14-541

Carlsbad Field Office
OCD Hobbs

Form 3160-3
(March 2012)

HOBBS OCD

JUL 18 2014

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
SHL: NMNM081599; BHL: VB-1896; Other: VB-0030

6. If Indian, Allotee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Querecho 1 Federal Com 1H (31349)

2. Name of Operator
Cimarex Energy Co. (215099)

9. API Well No.
30025 - 42001

3a. Address
600 N. Marienfield St. Ste. 600 Midland Tx 79071

3b. Phone No. (*include area code*)
432-571-7800

10. Field and Pool, or Exploratory (59477)
TONTO; BS, WEST

4. Location of Well (*Report location clearly and in accordance with any State requirements.**)
At Surface: 330 FSL & 590 FWL (M)
At proposed prod. Zone: 330 FNL & 330 FWL; 36-18S-32E (D) *Bone Spring*

11. Sec., T. R. M. or Blk. and Survey and Area
1, 19S, 32E

14. Distance in miles and direction from nearest town or post office*
Hobbs, NM is approx 34.4 miles easterly

12. County or Parish: Lea

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
330	NMNM081599=200.00 acres VB-0030=320.00 acres VB-1896=320.00 acres	320.00
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on File**
2000'	Pilot Hole TD: 10,000 19,356 MD 9,600 TVD	NM2575; NMB000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3669 GR	5/1/14	35 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator Certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (*Printed/Typed*)	Date
	Terri Stathem	2/18/14

Title: Regulatory Compliance Tech

Approved By (*Signature*)	Name (Printed/Typed)	Date
Steve Caffey		JUL 14 2014
Title: FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

KZ 07/29/14

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

JUL 29 2014

Operator Certification Statement
Querecho 1 Federal Com 1
Cimarex Energy Co.
UL: M, Sec. 1, 19S, 32E
Lea Co., NM

Operator's Representative
Cimarex Energy Co. of Colorado
600 N. Marienfeld St., Ste. 600
Midland, TX 79701
Office Phone: (432) 571-7800

CERTIFICATION: I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 18 day of February, 2014

NAME: Paula Brunson
Paula Brunson
TITLE: Regulatory Compliance
ADDRESS: 600 N. Marienfield St. Ste. 600 Midland Tx 79071
TELEPHONE: 432-571-7800
EMAIL: pbrunson@cimarex.com
Field Representative: Same as above

Application to Drill
Querecho 1 Federal Com 1H
Cimarex Energy Co.
UL: M, Sec. 1, 19S, 32E
Lea Co., NM

HOBBS OCD

JUL 18 2014

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In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 330 FSL & 590 FWL
BHL 330 FNL & 330 FWL; 36-18S-32E

2. Elevation Above Sea Level: 3,669' GR

3. Geologic Name of Surface Formation: Quaternary Alluvium Deposits

4. Drilling Tools and Associated Equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal

5. Proposed Drilling Depth: 19,356 MD 9,600 TVD Pilot Hole TD: 10,000

6. Estimated Tops of Geological Markers:

Formation	Est Top	Bearing
Rustler	1303	N/A
Top of Salt	1560	N/A
Tansil	2735	N/A
Yates	2860	N/A
Seven Rivers	3380	N/A
CPTN	4590	N/A
Cherry Canyon	4820	N/A
Brushy Canyon	5325	N/A
Bone Spring	7120	N/A
1st BSS	8530	N/A
2nd BSS	9420	Hydrocarbons
3rd Bone Spring Carbonate	9850	Hydrocarbons

7. Possible Mineral Bearing Formation: Shown above

7A. OSE Ground Water Estimated Depth: 300'

8. Casing Program:

See COA Name	Casing Depth From (ft)	Casing Setting Depth (ft) MD	Casing Setting Depth (ft)TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Conditon	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF at Full Evacuation(1.125)	Collapse SF at 1/3 Evacuation(1.125)	Burst SF (1.125)	Cumulative Air Weight	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface	0	~~1350~~ 1475' 1350		17 1/2	13-3/8"	48.00	H-40	ST&C	New	582	8.3	1.27		2.97	64,800	56,589	5.69
Intermediate	0	~~4800~~ 5100 ~~4800~~		12 1/4	9-5/8"	40.00	J-55	LT&C	New	2496	10.0		1.48	1.58	192,000	162,687	3.20
Production	0	9173	9173	8 3/4	5-1/2"	17.00	P-110	LT&C	New	4292	9.0	1.74		2.48	163,200	140,776	3.16
Production	9173	19356	9600	8 3/4	5-1/2"	17.00	P-110	BT&C	New	4492	9.0	1.66		2.37	7,259	6,262	87.20

Note: Operator may drill a 8-1/2" OH from end of curve to TD of the well. This is to reduce the need to ream the conventionally drilled curve to run a RSS assembly into the lateral.

Application to Drill
Querecho 1 Federal Com 1
Cimarex Energy Co.
UL: M, Sec. 1, 19S, 32E
Lea Co., NM

8A. Casing Design and Casing Loading Assumptions:

Surface	Tension	A 1.8 design factor with effects of buoyancy: 8.30 ppg.
	Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.30 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Intermediate	Tension	A 1.8 design factor with effects of buoyancy: 10.00 ppg.
	Collapse	A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Production and\or Production Completion System	Tension	A 1.8 design factor with effects of buoyancy: 9.00 ppg.
	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

9. Cementing Program:

Casing Type	Type	Sacks	Yield	Weight	Cubic Feet	Cement Blend
Surface	Lead	643	1.75	13.50	1125	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	175	1.34	14.80	234	Class C + LCM, 6.32 gps water
	TOC: 0		**45% Excess**			**Centralizers per Onshore Order 2.III.B.1f**
Intermediate	Lead	848	1.88	12.90	1593	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
See COA	Tail	280	1.34	14.80	375	Class C + retarder + LCM, 6.32 gps water
	TOC: 0		**44% Excess**			
Production	Lead	531	2.40	11.90	1274	35:65 (poz/H) + salt + Sodium Metasilcate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
See COA	Tail	2395	1.24	14.50	2969	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: ~~4600~~		**14% Excess**			**No centralizers planned in the lateral section. 1 every jt from EOC to KOP. 1 every 4th joint from KOP to 500' inside previous casing.**

Cement volumes will be adjusted depending on hole size

9a. Proposed Drilling Plan:

Pilot Hole TD: 10,000' KOP: 9,173' EOC: 9,925'

Set OH mechanical whipstock w/ 777 ft of 2.875 tubing and pump 30 bbls of Mudpush @ 12 ppg, followed by 368 sks Type H cement, dispersant 0.080 gals/sk, retarder 0.045 gals/sk @ 17.50 ppg, 0.94 cuft/sk, & 0% excess from pilot hole TD to KOP. KO lateral and drill through the curve to TD. Run production csg to TD and cement.

Application to Drill
Querecho 1 Federal Com 1
Cimarex Energy Co.
UL: M, Sec. 1, 19S, 32E
Lea Co., NM

10. Pressure Control Equipment:
Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 3M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP and associated equipment will be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe. The Annular Preventer shall be functioned at least weekly. The pipe and blind rams will be operated each trip. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 1500 high on the intermediate casing.

