

DISTRICT I
1625 N French Dr., Hobbs, NM 88240
DISTRICT II
1301 W Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 15, 2009

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-39683	Pool Code 39350	Pool Name LIVINGSTON RIDGE-BONE SPRING
Property Code 309222	Property Name LIVINGSTON RIDGE 36 STATE	Well Number 4H <i>ND</i>
OGRID No. 272295	Operator Name THREE RIVERS OPERATING COMPANY, LLC	Elevation 3479'

Surface Location

UL or lot No. P	Section 36	Township 22 S	Range 31 E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 660	East/West line EAST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No. A	Section 36	Township 22 S	Range 31 E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 660	East/West line EAST	County EDDY
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Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

BOTTOM HOLE LOCATION (NAD-83) Lat - N 32°21'15.41" Long - W 103°43'30.25" NMSPC-E 493152.9 E 729165.2 (NAD-27) Lat - N 32.354158392 Long - W 103.724581361 PROJECT AREA PRODUCING AREA SURFACE LOCATION (NAD-83) Lat - N 32°20'29.83" Long - W 103°43'30.33" NMSPC-E 488546.6 E 729184.0 (NAD-27) Lat - N 32.341496728 Long - W 103.724605407	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Joe T. Janica</i> Signature Date 11/18/11 Joe T. Janica Printed Name SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. OCTOBER 26, 2011 Date Surveyed Signature & Seal of Professional Surveyor JAMES E. TOMPKINS Professional Surveyor No. 14729 Certification No. JAMES E. TOMPKINS 14729
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THREE RIVERS OPERATING COMPANY, LLC.
LIVINGSTON RIDGE "36" STATE # 4H
UNIT "P" SECTION 36
T22S-R31E EDDY CO. NM

1. Drill 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17½" hole to 750'. Run and set 750' of 13 3/8" 54.5# J-55 ST&C casing. Cement with 775 Sx. of HalCem Class "C" cement + 2% CaCl, 100% excess circulate cement to surface.
3. Drill 12¼" hole to 4500'. Run and set 4500' of 9 5/8" 40# N-80 LT&C casing. Cement with 1385 Sx. of EconoCem-HLC + 5% Salt, + 5# Gilsonite/Sx., tail in with 235 Sx. of HalCem Class "C" cement, 100% excess, circulate cement to surface.
4. Drill 8 3/4" hole to 11,800'. run open hole logs. Plug back to 9500' (KOP) with 450 Sx. of cement.
5. Drill 8 3/4" lateral hole to 15,259' MD. Run and set 15,259' of 5½" 17# N-80 LT&C casing. Cement with 1000 Sx. of EconoCem Class "H" cement + 0.25% of HR-601, tail in with 900 Sx. of SoluCem Class "H" cement + 0.25%/Sx. of D-AIR 3000, + 0.6% HR-601. Top of cement 4000' verified by CBL.

Three Rivers Operating Company, LLC

Wellbore Information

Well Name: Livingston Ridge 36 State 4H

Projected Total Depth: Pilot hole = 11800' Lateral = 15500'

Hole Size/Casing program:

<u>Hole Size - in</u>	<u>Interval - ft</u>	<u>Casing size - in</u>	<u>Weight - #/ft</u>	<u>Grade</u>	<u>Coupling</u>
17 1/2	0 - 750	13 3/8	54.5	J-55	STC
12 1/4	0 - 4500	9 5/8	40	N-80	LTC
8 3/4	0 - 11800				

Plug Back to 9500' - Kick off - Drill Lateral

8 3/4	9500-15500	5 1/2	17	N-80	LTC
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Minimum design factors are : Collapse = 1.125, Burst = 1.0, Tension = 1.6

All tubulars will be new, mill inspected/tested.

Cementing Program:

Surface 775 sxs HalCem - C w/ 2 % CaCl (14.9 ppg, 1.35 f³/sx)

TOC - Surface Excess - 100%

Intermediate Lead 1385 sxs EconoCem - HLC w/ 5 % salt + 5#/sx Gilsonite
(12.9 ppg, 1.85 f³/sx)

Tail 235 sxs HalCem - C (14.8 ppg, 1.33 f³/sx)

