

14-269

SECRETARY'S POTASH

Form 3160-3
(March 2012)

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

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Split Estate

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Nearburg Producing Company (15742)		7. If Unit or CA Agreement, Name and No.
3a. Address 3300 N A Street, Bldg 2, Ste 120, Midland, TX 79705		8. Lease Name and Well No. (40102) Lea South 25 Federal Com #8H
3b. Phone No. (include area code) 432-686-8235		9. API Well No. 30-025- 43057
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330 FSL 490 FEL (P) At proposed prod. Zone 330 FNL 660 FEL (A) Horizontal Bone Spring test		10. Field and Pool, or Exploratory Lea Bone Spring South (37580)
14. Distance in miles and direction from nearest town or post office* Approximately 22 miles NW of Eunice NM		11. Sec., T. R. M. or Blk. and Survey or Area 25-20S-34E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330'		12. County or Parish Lea
16. No of acres in lease NMLC066126= 800 acres; NMNM020979=320 acres		13. State NM
17. Spacing Unit dedicated to this well 160		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 150' from #12H		20. BLM/BIA Bond No. on File NM2575; NMB000835
19. Proposed Depth 15,651' MD 11,350' TVD		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3761' GR	22. Approximate date work will start* 03.01.14	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:

- 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 Tim Green	Name (Printed/Typed) Tim Green	Date 10.14.13
Title Marketing and Production Services Manager		
Approved By (Signature) /s/George MacDonell	Name (Printed/Typed)	Date JAN 22 2016
Title FIELD MANAGER	Office BLM-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.

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)

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED**

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

KR
01/29/16

Capitan Controlled Water Basin

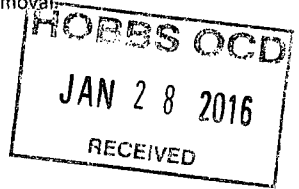
**Witness Surface &
Intermediate Casing**

FEB 02 2016

Application to Drill
Lea South 25 Federal Com #8H
Nearburg Producing Co. OGRID #15742
UL: P, Sec. 25-20S-34E
Lea Co., 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 330 FSL 490 FEL
BHL 330 FNL 660 FEL
- 2 Elevation above sea level: 3761' 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: 15,631' MD 11,350' TVD
- 6 Estimated tops of geological markers:



Formation	Est. Top	Bearing
Rustler	1650	NA
Top of Salt	1800	NA
Tansill	3400	NA
Capitan	3970	NA
Delaware	5700	Hydrocarbons
Bone Spring	8400	NA
Avalon Shale	8900	Hydrocarbons
1st Bone Spring Ss	9600	Hydrocarbons
2nd Bone Spring Ss	10150	Hydrocarbons
3rd Carbonate	10630	NA
3rd Bone Spring Ss	10925	NA
3rd Bone Spring C Ss	11015	Hydrocarbons

- 7 Possible mineral bearing formation:
Shown above

7A OSE Ground Water estimated depth: 100'

- 8 Casing Program:

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 (1.125)	Burst SF (1.125)	Cumulative Air Weight (lbs)	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface															
0'	1780'	1780'	17 1/2	13 3/8	54.5	J-55	ST&C	New	801	8.4	1.45	3.42	97,010	84,569	6.08
Intermediate															
0'	5700'	5700'	12 1/4	9 5/8	40	HCK-55	LT&C	New	2,565	10.2	1.40	1.54	228,000	192,495	3.61
Production															
0'	10753'	10753'	8 3/4	5 1/2	17	P-110	LT&C	New	2,611	9.2	1.45	4.08	192,950	165,849	2.68
10753'	15631'	11350'	8 3/4	5 1/2	17	P-110	BT&C	New	5,108	9.2	1.38	2.08	10,149	8,723	62.59

Casing Design Criteria and Casing Loading Assumptions:

Surface

Tension A 1.8 design factor with effects of buoyancy. 8.4 ppg
Collapse A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.4 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. 10.2 ppg
Collapse A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.2 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

Tension A 1.8 design factor with effects of buoyancy. 9.2 ppg
Collapse A 1.125 design factor with full internal evacuation and a collapse force equal to a 9.2 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.

Application to Drill
Lea South 25 Federal Com #8H
Nearburg Producing Co. Agent: Cimarex Energy Co.
UL: P, Sec. 25-20S-34E
Lea Co., NM

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Intermediate

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Drilling Plan
Lea South 25 Federal Com #8H
Nearburg Producing Co. OGRID #15742
UL: P, Sec. 25-20S-34E
Lea Co., NM

9 Cementing Program:

Surface	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	1130	1.75	13.5	1979	Class C + Bentonite + Calcium Chloride + LCM
Tail	240	1.34	14.8	309	Class C + LCM
TOC: 0' 85% Excess Centralizers per Onshore Order 2.III.B.1f					

Intermediate	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	1270	1.88	12.9	2387	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	300	1.34	14.8	392	Class C + retarder + LCM
TOC: 0' 81% Excess					

Production	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	645	2.4	11.9	1547	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1383	1.24	14.5	1715	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 5200' 25% 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.

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.

Nearburg Producing Co. 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.

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See CoA

11 Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 1780' 1910'	8.4	28	NC	FW Spud Mud
1780' to 5700'	10.2	30-32	NC	Brine water
5700' to 15631'	9.2	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 Proposed Drilling Plan

Pilot Hole TD: No Pilot Hole KOP: 10,753' EOC: 11489'
 Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

13 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 5700' 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

14 Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Nearburg 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 **5108 psi** Estimated BHT **180°**

15 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.

16 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from TD over possible pay intervals.
Bone Spring pay will be perforated and stimulated.
 The proposed well will be tested and potential as **Oil**

