

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

HOBBS OCD
MAY 19 2015
RECEIVED
OCD Hobbs

ATS-14-867

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

5. Lease Serial No.
SHLABHL: NMNM027805

6. If Indian, Allottee or Tribe Name

(H)

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

8. Lease Name and Well No.
Lechuza 15 Federal #21H

(314824)

9. API Well No.

70-025-42571

10. Field and Pool, or Exploratory

RED TANK; BS (51683)

11. Sec., T. R. M. or Blk. and Survey and Area

15, 22S, 32E

12. County or Parish

LEA

13. State

NM

1a. Type of Work

☒ DRILL

☐ REENTER

1b. Type of Well

☒ Oil Well

☐ Gas Well

☐ Other

☒ Single Zone

☐ Multiple Zone

2. Name of Operator

Cimarex Energy Co.

(215099)

3a. Address

202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103

3b. Phone No. (include area code)

918-585-1100

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At Surface 1280' FSL & 330' FWL (M)

At proposed prod. Zone 1310' FSL & 330' FEL (P) Bone Spring

14. Distance in miles and direction from nearest town or post office*

Eunice, NM is 30 miles to the east of location

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any)

330

16. No of acres in lease

NMNM027805=640.00 acres

17. Spacing Unit dedicated to this well

200.00

18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft.

680' from the #22H

19. Proposed Depth

Pilot Hole TD: N/A

13,894 MD

9,475 TVD

20. BLM/BIA Bond No. on File

NM2575; NMB000835

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3730 GR

22. Approximate date work will start*

9/29/14

23. Estimated duration

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

Aricka Easterling

Name (Printed/Typed)

Aricka Easterling

Date

6/16/14

Title

Regulatory Compliance

Steve Caffey

Name (Printed/Typed)

Office CARLSBAD FIELD OFFICE

Date

MAY 11 2015

Title

FIELD MANAGER

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)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL
MAY 19 2015

Application to Drill
Lechuza 15 Federal #21H
 Cimarex Energy Co.
 UL: M, Sec. 15, 22S, 32E
 LEA Co., NM

HOBBS OCD

MAY 19 2015

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

1. **Location:** SHL 1280' FSL & 330' FWL
BHL 1310' FSL & 330' FEL
2. **Elevation Above Sea Level:** 3,730' 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:** 13,894 MD 9,475 TVD Pilot Hole TD: N/A
6. **Estimated Tops of Geological Markers:**

Formation	Est Top	Bearing
Rustler	890	N/A
Salt	1220	N/A
Castille	3395	N/A
Base Salt	4540	N/A
Lamar	4780	N/A
Bell Canyon	4850	N/A
Cherry Canyon	5820	N/A
Brushy Canyon	7150	N/A
Basal Brushy Canyon	8400	N/A
Bone Spring	8695	Hydrocarbons
Avalon Shale	9000	Hydrocarbons
1st BSS	9800	Hydrocarbons
2nd BSS	10500	Hydrocarbons
3rd BS Carbonate	10900	Hydrocarbons

7. **Possible Mineral Bearing Formation:** Shown above

7A. **OSE Ground Water Estimated Depth:** 350'

8. **Casing Program:**

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	Condition	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	1000	1000	17 1/2	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	New	447	8.6	1.65		3.87	48,000	41,698	7.72
Intermediate	0	4810	4810	12 1/4	9-5/8"	40.00	J-55	LT&C	New	2501	10.0	1.56	1.56	1.58	192,400	163,026	3.19
Production	0	8998	8998	8 3/4	5-1/2"	20.00	L-80	LT&C	New	4304	9.2	2.05	2.13	2.13	189,500	162,883	2.55
Production	8998	13894	9475	8 3/4	5-1/2"	20.00	L-80	BT&C	New	4532	9.2	1.95	1.98	1.98	9,540	8,200	56.83

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.

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8A. Casing Design and Casing Loading Assumptions:

Surface	Tension	A 1.8 design factor with effects of buoyancy: 8.60 ppg.
	Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.60 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: 9.20 ppg.
	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.20 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	417	1.75	13.50	729	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	195	1.34	14.80	260	Class C + LCM, 6.320 gps water
	TOC: 0		43% Excess			Centralizers per Onshore Order 2.III.B.1f
Intermediate	Lead	861	1.92	12.90	1652	35:65 (Poz:C) + Salt + Bentonite + Retarder + LCM, 9.650 gps water
	Tail	281	1.34	14.80	376	Class C + LCM, 6.320 gps water
	TOC: 0		44% Excess			
Production	Lead	556	2.33	11.90	1294	35:65 (Poz:H) + Salt + Bentonite + Retarder + Dispersant, 13.400 gps water
	Tail	1154	1.30	14.20	1500	50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS + Retarder, 5.860 gps water
	TOC: 4300		16% 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: No Pilot KOP: 8,998' EOC: 9,748'

Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

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.

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.

11. Proposed Mud Circulating System:

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Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1000'	8.10 - 8.60	28	NC	FW Spud Mud
1000' to 4810'	9.50 - 10.00	30-32	NC	Brine Water
4810' to 13894'	8.70 - 9.20	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 4810 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 H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S 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: 4264 psi

Estimated BHT: 156°

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.

Bone Spring pay will be perforated and stimulated.

