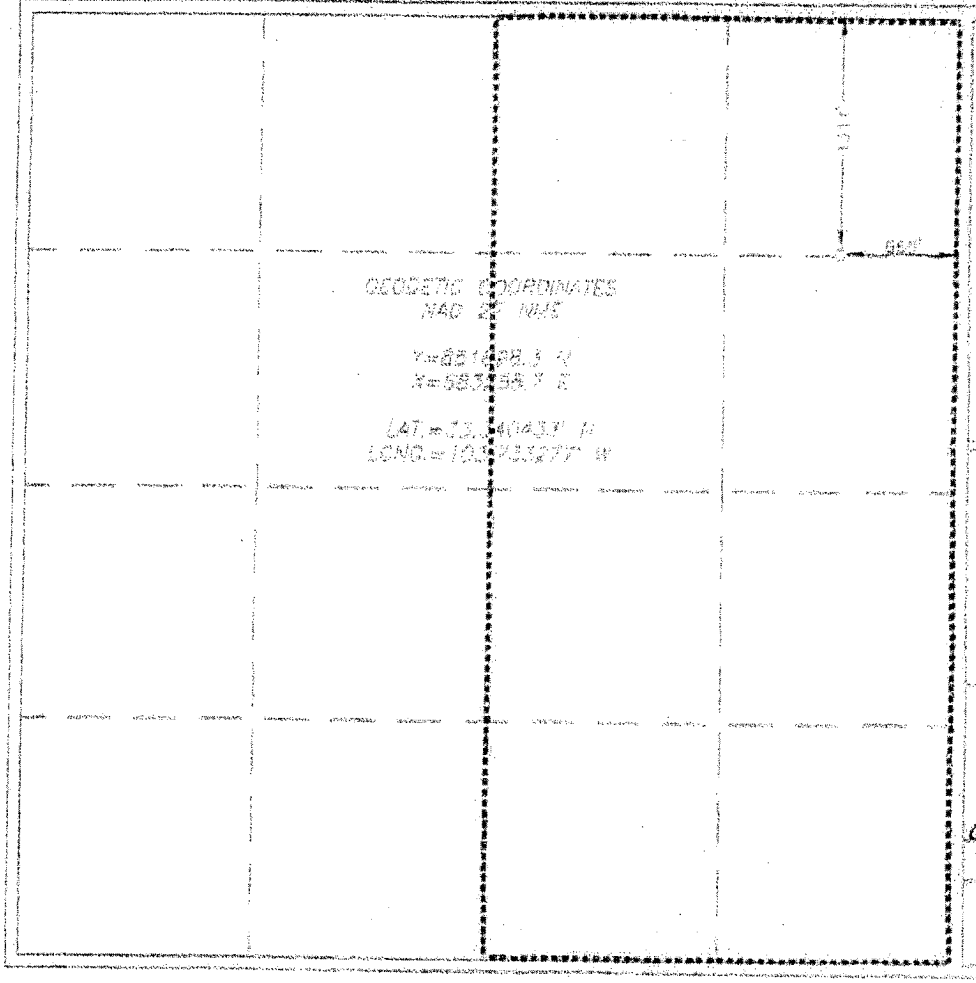
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	11-S	32-E		1311	NORTH	660	EAST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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



OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Brenda Lightner
Printed Name

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.

MARCH 15, 2010

Date Surveyed

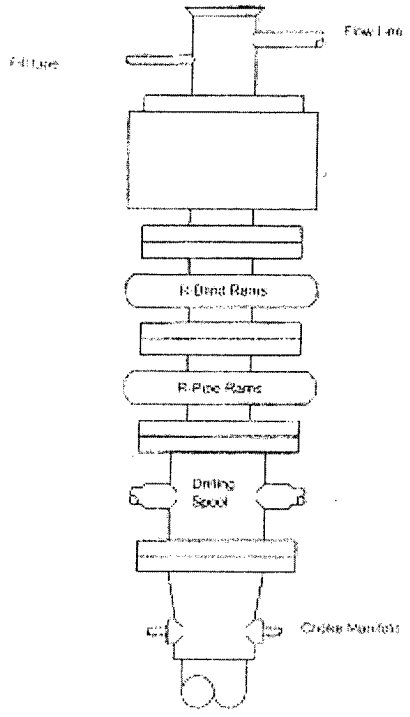
Signature & Seal of Professional Surveyor