TOC - Surface Excess - 100%

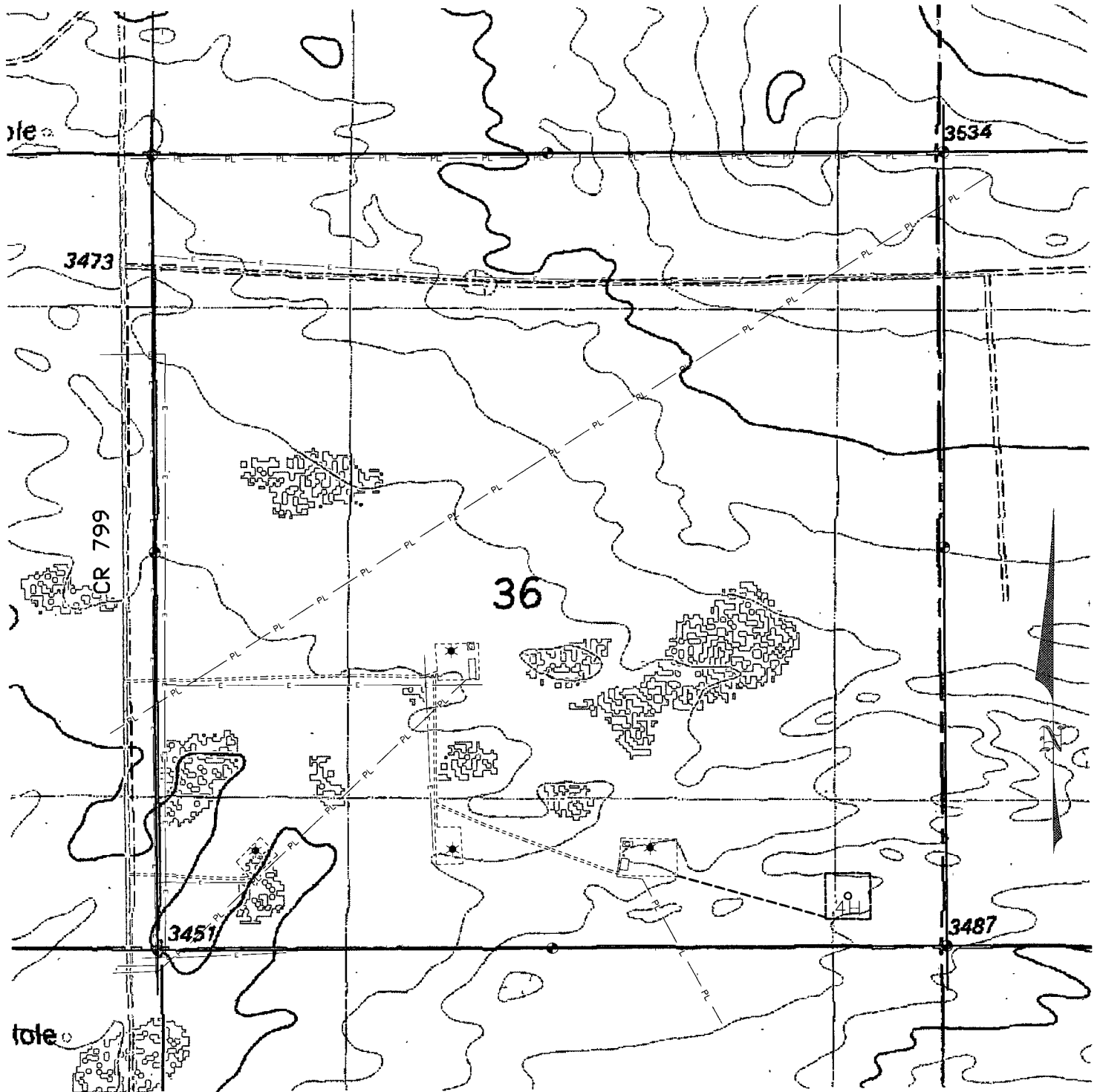
Plug Back/Kick-off Plug 450 sxs (1- 400' plug + 1- 600' plug) PlugCem - WSH
(17.2 ppg, .99 f³/sx)

Production (Single Stage - no DV Tool)

Lead 1000 sxs EconoCem - H w/ 0.25 % HR-601
(11.9 ppg, 2.44 f³/sx)

Tail 900 sxs SoluCem - H w/ 0.25 #/sx D-AIR 3000 + 0.6 % HR-601
(15.0 ppg, 2.61 f³/sx)

TOC - 4000' (Will be verified with CBL)

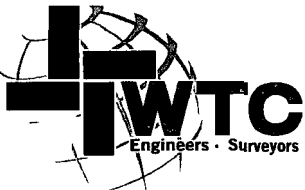


FROM THE JUNCTION OF STATE HIGHWAYS 128 AND
CO RD. 799, (RED RD.) GO NORTH ALONG CO RD
799 FOR 6.4 MILES TO A LEASE ROAD RIGHT/EAST;
THEN FOLLOWING SAID LEASE ROAD, GO EAST,
SOUTH AND SOUTHEAST 0.9 MILE, TO THE
SOUTHEAST CORNER OF A WELL PAD AT A POINT $\pm$
1000 FEET WEST NORTHWEST OF LOCATION.

