

SECRETARY'S POTASH

Form 3160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

5. Lease Serial No.

NM-0560353

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Crescent Hale 12 Federal No. 1

9. API Well No.

30-015- 39025

10. Field and Pool, or Exploratory

Benson; Bone Spring

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

12-19S-30E

12. County or Parish

Eddy

13. State

NM

1a. Type of Work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator

Cimarex Energy Co. of Colorado

3a. Address

600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. (include area code)

432-571-7800

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

At Surface 485 FNL & 530 FWL

At proposed prod. Zone 330 FSL & 660 FWL Horizontal Bone Spring test

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

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

485'

16. No of acres in lease

NM-0560353 - 2160.32 acres

17. Spacing Unit dedicated to this well

W2W2 160 acres

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

N/A

19. Proposed Depth

Pilot Hole 9100

MD 12965 TVD 8730

20. BLM/BIA Bond No. on File

NM-2575

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

3467' GR

22. Approximate date work will start*

02.28.11

23. Estimated duration

25-30 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:

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

25. Signature

Natalie Krueger

Name (Printed/Typed)

Natalie Krueger

Date

12.23.10

Title

Regulatory Analyst

Approved By (Signature)

15/ Robert A Casias

Name (Printed/Typed)

Office

NM STATE OFFICE

Date

APR 20 2011

Title

STATE DIRECTOR acting

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.

* (Instructions on page 2)

CAPITAN CONTROLLED WATER BASIN
SEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Application to Drill
Crescent Hale 12 Federal No. 1
 Cimarex Energy Co. of Colorado
 Unit D, Section 12
 T19S-R30E, Eddy County, NM

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

- 1 Location: SHL 485 FNL & 530 FWL
BHL 330 FSL & 660 FWL
- 2 Elevation above sea level: 3467 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: Pilot Hole 9100 MD 12965 TVD 8730
- 6 Estimated tops of geological markers:

Rustler	555	Delaware Sands	3950
T. Salt	700	Cherry Canyon	4080
B. Salt	1900	Brushy Canyon	5136
Yates	2256	Bone Spring	6175
7 Rivers	2470	FBSS	7650
Queen	3082	SBSS	8400
- 7 Possible mineral bearing formation:

Delaware	Oil
Bone Spring	Oil

8 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 515' 500	8.4 - 8.6	28	NC	FW
515' to 4000' 4090	10.0	30-32	NC	Brine water
4000' to 12965'	8.4 - 9.5	30-32	NC	FW, 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.

Proposed drilling Plan

Drill 8 3/4" pilot hole to 9100. and log. Set 250 sx Class H cmt plug from 8200-9100. Kick off 8 3/4" lateral @ 8270 and drill to TD @ 12965. Run 5 1/2" 17# P-110 LTC from 0-12965.

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Unit D, Section 12
T19S-R30E, Eddy County, NM

9 Casing & Cementing Program:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	17½"	0' to 500 515'	New 13⅝"	48#	STC	H-40
Intermediate	12¼"	0' to 4090 4000'	New 9⅝"	40#	LTC	J/K-55
Production	8¾"	0' to 12965'	New 5½"	17#	LTC	P-110

10 Cementing:

Surface Lead: 250 sx Extendacem-CZ + 4% Bentonite + 2% CaCl (wt 13.5, yld 1.75)
Tail: 233 sx Halcem C + 2% CaCl (wt 14.8, yld 1.35)
Excess 100% **TOC Surface**

Intermediate Lead: 419 sx Econocem + 5% Salt + 5 lbm/sk Gilsonite (wt 12.9, yld 1.85)
Tail: 610 sks Halcem + 1% CaCl₂ (wt 14.8, yld 1.34)
Excess 25% **TOC Surface**

Production Lead: 533 sx EconoCem + 5# Gilsonite (wt 11.9, yld 2.48)
Tail: 1387 sx Halcem (wt 15.6, yld 1.19)
Excess 25% **TOC 3500'**

Depth to ground water is 125 according to the State Engineer. Fresh water zones will be protected by setting 13⅝" casing at 515 and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 4000 and cementing to surface, and by setting 5½" casing at 12965 and cementing to 3500.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

11 Pressure control Equipment:

Exhibit "E". A 13⅝" 5000 PSI working pressure BOP tested to 3000 psi consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head 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 unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 3000 psi high.