See COA
Cimarex Energy Co. of Colorado requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

See COA
11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1350' 1475' 5100'	7.80 - 8.30	28	NC	FW Spud Mud
1350' to 4800'	9.50 - 10.00	30-32	NC	Brine Water
4800' to 19356'	8.50 - 9.00	30-32	NC	FW/Cut Brine

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

12. Testing, Logging and Coring Program:

A. Mud logging program: 2 man unit from 4800 to TD
B. Electric logging program: CNL / LDT / CAL / GR, DLL /GR -- Inter. Csg to TD
CNL /GR -- Surf to Inter. Csg
C. No DSTs or cores are planned at this time
D.CBL w/ CCL from as far as gravity will let it fall to TOC

13. Potential Hazards: See COA
No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H_2S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H_2S Safety package on all wells, attached is an "H_2S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP: 4500 psi Estimated BHT: 157°

14. Construction and Drilling:
Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.
Drilling expected to take: 35 days.
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

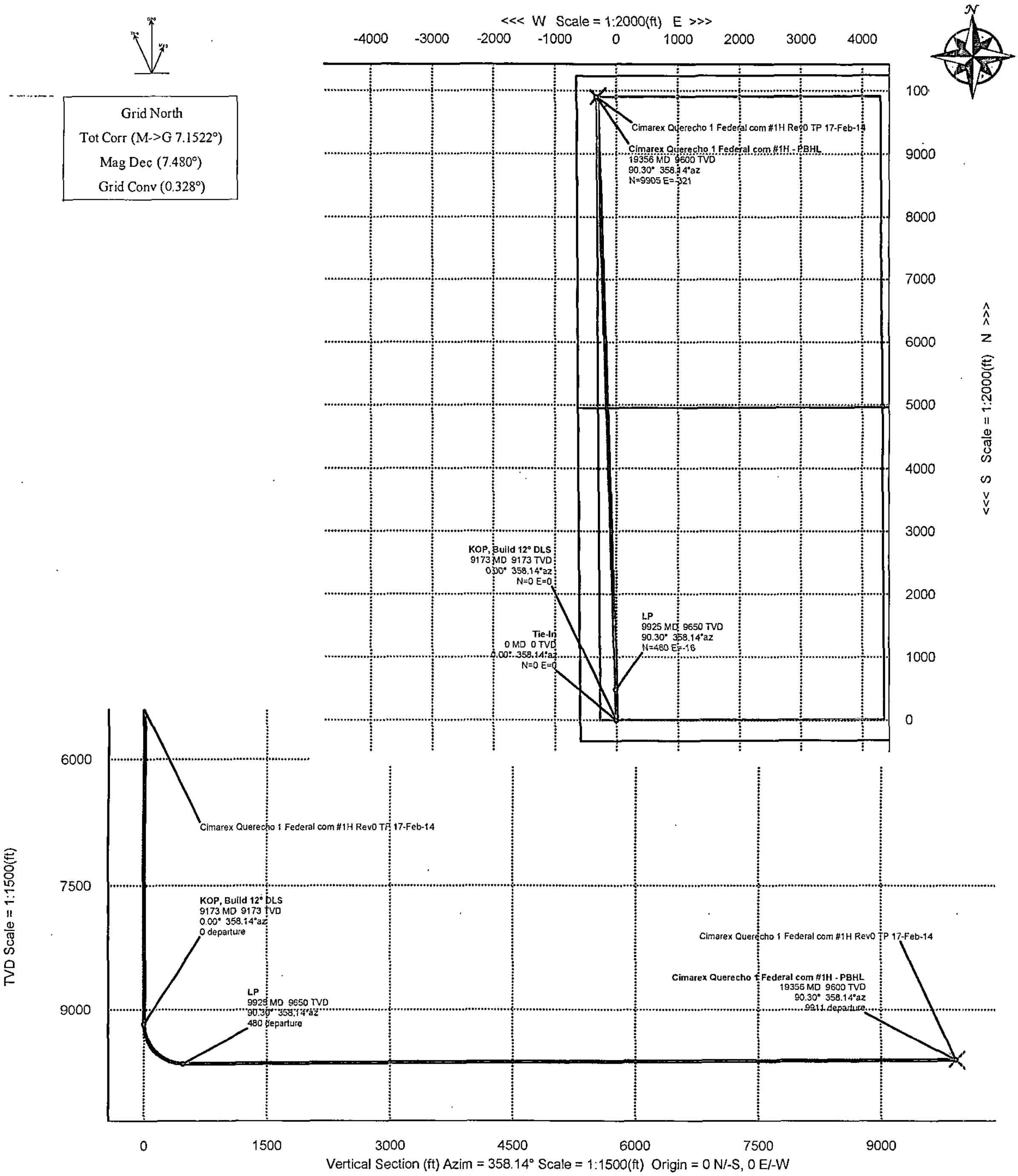
15. Other Facets of Operations:
If production casing is run an additional 30 days will be required to complete and construct surface facilities.
2nd BSS pay will be perforated and stimulated.
The proposed well will be tested and potentialed as **Oil**

CIMAREX

PATHFINDER
A Schlumberger Company

WELL	FIELD	STRUCTURE
Querecho 1 Federal com #1H	NM Lea County (NAD 83)	Cimarex Querecho 1 Federal c

Magnetic Parameters				Surface Location		NAD83 New Mexico State Plane, Eastern Zone, US Feet		Miscellaneous	
Model: BGGM 2013	Dip: 60.507°	Date: February 17, 2014		Lat: N 32 40 58.895	Northing: 612750.14 ftUS	Grid Conv: 0.328°		Slot: Querecho 1 Federal com #1H	TVD Ref: Unknown(3669ft above MSL)
	Mag Dec: 7.480°	FS: 48586.8nT		Lon: W 103 43 35.205	Easting: 728058.84 ftUS	Scale Fact: 0.99994902		Plan: Cimarex Querecho 1 Federal [illegible]	



Grid North
Tot Corr (M->G 7.1522°)
Mag Dec (7.480°)
Grid Conv (0.328°)
<<< W Scale = 1:2000(ft) E >>>
<<< S Scale = 1:2000(ft) N >>>
Cimarex Querecho 1 Federal com #1H Rev0 TP 17-Feb-14
Cimarex Querecho 1 Federal com #1H - PBHL
19356 MD 9600 TVD
90.30° 358.14°az
N=9905 E=-321
KOP, Build 12° DLS
9173 MD 9173 TVD
0.00° 358.14°az
N=0 E=0
Tie-In
0 MD 0 TVD
0.00° 358.14°az
N=0 E=0
LP
9925 MD 9650 TVD
90.30° 358.14°az
N=480 E=-16
TVD Scale = 1:1500(ft)
0 departure
480 departure
9911 departure
Vertical Section (ft) Azim = 358.14° Scale = 1:1500(ft) Origin = 0 N/-S, 0 E/-W

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Marker MudLine	0.00	0.00	358.14	0.00	0.00	0.00	0.00	0.00
Tie-In	0.00	0.00	358.14	0.00	0.00	0.00	0.00	
KOP, Build 12° DLS	9172.54	0.00	358.14	9172.54	0.00	0.00	0.00	0.00
LP	9925.07	90.30	358.14	9650.00	480.00	479.75	-15.55	12.00
Cimarex Querecho 1 Federal com #1H - PBHL	19355.75	90.30	358.14	9600.00	9910.54	9905.33	-321.11	0.00

PATHFINDER
A Schlumberger Company

CIMAREX

Cimarex Querecho 1 Federal com #1H Rev0 TP 17-Feb-14 Proposal Report

(Non-Def Plan)

