



Ryan Energy Technologies USA, Inc.

Directional & Horizontal Drilling Systems

Chesapeake Operating Inc.
Boyce ^{15 #2} 2-15 OH
Lea County, New Mexico.

Unit A-15-165-35
SUR: 664/N & 499/E
BAL: 672/N & 58 1/2 E
30-025-35005

Final Well Report

WE HEREBY CERTIFY THAT THE DATA CONTAINED IN THIS REPORT FROM - 0 - FT.
TO 11510 FT. BY OUR DIRECTIONAL CONSULTANT, REPRESENTS TO THE BEST OF
OUR KNOWLEDGE, A TRUE AND ACCURATE SURVEY OF THE WELL AT THE TIME THE
SURVEY WAS RUN.

Michael Richard
CERTIFIED BY

7-13-2000
DATE

Lisa A Lumeau
NOTARY

7-13-2000
DATE

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RyanUSA

Company: Chesapeake Operating Inc.
Field: Lea County
Site: Boyce 2-15
Well: Boyce 2-15
Wellpath: OH

Date: 7/13/2000 Time: 12:59:28 Page: 1
Co-ordinate(NE) Reference: Well: Boyce 2-15, Grid North
Vertical (TVD) Reference: SITE 4003.0 above Mean Sea Level
Section (VS) Reference: Well (0.0E,0.0N,218.4Azi)
Survey Calculation Method: Minimum Curvature

Survey History for Definitive Wellpath

Date: 7/13/2000 Validated: YES Version: 0.0

From ft	To ft	Survey	Tool
0.0	7999.0	#1Chesapeake Surveys	PM
8105.0	10129.0	#2 Ryan USA MWD	MWD
10593.0	11510.0	#3 Chesapeake Surveys	LRG

