



7821 Will Rogers Blvd.
Fort Worth, Texas 76140
817.568.1038 (office)
817.568.1499 (fax)
www.msdir.com

March 30, 2020

The Railroad Commission of Texas
Oil & Gas Division
PO Box 12967
Austin, TX 78711-2967

Lime Rock Resources IV-A, LP
UL B, 3H (Permit No: 860735)
Survey: UL / Abstract: U264
Field: Emma (Devonian)
Andrews County, TX

API Number: 42-003-48221

Please find the attached survey performed on the above referenced well by MS Directional LLC;
Operator Number 592486. Other information required by your office is as follows:

Name of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Eric Miller	Original Wellbore	178' – 10,251'	03/01/20 – 03/12/20	MWD

If any other information is required, please contact the undersigned at the letterhead address and telephone number.

Sincerely,

Amber Greer
Regulatory Administrator

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3/25/20 11:18

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V09.04.02

Company:		Lime Rock Resources IV-A, LP									
Well Name:		UL B 3H									
Location:		Andrews County, TX									
Rig:		Orion Aries #18				Magnetic Declination:		8.74		REFERENCED TO GRID NORTH ▼	
Job Number:		MSMO-75586									
API #:		42-003-48221									
Vertical Section Azimuth:				352.16		Proposed Direction:		352.16			
Survey Calculation Method:				Minimum Curvature							
PTB:	MD		INC		AZM	TVD	N/S	E/W		VS	
	10,300		1.10		279.50	10262.47	8.81	678.18		-83.78	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance Azm		DLS/ 100	BUR/ 100'
34	4,022	5.70	88.60	4002.01	15.40	333.93	-30.30	334.29	87.36	0.14	-0.11
35	4,117	6.40	89.20	4096.48	15.59	343.94	-31.47	344.30	87.41	0.74	0.74
36	4,211	6.30	89.60	4189.90	15.70	354.34	-32.78	354.69	87.46	0.12	-0.11
37	4,306	6.30	90.10	4284.33	15.72	364.76	-34.18	365.10	87.53	0.06	0.00
38	4,400	6.40	91.30	4377.75	15.60	375.16	-35.72	375.48	87.62	0.18	0.11
39	4,494	6.60	90.70	4471.15	15.41	385.80	-37.36	386.11	87.71	0.22	0.21
40	4,589	6.60	92.10	4565.52	15.14	396.71	-39.11	397.00	87.81	0.17	0.00
41	4,683	6.70	92.80	4658.88	14.68	407.59	-41.06	407.85	87.94	0.14	0.11
42	4,778	6.80	93.20	4753.23	14.09	418.74	-43.16	418.98	88.07	0.12	0.11
43	4,873	6.80	93.10	4847.56	13.48	429.97	-45.30	430.18	88.20	0.01	0.00
44	4,967	6.70	94.70	4940.91	12.73	440.99	-47.55	441.18	88.35	0.23	-0.11
45	5,062	6.60	91.70	5035.27	12.11	451.97	-49.66	452.14	88.47	0.38	-0.11
46	5,156	6.40	92.20	5128.66	11.75	462.61	-51.47	462.76	88.55	0.22	-0.21
47	5,251	6.10	92.80	5223.10	11.30	472.94	-53.32	473.08	88.63	0.32	-0.32
48	5,345	5.90	85.70	5316.58	11.42	482.75	-54.54	482.88	88.65	0.82	-0.21
49	5,439	5.70	81.60	5410.10	12.46	492.18	-54.79	492.34	88.55	0.49	-0.21
50	5,534	5.60	80.90	5504.64	13.88	501.43	-54.65	501.62	88.41	0.13	-0.11
51	5,629	5.50	79.90	5599.20	15.41	510.49	-54.36	510.72	88.27	0.15	-0.11
52	5,723	5.40	82.00	5692.77	16.82	519.30	-54.17	519.57	88.14	0.24	-0.11
53	5,817	5.30	82.10	5786.36	18.03	527.98	-54.16	528.29	88.04	0.11	-0.11
54	5,911	5.30	83.60	5879.96	19.11	536.60	-54.26	536.94	87.96	0.15	0.00
55	6,006	5.20	83.30	5974.56	20.10	545.23	-54.46	545.60	87.89	0.11	-0.11
56	6,100	5.20	84.90	6068.18	20.98	553.71	-54.75	554.10	87.83	0.15	0.00
57	6,195	5.30	87.10	6162.78	21.58	562.38	-55.33	562.79	87.80	0.24	0.11
58	6,288	5.10	85.80	6255.39	22.10	570.79	-55.96	571.22	87.78	0.25	-0.22
59	6,383	5.30	87.80	6350.00	22.58	579.38	-56.66	579.82	87.77	0.28	0.21
60	6,478	5.30	88.60	6444.60	22.86	588.15	-57.58	588.60	87.77	0.08	0.00
61	6,572	5.40	87.60	6538.19	23.15	596.91	-58.49	597.36	87.78	0.15	0.11
62	6,667	5.30	90.10	6632.77	23.33	605.77	-59.52	606.22	87.79	0.27	-0.11
63	6,762	5.20	90.30	6727.38	23.30	614.46	-60.74	614.90	87.83	0.11	-0.11
64	6,857	5.20	92.30	6821.98	23.10	623.07	-62.10	623.49	87.88	0.19	0.00
65	6,952	5.00	93.00	6916.61	22.71	631.50	-63.64	631.91	87.94	0.22	-0.21
66	7,047	4.90	92.30	7011.25	22.33	639.69	-65.13	640.08	88.00	0.12	-0.11
67	7,140	4.80	92.10	7103.92	22.03	647.55	-66.50	647.92	88.05	0.11	-0.11