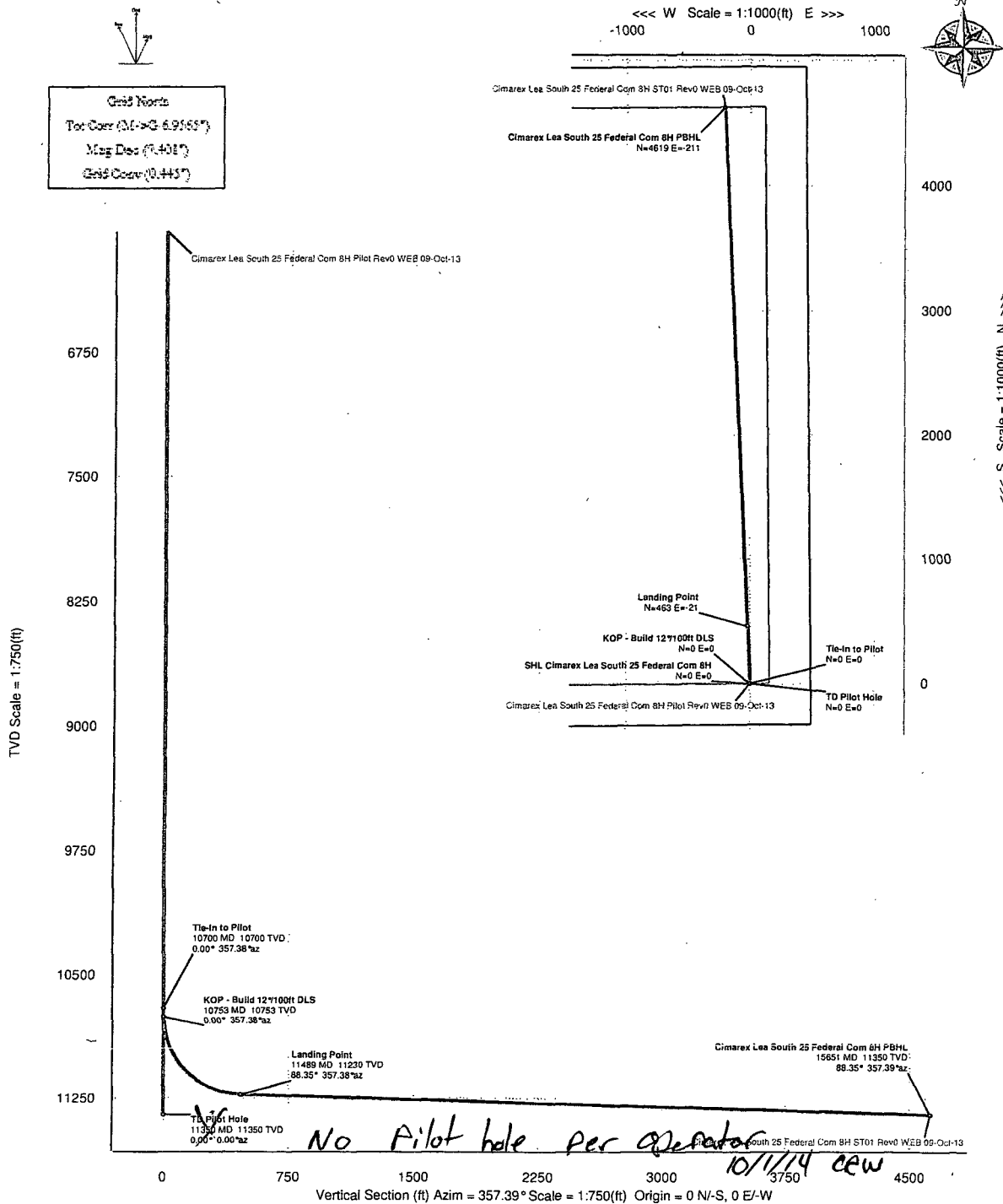
See CoA



Cimarex

PATHFINDER
A Schlumberger Company

WELL	Lea South 25 Federal Com 8H	FIELD	NM Lea County	STRUCTURE	TBD
Magellan Parameters	De: 60.421° Mag Dec: 7.401°	Date: October 09, 2013 FE: 43567.5mT	Surface Location UIC: N 32 31 15.942 Loc: W 103 20 24.325	NACIS New Mexico State Plane, Eastern Zone, US Feet Northing: 560356.50 NUS Easting: 796063.30 EUS Scale Fact: 0.99996340	Master Record Sta: Cimarex Lea South 25 Federal Com 8H Pit: ST01 Rev0 WEB 09-Oct-13 Ground level 3719.18 above MSL Survey Date: October 09, 2013



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(-) / S(+)	E(-) / W(+)	DLS
Tie-In to Pilot	10700.00	0.00	357.39	10700.00	0.00	0.00	0.00	
KOP - Build 12"100ft DLS	10752.90	0.00	357.39	10752.90	0.00	0.00	0.00	0.00
Landing Point	11488.89	88.35	357.39	11230.00	463.55	463.07	-21.15	12.00
Cimarex Lea South 25 Federal Com 8H PBHL	15650.67	88.35	357.39	11350.00	4623.60	4618.79	-210.90	0.00

Nearburg Producing Co. Lea South 25 Federal Com 8H ST01 Rev0 WEB 09-Oct-13 Proposal Geodetic Report (Non-Def Plan)

