



Real Time Log

Natural Formation Evaluation

Scale: 1:240

True Vertical Depth

Company: Anadarko

Well: BADDING 13C-2HZ

Field: WELD COUNTY (KERR MCGEE)

Region: RMD Country: U.S.A.

Status: Final Print Surface Location: Latitude: 40° 5' 38.105" N Longitude: 104° 45' 2.110" W Other Services: Directional VSS

API Number: 05-123-38288 SEC: 35 TOWN: 2N RANG: 66W

Permanent Datum (P.D.): Ground Level Elevation: 5114.00 ft. Elevations: N/A

Log Measured From: Rig Floor 13.00 ft. Above P.D. DF: 5127.00 ft.

Depth Reference: Driller's Depth GL: 5114.00 ft.

Interval Logged Dates Magnetic Field Reference

Top: 6935.0 ft. Date From: 15/Dec/2013 Dip Angle: 66.60° Azi Reference North: True

Bottom: 15341.0 ft. Date To: 26/Dec/2013 Total Mag to Reference

Spud Date: 15/Dec/2013 Field Strength: 52965.0 nT North Correction: 8.33°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	Surface	1257.0 ft.	9.625 in.	36.00 lb/ft	Surface	1248.0 ft.
8.750 in.	1257.0 ft.	7955.0 ft.	7.000 in.	26.00 lb/ft	Surface	7946.0 ft.
6.125 in.	7955.0 ft.	15341.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	Surface	1257.0 ft.	13.500 in.	1257.0 ft.	0.0° / 71.1°	0.6° / 244.3°
Water Based	1257.0 ft.	7955.0 ft.	8.750 in.	6698.0 ft.	0.7° / 207.8°	84.8° / 182.1°
Water Based	7955.0 ft.	15383.0 ft.	6.125 in.	7428.0 ft.	89.2° / 183.6°	88.9° / 180.9°
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig / Contractor:	Ensign 145	/
PATS	6.4.1.34	Job No:	5994915	/ D&E
		District / Unit:	RMD	

INTEQ does not guarantee the accuracy or correctness of interpretations provided in or from this log. Since all interpretations are opinions based on measurements, INTEQ shall under no circumstances be responsible for consequential damages or any other loss, costs, damages or expenses incurred or sustained in connection with the use of any such interpretations. INTEQ disclaims all expressed and implied warranties related to this service. INTEQ's liabilities and obligations shall be governed by INTEQ's Standard Terms and Conditions.

Log Run Summary

LWD Run No.	BHA Run No.	Bit Run No.	Bit Size (in.)	Bit Type	Bit Gauge Length (in.)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Time (hrs.)
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	
1	1	1	8.750	PDC	1.000	Steerable	6935.0	7185.0	1257.0	7235.0	16/Dec/2013 01:30	17/Dec/2013 19:30	24.7
2	2	2	8.750	PDC	1.000	Steerable	7185.0	7950.0	7235.0	7955.0	17/Dec/2013 20:00	18/Dec/2013 20:40	10.7
3	3	3	6.125	PDC	6.000	Steerable	7950.0	13240.0	7955.0	13295.0	19/Dec/2013 20:15	23/Dec/2013 06:30	43.3
4	4	4	6.125	PDC	3.000	Steerable	13240.0	15341.0	13295.0	15383.0	23/Dec/2013 08:30	26/Dec/2013 23:00	31.1

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Michael Gurnsey	15/Dec/2013	26/Dec/2013	Donald Delay	15/Dec/2013	25/Dec/2013	Thanh Hoang Nguyen	22/Dec/2013	26/Dec/2013

Alexander Janorschke	15/Dec/2013	26/Dec/2013	David Browning	25/Dec/2013	26/Dec/2013	Steven Cano	15/Dec/2013	22/Dec/2013
Peter Adebayo	18/Dec/2013	24/Dec/2013						

Mud Properties Record

Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc/30min)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
16/Dec/2013	22:00	1	4467.0	Water Based	8.6	29	8.5	N/A	0 / 99	Active Mud Pit	1100	N/A
20/Dec/2013	21:00	3	9789.0	Water Based	9.5	48	9.5	N/A	2 / 92	Active Mud Pit	1700	N/A
22/Dec/2013	20:00	3	13209.0	Water Based	9.6	46	9.5	N/A	3 / 91	Active Mud Pit	1800	N/A
23/Dec/2013	20:00	4	13480.0	Water Based	9.6	45	9.5	N/A	3 / 91	Active Mud Pit	1800	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. avg.	API
ROPA	Rate of Penetration, 3.0 ft. avg.	ft. / hr.
TCDX	Downhole Temperature	deg. F.
WOBA	Surface Weight on Bit, 1.0 ft. avg.	klbf.