V09.04.02

Company:	Lime Rock Resources IV-A, LP		
Well Name:	UL B 3H		
Location:	Andrews County, TX		
Rig:	Orion Aries #18	Magnetic Declination:	8.74
Job Number:	MSMO-75586		
API #:	42-003-48221		
Vertical Section Azimuth:	352.16	Proposed Direction:	352.16
Survey Calculation Method:	Minimum Curvature		
PTB:	MD	INC	AZM
	10,300	1.10	279.50

REFERENCED TO GRID NORTH

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
68	7,234	4.80	92.90	7197.59	21.69	655.41	-67.92	655.76	88.10	0.07	0.00
69	7,328	4.40	93.00	7291.29	21.30	662.93	-69.33	663.28	88.16	0.43	-0.43
70	7,422	4.10	92.10	7385.03	20.99	669.89	-70.58	670.22	88.21	0.33	-0.32
71	7,505	2.70	110.80	7467.88	20.19	674.69	-72.03	674.99	88.29	2.13	-1.69
72	7,600	2.20	115.70	7562.80	18.60	678.42	-74.11	678.68	88.43	0.57	-0.53
73	7,695	1.40	145.50	7657.75	16.85	680.72	-76.16	680.93	88.58	1.27	-0.84
74	7,790	1.20	149.50	7752.73	15.04	681.88	-78.11	682.05	88.74	0.23	-0.21
75	7,885	1.20	165.60	7847.71	13.22	682.64	-80.02	682.76	88.89	0.35	0.00
76	7,980	1.20	173.00	7942.69	11.27	683.00	-82.00	683.10	89.05	0.16	0.00
77	8,075	1.10	171.80	8037.67	9.38	683.26	-83.91	683.32	89.21	0.11	-0.11
78	8,169	0.80	157.10	8131.65	7.88	683.64	-85.45	683.69	89.34	0.41	-0.32
79	8,264	0.70	147.10	8226.65	6.78	684.21	-86.61	684.25	89.43	0.17	-0.11
80	8,358	0.20	69.60	8320.64	6.36	684.68	-87.10	684.71	89.47	0.73	-0.53
81	8,453	0.30	0.90	8415.64	6.66	684.84	-86.81	684.87	89.44	0.31	0.11
82	8,548	0.20	17.70	8510.64	7.07	684.89	-86.42	684.93	89.41	0.13	-0.11
83	8,643	0.20	42.80	8605.64	7.35	685.06	-86.16	685.10	89.39	0.09	0.00
84	8,737	0.30	47.50	8699.64	7.64	685.35	-85.92	685.39	89.36	0.11	0.11
85	8,832	0.40	88.10	8794.64	7.82	685.86	-85.81	685.91	89.35	0.27	0.11
86	8,927	0.40	86.30	8889.64	7.85	686.53	-85.87	686.57	89.34	0.01	0.00
87	9,022	0.60	94.60	8984.63	7.83	687.35	-86.00	687.40	89.35	0.22	0.21
88	9,116	0.70	92.00	9078.63	7.77	688.42	-86.21	688.46	89.35	0.11	0.11
89	9,211	0.50	89.20	9173.62	7.76	689.41	-86.36	689.45	89.36	0.21	-0.21
90	9,305	0.30	71.70	9267.62	7.84	690.05	-86.36	690.10	89.35	0.25	-0.21
91	9,400	0.40	87.10	9362.62	7.93	690.62	-86.35	690.67	89.34	0.14	0.11
92	9,495	0.30	79.90	9457.61	8.00	691.20	-86.36	691.24	89.34	0.11	-0.11
93	9,590	0.30	100.80	9552.61	7.99	691.69	-86.43	691.73	89.34	0.11	0.00
94	9,685	1.00	259.60	9647.61	7.80	691.12	-86.55	691.16	89.35	1.35	0.74
95	9,778	1.20	265.50	9740.59	7.57	689.35	-86.53	689.39	89.37	0.25	0.22
96	9,873	1.20	275.00	9835.57	7.58	687.36	-86.25	687.41	89.37	0.21	0.00
97	9,967	1.30	277.00	9929.55	7.80	685.33	-85.76	685.37	89.35	0.12	0.11
98	10,062	1.30	276.70	10024.53	8.05	683.19	-85.21	683.23	89.32	0.01	0.00
99	10,157	1.30	278.70	10119.50	8.34	681.05	-84.64	681.10	89.30	0.05	0.00
100	10,251	1.10	279.50	10213.48	8.65	679.11	-84.06	679.16	89.27	0.21	-0.21
PTB:	10,300	1.10	279.50	10262.47	8.81	678.18	-83.78	678.24	89.26	0.00	0.00



