

Richmond

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10198

RICHMOND PETROLEUM, INC.

Structure : Jicarilla-Richmond Joint Venture #27-1

Well : Apache 27-2W-28#1

Field : Section 28-T27N-R2W

Location : Rio Arriba County, New Mexico

Created by : drilling

Date plotted : 8-Jan-91

Plot Reference is pin #2.

Coordinates are in feet reference slot #1.

True Vertical Depths are reference wellhead.

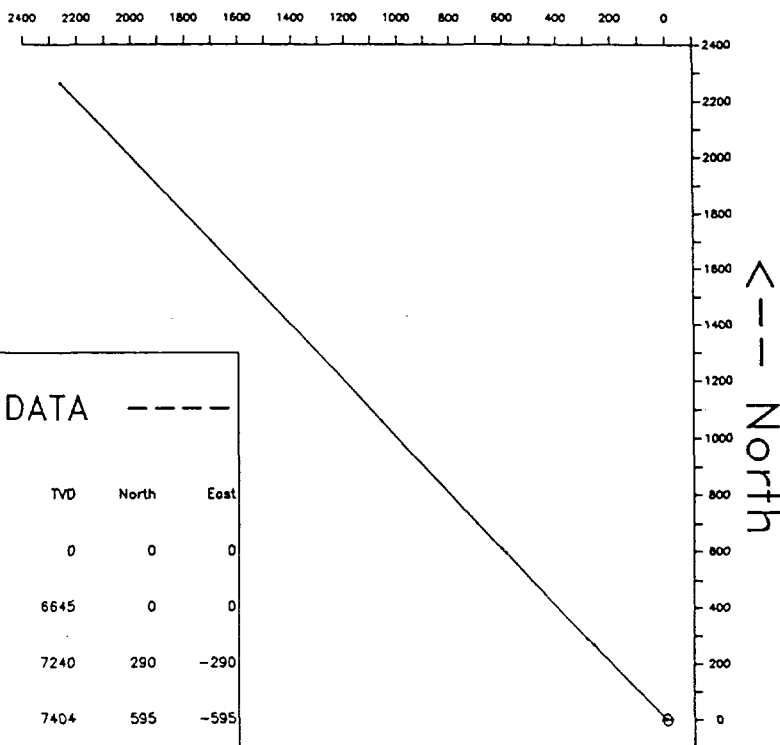
--- EASTMAN CHRISTENSEN ---



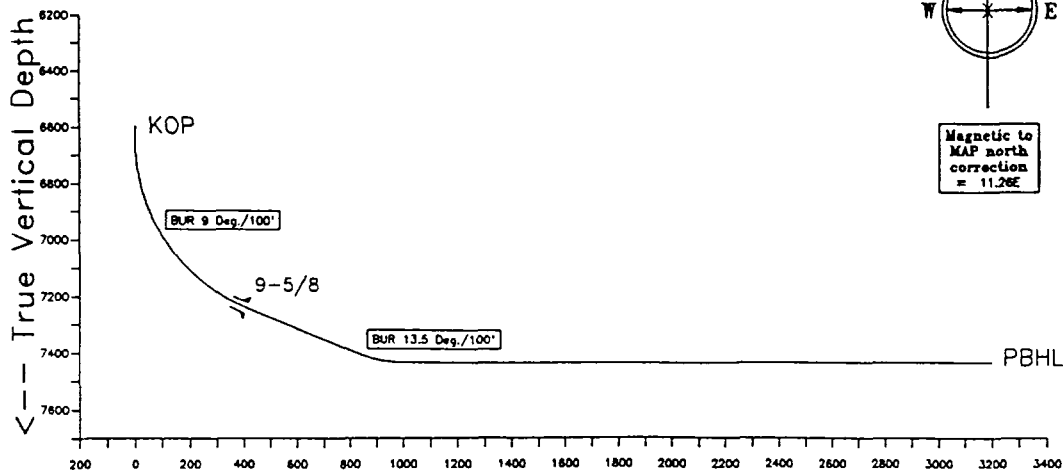
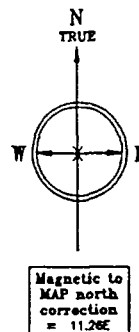
**EASTMAN
CHRISTENSEN**

A Baker Hughes company

<-- West Scale 1 : 100.00



----- WELL PROFILE DATA -----						
Point	MD	Inc	Dir	TVD	North	East
SHL: 500'FSL 500'FEL	0	0.00	315.00	0	0	0
KOP	6645	0.00	315.00	6645	0	0
End of Build	7413	69.16	315.00	7240	290	-290
End of Hold	7875	69.16	315.00	7404	595	-595
End of Build	8029	90.00	315.00	7432	702	-702
PBHL: 1500' Displacement	8537	90.00	315.00	7432	1061	-1061
PBHL: 790'FNL 2762'FEL	10236	90.00	315.00	7432	2262	-2262



Scale 1 : 100.00 Vertical Section on 315.00 azimuth with reference 0.00 N. 0.00 E from slot #1

RICHMOND PETROLEUM, INC.
Jicarilla-Richmond Joint Venture
slot #1
Section 28-T27N-R2W
Rio Arriba County, New Mexico