Equipment and Service Data

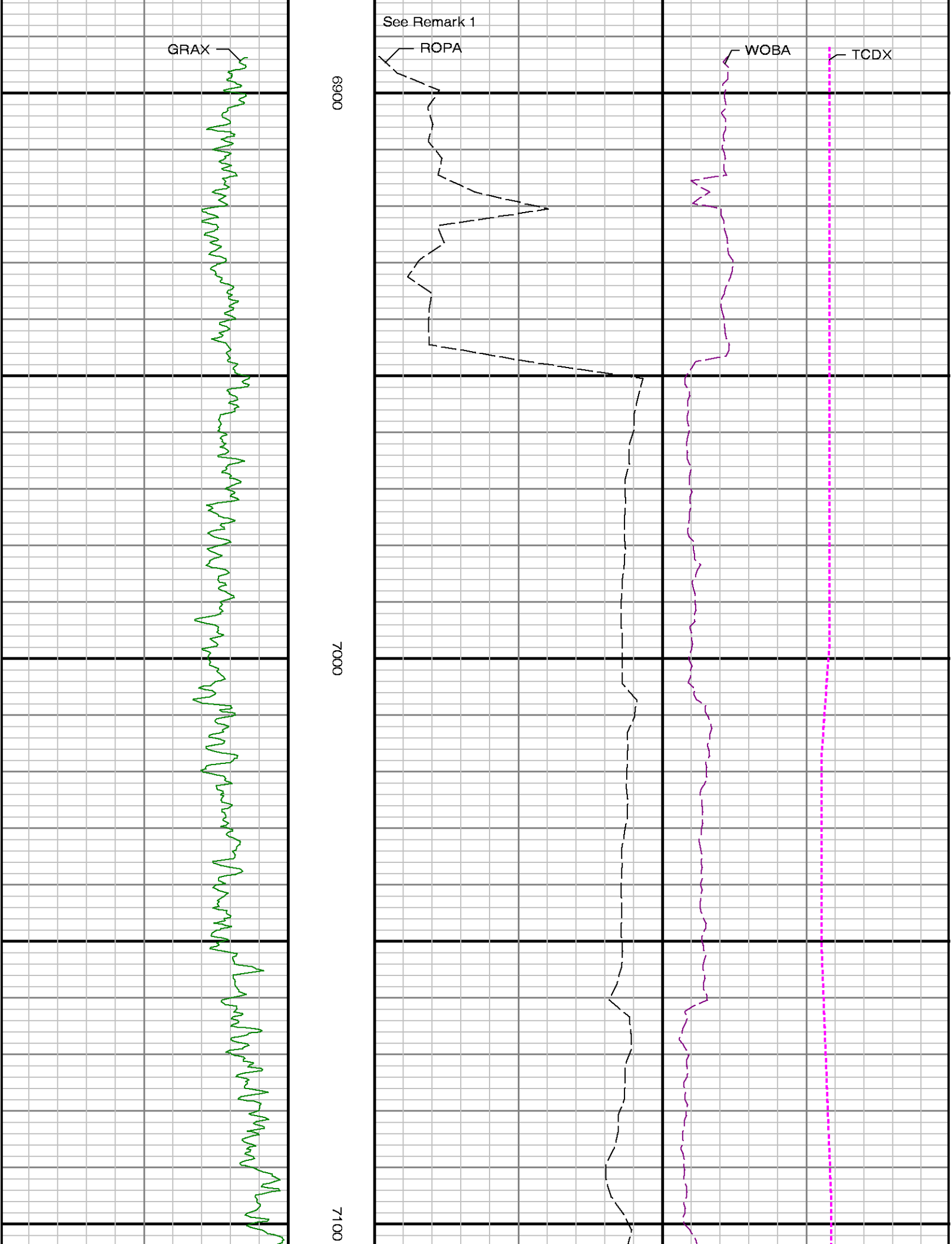
LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	10427973	Directional	56.24	6.750	2.750
1	SRIG	12376056	Gamma	52.86	6.750	0.000
2	DIR	10427973	Directional	53.69	6.750	2.750
2	SRIG	12376056	Gamma	50.32	6.750	0.000
3	CS	105687	-	74.98	4.843	2.569
3	BCPM	12426121	Telemetry	63.82	4.843	2.569
3	STAB	12401251	-	60.62	0.000	0.000
3	OTK	13127855	Directional	56.14	4.843	2.569
3	OTK	13127855	Resistivity	50.17	4.843	2.569
3	OTK	13127855	Gamma	42.98	4.843	2.569
3	OTK	13127855	Pressure	45.61	4.843	2.569
3	CS	12072904	-	37.78	4.843	2.569
4	CS	12114978	-	73.79	4.843	2.569
4	BCPM	12352126	Telemetry	62.79	4.843	2.569
4	STAB	11863323	-	59.67	0.000	2.569
4	OTK	10238658	Directional	55.04	4.843	2.569
4	OTK	10238658	Resistivity	49.07	4.843	2.569
4	OTK	10238658	Gamma	41.88	4.843	2.569
4	OTK	10238658	Pressure	44.51	4.843	2.569
4	CS	10432083	-	37.78	4.843	2.569

Mnemonic	Name	Description
BCPM	BCPM	Mud pulse telemetry and downhole tool power module
DIR	Directional	Wellbore directional survey
OTK	OnTrak	Propagation resistivity, propagation conductivity, gamma ray, directional, annular pressure, system memory and VSS
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module
STAB	Stabilizer	Stabilizer assembly
CS	Closure Sub	BHA power ring isolator allowing insertion of inert sub into electrically powered BHA

1. Baker Hughes run 1 utilized 6 3/4 inch NaviGamma Services (VSS, Directional, Gamma Ray) behind an 8 3/4 inch bit and steerable assembly from 1257 to 7235 feet MD (1256.93 to 7184.07 feet TVD).
2. Baker Hughes run 2 utilized 6 3/4 inch NaviGamma Services (VSS, Directional, Gamma Ray) behind an 8 3/4 inch bit and steerable assembly from 7235 to 7955 feet MD (7184.07 to 7552.55 feet TVD).
3. Baker Hughes run 3 utilized 4 3/4 inch OnTrak Services (Multiple Propagation Resistivity, Gamma Ray, Azimuthal Gamma Ray, VSS, Directional) behind a 6 1/8 inch bit and steerable assembly from 7955 to 13295 feet MD (7552.55 to 7580.79 feet TVD).
4. Baker Hughes run 4 utilized 4 3/4 inch OnTrak Services (Multiple Propagation Resistivity, Gamma Ray, Azimuthal Gamma Ray, VSS, Directional) behind a 6 1/8 inch bit and steerable assembly from 13295 to 15383 feet MD (7580.79 to 7592 feet TVD).
5. Depth Measurements were obtained from a depth tracking system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes LWD logging engineers, depth calibrations and measurements could not be independently verified and the unverified depths as supplied to Baker Hughes are being used to present logging data.

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6935	8.750	1	Logging services begin. No logging data acquired prior to 6935 feet MD (6892 feet TVD) as per client request.
2	15341	6.125	4	The interval from 15341 to 15383 feet MD (7591 to 7592 feet TVD) was not logged due to sensor to bit offset at terminal depth.

				Company : Anadarko Well : BADDING 13C-2HZ Interval : 6860.00 - 7580.00 feet Created : 28/Dec/2013 5:57:11 AM			
Gamma Ray Apparent 0.5 ft Avg GRAX 0 150 API		TVD feet 1:240	Rate of Penetration 3.0 ft Avg [ROPA] 600 0 ft/hr		Surface Weight On Bit 1.0 ft Avg [WOBA] 0 100 klbf Downhole Temperature TCDX 100 200 degF		