Ronald J. Eidson 01/12/2011

Certificate No. RONALD EIDSON 3239

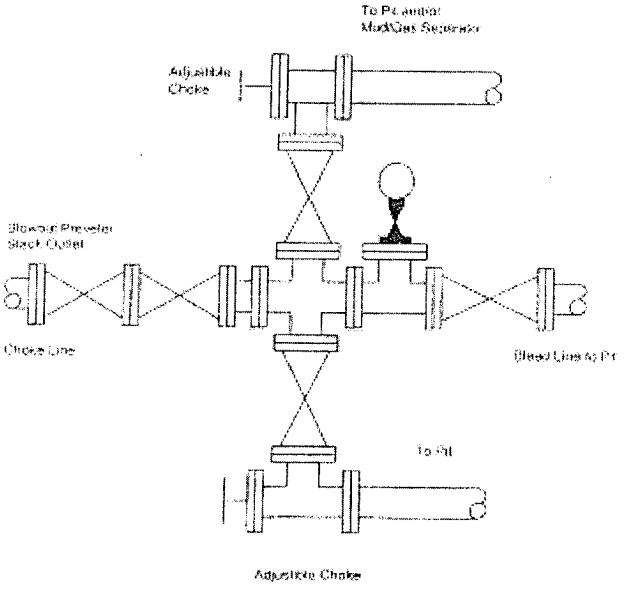
MESCALERO SPRINGS 29 STATE #1

BLOWOUT PREVENTER SYSTEM (5000 PSI)



Type 900 Series
5000 psi WP

Choke Manifold Assembly for 5M WP System



Proposal No: 1001140577A

Three Rivers Operating Company
Mescalero Springs 29 St #1

Lea County, New Mexico
January 19, 2011

Well Proposal

Prepared for:
Mr. Russell Macaw
Email: RMacaw@3rnr.com

Prepared by:
Tanya Gonzalez
Specifications Writer

THE BLUE WELLBORE℠
Makes better wells

Service Point:
Hobbs
Bus Phone: (575) 392-5556
Fax: (575) 392-7307

Service Representatives:
Van Harris
Senior Account Manager
Bus Phone: (432) 683-2781

Operator Name: Three Rivers Operating Company
Well Name: Mescalero Springs 29 St #1
Job Description: 13-3/8" Surface Casing
Date: January 19, 2011

Proposal No: 1001140577A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
17.500 HOLE	400	400

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
13.375	12.615	54.5	400	400

Float Collar set @	360 ft
Mud Density	8.40 ppg
Est. Static Temp.	82 ° F
Est. Circ. Temp.	80 ° F

VOLUME CALCULATIONS

400 ft	x	0.6946 cf/ft	with	100 % excess	=	555.7 cf
40 ft	x	0.8680 cf/ft	with	0 % excess	=	34.7 cf (inside pipe)
			TOTAL SLURRY VOLUME		=	590.4 cf
					=	105 bbls

FLUID SPECIFICATIONS

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Cement Slurry	590	/	1.35	= 440 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 56.3% Fresh Water
Displacement				55.7 bbls Displacement

CEMENT PROPERTIES

	SLURRY NO.1
Slurry Weight (ppg)	14.80
Slurry Yield (cf/sack)	1.35
Amount of Mix Water (gps)	6.35
Estimated Pumping Time - 70 BC (HH:MM)	3:00
COMPRESSIVE STRENGTH	
8 hrs @ 80 ° F (psi)	650
12 hrs @ 80 ° F (psi)	900
24 hrs @ 80 ° F (psi)	1400

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.615 CASING	400	400
12.250 HOLE	3,700	3,700

SUSPENDED PIPES

DIAMETER (in)		WEIGHT	DEPTH(ft)	
O.D.	I.D.	(lbs/ft)	MEASURED	TRUE VERTICAL
8.625	7.921	32	3,700	3,700

Float Collar set @	3,660 ft
Mud Density	8.60 ppg
Est. Static Temp.	99 ° F
Est. Circ. Temp.	96 ° F

VOLUME CALCULATIONS

400 ft	x	0.4622 cf/ft	with	0 % excess	=	184.9 cf
2,995 ft	x	0.4127 cf/ft	with	100 % excess	=	2472.5 cf
305 ft	x	0.4127 cf/ft	with	100 % excess	=	251.5 cf
40 ft	x	0.3422 cf/ft	with	0 % excess	=	13.7 cf (inside pipe)
				TOTAL SLURRY VOLUME	=	2922.6 cf
					=	521 bbls

