

30-025-41002

HOBBS OCD

FEB 15 2013

RECEIVED

XTO Energy, Inc.
ESTANCIA SED #2H
Drilling Procedure
February 14, 2013

1. FORMATION TOPS: Ground Elevation -3641'

Formation	Subsea Depth	Well Depth
Rustler/Salado		1189'
Base of Castile/T. Del.		4987/5028'
Cherry Canyon		5977'
Brushy Canyon		7588'
Bone Spring		8892'
1 st Bone Spring		10025'
2 nd Bone Spring Lm		10265'
2 nd Bone Spring Sd		10643'
Target Interval 'B Sd'		10984'
Landing Pt		11053'

*** Hydrocarbons @ Brushy Canyon

2. MUD PROGRAM:

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 1250'	17-1/2"	FW/Native	8.5-8.8	32-36	NC
1250' to 5050'	12-1/4"	Brine/Gel Sweeps	9.8-10.2	28-32	NC
5050' to 10354'	8-3/4"	Brine/Gel Sweeps	8.8-9.2	28-32	40 - 30
10354' to 11500'	8-3/4"	Cut Brine/ Poly-Sweeps	8.8-9.2	28-32	30 - 20
11500' to 15427'	8-3/4"	Fresh Water/ Poly- Xanthan	8.6-9.0	30-32	30
		See mud prog			

Remarks: Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with brine solution.. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps

as needed for hole cleaning. Use available solids control equipment to help keep mud weight down after mud up. **Rig up Pioneer Drilling (dual shakers), CLS' (dual centrifuges), and CRI's solids control bins to operate as a closed loop system.**

3. **CASING PROGRAM:**

Surface Casing: 13-3/8" casing to be set at $\pm 1250'$ in 8.8 ppg mud.

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0' to 1250'	1250'	48#	New H-40	STC	740	1,730	322	12.715	12.559	6.37	14.91	32.2

Optimum makeup torque for 48#, NEW H-40, STC casing is **3220 ft-lbs** (Min - 2420 ft-lbs, Max - 4030 ft-lbs).

Intermediate Casing: 9-5/8" casing to be set at 5050' in 10.2 ppg mud.

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0-5050'	5050'	40	HCL-80	LTC	4230	5750	827	8.921	8.765	1.40	1.9	2.99

Optimum makeup torque for 40#, HCL-80, LTC casing is **8270 ft-lbs** (Min - 6200 ft-lbs, Max - 10340 ft-lbs)

Production Casing: 5-1/2" casing to be set at 15427' in 9.0 ppg mud.

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0-15427'	15427'	17	New HCP-110	LTC	8580	10640	445	4.892	4.767	1.47	1.82	1.74

Optimum makeup torque for 17#, NEW P-110 is **4620 ft-lbs**, min 3880 ft-lbs, max 6460 ft-lbs.

4. **WELLHEAD: Wood Group**

- A. Starting Head: 13-5/8" 3M psi top flange x 13-3/8" SOW - to be removed
- B. Bradenhead: 11" 5M psi flange x 9-5/8" SOW
- C. Tubing Head: 11" 5M psi bottom flange x 7-1/16" 5000 psi top flange (7" slips)

5. **CEMENT PROGRAM: Halliburton**

- A. **Surface Casing:** 13-3/8", 48#, NEW H-40, STC casing to be set at $\pm 1250'$.

700 sx ExtendaCem-CZ (13.7 ppg, 1.68 cu ft/sx, 8.72 gal wtr/sx)
 Compr Strengths 12 hr - 470 psi 24 hr - 1055 psi
 Cmt fr 0 -800'

285 sx HalCem-C + 2% CaCl (14.80 ppg, 1.35 cu ft/sx, 6.39gal/sx wtr)
 Compr Strengths - 12 hr -900 psi 24 hr - 1500 psi Cmt fr 800 - 1250'

In the event that loss circulation is encountered while drilling the surface hole, an alternate cementing procedure will be to pump this cement volume ahead of the 830 sx and 285 sx:

Lead: 200 sx Thixotropic + 10 pps CalSeal + 10 pps Gilsonite + 2% CaCl (14 ppg, 1.7 cu ft/sx)
Compr Strengths 24 hr – 651 psi 48 hr – 847 psi

All volumes 100% excess. Cement to surface.