The proposed well will be tested and potentialized as **Oil**

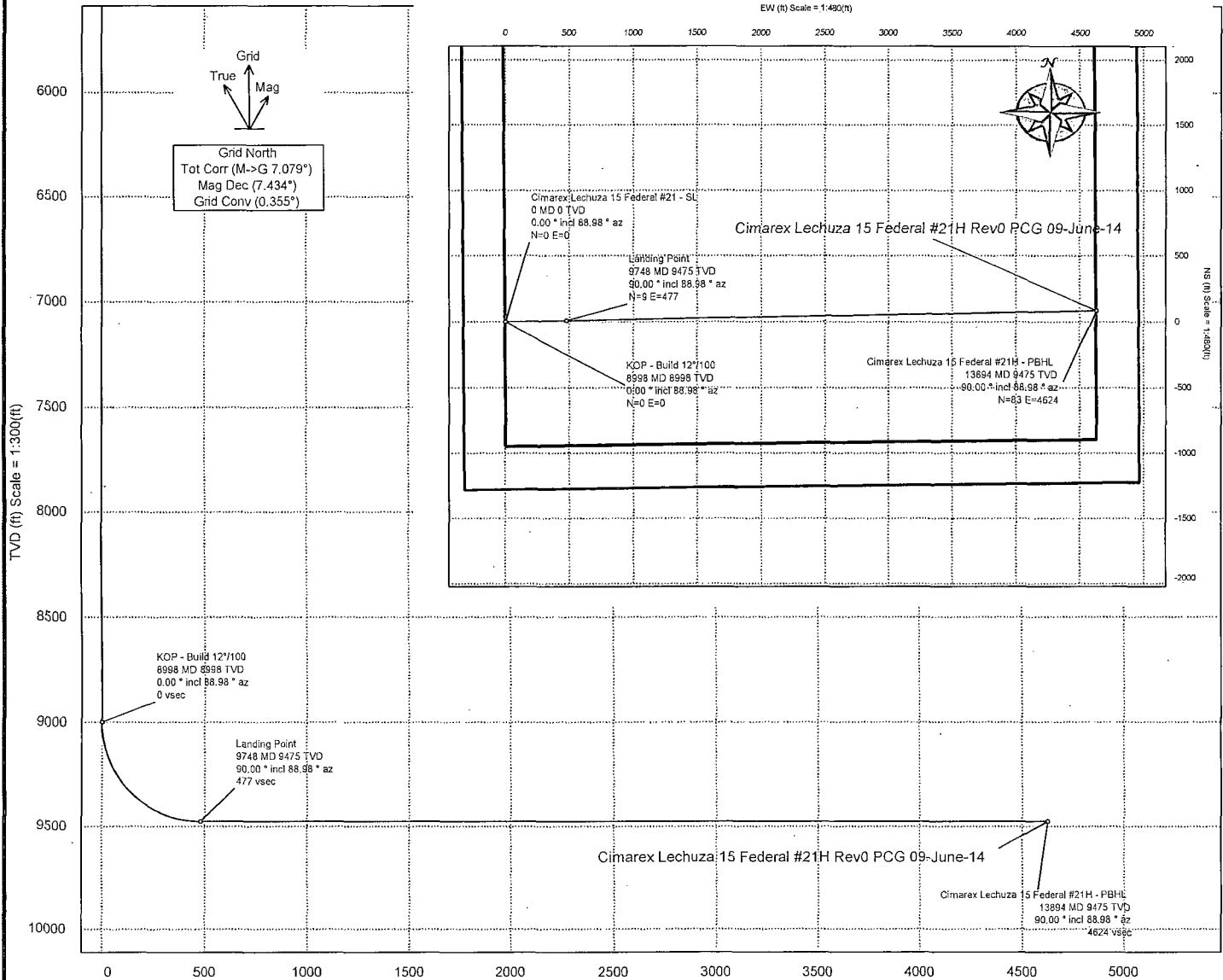


Cimarex



Borehole:	Well:	Field:	Structure:
Original Borehole	Lechuza 15 Federal #21H	NM Lea County (NAD 83)	TBD

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2014 Dip: 60.242° Date: 09-Jun-2014	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Slot: Lechuza 15
MagDec: 7.434° FS: 48370.361nT Gravity FS: 998.452mgm (9.80665 Based)	Lat: N 32 23 16.72 Northing: 505512.7RUS Grid Conv: 0.3553°	Federal #21H TVD Ref: Ground Level(3730ft above MSL)
	Lon: W 103 40 12.11 Easting: 746084.5RUS Scale Fact: 0.9999571	Plan: Rev0 PCG 09-June-14



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Cimarex Lechuza 15 Federal #21 - SL	0.00	0.00	88.98	0.00	0.00	0.00	0.00	
KOP - Build 12°/100	8997.54	0.00	88.98	8997.54	0.00	0.00	0.00	0.00
Landing Point	9747.54	90.00	88.98	9475.00	477.47	8.52	477.39	12.00
Cimarex Lechuza 15 Federal #21H - PBHL	13894.42	90.00	88.98	9475.00	4624.34	82.50	4623.61	0.00

CONTROLLED		
Plan ref	Cimarex Lechuza 15 Federal #21H Rev0 PCG 09-June-14	
Drawing ref		
Copy number	1 of 1	
Date	09-Jun-2014	
1	Originator	Craig Geaslen
2	DE Sign Off Authority	
3	D&M Line Manager	
4	Client	
Copy number		for



Cimarex Lechuza 15 Federal #21H Rev0 PCG 09-June-14 Proposal Geodetic Report 100ft Interpolated (Non-Def Plan)