Report Date:	February 17, 2014 - 01:28 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:		**Vertical Section Azimuth:**	358.143 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Querecho 1 Federal com #1H / Querecho 1 Federal com #1H	**TVD Reference Datum:**	Unknown
Well:	Querecho 1 Federal com #1H	**TVD Reference Elevation:**	3669.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3669.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.480 °
Survey Name:	Cimarex Querecho 1 Federal com #1H Rev0 TP 17-Feb-14	**Total Field Strength:**	48586.786 nT
Survey Date:	February 17, 2014	**Magnetic Dip Angle:**	60.507 °
Tort / AHD / DDI / ERD Ratio:	90.305 ° / 9910.538 ft / 6.256 / 1.027	**Declination Date:**	February 17, 2014
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Declination Model:**	BGGM 2013
Location Lat / Long:	N 32° 40' 58.89470", W 103° 43' 35.20545"	**North Reference:**	Grid North
Location Grid N/E Y/X:	N 612750.140 ftUS, E 728058.840 ftUS	**Grid Convergence Used:**	0.3277 °
CRS Grid Convergence Angle:	0.3277 °	**Total Corr Mag North->Grid North:**	7.1522 °
Grid Scale Factor:	0.99994902	**Local Coord Referenced To:**	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
Marker MudLine Tie-In	*0.00*	*0.00*	*358.14*	*0.00*	*0.00*	*0.00*	*0.00*	*612750.14*	*728058.84*	*N 32 40 58.89*	*W 103 43 35.21*	*0.00*	*0.00*	*0.00*
	100.00	0.00	358.14	100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	200.00	0.00	358.14	200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	300.00	0.00	358.14	300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	400.00	0.00	358.14	400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	500.00	0.00	358.14	500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	600.00	0.00	358.14	600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	700.00	0.00	358.14	700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	800.00	0.00	358.14	800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	900.00	0.00	358.14	900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1000.00	0.00	358.14	1000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1100.00	0.00	358.14	1100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1200.00	0.00	358.14	1200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1300.00	0.00	358.14	1300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1400.00	0.00	358.14	1400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1500.00	0.00	358.14	1500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1600.00	0.00	358.14	1600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1700.00	0.00	358.14	1700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1800.00	0.00	358.14	1800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	1900.00	0.00	358.14	1900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2000.00	0.00	358.14	2000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2100.00	0.00	358.14	2100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2200.00	0.00	358.14	2200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2300.00	0.00	358.14	2300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2400.00	0.00	358.14	2400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2500.00	0.00	358.14	2500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2600.00	0.00	358.14	2600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2700.00	0.00	358.14	2700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2800.00	0.00	358.14	2800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	2900.00	0.00	358.14	2900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	3000.00	0.00	358.14	3000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3100.00	0.00	358.14	3100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3200.00	0.00	358.14	3200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3300.00	0.00	358.14	3300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3400.00	0.00	358.14	3400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3500.00	0.00	358.14	3500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3600.00	0.00	358.14	3600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3700.00	0.00	358.14	3700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3800.00	0.00	358.14	3800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	3900.00	0.00	358.14	3900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4000.00	0.00	358.14	4000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4100.00	0.00	358.14	4100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4200.00	0.00	358.14	4200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4300.00	0.00	358.14	4300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4400.00	0.00	358.14	4400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4500.00	0.00	358.14	4500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4600.00	0.00	358.14	4600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4700.00	0.00	358.14	4700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4800.00	0.00	358.14	4800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	4900.00	0.00	358.14	4900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5000.00	0.00	358.14	5000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5100.00	0.00	358.14	5100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5200.00	0.00	358.14	5200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5300.00	0.00	358.14	5300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5400.00	0.00	358.14	5400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5500.00	0.00	358.14	5500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5600.00	0.00	358.14	5600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5700.00	0.00	358.14	5700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5800.00	0.00	358.14	5800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	5900.00	0.00	358.14	5900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6000.00	0.00	358.14	6000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6100.00	0.00	358.14	6100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6200.00	0.00	358.14	6200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6300.00	0.00	358.14	6300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6400.00	0.00	358.14	6400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6500.00	0.00	358.14	6500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6600.00	0.00	358.14	6600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6700.00	0.00	358.14	6700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6800.00	0.00	358.14	6800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	6900.00	0.00	358.14	6900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7000.00	0.00	358.14	7000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7100.00	0.00	358.14	7100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7200.00	0.00	358.14	7200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7300.00	0.00	358.14	7300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7400.00	0.00	358.14	7400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7500.00	0.00	358.14	7500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7600.00	0.00	358.14	7600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7700.00	0.00	358.14	7700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7800.00	0.00	358.14	7800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	7900.00	0.00	358.14	7900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8000.00	0.00	358.14	8000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8100.00	0.00	358.14	8100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8200.00	0.00	358.14	8200.