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State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

EMNRD- OCD ARTESIA  
REC'D: 8/06/2020  
Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office  
 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT AS-DRILLED PLAT

<sup>1</sup> API Number 30-015-45256		<sup>2</sup> Pool Code 97020		<sup>3</sup> Pool Name HACKBERRY; BONE SPRING, NW	
<sup>4</sup> Property Code 322449		<sup>5</sup> Property Name BUBBLES 22 15 FEDERAL			<sup>6</sup> Well Number 4H
<sup>7</sup> OGRID No. 005380		<sup>8</sup> Operator Name XTO ENERGY, INC.			<sup>9</sup> Elevation 3,314'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	22	19 S	30 E		1,931	SOUTH	1,451	EAST	EDDY

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	15	19 S	30 E		267	NORTH	418	EAST	EDDY

<sup>12</sup> Dedicated Acres 240	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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.

NOTE: AS-DRILLED BOTTOM HOLE PLOTTED FROM DATA FURNISHED BY XTO ENERGY

	<p><b>16</b></p> <p>SEC. 10</p> <p>SEC. 11</p> <p>SEC. 14</p> <p>SEC. 15 T19S R30E</p> <p>SEC. 22</p> <p>SEC. 23</p> <p>SEC. 26</p> <p>SEC. 27</p>	<p><b>GEODETIC COORDINATES SURFACE LOCATION</b> NAD 27 NME Y= 598,131.8 X= 616,318.3 LAT.= 32.643798°N LONG.= 103.955444°W</p> <p><b>K.O.P.</b> NAD 27 NME Y= 598,571.6 X= 616,688.8 LAT.= 32.645003°N LONG.= 103.954235°W</p> <p><b>FIRST TAKE POINT</b> NAD 27 NME Y= 599,230.2 X= 616,950.4 LAT.= 32.646811°N LONG.= 103.953377°W</p> <p><b>CORNER COORDINATES TABLE</b> NAD 27 NME</p> <p>A - Y= 606,759.6 N, X= 617,738.8 E B - Y= 606,756.8 N, X= 616,420.0 E C - Y= 604,121.8 N, X= 617,747.9 E D - Y= 604,118.8 N, X= 616,428.5 E E - Y= 601,483.6 N, X= 617,756.8 E F - Y= 601,480.8 N, X= 616,437.0 E G - Y= 598,843.3 N, X= 617,767.4 E H - Y= 598,840.5 N, X= 616,446.6 E</p> <p><b>CORNER COORDINATES TABLE</b> NAD 83 NME</p> <p>A - Y= 606,821.8 N, X= 658,917.5 E B - Y= 606,819.0 N, X= 657,598.7 E C - Y= 604,184.0 N, X= 658,926.7 E D - Y= 604,181.0 N, X= 657,607.3 E E - Y= 601,545.7 N, X= 658,935.6 E F - Y= 601,542.9 N, X= 657,615.8 E G - Y= 598,905.4 N, X= 658,946.3 E H - Y= 598,902.6 N, X= 657,625.5 E</p> <p><b>LAST TAKE POINT</b> NAD 27 NME Y= 606,420.2 X= 617,319.7 LAT.= 32.666571°N LONG.= 103.952094°W</p> <p><b>BOTTOM HOLE LOCATION</b> NAD 27 NME Y= 606,492.1 X= 617,321.7 LAT.= 32.666768°N LONG.= 103.952086°W</p>	<p><b>GEODETIC COORDINATES SURFACE LOCATION</b> NAD 83 NME Y= 598,193.9 X= 657,497.2 LAT.= 32.643916°N LONG.= 103.955950°W</p> <p><b>K.O.P.</b> NAD 83 NME Y= 598,633.7 X= 657,867.7 LAT.= 32.645121°N LONG.= 103.954741°W</p> <p><b>FIRST TAKE POINT</b> NAD 83 NME Y= 599,292.3 X= 658,129.3 LAT.= 32.646929°N LONG.= 103.953884°W</p>	<p><b>17 OPERATOR CERTIFICATION</b> 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.</p> <p><i>Cheryl Rowell</i> 1/16/20 Signature Date</p> <p>Cheryl Rowell Printed Name</p> <p>cheryl_rowell@xtoenergy.com E-mail Address</p>	<p><b>18 SURVEYOR CERTIFICATION</b> 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.</p> <p>1-16-2020 Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p><i>Mark Dillon Harp</i></p> <p>MARK DILLON HARP 23786 Certificate Number</p> <p>AW/JC 2019051396</p>
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RWP 8/6/2020

Intent  As Drilled

API #									
Operator Name:					Property Name:				Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit?

Is this well an infill well?

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #									
Operator Name:					Property Name:				Well Number

I **Cary Rodriguez**, certify that I am employed by **Scout Downhole Inc. (SDI)**. That I did on the day(s) of **12/01/18** thru **02/10/19** conduct or supervise the taking of a **MWD Survey** from a depth of **156'** to a depth of **9720'**; that the data is true, correct, complete and within the limitations of the tool as set forth by **Scout Downhole Inc. (SDI)**.; that I am authorized and qualified to make this report; that this survey was conducted at the request of **XTO Energy** for the **Bubbles 2215 Federal 4H OH API No. 30-015-45256** in **Eddy County, NM**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by **Scout Downhole Inc. (SDI)**.

