

Yarrow 32 State #701H
Lea County, New Mexico

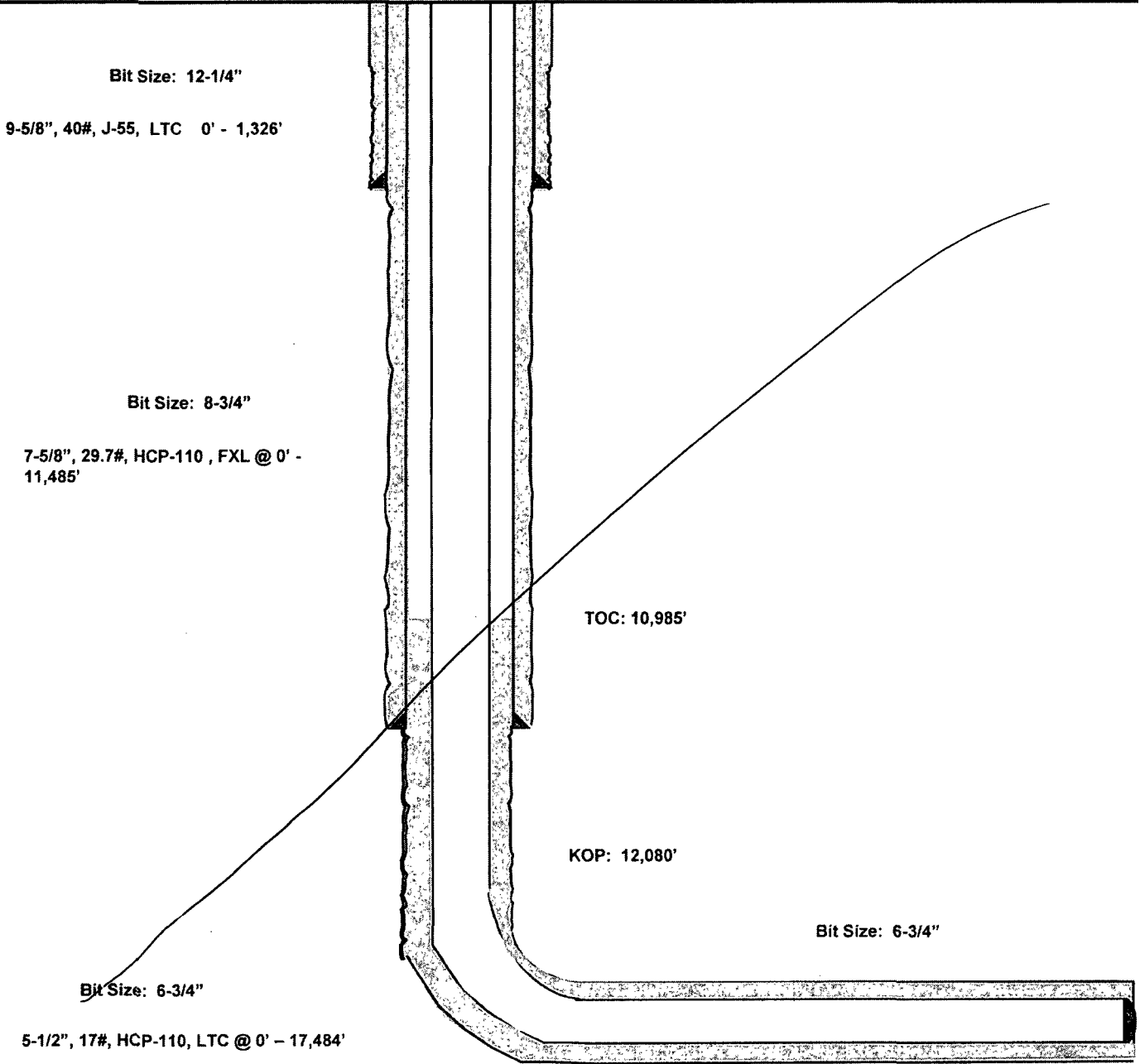
ACCEPTED
OCT 17 2018
RECEIVED

394' FSL
561' FEL
Section 32
T-23-S, R-33-E

Proposed Wellbore Design A

API: 30-025-*****

KB: 3,691'
GL: 3,666'



Lateral: 17,484' MD, 12,548' TVD
BH Location: 100' FNL & 330' FEL
Section 32
T-23-S, R-33-E

Yarrow 32 State #701H
Lea County, New Mexico

394' FSL
561' FEL
Section 32
T-23-S, R-33-E

Proposed Wellbore Design B

API: 30-025-*****

KB: 3,691'
GL: 3,666'

HOBBS OCD
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Bit Size: 17-1/2"
13-3/8", 54.5#, J-55, STC 0' - 1,326'

Bit Size: 12-1/4"
9-5/8", 40#, J-55, LTC 0' - 4,000'
9-5/8", 40#, HCL-80, LTC 4,000' - 5,075'

Bit Size: 8-3/4"
7-5/8", 29.7#, HCP-110, FXL @ 0' - 11,485'

Bit Size: 6-3/4"
5-1/2", 17#, HCP-110, LTC @ 0' - 17,484'

TOC: 4,575'

TOC: 10,985'

KOP: 12,080'

Bit Size: 6-3/4"

Lateral: 17,484' MD, 12,548' TVD

BH Location: 100' FNL & 330' FEL
Section 32
T-23-S, R-33-E

Permit Information:

Well Name: Yarrow 32 State No. 701H

Location:

SHL: 394' FSL & 561' FEL, Section 32, T-23-S, R-33-E, Lea Co., N.M.

BHL: 100' FNL & 330' FEL, Section 32, T-23-S, R-33-E, Lea Co., N.M.

HOBBS CO
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Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
12.25"	0 - 1,326'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
8.75"	0' - 11,485'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0' - 17,484'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /sk	Slurry Description
1,326'	400	13.5	1.73	Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	300	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
11,485'	300	9.0	3.5	Class C + 5% Gypsum + 3% CaCl ₂ (TOC @ Surface)
	550	14.4	1.20	50:50 Class H: Poz + 0.25% CPT20A + 0.40% CPT49 + 0.20% CPT35 + 0.80% CPT16A + 0.25% CPT503P
17,484'	800	14.2	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,985)

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1,326'	Fresh - Gel	8.6-8.8	28-34	N/c
1,326' - 11,485'	Brine	8.8-10.0	28-34	N/c
11,485' - 12,080'	Oil Base	10.0-11.5	58-68	3 - 6
12,080' - 17,484' Lateral	Oil Base	10.0-11.5	58-68	3 - 6

Design B

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 – 1,326'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4,000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
12.25"	4,000' – 5,075'	9.625"	40#	HCL-80	LTC	1.125	1.25	1.60
8.75"	0 – 11,485'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0'–17,484'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Cement Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /sk	Slurry Description
1,326'	697	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂ (TOC @ Surface)
	333	14.8	1.35	Tail: Class 'C' + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate + 2.0% KCl (1.06 lb/sk)
5,075'	692	12.7	2.22	Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C-41P (TOC @ Surface)
	303	14.8	1.32	Tail: Class C + 0.13% C-20
11,485'	375	10.8	3.67	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,575')
	400	14.8	2.38	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
17,484'	950	14.8	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,985')

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,326'	Fresh - Gel	8.6-8.8	28-34	N/c
1,326' – 5,075'	Brine	10.0-10.2	28-34	N/c
5,075' – 11,485'	Oil Base	8.7-9.4	58-68	N/c - 6
11,485' – 17,484' Lateral	Oil Base	10.0-11.5	58-68	3 - 6