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8300.00	0.00	358.14	8300.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8400.00	0.00	358.14	8400.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	8500.00	0.00	358.14	8500.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8600.00	0.00	358.14	8600.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8700.00	0.00	358.14	8700.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8800.00	0.00	358.14	8800.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	8900.00	0.00	358.14	8900.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	9000.00	0.00	358.14	9000.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	9100.00	0.00	358.14	9100.00	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
KOP, Build 12° DLS	9172.54	0.00	358.14	9172.54	0.00	0.00	0.00	612750.14	728058.84	N 32 40 58.89	W 103 43 35.21	0.00	0.00	0.00
	9200.00	3.30	358.14	9199.98	0.79	0.79	-0.03	612750.93	728058.81	N 32 40 58.90	W 103 43 35.21	0.79	358.14	12.00
	9300.00	15.30	358.14	9298.49	16.91	16.90	-0.55	612767.04	728058.29	N 32 40 59.06	W 103 43 35.21	16.91	358.14	12.00
	9400.00	27.30	358.14	9391.49	53.16	53.14	-1.72	612803.27	728057.12	N 32 40 59.42	W 103 43 35.22	53.16	358.14	12.00
	9500.00	39.30	358.14	9474.93	107.96	107.90	-3.50	612858.04	728055.34	N 32 40 59.96	W 103 43 35.24	107.96	358.14	12.00
	9600.00	51.30	358.14	9545.14	178.90	178.81	-5.80	612928.94	728053.04	N 32 41 0.66	W 103 43 35.26	178.90	358.14	12.00
	9700.00	63.30	358.14	9599.08	262.90	262.76	-8.52	613012.88	728050.32	N 32 41 1.49	W 103 43 35.29	262.90	358.14	12.00
	9800.00	75.30	358.14	9634.37	356.27	356.08	-11.54	613106.20	728047.30	N 32 41 2.42	W 103 43 35.32	356.27	358.14	12.00
	9900.00	87.30	358.14	9649.47	454.93	454.69	-14.74	613204.81	728044.10	N 32 41 3.39	W 103 43 35.35	454.93	358.14	12.00
LP	9925.07	90.30	358.14	9650.00	480.00	479.75	-15.55	613229.86	728043.29	N 32 41 3.64	W 103 43 35.36	480.00	358.14	12.00
	10000.00	90.30	358.14	9649.60	554.92	554.63	-17.98	613304.74	728040.86	N 32 41 4.38	W 103 43 35.38	554.92	358.14	0.00
	10100.00	90.30	358.14	9649.07	654.92	654.58	-21.22	613404.68	728037.62	N 32 41 5.37	W 103 43 35.41	654.92	358.14	0.00
	10200.00	90.30	358.14	9648.54	754.92	754.52	-24.46	613504.62	728034.38	N 32 41 6.36	W 103 43 35.44	754.92	358.14	0.00
	10300.00	90.30	358.14	9648.01	854.92	854.47	-27.70	613604.57	728031.14	N 32 41 7.35	W 103 43 35.47	854.92	358.14	0.00
	10400.00	90.30	358.14	9647.48	954.92	954.42	-30.94	613704.51	728027.90	N 32 41 8.34	W 103 43 35.50	954.92	358.14	0.00
	10500.00	90.30	358.14	9646.95	1054.92	1054.36	-34.18	613804.45	728024.66	N 32 41 9.33	W 103 43 35.53	1054.92	358.14	0.00
	10600.00	90.30	358.14	9646.42	1154.92	1154.31	-37.42	613904.39	728021.42	N 32 41 10.32	W 103 43 35.57	1154.92	358.14	0.00
	10700.00	90.30	358.14	9645.89	1254.91	1254.25	-40.66	614004.33	728018.18	N 32 41 11.31	W 103 43 35.60	1254.91	358.14	0.00
	10800.00	90.30	358.14	9645.36	1354.91	1354.20	-43.90	614104.27	728014.94	N 32 41 12.30	W 103 43 35.63	1354.91	358.14	0.00
	10900.00	90.30	358.14	9644.83	1454.91	1454.15	-47.14	614204.21	728011.70	N 32 41 13.29	W 103 43 35.66	1454.91	358.14	0.00
	11000.00	90.30	358.14	9644.30	1554.91	1554.09	-50.38	614304.15	728008.46	N 32 41 14.27	W 103 43 35.69	1554.91	358.14	0.00
	11100.00	90.30	358.14	9643.77	1654.91	1654.04	-53.62	614404.09	728005.22	N 32 41 15.26	W 103 43 35.72	1654.91	358.14	0.00
	11200.00	90.30	358.14	9643.24	1754.91	1753.99	-56.86	614504.03	728001.98	N 32 41 16.25	W 103 43 35.75	1754.91	358.14	0.00
	11300.00	90.30	358.14	9642.71	1854.91	1853.93	-60.10	614603.97	727998.74	N 32 41 17.24	W 103 43 35.78	1854.91	358.14	0.00
	11400.00	90.30	358.14	9642.18	1954.90	1953.88	-63.34	614703.91	727995.50	N 32 41 18.23	W 103 43 35.82	1954.90	358.14	0.00
	11500.00	90.30	358.14	9641.65	2054.90	2053.82	-66.58	614803.85	727992.26	N 32 41 19.22	W 103 43 35.85	2054.90	358.14	0.00
	11600.00	90.30	358.14	9641.12	2154.90	2153.77	-69.82	614903.80	727989.02	N 32 41 20.21	W 103 43 35.88	2154.90	358.14	0.00
	11700.00	90.30	358.14	9640.59	2254.90	2253.72	-73.06	615003.74	727985.78	N 32 41 21.20	W 103 43 35.91	2254.90	358.14	0.00
	11800.00	90.30	358.14	9640.06	2354.90	2353.66	-76.30	615103.68	727982.54	N 32 41 22.19	W 103 43 35.94	2354.90	358.14	0.00
	11900.00	90.30	358.14	9639.53	2454.90	2453.61	-79.54	615203.62	727979.30	N 32 41 23.18	W 103 43 35.97	2454.90	358.14	0.00
	12000.00	90.30	358.14	9639.00	2554.90	2553.55	-82.78	615303.56	727976.06	N 32 41 24.16	W 103 43 36.00	2554.90	358.14	0.00
	12100.00	90.30	358.14	9638.47	2654.89	2653.50	-86.02	615403.50	727972.82	N 32 41 25.15	W 103 43 36.03	2654.89	358.14	0.00
	12200.00	90.30	358.14	9637.94	2754.89	2753.45	-89.26	615503.44	727969.58	N 32 41 26.14	W 103 43 36.07	2754.89	358.14	0.00
	12300.00	90.30	358.14	9637.41	2854.89	2853.39	-92.50	615603.38	727966.34	N 32 41 27.13	W 103 43 36.10	2854.89	358.14	0.00
	12400.00	90.30	358.14	9636.88	2954.89	2953.34	-95.74	615703.32	727963.10	N 32 41 28.12	W 103 43 36.13	2954.89	358.14	0.00
	12500.00	90.30	358.14	9636.35	3054.89	3053.28	-98.98	615803.26	727959.86	N 32 41 29.11	W 103 43 36.16	3054.89	358.14	0.00
	12600.00	90.30	358.14	9635.82	3154.89	3153.23	-102.22	615903.20	727956.62	N 32 41 30.10	W 103 43 36.19	3154.89	358.14	0.00
	12700.00	90.30	358.14	9635.29	3254.89	3253.18	-105.46	616003.14	727953.38	N 32 41 31.09	W 103 43 36.22	3254.89	358.14	0.00
	12800.00	90.30	358.14	9634.76	3354.88	3353.12	-108.70	616103.09	727950.14	N 32 41 32.08	W 103 43 36.25	3354.88	358.14	0.00
	12900.00	90.30	358.14	9634.23	3454.88	3453.07	-111.94	616203.03	727946.90	N 32 41 33.07	W 103 43 36.28	3454.88	358.14	0.00
	13000.00	90.30	358.14	9633.70	3554.88	3553.02	-115.18	616302.97	727943.66	N 32 41 34.06	W 103 43 36.32	3554.88	358.14	0.00
	13100.00	90.30	358.14	9633.17	3654.88	3652.96	-118.42	616402.91	727940.42	N 32 41 35.04	W 103 43 36.35	3654.88	358.14	0.00
	13200.00	90.30	358.14	9632.64	3754.88	3752.91	-121.66	616502.85	727937.18	N 32 41 36.03	W 103 43 36.38	3754.88	358.14	0.00
	13300.00	90.30	358.14	9632.11	3854.88	3852.85	-124.90	616602.79	727933.95	N 32 41 37.02	W 103 43 36.41	3854.88	358.14	0.00
	13400.00	90.30	358.14	9631.58	3954.88	3952.80	-128.14	616702.73	727930.71	N 32 41 38.01	W 103 43 36.44	3954.88	358.14	0.00
	13500.00	90.30	358.14	9631.05	4054.87	4052.75	-131.38	616802.67	727927.47	N 32 41 39.00	W 103 43 36.47	4054.87	358.14	0.00
	13600.00	90.30	358.14	9630.51	4154.87	4152.69	-134.62	616902.61	727924.23	N 32 41 39.99	W 103 43 36.50	4154.87	358.14	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	13700.00	90.30	358.14	9629.98	4254.87	4252.64	-137.86	617002.55	727920.99	N 32 41 40.98	W 103 43 36.53	4254.87	358.14	0.00
