



Weatherford®

Weatherford
2000 Oil Drive
Casper, WY 82604

Survey Certification

Operating Company:	Anadarko Petroleum Corp.
Well Name:	Dechant State 36N-E1HZ
State:	Colorado
County:	Weld
API Number:	05-123-36408
Datum:	NAD 83
Survey Calculation Method:	Minimum Curvature
North Reference:	True North

I, John R. Morgan, hereby certify the attached
directional survey run from the measure depth of 774.00 feet
to the measured depth of 16,517.00 feet as accurate and true
to the best of my knowledge.

Signature

1-Apr-13

Date

John Morgan
Directional Planning
Weatherford - Rockies District



Weatherford®



END OF WELL REPORT

FINAL SURVEYS

SECTION 1

DAILY ACTIVITIES

SECTION 2

BHA REPORTS

SECTION 3

MOTOR REPORTS

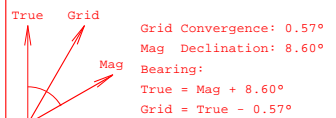
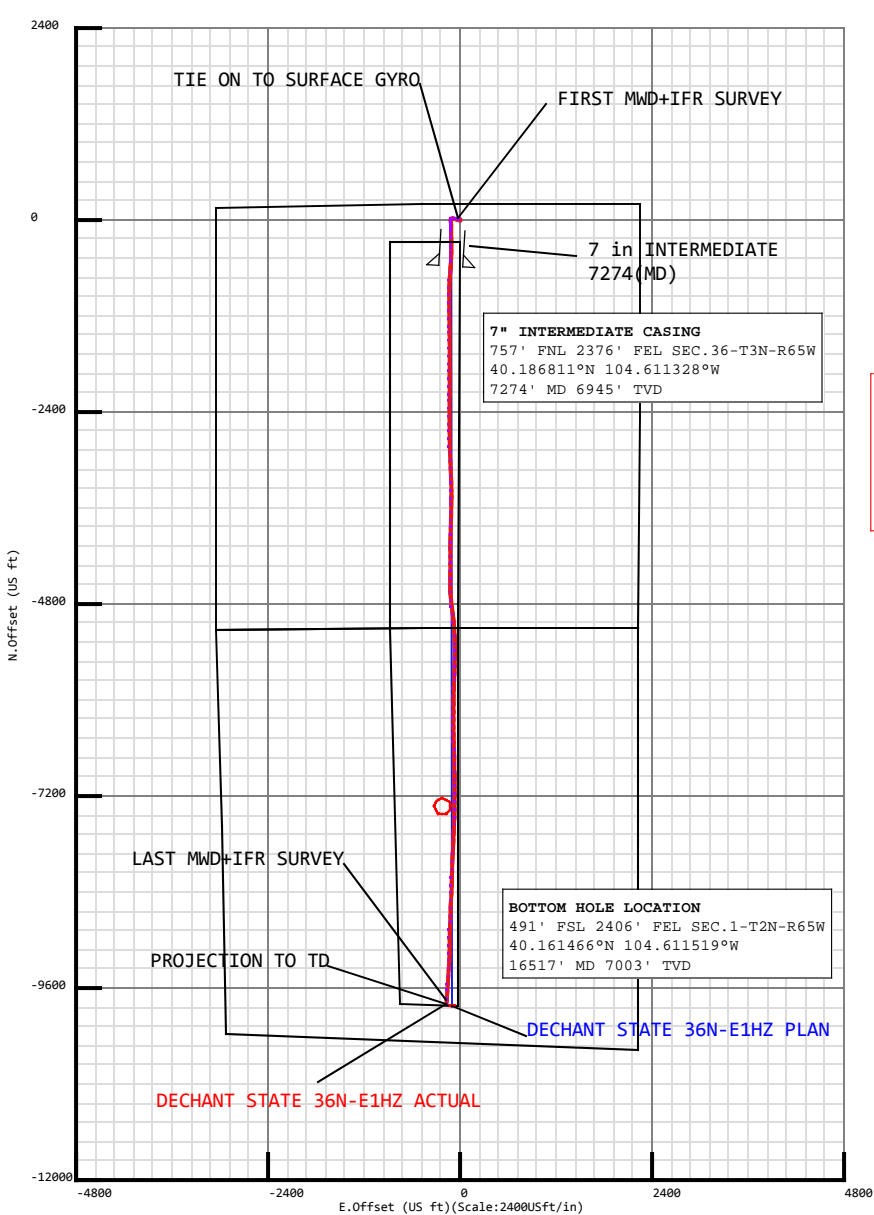
SECTION 4

