

Results of Directional Survey

API number:	30-025-24850		
OGRID:		Operator:	XTO ENERGY INC
		Property:	NORTH VACUUM ABO UNIT # 221H

surface	ULSTR:	E	19	T	17S	R	35E
	Lot:	2		1850	FNL	660	FWL

BH Loc	ULSTR:	I	24	T	17S	R	34E
10127	MD	8554.7	TVD	2691	FNL	718	FEL

Top Perf/OH	ULSTR:	E	19	T	17S	R	35E
8435	MD	8434.3	TVD	1882	FNL	612	FWL

Bot Perf/OH	ULSTR:	I	24	T	17S	R	34E
10127	MD	8554.7	TVD	2691	FNL	718	FEL

	MD	N/S	E/W	VD
	8400	-31.43	-46.60	8399.29
TOP PERFS/OH	8435	-32.06	-47.85	8434.26
	8446	-32.26	-48.24	8445.25
	10045	-800.24	-1307.53	8557.38
BOT PERFS/OH	10127	-841.21	-1378.49	8554.72
	10077	-816.23	-1335.22	8556.34

NEXT TO LAST	10045	-800.24	-1307.53	8557.38
LAST READING	10077	-816.23	-1335.22	8556.34
TD	10127	-841.21	-1378.49	8554.72

Surface Location	1850	FN	660	FW
Projected BHL	2691	FN	718	FE
Location of				
Top Perfs/OH	1882	FN	612	FW
Bottom Perfs/OH	2691	FN	718	FE

SUMMARY of Subsurface Locations

Surface Location	E-19-17S-35E	1850	FN	660	FW	Vert. Depth
Top Perfs/OH	E-19-17S-35E	1882	FN	612	FW	8434.26
Bottom Perfs/OH	I-24-17S-34E	2691	FN	718	FE	8554.72
Projected TD	I-24-17S-34E	2691	FN	718	FE	8554.72

ACTUAL WELLPATH REPORT (CSV version)

Prepared by Baker Hughes INTEQ
Software System: WellArchitect™ 1.2

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REFERENCE WELLPATH IDENTIFICATION

Operator XTO Energy Inc.
Area Lea County, NM
Field North Vacuum Abo
Facility NVAU #221H
Slot #221H SHL
Well #221H
Wellbore #221H AWB ST01
Wellpath #221H AWP ST01
Sidetrack #221H AWB at 8400.00 MD

REPORT SETUP INFORMATION

Projection : NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet
North Refe Grid
Scale 0.999984
Wellbore L 9/27/2007
Software S WellArchitect™
User Gomeoscr
Report Ger 10/26/07 at 09:10:56
DataBase/ : WA_Midland/ev02.xml

SUR: E-19-17s-35e, 1850/N & 660/W
BHL: I-24-17s-34e, 2691/N & 718/E
API # 30-025-24850

WELLPATH	Local North	Local East	Grid East	Grid North	Latitude	Longitude
	[ft]	[ft]	[ft]	[ft]	[°]	[°]
Slot Location	0	0	755128.5	664008.8	32 49 21.6	103 30 10.208W
Facility Ref			755128.5	664008.8	32 49 21.6	103 30 10.208W
Field Refer			743305.8	659615.2	32 48 39.1	103 32 29.129W

WELLPATH DATUM

Calculation Minimum curvature
Horizontal Facility Center
Vertical Re Rig on Slot #1 (RT)
MD Refere Rig on Slot #1 (RT)
Field Vertic GRN. ELEV.
Rig on Slot 17.00 feet
Rig on Slot 4013.00 feet
Facility Ver 0.00 feet
Section Ori 0.00 feet
Section Ori 0.00 feet
Section Azi 236.91°

WELL PATH DATA Wellbore: #221H AWB ST01 Wellpath: #221H AWP ST01 † = interpolated/extrapolated station										
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	DLS	Tgt#
feet	deg	deg	feet	feet	feet	feet	us survey f	us survey f	deg/100ft	
0	0	0	0	0	0	0	755128.5	664008.8	0	
100	0.28	237.79	100	0.24	-0.13	-0.21	755128.3	664008.7	0.28	
200	0.43	260.99	200	0.83	-0.32	-0.78	755127.7	664008.5	0.2	
300	0.49	267.54	299.99	1.54	-0.4	-1.58	755126.9	664008.4	0.08	
400	0.28	279.5	399.99	2.09	-0.37	-2.25	755126.3	664008.4	0.22	
500	0.15	292.63	499.99	2.34	-0.28	-2.61	755125.9	664008.5	0.14	
600	0.18	292.26	599.99	2.51	-0.17	-2.88	755125.6	664008.6	0.03	
700	0.14	264.23	699.99	2.7	-0.13	-3.15	755125.4	664008.7	0.09	
800	0.25	247.13	799.99	3.03	-0.22	-3.47	755125	664008.6	0.12	
900	0.26	244.7	899.99	3.47	-0.41	-3.87	755124.6	664008.4	0.01	

1000	0.34	312.84	999.99	3.76	-0.3	-4.3	755124.2	664008.5	0.34
1100	0.44	317.1	1099.99	3.9	0.18	-4.78	755123.7	664009	0.1
1200	0.42	334.03	1199.98	3.92	0.79	-5.2	755123.3	664009.6	0.13
1300	0.4	332.02	1299.98	3.84	1.43	-5.52	755123	664010.2	0.02
1400	0.28	322.02	1399.98	3.83	1.93	-5.84	755122.7	664010.7	0.13
1500	0.29	325.55	1499.98	3.86	2.33	-6.13	755122.4	664011.1	0.02
1600	0.25	308.93	1599.98	3.93	2.68	-6.44	755122.1	664011.5	0.09
1700	0.37	299.95	1699.97	4.15	2.98	-6.89	755121.6	664011.8	0.13
1800	0.28	295.56	1799.97	4.42	3.24	-7.39	755121.1	664012	0.09
1900	0.13	273.53	1899.97	4.64	3.36	-7.73	755120.8	664012.2	0.17
2000	0.22	223.68	1999.97	4.92	3.22	-7.97	755120.5	664012	0.17
2100	0.21	130.71	2099.97	5.05	2.97	-7.96	755120.5	664011.8	0.31
2200	0.27	133.64	2199.97	4.95	2.68	-7.66	755120.8	664011.5	0.06
2300	0.36	165.12	2299.97	4.99	2.22	-7.4	755121.1	664011	0.19
2400	0.54	170.71	2399.97	5.28	1.45	-7.25	755121.3	664010.3	0.19
2500	0.45	191.8	2499.96	5.75	0.6	-7.25	755121.3	664009.4	0.2
2600	0.29	177.4	2599.96	6.15	-0.04	-7.32	755121.2	664008.8	0.18
2700	0.39	66.47	2699.96	5.95	-0.15	-7	755121.5	664008.7	0.56
2800	0.71	51.03	2799.95	4.99	0.37	-6.2	755122.3	664009.2	0.35
2900	0.85	42.9	2899.95	3.66	1.3	-5.22	755123.3	664010.1	0.18
3000	0.84	45.12	2999.93	2.22	2.36	-4.19	755124.3	664011.2	0.03
3100	0.72	40.6	3099.93	0.9	3.36	-3.26	755125.2	664012.2	0.13
3200	0.44	35.99	3199.92	-0.06	4.15	-2.63	755125.9	664013	0.28
3300	0.23	40.59	3299.92	-0.61	4.61	-2.27	755126.2	664013.4	0.21
3400	0.09	55.57	3399.92	-0.88	4.81	-2.08	755126.4	664013.6	0.14
3500	0.16	92.2	3499.92	-1.08	4.85	-1.87	755126.6	664013.7	0.1
3600	0.15	131.96	3599.92	-1.22	4.75	-1.64	755126.9	664013.6	0.11
3700	0.38	166.11	3699.92	-1.15	4.34	-1.46	755127	664013.1	0.27
3800	0.42	149.65	3799.91	-1.02	3.7	-1.2	755127.3	664012.5	0.12
3900	0.5	162.99	3899.91	-0.88	2.97	-0.88	755127.6	664011.8	0.13
4000	0.68	176.66	3999.91	-0.47	1.96	-0.72	755127.8	664010.8	0.23
4100	0.94	199.67	4099.9	0.48	0.6	-0.96	755127.5	664009.4	0.41
4200	1.03	201.23	4199.88	1.86	-1.01	-1.56	755126.9	664007.8	0.09
4300	1.13	208.22	4299.86	3.46	-2.72	-2.35	755126.2	664006.1	0.17
4400	1.25	216.81	4399.84	5.35	-4.46	-3.47	755125	664004.3	0.21
4500	1.27	217.2	4499.82	7.41	-6.22	-4.8	755123.7	664002.6	0.02
4600	1.27	217.83	4599.79	9.51	-7.98	-6.15	755122.4	664000.8	0.01
4700	1.4	212.09	4699.77	11.66	-9.89	-7.48	755121	663998.9	0.19
4800	1.48	213.75	4799.73	13.96	-12	-8.84	755119.7	663996.8	0.09
4900	1.44	202.9	4899.7	16.19	-14.23	-10.05	755118.5	663994.6	0.28
5000	1.23	196.6	4999.67	18.05	-16.41	-10.84	755117.7	663992.4	0.26
5100	1.31	219.39	5099.65	19.95	-18.32	-11.88	755116.6	663990.5	0.51
5200	1.14	216.3	5199.63	21.98	-20.01	-13.19	755115.3	663988.8	0.18
5300	1.07	195.2	5299.61	23.6	-21.71	-14.03	755114.5	663987.1	0.41
5400	1.18	190.57	5399.59	25.01	-23.63	-14.46	755114	663985.2	0.14
5500	1.11	198.8	5499.57	26.48	-25.55	-14.96	755113.5	663983.3	0.18
5600	1.08	208.44	5599.55	28.08	-27.3	-15.72	755112.8	663981.5	0.19
5700	1.04	213.51	5699.54	29.74	-28.89	-16.67	755111.8	663979.9	0.1
5800	1.09	218.22	5799.52	31.47	-30.39	-17.76	755110.7	663978.4	0.1
5900	1.08	207.99	5899.5	33.2	-31.97	-18.79	755109.7	663976.8	0.19
6000	0.96	220.28	5999.48	34.82	-33.44	-19.77	755108.7	663975.4	0.25
6100	0.98	251.64	6099.47	36.45	-34.35	-21.13	755107.4	663974.5	0.52
6200	0.76	254.86	6199.46	37.91	-34.79	-22.58	755105.9	663974	0.23
6300	0.59	256.27	6299.45	39.03	-35.09	-23.72	755104.8	663973.7	0.17
6400	0.42	271.12	6399.45	39.82	-35.2	-24.59	755103.9	663973.6	0.21
6500	0.51	272.89	6499.44	40.48	-35.17	-25.4	755103.1	663973.6	0.09
6600	0.64	288.39	6599.44	41.19	-34.97	-26.37	755102.1	663973.8	0.2
6700	0.46	307.86	6699.44	41.67	-34.55	-27.22	755101.3	663974.3	0.26

