BAKER HUGHES

Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale: 1:600 Measured Depth	**Company:**	**Extraction Oil & Gas**	
	Well:	**DT-Martinez 2-5-6**	
	Field:	**Weld County**	
	County:	**Continental US**	**State:** **Colorado**
Status: **Final Print**	Surface Location: Latitude: 40° 26' 07.116" N Longitude: 104° 41' 01.428" W SEC: 05 TWP: 05N RNG: 65W		Other Services: Directional VSS
API Number: 05-123-41037-00			

Permanent Datum (P.D.):	Mean Sea Level	Elevation:	4640.00 ft.	Elevations:	
Log Measured From:	Rig Floor	4655.00 ft.	Above P.D.	KB:	N/A
Depth Reference:	Driller's Depth			DF:	4655.00 ft.
				GL:	4640.00 ft.

Interval Logged		Dates		Magnetic Field Reference			
Top:	6500.0 ft.	Date From:	22/Mar/15	Dip Angle:	66.96 °	Azi Reference North:	True
Bottom:	14636.0 ft.	Date To:	29/Mar/15	Total		Mag to Reference	
		Spud Date:	22/Mar/15	Field Strength:	52699.0 nT	North Correction:	8.44 °

Borehole Record			Casing Record			
Hole Size	From	To	Size	Weight	From	To
13.500 in.	Surface	1065.0 ft.	9.625 in.	36.00 lb/ft	Surface	1046.0 ft.
8.750 in.	1065.0 ft.	7907.0 ft.	7.000 in.	26.00 lb/ft	Surface	7876.0 ft.
6.125 in.	7907.0 ft.	14636.0 ft.				

Mud Record			Deviation Record			
Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	Surface	14636.0 ft.	13.500 in.	1050.0 ft.	0.0 ° / 0.0 °	1.9 ° / 250.2 °
			8.750 in.	7954.0 ft.	1.9 ° / 250.2 °	91.8 ° / 269.8 °
			6.125 in.	6901.0 ft.	91.8 ° / 269.8 °	89.3 ° / 272.0 °
					/	/
					/	/
					/	/

Acquisition System	Software Version	Other	
Advantage	2.20U4	Rig:	Savanna 802 / Savanna Drilling
PATS	6.4.1.34	Job No:	7147242
		District: / Unit:	RMA / D&E

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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	13.500	Tri-cone	10.000	Mud Motor	15.0	1004.0	15.0	1065.0	03/22/15	14:30	03/23/15	08:30	7.8
2	2	2	8.750	PDC	3.000	Mud Motor	1004.0	7864.0	1065.0	7907.0	03/24/15	05:30	03/25/15	22:00	25.4
3	3	3	6.125	PDC	6.500	Mud Motor	7864.0	7927.0	7907.0	7993.0	03/26/15	12:45	03/27/15	00:30	1.6
4	4	4	6.125	PDC	6.500	Mud Motor	7927.0	14575.0	7993.0	14636.0	03/07/15	00:50	03/9/15	13:45	35.9

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Kristoffer Peterson	22/Mar/2015	29/Mar/2015	James Stover	22/Mar/2015	29/Mar/2015	Nathan Leopold	24/Mar/2015	29/Mar/2015
Enyonam Anyigba	22/Mar/2015	29/Mar/2015	Donald Delay	22/Mar/2015	24/Mar/2015			

Mud Properties Record

Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
03/24/15 09:00	2	1305.0	Water Based Mud	8.4	27	12.0	N/A	0 / 99	Active Mud Pit	0	N/A
03/25/15 06:30	2	7336.0	Water Based Mud	9.5	38	8.5	N/A	0 / 91.2	Active Mud Pit	500	N/A
03/26/15 09:00	2	7907.0	Water Based Mud	9.9	48	8.0	N/A	0 / 90.2	Active Mud Pit	400	N/A
03/27/15 09:00	4	7993.0	Water Based Mud	9.0	28	36.0	N/A	0 / 94.7	Active Mud Pit	500	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray - Apparent	API
ROPA	Rate of Penetration 3.0 ft Avg ROP AVG	ft/hr
TVD	True Vertical Depth	ft
WOBA	Surface Weight On Bit 1.0 ft Avg WOB AVG	klbf
TCDX	Downhole Temperature	degF
GRTX	Gamma Ray Time Since Drilled	mins
GRSI	Gamma Ray Sliding Indicator	unitless
GRIX	Gamma Ray Data Point Indicator	unitless

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12497605	Directional	70.18	6.750	3.250
1	SRIG	10585205	Gamma	66.80	6.750	3.250
2	DIR	12546374	Directional	61.80	6.750	3.250
2	SRIG	10582603	Gamma	58.34	6.750	3.250
3	DIR	12456778	Directional	66.09	4.750	2.315
3	SRIG	11892058	Gamma	62.71	4.750	2.315
4	DIR	12497607	Directional	61.49	4.750	2.315
4	SRIG	12376061	Gamma	58.07	4.750	2.315

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

Comments

(1) A sliding indicator is shown to the left of track 1 as a heavy green line. The indicator has been depth-shifted to the gamma sensor offset to correspond with data acquired while sliding.

(2) 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.

(3) Baker Hughes INTEQ run 1 utilized 6 3/4 inch NaviGamma (Gamma Ray and Directional) behind a 13 1/2 inch bit and steerable assembly from 15 to 1065 feet MD (15 feet to 1064 feet TVD).

(4) Baker Hughes LWD run 2 utilized 6 3/4 inch NaviGamma Services (VSS, Directional, and Gamma Ray) behind an 8 3/4 inch bit and steerable assembly from 1065 to 7907 feet MD (1065 to 6883 feet TVD).

(5) Baker Hughes LWD run 3 and 4 utilized 4 3/4 inch NaviGamma Services (VSS, Directional, and Gamma Ray) behind and 6 1/8 inch bit and steerable assembly from 7907 to 14636 feet MD (6883 to 6875 feet TVD).