Cimarex Energy Co. of Colorado (operator) requests a variance if Cactus 101 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: Midwest Hose & Specialty

Serial Number: 59473

Length: 35' Size: 4-1/16" Ends flanges/clamps

WP rating: 10,000 psi Anchors required by manufacturer – Yes/No No

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12 Testing, Logging and Coring Program: *See CoA*

- A. Mud logging program: 2 man unit from 4000' to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- C. No DSTs or cores are planned at this time.

13 Potential Hazards:

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 **3000 psi** Estimated BHT **130°**

14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take 30-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

The proposed well will be tested and potentialized as **an oil well.**



Cimarex Energy Co.

Eddy County (NM83E)

Sec 12 - T19 - R30

Crescent Hale 12 Fed #1

Wellbore #1

Plan: Plan #1

Standard Planning Report

22 December, 2010



Great White Directional Services

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Crescent Hale 12 Fed #1
Company:	Cimarex Energy Co.	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Project:	Eddy County (NM83E)	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 12 - T19 - R30	North Reference:	Grid
Well:	Crescent Hale 12 Fed #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 12 - T19 - R30		
Site Position:		Northing:	611,627.60 usft
From:	Map	Easting:	664,709.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 50.764 N
		Longitude:	103° 55' 56.472 W
		Grid Convergence:	0.22 °

Well	Crescent Hale 12 Fed #1		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			0.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	12/22/10	7.83	60.58	48,960

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	178.14

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,270.0	0.00	0.00	8,270.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,893.5	89.16	178.14	8,670.6	-394.6	12.8	14.30	14.30	0.00	178.14	
12,964.7	89.16	178.14	8,730.3	-4,463.2	144.9	0.00	0.00	0.00	0.00	Crescent #1