7821 Will Rogers Blvd.
Fort Worth, Texas 76140
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817.568.1499 (fax)
www.msdir.com

MS Directional Survey Data Certification

MS Directional Job Number: MSMO-75586
Survey Type: MWD
Operating Company: Lime Rock Resources IV-A, LP
Well Name & Number: UL B 3H
Location: Andrews County, TX
API Number: 42-003-48221
Tie In Depth: Surface
Surveyed Depths: 178' – 10,251' MD
Projected TD Survey: 10,300' MD
Dates Performed: 03/01/2020 – 03/12/2020

I certify that the data is true, correct and complete and within the limitations of the tool set forth by MS Directional; that I am authorized and qualified to make this report and that I have reviewed this report and find it conforms to the principles and procedures as set forth by MS Directional.

Eric Miller

Digitally signed by: _____

MWD Surveyor Name: Eric Miller

Date: 03-26-2020 _____

Email: Eric.Miller@msdir.com

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3335 Pollok Drive
Conroe, Texas 77303
936.442.2500 (office)
www.msdir.com

8 November 2021

The Railroad Commission of Texas
Oil & Gas Division
PO Box 12967
Austin, TX 78711-2967

Lime Rock Resources
UL B-3H
Permit Number: 873187
Survey: UL
Abstract: U264
Field: EMMA (DEVONIAN)
Andrews County, Texas

API Number: 42-003-48221

Please find the attached survey performed on the above referenced well by MS Directional LLC; Operator Number 592486.

Other information required by your office is as follows:

Name of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Cameron Kirkland	Original Wellbore	173.75' - 14764.00'	10/21/2021 - 10/29/2021	MWD

If any other information is required, please contact the undersigned at the letterhead address and telephone number.

