Well Name: State A "32" #3
Casing & Cementing Schedules

Casing Size: 11 3/4" Surface Casing
Depth: 350'

A. String running order from bottom to top

Item	Description	Approx. Length
1	Guide Shoe	1.5
2	1- jt casing: 11 3/4", 42 ppf, H-40, ST&C	45.0
3	Float Collar	2.0
4	11 3/4", 42 ppf, H-40, ST&C	360'

B. Casing Hardware Placement

Item	Description	Location
1	Centralizer – Bow Spring	10' above shoe & on top of 2nd joint
2	Centralizers – Bow Spring	1 every 3rd collar to surface

C. Casing Specifications: 11 3/4", 42 ppf, H-40, ST&C

Make Up Torque	Min = 2,530; Opt = 3,380; Max = 4,225
OD (Inches)	11 3/4"
ID (Inches)	11.084
Drift ID (Inches)	11.0 " (special drift)
Collapse (SF_C = 1.1)	945
Burst (SF_B = 1.25)	1,584
Tension (SF_T = 1.6)	192,000
Capacity (bbl/ft)	0.1193
Total String Weight In 9.0 Ppg mud (BF=0.8626)	13,000 #
Allowable Overpull (SF_T = 1.6)	179,000 #

Use Jet Lube Enviro-Safe thread compound. This thread compound has a friction factor of 1.1 relative to API modified. Torque values should be increased by 10%. This 10% has been added to determine the Make-up torques above.

D. Cement Specifications: 11 3/4", 42 ppf, H-40, ST&C

Cement Service	Schlumberger Services	
	Lead	Tail
Excess Volume	Hole size + 100%	
TOC		Surface
Temperature Gradient	1.1	
BHST (°F)	85	
BHCT (°F)	80	
Mud Weight (ppg)	9.0 ppg	
Mud Type	Fresh wtr	
Frac Gradient @ Csg Point (EMW)	13.0	
Fluid Loss (cc/30 min)		350
Free Water (%)		0.0
Gas Check Additive Required	No	
Strength Retrogression	N/A	
Pumping Time		3:30
Compressive Strength – 24 hrs		3,290 psi
Pump Rate Limits (bpm)	7 bpm to 12 bpm	
Temperature/CBL	If cement does not circulate – Temp	
Cement Spacer	20 bbls 8.3 ppg fresh water	

E. Cement Slurries

	Description	Sacks	Weight	Cf/sx	H20 Gal/sx	TOC
Lead	N/a					
Tail	Class C + 2% S1 + ¼ pps D29	275	14.8	1.34	6.29	surface

Well Name: State A "32" #3
Casing & Cementing Schedules

Casing Size: 8 5/8" Intermediate casing
Depth: 2,700'

A: String Running Order from Bottom To Top

Item	Description	Approx. Length
1	Float Shoe	1.5'
2	1 jts 8 5/8", 32 ppf, J-55, LT&C	45'
3	Float Collar	1.5'
4	8 5/8", 32 ppf, J-55, LT&C	2,660'

B. Casing Hardware Placement

Item	Description	Location
1	Bow Spring Centralizers + stop ring	10' above float shoe, 1st collar, and collar above float shoe.
2	Bow Spring Centralizers	1 per every third joint from float collar to 200'.

C. Casing Specifications: 8 5/8", 32 ppf, J-55 LT&C

Make up Torque *J-55*	**Minimum** 3,440	**Optimum** 4,590	**Maximum** 5,730
	J-55		
OD (Inches)	8.625"		
ID (Inches)	7.921"		
Drift ID (Inches)	7.875" (Special Drift)		
Collapse (SF_C = 1.1)	2,300 psi		
Burst (SF_B = 1.25)	3,144 psi		
Tension (SF_T = 1.6)	260,000 #		
Capacity (bbls/ft)	0.0609		
Total String Weight in 10.0 ppg Mud (BF = 0.8473)	73,000		
Allowable Overpull (SF_T = 1.6)	187,000 #		

Use Jet Lube Enviro-Safe thread compound. This thread compound has a friction factor of 1.1 relative to API modified. Torque values should be should be increased by 10%. This has been added to determine the Make-up toques above.

D. Cement Specifications: 8 5/8" Intermediate casing

Cement Service	Schlumberger Services
Excess Volume	Fluid caliper + 25%
TOC	Lead = surface Tail = 2,050'
Temperature Gradient	1.1
BHST (^{0}F)	108
BHCT (^{0}F)	93
Mud Weight (ppg)	10.0 ppg
Mud Type	Fresh water
Frac Gradient @ Csg Point (EMW)	13.0
Fluid Loss (cc/30 min)	Lead = 400 Tail = 350
Free Water (%)	Lead = 0.0 Tail = 0.0
Gas Check Additive Required	N/A
Strength Retrogression	N/A
Pumping Time	Lead = 4:15 Tail = 3:15
24 HR COMPRESSIVE STRENGTH (psi)	Lead = 375 (72 hrs) Tail = 3,290
Pump Rate Limits (bpm)	No limit
Temperature	Run to confirm TOC if not circulate
Cement Spacer	20 bbl fresh water

