

INCLINATION REPORT

FIELD NAME

LEASE NAME

KF 4 State #2

OPERATOR

Chesapeake Operating Inc.

ADDRESS

2010 Rankin Highway, Midland, TX 79701

LOCATION (Section, Block, and Survey)

SUR: N-4-21s-35e, 660/S & 1980/W

BHL: N-4-21s-35e, 723/S & 2080/W

API #30-025-39720

County

Lea

RECORD OF INCLINATION

Measured Depth (feet)	Course Length (Hundreds of feet)	Angle of Inclination (Degrees)	Displacement per 100 feet (Sine of Angle x 100)	Course Displacement (Feet)	Accumulative Displacement (Feet)
438	438	0.75	1.31	5.73	5.73
1,213	775	0.25	0.44	3.38	9.11
2,123	910	1.25	2.18	19.85	28.97
3,043	920	6.25	10.89	100.16	129.12
3,886	843	1.25	2.18	18.39	147.51
4,673	787	0.50	0.87	6.87	154.38
5,654	981	0.50	0.87	8.56	162.94
6,543	889	0.50	0.87	7.76	170.70
7,274	731	1.00	1.75	12.76	183.46
8,002	728	0.50	0.87	6.35	189.81
8,943	941	2.75	4.80	45.15	234.96
9,900	957	2.75	4.80	45.92	280.87
10,845	945	1.75	3.05	28.86	309.73
11,349	504	3.80	6.63	33.40	343.13

Accumulative total displacement of well bore at total depth of
Inclination measurements were made in ☐ Tubing

11,349 feet = 343.13 feet

☐ Casing

☐ Open Hole

☒ Drill Pipe

Inclination Data Certification

I declare that I am authorized to make this certification, that I have personal knowledge of the inclination data and facts placed on both sides of this form and that such data and facts are true, correct, and complete to the best of my knowledge.

Mark Cochran

5/6/08

Signature of Authorized Representative

Date

Mark Cochran CFO

Name of Person and Title

Latshaw Drilling Company, LLC

Name of Company

Telephone: 918-355-4380

Inclination Data Certification

I declare that I am authorized to make this certification, that I have personal knowledge of the inclination data and facts placed on both sides of this form and that such data and facts are true, correct, and complete to the best of my knowledge.

Linda Weeks

5/8/2008

Signature of Authorized Representative

Date

Linda Weeks - Regulatory Analyst

Name of Person and Title

Chesapeake Operating Inc

Operator

Telephone: 405/879-6854

K2



Directional Services

Job Number: 081117505859

Company: Chesapeake Operating, Inc.

Lease/Well: KF 4 State Com, Well #2

Location: Lea County, NM

Rig Name: Latshaw #6

RKB:

G.L. or M.S.L.:

State/Country: New Mexico/USA

Declination: 7.37°

Grid: East To Grid

File name: F:\SURVEY\2008SU~1\CHESAP~1\KF4STAT2.SVY

Date/Time: 21-Apr-08 / 11:18

Curve Name: Surface - 11450' M.D. (Gyroscopic)

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane .00
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
~~Surface~~ MD to 11,450' MD is, to the best of
our knowledge a true and accurate account of the
well bore.

Robera J. Little 4/21/08
Multi-Shot Date

SUR: N-4-21s-35e, 660/S & 1980/W
BHL: N-4-21s-35e, 723/S & 2080/W
API #30-025-39720

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	1.00	61.77	99.99	.41	.77	.41	.87	61.77	1.00
200.00	1.00	89.80	199.98	.83	2.41	.83	2.55	71.03	.48
300.00	1.00	107.84	299.97	.56	4.11	.56	4.15	82.19	.31
400.00	.75	76.86	399.95	.45	5.58	.45	5.60	85.43	.53
500.00	.50	91.89	499.95	.58	6.66	.58	6.68	85.02	.30
600.00	.25	68.92	599.95	.64	7.29	.64	7.32	84.95	.29
700.00	.50	42.95	699.94	1.04	7.80	1.04	7.86	82.39	.30
800.00	.25	102.99	799.94	1.31	8.31	1.31	8.41	81.02	.43
900.00	.50	79.02	899.94	1.35	8.95	1.35	9.05	81.44	.29
1000.00	.25	117.05	999.94	1.33	9.57	1.33	9.66	82.09	.34
1100.00	.50	65.08	1099.94	1.41	10.16	1.41	10.26	82.07	.40