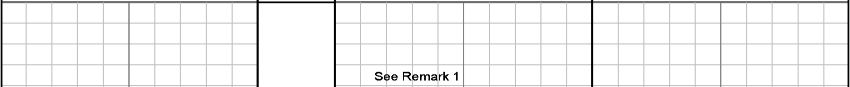
Remarks

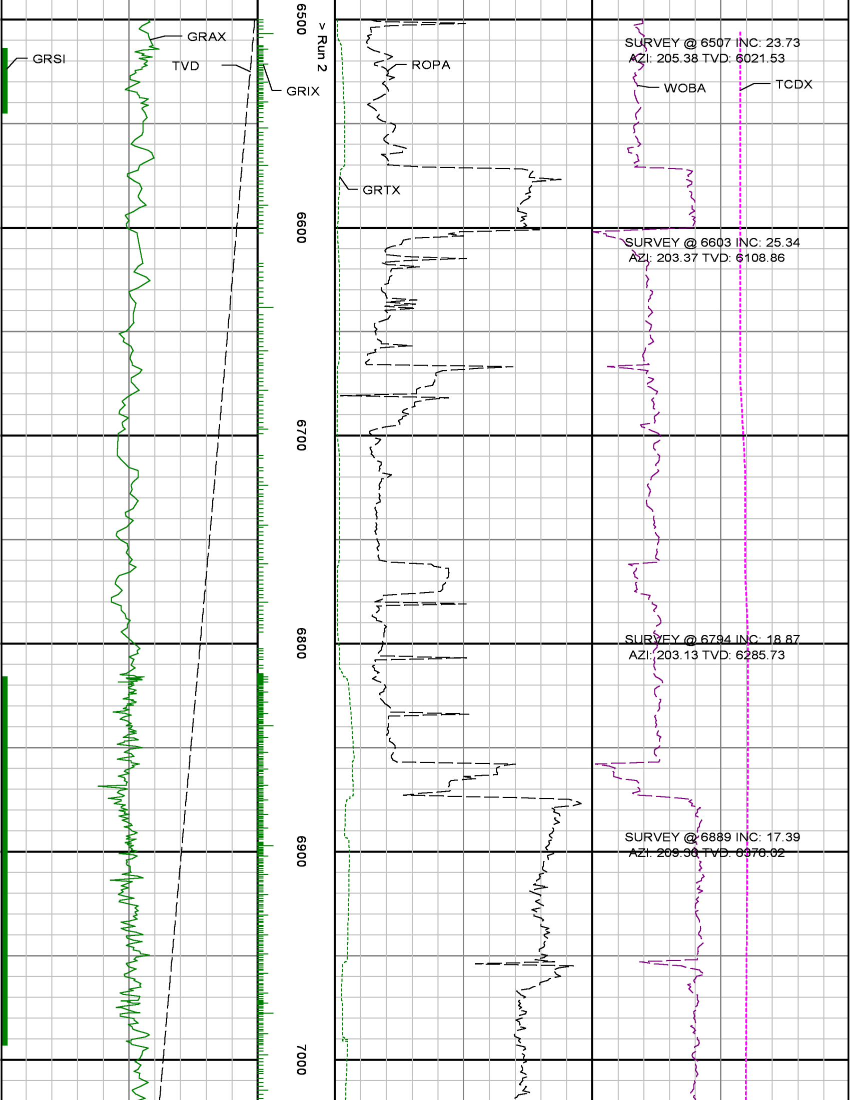
Number	Measured Depth (ft)	Hole Section (in.)	LWD Run No.	Remark
1	6500	8.750	2	The interval from surface to 6500 feet MD (6015 feet TVD) was not logged since logging services began at kick off point.
2	7873	8.750	2	The interval between 7846 to 7907 feet MD (6885 to 6883 feet TVD) was not logged for up to 30.5 hours due to casing and cementing operations
3	7990	6.125	3	The interval between 7931 to 8016 feet MD (6881 to 6879 feet TVD) was not logged for up to 9.3 hours due to POOH for MWD
4	14582	6.125	4	The interval from 14578 to 14636 feet MD (6874 to 6875 feet TVD) was not logged due to bit to sensor offset at TD

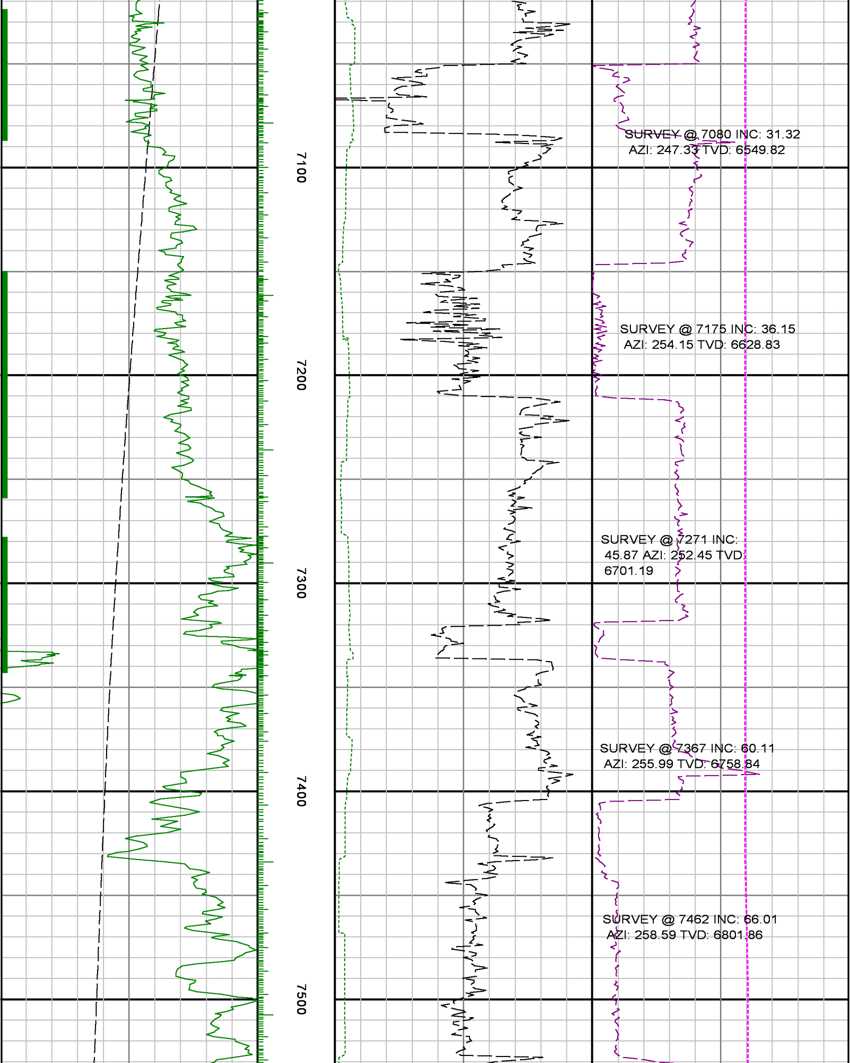
BAKER HUGHES

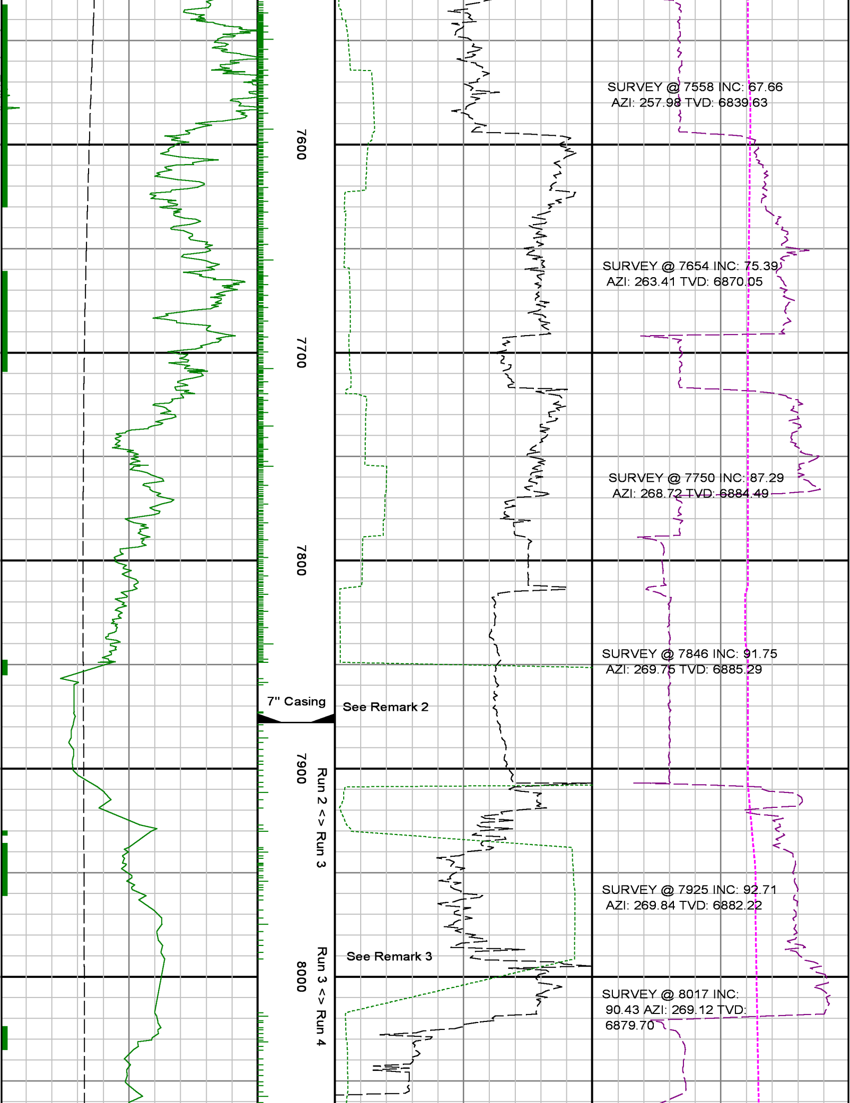
Company : Extraction Oil & Gas
Well : DT-MARTINEZ 2-5-6
Interval : 6450.00 - 14700.00 feet
Created : 29/Mar/2015 3:15:25 AM