6800	0.38	295.11	6799.43	41.97	-34.16	-27.84	755100.7	663974.6	0.12
6900	0.52	286.87	6899.43	42.44	-33.89	-28.57	755099.9	663974.9	0.15
7000	0.59	272.95	6999.42	43.15	-33.73	-29.52	755099	663975.1	0.15
7100	0.35	268.75	7099.42	43.82	-33.71	-30.34	755098.2	663975.1	0.24
7200	0.33	313.34	7199.42	44.15	-33.52	-30.85	755097.7	663975.3	0.26
7300	0.54	320.35	7299.42	44.27	-32.96	-31.36	755097.1	663975.8	0.22
7400	0.57	311.63	7399.41	44.46	-32.27	-32.04	755096.5	663976.5	0.09
7500	0.46	285.97	7499.41	44.85	-31.83	-32.79	755095.7	663977	0.25
7600	0.69	278.3	7599.4	45.57	-31.63	-33.78	755094.7	663977.2	0.24
7700	0.83	265.05	7699.39	46.66	-31.61	-35.09	755093.4	663977.2	0.22
7800	0.95	285.09	7799.38	47.85	-31.45	-36.61	755091.9	663977.4	0.33
7900	0.79	276.26	7899.37	48.93	-31.16	-38.1	755090.4	663977.6	0.21
8000	0.96	281.37	7999.36	50.07	-30.92	-39.61	755088.9	663977.9	0.19
8100	0.84	283.65	8099.35	51.17	-30.58	-41.14	755087.4	663978.2	0.13
8200	0.98	257.89	8199.33	52.47	-30.59	-42.69	755085.8	663978.2	0.43
8300	1.22	257.08	8299.32	54.26	-31.01	-44.56	755083.9	663977.8	0.24
8400	1.16	259.39	8399.29	56.2	-31.43	-46.6	755081.9	663977.4	0.08
8446	3.5	238	8445.25	58.03	-32.26	-48.24	755080.3	663976.5	5.34
8460	6.8	313	8459.21	58.66	-31.92	-49.21	755079.3	663976.9	48.51
8475	8.4	280	8474.08	59.67	-31.13	-50.94	755077.6	663977.7	30.47
8492	12.9	256.2	8490.79	62.37	-31.36	-54.01	755074.5	663977.4	36.49
8507	16.4	257.6	8505.3	65.94	-32.22	-57.71	755070.8	663976.6	23.45
8524	20.4	254.4	8521.43	71.01	-33.53	-62.91	755065.6	663975.3	24.26
8539	24.6	254.1	8535.29	76.49	-35.09	-68.43	755060.1	663973.7	28.01
8556	29.5	254.4	8550.42	83.87	-37.19	-75.87	755052.6	663971.6	28.83
8568	33.4	254.4	8560.66	89.84	-38.87	-81.9	755046.6	663969.9	32.5
8584	38.4	253.7	8573.61	98.8	-41.45	-90.92	755037.6	663967.4	31.35
8599	44.1	252.7	8584.89	108.29	-44.31	-100.38	755028.1	663964.5	38.25
8616	50.1	250.9	8596.46	120.32	-48.21	-112.2	755016.3	663960.6	36.13
8631	56.5	250.2	8605.41	132	-52.21	-123.53	755005	663956.6	42.83
8648	63	248.8	8613.97	146.33	-57.36	-137.28	754991.2	663951.4	38.89
8663	69.2	248.8	8620.05	159.74	-62.32	-150.06	754978.5	663946.5	41.33
8680	74.7	246.3	8625.31	175.62	-68.49	-164.99	754963.5	663940.3	35.24
8697	81.2	244.6	8628.86	192.05	-75.4	-180.1	754948.4	663933.4	39.46
8714	85.6	244.6	8630.82	208.78	-82.64	-195.35	754933.2	663926.2	25.88
8743	87.4	244.2	8632.59	237.48	-95.15	-221.45	754907.1	663913.7	6.36
8775	90.3	244.2	8633.23	269.21	-109.07	-250.25	754878.3	663899.7	9.06
8807	90.6	244.6	8632.98	300.94	-122.89	-279.11	754849.4	663885.9	1.56
8838	90.6	242.1	8632.65	331.74	-136.8	-306.81	754821.7	663872	8.06
8870	90.9	240.4	8632.23	363.64	-152.19	-334.87	754793.6	663856.6	5.39
8902	92.5	239	8631.28	395.59	-168.32	-362.48	754766	663840.5	6.64
8934	92.3	239	8629.94	427.54	-184.79	-389.89	754738.6	663824	0.62
8966	91.9	239	8628.77	459.5	-201.26	-417.3	754711.2	663807.5	1.25
8997	92.2	239.3	8627.66	490.46	-217.15	-443.89	754684.6	663791.7	1.37
9029	92.7	236.1	8626.29	522.42	-234.23	-470.91	754657.6	663774.6	10.11
9061	91.5	234.7	8625.12	554.38	-252.39	-497.24	754631.3	663756.4	5.76
9093	92.5	233	8624	586.32	-271.25	-523.06	754605.5	663737.6	6.16
9124	94.4	231.6	8622.14	617.16	-290.17	-547.54	754581	663718.6	7.61
9156	95.9	231.6	8619.27	648.89	-309.97	-572.52	754556	663698.8	4.69
9188	96.5	231.6	8615.81	680.57	-329.73	-597.45	754531.1	663679.1	1.87
9220	97.3	231.9	8611.97	712.21	-349.4	-622.4	754506.1	663659.4	2.67
9251	97.1	231.9	8608.08	742.85	-368.37	-646.6	754481.9	663640.4	0.65
9283	96	231.2	8604.43	774.5	-388.14	-671.5	754457	663620.7	4.07
9315	96.3	231.6	8601	806.17	-407.99	-696.36	754432.2	663600.8	1.56
9347	96	231.2	8597.57	837.83	-427.84	-721.22	754407.3	663581	1.56
9378	94.6	231.2	8594.71	868.55	-447.18	-745.28	754383.2	663561.6	4.52
9410	94.3	231.2	8592.23	900.29	-467.17	-770.14	754358.4	663541.6	0.94
9442	92.9	230.5	8590.22	932.05	-487.33	-794.91	754333.6	663521.5	4.89