See Remark 1

GRAX

ROPA

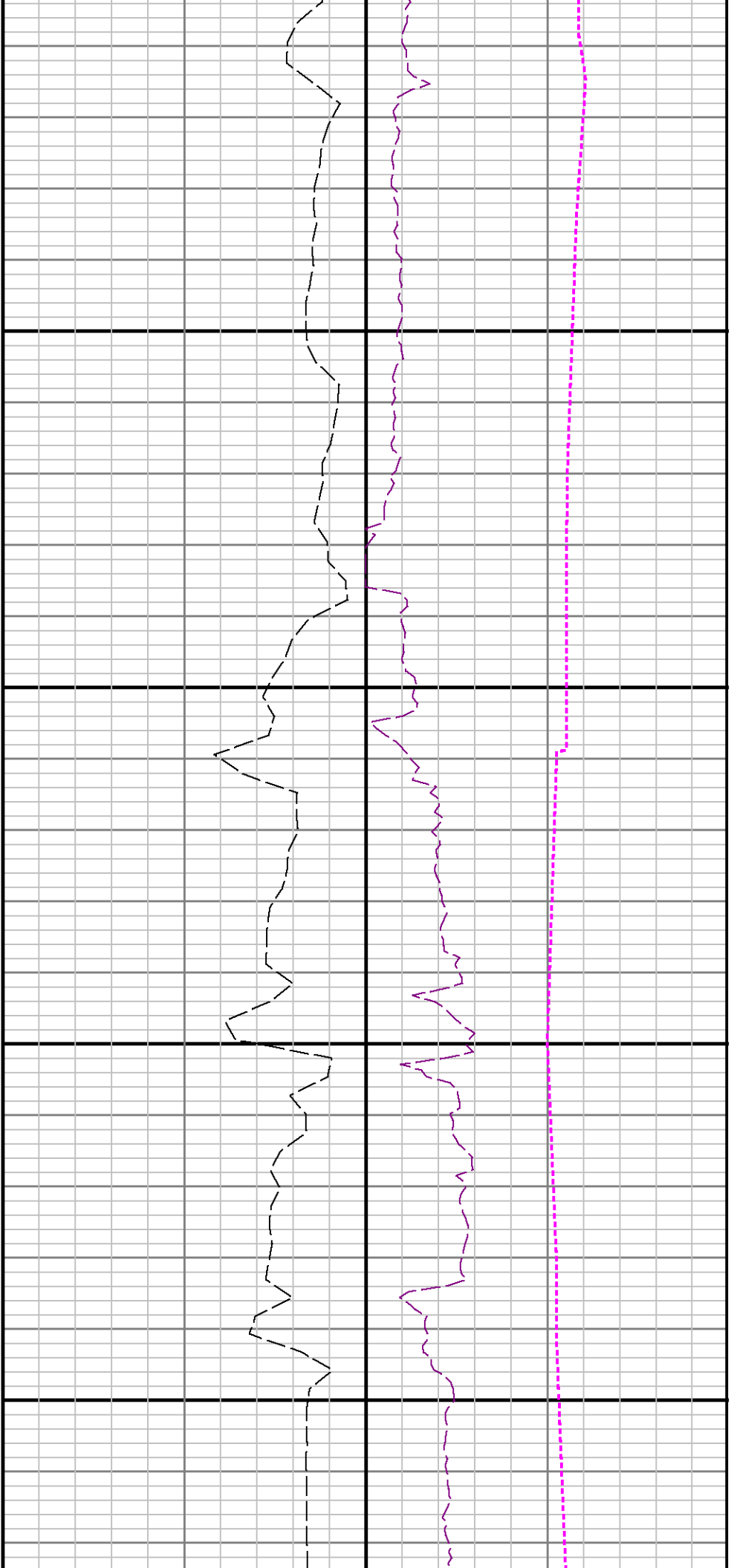
WOBA

TCDX

6900

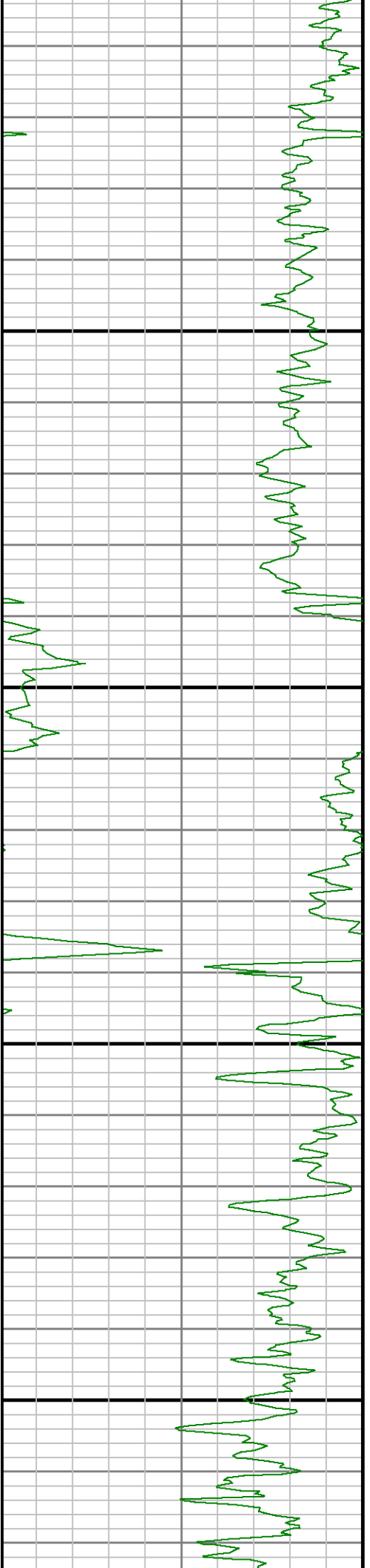
7000

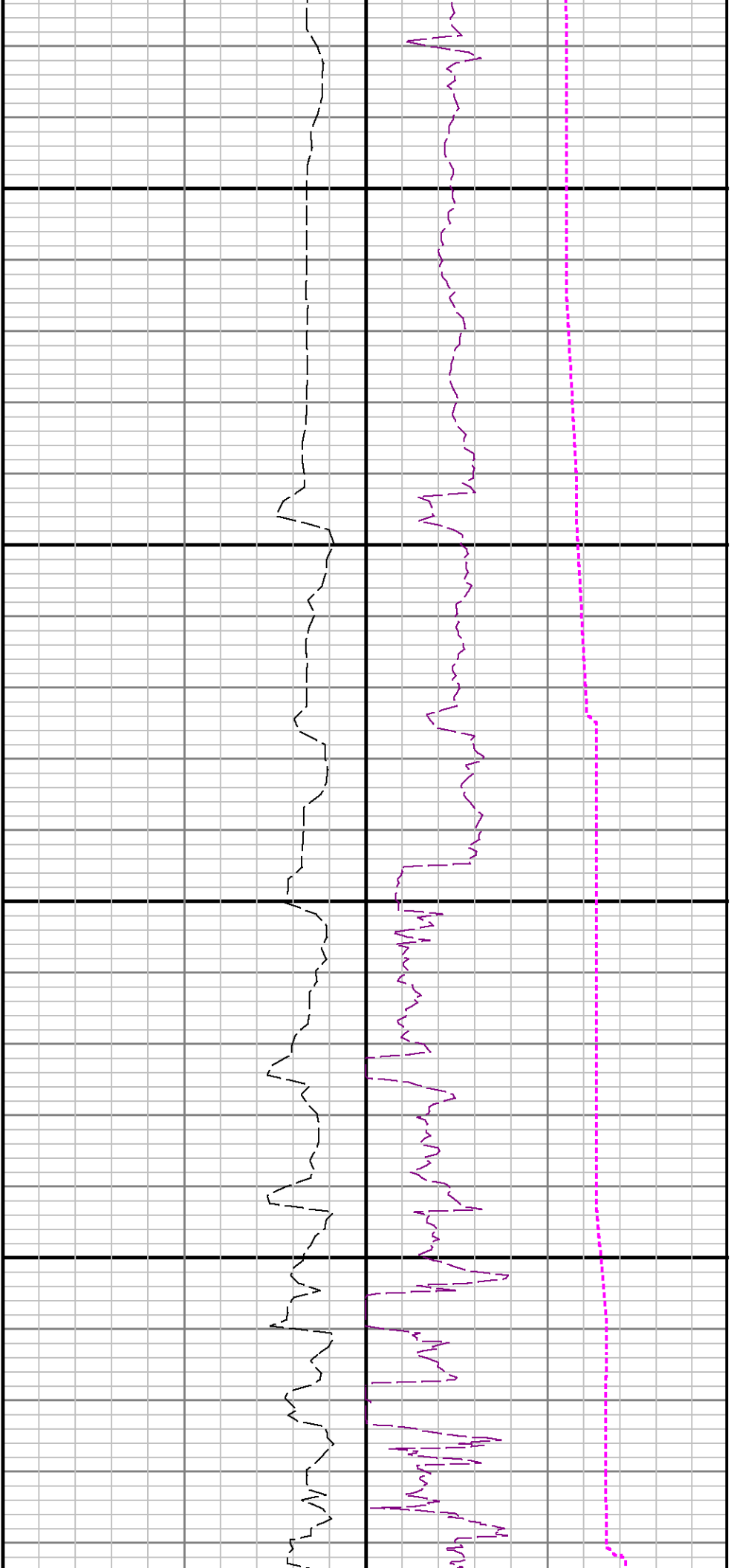
7100



7200

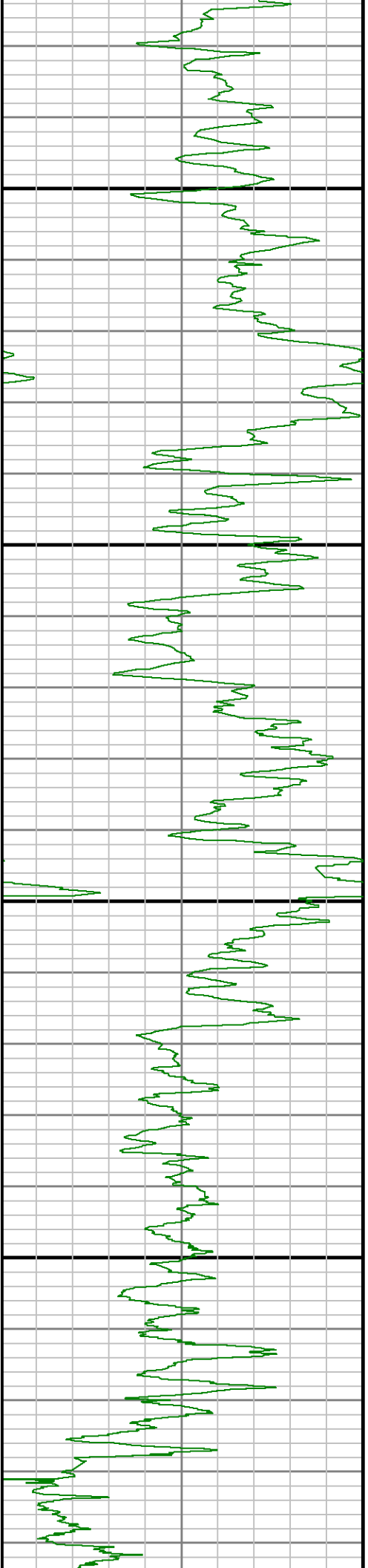
7300

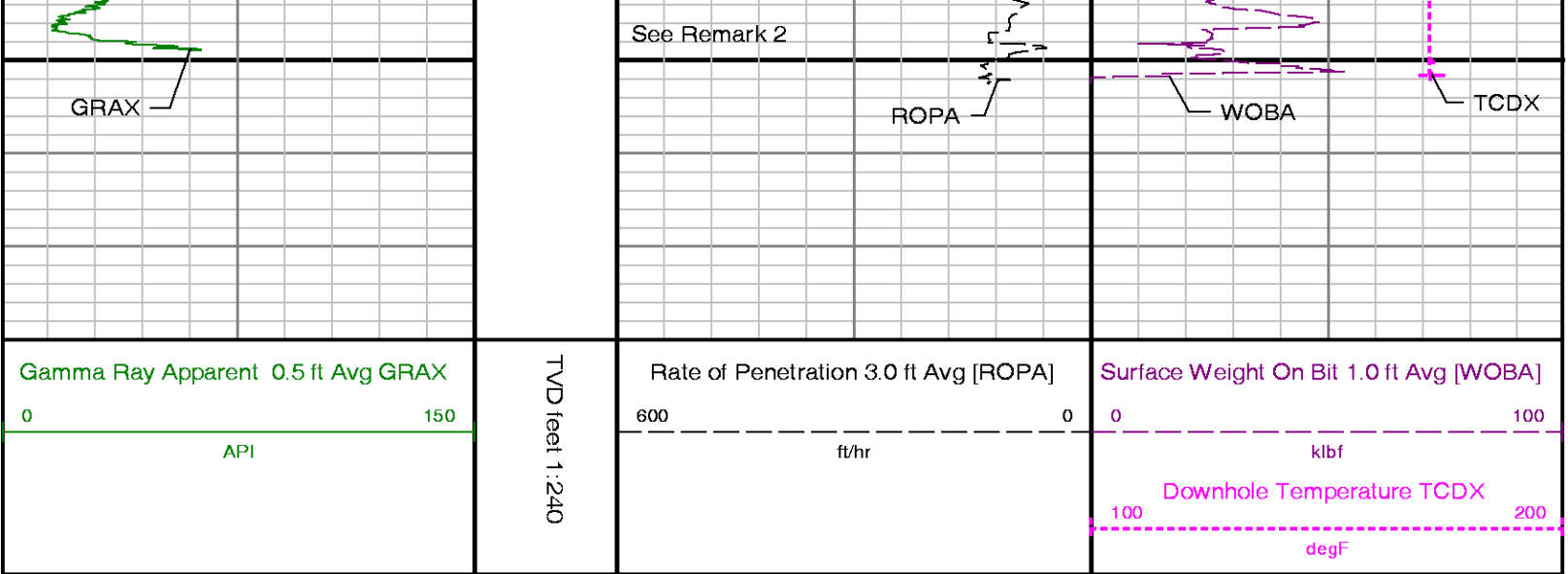




7400

7500





ADVANTAGE Final Survey Listing												
<div>Operator : AnadarkoField : WELD COUNTY (KERR MCGEE)API No : 0512338288</div> <div>Well : BADDING 13C-2HZRig : Ensign 145Job : 5994915</div> <div>Wellbore : BADDING 13C-2HZ Orig Hole</div>												
Well Origin												
Latitude		40.0939 deg			Longitude		-104.7506 deg					
North Reference		True			Drill Depth Zero		NULL					
Vertical Datum is		RKB			Vertical Datum to DDZ		0.00 ft					
Vertical Section North		0.00 ft			Vertical Section East		0.00 ft					
Vertical Section Azimuth		181.4100 deg			Vertical Section Depth		0.00ft					
Grid Convergence		0.0000 deg			Magnetic Declination		8.3300 deg					
Total Correction		8.3300 deg			TVD Calculation Method		Minimal Curvature					