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Site:	Sec 12 - T19 - R30	North Reference:	Grid
Well:	Crescent Hale 12 Fed #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,270.0	0.00	0.00	8,270.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP 14.3/100 DLS @ 178.14 AAZI									
8,275.0	0.72	178.14	8,275.0	0.0	0.0	0.0	14.30	14.30	0.00
8,300.0	4.29	178.14	8,300.0	-1.1	0.0	1.1	14.30	14.30	0.00
8,325.0	7.87	178.14	8,324.8	-3.8	0.1	3.8	14.30	14.30	0.00
8,350.0	11.44	178.14	8,349.5	-8.0	0.3	8.0	14.30	14.30	0.00
8,375.0	15.02	178.14	8,373.8	-13.7	0.4	13.7	14.30	14.30	0.00
8,400.0	18.59	178.14	8,397.7	-20.9	0.7	20.9	14.30	14.30	0.00
8,425.0	22.17	178.14	8,421.2	-29.6	1.0	29.6	14.30	14.30	0.00
8,450.0	25.74	178.14	8,444.0	-39.7	1.3	39.8	14.30	14.30	0.00
8,475.0	29.32	178.14	8,466.2	-51.3	1.7	51.3	14.30	14.30	0.00
8,500.0	32.89	178.14	8,487.6	-64.2	2.1	64.2	14.30	14.30	0.00
8,525.0	36.47	178.14	8,508.1	-78.4	2.5	78.4	14.30	14.30	0.00
8,550.0	40.04	178.14	8,527.8	-93.9	3.0	93.9	14.30	14.30	0.00
8,575.0	43.62	178.14	8,546.4	-110.5	3.6	110.6	14.30	14.30	0.00
8,600.0	47.19	178.14	8,563.9	-128.3	4.2	128.4	14.30	14.30	0.00
8,625.0	50.77	178.14	8,580.3	-147.2	4.8	147.2	14.30	14.30	0.00
8,650.0	54.34	178.14	8,595.5	-167.0	5.4	167.1	14.30	14.30	0.00
8,675.0	57.92	178.14	8,609.5	-187.7	6.1	187.8	14.30	14.30	0.00
8,700.0	61.49	178.14	8,622.1	-209.3	6.8	209.4	14.30	14.30	0.00
8,725.0	65.07	178.14	8,633.3	-231.6	7.5	231.8	14.30	14.30	0.00
8,750.0	68.64	178.14	8,643.1	-254.6	8.3	254.7	14.30	14.30	0.00
8,775.0	72.22	178.14	8,651.5	-278.1	9.0	278.3	14.30	14.30	0.00
8,800.0	75.79	178.14	8,658.4	-302.2	9.8	302.3	14.30	14.30	0.00
8,825.0	79.37	178.14	8,663.8	-326.6	10.6	326.7	14.30	14.30	0.00
8,850.0	82.94	178.14	8,667.6	-351.2	11.4	351.4	14.30	14.30	0.00
8,875.0	86.52	178.14	8,669.9	-376.1	12.2	376.3	14.30	14.30	0.00
8,893.5	89.16	178.14	8,670.6	-394.6	12.8	394.8	14.30	14.30	0.00
EOC - Hold to TD									
8,900.0	89.16	178.14	8,670.7	-401.1	13.0	401.3	0.00	0.00	0.00
9,000.0	89.16	178.14	8,672.2	-501.0	16.3	501.3	0.00	0.00	0.00
9,100.0	89.16	178.14	8,673.7	-601.0	19.5	601.3	0.00	0.00	0.00
9,200.0	89.16	178.14	8,675.1	-700.9	22.8	701.3	0.00	0.00	0.00
9,300.0	89.16	178.14	8,676.6	-800.8	26.0	801.3	0.00	0.00	0.00
9,400.0	89.16	178.14	8,678.1	-900.8	29.3	901.2	0.00	0.00	0.00
9,500.0	89.16	178.14	8,679.5	-1,000.7	32.5	1,001.2	0.00	0.00	0.00
9,600.0	89.16	178.14	8,681.0	-1,100.6	35.7	1,101.2	0.00	0.00	0.00
9,700.0	89.16	178.14	8,682.5	-1,200.6	39.0	1,201.2	0.00	0.00	0.00
9,800.0	89.16	178.14	8,683.9	-1,300.5	42.2	1,301.2	0.00	0.00	0.00
9,900.0	89.16	178.14	8,685.4	-1,400.5	45.5	1,401.2	0.00	0.00	0.00
10,000.0	89.16	178.14	8,686.8	-1,500.4	48.7	1,501.2	0.00	0.00	0.00
10,100.0	89.16	178.14	8,688.3	-1,600.3	52.0	1,601.2	0.00	0.00	0.00
10,200.0	89.16	178.14	8,689.8	-1,700.3	55.2	1,701.2	0.00	0.00	0.00
10,300.0	89.16	178.14	8,691.2	-1,800.2	58.5	1,801.1	0.00	0.00	0.00
10,400.0	89.16	178.14	8,692.7	-1,900.1	61.7	1,901.1	0.00	0.00	0.00
10,500.0	89.16	178.14	8,694.2	-2,000.1	65.0	2,001.1	0.00	0.00	0.00
10,600.0	89.16	178.14	8,695.6	-2,100.0	68.2	2,101.1	0.00	0.00	0.00
10,700.0	89.16	178.14	8,697.1	-2,199.9	71.4	2,201.1	0.00	0.00	0.00
10,800.0	89.16	178.14	8,698.6	-2,299.9	74.7	2,301.1	0.00	0.00	0.00
10,900.0	89.16	178.14	8,700.0	-2,399.8	77.9	2,401.1	0.00	0.00	0.00
11,000.0	89.16	178.14	8,701.5	-2,499.8	81.2	2,501.1	0.00	0.00	0.00
11,100.0	89.16	178.14	8,703.0	-2,599.7	84.4	2,601.1	0.00	0.00	0.00
11,200.0	89.16	178.14	8,704.4	-2,699.6	87.7	2,701.1	0.00	0.00	0.00
11,300.0	89.16	178.14	8,705.9	-2,799.6	90.9	2,801.0	0.00	0.00	0.00