	13800.00	90.30	358.14	9629.45	4354.87	4352.58	-141.10	617102.49	727917.75	N 32 41 41.97	W 103 43 36.57	4354.87	358.14	0.00
	13900.00	90.30	358.14	9628.92	4454.87	4452.53	-144.34	617202.43	727914.51	N 32 41 42.96	W 103 43 36.60	4454.87	358.14	0.00
	14000.00	90.30	358.14	9628.39	4554.87	4552.48	-147.58	617302.37	727911.27	N 32 41 43.95	W 103 43 36.63	4554.87	358.14	0.00
	14100.00	90.30	358.14	9627.86	4654.87	4652.42	-150.82	617402.32	727908.03	N 32 41 44.94	W 103 43 36.66	4654.87	358.14	0.00
	14200.00	90.30	358.14	9627.33	4754.86	4752.37	-154.06	617502.26	727904.79	N 32 41 45.92	W 103 43 36.69	4754.86	358.14	0.00
	14300.00	90.30	358.14	9626.80	4854.86	4852.31	-157.30	617602.20	727901.55	N 32 41 46.91	W 103 43 36.72	4854.86	358.14	0.00
	14400.00	90.30	358.14	9626.27	4954.86	4952.26	-160.54	617702.14	727898.31	N 32 41 47.90	W 103 43 36.75	4954.86	358.14	0.00
	14500.00	90.30	358.14	9625.74	5054.86	5052.21	-163.78	617802.08	727895.07	N 32 41 48.89	W 103 43 36.78	5054.86	358.14	0.00
	14600.00	90.30	358.14	9625.21	5154.86	5152.15	-167.02	617902.02	727891.83	N 32 41 49.88	W 103 43 36.81	5154.86	358.14	0.00
	14700.00	90.30	358.14	9624.68	5254.86	5252.10	-170.26	618001.96	727888.59	N 32 41 50.87	W 103 43 36.85	5254.86	358.14	0.00
	14800.00	90.30	358.14	9624.15	5354.86	5352.04	-173.50	618101.90	727885.35	N 32 41 51.86	W 103 43 36.88	5354.86	358.14	0.00
	14900.00	90.30	358.14	9623.62	5454.85	5451.99	-176.74	618201.84	727882.11	N 32 41 52.85	W 103 43 36.91	5454.85	358.14	0.00
	15000.00	90.30	358.14	9623.09	5554.85	5551.94	-179.98	618301.78	727878.87	N 32 41 53.84	W 103 43 36.94	5554.85	358.14	0.00
	15100.00	90.30	358.14	9622.56	5654.85	5651.88	-183.22	618401.72	727875.63	N 32 41 54.83	W 103 43 36.97	5654.85	358.14	0.00
	15200.00	90.30	358.14	9622.03	5754.85	5751.83	-186.46	618501.66	727872.39	N 32 41 55.82	W 103 43 37.00	5754.85	358.14	0.00
	15300.00	90.30	358.14	9621.50	5854.85	5851.78	-189.70	618601.61	727869.15	N 32 41 56.80	W 103 43 37.03	5854.85	358.14	0.00
	15400.00	90.30	358.14	9620.97	5954.85	5951.72	-192.94	618701.55	727865.91	N 32 41 57.79	W 103 43 37.06	5954.85	358.14	0.00
	15500.00	90.30	358.14	9620.44	6054.85	6051.67	-196.18	618801.49	727862.67	N 32 41 58.78	W 103 43 37.10	6054.85	358.14	0.00
	15600.00	90.30	358.14	9619.91	6154.85	6151.61	-199.42	618901.43	727859.43	N 32 41 59.77	W 103 43 37.13	6154.85	358.14	0.00
	15700.00	90.30	358.14	9619.38	6254.84	6251.56	-202.66	619001.37	727856.19	N 32 42 0.76	W 103 43 37.16	6254.84	358.14	0.00
	15800.00	90.30	358.14	9618.85	6354.84	6351.51	-205.90	619101.31	727852.95	N 32 42 1.75	W 103 43 37.19	6354.84	358.14	0.00
	15900.00	90.30	358.14	9618.32	6454.84	6451.45	-209.14	619201.25	727849.71	N 32 42 2.74	W 103 43 37.22	6454.84	358.14	0.00
	16000.00	90.30	358.14	9617.79	6554.84	6551.40	-212.38	619301.19	727846.47	N 32 42 3.73	W 103 43 37.25	6554.84	358.14	0.00
	16100.00	90.30	358.14	9617.26	6654.84	6651.34	-215.62	619401.13	727843.23	N 32 42 4.72	W 103 43 37.28	6654.84	358.14	0.00
	16200.00	90.30	358.14	9616.73	6754.84	6751.29	-218.86	619501.07	727839.99	N 32 42 5.71	W 103 43 37.31	6754.84	358.14	0.00
	16300.00	90.30	358.14	9616.20	6854.84	6851.24	-222.10	619601.01	727836.75	N 32 42 6.70	W 103 43 37.35	6854.84	358.14	0.00
	16400.00	90.30	358.14	9615.67	6954.83	6951.18	-225.34	619700.95	727833.51	N 32 42 7.68	W 103 43 37.38	6954.83	358.14	0.00
	16500.00	90.30	358.14	9615.14	7054.83	7051.13	-228.58	619800.89	727830.27	N 32 42 8.67	W 103 43 37.41	7054.83	358.14	0.00
	16600.00	90.30	358.14	9614.61	7154.83	7151.07	-231.82	619900.84	727827.03	N 32 42 9.66	W 103 43 37.44	7154.83	358.14	0.00
	16700.00	90.30	358.14	9614.08	7254.83	7251.02	-235.06	620000.78	727823.79	N 32 42 10.65	W 103 43 37.47	7254.83	358.14	0.00
	16800.00	90.30	358.14	9613.55	7354.83	7350.97	-238.30	620100.72	727820.55	N 32 42 11.64	W 103 43 37.50	7354.83	358.14	0.00
	16900.00	90.30	358.14	9613.02	7454.83	7450.91	-241.54	620200.66	727817.31	N 32 42 12.63	W 103 43 37.53	7454.83	358.14	0.00
	17000.00	90.30	358.14	9612.49	7554.83	7550.86	-244.78	620300.60	727814.07	N 32 42 13.62	W 103 43 37.56	7554.83	358.14	0.00
	17100.00	90.30	358.14	9611.96	7654.82	7650.80	-248.02	620400.54	727810.83	N 32 42 14.61	W 103 43 37.60	7654.82	358.14	0.00
	17200.00	90.30	358.14	9611.43	7754.82	7750.75	-251.26	620500.48	727807.59	N 32 42 15.60	W 103 43 37.63	7754.82	358.14	0.00
	17300.00	90.30	358.14	9610.90	7854.82	7850.70	-254.50	620600.42	727804.35	N 32 42 16.59	W 103 43 37.66	7854.82	358.14	0.00
	17400.00	90.30	358.14	9610.37	7954.82	7950.64	-257.74	620700.36	727801.11	N 32 42 17.57	W 103 43 37.69	7954.82	358.14	0.00
	17500.00	90.30	358.14	9609.84	8054.82	8050.59	-260.98	620800.30	727797.87	N 32 42 18.56	W 103 43 37.72	8054.82	358.14	0.00
	17600.00	90.30	358.14	9609.31	8154.82	8150.54	-264.22	620900.24	727794.63	N 32 42 19.55	W 103 43 37.75	8154.82	358.14	0.00
	17700.00	90.30	358.14	9608.78	8254.82	8250.48	-267.46	621000.18	727791.39	N 32 42 20.54	W 103 43 37.78	8254.82	358.14	0.00
	17800.00	90.30	358.14	9608.25	8354.81	8350.43	-270.70	621100.13	727788.15	N 32 42 21.53	W 103 43 37.81	8354.81	358.14	0.00
	17900.00	90.30	358.14	9607.72	8454.81	8450.37	-273.94	621200.07	727784.91	N 32 42 22.52	W 103 43 37.85	8454.81	358.14	0.00
	18000.00	90.30	358.14	9607.19	8554.81	8550.32	-277.18	621300.01	727781.67	N 32 42 23.51	W 103 43 37.88	8554.81	358.14	0.00
	18100.00	90.30	358.14	9606.66	8654.81	8650.27	-280.42	621399.95	727778.43	N 32 42 24.50	W 103 43 37.91	8654.81	358.14	0.00
	18200.00	90.30	358.14	9606.13	8754.81	8750.21	-283.66	621499.89	727775.19	N 32 42 25.49	W 103 43 37.94	8754.81	358.14	0.00
	18300.00	90.30	358.14	9605.60	8854.81	8850.16	-286.90	621599.83	727771.95	N 32 42 26.48	W 103 43 37.97	8854.81	358.14	0.00
	18400.00	90.30	358.14	9605.07	8954.81	8950.10	-290.14	621699.77	727768.71	N 32 42 27.47	W 103 43 38.00	8954.81	358.14	0.00
	18500.00	90.30	358.14	9604.54	9054.80	9050.05	-293.38	621799.71	727765.47	N 32 42 28.45	W 103 43 38.03	9054.80	358.14	0.00
	18600.00	90.30	358.14	9604.01	9154.80	9150.00	-296.62	621899.65	727762.23	N 32 42 29.44	W 103 43 38.06	9154.80	358.14	0.00
	18700.00	90.30	358.14	9603.48	9254.80	9249.94	-299.86	621999.59	727758.99	N 32 42 30.43	W 103 43 38.10	9254.80	358.14	0.00
	18800.00	90.30	358.14	9602.95	9354.80	9349.89	-303.10	622099.53	727755.76	N 32 42 31.42	W 103 43 38.13	9354.80	358.14	0.00
	18900.00	90.30	358.14	9602.42	9454.80	9449.83	-306.34	622199.47	727752.52	N 32 42 32.41	W 103 43 38.16	9454.80	358.14	0.00
	19000.00	90.30	358.14	9601.89	9554.80	9549.78	-309.58	622299.41	727749.28	N 32 42 33.40	W 103 43 38.19	9554.80	358.14	0.00
	19100.00	90.30	358.14	9601.36	9654.80	9649.73	-312.82	622399.36	727746.04	N 32 42 34.39	W 103 43 38.22	9654.80	358.14	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	19200.00	90.30	358.14	9600.83	9754.79	9749.67	-316.06	622499.30	727742.80	N 32 42 35.38	W 103 43 38.25	9754.79	358.14	0.00
	19300.00	90.30	358.14	9600.30	9854.79	9849.62	-319.30	622599.24	727739.56	N 32 42 36.37	W 103 43 38.28	9854.79	358.14	0.00
Cimarex Querecho 1 Federal com #1H - PBHL	19355.75	90.30	358.14	9600.00	9910.54	9905.33	-321.11	622654.95	727737.75	N 32 42 36.92	W 103 43 38.30	9910.54	358.14	0.00