Report Date: June 09, 2014 - 11:46 AM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex Lechuza 15 Federal #21H / Cimarex Lechuza 15 Federal #21H
 Well: Cimarex Lechuza 15 Federal #21H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Lechuza 15 Federal #21H Rev0 PCG 09-June-14
 Survey Date: June 09, 2014
 Tort / AHD / DDI / ERD Ratio: 90.001 ° / 4624.344 ft / 5.786 / 0.488
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 23' 16.72064", W 103° 40' 12.11435"
 Location Grid N/E Y/X: N 505512.700 ftUS, E 746084.500 ftUS
 CRS Grid Convergence Angle: 0.3553 °
 Grid Scale Factor: 0.9999571
 Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 88.978 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: Ground Level
 TVD Reference Elevation: 3730.000 ft above MSL
 Seabed / Ground Elevation: 3730.000 ft above MSL
 Magnetic Declination: 7.434 °
 Total Gravity Field Strength: 998.4515mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48370.361 nT
 Magnetic Dip Angle: 60.242 °
 Declination Date: June 09, 2014
 Magnetic Declination Model: BGGM 2014
 North Reference: Grid North
 Grid Convergence Used: 0.3553 °
 Total Corr Mag North->Grid North: 7.0784 °
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
Marker MudLine Cimarex Lechuza 15 Federal #21 - SL	0.00	0.00	88.98	0.00	0.00	0.00	0.00	N/A	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	100.00	0.00	88.98	100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	200.00	0.00	88.98	200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	300.00	0.00	88.98	300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	400.00	0.00	88.98	400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	500.00	0.00	88.98	500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	600.00	0.00	88.98	600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	700.00	0.00	88.98	700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	800.00	0.00	88.98	800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	900.00	0.00	88.98	900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1000.00	0.00	88.98	1000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1100.00	0.00	88.98	1100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1200.00	0.00	88.98	1200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1300.00	0.00	88.98	1300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1400.00	0.00	88.98	1400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1500.00	0.00	88.98	1500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1600.00	0.00	88.98	1600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1700.00	0.00	88.98	1700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	1800.00	0.00	88.98	1800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	1900.00	0.00	88.98	1900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2000.00	0.00	88.98	2000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2100.00	0.00	88.98	2100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2200.00	0.00	88.98	2200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2300.00	0.00	88.98	2300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2400.00	0.00	88.98	2400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2500.00	0.00	88.98	2500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2600.00	0.00	88.98	2600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2700.00	0.00	88.98	2700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2800.00	0.00	88.98	2800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	2900.00	0.00	88.98	2900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3000.00	0.00	88.98	3000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3100.00	0.00	88.98	3100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3200.00	0.00	88.98	3200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3300.00	0.00	88.98	3300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3400.00	0.00	88.98	3400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3500.00	0.00	88.98	3500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3600.00	0.00	88.98	3600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3700.00	0.00	88.98	3700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3800.00	0.00	88.98	3800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	3900.00	0.00	88.98	3900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4000.00	0.00	88.98	4000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4100.00	0.00	88.98	4100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4200.00	0.00	88.98	4200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4300.00	0.00	88.98	4300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4400.00	0.00	88.98	4400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4500.00	0.00	88.98	4500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4600.00	0.00	88.98	4600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4700.00	0.00	88.98	4700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4800.00	0.00	88.98	4800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	4900.00	0.00	88.98	4900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5000.00	0.00	88.98	5000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5100.00	0.00	88.98	5100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5200.00	