WELL ANALYSIS CORPORATION

AUDIO DETECTION SURVEY

COMPANY: SOUTHERN CALIF. GAS CO.
WELL: FREW 8
FIELD: ALISO CANYON
COUNTY: LOS ANGELES STATE: CALIFORNIA
LOCATION: DISTRICT 2
OTHER SVC:
API NUMBER: 0403700671
SEC: 29 TWN: 3N RNG: 16W
WELL TYPE: GS
AJ

-ELEVATIONS-
KB: Ft.
DF: Ft.
GL: Ft.

PERMANENT DATUM: GROUND LEVEL ELEV:
LOG MEASURED FROM MAT 0' ABOVE PERM DATUM
DRILLING MEASURED FROM

DATE LOG RAN	03-25-2016	PRESSURE	FLOWING	INJECTION	SHUT-IN
RUN NUMBER	ONE	TUBING PSI			1191
EFFECTIVE DEPTH	8712'	CASING PSI			1191
PICKUP DEPTH	8710'	INJECTION RATE	N/A		
BOT LOGGED INT	8710'	OBSERVED RATE	N/A		
TOP LOGGED INT	100'	R/A SOURCE	N/A		
TYPE OF INJECT	NONE	ACTIVITY	N/A		
FLUID IN WELL	O/G	HALF LIFE	N/A		
FLUID LEVEL	N/A				
WELL STATUS	STATIC		PRODUCTION DATA		
MAX TEMPERATURE	192.7 F.	OIL Gr.	OIL =		
AT DEPTH	8710'	GAS Gr.	GAS=		
TEMPERATURE SENS	1 F/DIV.	MPP	BHP =		
LOGGING SPEED	100 FPM		WATER=		
RECORDED BY	D.PROKUSKI				
WITNESSED BY	N/A				
EMAIL TO	A. KARGAR				
DEPTH CORRELATION	N/A				

Equipment Data

Collar Locator	1.375"		
Temperature Tool	1.375"		
Audio Detector	1.375"		

Remarks/Survey Results

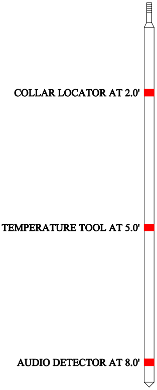
PLEASE NOTE: POSSIBLE PACKER & TAIL AT 8560'.
6:45AM ON LOCATION
7:00AM RAN IN HOLE
7:05AM BEGIN SURVEY
10:30AM PULL OUT OF HOLE
10:45AM OFF LOCATION
SAND TAG MARKERS: 8390' TOP S1
8452' TOP S4
8560' TOP S8

CASING AND TUBING RECORD

SIZE	WT(#)	FROM	TO	SIZE	WT(#)	FROM	TO
11.75"	47	SURFACE	1600'				
7.000"	26	SURFACE	8719'				
2.875"	6.5	SURFACE	8504'				
2.375"	4.7	8504'	8604'				

STR.	PIPE DIA.	PERFORATIONS
A	7.000"	8455'-8462', 8469'-8486', 8498'-8532', 8557'-8640', 8656'-8684', 8694'-8711'.
		PACKERS: 8560'-8565'.
		SLEEVES: 8455', 8555'.
		NO-GO: 8476'.