FLUID SPECIFICATIONS

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Lead Slurry	2657	/	2.1	= 1265 sacks (35:65) Poz (Fly Ash):Class C Cement + 6% bwoc Bentonite + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 106.7% Fresh Water
Tail Slurry	265	/	1.33	= 200 sacks Class C Cement
Displacement				223.1 bbls Displacement

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	12.40	14.80
Slurry Yield (cf/sack)	2.10	1.33
Amount of Mix Water (gps)	11.14	6.33
Estimated Pumping Time - 70 BC (HH:MM)	4:30	3:00
COMPRESSIVE STRENGTH		
8 hrs @ 100 ° F (psi)		500
12 hrs @ 100 ° F (psi)	350	850
24 hrs @ 100 ° F (psi)	600	1500
48 hrs @ 100 ° F (psi)	1000	

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
7.921 CASING	3,700	3,700
7.875 HOLE	11,500	11,500

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
5.500	4.778	20	11,500	11,500

Float Collar set @	11,460 ft
Mud Density	9.00 ppg
Est. Static Temp.	138 ° F
Est. Circ. Temp.	118 ° F

VOLUME CALCULATIONS

200 ft	x	0.1772 cf/ft	with	0 % excess	=	35.4 cf
3,300 ft	x	0.1733 cf/ft	with	35 % excess	=	771.8 cf
4,500 ft	x	0.1733 cf/ft	with	35 % excess	=	1052.5 cf
40 ft	x	0.1245 cf/ft	with	0 % excess	=	5.0 cf (inside pipe)
			TOTAL SLURRY VOLUME		=	1864.8 cf
					=	332 bbls

FLUID SPECIFICATIONS

Spacer — 500.0 gals Surebond II

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Lead Slurry	807	/	2.39	= 340 sacks (50:50) Poz (Fly Ash):Class H Cement + 10% bwoc Bentonite + 3% bwow Sodium Chloride + 0.5% bwoc FL-52 + 3 lbs/sack LCM-1 + 133% Fresh Water
Tail Slurry	1058	/	1.61	= 660 sacks (15:61:11) Poz (Fly Ash):Class C Cement:CSE-2 + 3% bwow Sodium Chloride + 0.5% bwoc FL-25 + 0.5% bwoc FL-52 + 0.5% bwoc BA-10A + 3 lbs/sack LCM-1 + 75.7% Fresh Water

Displacement — 254.1 bbls Displacement

CEMENT PROPERTIES

	SLURRY NO.1	SLURRY NO.2
Slurry Weight (ppg)	11.80	13.20
Slurry Yield (cf/sack)	2.39	1.61
Amount of Mix Water (gps)	13.40	7.89
Estimated Pumping Time - 70 BC (HH:MM)	4:00	4:00
Fluid Loss (cc/30min) at 1000 psi and ° F		70.0
COMPRESSIVE STRENGTH		
24 hrs @ 140 ° F (psi)	250	650
72 hrs @ 140 ° F (psi)	600	2100

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.

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.

CSE-2
An additive which contributes to low density, high compressive strength development of cement slurries at all temperature ranges. This material also controls free water without the need for standard extenders.

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.

Class C Cement
Intended for use from surface to 6000 ft., and for conditions requiring high early strength and/or sulfate resistance.

Class H Cement
Class H cement is an API type, all purpose oil well cement which is used without modification in wells up to 8,000 ft. It possesses a moderate sulfate resistance. With the use of accelerators or retarders, it can be used in a wide range of well depths and temperatures.

FL-25
An all purpose salt-tolerant fluid loss additive that provides exceptional fluid loss control across a wide range of temperatures and salinity conditions and remedial cementing applications.

FL-52
A water soluble, high molecular weight fluid loss additive used in medium to low density slurries. It is functional from low to high temperature ranges.

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.

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 to protect against clay swelling. At high concentrations, it is used to increase the

PRODUCT DESCRIPTIONS (Continued)

Surebond II Spacer
A blend of liquid components which when run as a preflush ahead of cement, will leave both the formation and pipe water wet, thus enhancing bonding. Surebond is also effective in combating slurry loss to fractured formations due to its coating action. A fresh water spacer should always be run between the Surebond and cement slurries.