0.00	88.98	5200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5300.00	0.00	88.98	5300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5400.00	0.00	88.98	5400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5500.00	0.00	88.98	5500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5600.00	0.00	88.98	5600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5700.00	0.00	88.98	5700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5800.00	0.00	88.98	5800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	5900.00	0.00	88.98	5900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6000.00	0.00	88.98	6000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6100.00	0.00	88.98	6100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6200.00	0.00	88.98	6200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6300.00	0.00	88.98	6300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6400.00	0.00	88.98	6400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6500.00	0.00	88.98	6500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6600.00	0.00	88.98	6600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6700.00	0.00	88.98	6700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6800.00	0.00	88.98	6800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	6900.00	0.00	88.98	6900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7000.00	0.00	88.98	7000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7100.00	0.00	88.98	7100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7200.00	0.00	88.98	7200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7300.00	0.00	88.98	7300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7400.00	0.00	88.98	7400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7500.00	0.00	88.98	7500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7600.00	0.00	88.98	7600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7700.00	0.00	88.98	7700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7800.00	0.00	88.98	7800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	7900.00	0.00	88.98	7900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8000.00	0.00	88.98	8000.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8100.00	0.00	88.98	8100.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8200.00	0.00	88.98	8200.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8300.00	0.00	88.98	8300.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8400.00	0.00	88.98	8400.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8500.00	0.00	88.98	8500.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8600.00	0.00	88.98	8600.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8700.00	0.00	88.98	8700.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8800.00	0.00	88.98	8800.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	8900.00	0.00	88.98	8900.00	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
KOP - Build 12°/100	8997.54	0.00	88.98	8997.54	0.00	0.00	0.00	0.00	505512.70	746084.50	N 32 23 16.72	W 103 40 12.11
	9000.00	0.30	88.98	9000.00	0.01	0.00	0.01	12.00	505512.70	746084.51	N 32 23 16.72	W 103 40 12.11
	9100.00	12.30	88.98	9099.22	10.95	0.20	10.95	12.00	505512.90	746095.45	N 32 23 16.72	W 103 40 11.99
	9200.00	24.30	88.98	9193.99	42.29	0.75	42.28	12.00	505513.45	746126.78	N 32 23 16.73	W 103 40 11.62
	9300.00	36.30	88.98	9280.17	92.64	1.65	92.62	12.00	505514.35	746177.12	N 32 23 16.73	W 103 40 11.03
	9400.00	48.30	88.98	9354.01	159.81	2.85	159.79	12.00	505515.55	746244.28	N 32 23 16.74	W 103 40 10.25
	9500.00	60.30	88.98	9412.26	240.87	4.30	240.83	12.00	505517.00	746325.32	N 32 23 16.75	W 103 40 9.31
	9600.00	72.30	88.98	9452.39	332.26	5.93	332.21	12.00	505518.63	746416.69	N 32 23 16.76	W 103 40 8.24
	9700.00	84.30	88.98	9472.64	430.00	7.67	429.93	12.00	505520.37	746514.42	N 32 23 16.77	W 103 40 7.10
Landing Point	9747.54	90.00	88.98	9475.00	477.47	8.52	477.39	12.00	505521.22	746561.87	N 32 23 16.78	W 103 40 6.55
	9800.00	90.00	88.98	9475.00	529.92	9.45	529.84	0.00	505522.15	746614.32	N 32 23 16.78	W 103 40 5.93
	9900.00	90.00	88.98	9475.00	629.92	11.24	629.82	0.00	505523.94	746714.30	N 32 23 16.79	W 103 40 4.77
	10000.00	90.00	88.98	9475.00	729.92	13.02	729.81	0.00	505525.72	746814.28	N 32 23 16.80	W 103 40 3.60
	10100.00	90.00	88.98	9475.00	829.92	14.80	829.79	0.00	505527.50	746914.26	N 32 23 16.82	W 103 40 2.44
	10200.00	90.00	88.98	9475.00	929.92	16.59	929.78	0.00	505529.29	747014.24	N 32 23 16.83	W 103 40 1.27
	10300.00	90.00	88.98	9475.00	1029.92	18.37	1029.76	0.00	505531.07	747114.21	N 32 23 16.84	W 103 40 0.10
	10400.00	90.00	88.98	9475.00	1129.92	20.16	1129.75	0.00	505532.86	747214.19	N 32 23 16.85	W 103 39 58.94
	10500.00	90.00	88.98	9475.00	1229.92	21.94	1229.73	0.00	505534.64	747314.17	N 32 23 16.86	W 103 39 57.77
	10600.00	90.00	88.98	9475.00	1329.92	23.73	1329.71	0.00	505536.42	747414.15	N 32 23 16.87	W 103 39 56.61
	10700.00	90.00	88.98	9475.00	1429.92	25.51	1429.70	0.00	505538.21	747514.13	N 32 23 16.89	W 103 39 55.44
	10800.00	90.00	88.98	9475.00	1529.92	27.29	1529.68	0.00	505539.99	747614.11	N 32 23 16.90	W 103 39 54.27
	10900.00	90.00	88.98	9475.00	1629.92	29.08	1629.67	0.00	505541.78	747714.09	N 32 23 16.91	W 103 39 53.11