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1200.00	.25	85.11	1199.93	1.62	10.77	1.62	10.89	81.46	.28
1300.00	.25	106.14	1299.93	1.58	11.20	1.58	11.31	81.99	.09
1400.00	.25	29.32	1399.93	1.70	11.52	1.70	11.64	81.58	.31
1500.00	.25	313.35	1499.93	2.04	11.46	2.04	11.64	79.89	.31
1600.00	.25	17.38	1599.93	2.40	11.37	2.40	11.62	78.07	.27
1700.00	.25	193.41	1699.93	2.40	11.38	2.40	11.63	78.10	.50
1800.00	.50	37.44	1799.93	2.53	11.60	2.53	11.87	77.68	.74
1900.00	.50	40.47	1899.93	3.21	12.15	3.21	12.57	75.19	.03
2000.00	1.75	20.49	1999.90	4.97	12.97	4.97	13.89	69.01	1.29
2100.00	1.75	26.52	2099.86	7.77	14.18	7.77	16.17	61.28	.18
2200.00	1.75	43.55	2199.81	10.24	15.92	10.24	18.93	57.23	.52
2300.00	1.50	26.58	2299.77	12.52	17.55	12.52	21.56	54.50	.54
2400.00	1.75	31.61	2399.73	14.99	18.94	14.99	24.15	51.64	.29
2500.00	2.25	46.63	2499.67	17.64	21.17	17.64	27.55	50.19	.72
2600.00	2.25	45.66	2599.59	20.36	24.00	20.36	31.47	49.69	.04
2700.00	3.00	45.68	2699.49	23.56	27.27	23.56	36.04	49.18	.75
2800.00	4.00	51.68	2799.30	27.55	31.88	27.55	42.14	49.17	1.06
2900.00	5.00	55.69	2898.99	32.17	38.22	32.17	49.96	49.91	1.05
3000.00	5.50	59.71	2998.57	37.04	45.96	37.04	59.03	51.13	.62
3100.00	5.25	61.75	3098.13	41.63	54.12	41.63	68.28	52.44	.31
3200.00	4.00	61.82	3197.80	45.44	61.23	45.44	76.25	53.42	1.25
3300.00	3.75	62.86	3297.58	48.58	67.21	48.58	82.93	54.14	.26
3400.00	2.75	61.06	3397.41	51.23	72.22	51.23	88.55	54.65	1.01
3500.00	2.00	80.11	3497.33	52.69	76.04	52.69	92.51	55.28	1.08
3600.00	1.50	84.14	3597.28	53.12	79.06	53.12	95.25	56.10	.51
3700.00	1.25	125.18	3697.26	52.63	81.26	52.63	96.81	57.07	.99
3800.00	1.00	140.21	3797.24	51.33	82.71	51.33	97.34	58.17	.38
3900.00	1.25	172.23	3897.22	49.58	83.41	49.58	97.03	59.27	.67
4000.00	1.25	158.27	3997.19	47.49	83.96	47.49	96.46	60.51	.30
4100.00	1.00	179.29	4097.18	45.60	84.38	45.60	95.91	61.61	.48
4200.00	1.00	176.32	4197.16	43.86	84.45	43.86	95.15	62.56	.05
4300.00	1.00	177.35	4297.15	42.11	84.54	42.11	94.45	63.52	.02

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
4400.00	.25	127.38	4397.14	41.11	84.76	41.11	94.20	64.12	.86
4500.00	.25	90.42	4497.14	40.98	85.15	40.98	94.49	64.30	.16
4600.00	.25	194.45	4597.14	40.76	85.31	40.76	94.55	64.46	.39
4700.00	.50	146.48	4697.14	40.19	85.50	40.19	94.47	64.82	.38
4800.00	.25	145.51	4797.13	39.64	85.86	39.64	94.57	65.22	.25
4900.00	.25	26.54	4897.13	39.66	86.08	39.66	94.78	65.26	.43
5000.00	.25	148.57	4997.13	39.67	86.29	39.67	94.97	65.31	.44
5100.00	.25	110.60	5097.13	39.41	86.61	39.41	95.15	65.54	.16
5200.00	.25	79.63	5197.13	39.37	87.03	39.37	95.52	65.66	.13
5300.00	.50	50.66	5297.13	39.68	87.58	39.68	96.15	65.62	.31
5400.00	.25	114.84	5397.13	39.87	88.12	39.87	96.72	65.66	.45
5500.00	.50	61.87	5497.12	39.98	88.70	39.98	97.30	65.74	.40
5600.00	.25	95.90	5597.12	40.17	89.30	40.17	97.92	65.78	.32
5700.00	.50	14.93	5697.12	40.57	89.63	40.57	98.38	65.65	.52
5800.00	1.00	43.96	5797.11	41.62	90.35	41.62	99.47	65.27	.61
5900.00	1.00	69.99	5897.10	42.54	91.78	42.54	101.16	65.13	.45
6000.00	1.25	67.02	5997.08	43.27	93.60	43.27	103.12	65.19	.26
6100.00	1.00	58.05	6097.06	44.15	95.34	44.15	105.07	65.15	.31
6200.00	.50	35.08	6197.05	44.97	96.34	44.97	106.32	64.98	.57
6300.00	.25	106.11	6297.05	45.27	96.80	45.27	106.86	64.94	.48
6400.00	.75	51.14	6397.04	45.62	97.52	45.62	107.66	64.93	.64
6500.00	.25	65.18	6497.04	46.12	98.22	46.12	108.51	64.85	.51
6600.00	1.00	64.20	6597.03	46.59	99.21	46.59	109.60	64.84	.75
6700.00	.25	88.24	6697.03	46.98	100.21	46.98	110.68	64.88	.78
6800.00	.75	54.26	6797.02	47.37	100.96	47.37	111.52	64.86	.56
6900.00	.75	45.29	6897.01	48.21	101.96	48.21	112.78	64.69	.12
7000.00	1.00	56.32	6997.00	49.16	103.15	49.16	114.26	64.52	.30
7100.00	.50	55.36	7096.99	49.89	104.23	49.89	115.56	64.42	.50
7200.00	1.00	34.38	7196.99	50.86	105.08	50.86	116.74	64.18	.56
7300.00	1.00	60.42	7296.97	52.01	106.34	52.01	118.37	63.94	.45
7400.00	.75	30.60	7396.96	53.00	107.43	53.00	119.79	63.74	.51
7500.00	.75	63.63	7496.95	53.85	108.35	53.85	120.99	63.57	.43