SLIDE SHEET REPORTS

SECTION 5

ADDITIONAL REPORTS

SECTION 6



Casing Point Information:		
Name	MD	TVD
	(USft)	(USft)
7 in INTERMEDIATE	7274.00	6944.86

Formation Point Information:			
Name	TVD	Elevation	MD
	(USft)	(USft)	(USft)
Parkman	3805.00	1028.00	3809.64
Sussex	4375.00	458.00	4380.57
Sharon Springs	6728.00	-1895.00	6776.39
Niobrara A	6788.00	-1955.00	6860.03
Niobrara B	6813.00	-1980.00	6899.50
Niobrara C TL	6948.00	-2115.00	7315.80

Survey Point Information:												
DogLeg Severity Unit: °/100.00ft												
Position offsets from Slot centre												
MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Toolface	Build	Turn	Annotation	
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(°)	(DLSU)	(DLSU)		
637.00	0.09	281.23	637.00	0.24	-1.42	-0.24	1.52	154.7L	-1.00	-498.42	TIE ON TO SURFACE GYRO	
774.00	0.16	168.62	774.00	0.08	-1.49	-0.08	0.15	135.7L	0.05	-82.20	FIRST WFT MWD+IFR SURVEY	
16463.00	89.32	184.01	7002.16	-9755.62	-165.74	9755.44	2.24	84.1R	0.23	2.23	LAST WFT MWD+IFR SURVEY	
16517.00	89.34	184.22	7002.79	-9809.48	-169.61	9809.30	0.39	84.6R	0.04	0.39	PROJECTION TO TD	

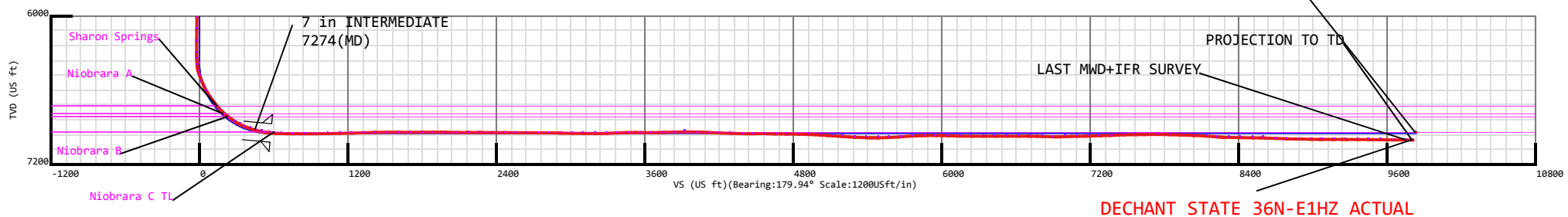
Survey Data for DECHANT STATE 36N-E1HZ

Field: Wattenberg
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / Colorado North (ftUS)

Site: Dechant 28-36HZ Pad
Unit: USFeet TVD Reference: 25' RKB (H&P 307)
Company Name: Andarko Petroleum
Position: Northing: 1312719.83USft Latitude: 40.188394°
Easting: 3248388.95USft Longitude: -104.610912°
North Reference: True Grid Convergence: 0.57°
Elevation Above VRD: 4808.00USft

Slot: Dechant State 36N-E1HZ
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 1312719.83USft Latitude: 40.188394°
+E/-W: -0.00USft Easting: 3248388.95USft Longitude: -104.610912°
Elevation Above VRD: 4808.00USft

Target Set Information:						
Name: DECHANT STATE 36N-E1HZ						
Position offsets from Slot centre						
Name	TVD	+N/-S	+E/-W	Lat	Long	Shape
	(USft)	(USft)	(USft)	(°)	(°)	
Dechant State 36N-E1HZ PBHL	6948.00	-9844.72	-50.59	40.161369	-104.611093	Cuboid
Dechant State 36N-E1HZ Rev. PBHL	6948.00	-9835.00	-100.00	40.161396	-104.611270	Cuboid





FINAL SURVEYS

5D Survey Report**Andarko Petroleum**

Field Name: *Wattenberg*
Site Name: *Dechant 28-36HZ Pad*
Well Name: *DECHANT STATE 36N-E1HZ*
Survey: *Definitive Survey*