Great White Directional Services

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Site:	Sec 12 - T19 - R30	North Reference:	Grid
Well:	Crescent Hale 12 Fed #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,400.0	89.16	178.14	8,707.4	-2,899.5	94.2	2,901.0	0.00	0.00	0.00
11,500.0	89.16	178.14	8,708.8	-2,999.4	97.4	3,001.0	0.00	0.00	0.00
11,600.0	89.16	178.14	8,710.3	-3,099.4	100.7	3,101.0	0.00	0.00	0.00
11,700.0	89.16	178.14	8,711.8	-3,199.3	103.9	3,201.0	0.00	0.00	0.00
11,800.0	89.16	178.14	8,713.2	-3,299.2	107.1	3,301.0	0.00	0.00	0.00
11,900.0	89.16	178.14	8,714.7	-3,399.2	110.4	3,401.0	0.00	0.00	0.00
12,000.0	89.16	178.14	8,716.2	-3,499.1	113.6	3,501.0	0.00	0.00	0.00
12,100.0	89.16	178.14	8,717.6	-3,599.1	116.9	3,601.0	0.00	0.00	0.00
12,200.0	89.16	178.14	8,719.1	-3,699.0	120.1	3,700.9	0.00	0.00	0.00
12,300.0	89.16	178.14	8,720.6	-3,798.9	123.4	3,800.9	0.00	0.00	0.00
12,400.0	89.16	178.14	8,722.0	-3,898.9	126.6	3,900.9	0.00	0.00	0.00
12,500.0	89.16	178.14	8,723.5	-3,998.8	129.9	4,000.9	0.00	0.00	0.00
12,600.0	89.16	178.14	8,725.0	-4,098.7	133.1	4,100.9	0.00	0.00	0.00
12,700.0	89.16	178.14	8,726.4	-4,198.7	136.4	4,200.9	0.00	0.00	0.00
12,800.0	89.16	178.14	8,727.9	-4,298.6	139.6	4,300.9	0.00	0.00	0.00
12,900.0	89.16	178.14	8,729.4	-4,398.6	142.8	4,400.9	0.00	0.00	0.00
12,964.7	89.16	178.14	8,730.3	-4,463.2	144.9	4,465.6	0.00	0.00	0.00
TD at 12964.7 - Crescent #1									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Crescent #1	0.00	0.00	8,730.0	-4,463.2	145.3	607,164.40	664,855.10	32° 40' 6.595 N	103° 55' 54.969 W
- plan misses target center by 0.5usft at 12964.7usft MD (8730.3 TVD, -4463.2 N, 144.9 E)									
- Point									

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
8,270.0	8,270.0	0.0	0.0	KOP 14.3/100 DLS @ 178.14 AAZI	
8,893.5	8,670.6	-394.6	12.8	EOC - Hold to TD	
12,964.7	8,730.3	-4,463.2	144.9	TD at 12964.7	



Cimarex Energy Co.
Project: Eddy County (NM83E)
Site: Sec 12 - T19 - R30
Well: Crescent Hale 12 Fed #1
Wellbore: Wellbore #1

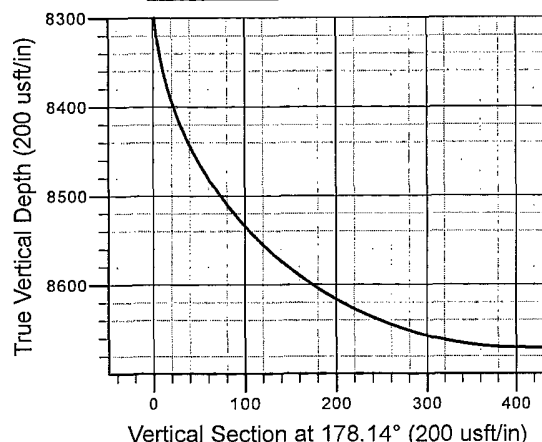
WELL DETAILS: Crescent Hale 12 Fed #1						
+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude
0.0	0.0	611627.60	0.0	664709.80	32° 40' 50.764 N	103° 55' 56.472 W
SHL: 485' FNL / 530' FWL						
BHL: 330' FSL / 660' FWL						