P R O P O S A L L I S T I N G

Your ref : pln #2
Our ref : prop14
Other ref :

Date printed : 8-Jan-91
Date created : 8-Jan-91
Last revised : 8-Jan-91

Field is centred on n36 30 0.000,w106 45 0.000,-105
Structure is centred on n36 30 0.000,w106 45 0.000,-105

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert. Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100Ft	
0.00	0.00	315.00	0.00	0.00 N	0.00 E	0.00	SHL @ 500' FSL, 500' FEL of Sec.27
500.00	0.00	315.00	500.00	0.00 N	0.00 E	0.00	
1000.00	0.00	315.00	1000.00	0.00 N	0.00 E	0.00	
1500.00	0.00	315.00	1500.00	0.00 N	0.00 E	0.00	
2000.00	0.00	315.00	2000.00	0.00 N	0.00 E	0.00	
2500.00	0.00	315.00	2500.00	0.00 N	0.00 E	0.00	
3000.00	0.00	315.00	3000.00	0.00 N	0.00 E	0.00	
3500.00	0.00	315.00	3500.00	0.00 N	0.00 E	0.00	
4000.00	0.00	315.00	4000.00	0.00 N	0.00 E	0.00	
4500.00	0.00	315.00	4500.00	0.00 N	0.00 E	0.00	
5000.00	0.00	315.00	5000.00	0.00 N	0.00 E	0.00	
5500.00	0.00	315.00	5500.00	0.00 N	0.00 E	0.00	
6000.00	0.00	315.00	6000.00	0.00 N	0.00 E	0.00	
6500.00	0.00	315.00	6500.00	0.00 N	0.00 E	0.00	
6645.00	0.00	315.00	6645.00	0.00 N	0.00 E	0.00	KOP
6745.00	9.00	315.00	6744.59	5.54 N	5.54 W	9.00	
6845.00	18.00	315.00	6841.73	22.03 N	22.03 W	9.00	
6945.00	27.00	315.00	6934.02	49.06 N	49.06 W	9.00	
7045.00	36.00	315.00	7019.20	85.97 N	85.97 W	9.00	
7145.00	45.00	315.00	7095.16	131.84 N	131.84 W	9.00	
7245.00	54.00	315.00	7160.05	185.55 N	185.55 W	9.00	Top of Niobrara "A" EoB #1, csg. pt.
7345.00	62.99	315.00	7212.25	245.78 N	245.78 W	9.00	
7376.85	65.86	315.00	7226.00	266.09 N	266.09 W	9.00	
7413.46	69.16	315.00	7240.00	290.00 N	290.00 W	9.00	
7500.00	69.16	315.00	7270.80	347.19 N	347.19 W	0.00	
7874.97	69.16	315.00	7404.22	594.98 N	594.98 W	0.00	EoT
7898.56	72.34	315.00	7412.00	610.73 N	610.73 W	13.50	Top of Niobrara "C"
7962.71	81.00	315.00	7426.77	654.82 N	654.82 W	13.50	EoB #2
8029.37	90.00	315.00	7432.00	701.77 N	701.77 W	13.50	
8500.00	90.00	315.00	7432.00	1034.55 N	1034.55 W	0.00	
8536.91	90.00	315.00	7432.00	1060.65 N	1060.65 W	0.00	BHL @ 1500' Total Displ. from SHL
9000.00	90.00	315.00	7432.00	1388.10 N	1388.10 W	0.00	
9500.00	90.00	315.00	7432.00	1741.66 N	1741.66 W	0.00	
10000.00	90.00	315.00	7432.00	2095.21 N	2095.21 W	0.00	BHL @ 790' FNL, 2762' FEL of Sec.27
10235.87	90.00	315.00	7432.00	2262.00 N	2262.00 W	0.00	

All data is in feet unless otherwise stated
Coordinates are from slot #1 and TVDs are from wellhead.
Calculation uses the minimum curvature method.

Comments in wellpath =====				
MD	TVD	Rectangular Coords.		Comment
0.00	0.00	0.00 N	0.00 E	SHL @ 500'FSL, 500'FEL of Sec.27
6645.00	6645.00	0.00 N	0.00 E	KOP
7376.85	7226.00	266.09 N	266.09 W	Top of Niobrara "A"
7413.46	7240.00	290.00 N	290.00 W	EoB #1, csg. pt.
7874.97	7404.22	594.98 N	594.98 W	EoT
7898.56	7412.00	610.73 N	610.73 W	Top of Niobrara "C"
8029.37	7432.00	701.77 N	701.77 W	EoB #2
8536.91	7432.00	1060.65 N	1060.65 W	BHL @ 1500' Total Displ. from SHL
10235.87	7432.00	2262.00 N	2262.00 W	BHL @ 790'FNL, 2762'FEL of Sec.27

Casing positions in string 'A'								
=====								
Top MD	Top TVD	Rectangular Coords.		Bot MD	Bot TVD	Rectangular Coords.		Casing

0.00	0.00	0.00N	0.00E	350.00	350.00	0.00N	0.00E	13-3/8"
0.00	0.00	0.00N	0.00E	7413.46	7240.00	290.00N	290.00W	9-5/8"

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 Coordinates are from slot #1 and TVDs are from wellhead.
 Calculation uses the minimum curvature method.