Surveys for the DECHANT STATE 36N-E1HZ

Site Name Dechant 28-36HZ Pad	Units : US ft	North Reference : True	Convergence Angle : 0.57
	Position	Northing : 1312719.83 US ft	Latitude : 40.188394
		Easting : 3248388.95 US ft	Longitude : -104.610912
	Site TVD Reference : 25' RKB (H&P 307)		
	Elevation above: 4808.00 US ft		
	Comment :		
Slot Name Dechant State 36N-E1HZ	Position (Offsets relative to Site Centre)		
	+N / -S : 0.00 US ft	Northing : 1312719.83 US ft	Latitude : 40.188394
	+E / -W : -0.00 US ft	Easting : 3248388.95 US ft	Longitude : -104.610912
	Elevation above : 4808.00 US ft		
	Comment :		
Well Name DECHANT STATE 36N-E1HZ	Type : Main well	UWI :	
	Rig Height Drill Floor : 25.00 US ft	Comment :	
	Relative to : 4833.00 US ft		
	Closure Distance : 9810.95 US ft	Closure Azimuth : 180.991°	
	Vertical Section (Position of Origin Relative to Slot)		
	+N / -S : 0.00 US ft	+E / -W : 0.00 US ft	Az : 179.94°

Survey Name :Definitive Survey			
Date : 22/Jan/2013	Survey Tool :	Comment :	Company :
Magnetic Model			
Model Name: BGGM	Date: 21/Jan/2013	Field Strength: 52817.7 nT	Declination: 8.60° Dip: 66.83°

5D Survey Report

Survey Tool Ranges			
Name	Start MD (us ft)	End MD (us ft)	Source Survey
NSG Static GMS	0.00	637.00	Surface Gyro
MWD + IFR	637.00	16517.00	MWD+IFR