Cary Rodriguez

**Cary  
Rodriguez**

Digitally signed by: Cary  
Rodriguez  
DN: CN = Cary Rodriguez email  
= crrodriguez@scoutdownhole.  
com C = US O = Scout  
Downhole  
Date: 2020.01.16 09:02:36 -  
06'00'



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Pilot Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Pilot Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

<b>Project</b>	Eddy County, NM		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Bubbles 2215 Federal				
<b>Site Position:</b>		<b>Northing:</b>	598,106.00 usft	<b>Latitude:</b>	32° 38' 37.422 N
<b>From:</b>	Map	<b>Easting:</b>	616,169.60 usft	<b>Longitude:</b>	103° 57' 21.337 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.20 °

<b>Well</b>	Bubbles 2215 Federal #4H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	598,131.60 usft	<b>Latitude:</b>	32° 38' 37.670 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	616,317.40 usft	<b>Longitude:</b>	103° 57' 19.607 W
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	3,314.00 usft

<b>Wellbore</b>	Pilot Hole				
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<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	11/16/2018	7.37	60.48	48,175.10000000

<b>Design</b>	Pilot Surveys				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	6.91	

<b>Survey Program</b>	Date 1/15/2020				
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
156.00	9,794.00	Scout MWD (Pilot Hole)	MWD	MWD - Standard	

<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Bulld Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
156.00	0.35	175.82	156.00	-0.48	0.03	-0.47	0.22	0.22	0.00	
<b>First Scout Pilot MWD Survey at 156.00' MD</b>										
248.00	0.57	133.02	248.00	-1.07	0.39	-1.01	0.43	0.24	-46.52	
302.00	0.48	107.00	301.99	-1.32	0.80	-1.21	0.47	-0.17	-48.19	
385.00	0.31	154.55	384.99	-1.62	1.23	-1.46	0.43	-0.20	57.29	
522.00	0.04	293.33	521.99	-1.94	1.35	-1.76	0.25	-0.20	101.30	
611.00	0.22	26.50	610.99	-1.77	1.39	-1.59	0.25	0.20	104.69	
707.00	0.18	42.49	706.99	-1.50	1.58	-1.30	0.07	-0.04	16.66	
813.00	0.26	91.80	812.99	-1.38	1.93	-1.14	0.19	0.08	46.52	
881.00	0.26	92.41	880.99	-1.39	2.24	-1.11	0.00	0.00	0.90	



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Pilot Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Pilot Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
975.00	0.48	96.19	974.99	-1.44	2.84	-1.09	0.24	0.23	4.02
1,070.00	0.57	88.63	1,069.98	-1.47	3.71	-1.02	0.12	0.09	-7.96
1,164.00	0.70	93.20	1,163.98	-1.50	4.75	-0.91	0.15	0.14	4.86
1,260.00	0.70	100.41	1,259.97	-1.63	5.92	-0.91	0.09	0.00	7.51
1,355.00	0.79	92.68	1,354.96	-1.77	7.14	-0.90	0.14	0.09	-8.14
1,449.00	0.88	96.46	1,448.95	-1.88	8.50	-0.84	0.11	0.10	4.02
1,485.00	0.79	91.80	1,484.95	-1.92	9.03	-0.82	0.31	-0.25	-12.94
1,585.00	0.84	91.45	1,584.94	-1.96	10.45	-0.69	0.05	0.05	-0.35
1,648.00	0.84	89.43	1,647.93	-1.97	11.37	-0.59	0.05	0.00	-3.21
1,744.00	1.01	87.67	1,743.92	-1.93	12.92	-0.36	0.18	0.18	-1.83
1,839.00	1.05	86.35	1,838.90	-1.84	14.63	-0.06	0.05	0.04	-1.39
1,934.00	1.05	87.67	1,933.89	-1.75	16.37	0.24	0.03	0.00	1.39
2,029.00	0.97	286.30	2,028.88	-1.48	16.46	0.51	2.10	-0.08	-169.86
2,123.00	0.92	288.23	2,122.87	-1.03	14.98	0.78	0.06	-0.05	2.05
2,218.00	1.05	289.73	2,217.86	-0.49	13.44	1.13	0.14	0.14	1.58
2,313.00	1.23	289.38	2,312.84	0.14	11.66	1.54	0.19	0.19	-0.37
2,408.00	1.23	275.58	2,407.82	0.58	9.68	1.74	0.31	0.00	-14.53
2,502.00	1.19	270.22	2,501.79	0.68	7.70	1.60	0.13	-0.04	-5.70
2,598.00	1.27	268.02	2,597.77	0.65	5.64	1.32	0.10	0.08	-2.29
2,692.00	1.32	269.43	2,691.75	0.60	3.52	1.02	0.06	0.05	1.50
2,787.00	1.36	270.30	2,786.72	0.59	1.30	0.75	0.05	0.04	0.92
2,882.00	1.45	273.20	2,881.69	0.67	-1.03	0.54	0.12	0.09	3.05
2,977.00	1.36	275.05	2,976.67	0.83	-3.35	0.42	0.11	-0.09	1.95
3,072.00	0.44	269.87	3,071.65	0.93	-4.84	0.34	0.97	-0.97	-5.45
3,167.00	0.13	9.80	3,166.65	1.04	-5.19	0.41	0.51	-0.33	105.19
3,262.00	0.26	358.46	3,261.65	1.36	-5.18	0.73	0.14	0.14	-11.94
3,357.00	0.31	350.46	3,356.65	1.83	-5.22	1.19	0.07	0.05	-8.42
3,452.00	0.26	347.82	3,451.65	2.29	-5.31	1.64	0.05	-0.05	-2.78
3,547.00	0.48	1.62	3,546.65	2.90	-5.35	2.24	0.25	0.23	14.53
3,641.00	0.35	345.71	3,640.64	3.57	-5.41	2.90	0.18	-0.14	-16.93
3,736.00	0.48	341.85	3,735.64	4.23	-5.60	3.53	0.14	0.14	-4.06
3,831.00	0.48	359.16	3,830.64	5.01	-5.73	4.28	0.15	0.00	18.22
3,925.00	0.53	347.21	3,924.63	5.82	-5.83	5.08	0.12	0.05	-12.71
4,020.00	0.57	339.21	4,019.63	6.70	-6.10	5.91	0.09	0.04	-8.42
4,134.00	0.35	342.46	4,133.63	7.56	-6.41	6.73	0.19	-0.19	2.85
4,196.00	0.26	343.61	4,195.63	7.87	-6.50	7.03	0.15	-0.15	1.85
4,290.00	0.44	5.05	4,289.62	8.44	-6.53	7.59	0.23	0.19	22.81
4,386.00	0.40	341.67	4,385.62	9.12	-6.60	8.26	0.18	-0.04	-24.35
4,481.00	1.98	24.83	4,480.60	10.93	-6.02	10.12	1.80	1.66	45.43
4,576.00	4.26	34.93	4,575.45	15.31	-3.31	14.80	2.46	2.40	10.63
4,670.00	6.02	40.21	4,669.07	21.94	1.87	22.00	1.94	1.87	5.62
4,765.00	7.69	43.46	4,763.39	30.36	9.46	31.27	1.80	1.76	3.42
4,860.00	9.76	43.90	4,857.28	40.77	19.42	42.81	2.18	2.18	0.46