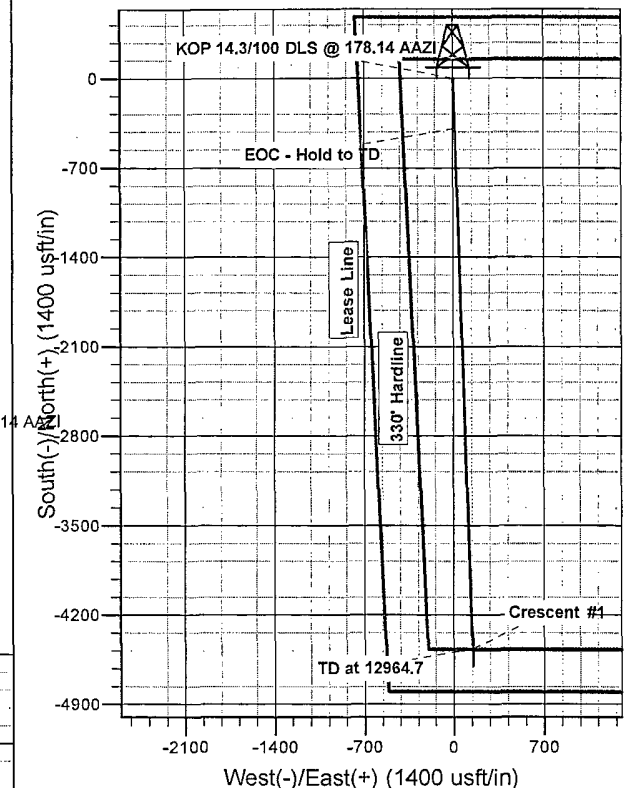
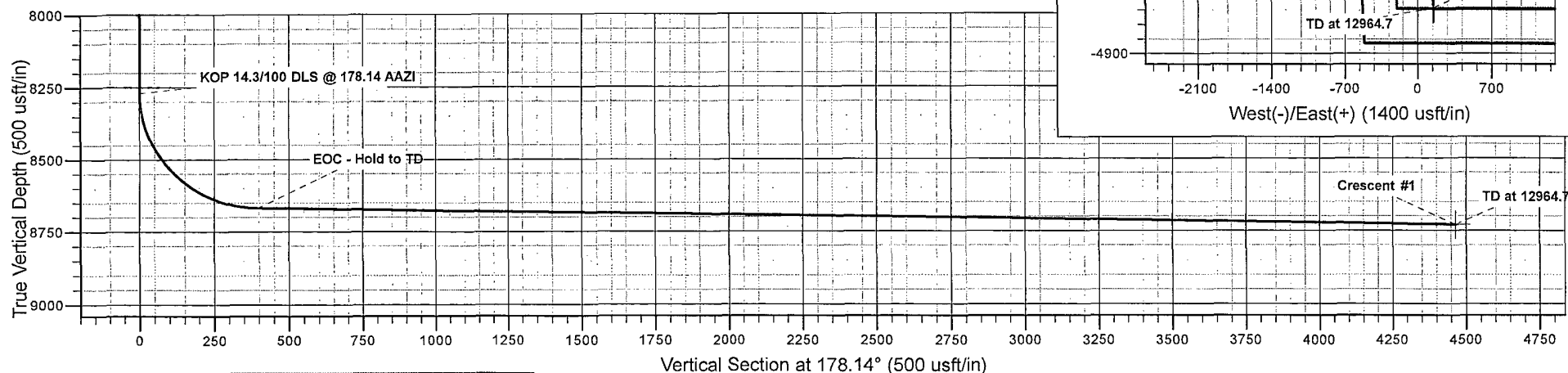
	Azimuths to Grid North
	Total Correction: 7.62°
	Magnetic Field Strength: 48959.8nT
	Dip Angle: 60.58°
Date: 12/22/2010	
Model: IGRF200510	

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Crescent #18730.0	-4463.2	145.3	32° 40' 6.595 N	103° 55' 54.969 W		

SECTION DETAILS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation		
8270.0	8270.0	0.00	0.00	0.0	0.0	0.0	0.0	KOP 14.3/100 DLS @ 178.14 AAZI		
8670.6	8893.5	89.16	178.14	-394.6	12.8	394.8	394.8	EOC - Hold to TD		
8730.3	12964.7	89.16	178.14	-4463.2	144.9	4465.6	4465.6	TD at 12964.7		



ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation		
8270.0	8270.0	0.00	0.00	0.0	0.0	0.0	0.0	KOP 14.3/100 DLS @ 178.14 AAZI		
8670.6	8893.5	89.16	178.14	-394.6	12.8	394.8	394.8	EOC - Hold to TD		
8730.3	12964.7	89.16	178.14	-4463.2	144.9	4465.6	4465.6	TD at 12964.7		



Plan: Plan #1 (Crescent Hale 12 Fed #1/Wellbore #1)