D-Row Calculation		Magcorr1			Local Magnetic Field		52965 nT					
Local Magnetic Dip Angle		66.6000 deg			Local Gravity Field		9.798 m/s^2					
Tie	MD	Incl	Azim	North	East	TVD	VS	Incr VS	Crs Len	DLS	Build	Turn
	ft	deg	deg	ft	ft	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft
U	13.00	0.0000	71.0700	0.00	0.00	13.00	0.00	0.00		0.00	0.00	-0.00
	113.00	0.3900	71.0700	0.11	0.32	113.00	-0.12	0.34	100.00	0.39	0.39	0.00
	213.00	0.7400	32.5400	0.77	0.99	212.99	-0.79	1.28	100.00	0.50	0.35	-38.53
	313.00	0.9100	356.3100	2.10	1.29	312.98	-2.13	2.65	100.00	0.54	0.17	-36.23
	413.00	0.6300	343.1800	3.42	1.08	412.98	-3.45	3.98	100.00	0.33	-0.28	-13.13
	513.00	0.8000	328.0200	4.54	0.55	512.97	-4.55	5.22	100.00	0.25	0.17	-15.16
	613.00	0.7800	320.6600	5.66	-0.25	612.96	-5.65	6.59	100.00	0.10	-0.02	-7.36
	713.00	0.2900	290.9000	6.27	-0.92	712.95	-6.25	7.50	100.00	0.55	-0.49	-29.76
	813.00	0.0600	116.5900	6.34	-1.11	812.95	-6.31	7.70	100.00	0.35	-0.23	-174.31