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Pilot Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Pilot Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,955.00	10.07	43.28	4,950.87	52.62	30.70	55.93	0.35	0.33	-0.65
5,050.00	10.24	44.51	5,044.38	64.69	42.31	69.31	0.29	0.18	1.29
5,145.00	9.67	42.67	5,137.95	76.58	53.64	82.47	0.69	-0.60	-1.94
5,239.00	9.71	43.72	5,230.61	88.11	64.47	95.23	0.19	0.04	1.12
5,335.00	9.80	43.72	5,325.22	99.87	75.71	108.25	0.09	0.09	0.00
5,429.00	9.80	44.16	5,417.85	111.39	86.81	121.02	0.08	0.00	0.47
5,524.00	9.89	44.95	5,511.45	122.96	98.21	133.88	0.17	0.09	0.83
5,619.00	9.85	41.35	5,605.04	134.84	109.34	147.01	0.65	-0.04	-3.79
5,713.00	9.67	41.61	5,697.68	146.77	119.89	160.13	0.20	-0.19	0.28
5,808.00	9.67	41.61	5,791.33	158.71	130.49	173.25	0.00	0.00	0.00
5,903.00	9.54	42.32	5,885.00	170.49	141.09	186.23	0.19	-0.14	0.75
5,997.00	8.84	41.88	5,977.79	181.63	151.16	198.49	0.75	-0.74	-0.47
6,091.00	9.36	42.93	6,070.61	192.60	161.18	210.60	0.58	0.55	1.12
6,186.00	9.49	43.55	6,164.33	203.94	171.84	223.13	0.17	0.14	0.65
6,281.00	10.02	38.27	6,257.96	216.10	182.36	236.47	1.09	0.56	-5.56
6,375.00	9.80	37.31	6,350.55	228.88	192.27	250.35	0.29	-0.23	-1.02
6,470.00	9.85	36.60	6,444.16	241.84	202.02	264.38	0.14	0.05	-0.75
6,565.00	10.02	34.85	6,537.74	255.14	211.58	278.74	0.36	0.18	-1.84
6,660.00	10.11	40.56	6,631.28	268.26	221.73	292.99	1.05	0.09	6.01
6,754.00	9.71	38.89	6,723.87	280.70	232.07	306.58	0.52	-0.43	-1.78
6,850.00	10.33	40.91	6,818.41	293.51	242.79	320.58	0.74	0.65	2.10
6,944.00	10.07	40.38	6,910.92	306.14	253.63	334.42	0.29	-0.28	-0.56
7,039.00	9.45	39.24	7,004.55	318.50	263.95	347.94	0.68	-0.65	-1.20
7,134.00	9.63	39.59	7,098.23	330.67	273.94	361.22	0.20	0.19	0.37
7,229.00	11.03	41.35	7,191.69	343.61	285.01	375.40	1.51	1.47	1.85
7,323.00	10.64	41.61	7,284.02	356.85	296.72	389.96	0.42	-0.41	0.28
7,418.00	9.49	40.73	7,377.55	369.34	307.65	403.67	1.22	-1.21	-0.93
7,514.00	8.75	41.00	7,472.34	380.85	317.60	416.29	0.77	-0.77	0.28
7,609.00	11.03	41.79	7,565.92	393.08	328.40	429.74	2.40	2.40	0.83
7,704.00	10.99	43.28	7,659.17	406.45	340.67	444.48	0.30	-0.04	1.57
7,799.00	9.93	44.07	7,752.59	418.93	352.57	458.30	1.13	-1.12	0.83
7,894.00	6.51	44.51	7,846.60	428.66	362.05	469.10	3.60	-3.60	0.46
7,989.00	3.12	29.40	7,941.26	434.75	367.09	475.76	3.78	-3.57	-15.91
8,084.00	2.24	16.92	8,036.15	438.78	368.90	479.97	1.11	-0.93	-13.14
8,179.00	1.98	28.08	8,131.09	442.01	370.22	483.33	0.51	-0.27	11.75
8,273.00	2.07	11.29	8,225.03	445.10	371.31	486.54	0.64	0.10	-17.86
8,368.00	1.49	55.68	8,319.99	447.48	372.67	489.06	1.52	-0.61	46.73
8,462.00	1.71	97.16	8,413.95	448.00	375.07	489.86	1.23	0.23	44.13
8,557.00	1.67	103.75	8,508.91	447.49	377.82	489.69	0.21	-0.04	6.94
8,652.00	0.62	278.39	8,603.90	447.24	378.66	489.54	2.41	-1.11	183.83
8,747.00	0.92	286.83	8,698.89	447.53	377.42	489.69	0.34	0.32	8.88
8,842.00	0.53	314.42	8,793.89	448.06	376.37	490.09	0.54	-0.41	29.04
8,936.00	0.48	269.51	8,887.88	448.36	375.67	490.30	0.41	-0.05	-47.78