9474	91.8	228.8	8588.91	963.77	-508.04	-819.27	754309.2	663500.8	6.32
9505	91.9	230.2	8587.91	994.49	-528.16	-842.83	754285.7	663480.7	4.53
9537	93	233	8586.54	1026.32	-548.01	-867.89	754260.6	663460.8	9.39
9569	92.9	236	8584.89	1058.24	-566.57	-893.9	754234.6	663442.2	9.37
9601	93.2	239.7	8583.19	1090.19	-583.57	-920.95	754207.6	663425.2	11.58
9632	93.6	239.7	8581.35	1121.1	-599.18	-947.67	754180.9	663409.6	1.29
9664	94	240	8579.23	1152.99	-615.22	-975.28	754153.2	663393.6	1.56
9696	94	240	8577	1184.86	-631.18	-1002.92	754125.6	663377.6	0
9728	92.3	240.7	8575.24	1216.75	-646.99	-1030.69	754097.8	663361.8	5.74
9759	94.4	242.1	8573.43	1247.6	-661.8	-1057.86	754070.7	663347	8.14
9791	94.8	241.8	8570.86	1279.38	-676.8	-1086.01	754042.5	663332	1.56
9823	95	242.1	8568.13	1311.14	-691.79	-1114.15	754014.4	663317	1.12
9854	93.3	241.4	8565.88	1341.94	-706.43	-1141.38	753987.1	663302.4	5.93
9886	92.8	240.7	8564.18	1373.82	-721.89	-1169.34	753959.2	663286.9	2.69
9918	93.2	240.7	8562.51	1405.7	-737.53	-1197.21	753931.3	663271.3	1.25
9950	91.5	240.4	8561.19	1437.61	-753.25	-1225.05	753903.5	663255.6	5.39
9981	92.6	241.1	8560.08	1468.52	-768.39	-1252.08	753876.4	663240.4	4.21
10013	92.6	239.7	8558.63	1500.43	-784.18	-1279.88	753848.7	663224.6	4.37
10045	91.9	240	8557.38	1532.36	-800.24	-1307.53	753821	663208.6	2.38
10077	91.8	240	8556.34	1564.3	-816.23	-1335.22	753793.3	663192.6	0.31
10127	91.8	240	8554.77	1614.2	-841.22	-1378.5	753750	663167.6	0

T A R G E T S

Name	MD feet	TVD feet	North feet	East feet	Grid East us survey f	Grid North us survey f	Latitude DegMinSec	Longitude DegMinSec	Shape	Comment
#221H BHL		8566	-881.32	-1352.52	753776	663127.5	32 49 13.0	103 30 26.	point	
#221H 1200' VS		8580	-655.13	-1005.39	754123.1	663353.7	32 49 15.2	103 30 22.	point	
#221H 800' VS		8600	-436.75	-670.26	754458.3	663572.1	32 49 17.4	103 30 18.	point	

WELLPATH COMPOSITION Ref Wellbore: #221H AWB ST01 Ref Wellpath: #221H AWP ST01

Log Name/ Start MD End MD Pos Unc Model

Gyro	0	8400	Generic gyro - northseeking (Standard)		
MWD	8400	10127	NaviTrak (Standard)		



Actual Wellpath Report

#221H AWP ST01

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AUG 05 2010

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Area	Lea County, NM	Well	#221H
Field	North Vacuum Abo	Wellbore	#221H AWB ST01
Facility	NVAU #221H	Sidetrack from	#221H AWB at 8400.00 MD

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect™ 1.2
North Reference	Grid	User	Gomeoscr
Scale	0.999984	Report Generated	10/01/07 at 13:44:46
Wellbore last revised	09/27/07	Database/Source file	WA_Midland/#221H_AWB

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	0.00	0.00	755128.50	664008.80	32 49 21.692N	103 30 10.208W
Facility Reference Pt			755128.50	664008.80	32 49 21.692N	103 30 10.208W
Field Reference Pt			743305.80	659615.20	32 48 39.117N	103 32 29.129W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Slot #1 (RT) to Facility Vertical Datum	17.00 feet
Horizontal Reference Pt	Facility Center	Rig on Slot #1 (RT) to GRN. ELEV.	4013.00 feet
Vertical Reference Pt	Rig on Slot #1 (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Rig on Slot #1 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	GRN. ELEV.	Section Azimuth	236.91°



Actual Wellpath Report

#221H AWP ST01

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Area	Lea County, NM	Well	#221H
Field	North Vacuum Abo	Wellbore	#221H AWP ST01
Facility	NVAU #221H	Sidetrack from	#221H AWP at 8400.00 MD

WELLPATH DATA (147 stations)

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00
100.00	0.280	237.790	100.00	0.24	-0.13	-0.21	0.28
200.00	0.430	260.990	200.00	0.83	-0.32	-0.78	0.20
300.00	0.490	267.540	299.99	1.54	-0.40	-1.58	0.08
400.00	0.280	272.500	399.99	2.09	-0.37	-2.22	0.22
500.00	0.150	292.630	499.99	2.34	-0.28	-2.61	0.14
600.00	0.180	292.260	599.99	2.51	-0.17	-2.88	0.03
700.00	0.140	264.230	699.99	2.70	-0.13	-3.15	0.09
800.00	0.250	247.130	799.99	3.03	-0.22	-3.47	0.12
900.00	0.260	247.700	899.99	3.27	-0.16	-3.81	0.01
1000.00	0.340	312.840	999.99	3.76	-0.30	-4.30	0.34
1100.00	0.440	317.100	1099.99	3.90	0.18	-4.78	0.10
1200.00	0.420	334.030	1199.98	3.92	0.79	-5.20	0.13
1300.00	0.400	332.020	1299.98	3.84	1.43	-5.52	0.02
1400.00	0.280	322.020	1399.98	3.83	1.90	-5.81	0.13
1500.00	0.290	325.550	1499.98	3.86	2.33	-6.13	0.02
1600.00	0.250	308.930	1599.98	3.93	2.68	-6.44	0.09
1700.00	0.370	299.950	1699.97	4.15	2.98	-6.89	0.13
1800.00	0.280	295.560	1799.97	4.42	3.24	-7.39	0.09
1900.00	0.150	273.530	1899.97	4.64	3.46	-7.73	0.17
2000.00	0.220	223.680	1999.97	4.92	3.22	-7.97	0.17
2100.00	0.210	130.710	2099.97	5.05	2.97	-7.96	0.31
2200.00	0.270	133.640	2199.97	4.95	2.68	-7.66	0.06
2300.00	0.360	165.120	2299.97	4.99	2.22	-7.40	0.19
2400.00	0.540	170.710	2399.97	5.28	1.45	-7.22	0.19



Actual Wellpath Report

#221H AWP ST01

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Area	Lea County, NM	Well	#221H
Field	North Vacuum Abo	Wellbore	#221H AWP ST01
Facility	NVAU #221H	Sidetrack from	#221H AWP at 8400.00 MD

WELLPATH DATA (147 stations)

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
2500.00	0.450	191.800	2499.96	5.75	0.60	-7.25	0.20
2600.00	0.290	177.400	2599.96	6.15	-0.04	-7.32	0.18
2700.00	0.390	66.470	2699.96	5.95	-0.15	-7.00	0.56
2800.00	0.710	51.030	2799.95	4.99	0.37	-6.20	0.35
2900.00	0.830	45.120	2899.93	4.75	1.10	-5.22	0.18
3000.00	0.840	45.120	2999.93	2.22	2.36	-4.19	0.03
3100.00	0.720	40.600	3099.93	0.90	3.36	-3.26	0.13
3200.00	0.440	35.990	3199.92	-0.06	4.15	-2.63	0.28
3300.00	0.230	40.590	3299.92	-0.61	4.61	-2.27	0.21
3400.00	0.100	92.200	3399.92	-0.83	4.85	-1.87	0.14
3500.00	0.160	92.200	3499.92	-1.08	4.85	-1.87	0.10
3600.00	0.150	131.960	3599.92	-1.22	4.75	-1.64	0.11
3700.00	0.380	166.110	3699.92	-1.15	4.34	-1.46	0.27
3800.00	0.420	149.650	3799.91	-1.02	3.70	-1.20	0.12
3900.00	0.500	162.990	3899.91	-0.83	2.97	-0.83	0.13
4000.00	0.680	176.660	3999.91	-0.47	1.96	-0.72	0.23
4100.00	0.940	199.670	4099.90	0.48	0.60	-0.96	0.41
4200.00	1.030	201.230	4199.88	1.86	-1.01	-1.56	0.09
4300.00	1.130	208.220	4299.86	3.46	-2.72	-2.35	0.17
4400.00	1.230	212.310	4399.84	5.25	-4.45	-3.47	0.21
4500.00	1.270	217.200	4499.82	7.41	-6.22	-4.80	0.02
4600.00	1.270	217.830	4599.79	9.51	-7.98	-6.15	0.01
4700.00	1.400	212.090	4699.77	11.66	-9.89	-7.48	0.19
4800.00	1.480	213.750	4799.73	13.96	-12.00	-8.84	0.09
4900.00	1.420	207.900	4899.70	16.19	-14.23	-10.06	0.28