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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	TIE LINE
723.0	0.25	335.00	723.0	1.4	-0.7	-0.7	0.03	0.03	0.00	PM
1198.0	0.25	337.00	1198.0	3.3	-1.5	-1.7	0.00	0.00	0.42	PM
1609.0	0.25	90.00	1609.0	4.1	-1.0	-2.7	0.10	0.00	27.49	PM
2592.0	1.75	125.00	2591.8	-4.5	13.5	-4.9	0.16	0.15	3.56	PM
3248.0	2.50	142.00	3247.4	-21.5	30.5	-2.1	0.15	0.11	2.59	PM
3720.0	1.00	166.00	3719.1	-33.6	37.8	2.9	0.35	-0.32	5.08	PM
4177.0	1.25	250.00	4176.1	-39.2	34.1	9.5	0.33	0.05	18.38	PM
4667.0	1.25	251.00	4666.0	-42.7	24.0	18.6	0.00	0.00	0.20	PM
5652.0	2.25	260.00	5650.5	-49.6	-5.2	42.1	0.10	0.10	0.91	PM
6129.0	2.50	244.00	6127.1	-55.8	-23.7	58.5	0.15	0.05	-3.35	PM
6606.0	3.00	240.00	6603.5	-66.6	-43.9	79.5	0.11	0.10	-0.84	PM
7089.0	3.00	238.00	7085.9	-79.6	-65.6	103.1	0.02	0.00	-0.41	PM
7503.0	2.75	235.00	7499.4	-91.0	-82.9	122.8	0.07	-0.06	-0.72	PM
7999.0	3.00	247.00	7994.7	-102.9	-104.6	145.6	0.13	0.05	2.42	PM
8105.0	3.30	240.50	8100.6	-105.5	-109.8	150.9	0.44	0.28	-6.13	MWD
8201.0	1.60	247.20	8196.5	-107.4	-113.4	154.6	1.79	-1.77	6.98	MWD
8296.0	0.50	266.60	8291.5	-107.9	-115.1	156.0	1.20	-1.16	20.42	MWD
8392.0	1.60	25.40	8387.5	-106.7	-114.9	155.0	1.97	1.15	123.75	MWD
8489.0	1.70	32.80	8484.4	-104.3	-113.6	152.3	0.24	0.10	7.63	MWD
8551.0	2.50	42.60	8546.4	-102.5	-112.1	150.0	1.41	1.29	15.81	MWD
8615.0	4.00	44.70	8610.3	-99.9	-109.6	146.4	2.35	2.34	3.28	MWD
8710.0	3.00	46.80	8705.1	-95.9	-105.5	140.6	1.06	-1.05	2.21	MWD
8804.0	3.00	46.50	8799.0	-92.5	-101.9	135.8	0.02	0.00	-0.32	MWD
8899.0	2.80	48.90	8893.8	-89.3	-98.4	131.0	0.25	-0.21	2.53	MWD
8994.0	3.40	46.10	8988.7	-85.8	-94.6	126.0	0.65	0.63	-2.95	MWD
9088.0	3.10	42.60	9082.5	-82.0	-90.8	120.7	0.38	-0.32	-3.72	MWD
9183.0	3.60	41.60	9177.4	-77.9	-87.1	115.1	0.53	0.53	-1.05	MWD
9278.0	3.30	45.40	9272.2	-73.7	-83.2	109.4	0.40	-0.32	4.00	MWD
9371.0	2.80	44.40	9365.1	-70.2	-79.7	104.5	0.54	-0.54	-1.08	MWD
9645.0	2.90	31.70	9638.7	-59.5	-71.4	91.0	0.23	0.04	-4.64	MWD
9751.0	2.90	26.80	9744.6	-54.9	-68.8	85.7	0.23	0.00	-4.62	MWD
9843.0	2.90	28.90	9836.5	-50.7	-66.6	81.1	0.12	0.00	2.28	MWD
9937.0	3.00	33.50	9930.4	-46.6	-64.1	76.3	0.27	0.11	4.89	MWD
10033.0	2.00	27.80	10026.3	-43.0	-61.9	72.2	1.07	-1.04	-5.94	MWD
10129.0	2.00	16.20	10122.2	-39.9	-60.7	69.0	0.42	0.00	-12.08	MWD
10593.0	1.00	328.00	10586.1	-28.7	-60.6	60.1	0.33	-0.22	-10.39	LRG
11480.0	2.75	310.00	11472.6	-8.5	-81.0	56.9	0.21	0.20	-2.03	LRG
11510.0	2.75	310.00	11502.5	-7.6	-82.1	56.9	0.00	0.00	0.00	LRG

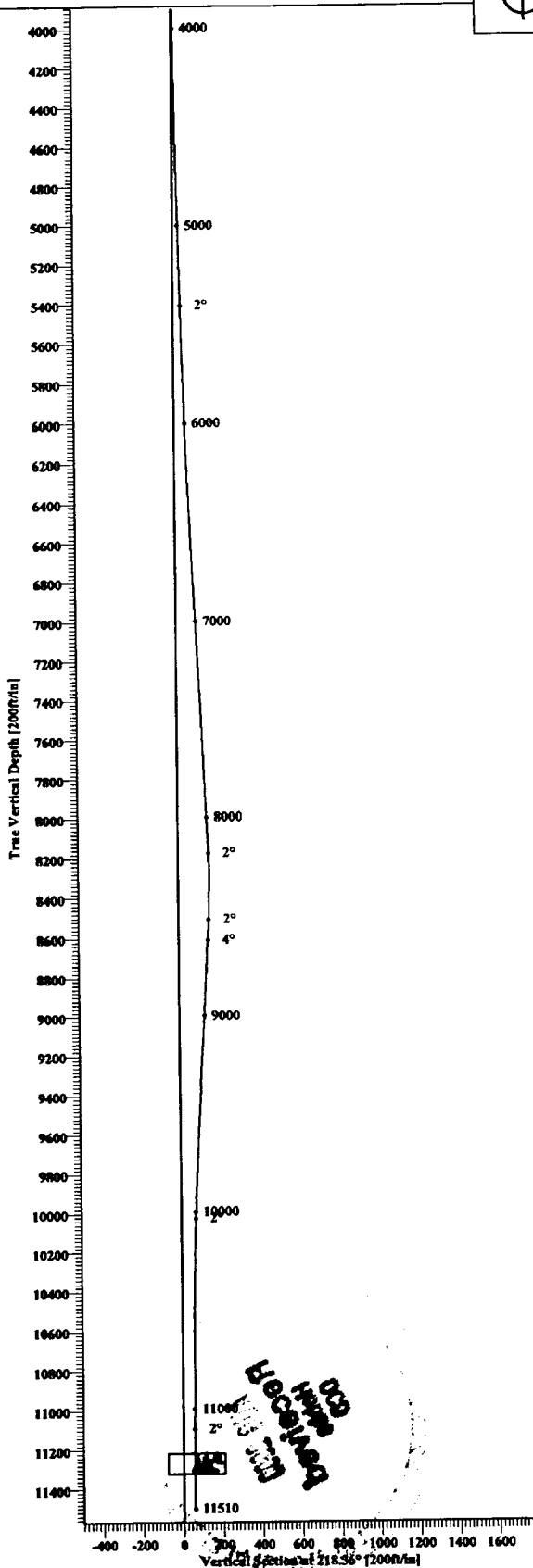
Chesapeake Operating Inc.
Boyce 2-15
Lea County, New Mexico.
AS DRILLED