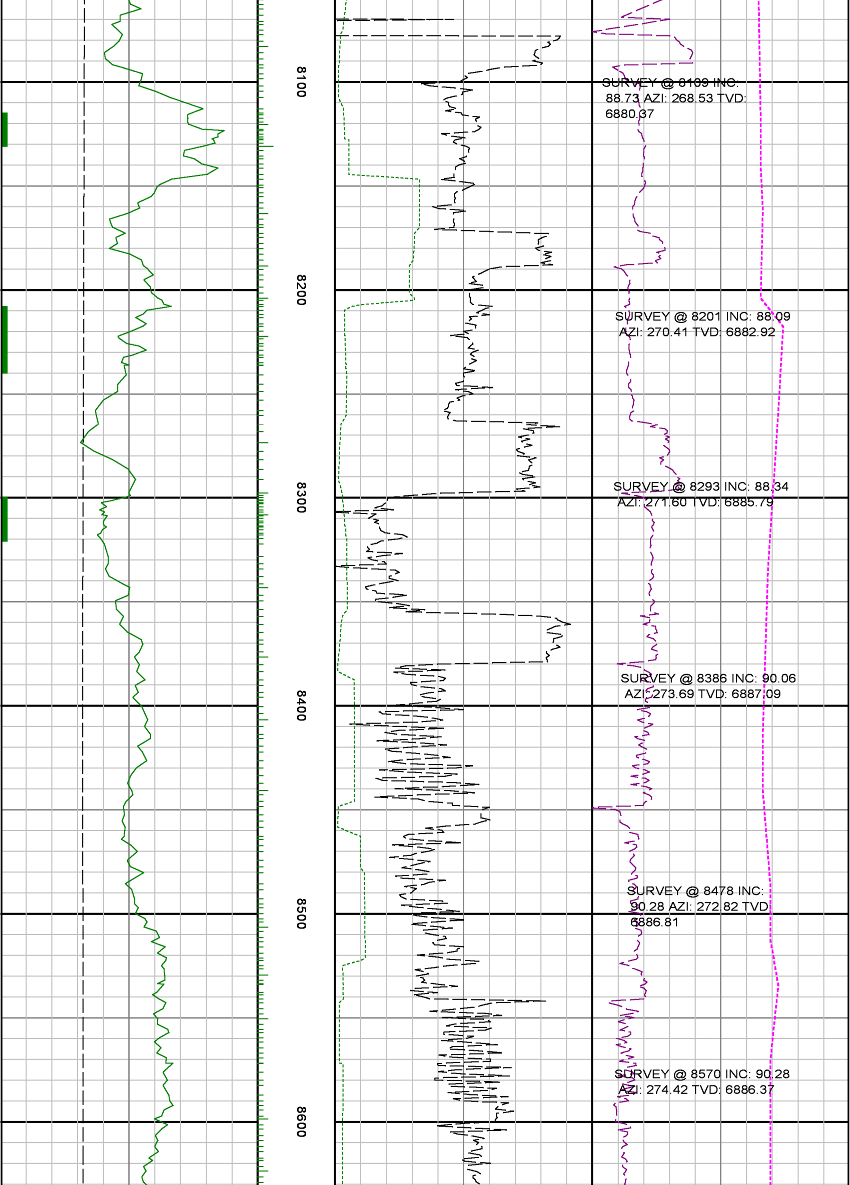
True Vertical Depth TVD 7300 — 6000 ft Gamma Ray Apparent 3.0 ft Avg GRAX 0 — 200 API	MD feet 1:600	Rate of Penetration 3.0 ft Avg ROPA 800 — 0 ft/hr Gamma Ray Time Since Drilled GRTX 0 — 600 min	Surface Weight On Bit 1.0 ft Avg WOBA 0 — 100 klbf Downhole Temperature TCDX 0 — 275 degF