Report Date: November 12, 2015 - 11:04 AM Client: Nearburg Producing Co. Field: NM Lea County (NAD 83) Structure / Slot: Nearburg Producing Co. Lea South 25 Federal Com 8H / Nearburg Producing Co. Lea South 25 Federal Com 8H Well: Nearburg Producing Co. Lea South 25 Federal Com 8H Borehole: ST01 Borehole UWI / API#: Unknown / Unknown Survey Name: Nearburg Producing Co. Lea South 25 Federal Com 8H ST01 Rev0 WEB 09-Oct-13 Survey Date: October 09, 2013 Tort / AHD / DDI / ERD Ratio: 88 355' / 4626.113 ft / 5.751 / 0.408 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 32' 15.94025", W 103° 30' 24.32505" Location Grid/N/E Y/X: N 560356 500 RUS, E 796063 300 RUS CRS Grid Convergence Angle: 0.4446 ° Grid Scale Factor: 0.9999834 Version / Patch: 2.8.572.0	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 357.386 ° (Grid North) Vertical Section Origin: 0 000 ft, 0 000 ft TVD Reference Datum: Ground level TVD Reference Elevation: 3761.000 ft above MSL Seabed / Ground Elevation: 3761.000 ft above MSL Magnetic Declination: 7.401 ° Total Gravity Field Strength: 998.7105mgn (9 80665 Based) Gravity Model: DOX Total Magnetic Field Strength: 48567.240 nT Magnetic Dip Angle: 60.421 ° Declination Date: October 09, 2013 Magnetic Declination Model: BGGM 2013 North Reference: Grid North Grid Convergence Used: 0.4446 ° Total Cor Mag North->Grid North: 6.9565 ° Local Coord Reference To: Structure Reference Point	
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Tie-in to Pilot	10700.00	0.00	357.39	10700.00	0.00	0.00	0.00	N/A	560356.50	796063.30	N 32 32 15.94 W 103 30 24.33	
	10800.00	5.65	357.39	10799.92	2.32	2.32	-0.11	12.00	560358.82	796063.19	N 32 32 15.96 W 103 30 24.33	
	10900.00	17.68	357.39	10897.68	22.49	22.47	-1.03	12.00	560378.96	796062.27	N 32 32 16.18 W 103 30 24.33	
	11000.00	29.66	357.39	10889.11	62.55	62.48	-2.85	12.00	560416.98	796060.45	N 32 32 16.58 W 103 30 24.35	
	11100.00	41.67	357.39	11070.21	120.74	120.62	-5.51	12.00	560477.12	796057.79	N 32 32 17.13 W 103 30 24.38	
	11200.00	53.67	357.39	11137.42	194.54	194.33	-8.87	12.00	560550.83	796054.43	N 32 32 17.86 W 103 30 24.41	
	11300.00	65.67	357.39	11187.82	280.69	280.40	-12.80	12.00	560636.90	796050.50	N 32 32 18.72 W 103 30 24.45	
	11400.00	77.68	357.39	11219.20	375.45	375.06	-17.13	12.00	560731.55	796046.17	N 32 32 19.65 W 103 30 24.49	
	11500.00	88.35	357.39	11230.32	474.66	474.16	-21.65	0.00	560830.65	796041.65	N 32 32 20.63 W 103 30 24.53	
	11600.00	88.35	357.39	11233.20	574.62	574.02	-26.21	0.00	560930.51	796037.09	N 32 32 21.62 W 103 30 24.58	
	11700.00	88.35	357.39	11236.08	674.57	673.87	-30.77	0.00	561030.36	796032.53	N 32 32 22.61 W 103 30 24.62	
	11800.00	88.35	357.39	11238.96	774.53	773.73	-35.33	0.00	561130.21	796027.97	N 32 32 23.60 W 103 30 24.67	
	11900.00	88.35	357.39	11241.84	874.49	873.58	-39.89	0.00	561230.07	796023.41	N 32 32 24.59 W 103 30 24.71	
	12000.00	88.35	357.39	11244.72	974.45	973.44	-44.45	0.00	561329.92	796018.85	N 32 32 25.58 W 103 30 24.76	
	12100.00	88.35	357.39	11247.60	1074.41	1073.29	-49.01	0.00	561429.77	796014.29	N 32 32 26.56 W 103 30 24.80	
	12200.00	88.35	357.39	11250.48	1174.37	1173.14	-53.57	0.00	561529.62	796009.73	N 32 32 27.55 W 103 30 24.84	
	12300.00	88.35	357.39	11253.36	1274.33	1273.00	-58.13	0.00	561629.46	796005.17	N 32 32 28.54 W 103 30 24.89	
	12400.00	88.35	357.39	11256.24	1374.28	1372.85	-62.69	0.00	561729.33	796000.61	N 32 32 29.53 W 103 30 24.93	
	12500.00	88.35	357.39	11259.12	1474.24	1472.71	-67.25	0.00	561829.16	795996.06	N 32 32 30.52 W 103 30 24.98	
	12600.00	88.35	357.39	11262.01	1574.20	1572.56	-71.81	0.00	561929.03	795991.50	N 32 32 31.51 W 103 30 25.02	
	12700.00	88.35	357.39	11264.89	1674.16	1672.42	-76.36	0.00	562028.89	795986.94	N 32 32 32.49 W 103 30 25.07	
	12800.00	88.35	357.39	11267.77	1774.12	1772.27	-80.92	0.00	562128.74	795982.38	N 32 32 33.48 W 103 30 25.11	
	12900.00	88.35	357.39	11270.65	1874.08	1872.13	-85.48	0.00	562228.59	795977.82	N 32 32 34.47 W 103 30 25.15	
	13000.00	88.35	357.39	11273.53	1974.03	1971.98	-90.04	0.00	562328.44	795973.26	N 32 32 35.46 W 103 30 25.20	
	13100.00	88.35	357.39	11276.42	2073.99	2071.83	-94.60	0.00	562428.30	795968.70	N 32 32 36.45 W 103 30 25.24	
	13200.00	88.35	357.39	11279.30	2173.95	2171.69	-99.16	0.00	562528.15	795964.14	N 32 32 37.44 W 103 30 25.29	
	13300.00	88.35	357.39	11282.18	2273.91	2271.54	-103.72	0.00	562628.00	795959.58	N 32 32 38.42 W 103 30 25.33	
	13400.00	88.35	357.39	11285.06	2373.87	2371.40	-108.28	0.00	562727.85	795955.02	N 32 32 39.41 W 103 30 25.37	
	13500.00	88.35	357.39	11287.95	2473.83	2471.25	-112.84	0.00	562827.71	795950.46	N 32 32 40.40 W 103 30 25.42	
	13600.00	88.35	357.39	11290.83	2573.79	2571.11	-117.40	0.00	562927.56	795945.90	N 32 32 41.39 W 103 30 25.46	
	13700.00	88.35	357.39	11293.71	2673.74	2670.96	-121.96	0.00	563027.41	795941.34	N 32 32 42.38 W 103 30 25.51	
	13800.00	88.35	357.39	11296.60	2773.70	2770.82	-126.52	0.00	563127.26	795936.78	N 32 32 43.37 W 103 30 25.55	
	13900.00	88.35	357.39	11299.48	2873.66	2870.67	-131.08	0.00	563227.12	795932.22	N 32 32 44.35 W 103 30 25.60	
	14000.00	88.35	357.39	11302.37	2973.62	2970.52	-135.64	0.00	563326.97	795927.66	N 32 32 45.34 W 103 30 25.64	
	14100.00	88.35	357.39	11305.25	3073.58	3070.38	-140.20	0.00	563426.82	795923.10	N 32 32 46.33 W 103 30 25.68	
	14200.00	88.35	357.39	11308.13	3173.54	3170.23	-144.76	0.00	563526.67	795918.54	N 32 32 47.32 W 103 30 25.73	
	14300.00	88.35	357.39	11311.02	3273.49	3270.09	-149.32	0.00	563626.53	795913.98	N 32 32 48.31 W 103 30 25.77	
	14400.00	88.35	357.39	11313.90	3373.45	3369.94	-153.88	0.00	563726.38	795909.43	N 32 32 49.30 W 103 30 25.82	
	14500.00	88.35	357.39	11316.79	3473.41	3469.80	-158.44	0.00	563826.23	795904.87	N 32 32 50.28 W 103 30 25.86	
	14600.00	88.35	357.39	11319.67	3573.37	3569.65	-163.00	0.00	563926.08	795900.31	N 32 32 51.27 W 103 30 25.91	
	14700.00	88.35	357.39	11322.56	3673.33	3669.50	-167.56	0.00	564025.94	795895.75	N 32 32 52.26 W 103 30 25.95	
	14800.00	88.35	357.39	11325.44	3773.29	3769.36	-172.12	0.00	564125.79	795891.19	N 32 32 53.25 W 103 30 25.99	
	14900.00	88.35	357.39	11328.33	3873.24	3869.21	-176.68	0.00	564225.64	795886.63	N 32 32 54.24 W 103 30 26.04	
	15000.00	88.35	357.39	11331.22	3973.20	3969.07	-181.24	0.00	564325.49	795882.07	N 32 32 55.23 W 103 30 26.08	
	15100.00	88.35	357.39	11334.10	4073.16	4068.92	-185.80	0.00	564425.35	795877.51	N 32 32 56.21 W 103 30 26.13	
	15200.00	88.35	357.39	11336.99	4173.12	4168.78	-190.35	0.00	564525.20	795872.95	N 32 32 57.20 W 103 30 26.17	
	15300.00	88.35	357.39	11339.88	4273.08	4268.63	-194.91	0.00	564625.05	795868.39	N 32 32 58.19 W 103 30 26.22	
	15400.00	88.35	357.39	11342.76	4373.04	4368.48	-199.47	0.00	564724.90	795863.83	N 32 32 59.18 W 103 30 26.26	
	15500.00	88.35	357.39	11345.65	4472.99	4468.34	-204.03	0.00	564824.76	795859.27	N 32 33 0.17 W 103 30 26.30	
	15600.00	88.35	357.39	11348.54	4572.95	4568.19	-208.59	0.00	564924.61	795854.71	N 32 33 1.16 W 103 30 26.35	
Nearburg Lea South 25 Federal Com 8H PBHL	15650.67	88.35	357.39	11350.00	4623.60	4618.79	-210.90	0.00	564975.20	795852.40	N 32 33 1.66 W 103 30 26.37	