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	11000.00	90.00	88.98	9475.00	1729.92	30.86	1729.65	0.00	505543.56	747814.07	N 32 23 16.92	W 103 39 51.94
	11100.00	90.00	88.98	9475.00	1829.92	32.65	1829.63	0.00	505545.34	747914.05	N 32 23 16.93	W 103 39 50.78
	11200.00	90.00	88.98	9475.00	1929.92	34.43	1929.62	0.00	505547.13	748014.03	N 32 23 16.94	W 103 39 49.61
	11300.00	90.00	88.98	9475.00	2029.92	36.21	2029.60	0.00	505548.91	748114.01	N 32 23 16.95	W 103 39 48.44
	11400.00	90.00	88.98	9475.00	2129.92	38.00	2129.59	0.00	505550.70	748213.99	N 32 23 16.97	W 103 39 47.28
	11500.00	90.00	88.98	9475.00	2229.92	39.78	2229.57	0.00	505552.48	748313.97	N 32 23 16.98	W 103 39 46.11
	11600.00	90.00	88.98	9475.00	2329.92	41.57	2329.55	0.00	505554.27	748413.95	N 32 23 16.99	W 103 39 44.95
	11700.00	90.00	88.98	9475.00	2429.92	43.35	2429.54	0.00	505556.05	748513.93	N 32 23 17.00	W 103 39 43.78
	11800.00	90.00	88.98	9475.00	2529.92	45.14	2529.52	0.00	505557.83	748613.91	N 32 23 17.01	W 103 39 42.61
	11900.00	90.00	88.98	9475.00	2629.92	46.92	2629.51	0.00	505559.62	748713.89	N 32 23 17.02	W 103 39 41.45
	12000.00	90.00	88.98	9475.00	2729.92	48.70	2729.49	0.00	505561.40	748813.87	N 32 23 17.03	W 103 39 40.28
	12100.00	90.00	88.98	9475.00	2829.92	50.49	2829.47	0.00	505563.19	748913.85	N 32 23 17.05	W 103 39 39.11
	12200.00	90.00	88.98	9475.00	2929.92	52.27	2929.46	0.00	505564.97	749013.83	N 32 23 17.06	W 103 39 37.95
	12300.00	90.00	88.98	9475.00	3029.92	54.06	3029.44	0.00	505566.75	749113.81	N 32 23 17.07	W 103 39 36.78
	12400.00	90.00	88.98	9475.00	3129.92	55.84	3129.43	0.00	505568.54	749213.79	N 32 23 17.08	W 103 39 35.62
	12500.00	90.00	88.98	9475.00	3229.92	57.62	3229.41	0.00	505570.32	749313.77	N 32 23 17.09	W 103 39 34.45
	12600.00	90.00	88.98	9475.00	3329.92	59.41	3329.39	0.00	505572.11	749413.75	N 32 23 17.10	W 103 39 33.28
	12700.00	90.00	88.98	9475.00	3429.92	61.19	3429.38	0.00	505573.89	749513.72	N 32 23 17.11	W 103 39 32.12
	12800.00	90.00	88.98	9475.00	3529.92	62.98	3529.36	0.00	505575.67	749613.70	N 32 23 17.13	W 103 39 30.95
	12900.00	90.00	88.98	9475.00	3629.92	64.76	3629.35	0.00	505577.46	749713.68	N 32 23 17.14	W 103 39 29.79
	13000.00	90.00	88.98	9475.00	3729.92	66.55	3729.33	0.00	505579.24	749813.66	N 32 23 17.15	W 103 39 28.62
	13100.00	90.00	88.98	9475.00	3829.92	68.33	3829.32	0.00	505581.03	749913.64	N 32 23 17.16	W 103 39 27.45
	13200.00	90.00	88.98	9475.00	3929.92	70.11	3929.30	0.00	505582.81	750013.62	N 32 23 17.17	W 103 39 26.29
	13300.00	90.00	88.98	9475.00	4029.92	71.90	4029.28	0.00	505584.60	750113.60	N 32 23 17.18	W 103 39 25.12
	13400.00	90.00	88.98	9475.00	4129.92	73.68	4129.27	0.00	505586.38	750213.58	N 32 23 17.19	W 103 39 23.96
	13500.00	90.00	88.98	9475.00	4229.92	75.47	4229.25	0.00	505588.16	750313.56	N 32 23 17.21	W 103 39 22.79
	13600.00	90.00	88.98	9475.00	4329.92	77.25	4329.24	0.00	505589.95	750413.54	N 32 23 17.22	W 103 39 21.62
	13700.00	90.00	88.98	9475.00	4429.92	79.03	4429.22	0.00	505591.73	750513.52	N 32 23 17.23	W 103 39 20.46
Cimarex	13800.00	90.00	88.98	9475.00	4529.92	80.82	4529.20	0.00	505593.52	750613.50	N 32 23 17.24	W 103 39 19.29
Lechuza 15												
Federal #21H -	13894.42	90.00	88.98	9475.00	4624.34	82.50	4623.61	0.00	505595.20	750707.90	N 32 23 17.25	W 103 39 18.19
PBHL												