Well path created using minimum curvature

Survey Points (Relative to centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	CL (US ft)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	40.188394	-104.610912	0.00	0.00	-0.00	
25.00	0.00	0.00	25.00	0.00	0.00	40.188394	-104.610912	0.00	25.00	-0.00	
125.00	0.22	251.78	125.00	-0.06	-0.18	40.188394	-104.610913	0.22	100.00	0.06	
225.00	0.07	204.81	225.00	-0.18	-0.39	40.188394	-104.610913	0.18	100.00	0.18	
325.00	0.14	292.86	325.00	-0.18	-0.53	40.188394	-104.610914	0.15	100.00	0.18	
425.00	0.35	291.67	425.00	-0.02	-0.92	40.188394	-104.610915	0.21	100.00	0.02	
525.00	0.08	252.15	525.00	0.07	-1.28	40.188394	-104.610917	0.29	100.00	-0.07	
625.00	0.21	341.04	625.00	0.22	-1.40	40.188395	-104.610917	0.22	100.00	-0.22	
637.00	0.09	281.23	637.00	0.24	-1.42	40.188395	-104.610917	1.52	12.00	-0.24	TIE ON TO SURFACE GYRO
774.00	0.16	168.62	774.00	0.08	-1.49	40.188394	-104.610917	0.15	137.00	-0.08	FIRST MWD+IFR SURVEY
866.00	0.16	89.66	866.00	-0.05	-1.33	40.188394	-104.610917	0.22	92.00	0.05	
958.00	0.36	99.83	958.00	-0.10	-0.92	40.188394	-104.610915	0.22	92.00	0.10	
1050.00	0.29	90.21	1049.99	-0.15	-0.40	40.188394	-104.610913	0.10	92.00	0.15	
1142.00	0.22	100.13	1141.99	-0.18	0.01	40.188394	-104.610912	0.09	92.00	0.18	
1233.00	0.31	63.96	1232.99	-0.10	0.40	40.188394	-104.610911	0.20	91.00	0.10	
1325.00	0.16	109.45	1324.99	-0.04	0.74	40.188394	-104.610909	0.25	92.00	0.04	
1417.00	0.25	266.06	1416.99	-0.09	0.66	40.188394	-104.610910	0.44	92.00	0.09	
1508.00	0.22	225.27	1507.99	-0.23	0.34	40.188393	-104.610911	0.18	91.00	0.23	
1598.00	0.20	269.31	1597.99	-0.35	0.06	40.188393	-104.610912	0.18	90.00	0.35	
1690.00	0.35	264.76	1689.99	-0.38	-0.38	40.188393	-104.610913	0.16	92.00	0.38	
1780.00	0.36	256.26	1779.99	-0.47	-0.93	40.188393	-104.610915	0.06	90.00	0.47	
1872.00	0.51	261.96	1871.98	-0.60	-1.61	40.188392	-104.610918	0.17	92.00	0.60	
1963.00	0.69	271.88	1962.98	-0.64	-2.56	40.188392	-104.610921	0.23	91.00	0.63	
2054.00	0.22	253.55	2053.98	-0.67	-3.28	40.188392	-104.610924	0.53	91.00	0.67	
2146.00	0.69	13.83	2145.97	-0.18	-3.31	40.188394	-104.610924	0.89	92.00	0.18	
2238.00	0.93	340.12	2237.97	1.06	-3.43	40.188397	-104.610924	0.57	92.00	-1.06	
2329.00	1.34	342.33	2328.95	2.77	-4.01	40.188402	-104.610926	0.45	91.00	-2.77	
2424.00	0.64	243.21	2423.94	3.59	-4.82	40.188404	-104.610929	1.66	95.00	-3.59	
2518.00	1.16	298.47	2517.93	3.80	-6.12	40.188404	-104.610934	1.01	94.00	-3.81	
2613.00	1.54	318.75	2612.90	5.22	-7.81	40.188408	-104.610940	0.64	95.00	-5.23	
2707.00	1.40	226.86	2706.88	5.39	-9.48	40.188409	-104.610946	2.25	94.00	-5.40	
2802.00	1.24	242.23	2801.86	4.11	-11.24	40.188405	-104.610952	0.41	95.00	-4.13	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	CL (US ft)	VS (US ft)	Comment
2897.00	1.37	252.01	2896.83	3.28	-13.23	40.188403	-104.610959	0.27	95.00	-3.30	
2991.00	1.73	257.76	2990.80	2.64	-15.68	40.188401	-104.610968	0.42	94.00	-2.65	
3086.00	1.44	264.10	3085.76	2.21	-18.27	40.188400	-104.610977	0.36	95.00	-2.23	
3181.00	3.29	276.27	3180.68	2.38	-22.17	40.188401	-104.610991	2.01	95.00	-2.41	
3275.00	4.20	268.92	3274.48	2.61	-28.29	40.188401	-104.611013	1.09	94.00	-2.64	
3370.00	5.48	284.86	3369.14	3.71	-36.16	40.188404	-104.611041	1.94	95.00	-3.75	
3464.00	7.99	292.46	3462.48	7.36	-46.53	40.188414	-104.611079	2.83	94.00	-7.41	
3559.00	8.98	290.12	3556.44	12.43	-59.60	40.188428	-104.611125	1.10	95.00	-12.50	