End of Report

Recommended Drilling Fluids Program
and
Cost Estimate

For:

Three Rivers Operating Co., LLC
1122 S. Capital of Texas Hwy., Ste. 325
Austin, TX 78746

The

Mescalero Springs 29 State #1

Located in:

Sec-29, T-11-S, R-32-E,
Lea County, NM

Prepared especially for:

Mr. Doug Young

Drilling Consultant

"The Nova Difference"

A Commitment to Service and Quality

NOVA MUD, Inc.

P.O. Box 2703 Hobbs, New Mexico 88241 800-530-8786
1004 Big Spring, Ste. 215, Midland, Texas 79701 432-570-6663
5608 Malvey, Ste. 104 Ft. Worth, TX 76107 817-735-4104

1/20/2011

For Three Rivers Operating Co., LLC in care of

Mr. Doug Young
R.K. Ford & Assoc.
413 W. Wall Ave., Ste. 1700
Midland, TX 79701

RE: Mescalero Springs 29 State #1 (11,500' - Morrow)

Dear Doug,

We appreciate the opportunity to present our ideas for your upcoming prospect, located in Sec-29, T-11-S, R-32-E, of Lea County, NM.

This program has been designed to economically provide sufficient hole stability and adequate formation evaluation with minimum damage to your producing formation.

Our mud cost for this well under normal drilling conditions is approximately $57,416 based on 40 drilling days. Severe lost circulation, water flows, fishing jobs, pressure or other unforeseen drilling hazards could alter this estimate.

Our stockpoint for this area is Hobbs/Lovington, NM. A price list and brief resume' of our personnel are enclosed in the miscellaneous section of the program.

We thank you for the opportunity to be of service to you on this well and we look forward to working with you in the future. Please don't hesitate to call should you have any questions or comments.

Sincerely,

Dale S. Welch
Technical Advisor

INTERVAL: 0 - 400'	17.5" hole	1 days	13.375" csg		1 drill bits	
Product	**Function**	**Treatment**	**Unit Size**	**Usage**	**Unit Price**	**Total Price**
Bentonite	Viscosifier	10-12 ppb	50 #	120		
Caustic Soda	pH additive, flocculant	1 sack per 15 sacks of bentonite	50 #	5		
Ground Paper	Seepage and sweeps	1-3 sacks per 100 feet for seepage and sweeps	40 #	10		
Pallets	Storage aid		1 each	5		
Plastic	Storage aid	1roll for tarp	1 roll	1		
Shrink Wrap	Storage aid	Catalyst	1 each	60		
Soda Ash		1 sack per 15 sacks of bentonite	50 #	10		

Interval Total: $2,454.00

Projected Mud Properties

Depth	Mud Type	M W - ppg	Vis	Fil	pH	Cl - ppm	Sol %		
0-400'	SPUD MUD	8.4-9.4	32-34	N/C	10.0	1-3K	3-8		

General Geological Data

Tops/Bases	Formation	Lithology	Notes/Challenges
0' - 250'	Ogalalla	Sand, limestone, conglomerates	Seepage, caving
250' - 400'	Dockum	Red Bed, Red sandstone, FW sands	Swelling, sloughing clay, excessive solids, mud rings

Interval Notes for 0 - 400

Spud with a conventional Bentonite/Soda Ash/Caustic slurry using Fresh Water.

Maintain the viscosity as needed to clean the hole. Use Ground Paper sweeps periodically to control seepage and aid in hole cleaning. Use the jet and dilute method of solids control to keep the weight below 9.4 ppg.

Should losses occur add 6-12 ppb of various LCM's to the system or mix viscous (40-50) Bentonite pills containing LCM to regain returns. Should several attempts fail we would recommend dry drilling to total depth and sweeping the hole with viscous pills or polymers.

NOTE: A comprehensive corrosion program is recommended on this project. Nova Mud, Inc. carries a full line of chemicals and can provide coupons and service.