Survey Type: Non-Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	8997.540	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex
								Lechuza 15 Federal #21H Rev0
	1	8997.540	13894.419	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex
								Lechuza 15 Federal #21H Rev0

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

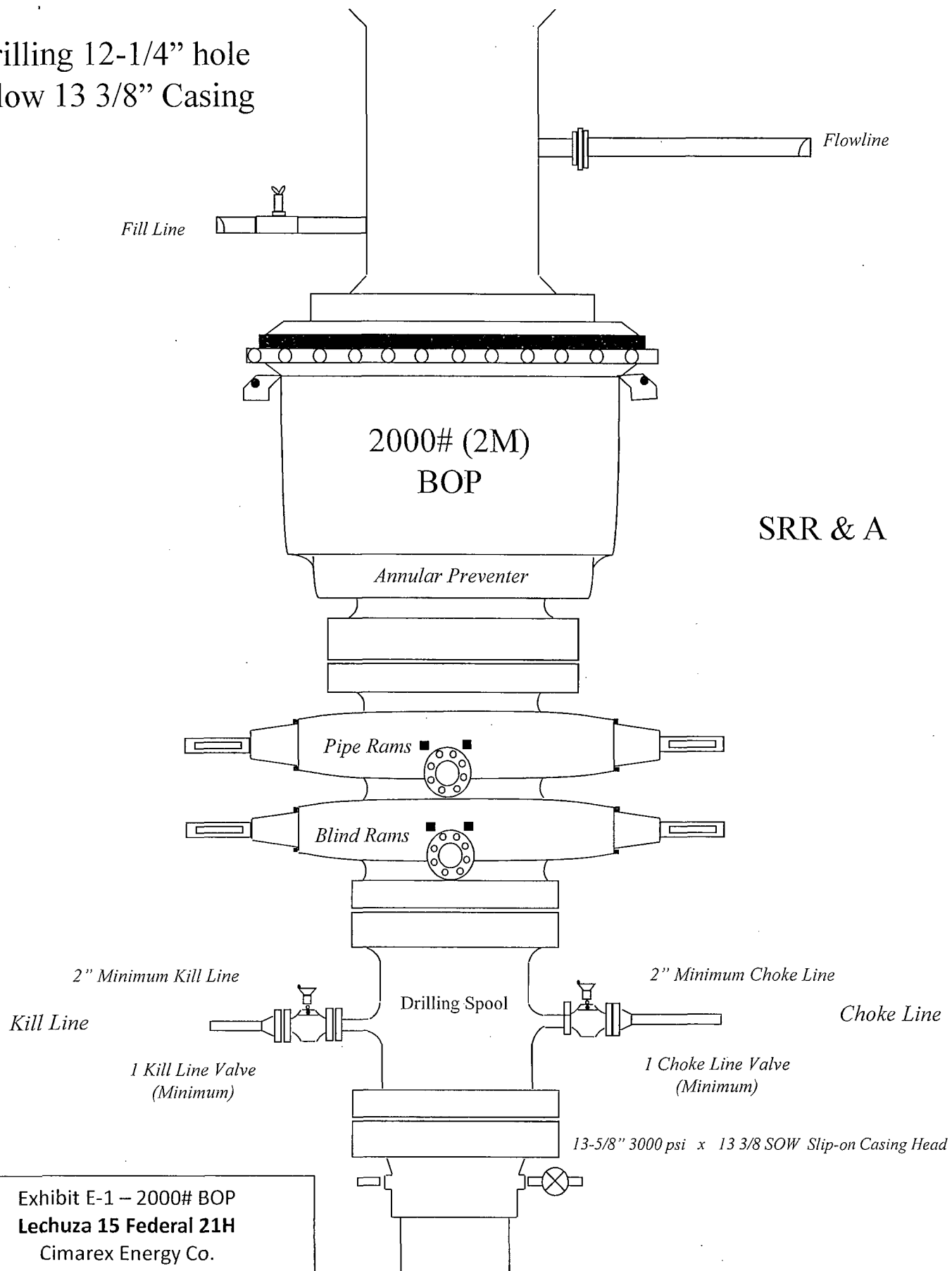
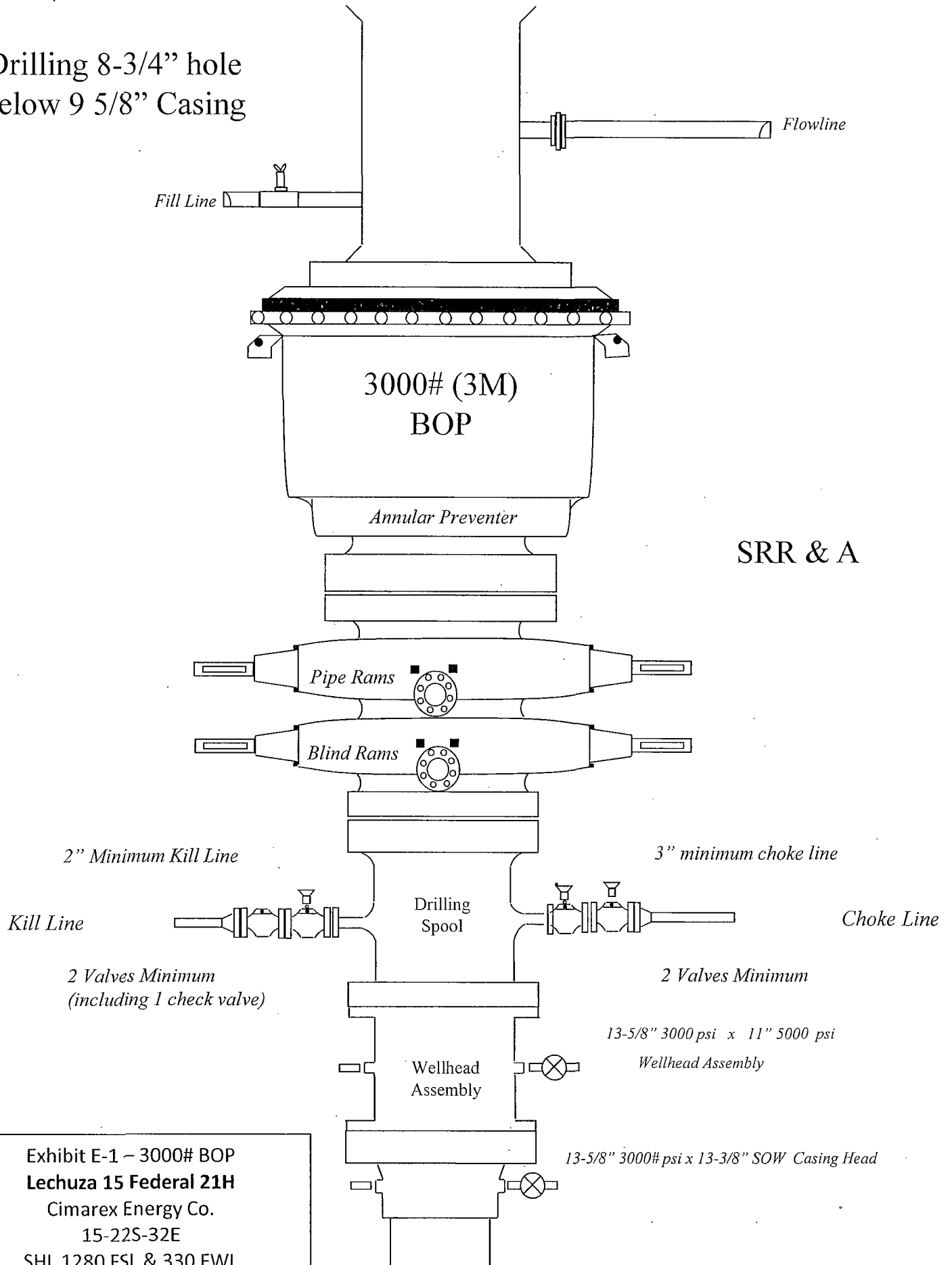


Exhibit E-1 – 2000# BOP
Lechuza 15 Federal 21H
Cimarex Energy Co.
15-22S-32E
SHL 1280 FSL & 330 FWL
BHL 1310 FSL & 330 FEL
Lea County, NM