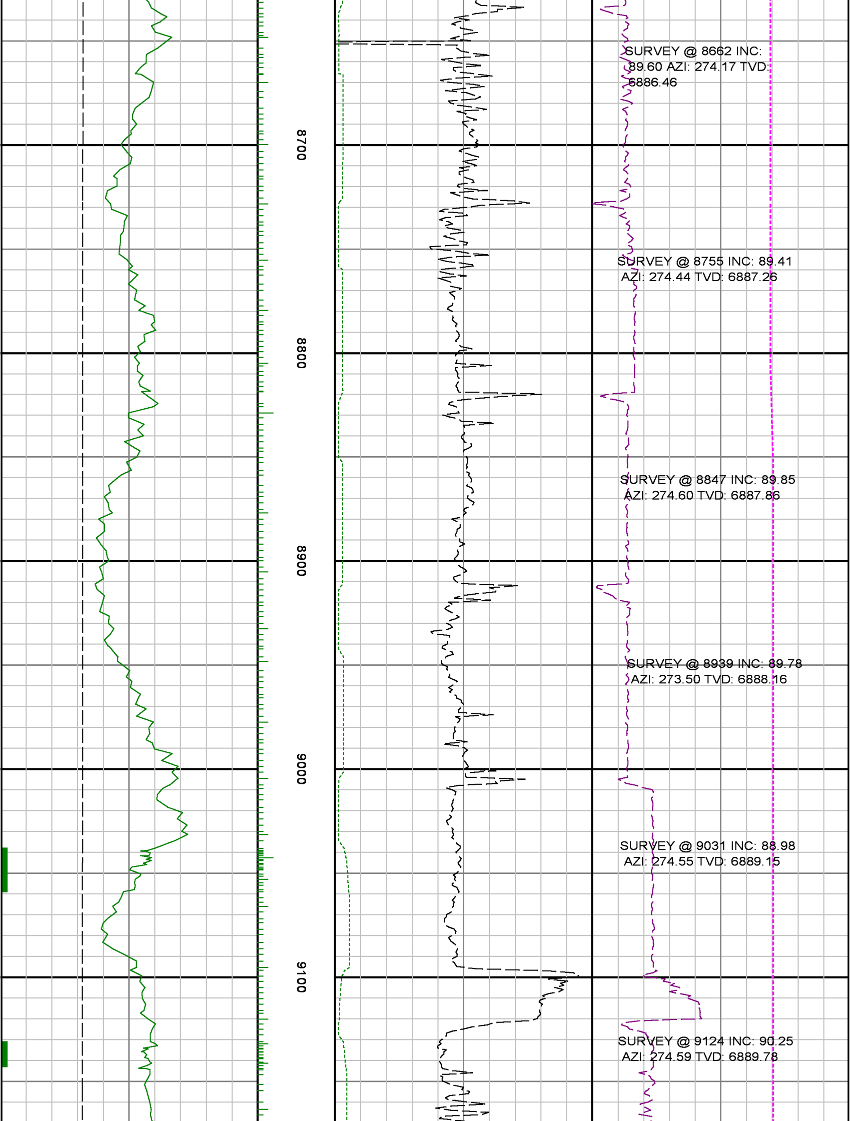












SURVEY @ 8662 INC: 89.60 AZI: 274.17 TVD: 6886.46

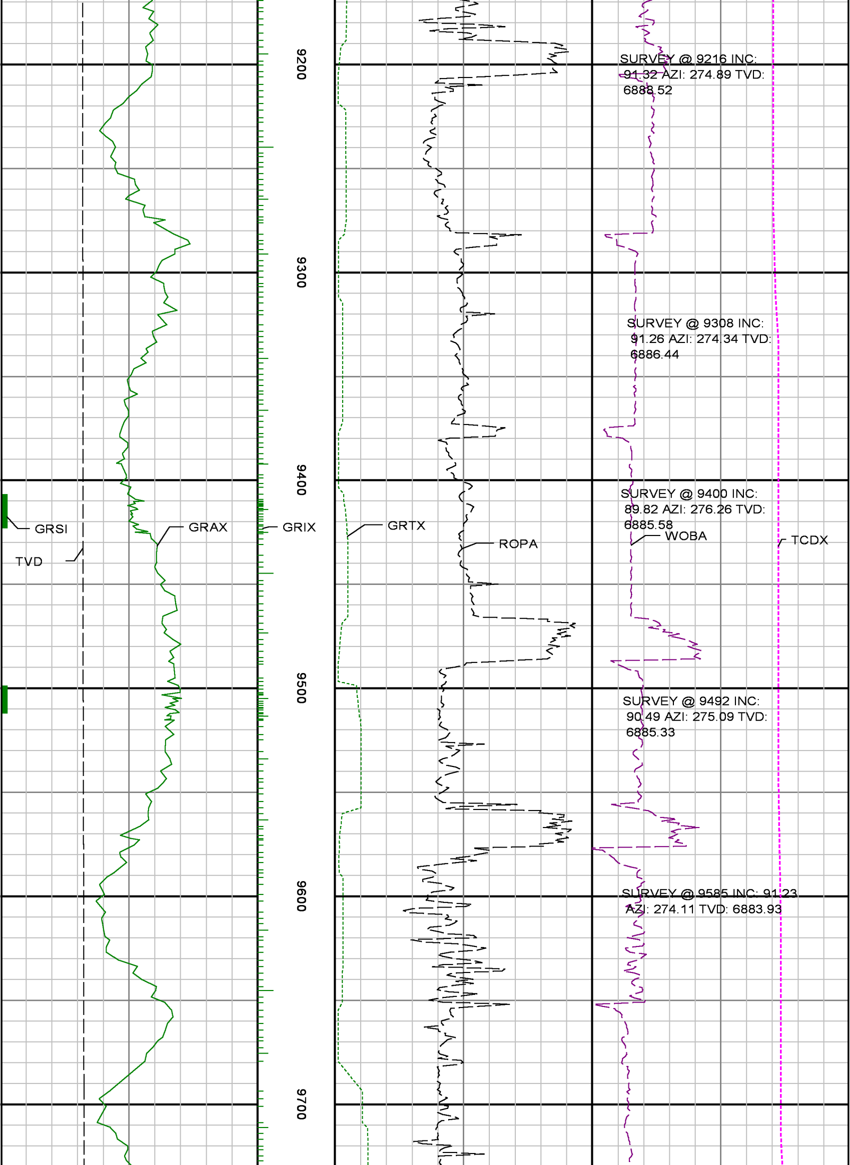
SURVEY @ 8755 INC: 89.41 AZI: 274.44 TVD: 6887.26

SURVEY @ 8847 INC: 89.85 AZI: 274.60 TVD: 6887.86

SURVEY @ 8939 INC: 89.78 AZI: 273.50 TVD: 6888.16

SURVEY @ 9031 INC: 88.98 AZI: 274.55 TVD: 6889.15

SURVEY @ 9124 INC: 90.25 AZI: 274.59 TVD: 6889.78



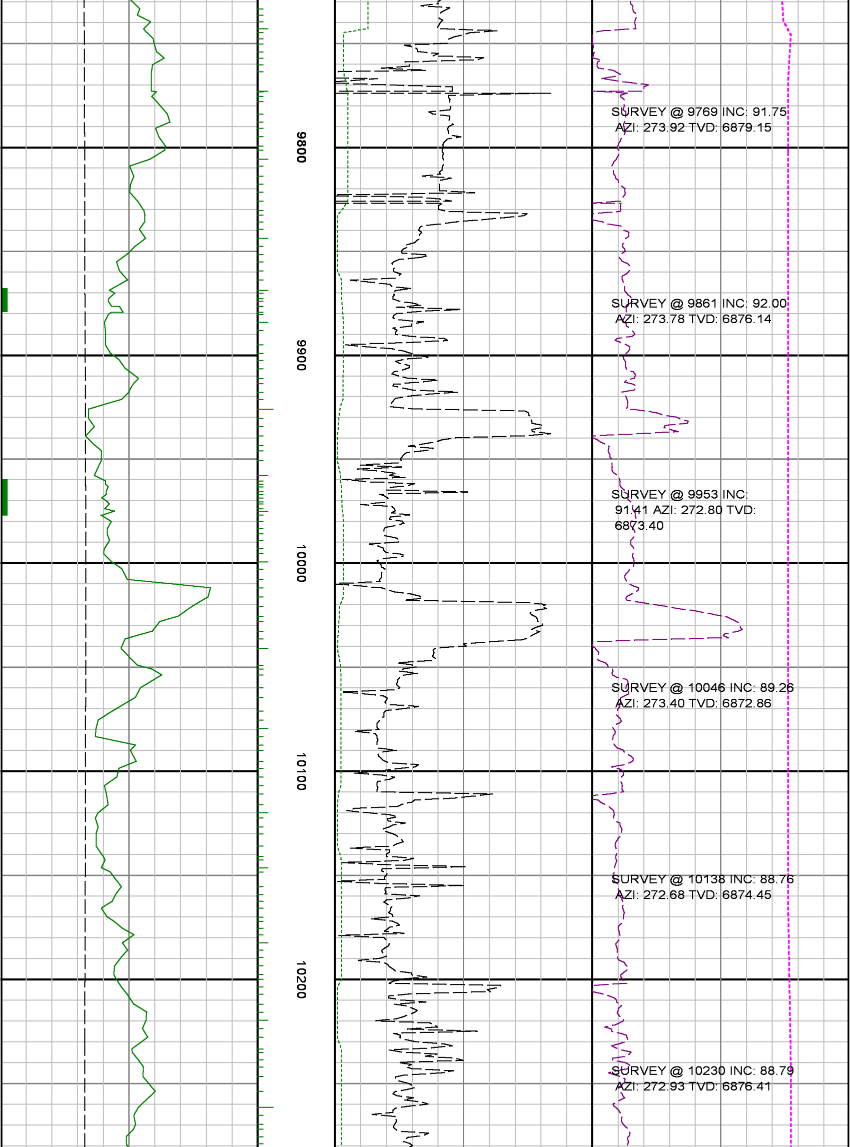
SURVEY @ 9216 INC: 91.32 AZI: 274.89 TVD: 6888.52