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7600.00	.25	15.66	7596.95	54.36	108.99	54.36	121.79	63.49	.61
7700.00	.25	14.69	7696.95	54.78	109.11	54.78	122.09	63.34	.00
7800.00	.50	9.72	7796.94	55.42	109.24	55.42	122.49	63.10	.25
7900.00	.75	52.75	7896.94	56.24	109.83	56.24	123.39	62.88	.51
8000.00	.75	15.78	7996.93	57.27	110.53	57.27	124.49	62.61	.48
8100.00	1.00	27.81	8096.92	58.67	111.11	58.67	125.65	62.16	.31
8200.00	.75	24.84	8196.91	60.04	111.80	60.04	126.90	61.76	.25
8300.00	1.25	1.87	8296.89	61.72	112.11	61.72	127.97	61.16	.63
8400.00	2.25	25.89	8396.85	64.58	113.00	64.58	130.15	60.25	1.22
8500.00	2.50	22.91	8496.76	68.35	114.71	68.35	133.53	59.21	.28
8600.00	2.50	25.94	8596.66	72.32	116.51	72.32	137.13	58.17	.13
8700.00	2.25	26.98	8696.58	76.03	118.35	76.03	140.67	57.28	.25
8800.00	2.50	38.00	8796.49	79.50	120.59	79.50	144.44	56.60	.52
8900.00	2.25	32.04	8896.41	82.88	122.97	82.88	148.30	56.02	.35
9000.00	1.75	34.08	8996.35	85.81	124.87	85.81	151.51	55.50	.50
9100.00	1.50	37.11	9096.31	88.12	126.51	88.12	154.18	55.14	.26
9200.00	1.50	36.14	9196.27	90.22	128.08	90.22	156.66	54.84	.03
9300.00	1.75	31.17	9296.23	92.59	129.64	92.59	159.30	54.47	.29
9400.00	2.00	16.20	9396.18	95.57	130.91	95.57	162.09	53.87	.55
9500.00	1.75	15.38	9496.12	98.72	131.81	98.72	164.67	53.17	.25
9600.00	2.00	13.41	9596.07	101.89	132.62	101.89	167.24	52.47	.26
9700.00	2.50	18.43	9695.99	105.65	133.71	105.65	170.41	51.69	.54
9800.00	3.00	24.45	9795.88	110.10	135.48	110.10	174.58	50.90	.58
9900.00	2.75	28.48	9895.75	114.59	137.71	114.59	179.15	50.23	.32
10000.00	2.00	23.53	9995.67	118.30	139.55	118.30	182.95	49.71	.78
10100.00	1.75	22.56	10095.61	121.31	140.83	121.31	185.88	49.26	.25
10200.00	.50	86.61	10195.59	122.75	141.85	122.75	187.59	49.13	1.60
10300.00	2.75	196.61	10295.56	120.47	141.60	120.47	185.92	49.61	2.96
10400.00	2.75	194.65	10395.44	115.86	140.31	115.86	181.96	50.45	.09
10500.00	2.50	201.68	10495.34	111.51	138.90	111.51	178.12	51.24	.41
10600.00	2.00	179.73	10595.26	107.74	138.10	107.74	175.15	52.04	.99
10700.00	2.75	175.76	10695.17	103.60	138.29	103.60	172.79	53.16	.77

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
10800.00	2.25	169.79	10795.08	99.27	138.81	99.27	170.66	54.43	.56
10900.00	1.50	176.82	10895.03	96.04	139.23	96.04	169.14	55.40	.78
11000.00	1.75	203.84	10994.99	93.33	138.69	93.33	167.17	56.06	.80
11100.00	2.50	220.85	11094.92	90.29	136.64	90.29	163.78	56.55	.97
11200.00	3.00	227.87	11194.80	86.88	133.28	86.88	159.09	56.90	.60
11300.00	3.50	228.89	11294.64	83.12	129.04	83.12	153.49	57.21	.50
11400.00	3.25	235.93	11394.47	79.52	124.39	79.52	147.64	57.41	.48
Last Survey Depth Recorded									
11450.00	3.25	234.99	11444.39	77.92	122.05	77.92	144.80	57.45	.11