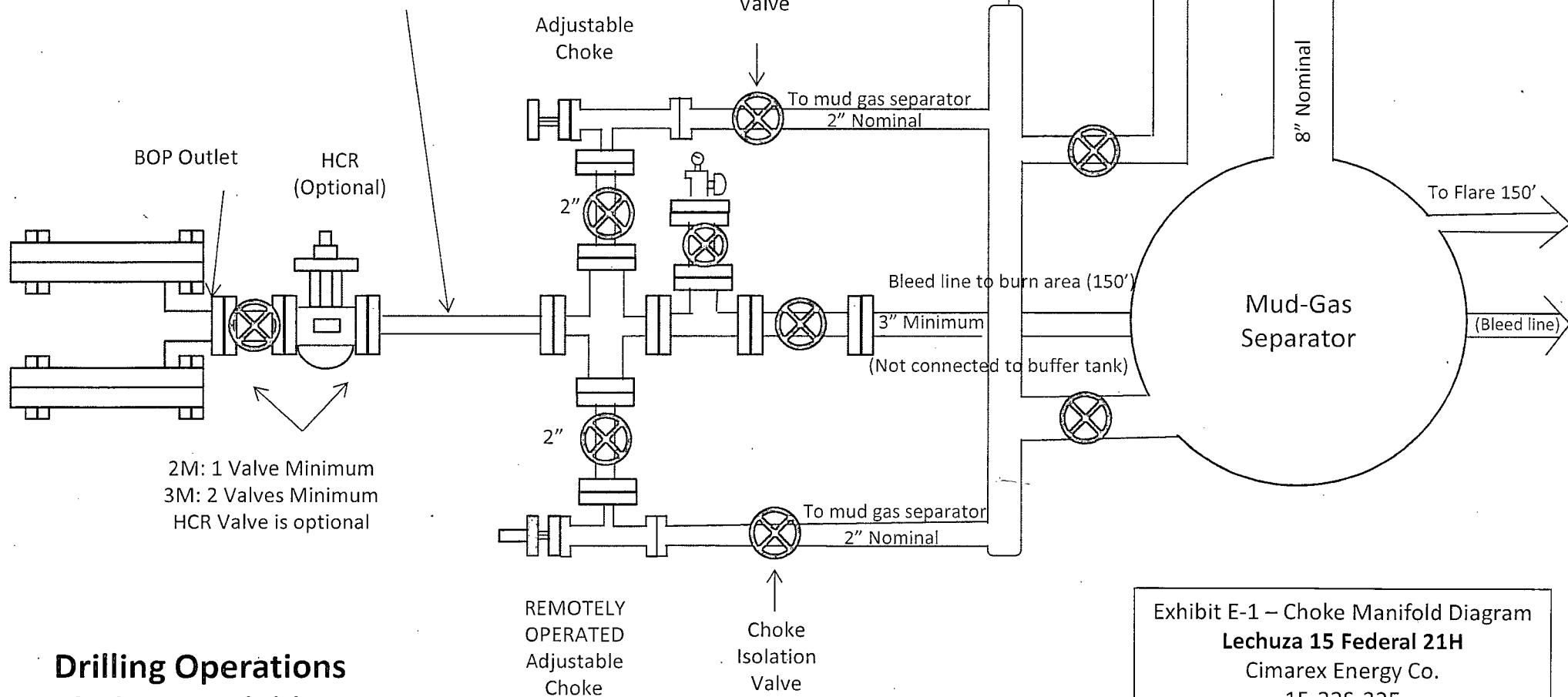
Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
Lechuza 15 Federal 21H
Cimarex Energy Co.
15-22S-32E
SHL 1280 FSL & 330 FWL
BHL 1310 FSL & 330 FEL
Lea County, NM

Choke Line:
 2M System: 2" Minimum
 3M System: 3" Minimum
 OPTIONAL: 4" Flex Hose may be
 used if approved in APD



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Lechuza 15 Federal 21H
 Cimarex Energy Co.
 15-22S-32E
 SHL 1280 FSL & 330 FWL
 BHL 1310 FSL & 330 FEL
 Lea County, NM

Exhibit F – Co-Flex Hose

Lechuza 15 Federal 21H

Cimarex Energy Co.