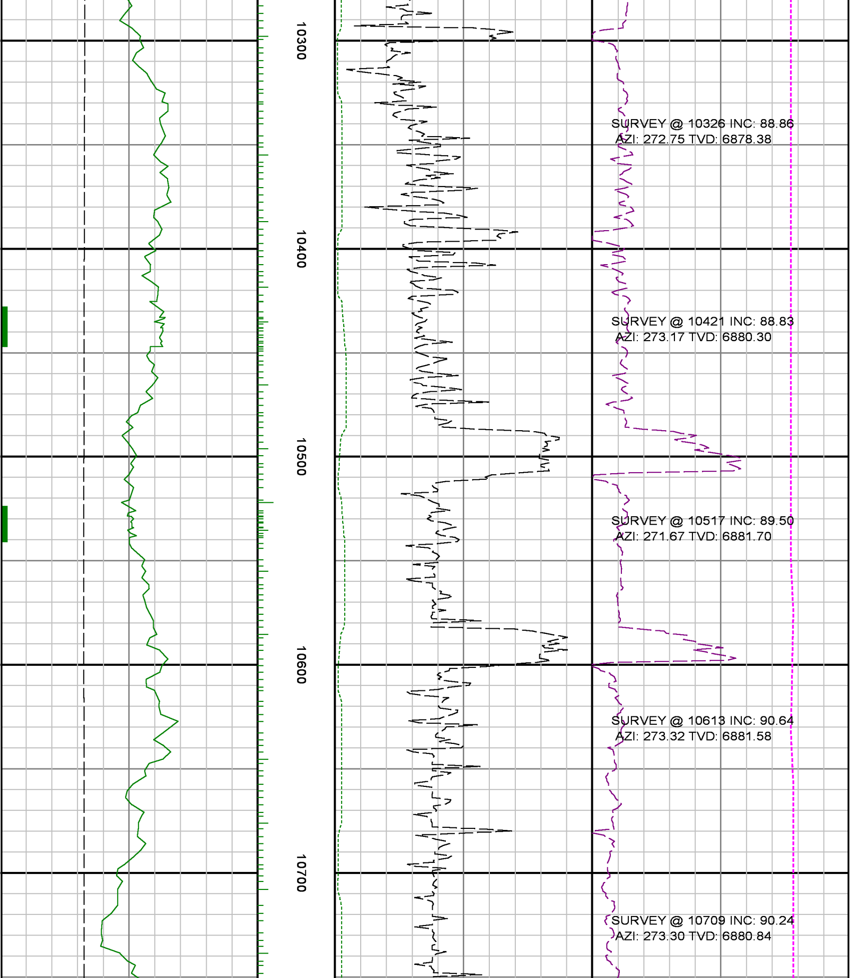
SURVEY @ 9308 INC: 91.26 AZI: 274.34 TVD: 6886.44

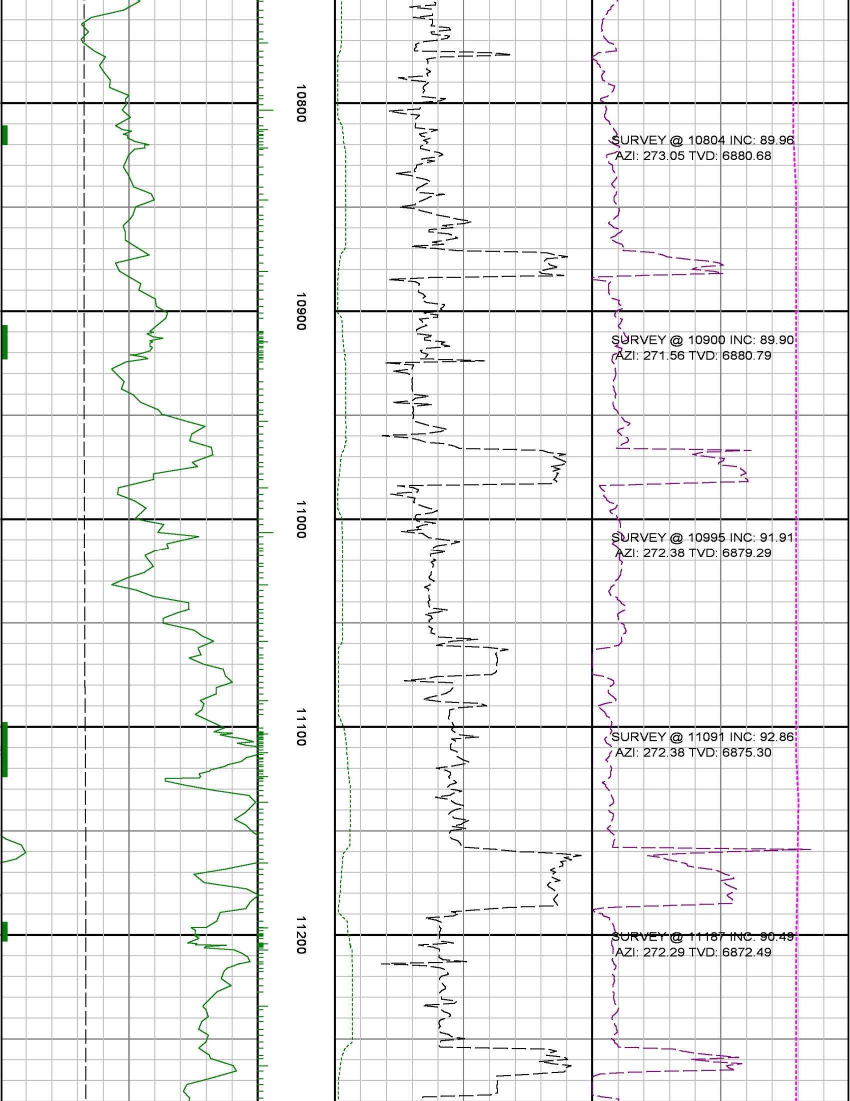
SURVEY @ 9400 INC: 89.82 AZI: 276.26 TVD: 6885.58