Created By: Aaron Pullin Date: 8:25, December 23 2010

SR & A

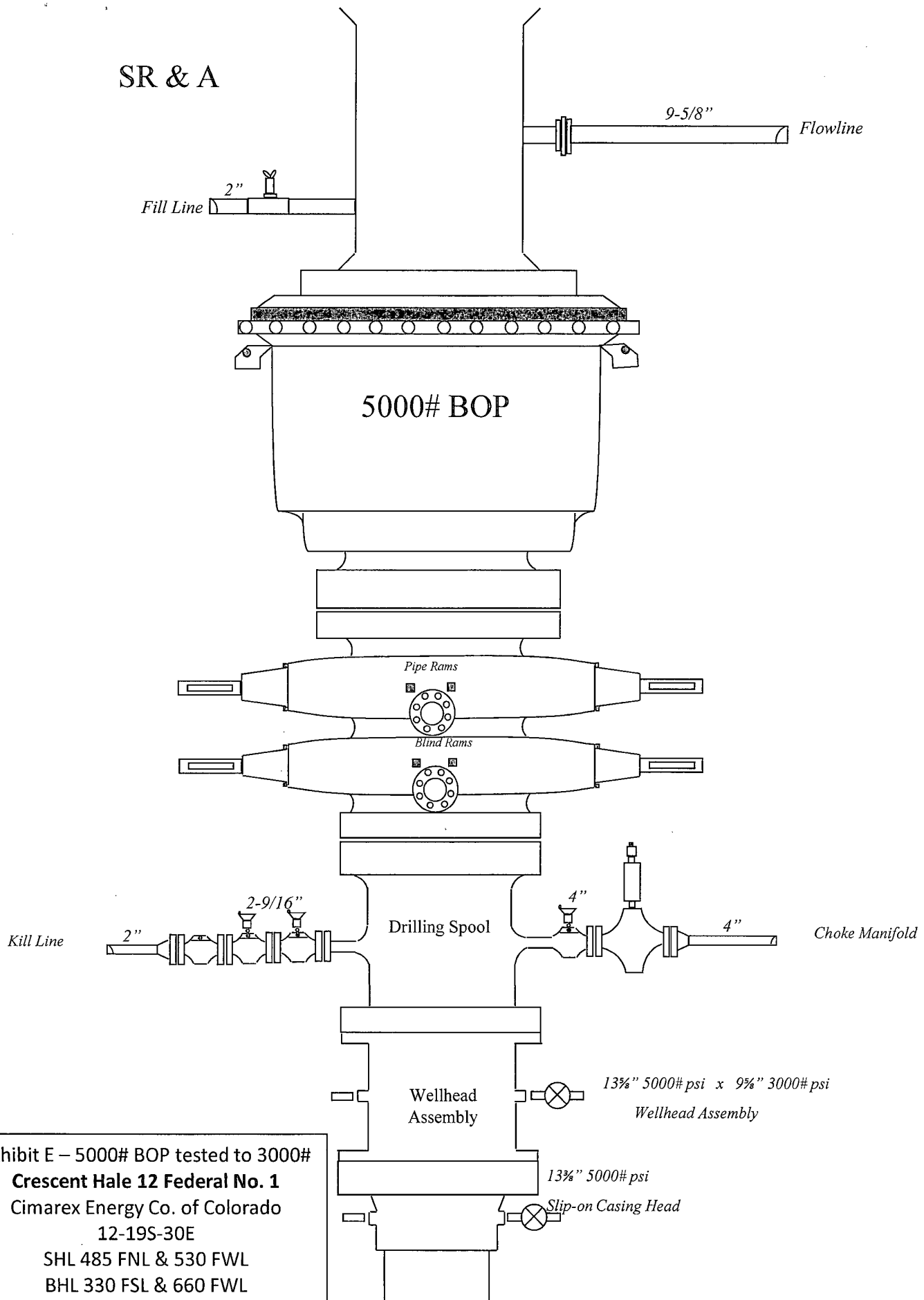