If cement does not circulate, notify the OCD and prepare to run a TS to determine TOC. A 1" top job may be required.

B. Intermediate Casing: 9-5/8", 40#, NEW HCL-80, LTC casing to be set at ± 5050'.

Stage 1:

Lead: 20 bbls FW, 1200 sx EconoCem-HLC + 5% Salt + 5 pps KolSeal (mixed at 12.8 ppg, 1.92 ft³/sx, 10.44 gal/sx wtr)
Compr Strngth – 12 hr - 319 psi 24 hr – 653 psi Cmt 0 -4550'

Tail: 250 sx HalCem-C (mixed at 14.8 ppg, 1.34 ft³/sx, 6.36 gal/sx wtr)
Compr Strengths - 12 hr – 900 psi 24 hr – 1500 psi Cmt 4550 – 5050'

All volumes 100% excess. Cement to surface.

C. Production Casing: 5-1/2", 17#, NEW HCP-110, LTC casing to be set at ± 15,427'

First Stage:

Lead: 610 sx Tuned Lite + 0.5 pps CFR-3 + 1.5 pps Salt + 0.1% HR-601 (10.5 ppg, 2.67 cuft/sx, 12.1 galwtr/sx)
Compr Strengths 24 hr – 1130 psi Cmt 10000 – 4000'

Tail: 760 sx SoluCem-H + 0.7% HR-601 (15 ppg, 2.6 cuft/sx, 11.09 galwtr/sx)
Cmt 15,427 - 10,000'

TOC 3500'

6. LOGGING PROGRAM:

A. Mud Logger: Suttles Mud Logging Unit (2 man) on @ 5050'.
Catch 30' samples from 5050' to 15,427' (TD). Send 1 set of dry samples to Midland Sample Library.

B. Open Hole logs – Triple Combo from KOP to 5050', CNL to surface.

7. DRILLING HAZARDS:

A. Water Flows/Lost Circulation: Seepage and/or lost circulation could be encountered. Water flow possible below 5050'. LCM pills may be needed to slug the hole periodically.

8. **ABNORMAL PRESSURES & TEMPERATURES**

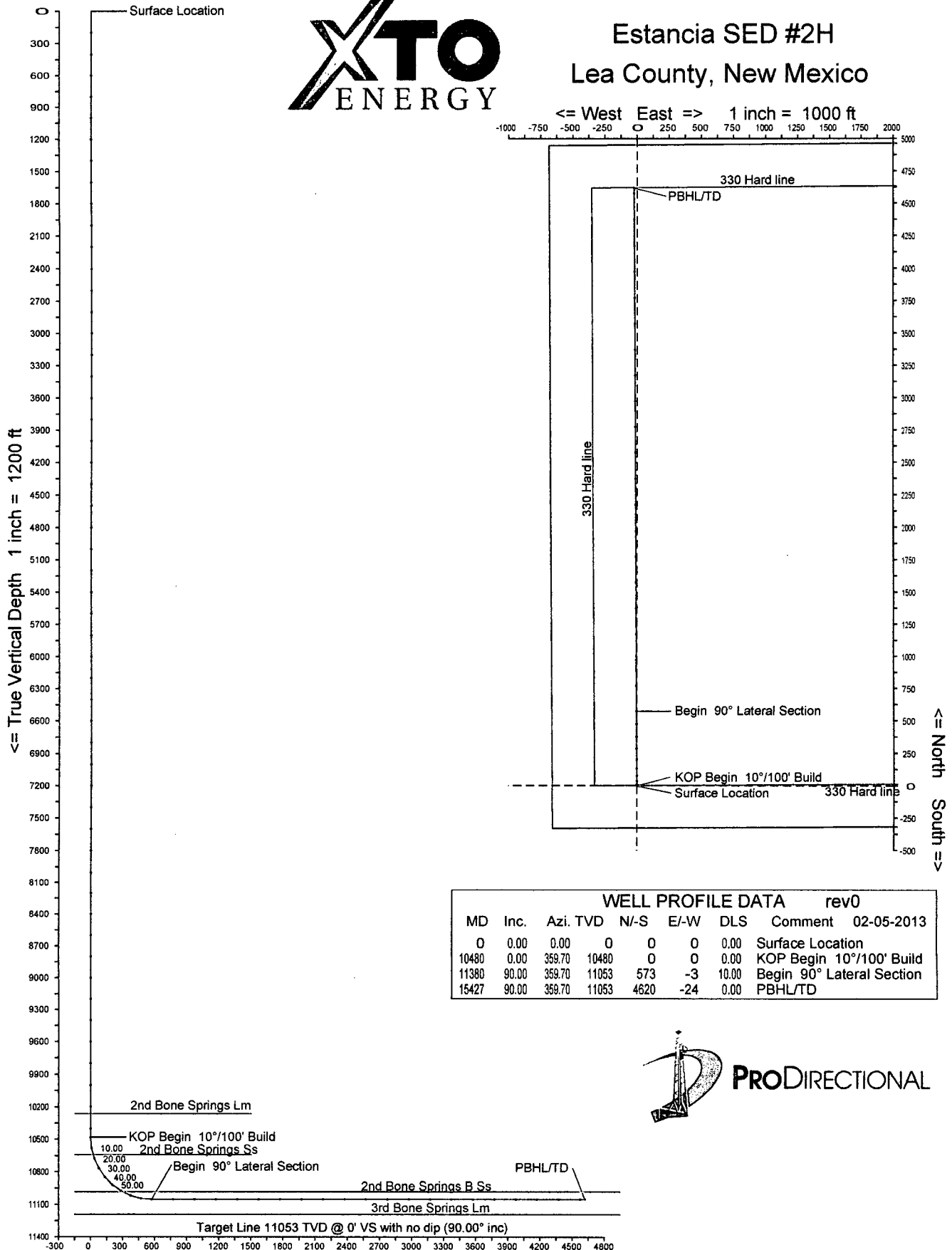
None anticipated. Max bottom hole pressure should not exceed 2500psi. BHT of 175 F is anticipated. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