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	19355.746	1/100.000	30.000	30.000	SLB_UNKNOWN	Original Borehole / Cimarex Querecho 1 Federal com #1H

Drilling 12-1/4" hole below 13 3/8" Casing

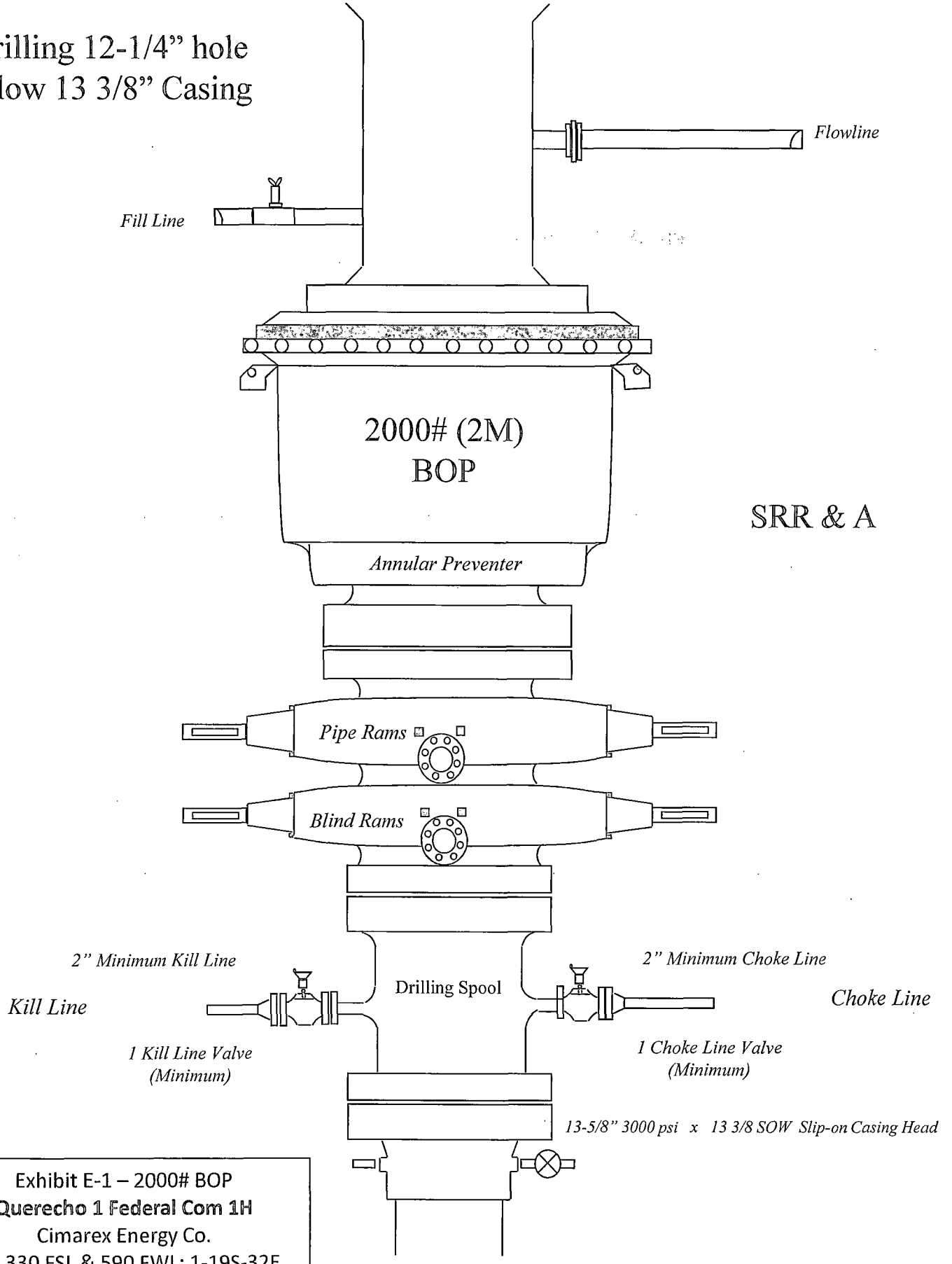
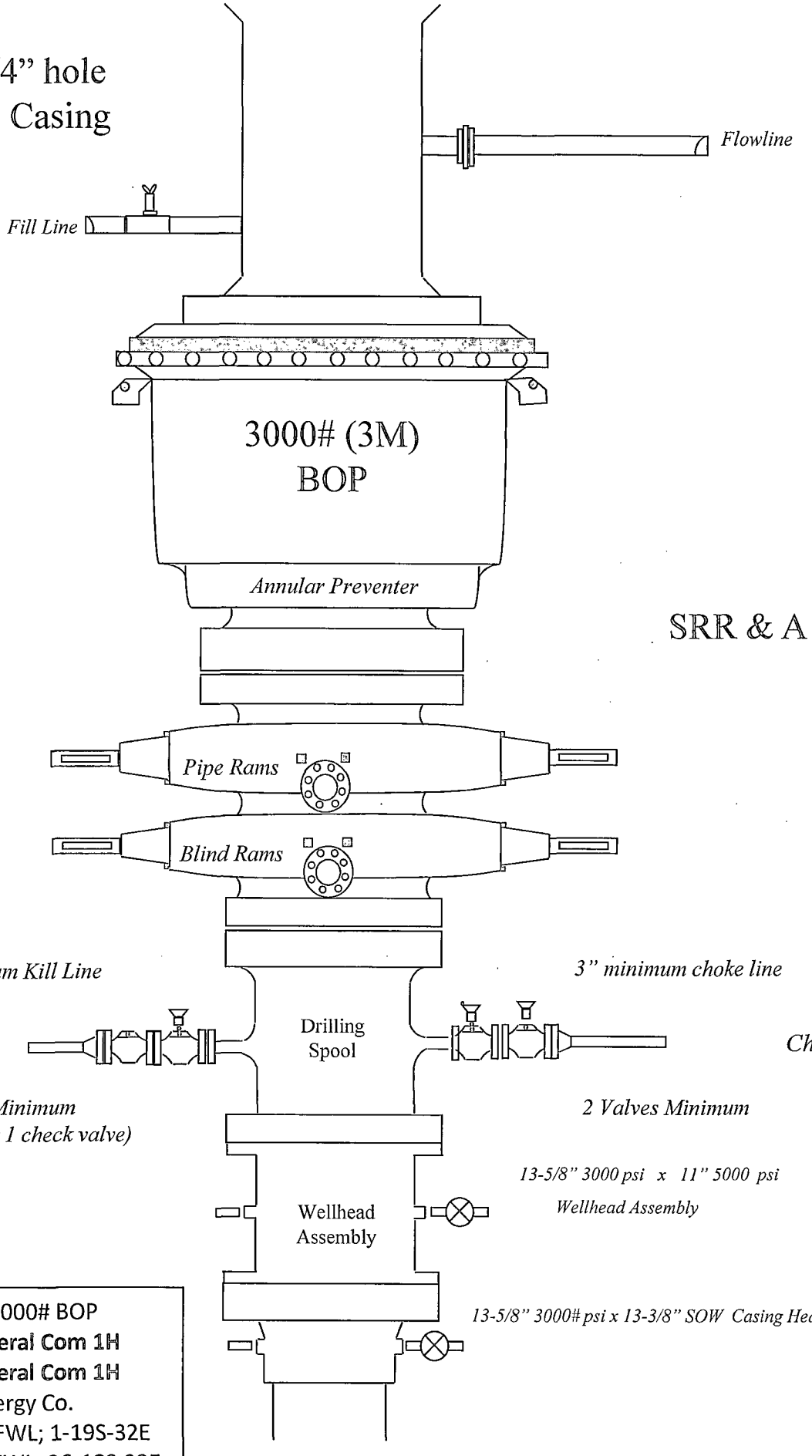