TOOL DIAGRAM



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     Audio Data:  C:\data\NOISE.txt
--------------------------------------------------
   DEPTH |   200HZ |   600HZ |  1000HZ |  2000HZ |
--------------------------------------------------
     100 |    8.70 |    5.70 |    3.60 |    2.20 |
     250 |    8.10 |    5.60 |    3.50 |    2.10 |
     340 |    8.50 |    5.50 |    3.40 |    2.00 |
     360 |    9.80 |    5.50 |    3.50 |    2.00 |
     380 |    9.10 |    5.50 |    3.40 |    2.00 |
     400 |    8.70 |    5.50 |    3.40 |    2.00 |
     420 |    8.90 |    5.40 |    3.40 |    2.00 |
     440 |    8.20 |    5.50 |    3.40 |    2.00 |
     460 |    8.40 |    5.50 |    3.40 |    2.00 |
     480 |    8.10 |    5.50 |    3.40 |    2.00 |
     500 |    8.10 |    5.50 |    3.40 |    2.00 |
     520 |    8.90 |    5.40 |    3.40 |    2.10 |
     540 |    8.20 |    5.60 |    3.00 |    2.30 |
     560 |    8.30 |    5.40 |    3.40 |    2.00 |
     580 |    7.90 |    5.40 |    3.40 |    2.10 |
     600 |    8.00 |    5.50 |    3.40 |    2.10 |
     620 |    8.10 |    5.40 |    3.40 |    2.10 |
     640 |    7.80 |    5.40 |    3.40 |    2.10 |
     660 |    8.10 |    5.50 |    3.50 |    2.20 |
     750 |    7.80 |    5.40 |    3.40 |    2.10 |
    1000 |    7.90 |    5.40 |    3.50 |    2.10 |
    1250 |    7.80 |    5.40 |    3.50 |    2.10 |
    1500 |    7.70 |    5.40 |    3.60 |    2.30 |
    1520 |    7.70 |    5.40 |    3.50 |    2.20 |
    1540 |    7.80 |    5.50 |    3.60 |    2.30 |
    1560 |    7.90 |    5.50 |    3.60 |    2.30 |
    1580 |    7.80 |    5.50 |    3.60 |    2.30 |