Sincerely,

Charles Davis
MWD Operations Manager



MS Directional LLC Survey Data Certification

MS Directional LLC Job Number: MSMO-88355
Survey Type: MWD
Operating Company: Lime Rock Resources
Well Name and Number: UL B-3H
Drainhole Number: Original Wellbore
Location: Andrews, Texas
API Number: 42-003-48221
Tie In Depth: 0.00
Surveyed Depths: 173.75' - 14764.00'
Projected TD Survey: 14800.00'
Dates Performed: 10/21/2021 - 10/29/2021

To the best of my knowledge, I certify the following:

1. The data is true, correct and complete and within the limitations of the tool set forth by MS Directional LLC
2. I am authorized and qualified to make this report; and
3. I have reviewed this report and find it conforms to the principles and procedures as set forth by MS Directional LLC

MWD Surveyor Name: Cameron Kirkland

MWD Operations Manager: Charles Davis

Signature:

Date: 11/08/2021

Email: charles.davis@msdir.com



Lime Rock Resources
Andrews County, Texas (NAD 27)
42-003-48221
UL B-3H
Wellbore 1

UL B-3H - Wellbore 1
Certified Survey Report
17 November 2021



Field	Andrews County, Texas (NAD 27) - Lime Rock Resources		
CRS	US-SPC27-EXACT / Texas North Central 4202	North Reference	GRID
Apply Scale Factor	NO	Scale Factor	0.0
System Datum	Mean Sea Level	Depth Datum->MSL	3201.84 UsFt

Well	UL B-3H		
Local North	-151521.98 UsFt	Local East	-295525.98 UsFt
Map Northing	217934.68 US survey foot	Map Easting	425103.52 US survey foot
Latitude	31° 42' 7.18880" N	Longitude	103° 30' 58.42107" W
Depth Datum / Rig	WELL-Akita 525 / Akita 525	Datum Elevation	3201.85 UsFt
GL Elevation	3183.60 UsFt		
Grid Convergence	-2.777		

Well bore	UL B-3H - Wellbore 1		
Magnetic Model	User defined	Date	22/02/2020
Total Field (nT)	47497.70	Dip Angle (°)	59.883
Declination (°)	5.967		
VS Origin	User Defined	VS Azimuth	347.46
VS Origin NS	0.00 UsFt	VS Origin EW	0.00 UsFt

Survey Program	UL B-3H - Wellbore 1		
Depth From (UsFt)	Depth To (UsFt)	Survey	Survey Tool
0.00	10295.75	MS MWD (OH)	MWD+HRGM
10295.75	14800.00	MS MWD	MWD+HRGM