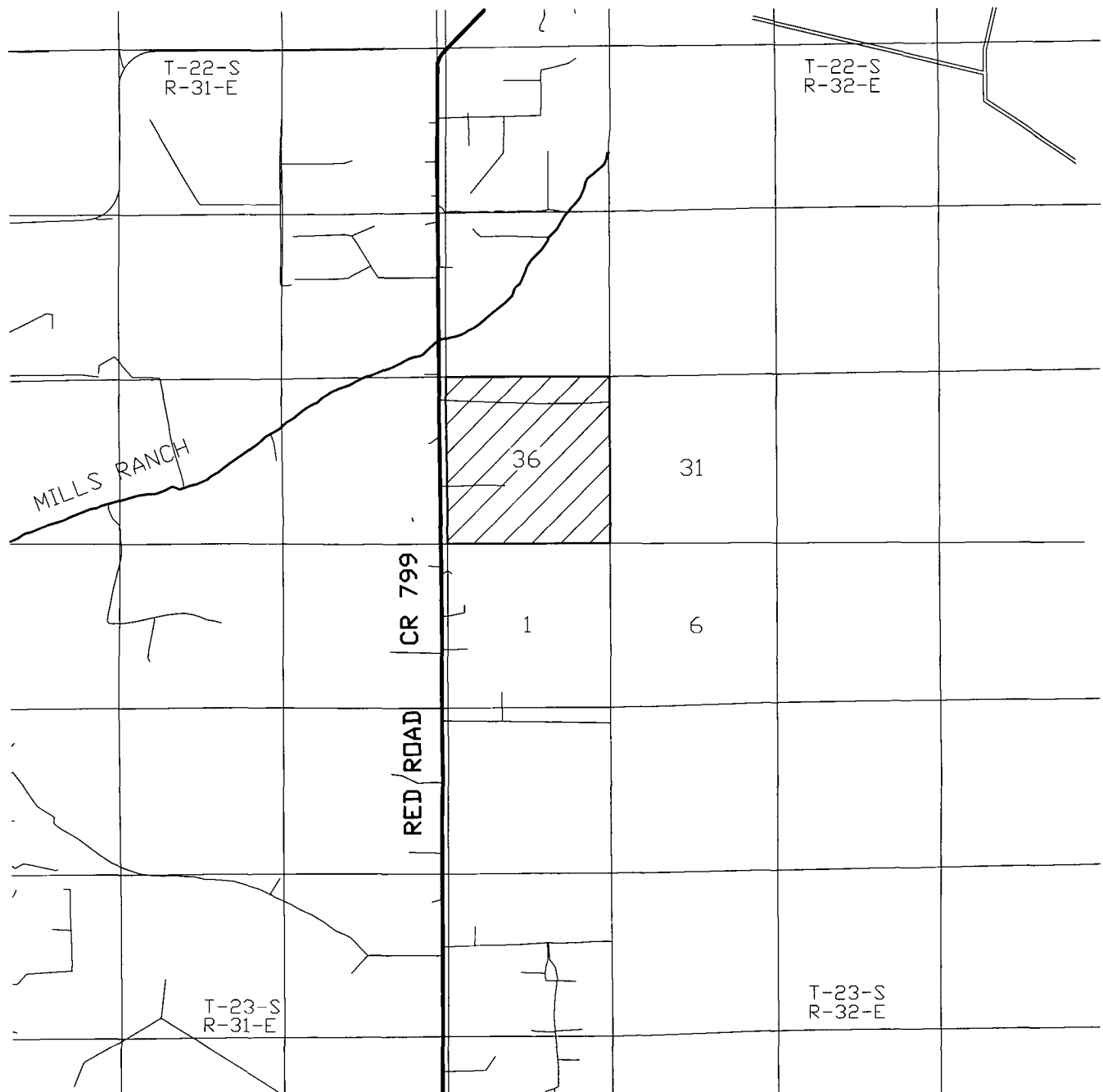
1000 0 1000 2000 FEET

THREE RIVERS OPERATING CO. LLC
LIVINGSTON RIDGE 36 STATE #4H
330' FSL & 660' FEL
SEC. 36, T. 22 S., R. 31 E., N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

JOB NO.: 48287 SURVEY DATE: 10-26-2011 DRAFT GWS

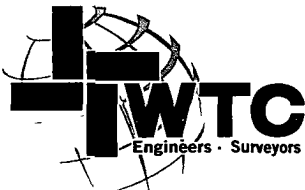


WEST TEXAS CONSULTANTS, INC.
ENGINEERS PLANNERS SURVEYORS
405 S W 1st Street
Andrews, TX 79714
(432) 523-2181



FROM THE JUNCTION OF STATE HIGHWAYS 128 AND
CO. RD. 799, (RED RD.) GO NORTH ALONG CO. RD.
799 FOR 6.4 MILES TO A LEASE ROAD RIGHT/EAST,
THEN FOLLOWING SAID LEASE ROAD, GO EAST,
SOUTH AND SOUTHEAST 0.9 MILE, TO THE
SOUTHEAST CORNER OF A WELL PAD AT A POINT $\pm$
1000 FEET WEST NORTHWEST OF LOCATION.