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Pilot Hole	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Pilot Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,031.00	0.53	215.37	8,982.88	448.00	375.02	489.86	0.49	0.05	-56.99	
9,126.00	0.53	213.09	9,077.88	447.27	374.52	489.08	0.02	0.00	-2.40	
9,221.00	0.66	179.34	9,172.87	446.36	374.29	488.14	0.39	0.14	-35.53	
9,316.00	1.24	205.00	9,267.86	444.88	373.86	486.62	0.74	0.61	27.01	
9,411.00	2.11	208.69	9,362.82	442.41	372.59	484.02	0.92	0.92	3.88	
9,506.00	2.11	206.58	9,457.75	439.32	370.97	480.75	0.08	0.00	-2.22	
9,696.00	2.07	198.06	9,647.63	432.93	368.34	474.09	0.16	-0.02	-4.48	
9,720.00	2.07	199.11	9,671.61	432.10	368.06	473.24	0.16	0.00	4.38	
<b>Last Scout Pilot MWD Survey @ 9720.00' MD</b>										
9,794.00	2.07	199.11	9,745.56	429.58	367.19	470.63	0.00	0.00	0.00	
<b>Projection to Pilot TD @ 9794.00' MD</b>										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
156.00	156.00	-0.48	0.03	First Scout Pilot MWD Survey at 156.00' MD
9,720.00	9,671.61	432.10	368.06	Last Scout Pilot MWD Survey @ 9720.00' MD
9,794.00	9,745.56	429.58	367.19	Projection to Pilot TD @ 9794.00' MD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



I **Cary Rodriguez**, certify that I am employed by **Scout Downhole Inc. (SDI)**. That I did on the day(s) of **02/18/19** thru **03/03/19** conduct or supervise the taking of a **MWD Survey** from a depth of **7956'** to a depth of **16296'**; that the data is true, correct, complete and within the limitations of the tool as set forth by **Scout Downhole Inc. (SDI)**.; that I am authorized and qualified to make this report; that this survey was conducted at the request of **XTO Energy** for the **Bubbles 2215 Federal 4H ST01** API No. **30-015-45256** in **Eddy County, NM**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by **Scout Downhole Inc. (SDI)**.

Cary Rodriguez

Cary

Rodriguez

Digitally signed by: Cary  
Rodriguez  
DN: CN = Cary Rodriguez email  
= crodriguez@scoutdownhole.  
com C = US O = Scout  
Downhole  
Date: 2020.01.16 08:51:22 -  
06'00'

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1125 Beach Airport Rd, Conroe, Texas  
77301  
PH 936-756-3225 FAX 936-756-3248





## Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST01	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST01 Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

<b>Project</b> Eddy County, NM	
<b>Map System:</b> US State Plane 1927 (Exact solution)	<b>System Datum:</b> Mean Sea Level
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)	
<b>Map Zone:</b> New Mexico East 3001	

<b>Site</b> Bubbles 2215 Federal		
<b>Site Position:</b>	<b>Northing:</b> 598,106.00 usft	<b>Latitude:</b> 32° 38' 37.422 N
<b>From:</b> Map	<b>Easting:</b> 616,169.60 usft	<b>Longitude:</b> 103° 57' 21.337 W
<b>Position Uncertainty:</b> 0.00 usft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> 0.20 °

<b>Well</b> Bubbles 2215 Federal #4H		
<b>Well Position</b> +N/-S 0.00 usft	<b>Northing:</b> 598,131.60 usft	<b>Latitude:</b> 32° 38' 37.670 N
+E/-W 0.00 usft	<b>Easting:</b> 616,317.40 usft	<b>Longitude:</b> 103° 57' 19.607 W
<b>Position Uncertainty</b> 0.00 usft	<b>Wellhead Elevation:</b> usft	<b>Ground Level:</b> 3,314.00 usft

<b>Wellbore</b> ST01					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	2/13/2019	7.33	60.47	48,146.90000000

<b>Design</b> ST01 Surveys					
<b>Audit Notes:</b>					
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.00			
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	6.80	

<b>Survey Program</b>		<b>Date</b> 7/19/2019		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
156.00	16,296.00	ST01 Surveys (ST01)	A008Mb_MWD+IFR1+MS OWSG MWD + IFR1 + Multi-Station Correction	

<b>Survey</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156.00	0.35	175.82	156.00	-0.48	0.03	-0.47	0.22	0.22	0.00	
<b>First Scout MWD Survey @ 156.00' MD</b>										
248.00	0.57	133.02	248.00	-1.07	0.39	-1.01	0.43	0.24	-46.52	
302.00	0.48	107.00	301.99	-1.32	0.80	-1.21	0.47	-0.17	-48.19	
385.00	0.31	154.55	384.99	-1.62	1.23	-1.46	0.43	-0.20	57.29	
522.00	0.04	293.33	521.99	-1.94	1.35	-1.76	0.25	-0.20	101.30	
611.00	0.22	26.50	610.99	-1.77	1.39	-1.59	0.25	0.20	104.69	
707.00	0.18	42.49	706.99	-1.50	1.58	-1.30	0.07	-0.04	16.66	
813.00	0.26	91.80	812.99	-1.38	1.93	-1.14	0.19	0.08	46.52	
881.00	0.26	92.41	880.99	-1.39	2.24	-1.12	0.00	0.00	0.90	