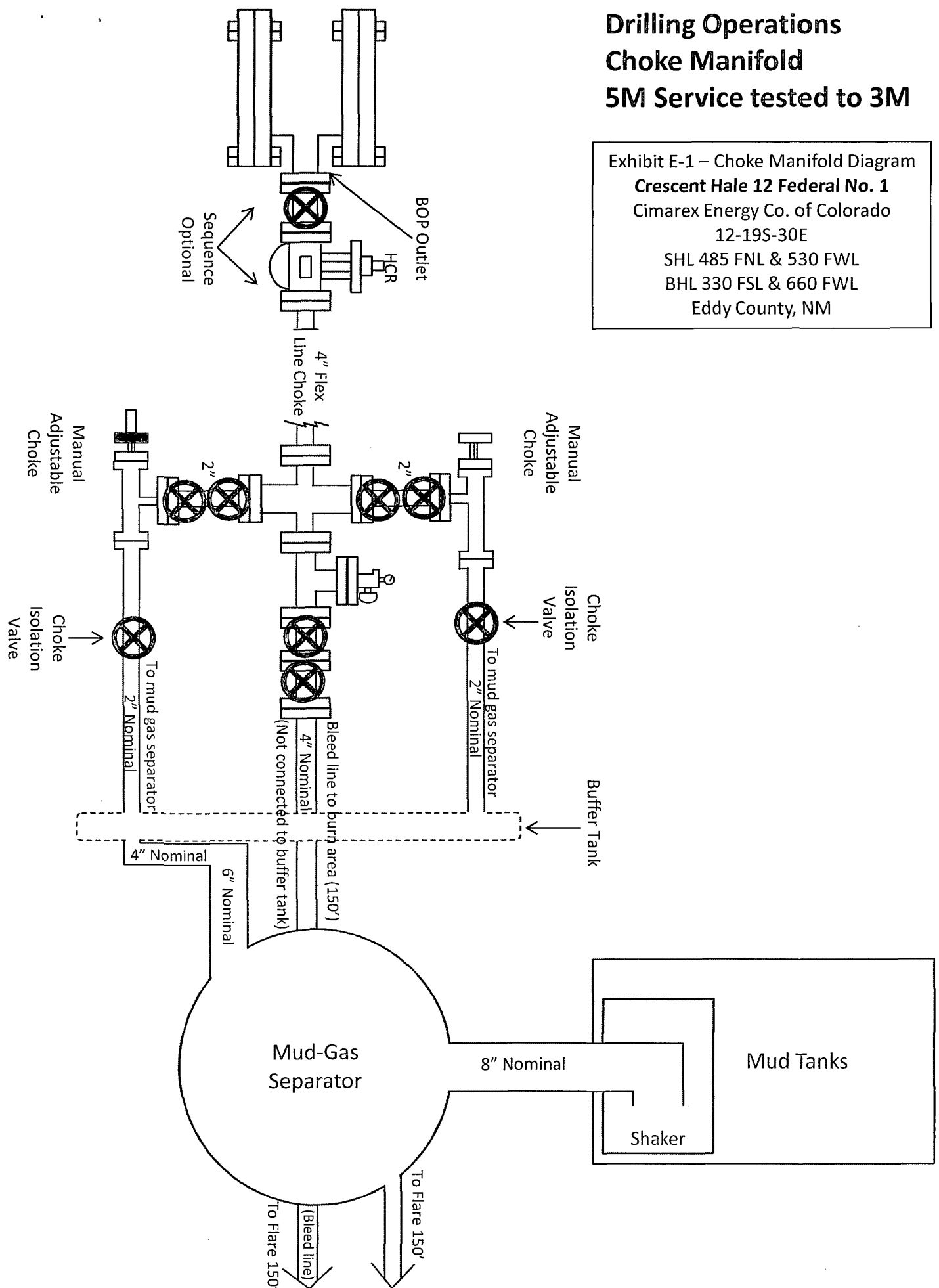
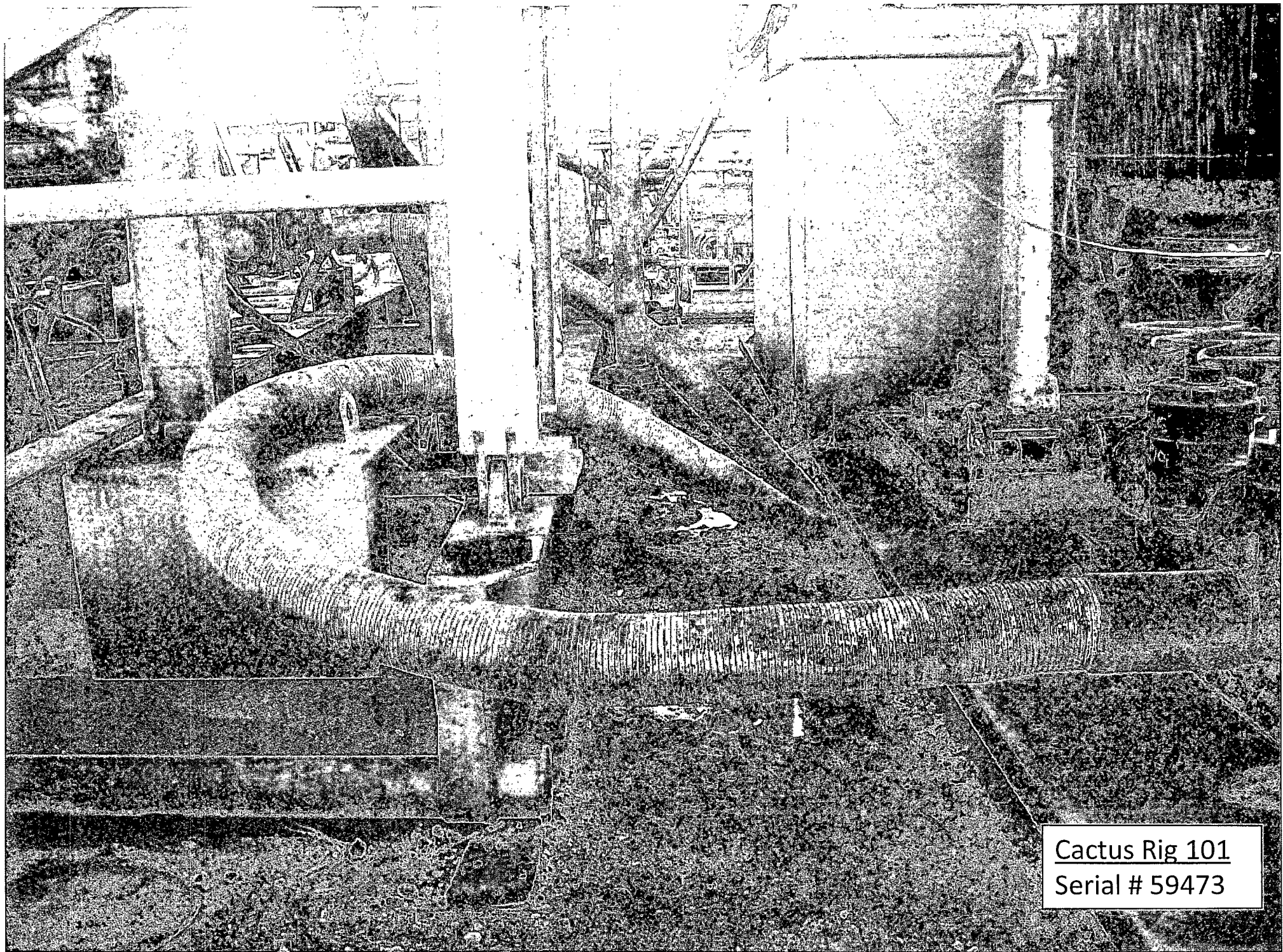