Survey Report									
MD UsFt	Inc °	Azi °	TVD UsFt	NS UsFt	EW UsFt	VS UsFt	DLS (°/100 UsFt)	BR (°/100 UsFt)	TR (°/100 UsFt)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
173.75	0.20	218.40	173.75	-0.24	-0.19	-0.19	0.12	0.12	81.50
360.75	0.30	235.10	360.75	-0.77	-0.79	-0.58	0.07	0.05	8.93
543.75	0.40	227.30	543.74	-1.48	-1.65	-1.09	0.06	0.05	-4.26
726.75	0.30	221.30	726.74	-2.27	-2.44	-1.69	0.06	-0.05	-3.28
907.75	0.30	234.40	907.74	-2.91	-3.14	-2.16	0.04	0.00	7.24
1090.75	1.90	83.60	1090.71	-2.85	-0.51	-2.67	1.18	0.87	-82.40
1273.75	4.50	80.90	1273.41	-1.37	9.59	-3.42	1.42	1.42	-1.48
1463.75	6.10	82.60	1462.59	1.11	26.96	-4.77	0.85	0.84	0.89
1652.75	6.40	83.40	1650.47	3.61	47.39	-6.76	0.17	0.16	0.42
1720.75	6.20	83.80	1718.06	4.44	54.80	-7.56	0.30	-0.29	0.59
1841.75	6.70	82.70	1838.29	6.05	68.30	-8.93	0.43	0.41	-0.91
1936.75	6.80	83.70	1932.63	7.37	79.39	-10.05	0.16	0.11	1.05
2031.75	6.80	82.30	2026.96	8.74	90.55	-11.13	0.17	0.00	-1.47
2126.75	6.90	81.90	2121.28	10.30	101.77	-12.05	0.12	0.11	-0.42
2220.75	6.90	82.00	2214.60	11.88	112.95	-12.93	0.01	0.00	0.11
2313.75	6.90	82.70	2306.93	13.36	124.03	-13.88	0.09	0.00	0.75
2408.75	7.10	83.00	2401.22	14.80	135.52	-14.97	0.21	0.21	0.32
2502.75	7.30	82.80	2494.48	16.26	147.21	-16.09	0.21	0.21	-0.21
2597.75	7.30	82.50	2588.71	17.81	159.18	-17.18	0.04	0.00	-0.32
2691.75	7.40	82.70	2681.94	19.35	171.10	-18.26	0.11	0.11	0.21
2786.75	8.50	90.10	2776.03	20.12	184.19	-20.35	1.58	1.16	7.79
2881.75	8.70	91.60	2869.96	19.91	198.40	-23.64	0.32	0.21	1.58
2976.75	7.60	93.70	2964.00	19.30	211.85	-27.16	1.20	-1.16	2.21
3071.75	7.30	93.50	3058.20	18.53	224.14	-30.58	0.32	-0.32	-0.21
3166.75	7.30	92.90	3152.43	17.85	236.19	-33.86	0.08	0.00	-0.63
3261.75	7.00	93.00	3246.69	17.24	248.00	-37.01	0.32	-0.32	0.11
3355.75	7.00	92.80	3339.99	16.66	259.44	-40.06	0.03	0.00	-0.21
3449.75	7.10	92.50	3433.28	16.13	270.97	-43.09	0.11	0.11	-0.32
3544.75	6.80	91.80	3527.58	15.70	282.45	-46.00	0.33	-0.32	-0.74
3638.75	6.50	90.70	3620.94	15.46	293.34	-48.60	0.35	-0.32	-1.17
3733.75	6.50	91.00	3715.33	15.30	304.09	-51.09	0.04	0.00	0.32
3828.75	6.20	90.00	3809.75	15.21	314.60	-53.46	0.34	-0.32	-1.05
3922.75	5.80	89.50	3903.24	15.25	324.42	-55.56	0.43	-0.43	-0.53
4017.75	5.70	88.60	3997.76	15.40	333.94	-57.47	0.14	-0.11	-0.95
4112.75	6.40	89.20	4092.23	15.59	343.95	-59.46	0.74	0.74	0.63
4206.75	6.30	89.60	4185.65	15.70	354.34	-61.61	0.12	-0.11	0.43
4301.75	6.30	90.10	4280.08	15.73	364.77	-63.84	0.06	0.00	0.53
4395.75	6.40	91.30	4373.50	15.60	375.16	-66.23	0.18	0.11	1.28
4489.75	6.60	90.70	4466.90	15.42	385.80	-68.72	0.22	0.21	-0.64
4584.75	6.60	92.10	4561.27	15.15	396.72	-71.35	0.17	0.00	1.47
4678.75	6.70	92.80	4654.63	14.68	407.59	-74.16	0.14	0.11	0.74
4773.75	6.80	93.20	4748.98	14.10	418.75	-77.16	0.12	0.11	0.42
4868.75	6.80	93.10	4843.31	13.48	429.98	-80.20	0.01	0.00	-0.11
4962.75	6.70	94.70	4936.66	12.73	441.00	-83.32	0.23	-0.11	1.70
5057.75	6.60	91.70	5031.02	12.12	451.98	-86.31	0.38	-0.11	-3.16
5151.75	6.40	92.20	5124.41	11.75	462.61	-88.97	0.22	-0.21	0.53
5246.75	6.10	92.80	5218.85	11.30	472.95	-91.65	0.32	-0.32	0.63
5340.75	5.90	85.70	5312.33	11.42	482.75	-93.67	0.82	-0.21	-7.55
5434.75	5.70	81.60	5405.85	12.47	492.19	-94.70	0.49	-0.21	-4.36