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST01	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST01 Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
975.00	0.48	96.19	974.99	-1.44	2.84	-1.10	0.24	0.23	4.02
1,070.00	0.57	88.63	1,069.98	-1.47	3.71	-1.03	0.12	0.09	-7.96
1,164.00	0.70	93.20	1,163.98	-1.50	4.75	-0.92	0.15	0.14	4.86
1,260.00	0.70	100.41	1,259.97	-1.63	5.92	-0.92	0.09	0.00	7.51
1,355.00	0.79	92.68	1,354.96	-1.77	7.14	-0.91	0.14	0.09	-8.14
1,449.00	0.88	96.46	1,448.95	-1.88	8.50	-0.86	0.11	0.10	4.02
1,485.00	0.79	91.80	1,484.95	-1.92	9.03	-0.84	0.31	-0.25	-12.94
1,585.00	0.84	91.45	1,584.94	-1.96	10.45	-0.71	0.05	0.05	-0.35
1,648.00	0.84	89.43	1,647.93	-1.97	11.37	-0.61	0.05	0.00	-3.21
1,744.00	1.01	87.67	1,743.92	-1.93	12.92	-0.38	0.18	0.18	-1.83
1,839.00	1.05	86.35	1,838.90	-1.84	14.63	-0.09	0.05	0.04	-1.39
1,934.00	1.05	87.67	1,933.89	-1.75	16.37	0.20	0.03	0.00	1.39
2,029.00	0.97	286.30	2,028.88	-1.48	16.46	0.47	2.10	-0.08	-169.86
2,123.00	0.92	288.23	2,122.87	-1.03	14.98	0.76	0.06	-0.05	2.05
2,218.00	1.05	289.73	2,217.86	-0.49	13.44	1.10	0.14	0.14	1.58
2,313.00	1.23	289.38	2,312.84	0.14	11.66	1.52	0.19	0.19	-0.37
2,408.00	1.23	275.58	2,407.82	0.58	9.68	1.72	0.31	0.00	-14.53
2,502.00	1.19	270.22	2,501.79	0.68	7.70	1.59	0.13	-0.04	-5.70
2,598.00	1.27	268.02	2,597.77	0.65	5.64	1.31	0.10	0.08	-2.29
2,692.00	1.32	269.43	2,691.75	0.60	3.52	1.01	0.06	0.05	1.50
2,787.00	1.36	270.30	2,786.72	0.59	1.30	0.74	0.05	0.04	0.92
2,882.00	1.45	273.20	2,881.69	0.67	-1.03	0.54	0.12	0.09	3.05
2,977.00	1.36	275.05	2,976.67	0.83	-3.35	0.43	0.11	-0.09	1.95
3,072.00	0.44	269.87	3,071.65	0.93	-4.84	0.35	0.97	-0.97	-5.45
3,167.00	0.13	9.80	3,166.65	1.04	-5.19	0.42	0.51	-0.33	105.19
3,262.00	0.26	358.46	3,261.65	1.36	-5.18	0.74	0.14	0.14	-11.94
3,357.00	0.31	350.46	3,356.65	1.83	-5.22	1.20	0.07	0.05	-8.42
3,452.00	0.26	347.82	3,451.65	2.29	-5.31	1.65	0.05	-0.05	-2.78
3,547.00	0.48	1.62	3,546.65	2.90	-5.35	2.25	0.25	0.23	14.53
3,641.00	0.35	345.71	3,640.64	3.57	-5.41	2.91	0.18	-0.14	-16.93
3,736.00	0.48	341.85	3,735.64	4.23	-5.60	3.54	0.14	0.14	-4.06
3,831.00	0.48	359.16	3,830.64	5.01	-5.73	4.29	0.15	0.00	18.22
3,925.00	0.53	347.21	3,924.63	5.82	-5.83	5.09	0.12	0.05	-12.71
4,020.00	0.57	339.21	4,019.63	6.70	-6.10	5.93	0.09	0.04	-8.42
4,134.00	0.35	342.46	4,133.63	7.56	-6.41	6.75	0.19	-0.19	2.85
4,196.00	0.26	343.61	4,195.63	7.87	-6.50	7.05	0.15	-0.15	1.85
4,290.00	0.44	5.05	4,289.62	8.44	-6.53	7.60	0.23	0.19	22.81
4,386.00	0.40	341.67	4,385.62	9.12	-6.60	8.28	0.18	-0.04	-24.35
4,481.00	1.98	24.83	4,480.60	10.93	-6.02	10.14	1.80	1.66	45.43
4,576.00	4.26	34.93	4,575.45	15.31	-3.31	14.81	2.46	2.40	10.63
4,670.00	6.02	40.21	4,669.07	21.94	1.87	22.00	1.94	1.87	5.62
4,765.00	7.69	43.46	4,763.39	30.36	9.46	31.26	1.80	1.76	3.42
4,860.00	9.76	43.90	4,857.28	40.77	19.42	42.78	2.18	2.18	0.46