Actual Wellpath Report

#221H AWP ST01

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Area	Lea County, NM	Well	#221H
Field	North Vacuum Abo	Wellbore	#221H AWP ST01
Facility	NVAU #221H	Sidetrack from	#221H AWP at 8400.00 MD

WELLPATH DATA (147 stations)

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
5000.00	1.230	196.600	4999.67	18.05	-16.41	-10.84	0.26
5100.00	1.310	219.390	5099.65	19.95	-18.32	-11.88	0.51
5200.00	1.140	216.300	5199.63	21.98	-20.01	-13.19	0.18
5300.00	1.070	195.200	5299.61	23.60	-21.71	-14.03	0.41
5400.00	1.180	190.570	5399.59	25.00	-23.60	-14.76	0.14
5500.00	1.110	198.800	5499.57	26.48	-25.55	-14.96	0.18
5600.00	1.080	208.440	5599.55	28.08	-27.30	-15.72	0.19
5700.00	1.040	213.510	5699.54	29.74	-28.89	-16.67	0.10
5800.00	1.090	218.220	5799.52	31.47	-30.39	-17.76	0.10
5900.00	1.080	207.990	5899.50	33.20	-31.97	-18.79	0.19
6000.00	0.960	220.280	5999.48	34.82	-33.44	-19.77	0.25
6100.00	0.980	251.640	6099.47	36.45	-34.35	-21.13	0.52
6200.00	0.760	254.860	6199.46	37.91	-34.79	-22.58	0.23
6300.00	0.590	256.270	6299.45	39.03	-35.09	-23.72	0.17
6400.00	0.420	270.110	6399.44	40.11	-35.10	-24.83	0.21
6500.00	0.510	272.890	6499.44	40.48	-35.17	-25.40	0.09
6600.00	0.640	288.390	6599.44	41.19	-34.97	-26.37	0.20
6700.00	0.460	307.860	6699.44	41.67	-34.55	-27.22	0.26
6800.00	0.380	295.110	6799.43	41.97	-34.16	-27.84	0.12
6900.00	0.630	286.870	6899.44	42.44	-34.44	-28.80	0.15
7000.00	0.590	272.950	6999.42	43.15	-33.73	-29.52	0.15
7100.00	0.350	268.750	7099.42	43.82	-33.71	-30.34	0.24
7200.00	0.330	313.340	7199.42	44.15	-33.52	-30.85	0.26
7300.00	0.540	320.350	7299.42	44.27	-32.96	-31.36	0.22
7400.00	0.370	311.620	7399.44	44.44	-32.22	-32.00	0.09



Actual Wellpath Report

#221H AWP ST01

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Area	Lea County, NM	Well	#221H
Field	North Vacuum Abo	Wellbore	#221H AWP ST01
Facility	NVAU #221H	Sidetrack from	#221H AWP at 8400.00 MD

WELLPATH DATA (147 stations)

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
7500.00	0.460	285.970	7499.41	44.85	-31.83	-32.79	0.25
7600.00	0.690	278.300	7599.40	45.57	-31.63	-33.78	0.24
7700.00	0.830	265.050	7699.39	46.66	-31.61	-35.09	0.22
7800.00	0.950	285.090	7799.38	47.85	-31.45	-36.61	0.33
7900.00	0.790	276.260	7899.27	48.91	-31.16	-38.10	0.21
8000.00	0.960	281.370	7999.36	50.07	-30.92	-39.61	0.19
8100.00	0.840	283.650	8099.35	51.17	-30.58	-41.14	0.13
8200.00	0.980	257.890	8199.33	52.47	-30.59	-42.69	0.43
8300.00	1.220	257.080	8299.32	54.26	-31.01	-44.56	0.24
8400.00	1.160	259.590	8399.29	56.20	-31.41	-46.60	0.08
8446.00	3.500	238.000	8445.25	58.03	-32.26	-48.24	5.34
8460.00	6.800	313.000	8459.21	58.66	-31.92	-49.21	48.51
8475.00	8.400	280.000	8474.08	59.67	-31.13	-50.94	30.47
8492.00	12.900	256.200	8490.79	62.37	-31.36	-54.01	36.49
8507.00	16.400	257.600	8505.30	65.91	-32.25	-57.71	23.45
8524.00	20.400	254.400	8521.43	71.01	-33.53	-62.91	24.26
8539.00	24.600	254.100	8535.29	76.49	-35.09	-68.43	28.01
8556.00	29.500	254.400	8550.42	83.87	-37.19	-75.87	28.83
8568.00	33.400	254.400	8560.66	89.84	-38.87	-81.90	32.50
8584.00	38.400	253.700	8572.60	98.30	-41.15	-90.99	31.35
8599.00	44.100	252.700	8584.89	108.29	-44.31	-100.38	38.25
8616.00	50.100	250.900	8596.46	120.32	-48.21	-112.20	36.13
8631.00	56.500	250.200	8605.41	132.00	-52.21	-123.53	42.83
8648.00	63.000	248.800	8613.97	146.33	-57.36	-137.28	38.89
8663.00	69.200	248.800	8620.06	159.74	-62.22	-150.06	41.33



Actual Wellpath Report

#221H AWP ST01

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INTEQ

RENCE WELLPATH IDENTIFICATION

or	XTO Energy Inc.	Slot	#221H SHL
	Lea County, NM	Well	#221H
	North Vacuum Abo	Wellbore	#221H AWP ST01
y	NVAU #221H	Sidetrack from	#221H AWP at 8400.00 MD

PATH DATA (147 stations)

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DI [°/10]
8680.00	74.700	246.300	8625.31	175.62	-68.49	-164.99	
8697.00	81.200	244.600	8628.86	192.05	-75.40	-180.10	
8714.00	85.600	244.600	8630.82	208.78	-82.64	-195.35	
8743.00	87.400	244.200	8632.59	237.48	-95.15	-221.45	
8773.00	90.300	244.200	8633.23	266.21	-109.07	-240.73	
8807.00	90.600	244.600	8632.98	300.94	-122.89	-279.11	
8838.00	90.600	242.100	8632.65	331.74	-136.80	-306.81	
8870.00	90.900	240.400	8632.23	363.64	-152.19	-334.87	
8902.00	92.500	239.000	8631.28	395.59	-168.32	-362.48	
8934.00	92.200	239.000	8629.97	427.42	-184.79	-382.39	
8966.00	91.900	239.000	8628.77	459.50	-201.26	-417.30	
8997.00	92.200	239.300	8627.66	490.46	-217.15	-443.89	
9029.00	92.700	236.100	8626.29	522.42	-234.23	-470.91	
9061.00	91.500	234.700	8625.12	554.38	-252.39	-497.24	
9093.00	92.500	233.600	8623.00	586.22	-271.25	-523.06	
9124.00	94.400	231.600	8622.14	617.16	-290.17	-547.54	
9156.00	95.900	231.600	8619.27	648.89	-309.97	-572.52	
9188.00	96.500	231.600	8615.81	680.57	-329.73	-597.45	
9220.00	97.300	231.900	8611.97	712.21	-349.40	-622.40	
9251.00	97.100	231.900	8608.08	744.35	-368.57	-646.60	
9283.00	96.000	231.200	8604.43	774.50	-388.14	-671.50	
9315.00	96.300	231.600	8601.00	806.17	-407.99	-696.36	
9347.00	96.000	231.200	8597.57	837.83	-427.84	-721.22	
9378.00	94.600	231.200	8594.71	868.55	-447.18	-745.28	
9410.00	94.300	231.200	8592.23	900.19	-467.15	-770.14	