Exhibit E – 5000# BOP tested to 3000#
Crescent Hale 12 Federal No. 1
Cimarex Energy Co. of Colorado
12-19S-30E
SHL 485 FNL & 530 FWL
BHL 330 FSL & 660 FWL
Eddy County, NM

Exhibit E-1 – Choke Manifold Diagram
Crescent Hale 12 Federal No. 1
Cimarex Energy Co. of Colorado
12-19S-30E
SHL 485 FNL & 530 FWL
BHL 330 FSL & 660 FWL
Eddy County, NM





Cactus Rig 101
Serial # 59473

M I D W E S T

HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT			
Customer: CACTUS		P.O. Number: Rig#101	
		Asset#M5358	
HOSE SPECIFICATIONS			
Type: CHOKER LINE		Length: 35'	
I.D. 4" INCHES		O.D. 8" INCHES	
WORKING PRESSURE	TEST PRESSURE		BURST PRESSURE
10,000 PSI	15,000 PSI		PSI
COUPLINGS			
Type of End Fitting 4 1/16 10K FLANGE			
Type of Coupling: SWEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY	
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE		ACTUAL BURST PRESSURE:	
15 MIN.		0 PSI	
COMMENTS: s/n#59473 Asset#M5358 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
Date: 5/19/2010	Tested By: BOBBY FINK		Approved: MENDI JACKSON