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 Casing Diameter (in)	Survey Tool Type	Borehole / Survey
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Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	VSEC (ft/s)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	2700.00	0.00	357.39	2700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	2800.00	0.00	357.39	2800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	2900.00	0.00	357.39	2900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3000.00	0.00	357.39	3000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3100.00	0.00	357.39	3100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3200.00	0.00	357.39	3200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3300.00	0.00	357.39	3300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3400.00	0.00	357.39	3400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3500.00	0.00	357.39	3500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3600.00	0.00	357.39	3600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3700.00	0.00	357.39	3700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3800.00	0.00	357.39	3800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	3900.00	0.00	357.39	3900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4000.00	0.00	357.39	4000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4100.00	0.00	357.39	4100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4200.00	0.00	357.39	4200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4300.00	0.00	357.39	4300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4400.00	0.00	357.39	4400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4500.00	0.00	357.39	4500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4600.00	0.00	357.39	4600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4700.00	0.00	357.39	4700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4800.00	0.00	357.39	4800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	4900.00	0.00	357.39	4900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5000.00	0.00	357.39	5000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5100.00	0.00	357.39	5100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5200.00	0.00	357.39	5200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5300.00	0.00	357.39	5300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5400.00	0.00	357.39	5400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5500.00	0.00	357.39	5500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5600.00	0.00	357.39	5600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5700.00	0.00	357.39	5700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5800.00	0.00	357.39	5800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	5900.00	0.00	357.39	5900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6000.00	0.00	357.39	6000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6100.00	0.00	357.39	6100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6200.00	0.00	357.39	6200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6300.00	0.00	357.39	6300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6400.00	0.00	357.39	6400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6500.00	0.00	357.39	6500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6600.00	0.00	357.39	6600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6700.00	0.00	357.39	6700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6800.00	0.00	357.39	6800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	6900.00	0.00	357.39	6900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7000.00	0.00	357.39	7000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7100.00	0.00	357.39	7100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7200.00	0.00	357.39	7200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7300.00	0.00	357.39	7300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7400.00	0.00	357.39	7400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7500.00	0.00	357.39	7500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7600.00	0.00	357.39	7600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7700.00	0.00	357.39	7700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7800.00	0.00	357.39	7800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	7900.00	0.00	357.39	7900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8000.00	0.00	357.39	8000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8100.00	0.00	357.39	8100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	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)
Tr-In to Pilot KOP - Build 12°/100ft DLS	8200.00	0.00	357.39	8200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8300.00	0.00	357.39	8300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8400.00	0.00	357.39	8400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8500.00	0.00	357.39	8500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8600.00	0.00	357.39	8600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8700.00	0.00	357.39	8700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8800.00	0.00	357.39	8800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	8900.00	0.00	357.39	8900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9000.00	0.00	357.39	9000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9100.00	0.00	357.39	9100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
Landing Point	9200.00	0.00	357.39	9200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9300.00	0.00	357.39	9300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9400.00	0.00	357.39	9400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9500.00	0.00	357.39	9500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9600.00	0.00	357.39	9600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9700.00	0.00	357.39	9700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9800.00	0.00	357.39	9800.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	9900.00	0.00	357.39	9900.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10000.00	0.00	357.39	10000.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10100.00	0.00	357.39	10100.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
Tr-In to Pilot KOP - Build 12°/100ft DLS	10200.00	0.00	357.39	10200.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10300.00	0.00	357.39	10300.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10400.00	0.00	357.39	10400.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10500.00	0.00	357.39	10500.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10600.00	0.00	357.39	10600.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10700.00	0.00	357.39	10700.00	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10752.90	0.00	357.39	10752.90	0.00	0.00	0.00	560356.50	796063.30	N 32 32 15.94	W 103 30 24.33	0.00	0.00	0.00
	10800.00	5.65	357.39	10799.92	2.32	2.32	-0.11	560358.82	796063.19	N 32 32 15.96	W 103 30 24.33	2.32	357.39	12.00
	10900.00	17.66	357.39	10897.68	22.49	22.47	-1.03	560378.96	796062.27	N 32 32 16.16	W 103 30 24.33	22.49	357.39	12.00
	11000.00	29.66	357.39	10899.11	62.55	62.48	-2.85	560418.96	796060.45	N 32 32 16.56	W 103 30 24.35	62.55	357.39	12.00
Landing Point	11100.00	41.67	357.39	11070.21	120.74	120.62	-5.51	560477.12	796057.79	N 32 32 17.13	W 103 30 24.86	120.74	357.39	12.00
	11200.00	53.67	357.39	11137.42	194.54	194.33	-8.88	560550.83	796054.42	N 32 32 17.86	W 103 30 24.41	194.54	357.39	12.00
	11300.00	65.67	357.39	11187.82	280.69	280.40	-12.81	560636.90	796050.49	N 32 32 18.72	W 103 30 24.45	280.69	357.39	12.00
	11400.00	77.68	357.39	11219.20	375.45	375.06	-17.13	560731.55	796046.17	N 32 32 19.65	W 103 30 24.49	375.45	357.39	12.00
	11488.89	88.35	357.39	11230.00	463.55	463.07	-21.15	560819.56	796042.15	N 32 32 20.52	W 103 30 24.53	463.55	357.39	12.00
	11500.00	88.35	357.39	11230.32	474.66	474.16	-21.66	560830.65	796041.64	N 32 32 20.63	W 103 30 24.54	474.66	357.39	12.00
	11600.00	88.35	357.39	11233.20	574.62	574.02	-26.22	560930.51	796037.08	N 32 32 21.62	W 103 30 24.58	574.62	357.39	12.00
	11700.00	88.35	357.39	11236.08	674.57	673.87	-30.78	561030.36	796032.52	N 32 32 22.61	W 103 30 24.62	674.57	357.39	12.00
	11800.00	88.35	357.39	11238.96	774.53	773.73	-35.34	561130.21	796027.96	N 32 32 23.60	W 103 30 24.67	774.53	357.39	12.00
	11900.00	88.35	357.39	11241.84	874.49	873.58	-39.90	561230.06	796023.40	N 32 32 24.59	W 103 30 24.71	874.49	357.39	12.00
Landing Point	12000.00	88.35	357.39	11244.72	974.45	973.44	-44.46	561329.92	796018.84	N 32 32 25.58	W 103 30 24.76	974.45	357.39	12.00
	12100.00	88.35	357.39	11247.60	1074.41	1073.29	-49.02	561429.77	796014.28	N 32 32 26.56	W 103 30 24.80	1074.41	357.39	12.00
	12200.00	88.35	357.39	11250.48	1174.37	1173.14	-53.58	561529.62	796009.72	N 32 32 27.55	W 103 30 24.84	1174.37	357.39	12.00
	12300.00	88.35	357.39	11253.36	1274.33	1273.00	-58.14	561629.47	796005.16	N 32 32 28.54	W 103 30 24.89	1274.33	357.39	12.00
	12400.00	88.35	357.39	11256.24	1374.28	1372.85	-62.70	561729.33	796000.60	N 32 32 29.53	W 103 30 24.93	1374.28	357.39	12.00
	12500.00	88.35	357.39	11259.12	1474.24	1472.71	-67.26	561829.18	795996.04	N 32 32 30.52	W 103 30 24.98	1474.24	357.39	12.00
	12600.00	88.35	357.39	11262.01	1574.20	1572.56	-71.82	561929.03	795991.48	N 32 32 31.51	W 103 30 25.02	1574.20	357.39	12.00
	12700.00	88.35	357.39	11264.89	1674.16	1672.42	-76.38	562028.89	795986.92	N 32 32 32.49	W 103 30 25.07	1674.16	357.39	12.00
	12800.00	88.35	357.39	11267.77	1774.12	1772.27	-80.94	562128.74	795982.36	N 32 32 33.48	W 103 30 25.11	1774.12	357.39	12.00
	12900.00	88.35	357.39	11270.65	1874.08	1872.13	-85.50	562228.59	795977.80	N 32 32 34.47	W 103 30 25.15	1874.08	357.39	12.00
Drilling Office 2.6.1166.0	13000.00	88.35	357.39	11273.53	1974.03	1971.98	-90.06	562328.44	795973.24	N 32 32 35.46	W 103 30 25.20	1974.03	357.39	12.00
	13100.00	88.35	357.39	11276.42	2073.99	2071.83	-94.62	562428.30	795968.68	N 32 32 36.45	W 103 30 25.24	2073.99	357.39	12.00
	13200.00	88.35	357.39	11279.30	2173.95	2171.69	-99.18	562528.15	795964.12	N 32 32 37.44	W 103 30 25.29	2173.95	357.39	12.00
	13300.00	88.35	357.39	11282.18	2273.91	2271.54	-103.74	562628.00	795959.56	N 32 32 38.42	W 103 30 25.33	2273.91	357.39	12.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Eastng (ftUS)	Latitude (N/S...)	Longitude (E/W...)	Closure (ft)	Closure Azimuth (°)	DLS (1/100ft)
	13400.00	88.35	357.39	11285.06	2373.87	2371.40	-108.30	562727.85	795955.07	N 32 32 39.41	W 103 30 25.38	2373.87	357.39	0.00
	13500.00	88.35	357.39	11287.95	2473.83	2471.25	-112.86	562827.71	795950.48	N 32 32 40.40	W 103 30 25.42	2473.83	357.39	0.00
	13600.00	88.35	357.39	11290.83	2573.79	2571.11	-117.42	562927.56	795945.89	N 32 32 41.39	W 103 30 25.46	2573.79	357.39	0.00
	13700.00	88.35	357.39	11293.71	2673.74	2670.96	-121.98	563027.41	795941.33	N 32 32 42.38	W 103 30 25.51	2673.74	357.39	0.00
	13800.00	88.35	357.39	11296.60	2773.70	2770.81	-126.53	563127.26	795936.77	N 32 32 43.37	W 103 30 25.55	2773.70	357.39	0.00
	13900.00	88.35	357.39	11299.48	2873.66	2870.67	-131.09	563227.12	795932.21	N 32 32 44.35	W 103 30 25.60	2873.66	357.39	0.00
	14000.00	88.35	357.39	11302.37	2973.62	2970.52	-135.65	563326.97	795927.65	N 32 32 45.34	W 103 30 25.64	2973.62	357.39	0.00
	14100.00	88.35	357.39	11305.25	3073.58	3070.38	-140.21	563426.82	795923.09	N 32 32 46.33	W 103 30 25.68	3073.58	357.39	0.00
	14200.00	88.35	357.39	11308.13	3173.54	3170.23	-144.77	563526.67	795918.53	N 32 32 47.32	W 103 30 25.73	3173.54	357.39	0.00
	14300.00	88.35	357.39	11311.02	3273.49	3270.09	-149.33	563626.53	795913.97	N 32 32 48.31	W 103 30 25.77	3273.49	357.39	0.00
	14400.00	88.35	357.39	11313.90	3373.45	3369.94	-153.89	563726.38	795909.41	N 32 32 49.30	W 103 30 25.82	3373.45	357.39	0.00
	14500.00	88.35	357.39	11316.79	3473.41	3469.80	-158.45	563826.23	795904.85	N 32 32 50.28	W 103 30 25.86	3473.41	357.39	0.00
	14600.00	88.35	357.39	11319.67	3573.37	3569.65	-163.01	563926.08	795900.30	N 32 32 51.27	W 103 30 25.91	3573.37	357.39	0.00
	14700.00	88.35	357.39	11322.56	3673.33	3669.50	-167.57	564025.94	795895.74	N 32 32 52.26	W 103 30 25.95	3673.33	357.39	0.00
	14800.00	88.35	357.39	11325.44	3773.29	3769.36	-172.13	564125.79	795891.18	N 32 32 53.25	W 103 30 25.99	3773.29	357.39	0.00
	14900.00	88.35	357.39	11328.33	3873.24	3869.21	-176.68	564225.64	795886.62	N 32 32 54.24	W 103 30 26.04	3873.24	357.39	0.00
	15000.00	88.35	357.39	11331.22	3973.20	3969.07	-181.24	564325.49	795882.06	N 32 32 55.23	W 103 30 26.08	3973.20	357.39	0.00
	15100.00	88.35	357.39	11334.10	4073.16	4068.92	-185.80	564425.35	795877.50	N 32 32 56.21	W 103 30 26.13	4073.16	357.39	0.00
	15200.00	88.35	357.39	11336.99	4173.12	4168.78	-190.36	564525.20	795872.94	N 32 32 57.20	W 103 30 26.17	4173.12	357.39	0.00
	15300.00	88.35	357.39	11339.86	4273.08	4268.63	-194.92	564625.05	795868.38	N 32 32 58.19	W 103 30 26.22	4273.08	357.39	0.00
	15400.00	88.35	357.39	11342.76	4373.04	4368.48	-199.48	564724.90	795863.83	N 32 32 59.18	W 103 30 26.26	4373.04	357.39	0.00
	15500.00	88.35	357.39	11345.65	4472.99	4468.34	-204.04	564824.76	795859.27	N 32 33 0.17	W 103 30 26.30	4472.99	357.39	0.00
	15600.00	88.35	357.39	11348.54	4572.95	4568.19	-208.59	564924.61	795854.71	N 32 33 1.16	W 103 30 26.35	4572.95	357.39	0.00
	15650.67	88.35	357.39	11350.00	4623.60	4618.79	-210.90	564975.20	795852.40	N 32 33 1.66	W 103 30 26.37	4623.60	357.39	0.00