Survey Report

MD UsFt	Inc °	Azi °	TVD UsFt	NS UsFt	EW UsFt	VS UsFt	DLS (°/100 UsFt)	BR (°/100 UsFt)	TR (°/100 UsFt)
5529.75	5.60	80.90	5500.39	13.89	501.43	-95.31	0.13	-0.11	-0.74
5624.75	5.50	79.90	5594.95	15.42	510.49	-95.79	0.15	-0.11	-1.05
5718.75	5.40	82.00	5688.52	16.83	519.31	-96.33	0.24	-0.11	2.23
5812.75	5.30	82.10	5782.11	18.04	527.99	-97.03	0.11	-0.11	0.11
5906.75	5.30	83.60	5875.71	19.12	536.60	-97.84	0.15	0.00	1.60
6001.75	5.20	83.30	5970.31	20.11	545.24	-98.75	0.11	-0.11	-0.32
6095.75	5.20	84.90	6063.93	20.99	553.71	-99.74	0.15	0.00	1.70
6190.75	5.30	87.10	6158.53	21.59	562.38	-101.03	0.24	0.11	2.32
6283.75	5.10	85.80	6251.14	22.11	570.79	-102.35	0.25	-0.22	-1.40
6378.75	5.30	87.80	6345.75	22.59	579.39	-103.75	0.28	0.21	2.11
6473.75	5.30	88.60	6440.35	22.86	588.16	-105.38	0.08	0.00	0.84
6567.75	5.40	87.60	6533.94	23.15	596.92	-107.00	0.15	0.11	-1.06
6662.75	5.30	90.10	6628.52	23.33	605.77	-108.75	0.27	-0.11	2.63
6757.75	5.20	90.30	6723.13	23.30	614.46	-110.66	0.11	-0.11	0.21
6852.75	5.20	92.30	6817.73	23.11	623.07	-112.72	0.19	0.00	2.11
6947.75	5.00	93.00	6912.36	22.72	631.51	-114.94	0.22	-0.21	0.74
7042.75	4.90	92.30	7007.00	22.34	639.69	-117.08	0.12	-0.11	-0.74
7135.75	4.80	92.10	7099.67	22.04	647.55	-119.08	0.11	-0.11	-0.22
7229.75	4.80	92.90	7193.34	21.69	655.41	-121.13	0.07	0.00	0.85
7323.75	4.40	93.00	7287.04	21.31	662.94	-123.14	0.43	-0.43	0.11
7417.75	4.10	92.10	7380.78	21.00	669.90	-124.95	0.33	-0.32	-0.96
7500.75	2.70	110.80	7463.63	20.19	674.69	-126.78	2.13	-1.69	22.53
7595.75	2.20	115.70	7558.55	18.61	678.43	-129.14	0.57	-0.53	5.16
7690.75	1.40	145.50	7653.50	16.86	680.73	-131.34	1.27	-0.84	31.37
7785.75	1.20	149.50	7748.48	15.05	681.89	-133.36	0.23	-0.21	4.21
7880.75	1.20	165.60	7843.46	13.23	682.64	-135.31	0.35	0.00	16.95
7975.75	1.20	173.00	7938.44	11.27	683.01	-137.29	0.16	0.00	7.79
8070.75	1.10	171.80	8033.42	9.38	683.26	-139.19	0.11	-0.11	-1.26
8164.75	0.80	157.10	8127.40	7.89	683.64	-140.73	0.41	-0.32	-15.64
8259.75	0.70	147.10	8222.40	6.79	684.22	-141.93	0.17	-0.11	-10.53
8353.75	0.20	69.60	8316.39	6.36	684.68	-142.45	0.73	-0.53	-82.45
8448.75	0.30	0.90	8411.39	6.67	684.84	-142.18	0.31	0.11	-72.32
8543.75	0.20	17.70	8506.39	7.08	684.90	-141.80	0.13	-0.11	17.68
8638.75	0.20	42.80	8601.39	7.36	685.06	-141.56	0.09	0.00	26.42
8732.75	0.30	47.50	8695.39	7.64	685.35	-141.34	0.11	0.11	5.00
8827.75	0.40	88.10	8790.39	7.82	685.87	-141.28	0.27	0.11	42.74
8922.75	0.40	86.30	8885.39	7.86	686.53	-141.39	0.01	0.00	-1.89
9017.75	0.60	94.60	8980.38	7.84	687.36	-141.59	0.22	0.21	8.74
9111.75	0.70	92.00	9074.38	7.78	688.42	-141.88	0.11	0.11	-2.77