    1600 |    7.90 |    5.60 |    3.70 |    2.40 |
    1620 |    7.80 |    5.60 |    3.70 |    2.40 |
    1640 |    7.90 |    5.60 |    3.70 |    2.40 |
    1660 |    7.70 |    5.60 |    3.70 |    2.40 |
    1680 |    7.90 |    5.70 |    4.00 |    2.70 |
    1700 |    7.90 |    5.70 |    3.80 |    2.50 |
    2000 |    8.50 |    6.40 |    4.80 |    3.60 |
    2250 |    8.20 |    6.20 |    4.60 |    3.60 |
    2500 |    7.70 |    5.50 |    3.70 |    2.40 |
    2780 |    7.50 |    5.30 |    3.50 |    2.20 |
    3000 |    7.40 |    5.30 |    3.50 |    2.20 |
    3250 |    7.60 |    5.30 |    3.50 |    2.20 |
    3360 |    7.70 |    5.40 |    3.50 |    2.20 |
    3380 |    7.50 |    5.40 |    3.50 |    2.20 |
    3400 |    7.40 |    5.30 |    3.50 |    2.20 |
    3420 |    7.40 |    5.30 |    3.50 |    2.20 |
    3440 |    7.50 |    5.40 |    3.60 |    2.30 |
    3460 |    7.50 |    5.40 |    3.60 |    2.30 |
    3480 |    7.60 |    5.50 |    3.70 |    2.40 |
    3500 |    7.40 |    5.40 |    3.70 |    2.40 |
    3520 |    7.50 |    5.50 |    3.70 |    2.40 |
    3540 |    7.60 |    5.50 |    3.80 |    2.50 |
    3560 |    7.70 |    5.60 |    3.90 |    2.50 |
    3750 |    7.80 |    5.90 |    4.20 |    2.90 |
    4000 |    8.20 |    6.60 |    5.10 |    3.90 |
    4250 |    8.10 |    6.30 |    4.80 |    3.40 |
    4500 |    7.50 |    5.70 |    4.00 |    2.70 |
    4750 |    7.40 |    5.50 |    3.60 |    2.30 |
    5000 |    7.30 |    5.40 |    3.50 |    2.20 |
    5250 |    7.10 |    5.20 |    3.40 |    2.10 |
    5500 |    7.10 |    5.30 |    3.40 |    2.20 |
    5750 |    7.20 |    5.20 |    3.30 |    2.10 |