9. **SPECIAL INSTRUCTIONS:**

- A. Reports should be filled out on the XTO Drilling Report form, and the Casing/Cementing Detail Forms provided.
- B. Deviation:
 - Surface Hole: Maximum of 1° and not more than 1° change per 100'.
 - Intermediate Hole: Maximum of 4° and not more than 1.5° change per 100'.
 - Production hole: Maximum of 6° and not more than 1.5° change per 100'.
 - Note: Maximum distance between surveys is 500'.**
- C. WOC a minimum of 24 hours before drilling out shoe joint on surface and intermediate casing strings. Use minimal WOB and RPM until drill collars are below the shoe joints.
- D. Check BOP blind rams each trip and pipe rams each day. Strap out of hole for logging and/or casing jobs.
- E. A trash trailer will be provided on each location. Keep trash picked up and the location as clean as possible. All drilling line, oil filters, etc. should be hauled away at the Drilling Contractor's expense. At the conclusion of drilling operations, the contents of the trash trailer will be disposed of into a commercial sanitary landfill.
- F. At the conclusion of the drilling operations, all re-usable drilling fluid should be moved to the next well in the drilling order.



Estancia SED #2H
Lea County, New Mexico



WELL PROFILE DATA rev0							
MD	Inc.	Azi.	TVD	N-S	E-W	DLS	Comment
0	0.00	0.00	0	0	0	0.00	Surface Location
10480	0.00	359.70	10480	0	0	0.00	KOP Begin 10°/100' Build
11380	90.00	359.70	11053	573	-3	10.00	Begin 90° Lateral Section
15427	90.00	359.70	11053	4620	-24	0.00	PBHL/TD



PRODIRECTIONAL

Vertical Section on 359.7 deg azimuth with reference 0.00 N, 0.00 E

Professional Directional Ltd

Company: XTO Energy, Inc.
Well: Estancia SED #2H
Location: Lea County, New Mexico Sect31-23S-33E

Date: 4-Feb-2013
Rev0
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NAD83 NM East gr elev=3641 RKB=3658

MD (feet)	Inclination (degrees)	Azim Grid (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 359.70° Az (feet)	Grid Y	Grid X	Comments
Surface Location								457197.50	762581.30	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	

