30-025-45321

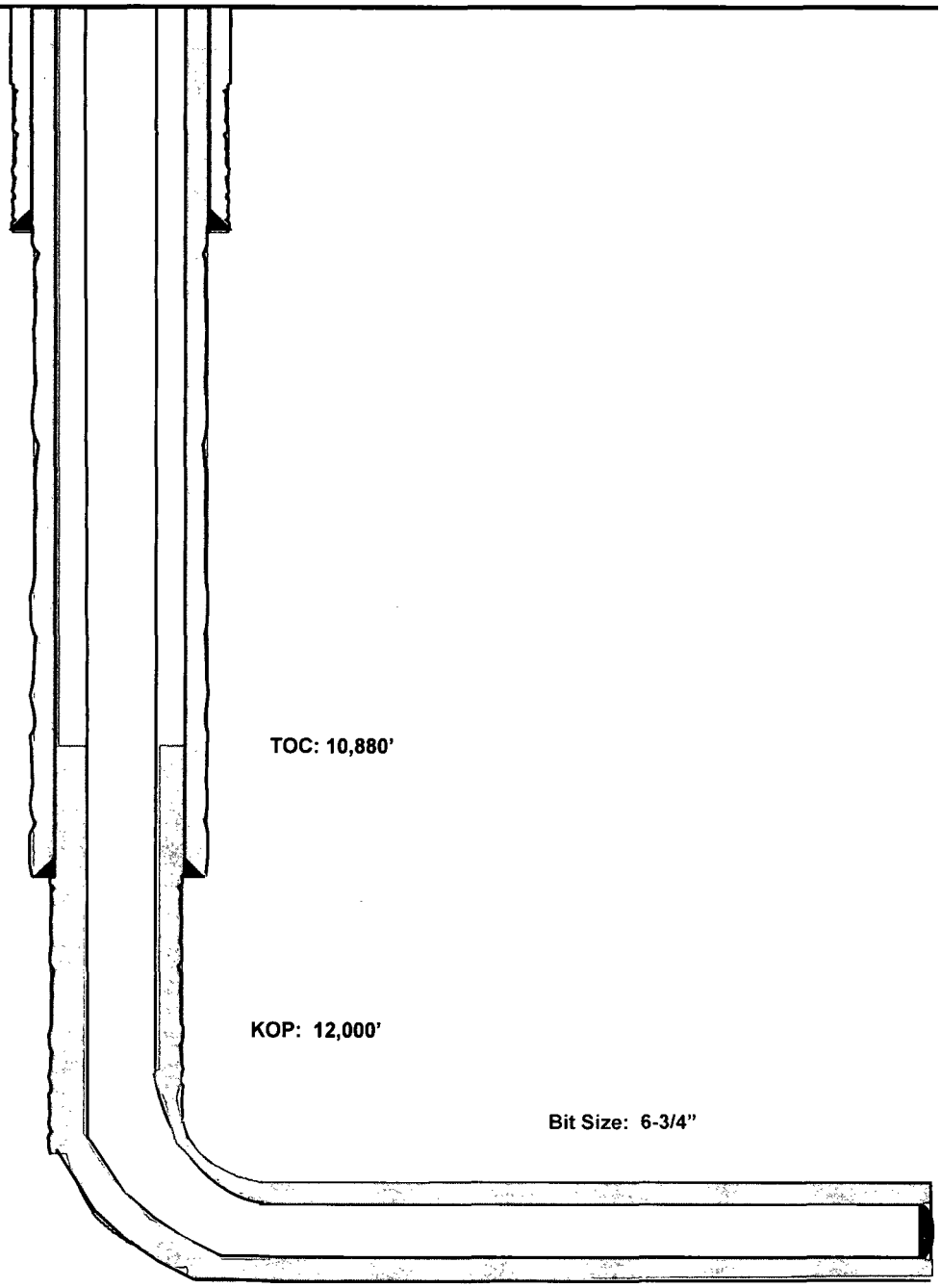
Mamba 30 State Com #709H
Lea County, New Mexico

711' FSL
541' FWL
Section 30
T-24-S, R-33-E

Proposed Wellbore Design A

API: 30-025-*****

KB: 3,580'
GL: 3,555'



Bit Size: 12-1/4"

9-5/8", 40#, J-55, LTC 0' - 1,150'

Bit Size: 8-3/4"

7-5/8", 29.7#, HCP-110 , FXL @ 0' - 11,380'

TOC: 10,880'

KOP: 12,000'

Bit Size: 6-3/4"

Bit Size: 6-3/4"

5-1/2", 17#, HCP-110, LTC @ 0' – 17,400'