    6000 |    7.00 |    5.40 |    3.60 |    2.30 |
    6250 |    7.10 |    5.40 |    3.70 |    2.40 |
    6500 |    6.90 |    5.40 |    3.70 |    2.50 |
    6760 |    7.10 |    5.70 |    4.00 |    2.90 |
    6780 |    7.10 |    5.90 |    4.30 |    3.10 |
    6800 |    7.10 |    5.80 |    4.10 |    3.00 |
    6820 |    7.30 |    6.10 |    4.50 |    3.40 |
    6840 |    7.50 |    6.40 |    4.90 |    3.90 |
    6860 |    7.30 |    6.00 |    4.40 |    3.10 |
    6880 |    7.20 |    5.80 |    4.20 |    2.90 |
    6900 |    7.40 |    5.90 |    4.20 |    3.00 |
    6920 |    7.30 |    5.70 |    3.90 |    2.80 |
    6940 |    7.60 |    5.70 |    3.80 |    2.70 |
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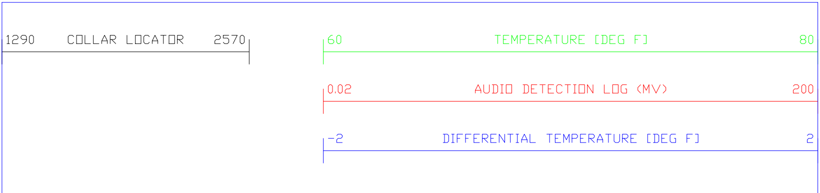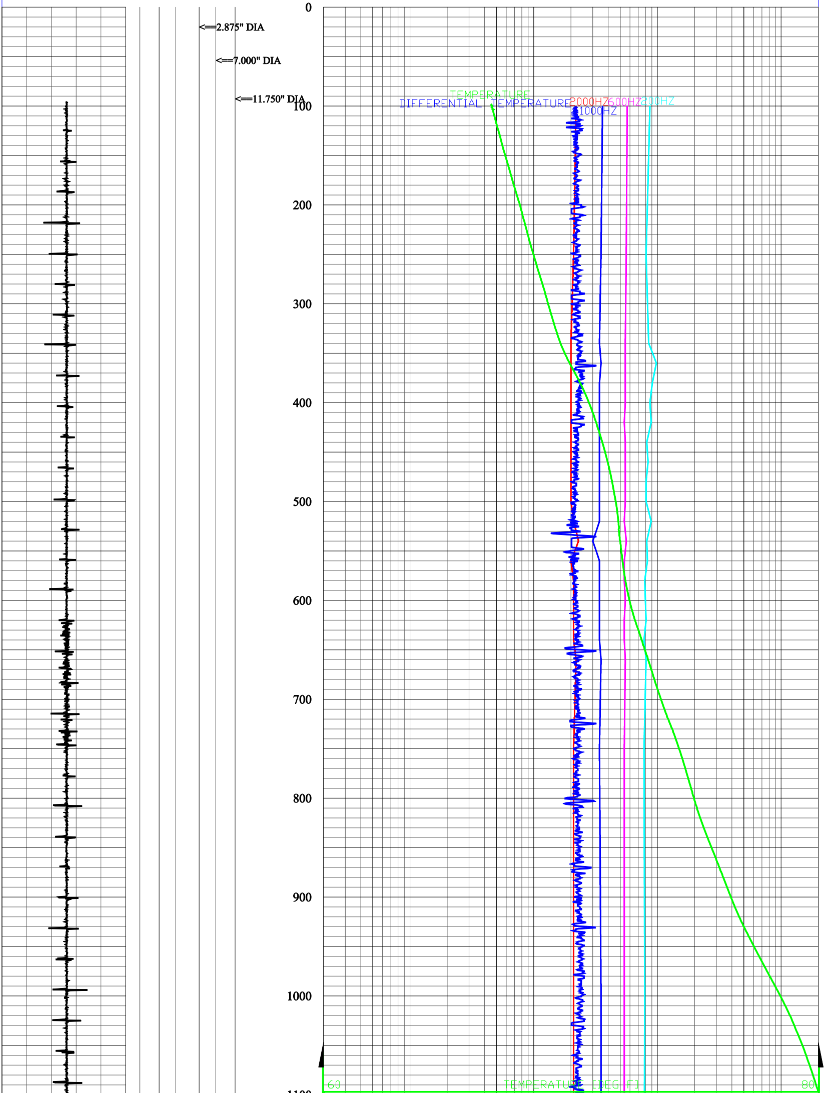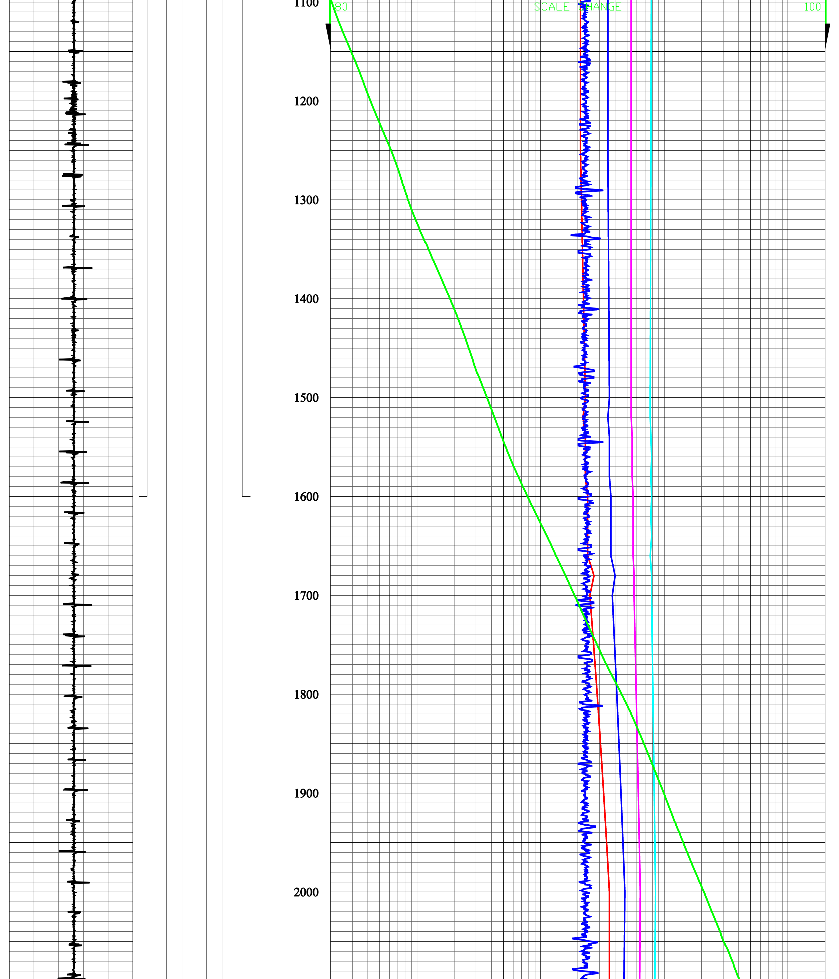