***NOTE 2*: for closed systems we recommend lower initial volumes to allow for dilution. The reduction of sweeps to necessary only, lowering of equipment discharges to below fluid level to reduce foaming and tandem shakers to accommodate volumes and increase productivity of solids control equipment.**

INTERVAL: 400 - 3,700'	12.25" hole	9 days	8.625" csg		1 drill bits	
Product	**Function**	**Treatment**	**Unit Size**	**Usage**	**Unit Price**	**Total Price**
Biocide (STC)	Biocide	1 gal./100 bbls.	5 gal.	5		
Caustic Soda	pH additive	.25 ppb	50 #	10		
Cedar Fiber/Cedar Plug/Pluggit	LCM, sealant	As needed	40 #	20		
Desco	Thinner, dispersant	.125 ppb as needed	25 #	15		
Greencide/INC	Biocide	1 gal./100 bbls.	5 gal.	5		
Ground Paper	Seepage and sweeps	1-3 sacks per 200 feet	40 #	80		
Salt Gel	Viscosifier	As needed	50 #	120		
Yellow Starch	Filtrate control	3-4 ppb close to total depth	50 #	70		
					Interval Total:	**$5,535.30**

Projected Mud Properties

Depth	Mud Type	M W - ppg	Vis	Fil	pH	Cl - ppm	Sol %	Oil %.	
400-1,100'	NATIVE	8.9-9.6	32-34	N/C	9.0	3-12K	3-8	3-4	
1,100-3,700'	NATIVE/BR	9.6-10.5	32-36	N/C-30cc	9.0	160-180K	5-9	2-3	

General Geological Data

Tops/Bases	Formation	Lithology	Notes/Challenges
400' - 1,475'	Dockum	Red Bed, Red sandstone, FW sands	Swelling, sloughing clay, excessive solids, mud rings
1,475' - 1,550'	Rustler	Anhydrite	Fractured, seepage
1,550' - 1,620'	Dewey Lake	Sand	Marker betw. FW sands & salt
1,620' - 2,205'	Salado	Salt	Leaching, key seats, deviation
2,205' - 3,230'	Yates	Sand, w/anhydrite & salt stringer	
3,230' - 3,480'	Grayburg	Anhydrite w/sand stringers	
3,480' - 3,700'	San Andres	Sand, Limestone	Casing seat

Interval Notes for 400 - 3,700

Drill out from under surface with the existing system. Allow native solids to build viscosity to 32-34 sec/qt. **If red beds yield enough viscosity add 3-4% by volume of oil to the system to smooth out the filter cake and inhibit further viscosity increases. Maintain the oil content to total depth.**

Use Fresh Water to maintain the viscosity only as needed to clean the hole. Sweep the hole as needed with Ground Paper to control seepage and aid in hole cleaning. Should torque and/or drag become a problem sweep the hole with a viscous (50-60) Bentonite pill to aid hole cleaning.

Just above the Anhydrite add 8-10 loads of Brine or use sack Salt to prevent severe leaching of the salt.

Use viscous (50-60) Salt Water Gel pills as needed to sweep the hole. Should any torque and/or drag problems exist at total depth we suggest adding Yellow Starch to the system to lower the filtrate and toughen the filter cake. Sweep and spot viscous (50-60) Salt Water Gel pills at total depth to ensure a clean hole for casing operations.

***NOTE*: detergent/surfactant may be used to aid in emulsifying the oil and to aid in solids removal. The addition of Torque Master and reducing the filtrate may substitute for oil additions should oil be considered an environmental issue.**

INTERVAL: 3,700 - 7,000'	7.875" hole	7 days			1 drill bits	
Product	**Function**	**Treatment**	**Unit Size**	**Usage**	**Unit Price**	**Total Price**
Biocide (STC)	Biocide	1 gal./100 bbls.	5 gal.	10		
Cedar Fiber/Cedar Plug/Pluggit	LCM, sealant	As needed	40 #	20		
Ground Paper	Seepage and sweeps	1-3 sacks per 200 feet	40 #	50		
Lime	pH additive	.5-.75 ppb	50 #	60		
Maxi-Seal/Fiber Seal/Chem Seal	LCM, sealant	As needed	40 #	20		
MF-55/Vismaster(non-ionic)	Flocculant, hole sweep	1 gal. slug as needed for sweep	5 gal.	5		
Salt Gel	Hole sweep	12-14 ppb in sweeps	50 #	100		
				Interval Total:		$3,768.35

Projected Mud Properties

Depth	Mud Type	M W - ppg	Vis	Fil	pH	Cl - ppm	Sol %		
3,700-7,000'	CUT BRINE	29.0-9.2	28-29	N/C	10.0	60-90K	.5-1.0		

General Geological Data

Tops/Bases	Formation	Lithology	Notes/Challenges
3,700' - 3,990'	San Andres	Dolomite	
3,990' - 4,890'	San Andres porosity	Sand	Seepage
4,890' - 6,370'	Glorietta	Dolomite, w/sand stringers	
6,370' - 7,000'	Tubb	Dolomite, w/sand stringers	

Interval Notes for 3,700 - 7,000

Drill out from under the intermediate casing with Cut Brine Water weighing 9.0 to 9.2 ppg.