Actual Wellpath Report

#221H AWP ST01

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Location	Lea County, NM	Well	#221H
Well Name	North Vacuum Abo	Wellbore	#221H AWP ST01
Well ID	NVAU #221H	Sidetrack from	#221H AWP at 8400.00 MD

WELLPATH DATA (147 stations)

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DI [°/100]
9442.00	92.900	230.500	8590.22	932.05	-487.33	-794.91	
9474.00	91.800	228.800	8588.91	963.77	-508.04	-819.27	
9505.00	91.900	230.200	8587.91	994.49	-528.16	-842.83	
9537.00	93.000	233.000	8586.54	1026.32	-548.01	-867.89	
9569.00	92.900	236.000	8584.89	1058.21	-568.01	-893.90	
9601.00	93.200	239.700	8583.19	1090.19	-583.57	-920.95	
9632.00	93.600	239.700	8581.35	1121.10	-599.18	-947.67	
9664.00	94.000	240.000	8579.23	1152.99	-615.22	-975.28	
9696.00	94.000	240.000	8577.00	1184.86	-631.18	-1002.92	
9728.00	92.900	240.700	8576.34	1216.75	-646.99	-1029.68	
9759.00	94.400	242.100	8573.43	1247.60	-661.80	-1057.86	
9791.00	94.800	241.800	8570.86	1279.38	-676.80	-1086.01	
9823.00	95.000	242.100	8568.13	1311.14	-691.79	-1114.15	
9854.00	93.300	241.400	8565.88	1341.94	-706.43	-1141.38	
9887.00	92.800	240.700	8564.18	1372.82	-721.33	-1169.77	
9918.00	93.200	240.700	8562.51	1403.70	-737.53	-1197.21	
9950.00	91.500	240.400	8561.19	1437.61	-753.25	-1225.05	
9981.00	92.600	241.100	8560.08	1468.52	-768.39	-1252.08	
10013.00	92.600	239.700	8558.63	1500.43	-784.18	-1279.88	
10045.00	91.900	240.000	8557.38	1532.32	-800.00	-1307.66	
10077.00	91.800	240.000	8556.34	1564.30	-816.23	-1335.22	
10127.00	91.800	240.000	8554.77	1614.20	-841.22	-1378.50	



Actual Wellpath Report

#221H AWP ST01

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	XTO Energy Inc.	Slot	#221H SHL
Location	Lea County, NM	Well	#221H
Well Name	North Vacuum Abo	Wellbore	#221H AWB ST01
Well ID	NVAU #221H	Sidetrack from	#221H AWB at 8400.00 MD

SETS

	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]
BHL		8566.00	-881.32	-1352.52	753776.00	663127.50	32 49 13.077N	103 30 26.137W
1200' VS		8580.00	-655.13	-1005.39	754123.13	663353.68	32 49 15.288N	103 30 22.048W
800' VS		8600.00	-436.75	-670.26	754458.25	663572.06	32 49 17.423N	103 30 18.101W

WELLPATH COMPOSITION Ref Wellbore: #221H AWB ST01 Ref Wellpath: #221H AWP ST01

MD [feet]	End MD [feet]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	8400.00	Generic gyro - northseeking (Standard)	Gyro	#221H AWB
8400.00	10127.00	NaviTrak (Standard)	MWD	#221H AWB ST01

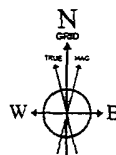


Location: Lea County, NM
Field: North Vacuum Abo
Facility: NVAU#221H

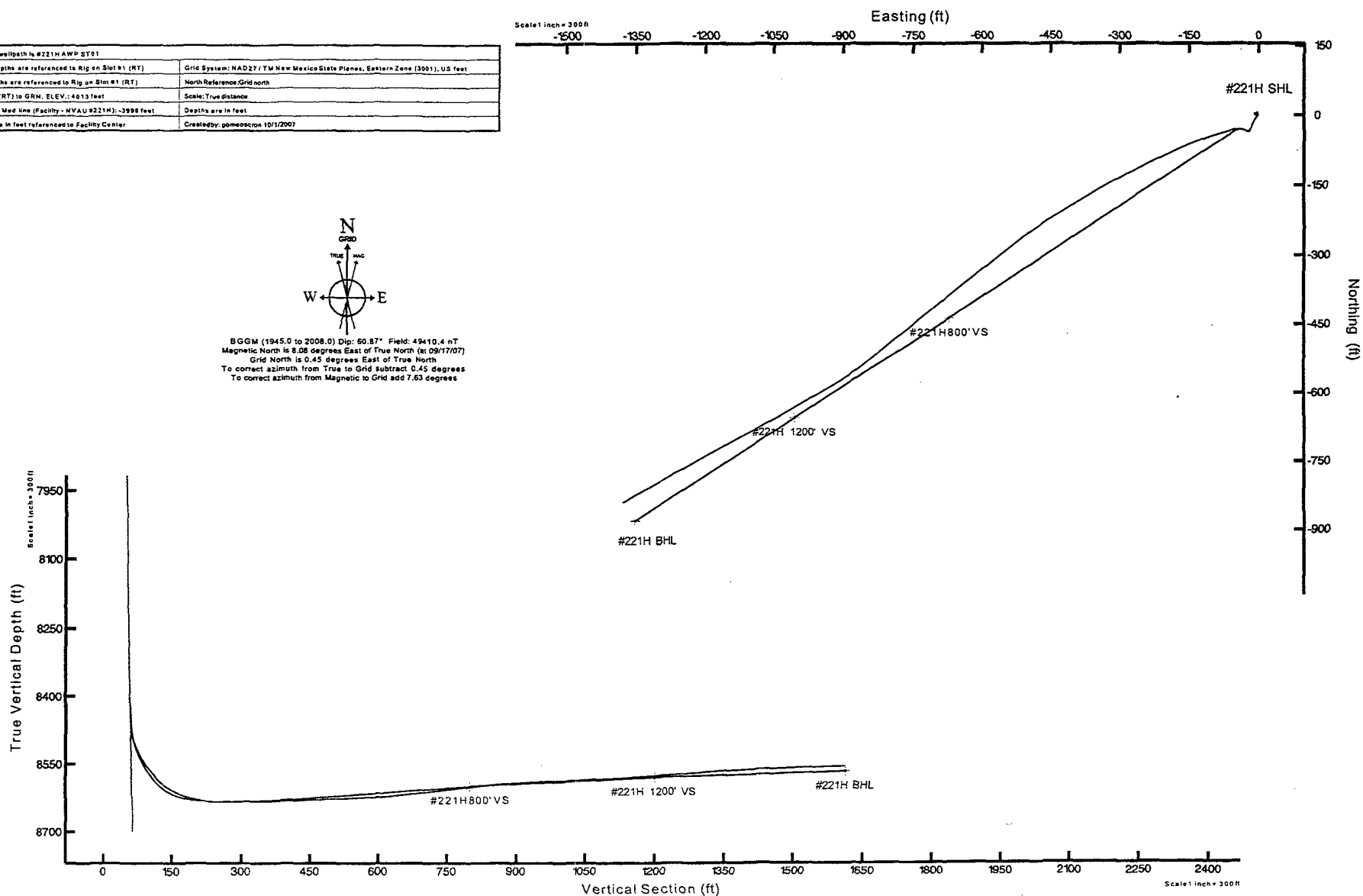
Slot: #221HSHL
Well: #221H
Wellbore: #221HAWB ST01

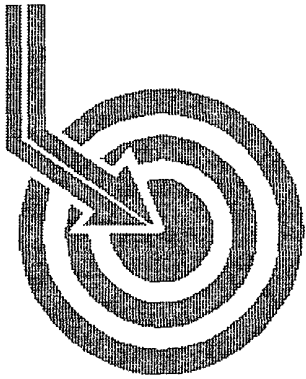
DAVEK
HUGHES
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Plot reference wellbore is #221HAWB ST01	
True vertical depths are referenced to Rig on Slot #1 (RT)	Grid System: NAD27 / TM New Mexico State Planes, Eastern Zone (3051), US feet
Measured depths are referenced to Rig on Slot #1 (RT)	North Reference: Grid north
Rig on Slot #1 (RT) to GRN. ELEV.: 4013 feet	Scale: True distance
GRN. ELEV. to Mud line (Facility - NVAU#221H): -3998 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	
Created by: gomeoscon 10/1/2007	



BGGM (1945.0 to 2008.0) Dip: 60.87° Field: 49410.4 nT
Magnetic North is 8.08 degrees East of True North (at 09/17/07)
Grid North is 0.45 degrees East of True North
To correct azimuth from True to Grid subtract 0.45 degrees
To correct azimuth from Magnetic to Grid add 7.63 degrees





Scientific Drilling

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HOBBSOCD

SUR: E-19-17s-35e, 1850/N & 660/W
BHL: I-24-17s-34e, 2691/N & 718/E
API # 30-025-24850

XTO

Field: Vacuum, North
Site: Lea County, NM
Well: North Vacuum Abo #221
Wellpath: VH - Job #32K0907809
Survey: 09/14/07

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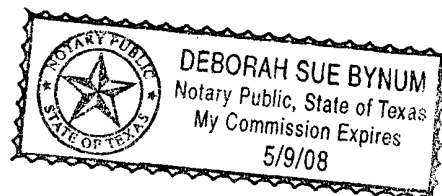
HOBBSOCD

This survey is correct to the best of my knowledge
and is supported by actual field data.