	913.00	0.4400	67.1000	6.47	-0.71	912.95	-6.45	8.12	100.00	0.40	0.38	-49.49
	1013.00	0.7300	356.1800	7.25	-0.40	1012.95	-7.24	8.97	100.00	0.72	0.29	-70.92
	1113.00	0.6400	313.7800	8.27	-0.84	1112.94	-8.25	10.08	100.00	0.50	-0.09	-42.40
	1174.00	0.6100	244.2700	8.37	-1.38	1173.94	-8.33	-8.33	61.00	1.17	-0.05	-113.95
	1289.00	0.7400	207.8500	7.45	-2.28	1288.93	-7.39	-7.04	115.00	0.38	0.11	-31.67
	1351.00	0.7600	215.6100	6.76	-2.71	1350.93	-6.69	-6.24	62.00	0.17	0.03	12.52
	1445.00	0.5400	261.0900	6.18	-3.51	1444.92	-6.09	-5.25	94.00	0.58	-0.23	48.38
	1538.00	1.8600	325.3800	7.36	-4.80	1537.90	-7.24	-3.50	93.00	1.82	1.42	69.13
	1632.00	3.5900	347.8100	11.49	-6.29	1631.79	-11.33	0.89	94.00	2.13	1.84	23.86
	1726.00	4.2600	8.9000	17.82	-6.37	1725.58	-17.65	7.21	94.00	1.68	0.71	22.44
	1819.00	6.1200	17.2100	25.96	-4.37	1818.19	-25.85	15.61	93.00	2.15	2.00	8.94
	1913.00	8.2100	16.3100	37.19	-1.00	1911.45	-37.16	27.33	94.00	2.23	2.22	-0.96
	2006.00	10.2700	11.9400	51.68	2.58	2003.24	51.73	42.25	93.00	2.34	2.22	4.70