Lateral: 17,400' MD, 12,450' TVD

BH Location: 100' FNL & 330' FWL
Section 30
T-24-S, R-33-E

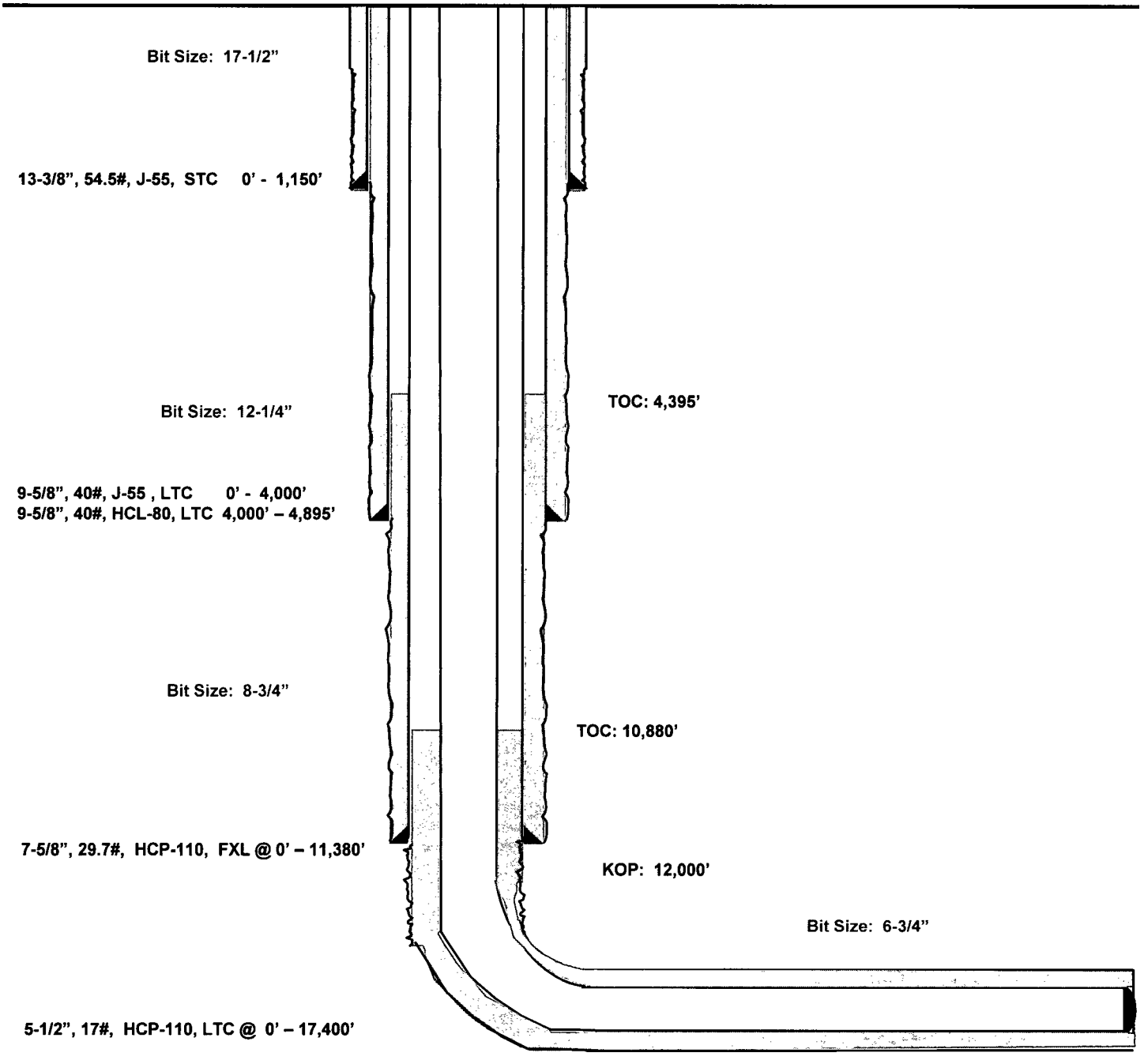
Mamba 30 State Com #709H
Lea County, New Mexico

711' FSL
541' FWL
Section 30
T-24-S, R-33-E

Proposed Wellbore Design B

API: 30-025-*****

KB: 3,580'
GL: 3,555'



Lateral: 17,400' MD, 12,450' TVD

BH Location: 100' FNL & 330' FWL
Section 30
T-24-S, R-33-E

Permit Information:

Well Name: Mamba 30 State Com No. 709H

Location:

SHL: 711' FSL & 541' FWL, Section 30, T-24-S, R-33-E, Lea Co., N.M.
BHL: 100' FNL & 330' FWL, Section 30, T-24-S, R-33-E, Lea Co., N.M.

Design A

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF_{min} Collapse	DF_{min} Burst	DF_{min} Tension
12.25"	0 – 1,150'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
8.75"	0' – 11,380'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0'-17,400'	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
1,150'	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
11,380'	300	9.0	3.5	Class C + 5% Gypsum + 3% CaCl2 (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
17,400'	800	14.2	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,880)

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,150'	Fresh - Gel	8.6-8.8	28-34	N/c
1,150' – 11,380'	Brine	8.8-10.0	28-34	N/c
11,380' – 12,000'	Oil Base	10.0-11.5	58-68	3 - 6
12,000' – 17,400' 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 – 1,150'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0-4,000'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
12.25"	4,000' – 4,895'	9.625"	40#	HCL-80	LTC	1.125	1.25	1.60
8.75"	0 – 11,380'	7.625"	29.7#	HCP-110	FXL	1.125	1.25	1.60
6.75"	0'-17,400'	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
1,150'	697	13.5	1.74	Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl2 (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)
4,895'	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
11,380'	375	10.8	3.67	Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,395')
	400	14.8	2.38	Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800
17,400'	950	14.8	1.31	Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,880')

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,150'	Fresh - Gel	8.6-8.8	28-34	N/c
1,150' – 4,895'	Brine	10.0-10.2	28-34	N/c
4,895'– 11,380'	Oil Base	8.7-9.4	58-68	N/c - 6
11,380'– 17,400' Lateral	Oil Base	10.0-11.5	58-68	3 - 6