3653.00	7.23	285.30	3649.50	16.52	-72.19	40.188439	-104.611170	2.00	94.00	-16.59	
3748.00	7.09	278.96	3743.76	19.01	-83.75	40.188446	-104.611212	0.84	95.00	-19.10	
3842.00	5.56	275.77	3837.19	20.37	-94.01	40.188450	-104.611249	1.67	94.00	-20.47	
3937.00	4.94	255.71	3931.80	19.82	-102.56	40.188448	-104.611279	2.03	95.00	-19.93	
4032.00	3.52	245.92	4026.54	17.62	-109.18	40.188442	-104.611303	1.67	95.00	-17.74	
4126.00	1.48	223.43	4120.44	15.56	-112.65	40.188437	-104.611315	2.37	94.00	-15.68	
4221.00	0.55	147.40	4215.43	14.29	-113.25	40.188433	-104.611317	1.53	95.00	-14.41	
4315.00	0.41	134.65	4309.43	13.67	-112.77	40.188432	-104.611316	0.19	94.00	-13.79	
4410.00	0.36	354.23	4404.43	13.73	-112.56	40.188432	-104.611315	0.76	95.00	-13.85	
4505.00	0.56	355.63	4499.42	14.49	-112.62	40.188434	-104.611315	0.21	95.00	-14.61	
4599.00	0.62	10.21	4593.42	15.45	-112.57	40.188436	-104.611315	0.17	94.00	-15.57	
4694.00	0.31	38.54	4688.42	16.16	-112.31	40.188438	-104.611314	0.40	95.00	-16.27	
4789.00	0.35	156.46	4783.42	16.09	-112.04	40.188438	-104.611313	0.60	95.00	-16.21	
4883.00	0.35	212.91	4877.41	15.59	-112.08	40.188437	-104.611313	0.35	94.00	-15.70	
4978.00	0.28	101.03	4972.41	15.30	-112.01	40.188436	-104.611313	0.55	95.00	-15.42	
5073.00	0.30	111.50	5067.41	15.16	-111.55	40.188436	-104.611311	0.06	95.00	-15.28	
5167.00	0.07	335.78	5161.41	15.13	-111.35	40.188436	-104.611311	0.38	94.00	-15.24	
5262.00	0.22	349.36	5256.41	15.36	-111.40	40.188436	-104.611311	0.16	95.00	-15.47	
5356.00	0.50	339.81	5350.41	15.92	-111.58	40.188438	-104.611311	0.30	94.00	-16.04	
5451.00	0.66	334.96	5445.40	16.80	-111.95	40.188440	-104.611313	0.18	95.00	-16.92	
5545.00	1.16	268.42	5539.39	17.27	-113.13	40.188441	-104.611317	1.15	94.00	-17.39	
5640.00	1.08	75.27	5634.39	17.47	-113.23	40.188442	-104.611317	2.34	95.00	-17.59	
5735.00	1.04	18.00	5729.37	18.52	-112.10	40.188445	-104.611313	1.07	95.00	-18.63	
5829.00	1.06	352.06	5823.36	20.19	-111.95	40.188449	-104.611313	0.50	94.00	-20.31	
5924.00	0.97	230.62	5918.35	20.55	-112.69	40.188450	-104.611315	1.86	95.00	-20.67	
6018.00	0.73	309.75	6012.34	20.43	-113.77	40.188450	-104.611319	1.17	94.00	-20.55	
6113.00	1.19	335.73	6107.33	21.71	-114.64	40.188454	-104.611322	0.65	95.00	-21.83	
6208.00	1.12	289.43	6202.31	22.92	-115.92	40.188457	-104.611327	0.96	95.00	-23.04	
6302.00	0.88	244.21	6296.30	22.91	-117.44	40.188457	-104.611332	0.85	94.00	-23.04	
6350.00	2.09	183.43	6344.29	21.88	-117.82	40.188454	-104.611334	3.81	48.00	-22.00	
6397.00	3.98	176.31	6391.22	19.40	-117.77	40.188447	-104.611334	4.09	47.00	-19.52	
6444.00	14.18	176.26	6437.57	12.00	-117.29	40.188427	-104.611332	21.70	47.00	-12.13	
6492.00	20.49	177.22	6483.36	-2.27	-116.50	40.188388	-104.611329	13.16	48.00	2.15	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	CL (US ft)	VS (US ft)	Comment
6539.00	22.10	174.40	6527.16	-19.28	-115.23	40.188341	-104.611324	4.06	47.00	19.16	
6586.00	25.21	173.48	6570.20	-38.03	-113.23	40.188290	-104.611317	6.66	47.00	37.91	
6633.00	30.55	175.65	6611.73	-59.90	-111.19	40.188230	-104.611310	11.56	47.00	59.79	
6681.00	35.18	180.42	6652.05	-85.91	-110.37	40.188158	-104.611307	11.04	48.00	85.80	
6728.00	36.94	180.65	6690.04	-113.58	-110.62	40.188082	-104.611308	3.76	47.00	113.46	
6775.00	39.63	181.09	6726.93	-142.69	-111.07	40.188002	-104.611310	5.75	47.00	142.57	