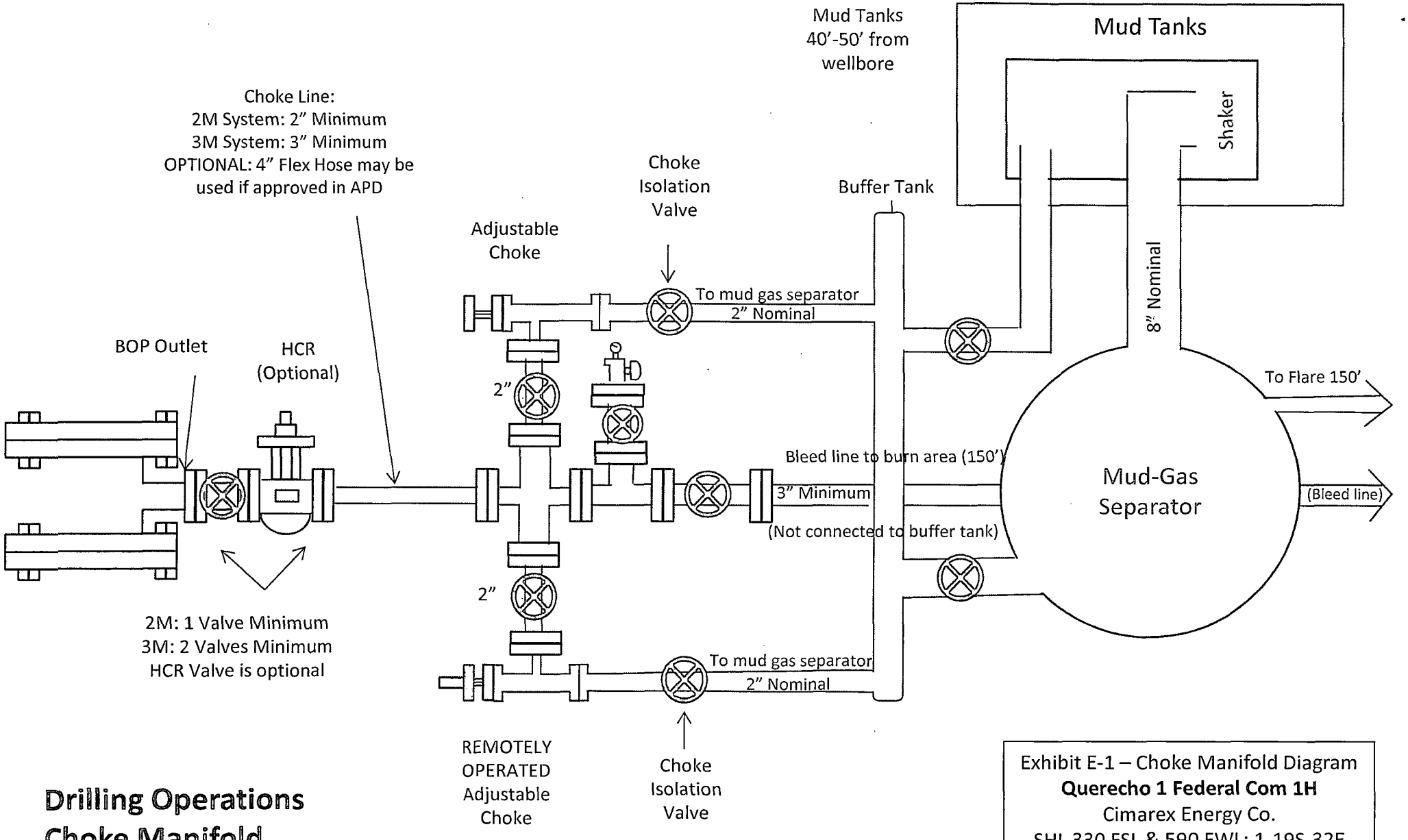
Exhibit E-1 – 2000# BOP
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM

Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
Querecho 1 Federal Com 1H
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM



Drilling Operations
Choke Manifold
2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM

Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
Oderco Inc	odyd-271

HOSE SPECIFICATIONS

Type: Stainless Steel Armor Choke & Kill Hose	Hose Length: 45'ft.
I.D. 4 INCHES	O.D. 9 INCHES

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 PSI	15,000 PSI	0 PSI

COUPLINGS

Stem Part No.	Ferrule No.
OKC OKC	OKC OKC
Type of Coupling: Swage-It	

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
15 MIN.	0 PSI
Hose Assembly Serial Number: 79793	Hose Serial Number: OKC

Comments:

Date:	Tested:	Approved:
3/8/2011	A. Jaime Sanchez	Kevin Hart

Midwest Hose & Specialty, Inc.

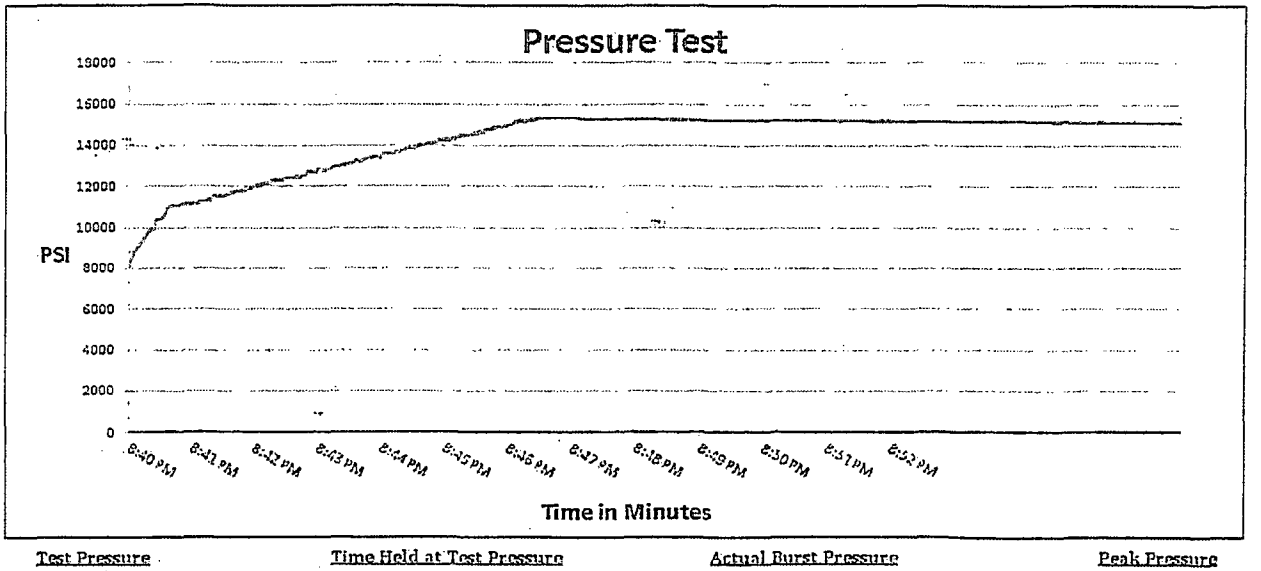
Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

Pick Ticket #: 94260

Hose Specifications		Verification	
Hose Type	Length	Type of Fitting	Coupling Method
C & K	45'	4 1/16 10K	Swage
I.D.	O.D.	Die Size	Final O.D.
4"	6.09"	6.38"	6.25"
Working Pressure	Burst Pressure	Hose Serial #	Hose Assembly Serial #
10000 PSI	Standard Safety Multiplier Applies	5544	79793



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 Minutes		15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Zac Mcconnell*

Approved By: *Kim Thomas*

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM

Exhibit F-2 – Co-Flex Hose
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer:	PO
DEM	ODYD-271

SPECIFICATIONS

Sales Order	Dated:
79793	3/8/2011

We hereby cerify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards

Supplier:
Midwest Hose & Specialty, Inc.
10640 Tanner Road
Houston, Texas 77041

Comments:

Approved:	Date:
[signature]	3/8/2011

Midwest Hose & Specialty, Inc.