9206.75	0.50	89.20	9169.37	7.76	689.42	-142.11	0.21	-0.21	-2.95
9300.75	0.30	71.70	9263.37	7.85	690.06	-142.17	0.25	-0.21	-18.62
9395.75	0.40	87.10	9358.37	7.94	690.63	-142.20	0.14	0.11	16.21
9490.75	0.30	79.90	9453.36	8.00	691.20	-142.26	0.11	-0.11	-7.58
9585.75	0.30	100.80	9548.36	8.00	691.69	-142.37	0.11	0.00	22.00
9680.75	1.00	259.60	9643.36	7.80	691.12	-142.44	1.35	0.74	167.16
9773.75	1.20	265.50	9736.34	7.58	689.35	-142.28	0.25	0.22	6.34
9868.75	1.20	275.00	9831.32	7.59	687.37	-141.84	0.21	0.00	10.00
9962.75	1.30	277.00	9925.30	7.80	685.33	-141.18	0.12	0.11	2.13
10057.75	1.30	276.70	10020.28	8.06	683.19	-140.47	0.01	0.00	-0.32
10152.75	1.30	278.70	10115.25	8.35	681.05	-139.72	0.05	0.00	2.11
10246.75	1.10	279.50	10209.23	8.66	679.11	-139.00	0.21	-0.21	0.85
10295.75	1.10	279.50	10258.22	8.81	678.18	-138.64	0.00	0.00	0.00
10309.00	2.81	288.10	10271.46	8.94	677.75	-138.43	13.06	12.91	64.91
10353.00	8.40	285.03	10315.24	10.11	673.62	-136.39	12.72	12.70	-6.98
10397.00	14.42	309.37	10358.37	14.42	666.27	-130.58	17.24	13.68	55.32
10441.00	15.78	329.32	10400.88	23.05	658.97	-120.58	12.14	3.09	45.34
10484.00	15.52	330.55	10442.28	33.09	653.16	-109.52	0.98	-0.60	2.86
10529.00	14.68	328.53	10485.73	43.19	647.22	-98.37	2.20	-1.87	-4.49
10573.00	14.42	338.29	10528.33	53.04	642.29	-87.68	5.60	-0.59	22.18
10616.00	18.59	351.21	10569.56	64.80	639.26	-75.55	12.86	9.70	30.05
10660.00	24.48	356.57	10610.47	80.84	637.64	-59.53	14.10	13.39	12.18
10704.00	30.29	355.60	10649.53	101.02	636.24	-39.53	13.24	13.20	-2.20
10747.00	35.91	354.90	10685.53	124.41	634.29	-16.27	13.10	13.07	-1.63
10792.00	41.10	355.25	10720.74	152.32	631.89	11.49	11.54	11.53	0.78
10836.00	47.69	355.43	10752.16	182.98	629.39	41.96	14.98	14.98	0.41
10879.00	54.20	355.07	10779.24	216.24	626.62	75.03	15.15	15.14	-0.84
10922.00	61.19	354.72	10802.20	252.42	623.38	111.05	16.27	16.26	-0.81
10965.00	68.31	353.84	10820.53	291.09	619.50	149.64	16.66	16.56	-2.05
11009.00	74.90	353.93	10834.41	332.58	615.06	191.10	14.98	14.98	0.20
11053.00	80.88	353.58	10843.64	375.33	610.38	233.85	13.61	13.59	-0.80
11096.00	87.12	352.79	10848.13	417.77	605.30	276.38	14.63	14.51	-1.84
11139.00	91.30	349.01	10848.72	460.20	598.51	319.28	13.10	9.72	-8.79
11182.00	91.60	346.20	10847.63	502.18	589.28	362.26	6.57	0.70	-6.53
11220.00	92.09	345.58	10844.80	587.48	567.84	450.18	0.90	0.56	-0.70
11357.00	92.00	344.97	10841.70	671.57	545.74	537.06	0.71	-0.10	-0.70
11444.00	92.00	343.91	10838.66	755.33	522.42	623.89	1.22	0.00	-1.22
11532.00	90.90	344.70	10836.43	840.02	498.62	711.72	1.54	-1.25	0.90
11623.00	90.51	346.37	10835.31	928.13	475.89	802.66	1.88	-0.43	1.84