	2000.00	10.2700	11.9400	51.00	2.50	2000.24	-191.75	42.25	95.00	2.34	2.22	-4.70
	2100.00	11.4600	4.8800	69.18	5.11	2095.56	-69.29	59.94	94.00	1.90	1.27	-7.51
	2193.00	10.6700	0.5300	87.00	5.98	2186.83	-87.12	77.77	93.00	1.24	-0.85	-4.68
	2286.00	9.7700	359.7500	103.50	6.02	2278.36	-103.62	94.27	93.00	0.98	-0.97	-0.84
	2380.00	10.6700	357.7800	120.17	5.65	2370.86	-120.27	110.95	94.00	1.03	0.96	-2.10
	2473.00	11.0300	355.9300	137.65	4.68	2462.20	-137.72	128.45	93.00	0.54	0.39	-1.99
	2567.00	10.4300	354.4800	155.09	3.23	2554.56	-155.12	145.95	94.00	0.70	-0.64	-1.54
	2660.00	11.3500	353.9200	172.57	1.45	2645.88	-172.55	163.52	93.00	1.00	0.99	-0.60
	2754.00	10.1900	353.0300	190.02	-0.54	2738.23	-189.95	181.09	94.00	1.25	-1.23	-0.95
	2847.00	10.4900	351.9500	206.57	-2.72	2829.71	-206.44	197.78	93.00	0.38	0.32	-1.16
	2937.00	10.5600	349.4800	222.79	-5.38	2918.20	-222.59	214.21	90.00	0.51	0.08	-2.74
	3027.00	10.4200	344.1100	238.72	-9.11	3006.70	-238.43	230.58	90.00	1.10	-0.16	-5.97
	3117.00	10.9100	344.7800	254.77	-13.58	3095.14	-254.36	247.24	90.00	0.56	0.54	0.74
	3207.00	11.6200	346.2600	271.79	-17.97	3183.41	-271.27	264.82	90.00	0.85	0.79	1.64
	3297.00	10.8700	344.8800	288.79	-22.33	3271.68	-288.15	282.37	90.00	0.89	-0.83	-1.53
	3387.00	10.7400	347.4200	305.17	-26.37	3360.09	-304.43	299.23	90.00	0.55	-0.14	2.82
	3477.00	10.8800	352.8400	321.78	-29.26	3448.49	-320.96	316.10	90.00	1.14	0.16	6.02
	3567.00	9.8900	353.3900	337.88	-31.21	3537.02	-337.01	332.32	90.00	1.11	-1.10	0.61
	3657.00	10.5300	355.7900	353.76	-32.70	3625.59	-352.85	348.27	90.00	0.85	0.71	2.67
	3747.00	10.8300	352.2300	370.34	-34.45	3714.03	-369.38	364.94	90.00	0.81	0.33	-3.96
	3837.00	9.5100	350.5200	386.06	-36.81	3802.62	-385.03	380.83	90.00	1.50	-1.47	-1.90
	3927.00	9.7100	351.5000	400.90	-39.16	3891.35	-399.81	395.85	90.00	0.29	0.22	1.09
	4017.00	10.1200	352.8100	416.25	-41.27	3980.01	-415.10	411.35	90.00	0.52	0.46	1.46
	4107.00	10.4200	349.1100	432.08	-43.80	4068.57	-430.88	427.39	90.00	0.81	0.33	-4.11
	4197.00	9.3000	346.8900	447.16	-46.99	4157.24	-445.87	442.79	90.00	1.31	-1.24	-2.47
	4287.00	7.6900	347.6400	460.12	-49.92	4246.25	-458.76	456.09	90.00	1.79	-1.79	0.83
	4377.00	6.3800	354.8600	470.99	-51.66	4335.57	-469.57	467.09	90.00	1.75	-1.46	8.02
	4467.00	5.3700	343.8800	480.01	-53.28	4425.10	-478.56	476.26	90.00	1.67	-1.12	-12.20
	4557.00	3.2200	348.3100	486.54	-54.96	4514.84	-485.04	483.00	90.00	2.42	-2.39	4.92
Tie	MD	Incl	Azim	North	East	TVD	VS	Incr VS	Crs Len	DLS	Build	Turn
	ft	deg	deg	ft	ft	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft
	4647.00	1.7500	358.4800	490.39	-55.51	4604.75	-488.87	486.88	90.00	1.70	-1.63	11.30
	4737.00	0.8100	317.1300	492.23	-55.98	4694.73	-490.70	488.78	90.00	1.40	-1.04	-45.94
	4827.00	0.4200	144.1200	492.42	-56.22	4784.73	-490.89	489.09	90.00	1.36	-0.43	-192.23
	5007.00	0.5300	307.7800	492.40	-56.49	4964.73	-490.86	489.37	180.00	0.52	0.06	90.92
	5097.00	0.8200	149.2900	492.10	-56.49	5054.73	-490.56	489.67	90.00	1.47	0.32	-176.10
	5187.00	2.3300	123.5500	490.54	-54.64	5144.69	-489.04	492.09	90.00	1.81	1.68	-28.60
	5277.00	1.9400	129.5100	488.56	-51.94	5234.63	-487.13	495.44	90.00	0.50	-0.43	6.62
	5457.00	0.7300	135.9500	485.79	-48.79	5414.58	-484.45	499.63	180.00	0.68	-0.67	3.58
	5638.00	0.4900	118.7200	484.59	-47.31	5595.57	-483.28	501.53	181.00	0.17	-0.13	-9.52
	5818.00	0.0600	127.5800	484.17	-46.56	5775.56	-482.87	502.40	180.00	0.24	-0.24	4.92
	6178.00	1.2100	329.8500	487.34	-48.32	6135.54	-486.00	506.02	360.00	0.35	0.32	-43.81
	6358.00	0.0800	43.2200	489.07	-49.19	6315.52	-487.71	507.96	180.00	0.66	-0.63	40.76
	6628.00	0.7200	303.7200	490.15	-50.47	6585.52	-488.76	509.64	270.00	0.27	0.24	-36.85
	6718.00	0.6800	171.8500	489.94	-50.86	6675.51	-488.54	510.09	90.00	1.42	-0.04	-146.52
	6808.00	0.6700	136.5200	489.03	-50.42	6765.51	-487.64	511.10	90.00	0.46	-0.01	-39.26
	6927.00	1.5800	61.7700	489.30	-48.50	6884.49	-487.96	513.04	119.00	1.30	0.76	-62.82
	6988.00	1.4600	102.7600	489.52	-47.00	6945.47	-488.22	514.56	61.00	1.75	-0.20	67.20
	7033.00	5.5300	163.4200	487.32	-45.82	6990.38	-486.04	517.06	45.00	11.07	9.04	134.80
	7078.00	10.1700	173.0000	481.29	-44.72	7034.95	-480.05	523.19	45.00	10.68	10.31	21.29
	7123.00	15.0400	173.6000	471.54	-43.58	7078.85	-470.33	533.00	45.00	10.83	10.82	1.33
	7168.00	18.8500	172.8500	458.52	-42.03	7121.89	-457.35	546.12	45.00	8.48	8.47	-1.67
	7214.00	23.0800	176.1300	442.14	-40.49	7164.84	-441.01	562.56	46.00	9.54	9.20	7.13
	7259.00	25.8200	180.8900	423.54	-40.05	7205.80	-422.43	581.17	45.00	7.50	6.09	10.58
	7304.00	28.5100	182.2600	403.01	-40.63	7245.84	-401.88	601.72	45.00	6.14	5.98	3.04
	7349.00	31.6100	181.7700	380.48	-41.41	7284.78	-379.35	624.25	45.00	6.91	6.89	-1.09
	7394.00	36.4200	182.5400	355.33	-42.37	7322.07	-354.18	649.42	45.00	10.73	10.69	1.71
	7439.00	41.3800	182.2400	327.11	-43.54	7357.08	-325.94	677.67	45.00	11.03	11.02	-0.67
	7484.00	47.3900	182.3500	295.67	-44.81	7389.22	-294.48	709.13	45.00	13.36	13.36	0.24
	7529.00	52.1200	181.9300	261.36	-46.08	7418.29	-260.15	743.47	45.00	10.54	10.51	-0.93
	7574.00	56.1700	182.6500	224.92	-47.55	7444.64	-223.69	779.93	45.00	9.09	9.00	1.60
	7619.00	60.8200	182.9000	186.61	-49.41	7468.15	-185.34	818.29	45.00	10.34	10.33	0.56
	7664.00	65.8100	183.0800	146.47	-51.50	7488.35	-145.16	858.48	45.00	11.09	11.09	0.40
	7709.00	69.9700	183.1200	104.85	-53.76	7505.29	-103.50	900.17	45.00	9.24	9.24	0.09