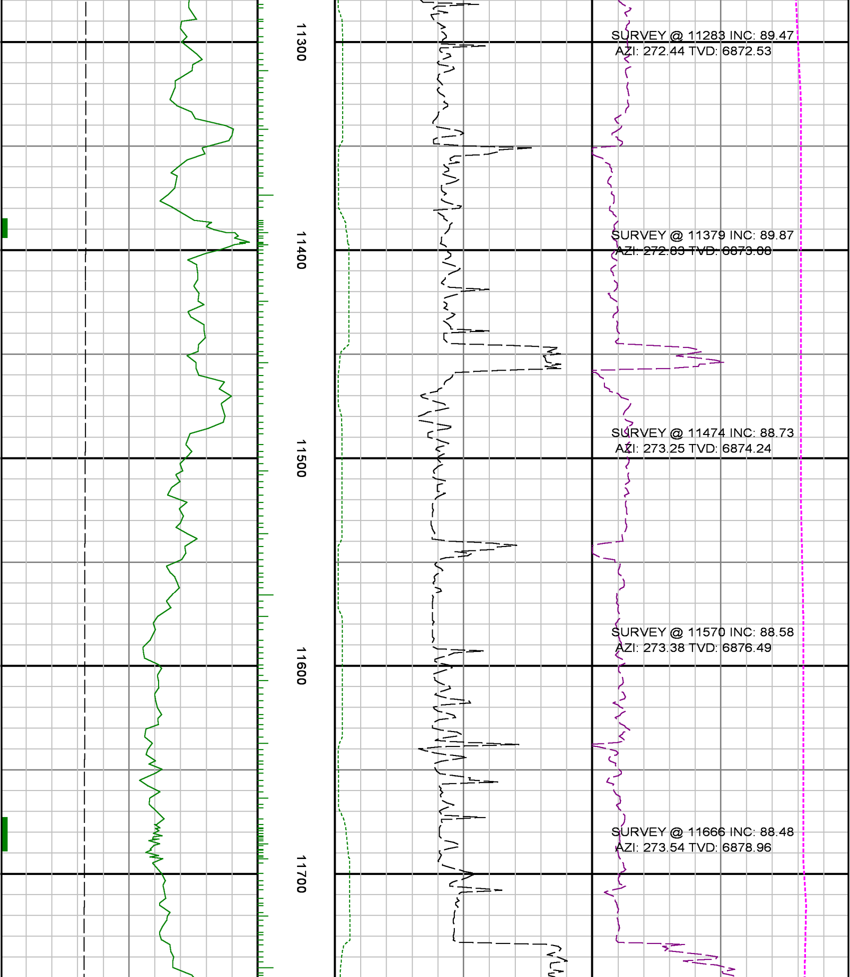
SURVEY @ 9492 INC: 90.49 AZI: 275.09 TVD: 6885.33

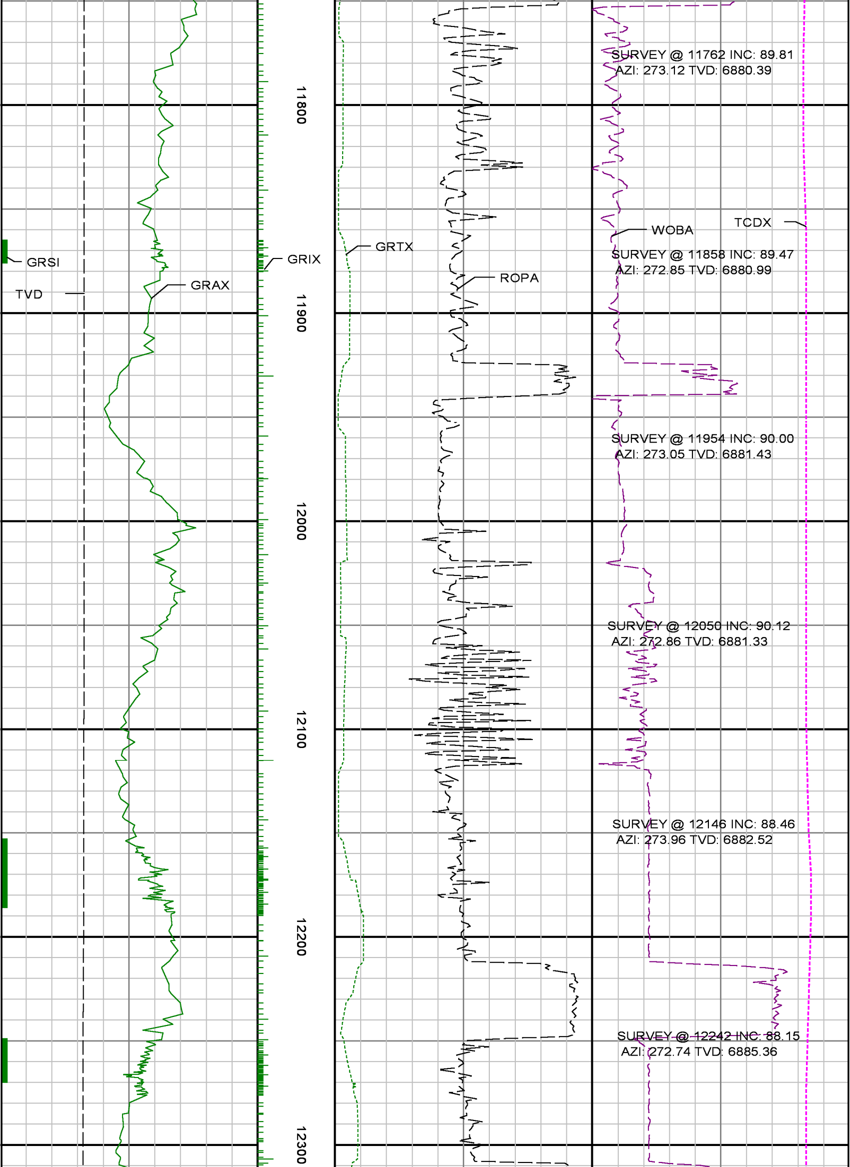
SURVEY @ 9585 INC: 91.23 AZI: 274.11 TVD: 6883.93











SURVEY @ 11762 INC: 89.81
AZI: 273.12 TVD: 6880.39

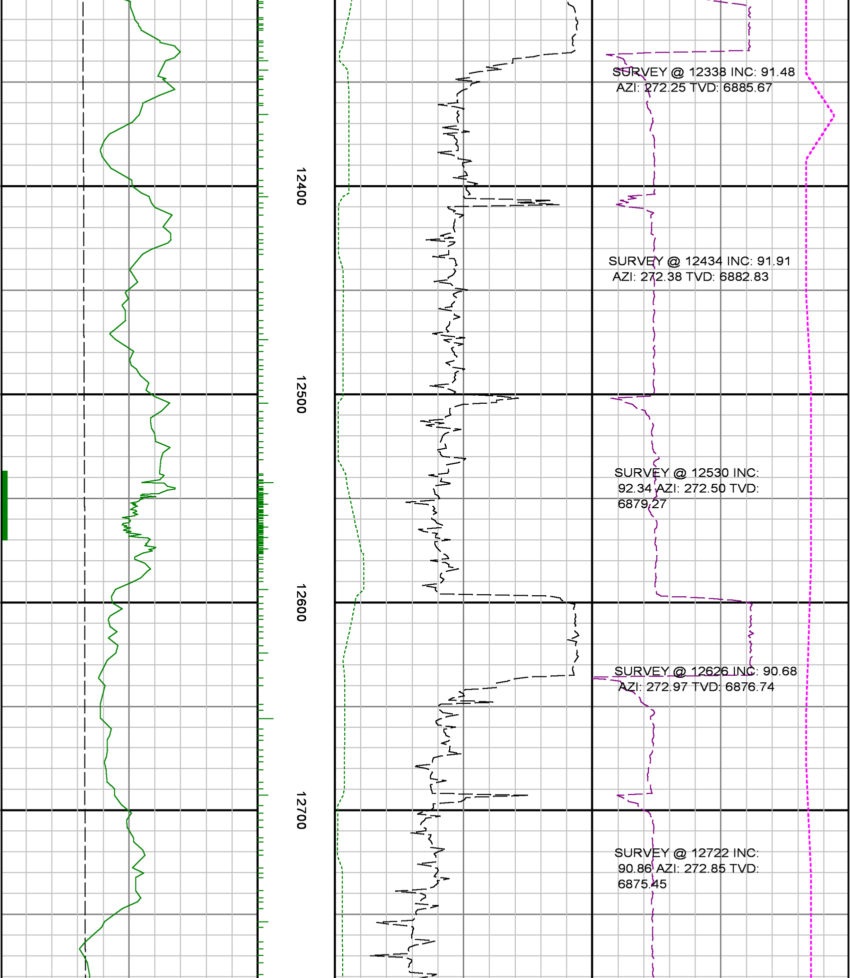
SURVEY @ 11858 INC: 89.47
AZI: 272.85 TVD: 6880.99