1 MILE 0 1 MILE 2 MILES



WEST TEXAS CONSULTANTS, INC
ENGINEERS PLANNERS SURVEYORS
405 S W 1st Street
Andrews, TX 79714
(432) 523-2181

THREE RIVERS OPERATING CO. LLC
LIVINGSTON RIDGE 36 STATE #4H
330' FSL & 660' FEL
SEC. 36, T. 22 S., R. 31 E., N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

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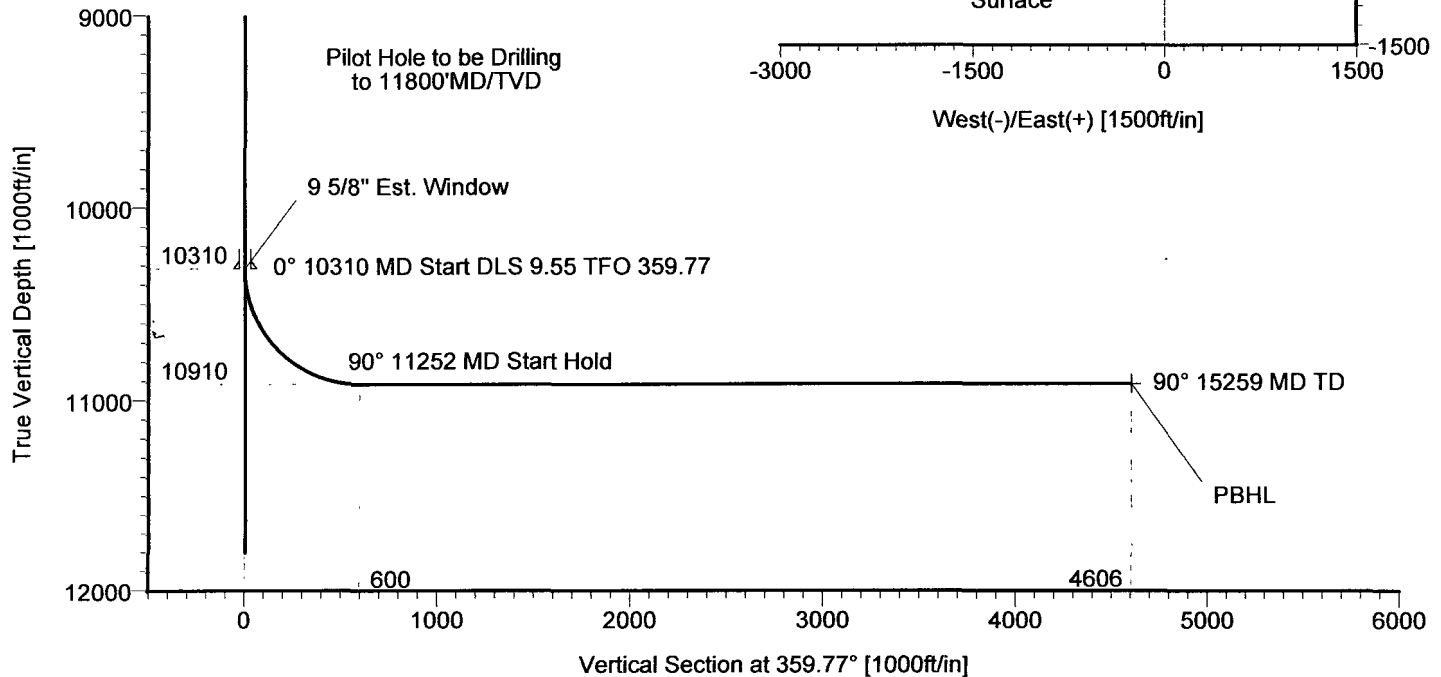
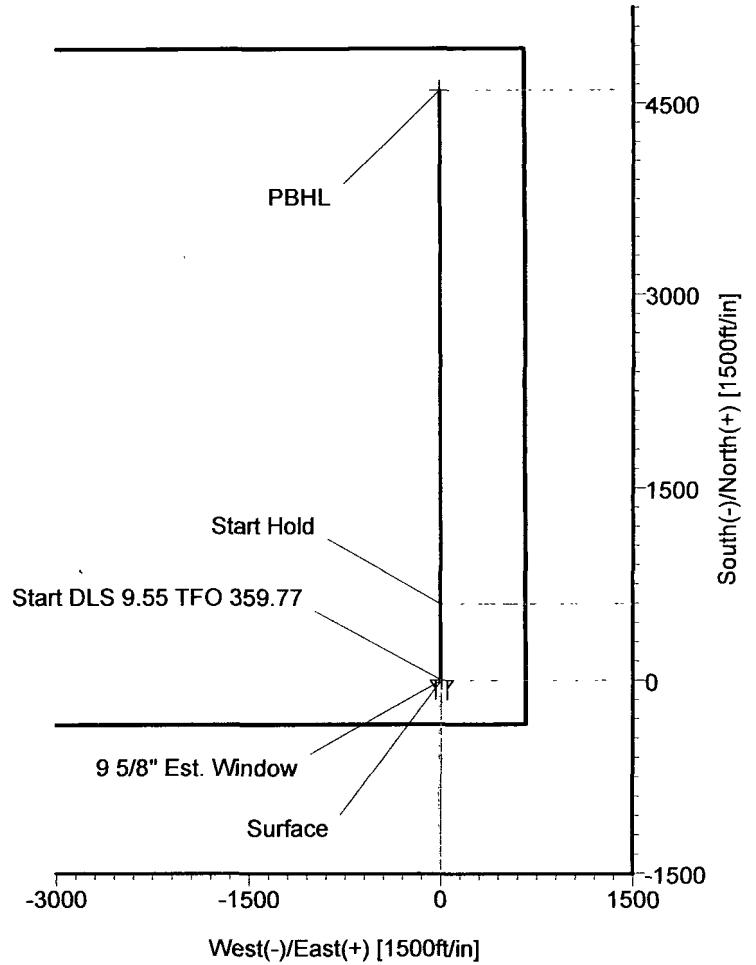
THREE RIVERS OPERATING COMPANY LLC