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST01	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST01 Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,955.00	10.07	43.28	4,950.87	52.62	30.70	55.88	0.35	0.33	-0.65
5,050.00	10.24	44.51	5,044.38	64.69	42.31	69.24	0.29	0.18	1.29
5,145.00	9.67	42.67	5,137.95	76.58	53.64	82.39	0.69	-0.60	-1.94
5,239.00	9.71	43.72	5,230.61	88.11	64.47	95.12	0.19	0.04	1.12
5,335.00	9.80	43.72	5,325.22	99.87	75.71	108.13	0.09	0.09	0.00
5,429.00	9.80	44.16	5,417.85	111.39	86.81	120.88	0.08	0.00	0.47
5,524.00	9.89	44.95	5,511.45	122.96	98.21	133.72	0.17	0.09	0.83
5,619.00	9.85	41.35	5,605.04	134.84	109.34	146.83	0.65	-0.04	-3.79
5,713.00	9.67	41.61	5,697.68	146.77	119.89	159.94	0.20	-0.19	0.28
5,808.00	9.67	41.61	5,791.33	158.71	130.49	173.04	0.00	0.00	0.00
5,903.00	9.54	42.32	5,885.00	170.49	141.09	186.00	0.19	-0.14	0.75
5,997.00	8.84	41.88	5,977.79	181.63	151.16	198.25	0.75	-0.74	-0.47
6,091.00	9.36	42.93	6,070.61	192.60	161.18	210.33	0.58	0.55	1.12
6,186.00	9.49	43.55	6,164.33	203.94	171.84	222.85	0.17	0.14	0.65
6,281.00	10.02	38.27	6,257.96	216.10	182.36	236.17	1.09	0.56	-5.56
6,375.00	9.80	37.31	6,350.55	228.88	192.27	250.04	0.29	-0.23	-1.02
6,470.00	9.85	36.60	6,444.16	241.84	202.02	264.06	0.14	0.05	-0.75
6,565.00	10.02	34.85	6,537.74	255.14	211.58	278.40	0.36	0.18	-1.84
6,660.00	10.11	40.56	6,631.28	268.26	221.73	292.63	1.05	0.09	6.01
6,754.00	9.71	38.89	6,723.87	280.70	232.07	306.20	0.52	-0.43	-1.78
6,850.00	10.33	40.91	6,818.41	293.51	242.79	320.19	0.74	0.65	2.10
6,944.00	10.07	40.38	6,910.92	306.14	253.63	334.01	0.29	-0.28	-0.56
7,039.00	9.45	39.24	7,004.55	318.50	263.95	347.51	0.68	-0.65	-1.20
7,134.00	9.63	39.59	7,098.23	330.67	273.94	360.78	0.20	0.19	0.37
7,229.00	11.03	41.35	7,191.69	343.61	285.01	374.94	1.51	1.47	1.85
7,323.00	10.64	41.61	7,284.02	356.85	296.72	389.47	0.42	-0.41	0.28
7,418.00	9.49	40.73	7,377.55	369.34	307.65	403.17	1.22	-1.21	-0.93
7,514.00	8.75	41.00	7,472.34	380.85	317.60	415.78	0.77	-0.77	0.28
7,609.00	11.03	41.79	7,565.92	393.08	328.40	429.20	2.40	2.40	0.83
7,704.00	10.99	43.28	7,659.17	406.45	340.67	443.93	0.30	-0.04	1.57
7,799.00	9.93	44.07	7,752.59	418.93	352.57	457.73	1.13	-1.12	0.83
7,885.00	9.27	42.05	7,837.39	429.40	362.37	469.29	0.86	-0.77	-2.35
7,910.00	10.11	39.42	7,862.03	432.59	365.11	472.78	3.80	3.36	-10.52
7,952.00	12.04	34.76	7,903.25	439.04	369.95	479.75	5.06	4.60	-11.10
8,004.00	14.68	30.10	7,953.84	449.20	376.35	490.60	5.48	5.08	-8.96
8,051.00	19.12	27.11	7,998.80	461.21	382.85	503.29	9.62	9.45	-6.36
8,098.00	22.90	27.90	8,042.66	476.15	390.63	519.05	8.06	8.04	1.68
8,146.00	25.36	34.05	8,086.47	492.92	400.76	536.90	7.32	5.13	12.81
8,193.00	28.66	32.91	8,128.34	510.73	412.53	555.98	7.11	7.02	-2.43
8,241.00	33.58	32.12	8,169.42	531.65	425.85	578.33	10.29	10.25	-1.65
8,288.00	38.51	30.63	8,207.41	555.26	440.22	603.48	10.65	10.49	-3.17
8,336.00	42.46	26.41	8,243.92	582.65	455.05	632.43	10.01	8.23	-8.79
8,383.00	44.26	26.06	8,278.09	611.59	469.31	662.86	3.86	3.83	-0.74