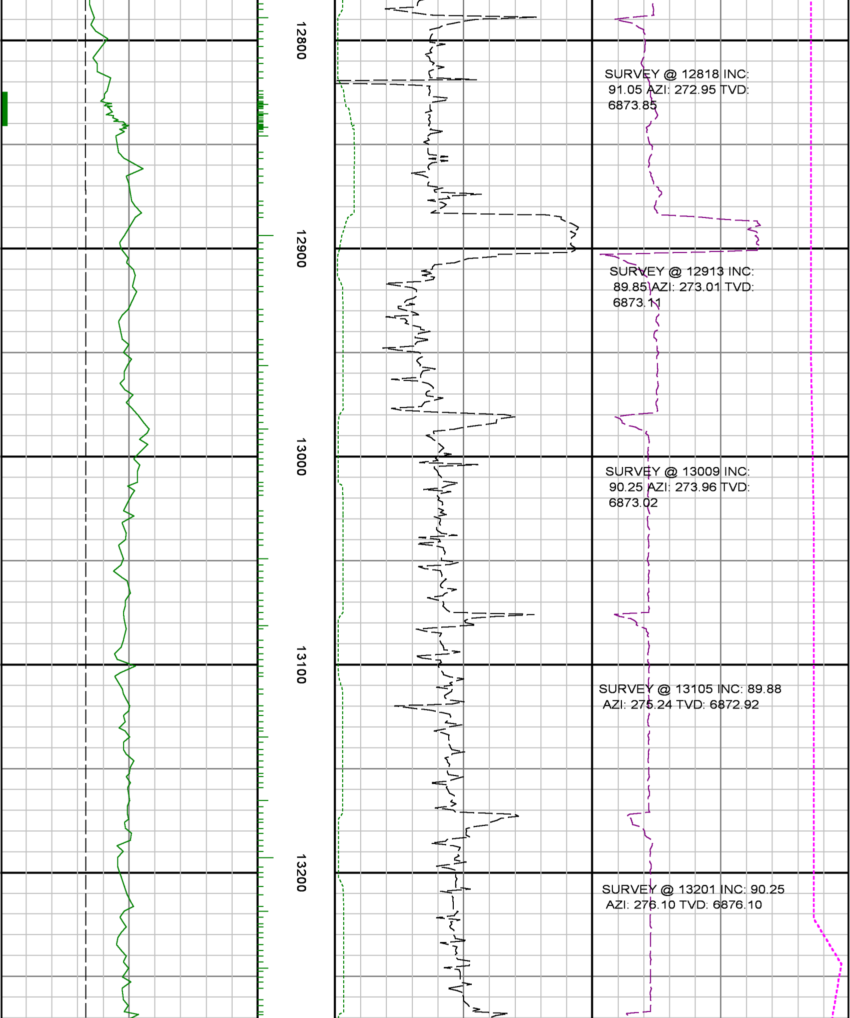
SURVEY @ 11954 INC: 90.00
AZI: 273.05 TVD: 6881.43

SURVEY @ 12050 INC: 90.12
AZI: 272.86 TVD: 6881.33

SURVEY @ 12146 INC: 88.46
AZI: 273.96 TVD: 6882.52

SURVEY @ 12242 INC: 88.15
AZI: 272.74 TVD: 6885.36





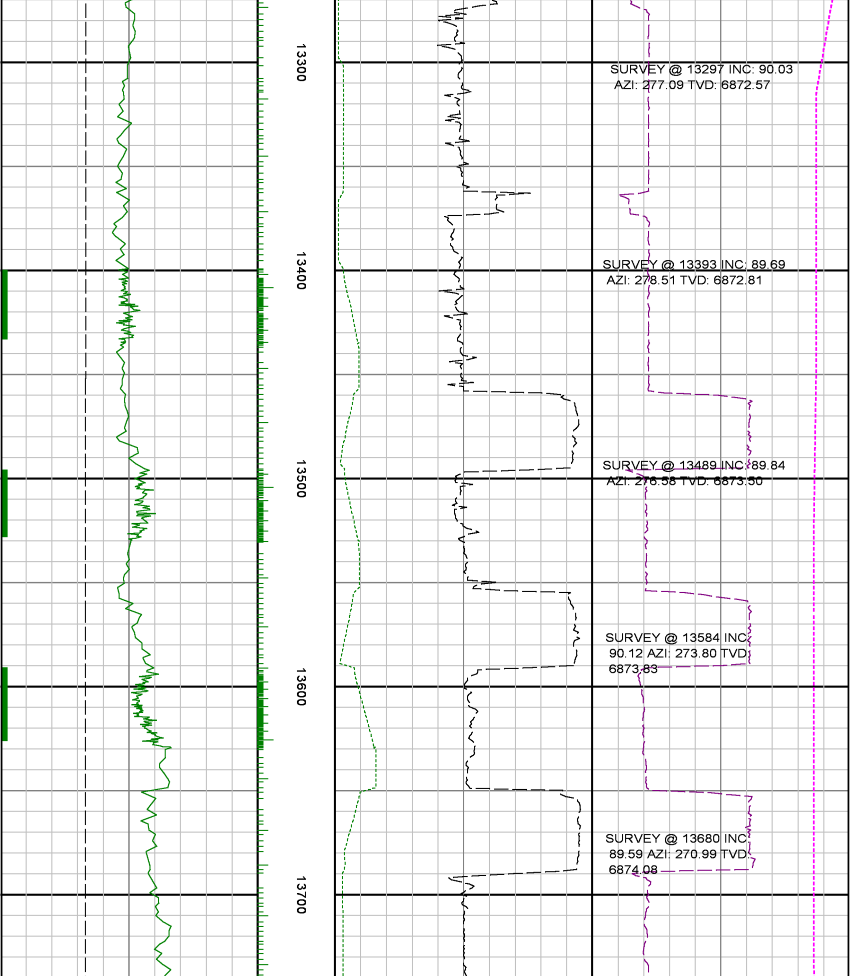
SURVEY @ 12818 INC: 91.05 AZI: 272.95 TVD: 6873.85