All Angles Relative
To Grid North
 Grid North: 0.00
 True North: -0.49
 Magnetic North: 8.37

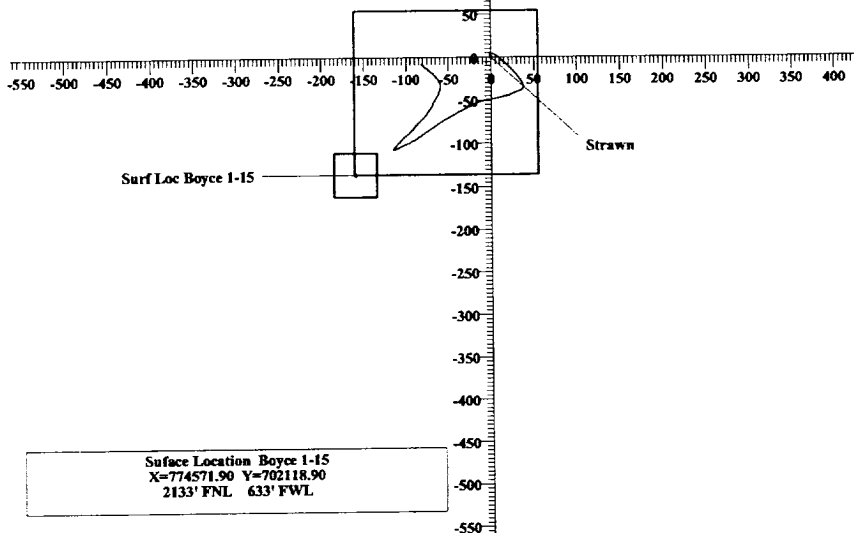


Ryan Energy Technologies USA Inc.



Surface Location Boyce 2-15
 664' FNL 499' FEL
 Target Intercept Point 800' FNL 600' FEL

South(-)/North(+) [50ft/in]



Surface Location Boyce 1-15
 X=774571.90 Y=702118.90
 2133' FNL 633' FWL

West(-)/East(+) [50ft/in]

FIELD DETAILS

Lea County
 New Mexico
 USA

Geodetic System: US State Plane Coordinate System 1927
 Ellipsoid: Clarke - 1866
 Zone: New Mexico, Eastern Zone
 Magnetic Model: igr2000

System Datum: Mean Sea Level
 Local North: Grid North

SITE DETAILS

Boyce 2-15
 Lea County

Site Centre Easting: 774732.00
 Northing: 702254.90

Water Depth: 0.00
 Positional Uncertainty: 0.00
 Magnetic Declination: 8.86
 Convergence: 0.49

WELLPATH DETAILS

OH
 Original hole

Vertical Section Origin: Slot - (0.00,0.00)
 Vertical Section Angle: 218.36°

Rig:
 Depth Reference: SITE 4003.00ft