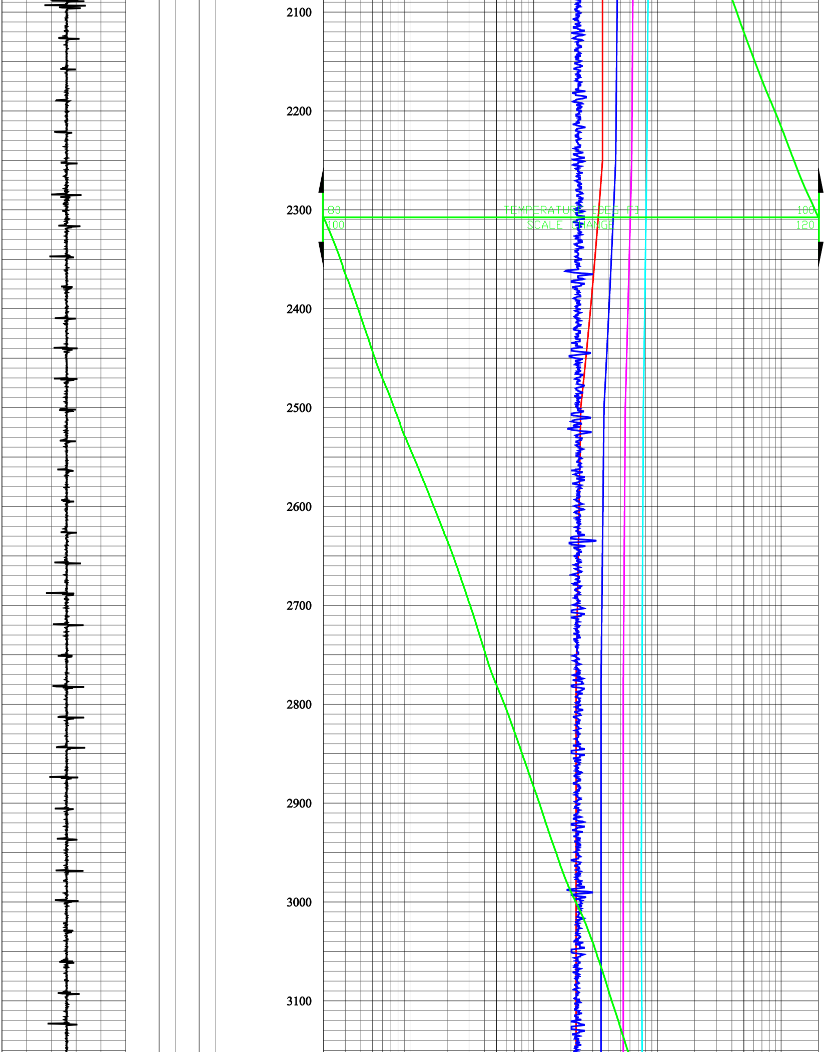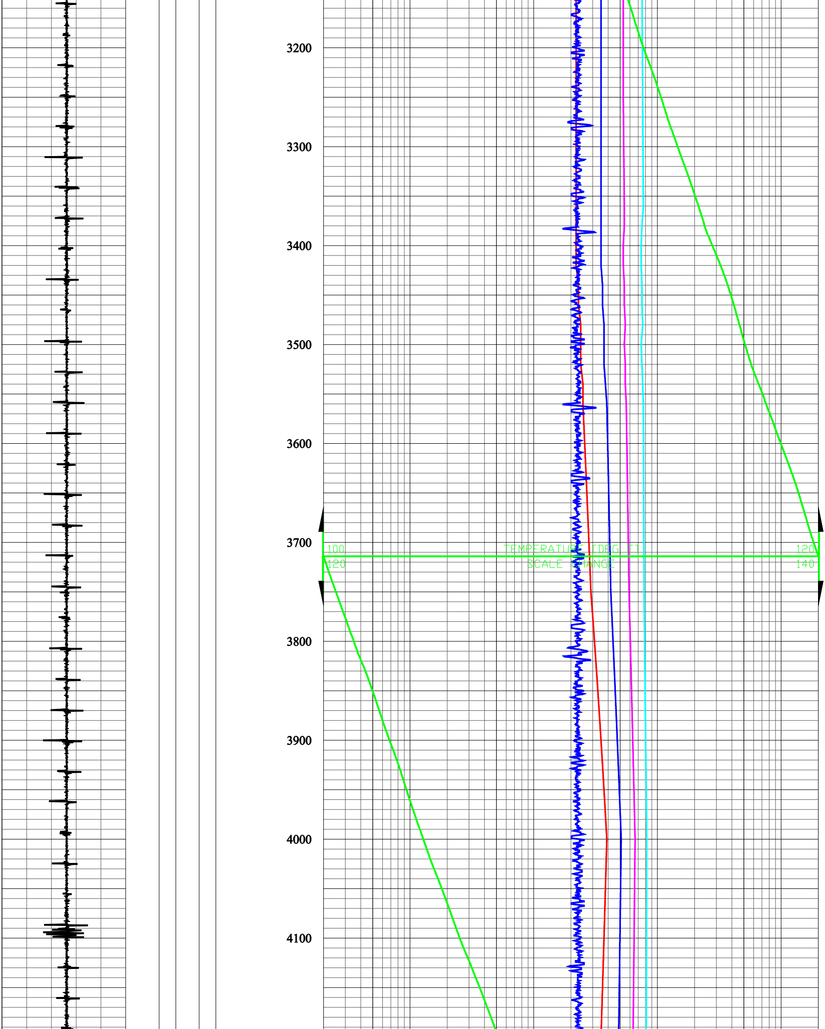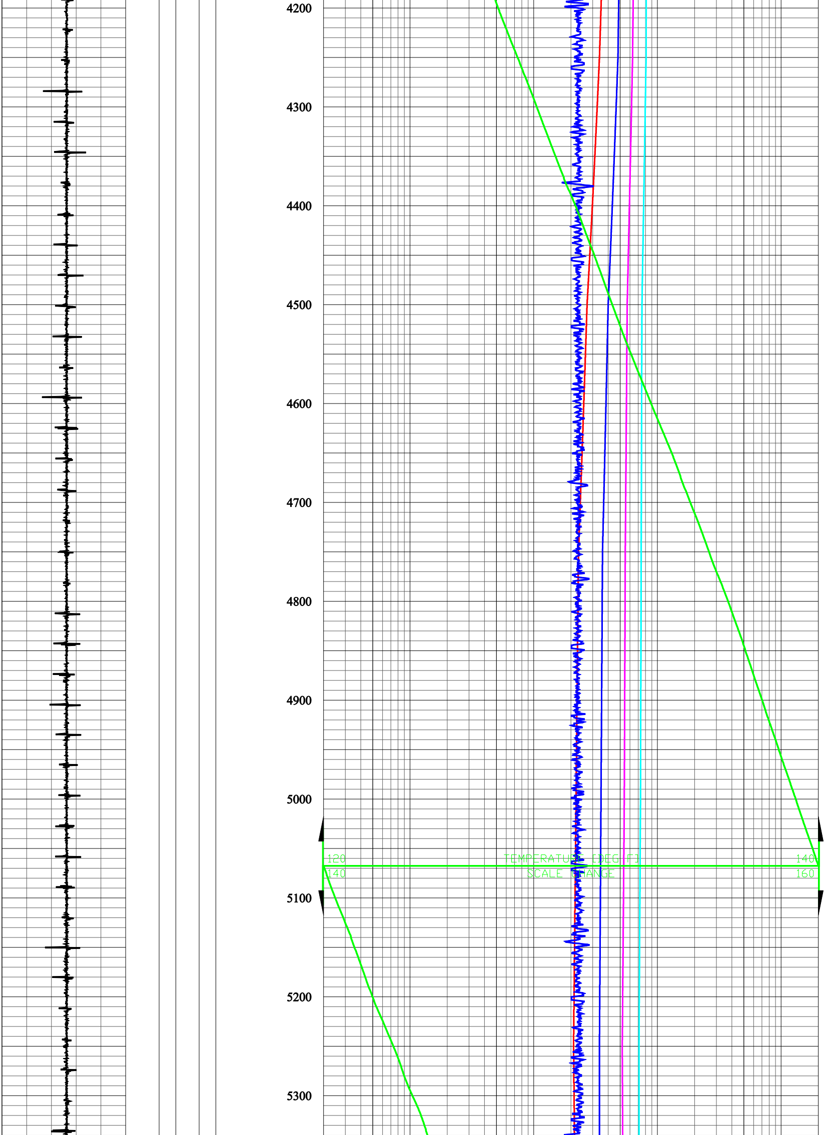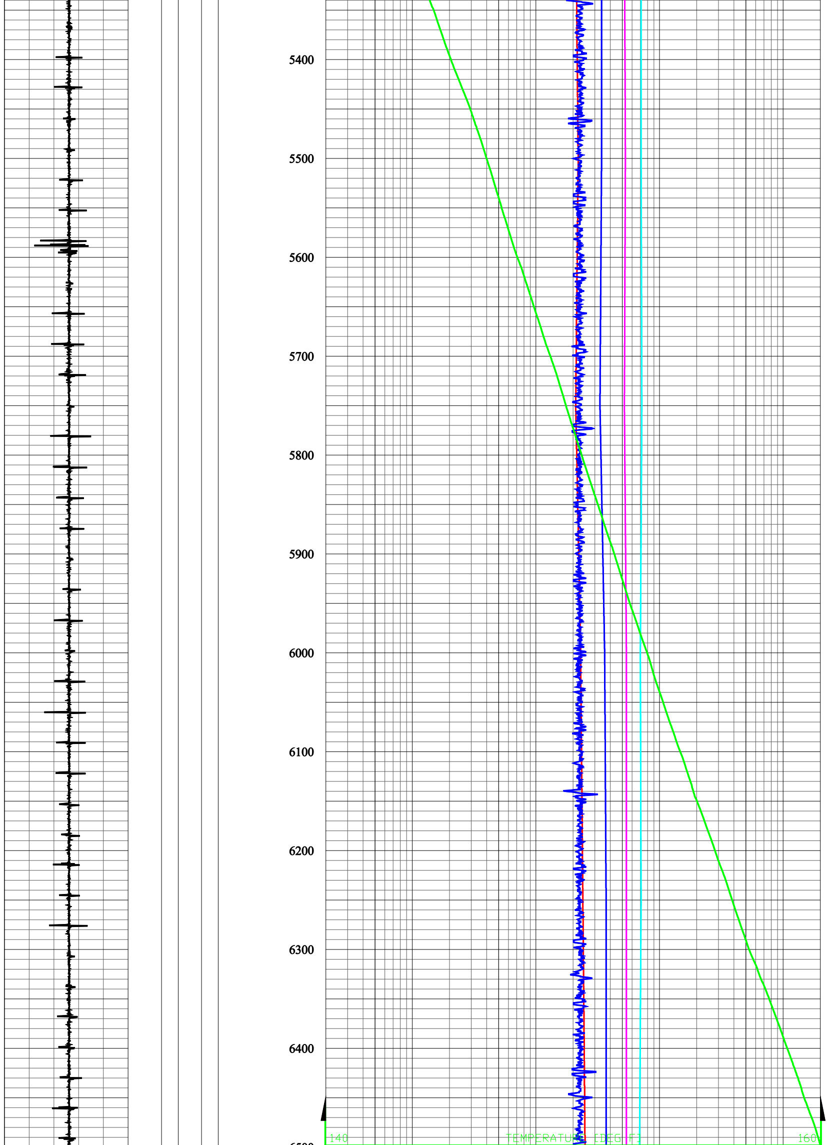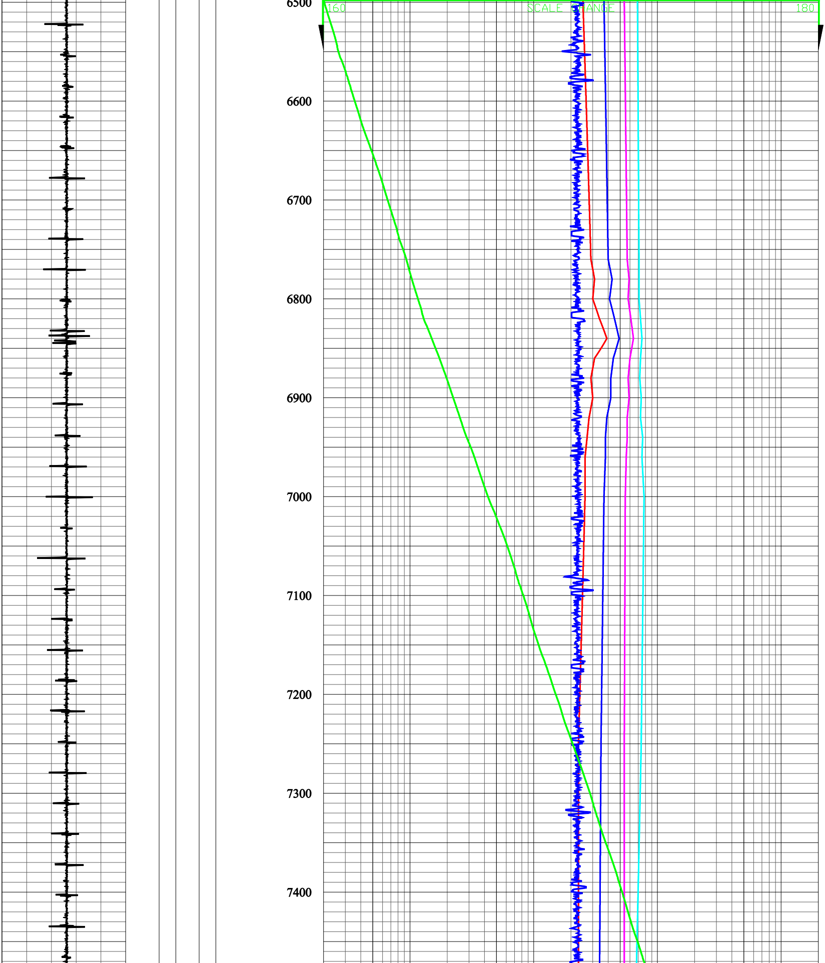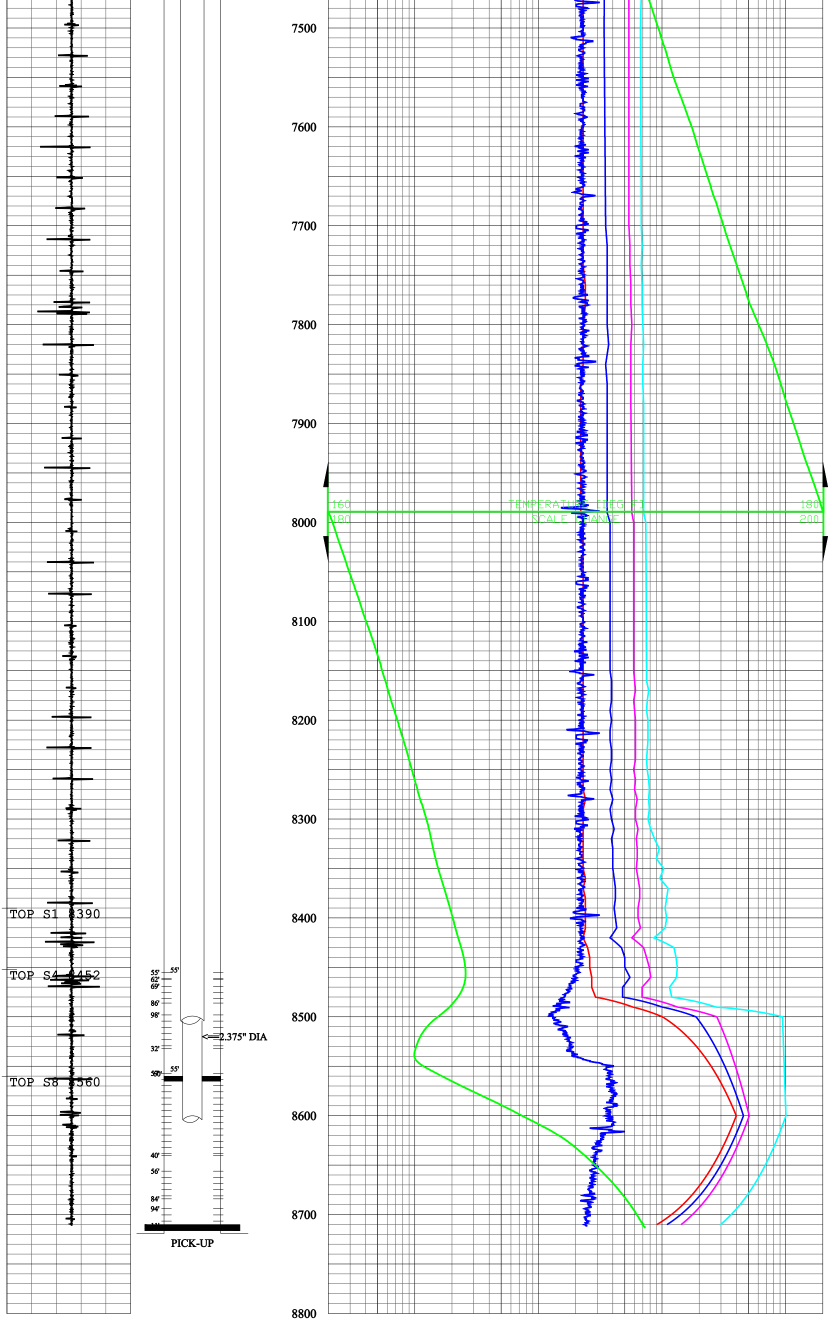6960	7.50	5.60	3.80	2.60
7000	7.80	5.50	3.70	2.60
7250	7.40	5.40	3.50	2.30
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7700	6.80	5.40	3.50	2.30
7720	6.90	5.50	3.60	2.30
7740	6.80	5.50	3.60	2.30
7760	6.90	5.60	3.60	2.40
7780	6.90	5.60	3.60	2.40
7800	7.00	5.70	3.60	2.30
7820	7.10	5.60	3.70	2.30
7840	7.00	5.60	3.50	2.30
7860	7.00	5.60	3.60	2.20
7880	7.10	5.60	3.60	2.20
7990	7.10	5.70	3.60	2.20
8000	7.40	5.90	3.80	2.30
8150	7.50	5.90	3.80	2.30
8160	7.50	6.00	3.90	2.30
8170	7.80	6.10	3.90	2.30
8180	7.60	5.90	3.90	2.30
8190	7.50	6.00	3.80	2.30
8200	7.70	6.10	3.90	2.30