Field: Eddy County, NM
 Site: Livingston Ridge 36 State 4H
 Well: 4H
 Wellpath: Lateral
 Plan: Plan #2



Azimuths to Grid North
 True North: -0.33°
 Magnetic North: 7.29°

Magnetic Field
 Strength: 48656nT
 Dip Angle: 60.26°
 Date: 11/9/2011
 Model: IGRF2010



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface	0.00	0.00	0.00	488486.60	688001.17	32°20'29.388N	103°43'28.580W	Point
PBHL	10910.00	4606.18	-18.67	493092.78	687982.51	32°21'14.970N	103°43'28.492W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	10310.00	0.00	0.00	10310.00	0.00	0.00	0.00	0.00	0.00	
2	11252.48	90.00	359.77	10910.00	599.99	-2.43	9.55	359.77	600.00	
3	15258.69	90.00	359.77	10910.00	4606.18	-18.67	0.00	0.00	4606.21	PBHL

ARCHER DIRECTIONAL DRILLING SERVICES
 911 Regional Park Drive Houston, Texas 77060
 Phone: 713-934-9600 Fax: 713-934-9067

Archer

Plan Plan #2 (4H/Lateral)

Created By: Ashley Wischnewsky

Date: 11/9/2011

Planning Report

Company: THREE RIVERS OPERATING COMPANY Field: Eddy County, NM Site: Livingston Ridge 36 State 4H Well: 4H Wellpath: Lateral		Date: 11/9/2011 Co-ordinate(NE) Reference: Well: 4H; Grid North Vertical (TVD) Reference: 3582'GL+26'KB 3608.0 Section (VS) Reference: Well (0.00N;0.00E,359.77Azi) Plan: Plan #2		Page: 1
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Field: Eddy County, NM	
Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level	Map Zone: New Mexico, Eastern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010

Site: Livingston Ridge 36 State 4H New SL given 11-9-11	
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 0.00 ft	Northing: 488486.60 ft Easting: 688001.17 ft Latitude: 32 20 29.388 N Longitude: 103 43 28.580 W North Reference: Grid Grid Convergence: 0.33 deg

Well: 4H	Slot Name:
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Northing: 488486.60 ft Easting: 688001.17 ft Latitude: 32 20 29.388 N Longitude: 103 43 28.580 W

Wellpath: Lateral		Drilled From: Pilot Hole Tie-on Depth: 11800.00 ft Above System Datum: Mean Sea Level Declination: 7.62 deg Mag Dip Angle: 60.26 deg
Current Datum: 3582'GL+26'KB Magnetic Data: 11/9/2011 Field Strength: 48656 nT Vertical Section: Depth From (TVD) ft	Height: 3608.00 ft +N/-S ft +E/-W ft	Direction deg 359.77