Adjust weight as necessary with Fresh or Brine additions.

Continue to use Paper for seepage and sweeps. Add Lime for pH control.

Use small amounts of MF-55 as needed for sweeps and to flocculate fine drill solids.

If necessary for torque and drag sweep the hole periodically with 20-40 bbl of a viscous Salt Water Gel and Paper pill.

Three Rivers Operating Co., LLC * Mescalero Springs 29 State # 1 * Sec-29, T-11-S, R-32-E, Lea County, NM

INTERVAL: 7,000 - 11,500'	7.875" hole	23 days	5.5" csg		3 drill bits	
Product	**Function**	**Treatment**	**Unit Size**	**Usage**	**Unit Price**	**Total Price**
Biocide (STC)	Biocide	1 gal./100 bbls.	5 gal.	40		
Caustic Soda	pH additive	.25 ppb	50 #	40		
Cedar Fiber/Cedar Plug/Pluggit	LCM, sealant	As needed	40 #	30		
Defoamer	Defoamer	As needed	5 gal.	50		
Desco	Thinner, dispersant	.125 ppb as needed	25 #	30		
Greencide/INC	Biocide	1 gal./100 bbls.	5 gal.	40		
Ground Paper	Seepage and sweeps	1-3 sacks per 200 feet	40 #	30		
Maxi-Seal/Fiber Seal/Chem Seal	LCM, sealant	As needed	40 #	30		
Salt Gel	Viscosifier	18-20 ppb	50 #	650		
Soda Ash	Calcium remover	As needed	50 #	50		
Soltex/Baratrol/Sophalt	Shale stabilizer	As needed for shale stabilization	50 #	30		
White Starch/Impermex	Filtrate control	2-3 gal sweeps	50 #	290		
				Interval Total:		$33,462.10

Projected Mud Properties

Depth	Mud Type	M W - ppg	Vis	Fil	pH	Cl - ppm	Sol %	Oil %.	
7,000-8,300'	SG/OIL	9.0-9.4	36-40	N/C-40cc	10.0	60-120K	3-6	4-5	
8,300-11,500'	SG/OIL/WS	9.2-9.8	40-45	8-6cc	10.0	60-120K	3-6	2-3	

General Geological Data

Tops/Bases	Formation	Lithology	Notes/Challenges
7,000' - 7,200'	Tubb	Dolomite, w/sand stringers	Seepage, poss. thin salt stringers
7,200' - 8,330'	Abo	Red shale w/dolomite stringers.	Swelling, sloughing clay, excessive solids, mud rings
8,330' - 10,180'	Wolfcamp	Limestone & limey shale stringers	Sloughing
10,180' - 10,470'	Strawn	Limestone	Possible Pay
10,470' - 10,850'	Atoka	Shale, chert, limestone	
10,850' - 10,910'	Morrow Lime	Limestone	
10,910' - 11,070'	Upper Morrow Sand	Sand	Pay Zone
11,070' - 11,500'	Mississippian	Limestone	TD

Interval Notes for 7,000 - 11,500

Prior to drilling the Abo, Discontinue the use of Lime and MF-55 and adjust the pH to 10.0 with Caustic.

Mud up using Salt Gel for a 36-40 viscosity and add 6-8% by volume of oil. (**Oil may be substituted with Torque Master or equivalent and reducing the filtrate**).

Defoamer may be needed while mixing to reduce aeration of the pumps and prevent foaming.

Maintain this system adjusting viscosity and oil content as necessary. **At the top of the Wolfcamp, add biocide to control bacteria growth, Soda Ash to lower total hardness then add White Starch to lower the filtrate to 6-8cc.**

Small amounts of Desco may be added to control rheology and toughen the filter cake.

Use Fresh Water/Brine additions to aid in weight and chloride control. Sack salt may be needed to keep chlorides up should volume additions be an issue.

Should losses occur, we recommend adding 6-20 ppb various grade LCM to regain circulation.

It may become necessary to add a shale stabilization additive to aid in controlling the shale and maintain a stable well bore. 1-4 ppb additions of a shale stabilizer should be sufficient.