.....*L. L. L. L.*.....Company Representative

Notorized this date 8th of October, 2007.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International

Survey Report

Company: XTO
Field: Vacuum, North
Site: Lea County, NM
Well: North Vacuum Abo #221
Wellpath: VH - Job #32K0907809

Date: 10/07/2007 Time: 11:45:00 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,238.10Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 09/14/07
KSRG 0'-8700'

Start Date: 09/14/2007

Company: Scientific Drilling Internatio
Tool: Keeper, Keeper Gyro

Engineer: Pena w/Gray
Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.28	238.24	100.00	0.24	-0.13	-0.21	0.28	0.24	238.24
200.00	0.43	261.44	200.00	0.83	-0.31	-0.79	0.20	0.85	248.30
300.00	0.49	267.99	299.99	1.55	-0.38	-1.58	0.08	1.63	256.38
400.00	0.28	279.95	399.99	2.10	-0.36	-2.25	0.22	2.28	261.00
500.00	0.15	293.08	499.99	2.36	-0.26	-2.61	0.14	2.63	264.25
600.00	0.18	292.71	599.99	2.52	-0.15	-2.88	0.03	2.88	266.99
700.00	0.14	264.68	699.99	2.72	-0.10	-3.15	0.09	3.15	268.14
800.00	0.25	247.58	799.99	3.05	-0.20	-3.47	0.12	3.47	266.76
900.00	0.26	245.15	899.99	3.49	-0.37	-3.88	0.01	3.89	264.48
1000.00	0.34	313.29	999.99	3.79	-0.27	-4.30	0.34	4.31	266.45
1100.00	0.44	317.55	1099.99	3.94	0.22	-4.77	0.10	4.78	272.64
1200.00	0.42	334.48	1199.98	3.97	0.83	-5.19	0.13	5.26	279.13
1300.00	0.40	332.47	1299.98	3.90	1.47	-5.51	0.02	5.70	284.98
1400.00	0.28	322.47	1399.98	3.90	1.98	-5.82	0.13	6.15	288.77
1500.00	0.29	326.00	1499.98	3.93	2.38	-6.11	0.02	6.56	291.29
1600.00	0.25	309.38	1599.98	4.01	2.73	-6.42	0.09	6.98	293.03
1700.00	0.37	300.40	1699.97	4.23	3.03	-6.87	0.13	7.51	293.81
1800.00	0.28	296.01	1799.97	4.51	3.30	-7.37	0.09	8.07	294.14
1900.00	0.13	273.98	1899.97	4.73	3.42	-7.70	0.17	8.42	293.93
2000.00	0.22	224.13	1999.97	5.01	3.29	-7.95	0.17	8.60	292.47
2100.00	0.21	131.16	2099.97	5.14	3.03	-7.94	0.31	8.50	290.87
2200.00	0.27	134.09	2199.97	5.03	2.74	-7.63	0.06	8.11	289.77
2300.00	0.36	165.57	2299.97	5.07	2.28	-7.39	0.19	7.73	287.12
2400.00	0.54	171.16	2399.97	5.35	1.51	-7.24	0.19	7.39	281.76
2500.00	0.45	192.25	2499.96	5.81	0.66	-7.25	0.20	7.28	275.18
2600.00	0.29	177.85	2599.96	6.20	0.02	-7.32	0.18	7.32	270.15
2700.00	0.39	66.92	2699.96	5.99	-0.10	-7.00	0.56	7.00	269.18
2800.00	0.71	51.48	2799.95	5.04	0.42	-6.20	0.35	6.21	273.87
2900.00	0.85	43.35	2899.95	3.71	1.34	-5.21	0.18	5.38	284.48
3000.00	0.84	45.57	2999.93	2.28	2.40	-4.17	0.03	4.81	299.87
3100.00	0.72	41.05	3099.93	0.96	3.38	-3.24	0.13	4.68	316.27
3200.00	0.44	36.44	3199.92	0.00	4.17	-2.60	0.28	4.91	328.07
3300.00	0.23	41.04	3299.92	-0.55	4.63	-2.24	0.21	5.14	334.20
3400.00	0.09	56.02	3399.92	-0.82	4.82	-2.04	0.14	5.24	337.07
3500.00	0.16	92.65	3499.92	-1.01	4.86	-1.84	0.10	5.20	339.31
3600.00	0.15	132.41	3599.92	-1.16	4.77	-1.60	0.11	5.03	341.45
3700.00	0.38	166.56	3699.92	-1.09	4.35	-1.43	0.27	4.58	341.87
3800.00	0.42	150.10	3799.91	-0.97	3.71	-1.17	0.12	3.89	342.57
3900.00	0.50	163.44	3899.91	-0.84	2.98	-0.86	0.13	3.10	343.91
4000.00	0.68	177.11	3999.91	-0.44	1.97	-0.70	0.23	2.09	340.30
4100.00	0.94	200.12	4099.90	0.49	0.60	-0.96	0.41	1.13	302.28
4200.00	1.03	201.68	4199.88	1.86	-1.00	-1.57	0.09	1.86	237.50
4300.00	1.13	208.67	4299.86	3.44	-2.70	-2.38	0.17	3.60	221.34
4400.00	1.25	217.26	4399.84	5.32	-4.43	-3.51	0.21	5.66	218.36
4500.00	1.27	217.65	4499.82	7.38	-6.18	-4.85	0.02	7.85	218.11
4600.00	1.27	218.28	4599.79	9.46	-7.93	-6.21	0.01	10.07	218.07
4700.00	1.40	212.54	4699.77	11.61	-9.83	-7.55	0.19	12.40	217.55
4800.00	1.48	214.20	4799.73	13.89	-11.93	-8.94	0.09	14.90	216.85



Scientific Drilling International

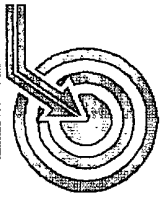
Survey Report

Company: XTO
Field: Vacuum, North
Site: Lea County, NM
Well: North Vacuum Abo #221
Wellpath: VH - Job #32K0907809

Date: 10/07/2007 **Time:** 11:45:00 **Page:** 2
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,238.10Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