Cimarex Lea South
25 Federal Com 8H
PBL

Survey Type:

Non-Def Plan

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

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	10700.000		30.000	30.000	SLB, MWD-FOOR	Pilot Borehole / Cimarex Lea
	10700.000	15650.667		30.000	30.000	SLB, MWD-STD	South 25 Federal Com 8H Pilot
							ST01 Borehole / Cimarex Lea
							South 25 Federal Com 8H ST01

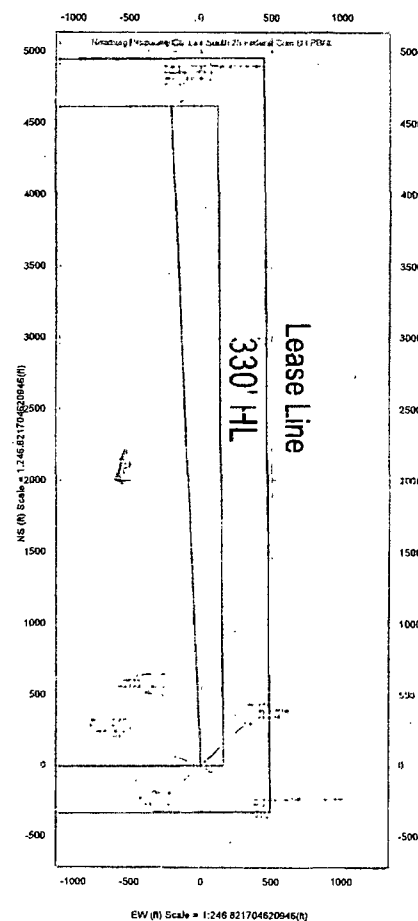
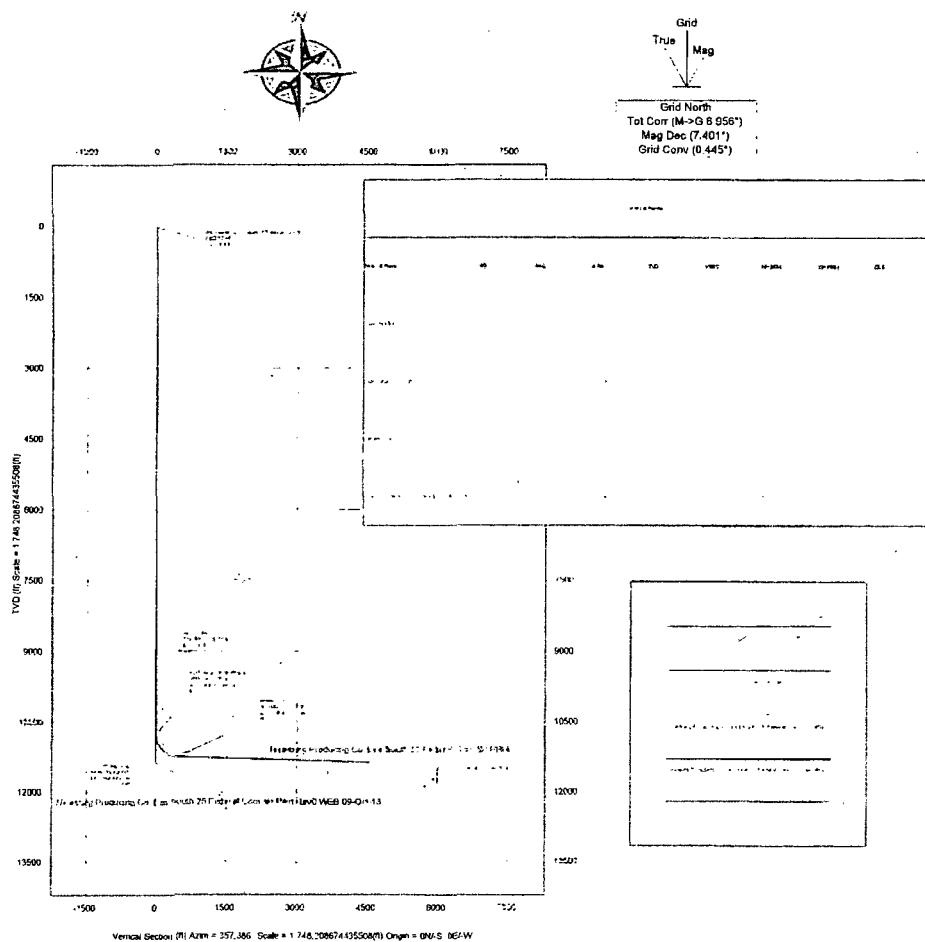
Nearburg Producing Co.