7754.00	73.6300	181.5800	62.15	-55.50	7519.34	-60.76	942.91	45.00	8.76	8.13	-3.42	
7799.00	76.3600	180.7200	18.70	-56.37	7530.99	-17.30	986.37	45.00	6.34	6.07	-1.91	
7844.00	79.0500	180.7400	-25.26	-56.93	7540.57	26.66	1030.33	45.00	5.98	5.98	0.04	
7900.00	84.7500	182.0500	-80.67	-58.29	7548.46	82.08	1085.75	56.00	10.44	10.18	2.34	
8024.00	89.1900	183.6400	-204.30	-64.44	7555.01	205.83	1209.54	124.00	3.80	3.58	1.28	
8118.00	89.6900	181.8600	-298.19	-68.95	7555.93	299.79	1303.53	94.00	1.97	0.53	-1.89	
8211.00	89.9300	181.8300	-391.14	-71.94	7556.24	392.79	1396.53	93.00	0.26	0.26	-0.03	
8305.00	89.6300	181.7800	-485.09	-74.90	7556.60	486.79	1490.53	94.00	0.32	-0.32	-0.05	
8399.00	89.5600	181.9900	-579.04	-77.99	7557.27	580.78	1584.53	94.00	0.24	-0.07	0.22	
8492.00	90.3600	180.8500	-672.01	-80.30	7557.33	673.78	1677.52	93.00	1.50	0.86	-1.23	
8586.00	90.4300	181.1900	-765.99	-81.97	7556.68	767.77	1771.52	94.00	0.37	0.07	0.36	
8679.00	89.1900	180.5500	-858.98	-83.38	7556.99	860.77	1864.52	93.00	1.50	-1.33	-0.69	
8773.00	88.7300	180.2100	-952.96	-84.01	7558.70	954.74	1958.50	94.00	0.61	-0.49	-0.36	
8867.00	88.9500	180.0500	-1046.94	-84.22	7560.60	1048.69	2052.48	94.00	0.29	0.23	-0.17	
8960.00	89.7200	180.8500	-1139.93	-84.95	7561.68	1141.67	2145.48	93.00	1.19	0.83	0.86	
9054.00	89.1300	180.8900	-1233.91	-86.38	7562.62	1235.66	2239.47	94.00	0.63	-0.63	0.04	
9148.00	90.4000	180.8000	-1327.90	-87.76	7563.01	1329.66	2333.47	94.00	1.35	1.35	-0.10	
Tie	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Incr VS ft	Crs Len ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
9241.00	89.7800	180.9300	-1420.89	-89.17	7562.86	1422.65	2426.47	93.00	0.68	-0.67	0.14	
9335.00	91.0700	181.2600	-1514.87	-90.96	7562.16	1516.65	2520.46	94.00	1.42	1.37	0.35	
9429.00	91.3500	180.9700	-1608.83	-92.79	7560.18	1610.62	2614.44	94.00	0.43	0.30	-0.31	
9519.00	90.8000	180.5000	-1698.80	-93.95	7558.49	1700.60	2704.43	90.00	0.80	-0.61	-0.52	
9609.00	90.8900	179.8100	-1788.79	-94.19	7557.16	1790.57	2794.42	90.00	0.77	0.10	-0.77	
9698.00	90.6100	179.0300	-1877.78	-93.29	7556.00	1879.51	2883.41	89.00	0.93	-0.31	-0.88	
9789.00	90.4600	177.8900	-1968.74	-90.84	7555.15	1970.38	2974.40	91.00	1.26	-0.16	-1.25	
9879.00	87.2600	176.7000	-2058.61	-86.60	7556.94	2060.12	3064.37	90.00	3.79	-3.56	-1.32	
9969.00	88.5200	176.7000	-2148.40	-81.42	7560.25	2149.75	3154.31	90.00	1.40	1.40	0.00	
10059.00	88.7000	178.8500	-2238.30	-77.93	7562.44	2239.54	3244.28	90.00	2.40	0.20	2.39	
10149.00	89.1900	180.3800	-2328.28	-77.32	7564.09	2329.48	3334.26	90.00	1.78	0.54	1.70	
10239.00	89.4400	181.6400	-2418.26	-78.91	7565.17	2419.47	3424.25	90.00	1.43	0.28	1.40	
10329.00	89.9000	183.6900	-2508.15	-83.09	7565.69	2509.44	3514.24	90.00	2.33	0.51	2.28	
10419.00	90.4300	183.7700	-2597.96	-88.95	7565.43	2599.36	3604.24	90.00	0.60	0.59	0.09	
10509.00	90.6100	183.5600	-2687.77	-94.70	7564.61	2689.29	3694.24	90.00	0.31	0.20	-0.23	
10599.00	90.1200	183.8100	-2777.58	-100.49	7564.04	2779.22	3784.24	90.00	0.61	-0.54	0.28	
10689.00	90.4900	183.7400	-2867.39	-106.41	7563.56	2869.14	3874.23	90.00	0.42	0.41	-0.08	
10779.00	88.4900	183.9100	-2957.18	-112.41	7564.36	2959.05	3964.23	90.00	2.23	-2.22	0.19	
10869.00	88.3600	183.0600	-3046.98	-117.88	7566.83	3048.96	4054.19	90.00	0.96	-0.14	-0.94	
10959.00	88.4900	183.3400	-3136.80	-122.91	7569.31	3138.88	4144.16	90.00	0.34	0.14	0.31	
11049.00	89.3500	183.4900	-3226.63	-128.27	7571.00	3228.81	4234.14	90.00	0.97	0.96	0.17	
11139.00	88.3000	182.4300	-3316.49	-132.91	7572.85	3318.75	4324.12	90.00	1.66	-1.17	-1.18	
11229.00	90.1200	182.3100	-3406.40	-136.63	7574.09	3408.73	4414.11	90.00	2.03	2.02	-0.13	
11319.00	91.1700	182.7100	-3496.30	-140.57	7573.08	3498.70	4504.10	90.00	1.25	1.17	0.44	
11409.00	91.1700	182.2300	-3586.20	-144.45	7571.24	3588.67	4594.08	90.00	0.53	0.00	-0.53	
11499.00	88.7300	180.6600	-3676.16	-146.72	7571.32	3678.66	4684.07	90.00	3.22	-2.71	-1.74	
11589.00	86.9800	180.1300	-3766.09	-147.34	7574.69	3768.58	4774.00	90.00	2.03	-1.94	-0.59	
11679.00	88.0100	181.1500	-3856.00	-148.35	7578.62	3858.48	4863.92	90.00	1.61	1.14	1.13	
11769.00	90.9800	179.9200	-3945.98	-149.19	7579.41	3948.46	4953.90	90.00	3.57	3.30	-1.37	
11859.00	90.4600	179.6600	-4035.97	-148.86	7578.28	4038.41	5043.89	90.00	0.65	-0.58	-0.29	
11949.00	91.1400	182.0600	-4125.95	-150.21	7577.03	4128.39	5133.88	90.00	2.77	0.76	2.67	
12039.00	90.2700	182.2900	-4215.87	-153.62	7575.92	4218.38	5223.87	90.00	1.00	-0.97	0.26	
12129.00	89.4100	182.7700	-4305.78	-157.60	7576.17	4308.36	5313.87	90.00	1.09	-0.96	0.53	
12219.00	87.9000	181.5100	-4395.69	-160.96	7578.28	4398.32	5403.84	90.00	2.18	-1.68	-1.40	
12309.00	89.9600	183.7000	-4485.57	-165.05	7579.96	4488.28	5493.81	90.00	3.34	2.29	2.43	
12399.00	90.7600	181.5100	-4575.47	-169.14	7579.40	4578.25	5583.80	90.00	2.59	0.89	-2.43	
12489.00	88.0200	180.5300	-4665.44	-170.74	7580.36	4668.23	5673.79	90.00	3.23	-3.04	-1.09	
12579.00	89.1900	179.4400	-4755.41	-170.71	7582.55	4758.17	5763.76	90.00	1.78	1.30	-1.21	
12669.00	90.3300	179.7400	-4845.41	-170.07	7582.92	4848.13	5853.76	90.00	1.31	1.27	0.33	
12759.00	88.3300	178.3100	-4935.38	-168.54	7583.98	4938.03	5943.74	90.00	2.73	-2.22	-1.59	
12849.00	89.4100	179.0200	-5025.34	-166.44	7585.75	5027.91	6033.73	90.00	1.44	1.20	0.79	
12939.00	90.8900	180.5400	-5115.33	-166.10	7585.52	5117.87	6123.72	90.00	2.36	1.64	1.69	
13029.00	91.6600	180.1800	-5205.31	-166.66	7583.51	5207.83	6213.70	90.00	0.94	0.86	-0.40	
13119.00	89.0400	178.5600	-5295.29	-165.67	7582.96	5297.76	6303.68	90.00	3.42	-2.91	-1.80	