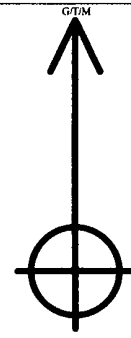
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	1.44	203.35	4899.70	16.10	-14.15	-10.16	0.28	17.42	215.69
5000.00	1.23	197.05	4999.67	17.94	-16.33	-10.97	0.26	19.67	213.91
5100.00	1.31	219.84	5099.65	19.84	-18.23	-12.02	0.51	21.84	213.40
5200.00	1.14	216.75	5199.63	21.85	-19.91	-13.35	0.18	23.97	213.85
5300.00	1.07	195.65	5299.61	23.47	-21.60	-14.20	0.41	25.85	213.31
5400.00	1.18	191.02	5399.59	24.86	-23.51	-14.64	0.14	27.70	211.92
5500.00	1.11	199.25	5499.57	26.31	-25.44	-15.16	0.18	29.61	210.79
5600.00	1.08	208.89	5599.55	27.89	-27.18	-15.93	0.19	31.50	210.39
5700.00	1.04	213.96	5699.54	29.54	-28.75	-16.90	0.10	33.35	210.44
5800.00	1.09	218.67	5799.52	31.26	-30.25	-18.00	0.10	35.20	210.75
5900.00	1.08	208.44	5899.50	32.98	-31.82	-19.04	0.19	37.08	210.90
6000.00	0.96	220.73	5999.48	34.60	-33.28	-20.04	0.25	38.85	211.05
6100.00	0.98	252.09	6099.47	36.23	-34.18	-21.40	0.52	40.33	212.05
6200.00	0.76	255.31	6199.46	37.69	-34.61	-22.85	0.23	41.48	213.43
6300.00	0.59	256.72	6299.45	38.81	-34.90	-23.99	0.17	42.35	214.51
6400.00	0.42	271.57	6399.45	39.61	-35.01	-24.86	0.21	42.94	215.38
6500.00	0.51	273.34	6499.44	40.28	-34.97	-25.67	0.09	43.38	216.28
6600.00	0.64	288.84	6599.44	40.99	-34.77	-26.65	0.20	43.80	217.47
6700.00	0.46	308.31	6699.44	41.48	-34.34	-27.49	0.26	43.98	218.68
6800.00	0.38	295.56	6799.43	41.80	-33.94	-28.10	0.12	44.07	219.62
6900.00	0.52	287.32	6899.43	42.27	-33.67	-28.84	0.15	44.33	220.58
7000.00	0.59	273.40	6999.42	42.99	-33.50	-29.78	0.15	44.83	221.64
7100.00	0.35	269.20	7099.42	43.67	-33.47	-30.60	0.24	45.35	222.43
7200.00	0.33	313.79	7199.42	44.00	-33.28	-31.12	0.26	45.56	223.08
7300.00	0.54	320.80	7299.42	44.13	-32.71	-31.62	0.22	45.50	224.03
7400.00	0.57	312.08	7399.41	44.33	-32.02	-32.29	0.09	45.47	225.24
7500.00	0.46	286.42	7499.41	44.73	-31.57	-33.04	0.25	45.70	226.31
7600.00	0.69	278.75	7599.40	45.46	-31.36	-34.02	0.24	46.27	227.33
7700.00	0.83	265.50	7699.39	46.56	-31.33	-35.34	0.22	47.23	228.44
7800.00	0.95	285.54	7799.38	47.76	-31.16	-36.86	0.33	48.27	229.79
7900.00	0.79	276.71	7899.37	48.86	-30.86	-38.34	0.21	49.22	231.17
8000.00	0.96	281.82	7999.36	50.01	-30.61	-39.85	0.19	50.25	232.47
8100.00	0.84	284.10	8099.35	51.12	-30.26	-41.38	0.13	51.26	233.82
8200.00	0.98	258.34	8199.33	52.43	-30.25	-42.93	0.43	52.52	234.83
8300.00	1.22	257.53	8299.32	54.24	-30.66	-44.81	0.24	54.29	235.62
8400.00	1.16	259.84	8399.29	56.18	-31.06	-46.84	0.08	56.21	236.45
8500.00	1.13	254.85	8499.27	58.07	-31.50	-48.79	0.10	58.07	237.15
8600.00	1.30	249.09	8599.25	60.12	-32.16	-50.80	0.21	60.13	237.66
8700.00	1.57	248.45	8699.22	62.59	-33.07	-53.13	0.27	62.59	238.10

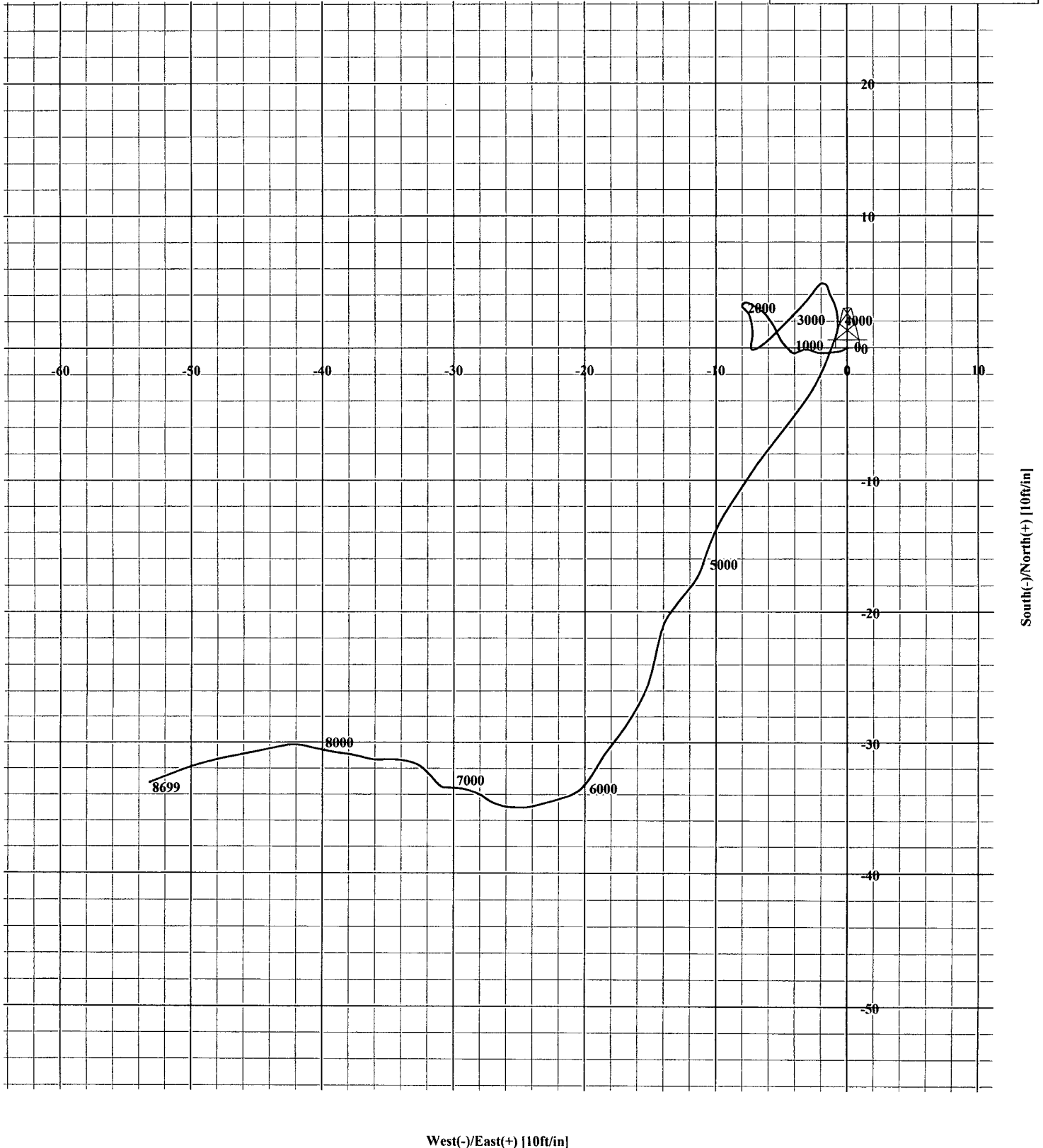


Scientific
Drilling

Field: Vacuum, North
Site: Lea County, NM
Well: North Vacuum Abo #221
Wellpath: VH - Job #32K0907809
Survey: 09/14/07



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°
Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 10/07/2007
Model: igr2000



SCIENTIFIC DRILLING CONTROLS

KEEPER GYRO SURVEY Directional Survey Report for

KTD

Well Number	:	NVAU #221
Well Location	:	LEA COUNTY NEW MEXICO
Job Number	:	32K0907809
Location Latitude	:	32.822
Survey Date	:	14-SEP-2007
S.D.C. Personnel	:	JOHNNY PENA
Length Units	:	Feet
North Reference	:	TRUE North
Grid Correction	:	0.00 Degrees
Survey Depth Zero	:	RKE
Proposal Direction	:	
Calculation Method	:	Minimum Curvature