Borehole:		Well:	Field:		Structure:	
ST01 Borehole		Nearburg Producing Co. Lea South 25 Federal Com 8H	NM Lea County (NAD 83)		Nearburg Producing Co. Lea South 25 Federal Com 8H	
Well Name: ST01 Date: 05/04/2011 User: JH11		Well Name: ST01 Date: 05/04/2011 User: JH11		Well Name: ST01 Date: 05/04/2011 User: JH11		

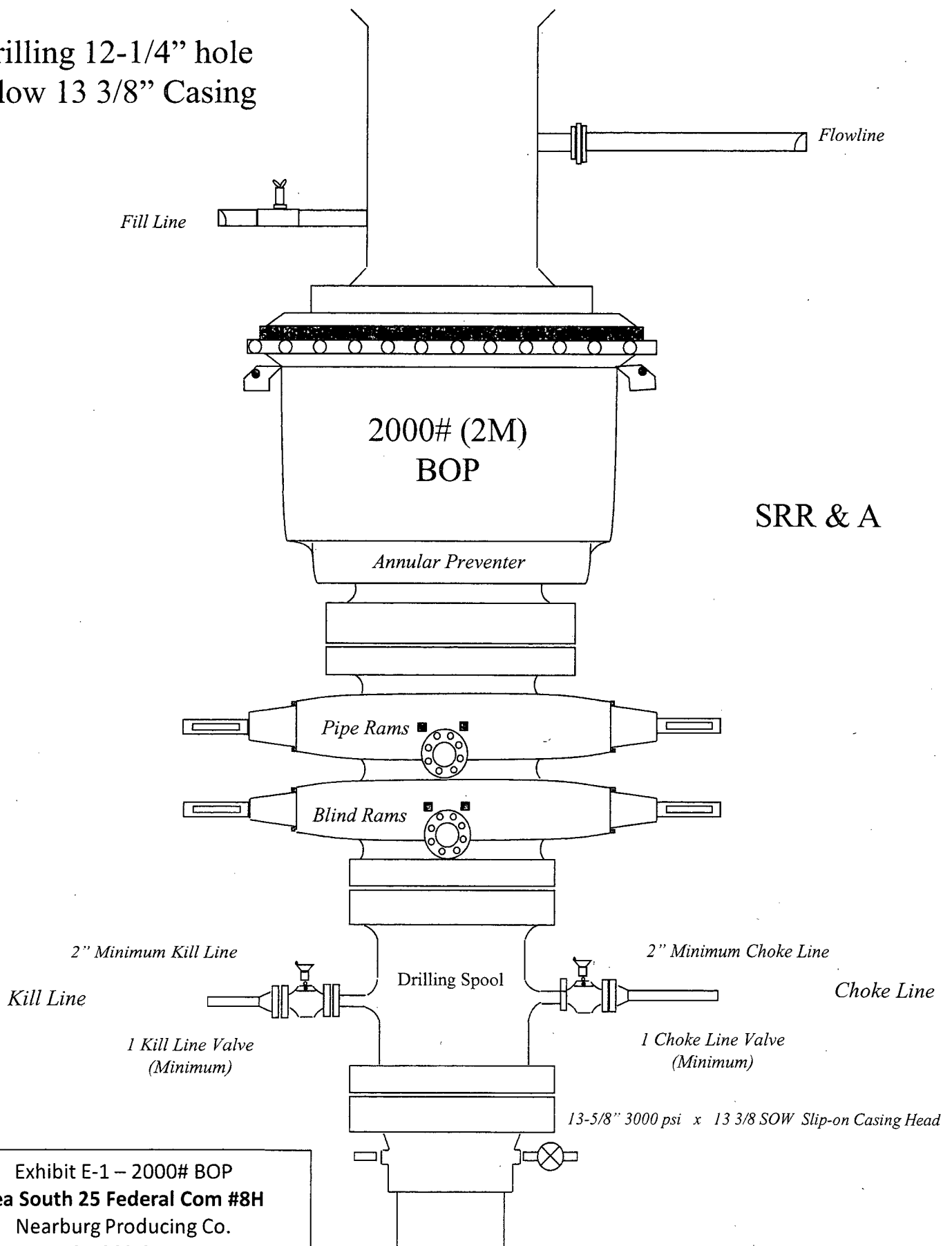
CONTROLLED

Page 1 of 1
 Date: 10/10/10
 Time: 10:10

Date	Time
10/10/10	10:10
10/10/10	10:10



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



SRR & A

Exhibit E-1 – 2000# BOP
Lea South 25 Federal Com #8H
Nearburg Producing Co.
25-20S-34E
SHL: 330' FSL 490' FEL
BHL: 330' FNL 660' FEL
Lea County, NM