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST01	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST01 Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,430.00	48.92	24.47	8,310.38	642.47	483.86	695.24	10.21	9.91	-3.38
8,477.00	53.41	22.01	8,339.85	676.10	498.28	730.34	10.39	9.55	-5.23
8,525.00	59.08	22.10	8,366.51	713.07	513.26	768.83	11.81	11.81	0.19
8,572.00	62.77	21.13	8,389.35	751.26	528.38	808.54	8.06	7.85	-2.06
8,620.00	64.18	20.61	8,410.78	791.39	543.68	850.19	3.09	2.94	-1.08
8,667.00	67.60	21.31	8,429.98	831.44	559.03	891.78	7.40	7.28	1.49
8,715.00	70.68	20.70	8,447.07	873.31	575.10	935.26	6.53	6.42	-1.27
8,762.00	72.00	18.67	8,462.11	915.23	590.10	978.67	4.96	2.81	-4.32
8,810.00	74.07	16.04	8,476.11	959.05	603.79	1,023.79	6.79	4.31	-5.48
8,857.00	76.70	13.49	8,487.97	1,003.02	615.37	1,068.83	7.67	5.60	-5.43
8,902.68	79.84	10.40	8,497.26	1,046.77	624.62	1,113.37	9.55	6.87	-6.77
<b>Bubbles 2215 Federal #4H p5 FTP</b>									
8,905.00	80.00	10.24	8,497.67	1,049.02	625.02	1,115.64	9.55	6.91	-6.70
8,952.00	83.08	7.25	8,504.58	1,094.95	632.09	1,162.09	9.08	6.55	-6.36
9,000.00	84.48	6.46	8,509.78	1,142.33	637.78	1,209.81	3.34	2.92	-1.65
9,048.00	85.45	6.11	8,514.00	1,189.86	643.01	1,257.62	2.15	2.02	-0.73
9,143.00	87.78	3.12	8,519.61	1,284.37	650.64	1,352.37	3.99	2.45	-3.15
9,238.00	90.51	2.33	8,521.02	1,379.24	655.16	1,447.11	2.99	2.87	-0.83
9,332.00	89.71	1.97	8,520.84	1,473.17	658.68	1,540.80	0.93	-0.85	-0.38
9,425.00	90.90	1.18	8,520.35	1,566.13	661.24	1,633.41	1.54	1.28	-0.85
9,520.00	90.33	2.06	8,519.33	1,661.09	663.92	1,728.01	1.10	-0.60	0.93
9,614.00	89.76	3.56	8,519.25	1,754.97	668.53	1,821.78	1.71	-0.61	1.60
9,707.00	90.07	4.70	8,519.39	1,847.73	675.23	1,914.68	1.27	0.33	1.23
9,800.00	89.80	3.64	8,519.50	1,940.48	681.99	2,007.58	1.18	-0.29	-1.14
9,895.00	88.66	2.85	8,520.78	2,035.32	687.37	2,102.39	1.46	-1.20	-0.83
9,990.00	90.11	3.20	8,521.79	2,130.18	692.38	2,197.17	1.57	1.53	0.37
10,084.00	91.34	2.59	8,520.61	2,224.05	697.13	2,290.94	1.46	1.31	-0.65
10,179.00	90.68	3.29	8,518.93	2,318.91	702.00	2,385.71	1.01	-0.69	0.74
10,273.00	88.88	3.20	8,519.29	2,412.75	707.32	2,479.53	1.92	-1.91	-0.10
10,366.00	91.08	2.59	8,519.32	2,505.63	712.02	2,572.31	2.45	2.37	-0.66
10,459.00	90.42	2.85	8,518.11	2,598.51	716.43	2,665.06	0.76	-0.71	0.28
10,551.00	89.05	3.29	8,518.53	2,690.38	721.36	2,756.86	1.56	-1.49	0.48
10,650.00	90.95	2.94	8,518.53	2,789.23	726.74	2,855.65	1.95	1.92	-0.35
10,703.00	92.57	2.77	8,516.90	2,842.13	729.38	2,908.50	3.07	3.06	-0.32
10,801.00	92.75	2.77	8,512.36	2,939.91	734.11	3,006.15	0.18	0.18	0.00
10,938.00	86.73	1.97	8,512.98	3,076.73	739.77	3,142.68	4.43	-4.39	-0.58
11,033.00	86.81	1.53	8,518.33	3,171.54	742.67	3,237.16	0.47	0.08	-0.46
11,128.00	87.74	1.45	8,522.85	3,266.39	745.13	3,331.64	0.98	0.98	-0.08
11,222.00	88.44	0.83	8,525.98	3,360.32	747.00	3,425.13	0.99	0.74	-0.66
11,317.00	88.62	359.43	8,528.42	3,455.29	747.22	3,519.46	1.49	0.19	-1.47
11,412.00	90.11	1.01	8,529.47	3,550.28	747.58	3,613.82	2.29	1.57	1.66
11,507.00	90.86	0.39	8,528.67	3,645.27	748.74	3,708.28	1.02	0.79	-0.65
11,602.00	91.82	2.24	8,526.44	3,740.21	750.92	3,802.81	2.19	1.01	1.95
11,697.00	92.44	1.97	8,522.91	3,835.08	754.41	3,897.43	0.71	0.65	-0.28