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AUG 05 2010

HOBBSOCD

Remarks : The OUTFUN Survey will be called definitive

S C I E N T I F I C D R I L L I N G C O N T R O L S

Outrun Survey
for
XTC

Page 1

Well No.: HVA-U 8221
Job No.: 32K0907809

Date : 14-SEP-2007

Proposal : 0.00

Depth (Feet)	F.V.D. (Feet)	V.S. (Feet)	Inc Deg.	TRUE Azimuth Deg.	Latitude (Feet)	Departure (Feet)	D-leg /100
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	100.00	-0.13	0.28	238.24	-0.13	-0.21	0.28
200.00	200.00	-0.31	0.43	261.44	-0.31	-0.79	0.20
300.00	299.99	-0.38	0.49	267.99	-0.38	-1.58	0.08
400.00	399.99	-0.36	0.28	279.95	-0.36	-2.25	0.22
500.00	499.99	-0.26	0.15	293.08	-0.26	-2.61	0.14
600.00	599.99	-0.15	0.18	292.71	-0.15	-2.85	0.03
700.00	699.99	-0.10	0.14	284.68	-0.10	-3.13	0.09
800.00	799.99	-0.20	0.25	247.58	-0.20	-3.47	0.12
900.00	899.99	-0.38	0.26	245.15	-0.38	-3.85	0.01
1000.00	999.99	-0.27	0.34	313.29	-0.27	-4.30	0.34
1100.00	1099.98	0.22	0.44	317.55	0.22	-4.77	0.10
1200.00	1199.98	0.83	0.42	334.48	0.83	-5.19	0.13
1300.00	1299.98	1.47	0.40	332.47	1.47	-5.81	0.02
1400.00	1399.98	1.98	0.28	322.47	1.98	-5.82	0.13
1500.00	1499.98	2.38	0.29	326.00	2.38	-6.11	0.02
1600.00	1599.97	2.73	0.25	309.38	2.73	-6.42	0.09
1700.00	1699.97	3.03	0.37	300.40	3.03	-6.87	0.13
1800.00	1799.97	3.30	0.28	296.01	3.30	-7.37	0.09
1900.00	1899.97	3.42	0.13	273.98	3.42	-7.70	0.17
2000.00	1999.97	3.29	0.22	224.13	3.29	-7.95	0.17
2100.00	2099.97	3.03	0.21	131.16	3.03	-7.94	0.31
2200.00	2199.97	2.74	0.27	134.09	2.74	-7.63	0.06
2300.00	2299.97	2.28	0.36	165.57	2.28	-7.39	0.19
2400.00	2399.97	1.51	0.54	171.16	1.51	-7.24	0.19
2500.00	2499.96	0.66	0.45	192.25	0.66	-7.25	0.20
2600.00	2599.96	0.02	0.29	177.85	0.02	-7.32	0.18
2700.00	2699.96	-0.10	0.39	66.92	-0.10	-7.00	0.56
2800.00	2799.95	0.42	0.71	51.48	0.42	-6.20	0.35
2900.00	2899.94	1.34	0.85	43.35	1.34	-5.21	0.18
3000.00	2999.93	2.40	0.84	45.57	2.40	-4.17	0.03
3100.00	3099.92	3.38	0.72	41.05	3.38	-3.24	0.13
3200.00	3199.92	4.17	0.44	36.44	4.17	-2.60	0.28
3300.00	3299.91	4.63	0.23	41.04	4.63	-2.24	0.21
3400.00	3399.91	4.82	0.09	56.02	4.82	-2.04	0.14
3500.00	3499.91	4.86	0.16	92.65	4.86	-1.84	0.10
3600.00	3599.91	4.76	0.15	132.41	4.76	-1.60	0.11
3700.00	3699.91	4.35	0.36	166.56	4.35	-1.43	0.27
3800.00	3799.91	3.71	0.42	150.10	3.71	-1.17	0.12
3900.00	3899.91	2.98	0.56	163.44	2.98	-0.86	0.13

Outrun Survey
for
XTO

Page 2

Well No.: NVAU #221

Date : 14-SEP-2007

Job No. : 32K09C7809

TRUE

Proposal : 0.00

Depth (Feet)	T.V.D. (Feet)	V.S. (Feet)	Inc Dec.	Azimuth Deg.	Latitude (Feet)	Departure (Feet)	D-leg /100
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4000.00	3999.90	1.97	0.68	177.11	1.97	-0.70	0.23
4100.00	4099.89	0.80	0.94	200.12	0.80	-0.96	0.41
4200.00	4199.88	-1.00	1.03	201.68	-1.00	-1.37	0.09
4300.00	4299.86	-2.70	1.13	208.67	-2.70	-2.38	0.17
4400.00	4399.84	-4.43	1.25	217.26	-4.43	-3.51	0.21
4500.00	4499.81	-6.18	1.27	217.63	-6.18	-4.85	0.02
4600.00	4599.79	-7.93	1.27	218.28	-7.93	-6.21	0.01
4700.00	4699.76	-9.83	1.40	212.54	-9.83	-7.53	0.19
4800.00	4799.73	-11.93	1.48	214.20	-11.93	-8.94	0.09
4900.00	4899.70	-14.15	1.44	203.35	-14.15	-10.16	0.28
5000.00	4999.67	-16.33	1.23	197.05	-16.33	-10.97	0.26
5100.00	5099.63	-18.23	1.31	219.84	-18.23	-12.02	0.51
5200.00	5199.62	-19.91	1.14	216.75	-19.91	-13.35	0.18
5300.00	5299.60	-21.60	1.07	195.65	-21.60	-14.20	0.41
5400.00	5399.58	-23.51	1.18	191.02	-23.51	-14.64	0.14
5500.00	5499.56	-25.44	1.11	199.25	-25.44	-15.16	0.18
5600.00	5599.55	-27.18	1.08	208.89	-27.18	-15.94	0.19
5700.00	5699.53	-28.75	1.04	213.96	-28.75	-16.90	0.10
5800.00	5799.51	-30.25	1.09	218.67	-30.25	-18.00	0.10
5900.00	5899.49	-31.82	1.08	205.44	-31.82	-19.04	0.19
6000.00	5999.48	-33.28	0.96	220.73	-33.28	-20.04	0.25
6100.00	6099.46	-34.18	0.98	252.09	-34.18	-21.40	0.52
6200.00	6199.45	-34.61	0.76	255.31	-34.61	-22.85	0.23
6300.00	6299.44	-34.90	0.59	256.72	-34.90	-24.00	0.17
6400.00	6399.44	-35.01	0.42	271.57	-35.01	-24.86	0.21
6500.00	6499.44	-34.97	0.51	273.34	-34.97	-25.67	0.09
6600.00	6599.43	-34.77	0.64	288.84	-34.77	-26.65	0.20
6700.00	6699.43	-34.34	0.46	308.31	-34.34	-27.49	0.26
6800.00	6799.43	-33.94	0.38	295.56	-33.94	-28.10	0.12
6900.00	6899.42	-33.67	0.32	287.32	-33.67	-28.84	0.15
7000.00	6999.42	-33.50	0.55	273.40	-33.50	-29.78	0.15
7100.00	7099.41	-33.47	0.35	269.20	-33.47	-30.60	0.24
7200.00	7199.41	-33.28	0.33	313.79	-33.28	-31.12	0.26
7300.00	7299.41	-32.72	0.54	320.80	-32.72	-31.62	0.22
7400.00	7399.40	-32.02	0.57	312.08	-32.02	-32.29	0.09
7500.00	7499.40	-31.57	0.46	286.42	-31.57	-33.04	0.25
7600.00	7599.39	-31.36	0.69	278.75	-31.36	-34.02	0.24
7700.00	7699.39	-31.33	0.83	265.50	-31.33	-35.34	0.22
7800.00	7799.37	-31.16	0.95	265.54	-31.16	-36.86	0.33
7900.00	7899.36	-30.86	0.79	276.71	-30.86	-38.34	0.21

S C I E N T I F I C D R I L L I N G , C O N T R O L S

Outcrop Survey
for
XTO

Page 3

Well No.: NVAU #221

Date : 14-SEP-2007

Job No. : 32K0907809

Proposal : 0.00

Depth (Feet)	T.V.D. (Feet)	V.S. (Feet)	Inc Deg.	TRUE Azimuth Deg.	Latitude (Feet)	Departure (Feet)	D-leg /100
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8000.00	7999.35	-30.61	0.96	281.82	-30.61	-39.85	0.19
8100.00	8099.34	-30.26	0.84	284.10	-30.26	-41.38	0.13
8200.00	8199.33	-30.23	0.98	288.34	-30.23	-42.93	0.43
8300.00	8299.31	-30.66	1.22	287.53	-30.66	-44.80	0.24
8400.00	8399.28	-31.06	1.16	289.84	-31.06	-46.84	0.08
8500.00	8499.26	-31.50	1.13	284.83	-31.50	-48.79	0.10
8600.00	8599.24	-32.16	1.30	249.09	-32.16	-50.80	0.21
8700.00	8699.21	-33.07	1.57	248.45	-33.07	-53.13	0.27

The Horizontal Displacement (in Feet) at
Measured Depth 8700.00 is 62.39 in a Direction of 238.10 Degrees