Drilling below 9-5/8"
Casing

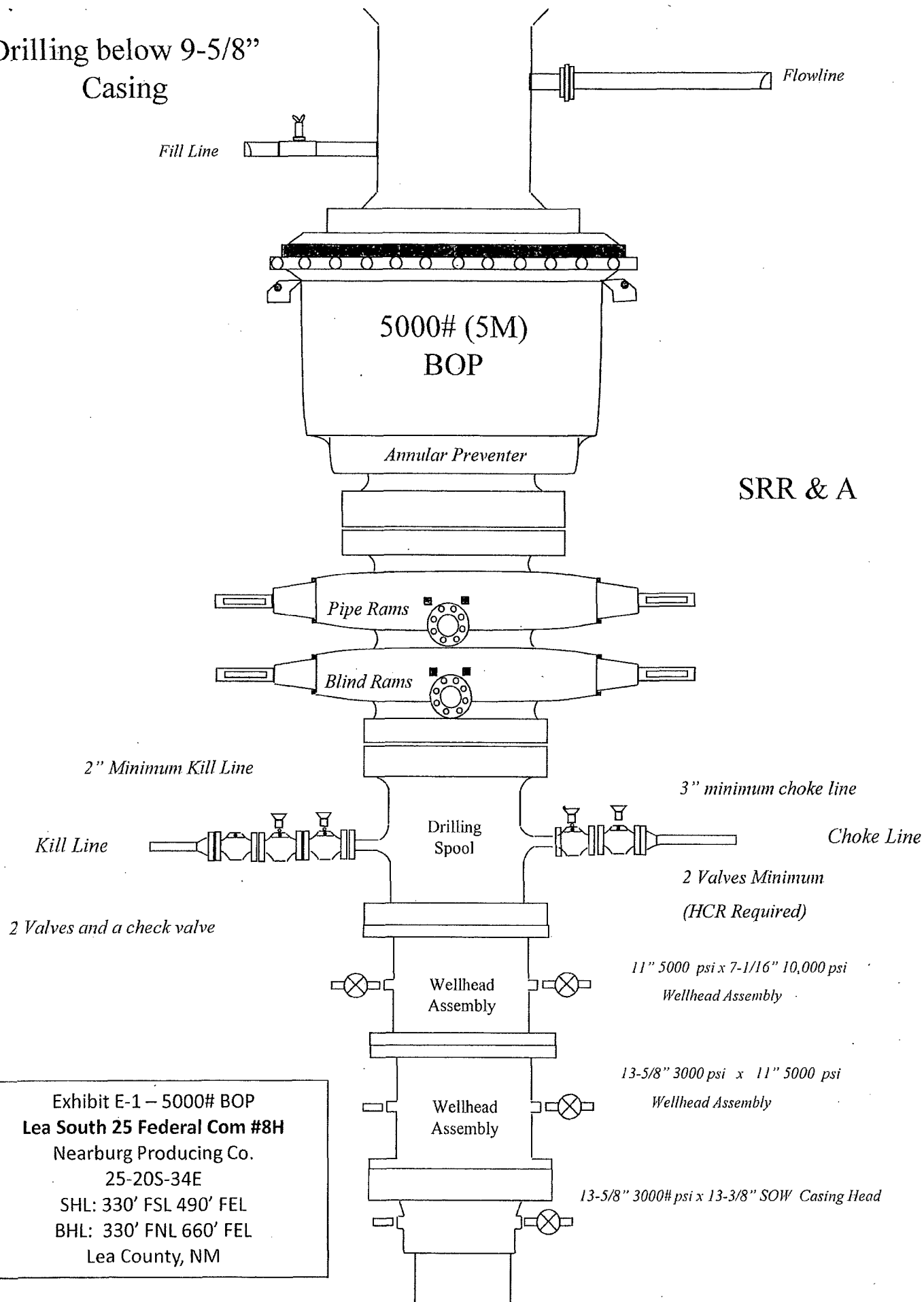


Exhibit E-1 – 5000# BOP
Lea South 25 Federal Com #8H
Nearburg Producing Co.
25-20S-34E
SHL: 330' FSL 490' FEL
BHL: 330' FNL 660' FEL
Lea County, NM

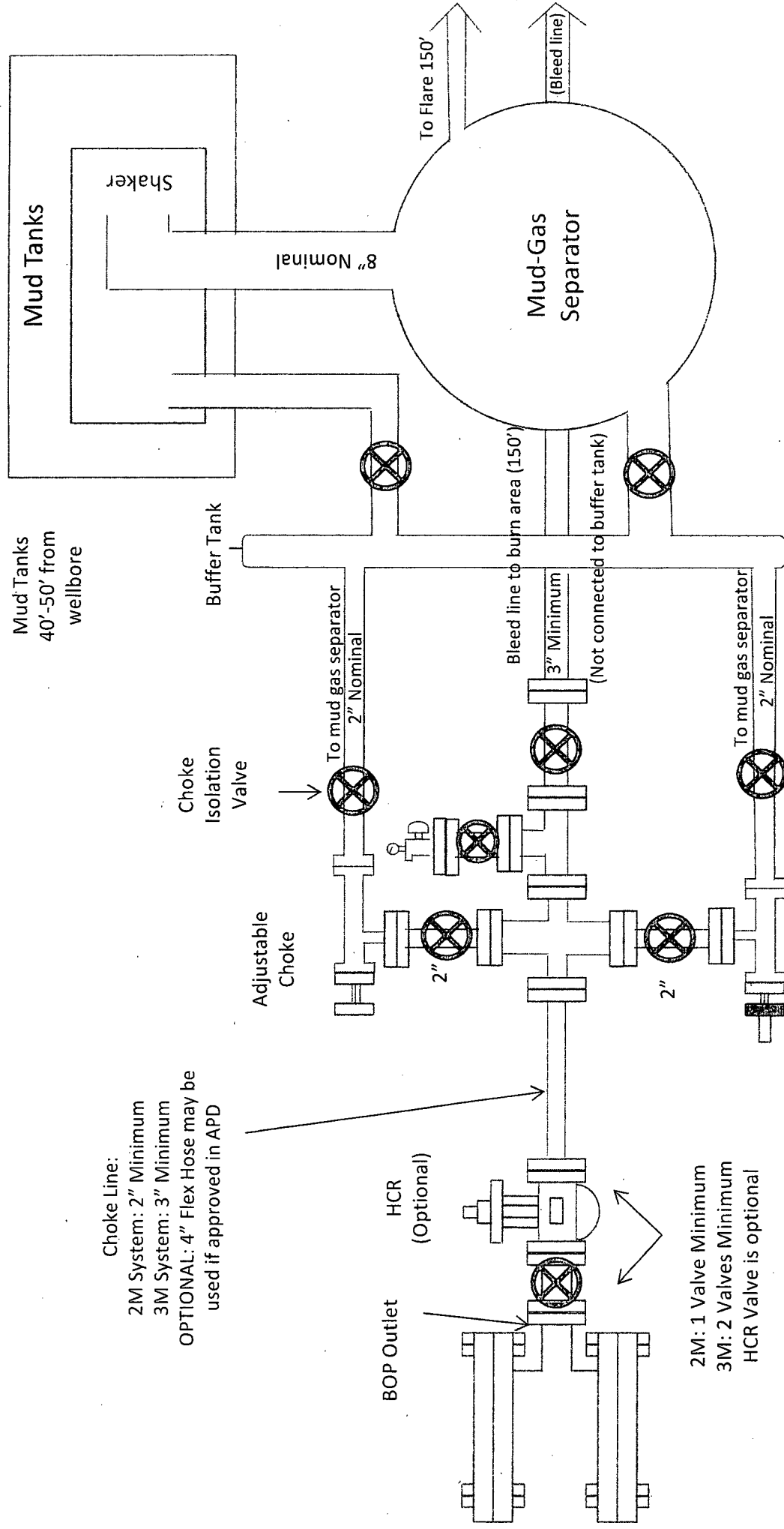


Exhibit E-1 – Choke Manifold Diagram
Lea South 25 Federal Com #8H
 Nearburg Producing Co.
 25-20S-34E
 SHL: 330' FSL 490' FEL
 BHL: 330' FNL 660' FEL
 Lea County, NM

Drilling Operations
Choke Manifold
2M/3M Service

Choke Line:
 5M System: 3" Minimum
 OPTIONAL: 4" Flex Hose may be
 used if approved in APD

Adjustable
 Choke

Choke
 Isolation
 Valve

Mud Tanks
 40'-50' from
 wellbore

Mud Tanks

Shaker

BOP Outlet

HCR
 (Required)