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST01	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST01 Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,791.00	90.42	3.73	8,520.57	3,928.92	759.08	3,991.16	2.85	-2.15	1.87	
11,886.00	89.54	2.85	8,520.60	4,023.77	764.53	4,085.98	1.31	-0.93	-0.93	
11,982.00	90.07	3.73	8,520.93	4,119.61	770.04	4,181.80	1.07	0.55	0.92	
12,076.00	90.68	6.11	8,520.31	4,213.25	778.11	4,275.74	2.61	0.65	2.53	
12,169.00	90.90	5.93	8,519.03	4,305.73	787.86	4,368.73	0.31	0.24	-0.19	
12,263.00	90.99	6.11	8,517.48	4,399.20	797.71	4,462.70	0.21	0.10	0.19	
12,358.00	90.99	6.02	8,515.84	4,493.65	807.75	4,557.68	0.09	0.00	-0.09	
12,452.00	90.29	3.56	8,514.79	4,587.31	815.60	4,651.61	2.72	-0.74	-2.62	
12,547.00	90.55	3.03	8,514.09	4,682.15	821.06	4,746.43	0.62	0.27	-0.56	
12,641.00	90.46	2.77	8,513.26	4,776.03	825.81	4,840.21	0.29	-0.10	-0.28	
12,737.00	90.68	2.94	8,512.31	4,871.90	830.60	4,935.98	0.29	0.23	0.18	
12,831.00	90.81	3.20	8,511.09	4,965.76	835.63	5,029.77	0.31	0.14	0.28	
12,926.00	89.05	3.73	8,511.20	5,060.58	841.37	5,124.60	1.93	-1.85	0.56	
13,020.00	88.79	3.82	8,512.97	5,154.36	847.56	5,218.46	0.29	-0.28	0.10	
13,114.00	88.84	3.91	8,514.92	5,248.13	853.89	5,312.31	0.11	0.05	0.10	
13,209.00	88.97	3.64	8,516.73	5,342.90	860.15	5,407.16	0.32	0.14	-0.28	
13,303.00	89.23	3.47	8,518.21	5,436.71	865.97	5,501.00	0.33	0.28	-0.18	
13,397.00	89.49	3.29	8,519.26	5,530.54	871.52	5,594.83	0.34	0.28	-0.19	
13,491.00	89.67	3.64	8,519.95	5,624.37	877.20	5,688.67	0.42	0.19	0.37	
13,586.00	90.02	3.82	8,520.21	5,719.16	883.38	5,783.53	0.41	0.37	0.19	
13,680.00	90.33	3.20	8,519.92	5,812.99	889.13	5,877.37	0.74	0.33	-0.66	
13,775.00	90.64	3.91	8,519.11	5,907.80	895.02	5,972.22	0.82	0.33	0.75	
13,870.00	90.42	4.61	8,518.24	6,002.53	902.08	6,067.12	0.77	-0.23	0.74	
13,964.00	90.64	4.70	8,517.37	6,096.22	909.71	6,161.05	0.25	0.23	0.10	
14,059.00	90.46	2.15	8,516.45	6,191.04	915.38	6,255.87	2.69	-0.19	-2.68	
14,155.00	90.37	2.06	8,515.76	6,286.97	918.91	6,351.55	0.13	-0.09	-0.09	
14,250.00	90.64	2.06	8,514.92	6,381.90	922.32	6,446.22	0.28	0.28	0.00	
14,345.00	90.77	2.15	8,513.75	6,476.83	925.81	6,540.89	0.17	0.14	0.09	
14,439.00	90.90	2.06	8,512.38	6,570.76	929.26	6,634.57	0.17	0.14	-0.10	
14,534.00	91.21	2.33	8,510.63	6,665.67	932.90	6,729.24	0.43	0.33	0.28	
14,630.00	91.69	1.71	8,508.20	6,761.58	936.29	6,824.88	0.82	0.50	-0.65	
14,725.00	89.98	2.50	8,506.82	6,856.50	939.77	6,919.55	1.98	-1.80	0.83	
14,820.00	90.29	2.33	8,506.60	6,951.42	943.78	7,014.27	0.37	0.33	-0.18	
14,914.00	90.86	2.50	8,505.65	7,045.33	947.74	7,107.99	0.63	0.61	0.18	
15,008.00	88.66	3.12	8,506.05	7,139.21	952.35	7,201.75	2.43	-2.34	0.66	
15,102.00	88.84	2.85	8,508.10	7,233.06	957.24	7,295.52	0.35	0.19	-0.29	
15,196.00	88.92	2.94	8,509.93	7,326.92	961.99	7,389.28	0.13	0.09	0.10	
15,290.00	89.80	2.94	8,510.98	7,420.79	966.81	7,483.06	0.94	0.94	0.00	
15,384.00	90.02	2.59	8,511.13	7,514.68	971.34	7,576.83	0.44	0.23	-0.37	
15,478.00	90.59	2.41	8,510.63	7,608.59	975.44	7,670.57	0.64	0.61	-0.19	
15,571.00	90.77	2.33	8,509.53	7,701.51	979.29	7,763.28	0.21	0.19	-0.09	
15,666.00	91.38	2.06	8,507.75	7,796.42	982.93	7,857.96	0.70	0.64	-0.28	
15,760.00	90.20	2.85	8,506.45	7,890.32	986.95	7,951.68	1.51	-1.26	0.84	



Survey Report

<b>Company:</b>	XTO Energy	<b>Local Co-ordinate Reference:</b>	Well Bubbles 2215 Federal #4H
<b>Project:</b>	Eddy County, NM	<b>TVD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Site:</b>	Bubbles 2215 Federal	<b>MD Reference:</b>	GL 3314' + 30' KB @ 3344.00usft (Nabors F34)
<b>Well:</b>	Bubbles 2215 Federal #4H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	ST01	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	ST01 Surveys	<b>Database:</b>	EDM 5000.14 Single User Db

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,854.00	90.15	2.24	8,506.16	7,984.23	991.13	8,045.42	0.65	-0.05	-0.65
15,948.00	90.86	1.97	8,505.33	8,078.16	994.58	8,139.10	0.81	0.76	-0.29
16,041.00	90.99	1.80	8,503.83	8,171.10	997.64	8,231.74	0.23	0.14	-0.18
16,136.00	91.30	1.71	8,501.93	8,266.03	1,000.55	8,326.35	0.34	0.33	-0.09
16,167.35	91.21	1.59	8,501.25	8,297.37	1,001.45	8,357.58	0.47	-0.29	-0.37
<b>Bubbles 2215 Federal #4H p5 LTP</b>									
16,230.00	91.03	1.36	8,500.02	8,359.98	1,003.06	8,419.94	0.47	-0.29	-0.37
<b>Last Scout MWD Survey @ 16230.00' MD</b>									
16,296.00	91.03	1.36	8,498.85	8,424.95	1,004.61	8,484.64	0.00	0.00	0.00
<b>Projection to Bit @ 16295.00' MD - Bubbles 2215 Federal #4H p5 PBHL</b>									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
156.00	156.00	-0.48	0.03	First Scout MWD Survey @ 156.00' MD
16,230.00	8,500.02	8,359.98	1,003.06	Last Scout MWD Survey @ 16230.00' MD
16,296.00	8,498.85	8,424.95	1,004.61	Projection to Bit @ 16296.00' MD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_