Plan: Plan #2 New SL & PBHL Principal: No	Date Composed: 11/9/2011 Version: 1 Tied-to: From: Definitive Path
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Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
10310.00	0.00	0.00	10310.00	0.00	0.00	0.00	0.00	0.00	0.00	
11252.48	90.00	359.77	10910.00	599.99	-2.43	9.55	9.55	-0.02	359.77	
15258.69	90.00	359.77	10910.00	4606.18	-18.67	0.00	0.00	0.00	0.00	PBHL

Survey										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10310.00	0.00	0.00	10310.00	0.00	0.00	0.00	0.00	0.00	0.00	9 5/8" Est. Window
10350.00	3.82	359.77	10349.97	1.33	-0.01	1.33	9.55	9.55	0.00	
10400.00	8.59	359.77	10399.66	6.74	-0.03	6.74	9.55	9.55	0.00	
10450.00	13.37	359.77	10448.73	16.26	-0.07	16.26	9.55	9.55	0.00	
10500.00	18.14	359.77	10496.84	29.83	-0.12	29.83	9.55	9.55	0.00	
10550.00	22.92	359.77	10543.65	47.36	-0.19	47.36	9.55	9.55	0.00	
10600.00	27.69	359.77	10588.84	68.73	-0.28	68.73	9.55	9.55	0.00	
10650.00	32.47	359.77	10632.09	93.78	-0.38	93.78	9.55	9.55	0.00	
10700.00	37.24	359.77	10673.11	122.35	-0.50	122.35	9.55	9.55	0.00	
10750.00	42.02	359.77	10711.61	154.23	-0.63	154.23	9.55	9.55	0.00	
10800.00	46.79	359.77	10747.32	189.21	-0.77	189.21	9.55	9.55	0.00	
10850.00	51.57	359.77	10780.00	227.03	-0.92	227.03	9.55	9.55	0.00	
10900.00	56.34	359.77	10809.41	267.45	-1.08	267.45	9.55	9.55	0.00	
10950.00	61.12	359.77	10835.36	310.17	-1.26	310.17	9.55	9.55	0.00	
11000.00	65.89	359.77	10857.66	354.90	-1.44	354.91	9.55	9.55	0.00	
11050.00	70.66	359.77	10876.16	401.34	-1.63	401.34	9.55	9.55	0.00	
11100.00	75.44	359.77	10890.73	449.15	-1.82	449.16	9.55	9.55	0.00	
11150.00	80.21	359.77	10901.27	498.02	-2.02	498.02	9.55	9.55	0.00	

Planning Report

Company: THREE RIVERS OPERATING COMPANY
 Field: Eddy County, NM
 Site: Livingston Ridge 36 State 4H
 Well: 4H
 Wellpath: Lateral

Date: 11/9/2011 Time: 15:52:32 Page: 2
 Co-ordinate(NE) Reference: Well: 4H, Grid North
 Vertical (TVD) Reference: 3582'GL+26'KB 3608.0
 Section (VS) Reference: Well (0.00N,0.00E,359.77Azi).
 Plan: Plan #2