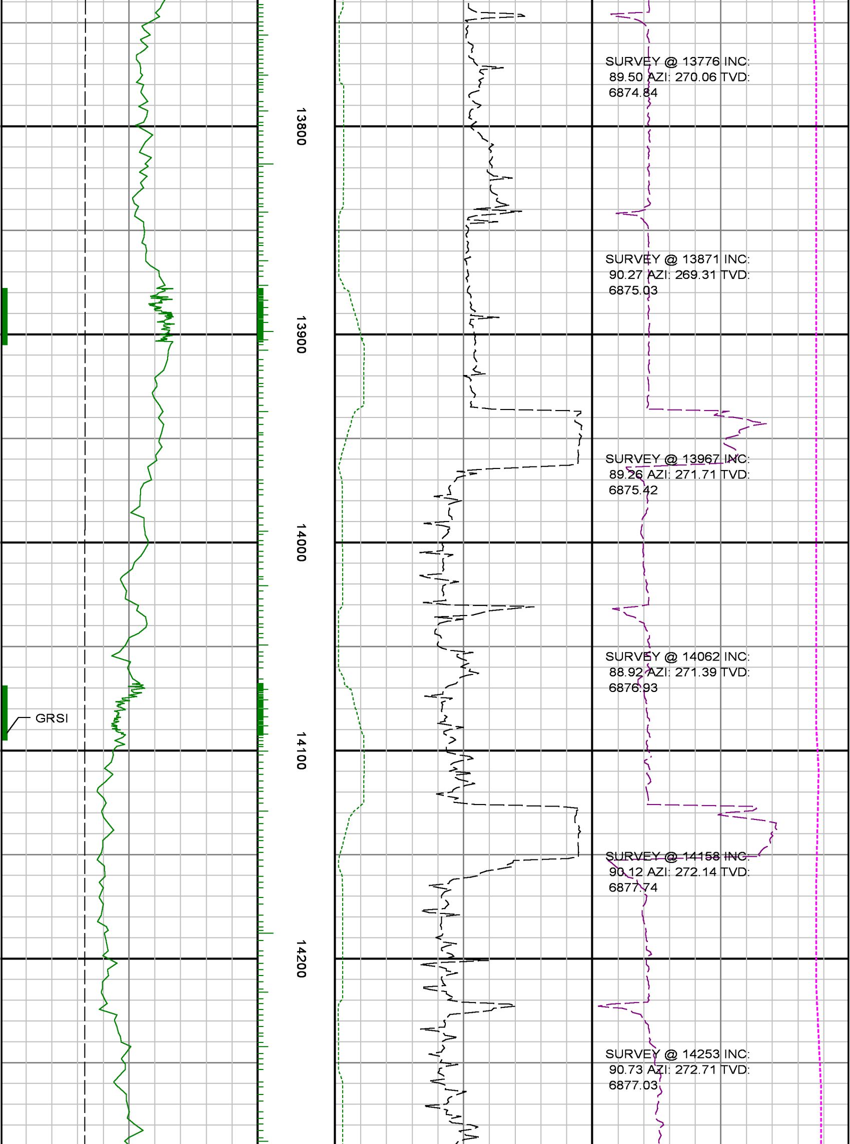
SURVEY @ 12913 INC: 89.85 AZI: 273.01 TVD: 6873.11

SURVEY @ 13009 INC: 90.25 AZI: 273.96 TVD: 6873.02

SURVEY @ 13105 INC: 89.88 AZI: 275.24 TVD: 6872.92

SURVEY @ 13201 INC: 90.25 AZI: 276.10 TVD: 6876.10





SURVEY @ 13776 INC: 89.50 AZI: 270.06 TVD: 6874.84

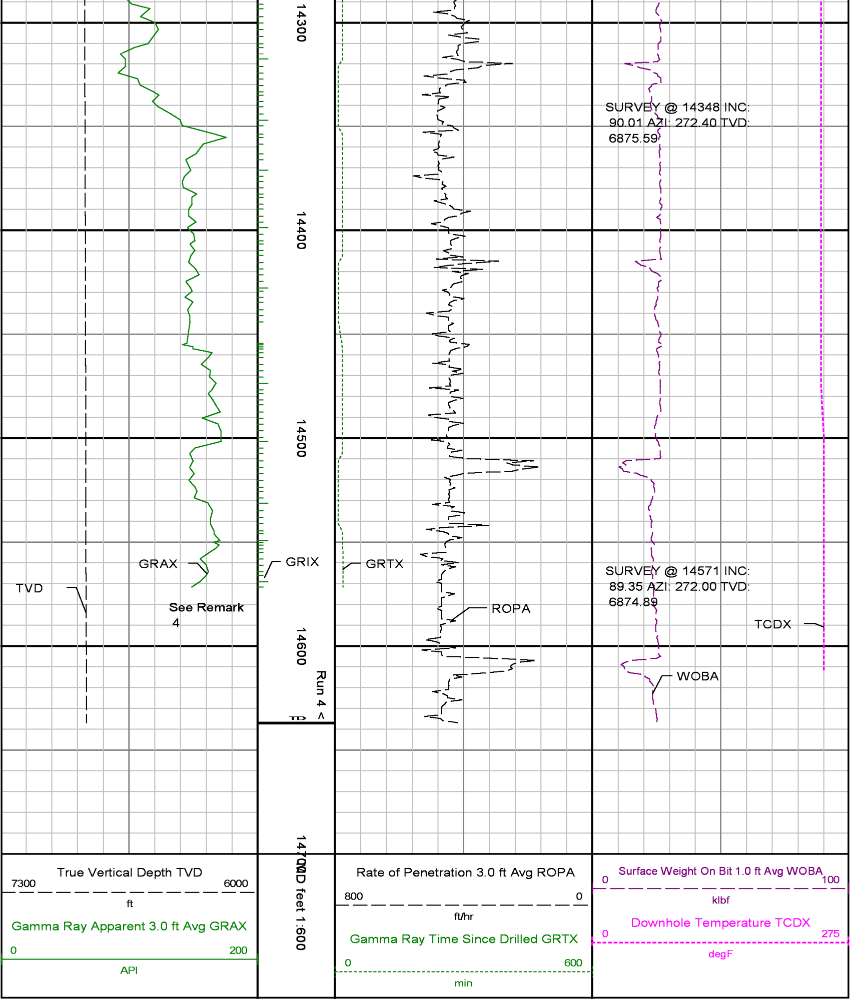
SURVEY @ 13871 INC: 90.27 AZI: 269.31 TVD: 6875.03

SURVEY @ 13967 INC: 89.26 AZI: 271.71 TVD: 6875.42

SURVEY @ 14062 INC: 88.92 AZI: 271.39 TVD: 6876.93

SURVEY @ 14158 INC: 90.12 AZI: 272.14 TVD: 6877.74

SURVEY @ 14253 INC: 90.73 AZI: 272.71 TVD: 6877.03


14300
14400
14500
14600
14700
SURVEY @ 14348 INC: 90.01 AZI: 272.40 TVD: 6875.59
SURVEY @ 14571 INC: 89.35 AZI: 272.00 TVD: 6874.89
GRAX
GRIX
GRTX
TVD
See Remark 4
ROPA
TCDX
WOBA
Run 4 <
TD
True Vertical Depth TVD
7300
6000
ft
Gamma Ray Apparent 3.0 ft Avg GRAX
0
200
API
MD feet 1:600
Rate of Penetration 3.0 ft Avg ROPA
800
0
ft/hr
Gamma Ray Time Since Drilled GRTX
0
600
min
Surface Weight On Bit 1.0 ft Avg WOBA
0
100
klbf
Downhole Temperature TCDX
0
275
degF