5M: 2 Valves Minimum

Drilling Operations Choke Manifold 5M Service

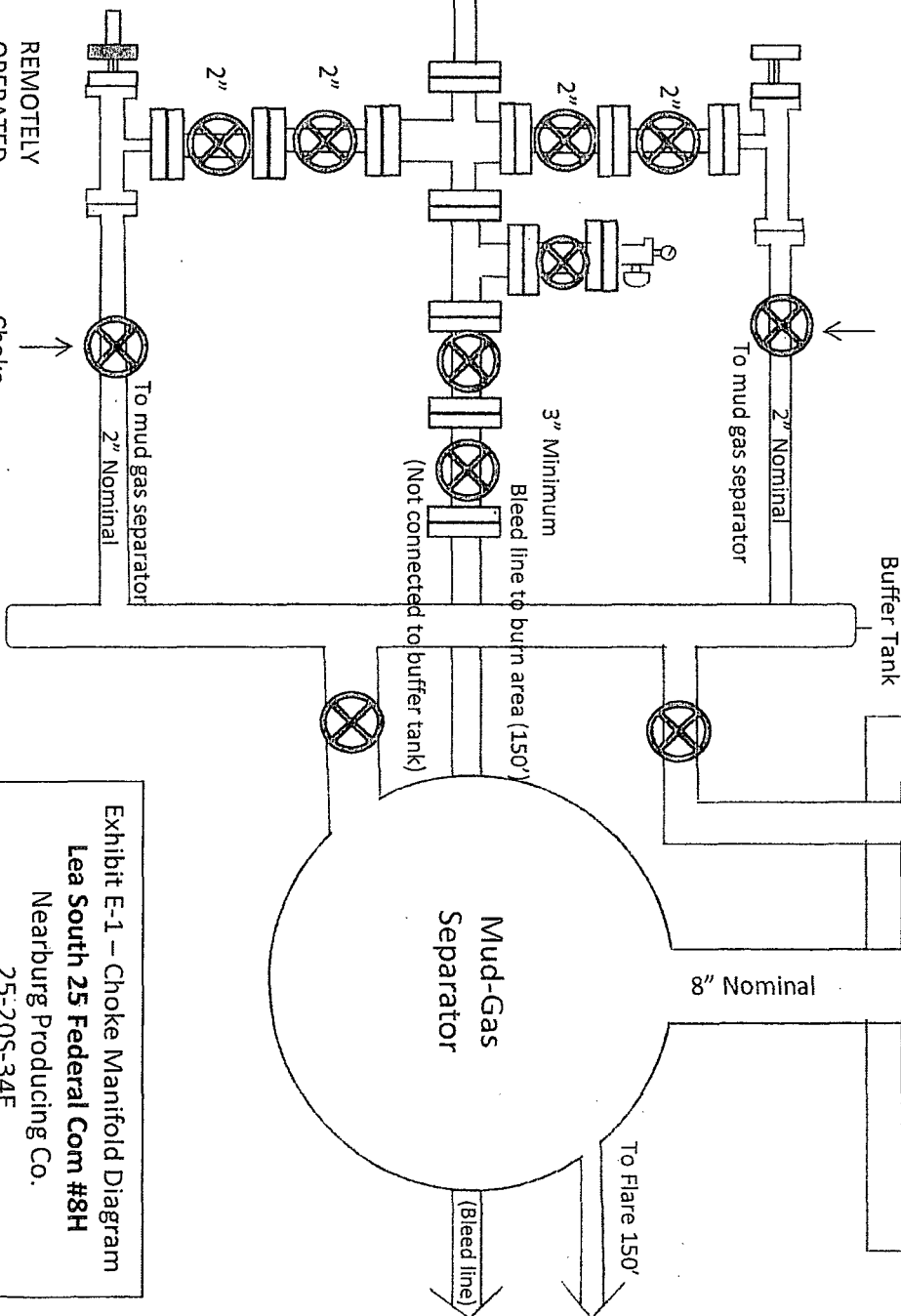


Exhibit E-1 – Choke Manifold Diagram
 Lea South 25 Federal Com #8H
 Nearburg Producing Co.
 25-205-34E
 SHL: 330' FSL 490' FEL
 BHL: 330' FNL 660' FEL
 Lea County, NM



Midwest Hose
& Specialty, Inc.

Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Lea South 25 Federal Com #8H

Nearburg Producing Co.

25-20S-34E

SHL: 330' FSL 490' FEL

BHL: 330' FNL 660' FEL

Lea County, NM

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 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE 0 PSI	
COUPLINGS			
Stem Part No. OKC OKC		Ferrule No. OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date: 3/8/2011	Tested: <i>A. J. Jones</i>	Approved: <i>[Signature]</i>	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications

Hose Type
C&K

I.D.
4"

Working Pressure
10000 PSI

Length
45'

O.D.
6.09"

Burst Pressure
Standard Safety Multiplier Applies

Verification

Type of Fitting
41/1610K

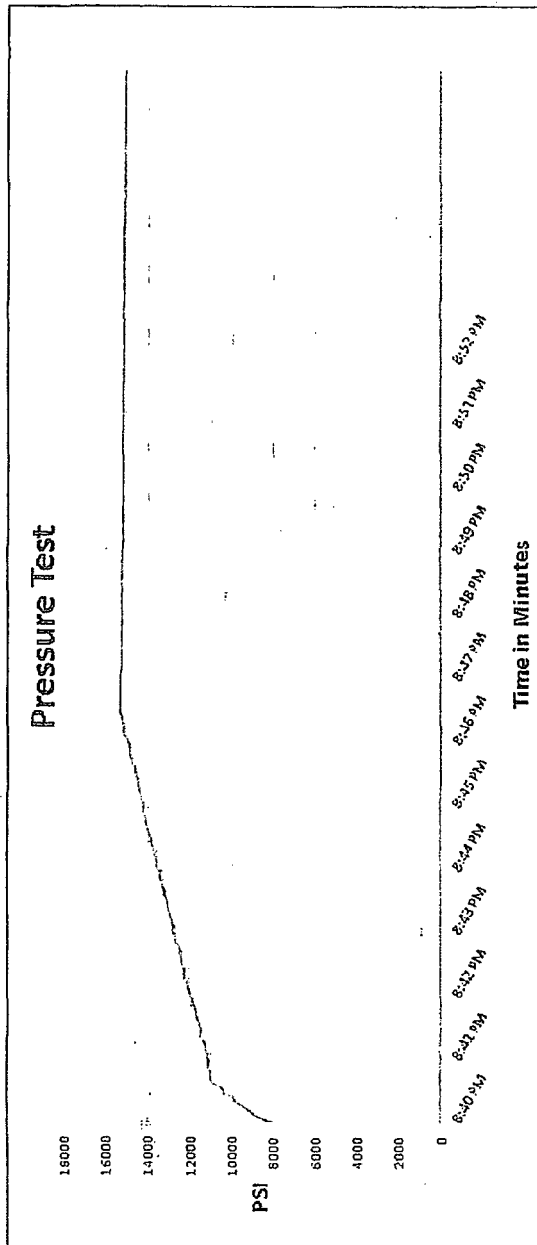
Die Size
6.38"

Hose Serial #
5544

Coupling Method
Swage

Final O.D.
6.25"

Hose Assembly Serial #
79793





Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Lea South 25 Federal Com #8H
Nearburg Producing Co.
25-20S-34E
SHL: 330' FSL 490' FEL
BHL: 330' FNL 660' 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)

Exhibit F-2 – Co-Flex Hose
Lea South 25 Federal Com #8H
Nearburg Producing Co.
25-20S-34E

SHL: 330' FSL 490' FEL
BHL: 330' FNL 660' 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>James Garcia</i>		3/8/2011

Exhibit F – Co-Flex Hose
Lea South 25 Federal Com #8H
Nearburg Producing Co.
25-20S-34E
SHL: 330' FSL 490' FEL
BHL: 330' FNL 660' FEL
Lea County, NM