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MD (feet)	Inclination (degrees)	Azim Grid (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 359.70° Az (feet)	Grid Y	NAD83 NM East gr elev=3641 RKB=3658 Grid X	Comments
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
6400.00	0.00	0.00	6400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
6800.00	0.00	0.00	6800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
7200.00	0.00	0.00	7200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
7400.00	0.00	0.00	7400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
7600.00	0.00	0.00	7600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
7800.00	0.00	0.00	7800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
8000.00	0.00	0.00	8000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
8200.00	0.00	0.00	8200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
8400.00	0.00	0.00	8400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
8600.00	0.00	0.00	8600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
8800.00	0.00	0.00	8800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
9000.00	0.00	0.00	9000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
9200.00	0.00	0.00	9200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
9400.00	0.00	0.00	9400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
9600.00	0.00	0.00	9600.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
9800.00	0.00	0.00	9800.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
10000.00	0.00	0.00	10000.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
10200.00	0.00	0.00	10200.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
10400.00	0.00	0.00	10400.00	0.00	0.00	0.00	0.00	457197.50	762581.30	
10480.04	0.00	359.70	10480.04	0.00	0.00	0.00	0.00	457197.50	762581.30	KOP Begin 10°/100' Build
10580.04	10.00	359.70	10579.53	8.70	-0.05	10.00	8.70	457206.20	762581.25	
10680.04	20.00	359.70	10676.00	34.55	-0.18	10.00	34.55	457232.05	762581.12	
10780.04	30.00	359.70	10766.52	76.76	-0.40	10.00	76.76	457274.26	762580.90	
10880.04	40.00	359.70	10848.33	134.04	-0.70	10.00	134.05	457331.54	762580.60	
10980.04	50.00	359.70	10918.95	204.66	-1.07	10.00	204.67	457402.16	762580.23	
11080.04	60.00	359.70	10976.24	286.48	-1.50	10.00	286.48	457483.98	762579.80	