Exhibit F -3– Co-Flex Hose
Querecho 1 Federal Com 1H
Cimarex Energy Co.
SHL 330 FSL & 590 FWL; 1-19S-32E
BHL 330 FNL & 330 FWL; 36-18S-32E
Lea County, NM

Specification Sheet
Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium componets.The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unibolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

P.O. Box 96558 – 1421 S.E. 29th St. Oklahoma City, OK 73143 * (405) 670-6718 * Fax: (405) 670-6816

Exhibit F – Co-Flex Hose

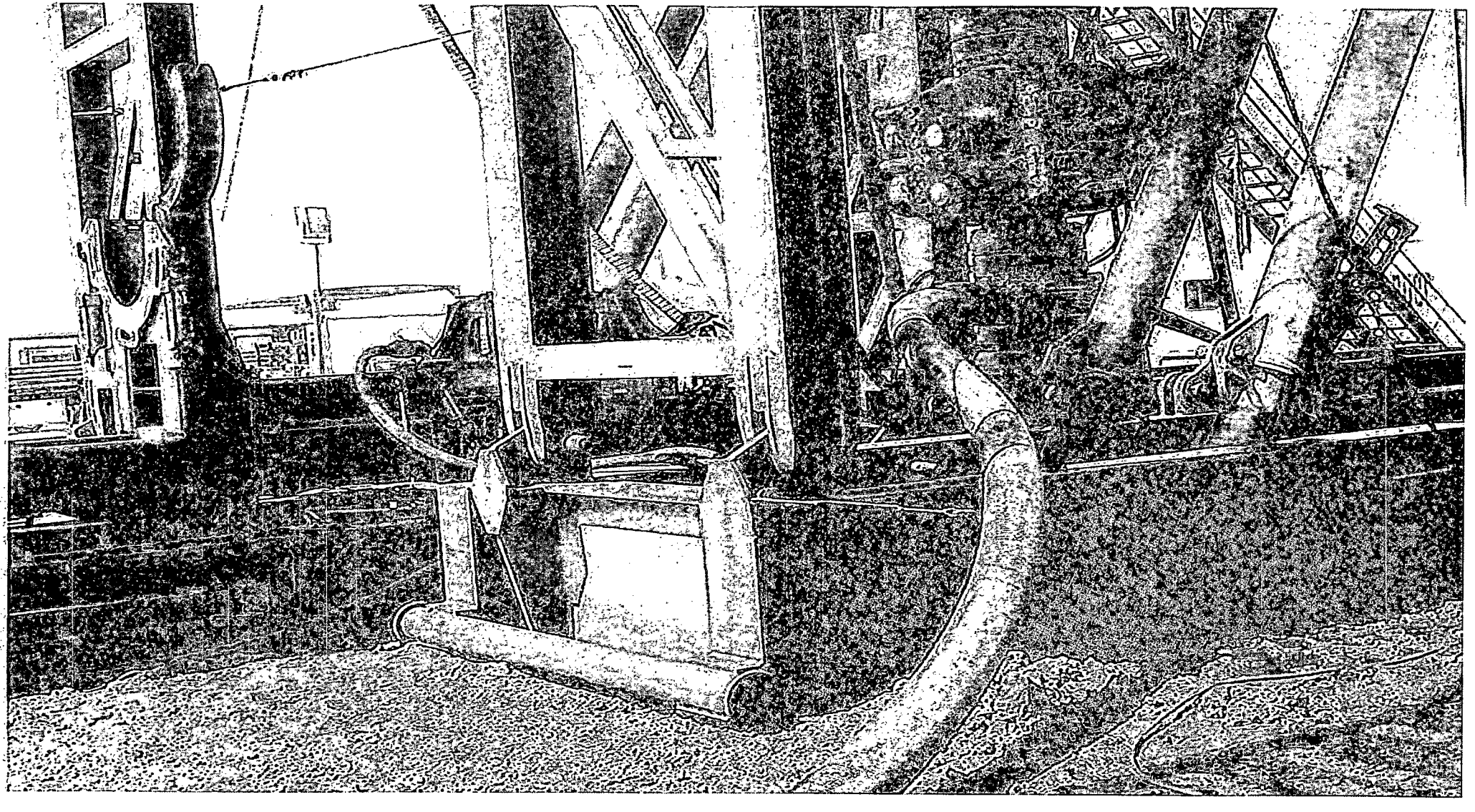
Querecho 1 Federal Com 1H

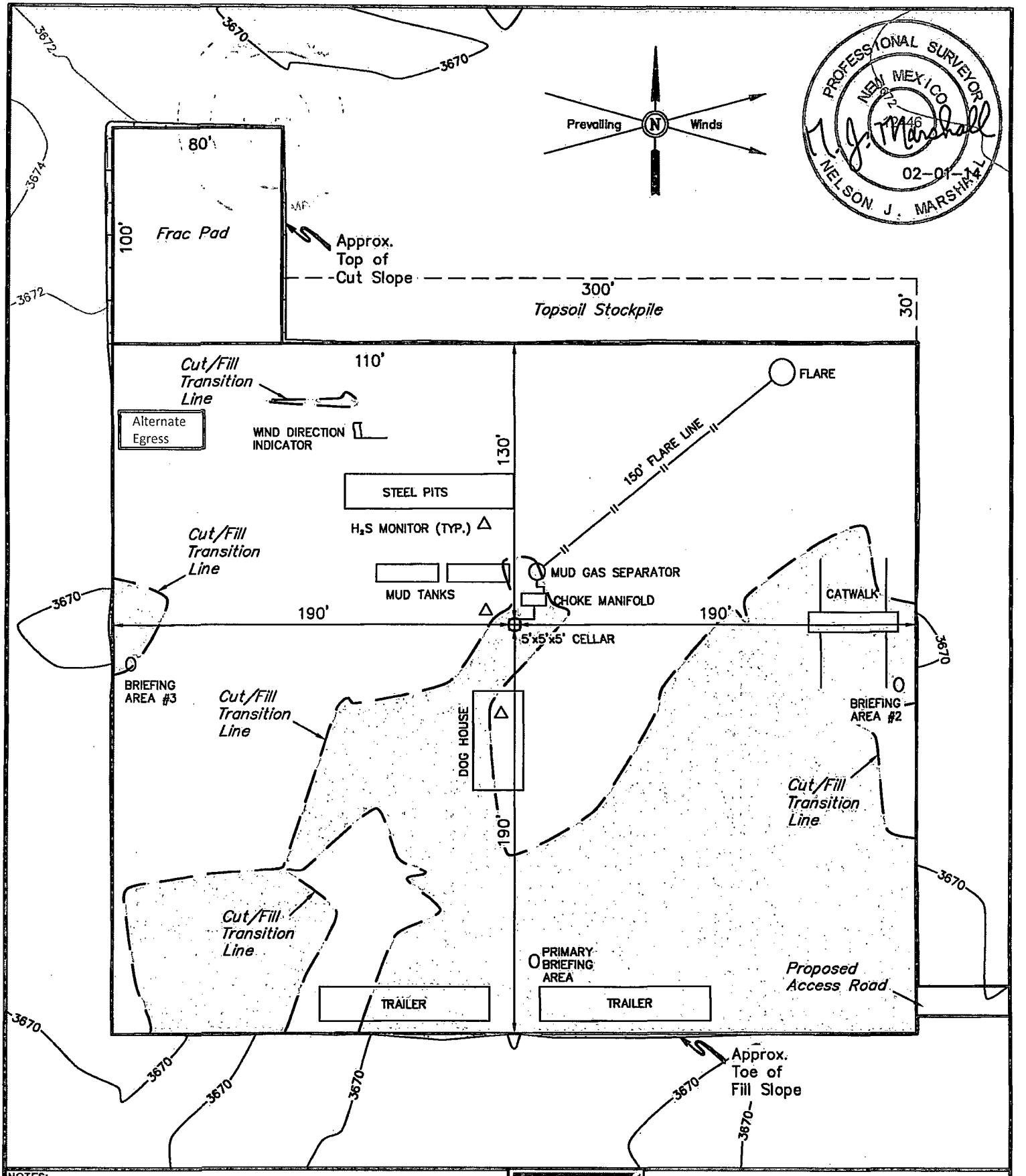
Cimarex Energy Co.

SHL 330 FSL & 590 FWL; 1-19S-32E

BHL 330 FNL & 330 FWL; 36-18S-32E

Lea County, NM





NOTES:

- Flare pit is to be located a min. of 160' from the well head.

CIMAREX ENERGY CO.

QUERECHO 1 FEDERAL COM #1H
SECTION 1, T19S, R32E, N.M.P.M.
330' FSL 590' FWL

DRAWN BY: B.D.H.	SCALE: 1" =60'	
DATE: 01-28-14	REVISED:	

TYPICAL RIG LAYOUT — EXHIBIT D

UINTAH ENGINEERING & LAND SURVEYING
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017