6822.00	44.23	178.90	6761.89	-174.09	-111.04	40.187916	-104.611309	10.27	47.00	173.97	
6870.00	50.26	177.89	6794.46	-209.30	-110.04	40.187819	-104.611306	12.66	48.00	209.18	
6917.00	52.80	179.03	6823.69	-246.08	-109.06	40.187718	-104.611302	5.73	47.00	245.96	
6965.00	56.99	179.57	6851.29	-285.34	-108.58	40.187611	-104.611301	8.78	48.00	285.22	
7012.00	63.00	179.83	6874.78	-326.02	-108.37	40.187499	-104.611300	12.80	47.00	325.90	
7059.00	68.81	180.65	6893.96	-368.90	-108.56	40.187381	-104.611301	12.46	47.00	368.79	
7106.00	70.81	181.54	6910.19	-413.00	-109.40	40.187260	-104.611304	4.61	47.00	412.89	
7154.00	73.77	181.63	6924.79	-458.71	-110.67	40.187135	-104.611308	6.17	48.00	458.59	
7201.00	79.47	182.53	6935.66	-504.38	-112.33	40.187009	-104.611314	12.27	47.00	504.26	
7225.00	82.51	182.86	6939.42	-528.06	-113.45	40.186944	-104.611318	12.74	24.00	527.94	
7364.00	88.83	184.85	6949.91	-666.27	-122.77	40.186565	-104.611351	4.77	139.00	666.14	
7458.00	89.88	183.34	6950.96	-760.02	-129.48	40.186308	-104.611375	1.96	94.00	759.88	
7553.00	90.12	181.72	6950.96	-854.92	-133.67	40.186047	-104.611390	1.72	95.00	854.78	
7647.00	90.19	180.07	6950.71	-948.91	-135.14	40.185789	-104.611396	1.76	94.00	948.77	
7742.00	90.74	179.62	6949.94	-1043.90	-134.89	40.185528	-104.611395	0.75	95.00	1043.76	
7836.00	91.23	179.49	6948.32	-1137.89	-134.16	40.185270	-104.611392	0.54	94.00	1137.75	
7931.00	91.50	179.32	6946.06	-1232.85	-133.17	40.185010	-104.611389	0.34	95.00	1232.71	
8026.00	92.10	179.13	6943.08	-1327.80	-131.89	40.184749	-104.611384	0.66	95.00	1327.66	
8120.00	91.23	178.94	6940.34	-1421.74	-130.30	40.184491	-104.611378	0.95	94.00	1421.61	
8215.00	90.43	179.51	6938.97	-1516.72	-129.02	40.184230	-104.611374	1.03	95.00	1516.59	
8309.00	89.44	180.05	6939.07	-1610.72	-128.66	40.183972	-104.611372	1.20	94.00	1610.59	
8404.00	89.88	180.07	6939.64	-1705.72	-128.76	40.183712	-104.611373	0.46	95.00	1705.58	
8499.00	90.49	179.69	6939.33	-1800.72	-128.56	40.183451	-104.611372	0.76	95.00	1800.58	
8593.00	90.49	180.26	6938.53	-1894.72	-128.52	40.183193	-104.611372	0.61	94.00	1894.58	
8688.00	88.89	180.15	6939.04	-1989.71	-128.86	40.182932	-104.611373	1.69	95.00	1989.57	
8782.00	89.32	180.45	6940.51	-2083.70	-129.35	40.182674	-104.611375	0.56	94.00	2083.56	
8877.00	90.43	180.26	6940.72	-2178.69	-129.94	40.182413	-104.611377	1.19	95.00	2178.56	
8971.00	89.20	180.26	6941.02	-2272.69	-130.36	40.182155	-104.611379	1.31	94.00	2272.55	
9066.00	89.75	180.45	6941.89	-2367.68	-130.95	40.181894	-104.611381	0.61	95.00	2367.55	
9161.00	89.88	179.73	6942.20	-2462.68	-131.10	40.181634	-104.611381	0.77	95.00	2462.54	
9255.00	89.74	179.32	6942.51	-2556.68	-130.32	40.181376	-104.611378	0.46	94.00	2556.54	
9347.00	89.69	179.40	6942.97	-2648.67	-129.29	40.181123	-104.611375	0.10	92.00	2648.54	
9439.00	89.44	179.21	6943.67	-2740.66	-128.18	40.180871	-104.611371	0.34	92.00	2740.53	
9531.00	89.57	178.97	6944.46	-2832.65	-126.72	40.180618	-104.611366	0.30	92.00	2832.51	
9623.00	88.83	177.99	6945.75	-2924.60	-124.28	40.180366	-104.611357	1.33	92.00	2924.47	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	CL (US ft)	VS (US ft)	Comment
9716.00	88.95	177.60	6947.55	-3017.52	-120.70	40.180111	-104.611344	0.44	93.00	3017.39	
9809.00	89.32	177.28	6948.95	-3110.41	-116.55	40.179856	-104.611329	0.53	93.00	3110.29	
9900.00	90.37	177.34	6949.20	-3201.31	-112.28	40.179606	-104.611314	1.16	91.00	3201.19	