E. Cement Slurries

	Description	Sacks	Weight	Cf/sx	H20 Gal/sx	TOC
LEAD	50:50 Poz "C" + 5% D44 + 10% D20 + ¼ pps D29	380	11.90	2.46	14.15	Surface
TAIL	Class "C" + 1.0% $CaCl_2$ + ¼ pps D29	260	14.80	1.33	6.3	2,050'

Well Name: State A "32" #3
Casing & Cementing Schedules

Casing Size: 5 ½" Production Casing
Depth: 11,570'

A. String Running Order from Bottom To Top

Item	Description	Approx. Length
1	Float Shoe	1.5'
2	2 jts 5 ½", 17 ppf, P-110, LT&C	85'
3	Float Collar	1.5'
4	5 ½", 17 ppf, P-110, LT&C	11,490'

B. Casing Hardware Placement

Item	Description	Location
1	Bow Spring Centralizers	1 on shoe joint, and 1 on collar above float shoe.
2	Bow Spring Centralizers	1 every 3rd joint up to 9000'
3	Marker Joint (+/- 20-25' long)	Run +/- within 100-120' above pay zone(s)

C. Casing Specifications: 5 ½" Production Casing

Make up Torque	**Min = 3,820; Opt = 5,080; Max = 6,360**
OD (Inches)	5.5"
ID (Inches)	4.892"
Drift ID (Inches)	4.767"
Collapse (SF_C = 1.1)	6,800 psi
Burst (SF_B = 1.25)	8,512 psi
Tension (SF_T = 1.6)	278,000 #
Capacity (bbls/ft)	0.02324
Total String Weight in 9.5 Ppg Mud (BF = 0.8550)	168,000
Allowable Overpull (SF_T = 1.6)	110,000 #

Use Jet Lube Enviro-Safe thread compound. This thread compound has a friction factor of 1.1 relative to API modified. Torque values should be should be increased by 10%. This has been added to determine the Make-up toques above.

D. Cement Specifications: 5 ½" Production Casing

Cement Service	Schlumberger Services
Excess Volume	Log caliper + 25%
TOC	Lead = 2,200' Tail = 9,000'
Temperature Gradient	1.3
BHST (^{0}F)	166
BHCT (^{0}F)	130
Mud Weight (ppg)	9.5 ppg
Mud Type	Cut Brine / polymer
Frac Gradient @ Csg Point (EMW)	13.5
Fluid Loss (cc/30 min)	Lead = 245 Tail = 42
Free Water (%)	Lead = 0.0 Tail = 0.0
Gas Check Additive Required	N/A
Strength Retrogression	No
Pumping Time	Lead = 5:55 Tail = 3:45
24 HR COMPRESSIVE STRENGTH (psi)	Lead = 1,823 Tail = 1,349
Pump Rate Limits (bpm)	6 – 10
Temperature	Run to confirm TOC
Cement Spacer	30 bbl CW-100 @ > MW

E. Cement Slurries: 5 ½" Production Casing

	Description	Sacks	Weight	Cf/sx	H20 Gal/sx	TOC
LEAD	CemCrete + 1% D153+ 1/4 pps D29 + 0.05 gps D604AM + 0.03 gps M45 + 0.15 gps D801	605	10.20	2.58	11.15	2,200'
TAIL	TXI Lightweight + 6% D44 + 0.2% D65 + 0.2% D46 + 0.4% D167	405	13.00	1.46	7.50	9,000'

Mud Summary

Contractor: Horizon Mud

From	To	MW	Vis	FL	pH	Mud Description	Additives
0'	350'	8.8 – 9.2	32-34	N/C	9.5-10.0	Fresh Water, Spud Mud	Gel, Lime,
350'	2,700'	8.3-8.4	28-29	N/C	9.5-10.5	Fresh Water	Lime, Gel, Paper, DCS
2,700	9,300'	9.0-9.2	28-29	N/c	9.5-10.5	Cut Brine Water	Lime, Gel, Paper, Salt Gel, DCS
9,300'	11,570	9.2-9.3	32-34	<12	9.0-9.5	Cut Brine	Aquapac, Starch, DCS, Caustic

Remarks:

eog resources

EOG Resources, Inc.
P.O. Box 2267
Midland, TX 79702
(432) 686-3600

December 29, 2004

Oil Conservation
1301 W. Grand Avenue
Artesia, NM 88210

Attn: Bryan Arrant

Re: State A-32 #1 (producing)
State A-32 #3 (permitting to drill)
S/2 Section 32, T19S-R28E,
Eddy County, New Mexico

Gentlemen:

Following the phone conversation, please accept this letter as confirmation that EOG Resources, Inc. agrees to temporarily abandon the State A-32 #1 prior to producing the State A-32 #3 in the Angell Ranch Atoka-Morrow pool.

Sincerely,

EOG RESOURCES, INC.

Mike Francis
ROW and Lease Operations Agent

Francis.StateA32#1.StateA32#3

EOG Resources, Inc.
State A-32 Well No. 3

Setting Depth	Hole Size	Casing Size	Casing Weight	Casing Grade	Sacks of Cement	Desired Top of Cement	Mud Type
350	14.75"	11.75"	42#	H-40	250	Surface	FW Gel
2500	11"	8 5/8"	32#	J-55	500	Surface	Brine Water
11500	7 7/8"	5 1/2"	17#	P-110	750	2200'	Cut Brine Polymer