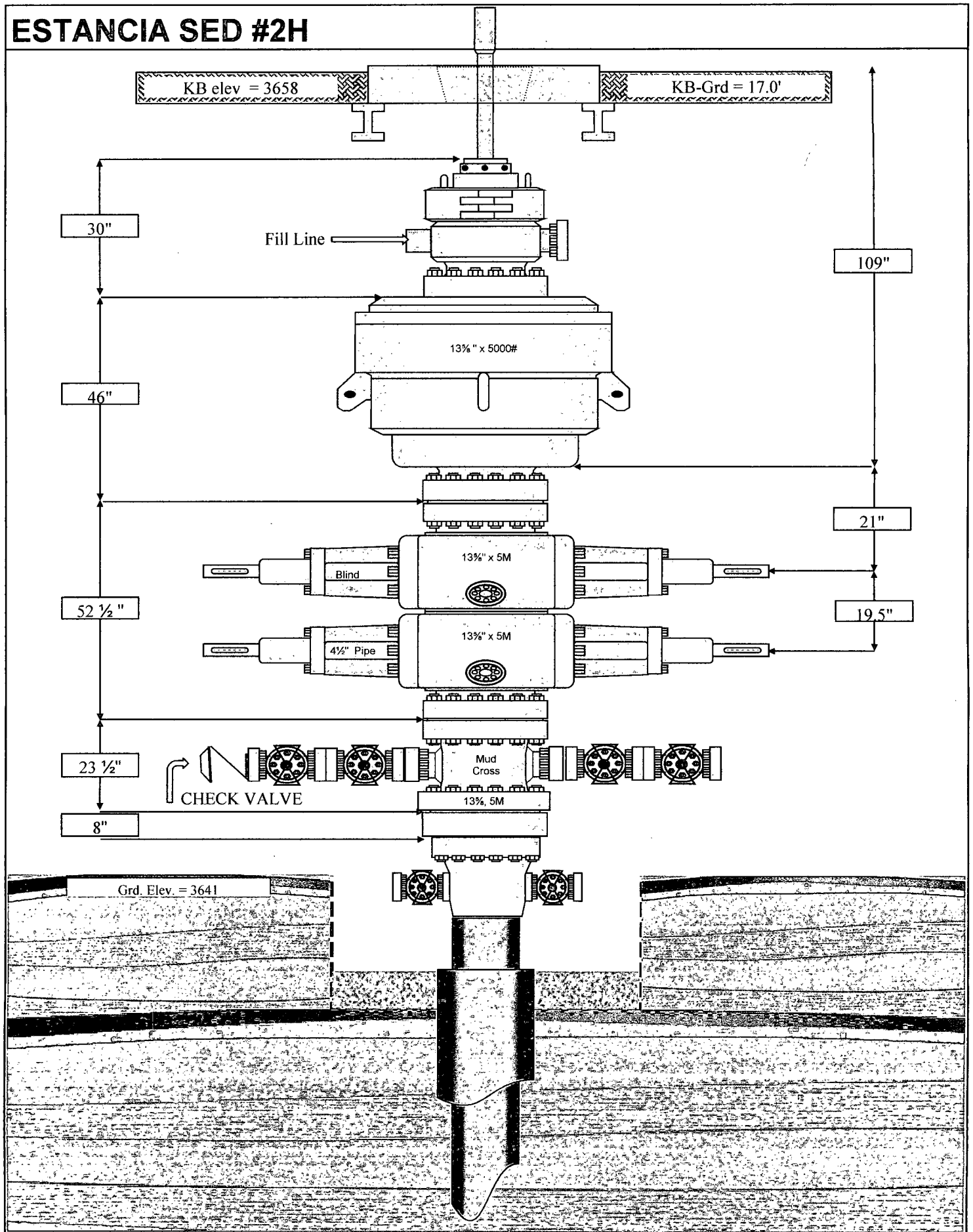
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MD (feet)	Inclination (degrees)	Azim Grid (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 359.70° Az (feet)	Grid Y	Grid X	Comments
11180.04	70.00	359.70	11018.44	376.99	-1.97	10.00	376.99	457574.49	762579.33	
11280.04	80.00	359.70	11044.29	473.46	-2.48	10.00	473.46	457670.96	762578.82	
11380.04	90.00	359.70	11053.00	572.95	-3.00	10.00	572.96	457770.45	762578.30	Begin 90° Lateral Section
11580.04	90.00	359.70	11053.00	772.95	-4.05	0.00	772.96	457970.45	762577.25	
11780.04	90.00	359.70	11053.00	972.94	-5.10	0.00	972.96	458170.44	762576.20	
11980.04	90.00	359.70	11053.00	1172.94	-6.14	0.00	1172.96	458370.44	762575.16	
12180.04	90.00	359.70	11053.00	1372.94	-7.19	0.00	1372.96	458570.44	762574.11	
12380.04	90.00	359.70	11053.00	1572.94	-8.24	0.00	1572.96	458770.44	762573.06	
12580.04	90.00	359.70	11053.00	1772.93	-9.29	0.00	1772.96	458970.43	762572.01	
12780.04	90.00	359.70	11053.00	1972.93	-10.33	0.00	1972.96	459170.43	762570.97	
12980.04	90.00	359.70	11053.00	2172.93	-11.38	0.00	2172.96	459370.43	762569.92	
13180.04	90.00	359.70	11053.00	2372.93	-12.43	0.00	2372.96	459570.43	762568.87	
13380.04	90.00	359.70	11053.00	2572.92	-13.48	0.00	2572.96	459770.42	762567.82	
13580.04	90.00	359.70	11053.00	2772.92	-14.52	0.00	2772.96	459970.42	762566.78	
13780.04	90.00	359.70	11053.00	2972.92	-15.57	0.00	2972.96	460170.42	762565.73	
13980.04	90.00	359.70	11053.00	3172.91	-16.62	0.00	3172.96	460370.41	762564.68	
14180.04	90.00	359.70	11053.00	3372.91	-17.67	0.00	3372.96	460570.41	762563.63	
14380.04	90.00	359.70	11053.00	3572.91	-18.71	0.00	3572.96	460770.41	762562.59	
14580.04	90.00	359.70	11053.00	3772.91	-19.76	0.00	3772.96	460970.41	762561.54	
14780.04	90.00	359.70	11053.00	3972.90	-20.81	0.00	3972.96	461170.40	762560.49	
14980.04	90.00	359.70	11053.00	4172.90	-21.86	0.00	4172.96	461370.40	762559.44	
15180.04	90.00	359.70	11053.00	4372.90	-22.90	0.00	4372.96	461570.40	762558.40	
15380.04	90.00	359.70	11053.00	4572.90	-23.95	0.00	4572.96	461770.40	762557.35	
15427.35	90.00	359.70	11053.00	4620.20	-24.20	0.00	4620.26	461817.70	762557.10	PBHL/TD

ESTANCIA SED #2H



Drilling Operations
Choke Manifold
5M Service

Exhibit E-1 - Choke Manifold Diagram