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
11200.00	84.99	359.77	10907.71	547.58	-2.22	547.59	9.55	9.55	0.00	
11252.48	90.00	359.77	10910.00	599.99	-2.43	600.00	9.55	9.55	0.00	
11300.00	90.00	359.77	10910.00	647.52	-2.62	647.52	0.00	0.00	0.00	
11400.00	90.00	359.77	10910.00	747.52	-3.03	747.52	0.00	0.00	0.00	
11500.00	90.00	359.77	10910.00	847.52	-3.43	847.52	0.00	0.00	0.00	
11600.00	90.00	359.77	10910.00	947.51	-3.84	947.52	0.00	0.00	0.00	
11700.00	90.00	359.77	10910.00	1047.51	-4.24	1047.52	0.00	0.00	0.00	
11800.00	90.00	359.77	10910.00	1147.51	-4.65	1147.52	0.00	0.00	0.00	
11900.00	90.00	359.77	10910.00	1247.51	-5.06	1247.52	0.00	0.00	0.00	
12000.00	90.00	359.77	10910.00	1347.51	-5.46	1347.52	0.00	0.00	0.00	
12100.00	90.00	359.77	10910.00	1447.51	-5.87	1447.52	0.00	0.00	0.00	
12200.00	90.00	359.77	10910.00	1547.51	-6.27	1547.52	0.00	0.00	0.00	
12300.00	90.00	359.77	10910.00	1647.51	-6.68	1647.52	0.00	0.00	0.00	
12400.00	90.00	359.77	10910.00	1747.51	-7.08	1747.52	0.00	0.00	0.00	
12500.00	90.00	359.77	10910.00	1847.51	-7.49	1847.52	0.00	0.00	0.00	
12600.00	90.00	359.77	10910.00	1947.51	-7.89	1947.52	0.00	0.00	0.00	
12700.00	90.00	359.77	10910.00	2047.51	-8.30	2047.52	0.00	0.00	0.00	
12800.00	90.00	359.77	10910.00	2147.50	-8.70	2147.52	0.00	0.00	0.00	
12900.00	90.00	359.77	10910.00	2247.50	-9.11	2247.52	0.00	0.00	0.00	
13000.00	90.00	359.77	10910.00	2347.50	-9.51	2347.52	0.00	0.00	0.00	
13100.00	90.00	359.77	10910.00	2447.50	-9.92	2447.52	0.00	0.00	0.00	
13200.00	90.00	359.77	10910.00	2547.50	-10.32	2547.52	0.00	0.00	0.00	
13300.00	90.00	359.77	10910.00	2647.50	-10.73	2647.52	0.00	0.00	0.00	
13400.00	90.00	359.77	10910.00	2747.50	-11.13	2747.52	0.00	0.00	0.00	
13500.00	90.00	359.77	10910.00	2847.50	-11.54	2847.52	0.00	0.00	0.00	
13600.00	90.00	359.77	10910.00	2947.50	-11.94	2947.52	0.00	0.00	0.00	
13700.00	90.00	359.77	10910.00	3047.50	-12.35	3047.52	0.00	0.00	0.00	
13800.00	90.00	359.77	10910.00	3147.50	-12.75	3147.52	0.00	0.00	0.00	
13900.00	90.00	359.77	10910.00	3247.50	-13.16	3247.52	0.00	0.00	0.00	
14000.00	90.00	359.77	10910.00	3347.49	-13.57	3347.52	0.00	0.00	0.00	
14100.00	90.00	359.77	10910.00	3447.49	-13.97	3447.52	0.00	0.00	0.00	
14200.00	90.00	359.77	10910.00	3547.49	-14.38	3547.52	0.00	0.00	0.00	
14300.00	90.00	359.77	10910.00	3647.49	-14.78	3647.52	0.00	0.00	0.00	
14400.00	90.00	359.77	10910.00	3747.49	-15.19	3747.52	0.00	0.00	0.00	
14500.00	90.00	359.77	10910.00	3847.49	-15.59	3847.52	0.00	0.00	0.00	
14600.00	90.00	359.77	10910.00	3947.49	-16.00	3947.52	0.00	0.00	0.00	
14700.00	90.00	359.77	10910.00	4047.49	-16.40	4047.52	0.00	0.00	0.00	
14800.00	90.00	359.77	10910.00	4147.49	-16.81	4147.52	0.00	0.00	0.00	
14900.00	90.00	359.77	10910.00	4247.49	-17.21	4247.52	0.00	0.00	0.00	
15000.00	90.00	359.77	10910.00	4347.49	-17.62	4347.52	0.00	0.00	0.00	
15100.00	90.00	359.77	10910.00	4447.49	-18.02	4447.52	0.00	0.00	0.00	
15200.00	90.00	359.77	10910.00	4547.48	-18.43	4547.52	0.00	0.00	0.00	
15258.69	90.00	359.77	10910.00	4606.18	-18.67	4606.21	0.00	0.00	0.00	PBHL

Targets

Name	Description Dip. Dir.	TVD ft.	+N/-S ft.	+E/-W ft.	Map Northing ft.	Map Easting ft.	<--- Latitude ---><--- Longitude --->		
Surface		0.00	0.00	0.00	488486.60	688001.17	32	20	29.388 N 103 43 28.580 W
PBHL		10910.00	4606.18	-18.67	493092.78	687982.51	32	21	14.970 N 103 43 28.492 W

Planning Report

Company: THREE RIVERS OPERATING COMPANY
Field: Eddy County, NM
Site: Livingston Ridge 36 State 4H
Well: 4H
Wellpath: Lateral

Date: 11/9/2011 Time: 15:52:32 Page: 3
Co-ordinate(NE) Reference: Well: 4H, Grid North
Vertical (TVD) Reference: 3582'GL+26'KB 3608.0
Section (VS) Reference: Well (0.00N,0.00E,359.77Azi)
Plan: Plan #2