9992.00	91.73	178.78	6947.51	-3293.24	-109.16	40.179354	-104.611303	2.15	92.00	3293.12	
10084.00	92.10	179.51	6944.44	-3385.18	-107.79	40.179101	-104.611298	0.89	92.00	3385.06	
10175.00	91.11	180.54	6941.89	-3476.14	-107.83	40.178852	-104.611298	1.57	91.00	3476.02	
10267.00	89.32	181.00	6941.54	-3568.13	-109.07	40.178599	-104.611302	2.01	92.00	3568.01	
10359.00	90.06	181.12	6942.04	-3660.11	-110.77	40.178347	-104.611308	0.81	92.00	3659.99	
10451.00	91.91	181.69	6940.46	-3752.06	-113.02	40.178094	-104.611316	2.10	92.00	3751.94	
10543.00	91.05	181.56	6938.08	-3843.99	-115.63	40.177842	-104.611326	0.95	92.00	3843.87	
10635.00	90.25	181.80	6937.04	-3935.95	-118.33	40.177589	-104.611335	0.91	92.00	3935.82	
10726.00	88.40	181.70	6938.11	-4026.90	-121.11	40.177340	-104.611345	2.04	91.00	4026.77	
10816.00	87.35	179.40	6941.45	-4116.82	-121.97	40.177093	-104.611349	2.81	90.00	4116.69	
10907.00	88.09	179.50	6945.07	-4207.74	-121.10	40.176843	-104.611345	0.82	91.00	4207.62	
10998.00	88.46	179.72	6947.81	-4298.70	-120.48	40.176594	-104.611343	0.47	91.00	4298.57	
11089.00	88.52	180.05	6950.21	-4389.67	-120.30	40.176344	-104.611343	0.37	91.00	4389.54	
11181.00	91.05	181.23	6950.55	-4481.65	-121.32	40.176091	-104.611346	3.03	92.00	4481.52	
11272.00	89.08	179.75	6950.45	-4572.64	-122.10	40.175842	-104.611349	2.71	91.00	4572.51	
11364.00	89.38	176.17	6951.69	-4664.56	-118.83	40.175589	-104.611337	3.90	92.00	4664.43	
11456.00	88.71	173.76	6953.22	-4756.19	-110.76	40.175338	-104.611308	2.72	92.00	4756.07	
11547.00	89.08	172.96	6954.97	-4846.56	-100.24	40.175090	-104.611271	0.97	91.00	4846.45	
11638.00	87.78	172.91	6957.47	-4936.83	-89.05	40.174842	-104.611231	1.43	91.00	4936.74	
11729.00	86.24	174.74	6962.21	-5027.17	-79.27	40.174594	-104.611196	2.63	91.00	5027.09	
11822.00	86.61	176.44	6968.01	-5119.71	-72.13	40.174340	-104.611170	1.87	93.00	5119.64	
11913.00	85.75	177.34	6974.08	-5210.38	-67.21	40.174091	-104.611153	1.37	91.00	5210.30	
12005.00	87.41	178.70	6979.56	-5302.15	-64.04	40.173839	-104.611141	2.33	92.00	5302.08	
12099.00	88.09	180.23	6983.25	-5396.07	-63.16	40.173581	-104.611138	1.78	94.00	5396.00	
12194.00	91.23	181.60	6983.82	-5491.05	-64.68	40.173320	-104.611143	3.61	95.00	5490.97	
12288.00	92.53	181.80	6980.73	-5584.95	-67.46	40.173063	-104.611153	1.40	94.00	5584.88	
12383.00	93.83	182.20	6975.46	-5679.74	-70.77	40.172802	-104.611165	1.43	95.00	5679.67	
12477.00	93.53	181.78	6969.43	-5773.49	-74.03	40.172545	-104.611177	0.55	94.00	5773.41	
12572.00	90.62	181.78	6965.99	-5868.38	-76.98	40.172285	-104.611187	3.06	95.00	5868.29	
12666.00	89.57	181.94	6965.84	-5962.32	-80.03	40.172027	-104.611198	1.13	94.00	5962.24	
12761.00	88.27	180.17	6967.63	-6057.29	-81.78	40.171766	-104.611205	2.31	95.00	6057.20	
12856.00	89.14	179.56	6969.77	-6152.26	-81.56	40.171505	-104.611204	1.12	95.00	6152.17	
12950.00	89.63	179.82	6970.78	-6246.25	-81.05	40.171247	-104.611202	0.59	94.00	6246.16	
13045.00	90.00	179.45	6971.09	-6341.25	-80.44	40.170986	-104.611200	0.55	95.00	6341.16	
13140.00	90.31	178.92	6970.83	-6436.24	-79.09	40.170726	-104.611195	0.65	95.00	6436.15	
13234.00	90.06	178.15	6970.53	-6530.21	-76.69	40.170468	-104.611186	0.86	94.00	6530.12	
13329.00	89.88	178.93	6970.58	-6625.18	-74.27	40.170207	-104.611178	0.84	95.00	6625.09	
13423.00	89.26	180.06	6971.28	-6719.17	-73.44	40.169949	-104.611175	1.37	94.00	6719.09	