8210	7.70	6.10	3.80	2.30
8220	7.70	6.10	3.80	2.30
8230	7.60	6.10	3.90	2.30
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8270	7.90	6.00	3.80	2.30
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8300	7.70	6.10	3.90	2.30
8310	8.10	6.40	4.10	2.30
8320	8.70	6.20	3.90	2.30
8330	9.50	6.30	4.00	2.30
8340	9.00	6.30	4.00	2.30
8350	10.30	6.20	4.00	2.30
8360	9.60	6.40	4.10	2.40
8370	11.20	6.60	4.20	2.30
8380	10.90	6.60	4.20	2.40
8390	10.60	6.40	4.10	2.40
8400	10.90	6.40	4.20	2.40
8410	10.60	6.70	4.30	2.40
8420	8.60	5.70	3.80	2.30
8430	12.50	7.10	4.70	2.50
8440	13.00	7.50	5.00	2.60
8450	13.30	7.90	5.00	2.60
8460	13.10	8.10	5.50	2.70
8470	11.50	6.90	4.80	2.70
8480	12.00	6.90	4.80	2.90
8490	27.30	13.30	10.00	5.80
8500	94.30	27.80	18.90	10.10
8600	100.60	50.80	45.60	39.90
8710	29.80	14.30	11.00	9.10