15-22S-32E

SHL 1280 FSL & 330 FWL

BHL 1310 FSL & 330 FEL

Lea County, NM

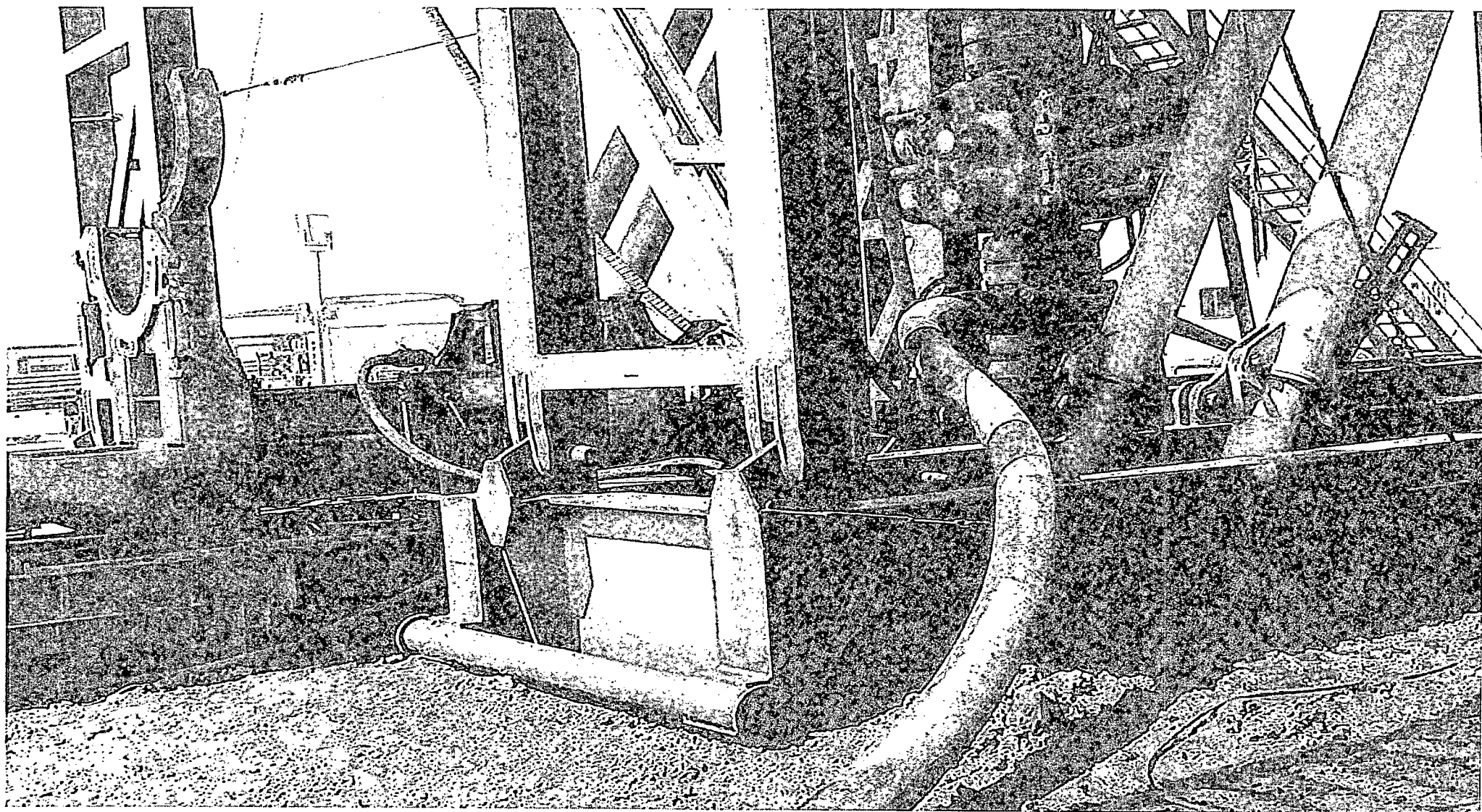


Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Lechuza 15 Federal 21H

Cimarex Energy Co.

15-22S-32E

SHL 1280 FSL & 330 FWL

BHL 1310 FSL & 330 FEL

Lea County, NM



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:

Oderco Inc

P.O. Number:

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.

OKC

OKC

Ferrule No.

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:

3/8/2011

Tested:

A. James Smith

Approved:

Kevin Hef



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

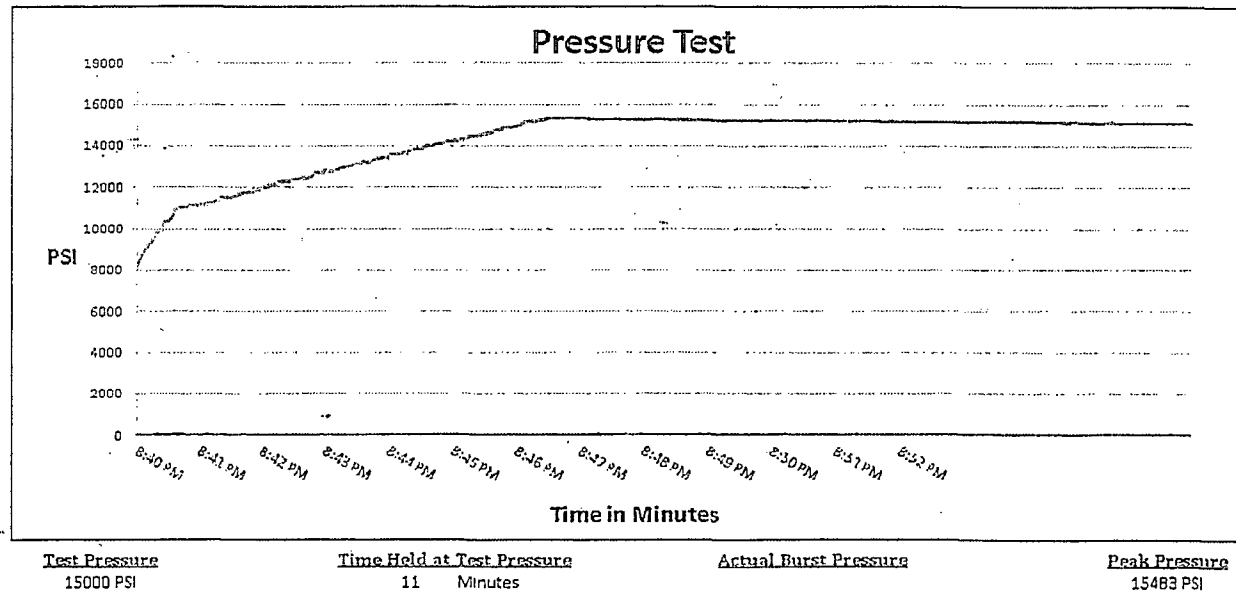
Pick Ticket #: 94260

Hose Specifications

<u>Hose Type</u>	<u>Length</u>
C & K	45'
<u>I.D.</u>	<u>O.D.</u>
4"	6.09"
<u>Working Pressure</u>	<u>Burst Pressure</u>
10000 PSI	Standard Safety Multiplier Applies

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
41/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
6.38"	6.25"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
5544	79793



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

Lechuza 15 Federal 21H

Cimarex Energy Co.

15-225-32E

SHL 1280 FSL & 330 FWL

BHL 1310 FSL & 330 FEL

Lea County, NM

Exhibit F-2 – Co-Flex Hose
Lechuza 15 Federal 21H
Cimarex Energy Co.
15-22S-32E
SHL 1280 FSL & 330 FWL
BHL 1310 FSL & 330 FEL
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 certify 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:
<i>David Garcia</i>		3/8/2011



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Lechuza 15 Federal 21H
Cimarex Energy Co.
15-22S-32E
SHL 1280 FSL & 330 FWL
BHL 1310 FSL & 330 FEL
Lea County, NM

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. 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 vermiculite 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, unbolt 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)