Casing Points

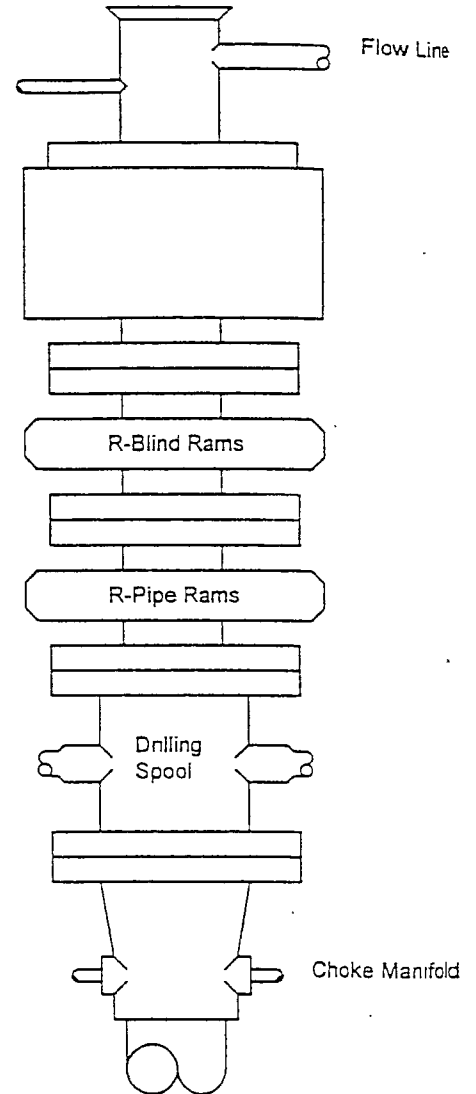
MD ft	TVD ft	Diameter in	Hole Size in	Name
10310.00	10310.00	9.62	12.25	9 5/8" Est. Window

BLOWOUT PREVENTER SYSTEM

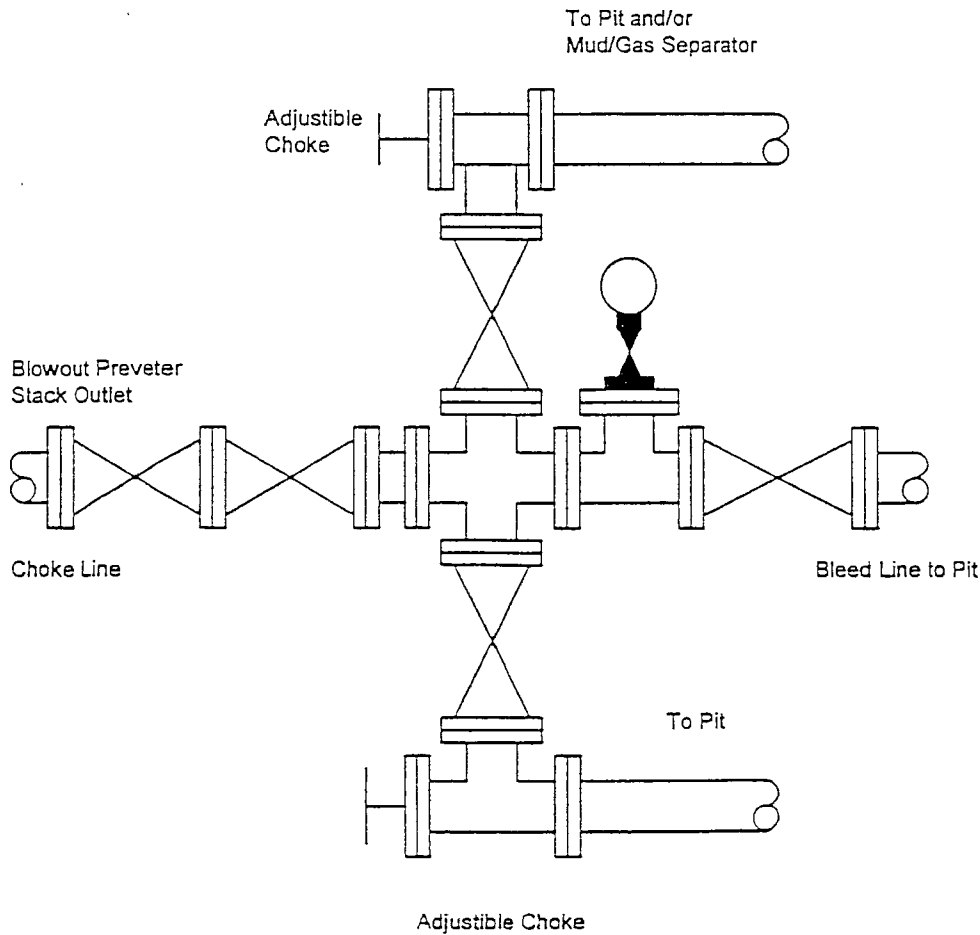
5000 PSI

Fill Line

Flow Line



Choke Manifold Assembly for 5M WP System



TYPE 1500 SERIES
5000 psi WP