	13209.00	91.4400	180.0700	-5385.27	-164.60	7582.59	5387.69	6393.67	90.00	3.15	2.67	1.68
	13300.00	90.9200	180.2000	-5476.25	-164.81	7580.71	5478.65	6484.65	91.00	0.59	-0.57	0.14
	13390.00	92.2700	181.1000	-5566.21	-165.83	7578.21	5568.60	6574.62	90.00	1.80	1.50	1.00
	13480.00	93.2700	180.8600	-5656.09	-167.37	7573.86	5658.50	6664.51	90.00	1.14	1.11	-0.27
	13570.00	91.2600	180.5200	-5746.01	-168.45	7570.30	5748.41	6754.44	90.00	2.27	-2.23	-0.38
	13660.00	89.4100	180.5200	-5836.00	-169.27	7569.78	5838.40	6844.43	90.00	2.06	-2.06	0.00
Tie	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Incr VS ft	Crs Len ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	13750.00	88.4500	184.2300	-5925.89	-173.00	7571.46	5928.35	6934.40	90.00	4.26	-1.07	4.12
	13840.00	89.5900	183.0400	-6015.69	-178.70	7573.00	6018.27	7024.38	90.00	1.83	1.27	-1.32
	13930.00	90.1500	185.3500	-6105.44	-185.28	7573.20	6108.15	7114.37	90.00	2.64	0.62	2.57
	14020.00	89.6900	183.2800	-6195.18	-192.06	7573.33	6198.03	7204.37	90.00	2.36	-0.51	-2.30
	14110.00	87.0500	182.1400	-6285.04	-196.31	7575.89	6287.96	7294.32	90.00	3.19	-2.93	-1.27
	14200.00	88.4800	184.6400	-6374.80	-201.63	7579.40	6377.83	7384.25	90.00	3.20	1.59	2.78
	14290.00	89.6600	183.1200	-6464.58	-207.72	7580.86	6467.73	7474.23	90.00	2.14	1.31	-1.69
	14380.00	88.7600	183.2100	-6554.43	-212.68	7582.10	6557.68	7564.22	90.00	1.00	-1.00	0.10
	14470.00	89.1900	185.6300	-6644.14	-219.62	7583.71	6647.54	7654.20	90.00	2.73	0.48	2.69
	14560.00	89.2200	184.3300	-6733.79	-227.43	7584.96	6737.35	7744.19	90.00	1.44	0.03	-1.44
	14650.00	89.8700	184.9600	-6823.49	-234.72	7585.67	6827.20	7834.18	90.00	1.01	0.72	0.70
	14740.00	89.0700	183.0500	-6913.27	-241.00	7586.50	6917.10	7924.18	90.00	2.30	-0.89	-2.12
	14830.00	89.1600	181.9900	-7003.17	-244.96	7587.89	7007.07	8014.16	90.00	1.18	0.10	-1.18
	14920.00	90.0300	182.2000	-7093.10	-248.25	7588.53	7097.06	8104.16	90.00	0.99	0.97	0.23
	15011.00	91.4900	180.2500	-7184.07	-250.20	7587.32	7188.05	8195.15	91.00	2.68	1.60	-2.14
	15101.00	89.2500	180.7500	-7274.06	-250.98	7586.74	7278.03	8285.14	90.00	2.55	-2.49	0.56
	15191.00	88.9100	180.3200	-7364.04	-251.82	7588.19	7368.01	8375.13	90.00	0.61	-0.38	-0.48
	15281.00	88.8200	178.2300	-7454.01	-250.68	7589.97	7457.92	8465.10	90.00	2.32	-0.10	-2.32
	15326.00	88.8500	180.9300	-7499.00	-250.35	7590.88	7502.89	8510.09	45.00	6.00	0.07	6.00
	Projection to TD:											
	15383.00	88.8500	180.9300	-7555.98	-251.28	7592.03	7559.87	8567.08	57.00	0.00	0.00	0.00