Survey Report

MD UsFt	Inc °	Azi °	TVD UsFt	NS UsFt	EW UsFt	VS UsFt	DLS (°/100 UsFt)	BR (°/100 UsFt)	TR (°/100 UsFt)
11712.00	90.42	346.29	10834.59	1014.60	454.86	891.64	0.14	-0.10	-0.09
11798.00	90.51	346.73	10833.89	1098.23	434.80	977.63	0.52	0.10	0.51
11884.00	90.42	345.85	10833.20	1181.77	414.42	1063.60	1.03	-0.10	-1.02
11972.00	90.42	345.49	10832.55	1267.03	392.64	1151.56	0.41	0.00	-0.41
12061.00	90.42	346.20	10831.90	1353.33	370.87	1240.52	0.80	0.00	0.80
12146.00	90.42	346.37	10831.27	1435.90	350.72	1325.50	0.20	0.00	0.20
12234.00	90.42	346.37	10830.63	1521.42	329.98	1413.48	0.00	0.00	0.00
12322.00	90.42	346.11	10829.98	1606.89	309.05	1501.46	0.30	0.00	-0.30
12408.00	90.51	346.64	10829.29	1690.47	288.79	1587.44	0.63	0.10	0.62
12496.00	90.42	346.64	10828.57	1776.09	268.46	1675.43	0.10	-0.10	0.00
12584.00	90.51	346.73	10827.86	1861.72	248.20	1763.42	0.14	0.10	0.10
12672.00	90.51	346.64	10827.07	1947.35	227.93	1851.41	0.10	0.00	-0.10
12759.00	90.42	345.93	10826.37	2031.87	207.30	1938.38	0.82	-0.10	-0.82
12846.00	90.51	346.81	10825.66	2116.41	186.80	2025.36	1.02	0.10	1.01
12933.00	90.42	346.37	10824.96	2201.04	166.63	2112.35	0.52	-0.10	-0.51
13020.00	90.51	346.81	10824.25	2285.66	146.45	2199.34	0.52	0.10	0.51
13107.00	90.51	346.55	10823.48	2370.32	126.41	2286.33	0.30	0.00	-0.30
13195.00	90.51	346.20	10822.69	2455.84	105.68	2374.31	0.40	0.00	-0.40
13283.00	90.51	346.64	10821.91	2541.37	85.02	2462.29	0.50	0.00	0.50
13370.00	90.42	345.93	10821.20	2625.89	64.39	2549.27	0.82	-0.10	-0.82
13458.00	90.51	346.29	10820.49	2711.31	43.27	2637.24	0.42	0.10	0.41
13545.00	90.51	346.64	10819.72	2795.89	22.90	2724.22	0.40	0.00	0.40
13633.00	90.59	346.90	10818.87	2881.55	2.77	2812.21	0.31	0.09	0.30
13721.00	90.51	346.90	10818.03	2967.26	-17.18	2900.20	0.09	-0.09	0.00
13807.00	90.42	346.64	10817.33	3050.97	-36.86	2986.20	0.32	-0.10	-0.30
13895.00	90.51	346.81	10816.61	3136.62	-57.07	3074.19	0.22	0.10	0.19
13983.00	90.42	347.25	10815.90	3222.37	-76.82	3162.18	0.51	-0.10	0.50
14072.00	90.59	346.73	10815.11	3309.08	-96.85	3251.17	0.61	0.19	-0.58
14158.00	90.59	346.20	10814.23	3392.69	-116.98	3337.16	0.62	0.00	-0.62
14245.00	90.42	346.64	10813.46	3477.26	-137.40	3424.14	0.54	-0.20	0.51
14334.00	90.42	346.81	10812.81	3563.87	-157.84	3513.13	0.19	0.00	0.19
14421.00	90.59	346.64	10812.04	3648.55	-177.82	3600.12	0.28	0.20	-0.20
14511.00	90.51	346.81	10811.18	3736.14	-198.48	3690.11	0.21	-0.09	0.19
14601.00	90.59	346.64	10810.32	3823.73	-219.15	3780.09	0.21	0.09	-0.19
14690.00	90.77	347.52	10809.26	3910.47	-239.05	3869.08	1.01	0.20	0.99
14764.00	90.42	346.20	10808.49	3982.53	-255.87	3943.07	1.85	-0.47	-1.78
14800.00	90.42	346.20	10808.23	4017.49	-264.45	3979.07	0.00	0.00	0.00 PTB