5D Survey Report

Survey Points (Relative to centre, TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	CL (US ft)	VS (US ft)	Comment
13518.00	88.21	178.53	6973.38	-6814.13	-72.27	40.169688	-104.611171	1.95	95.00	6814.05	
13613.00	89.14	178.25	6975.58	-6909.07	-69.60	40.169428	-104.611161	1.02	95.00	6908.99	
13707.00	92.34	180.21	6974.36	-7003.04	-68.34	40.169170	-104.611157	3.99	94.00	7002.96	
13802.00	90.80	178.78	6971.76	-7097.99	-67.50	40.168909	-104.611154	2.21	95.00	7097.92	
13897.00	91.48	180.16	6969.87	-7192.97	-66.62	40.168648	-104.611150	1.62	95.00	7192.89	
13991.00	91.67	180.75	6967.29	-7286.93	-67.37	40.168390	-104.611153	0.66	94.00	7286.85	
14086.00	92.84	181.29	6963.55	-7381.84	-69.06	40.168130	-104.611159	1.36	95.00	7381.76	
14180.00	90.93	182.06	6960.46	-7475.74	-71.80	40.167872	-104.611169	2.19	94.00	7475.66	
14275.00	91.30	181.67	6958.61	-7570.67	-74.90	40.167612	-104.611180	0.57	95.00	7570.59	
14370.00	90.18	182.48	6957.38	-7665.60	-78.34	40.167351	-104.611192	1.45	95.00	7665.51	
14464.00	90.31	183.07	6956.98	-7759.49	-82.89	40.167093	-104.611209	0.64	94.00	7759.40	
14559.00	87.84	182.27	6958.51	-7854.36	-87.31	40.166833	-104.611224	2.73	95.00	7854.27	
14653.00	88.15	183.69	6961.80	-7948.18	-92.19	40.166575	-104.611242	1.55	94.00	7948.08	
14748.00	87.47	181.60	6965.43	-8043.00	-96.58	40.166315	-104.611258	2.31	95.00	8042.89	
14843.00	86.67	181.61	6970.29	-8137.84	-99.23	40.166055	-104.611267	0.84	95.00	8137.73	
14937.00	85.37	180.72	6976.81	-8231.59	-101.14	40.165797	-104.611274	1.67	94.00	8231.48	
15032.00	89.21	182.31	6981.31	-8326.43	-103.65	40.165537	-104.611283	4.37	95.00	8326.32	
15126.00	89.26	182.69	6982.56	-8420.33	-107.75	40.165279	-104.611298	0.41	94.00	8420.21	
15221.00	89.07	183.50	6983.94	-8515.18	-112.88	40.165019	-104.611316	0.88	95.00	8515.06	
15316.00	88.40	182.05	6986.04	-8610.04	-117.48	40.164758	-104.611332	1.68	95.00	8609.92	
15410.00	87.47	182.08	6989.43	-8703.92	-120.86	40.164501	-104.611344	0.99	94.00	8703.79	
15505.00	88.64	182.14	6992.65	-8798.80	-124.36	40.164240	-104.611357	1.23	95.00	8798.66	
15599.00	89.38	180.62	6994.28	-8892.76	-126.62	40.163982	-104.611365	1.80	94.00	8892.62	
15694.00	88.83	181.41	6995.76	-8987.73	-128.30	40.163722	-104.611371	1.01	95.00	8987.59	
15789.00	89.69	180.33	6996.99	-9082.71	-129.75	40.163461	-104.611376	1.45	95.00	9082.57	
15883.00	89.88	181.61	6997.34	-9176.69	-131.34	40.163203	-104.611382	1.38	94.00	9176.55	
15978.00	89.81	183.14	6997.60	-9271.61	-135.27	40.162942	-104.611396	1.61	95.00	9271.46	
16072.00	89.32	183.75	6998.31	-9365.43	-140.92	40.162685	-104.611416	0.83	94.00	9365.28	
16167.00	89.88	183.68	6998.98	-9460.23	-147.08	40.162424	-104.611438	0.59	95.00	9460.07	
16261.00	89.20	183.63	6999.73	-9554.04	-153.07	40.162167	-104.611460	0.73	94.00	9553.87	
16356.00	89.38	183.48	7000.91	-9648.85	-158.96	40.161907	-104.611481	0.25	95.00	9648.67	
16450.00	89.29	183.72	7002.00	-9742.65	-164.86	40.161649	-104.611502	0.27	94.00	9742.48	
16463.00	89.32	184.01	7002.16	-9755.62	-165.74	40.161614	-104.611505	2.24	13.00	9755.44	LAST MWD+IFR SURVEY
16517.00	89.34	184.22	7002.79	-9809.48	-169.61	40.161466	-104.611519	0.39	54.00	9809.30	PROJECTION TO TD