WELL ANALYSIS CORPORATION

AUDIO DETECTION SURVEY

WELL TYPE	OG
COMPANY:	SOUTHERN CALIF. GAS CO.
WELL:	FERNANDO FEE 32H
FIELD:	ALISO CANYON
COUNTY:	LOS ANGELES
STATE:	CALIFORNIA

DISTRICT 2

WHIT

API NUMBER: 0403730456
SEC: 27 TWN: 3N RNG: 16W

-LOCATION-
LAT: 34.313493
LONG: -118.539779

PERMANENT DATUM: GROUND LEVEL ELEV: 1999.00 Ft

LOG MEASURED FROM KB 22.50' ABOVE PERM DATUM

DRILLING MEASURED FROM

-ELEVATIONS-
KB: 2021.50 Ft.
DF: Ft.
GL: 1999.00 Ft.

DATE LOG RAN	04-04-2016	PRESSURE	FLOWING	INJECTION	SHUT-IN
RUN NUMBER	ONE	TUBING PSI			1160
TOTAL DEPTH	7969'	CASING PSI			1160
PICKUP DEPTH	7963'	INJECTION RATE	N|A		
BOT LOGGED INT	7963'	OBSERVED RATE	N|A		
TOP LOGGED INT	25'	R/A SOURCE	N|A		
TYPE OF INJECT	NONE	ACTIVITY	N|A		
FLUID IN WELL	WATER	HALF LIFE	N|A		
FLUID LEVEL	N|A				
WELL STATUS	STATIC			PRODUCTION DATA	
MAX TEMPERATURE	163.2 F.	OIL Gr.	N|A	OIL =	N|A
AT DEPTH	7379.5'	GAS Gr.	N|A	GAS=	N|A
TEMPERATURE SENS	1 F/DIV.	MPP	N|A	BHP =	N|A
LOGGING SPEED	100 FPM			WATER=	N|A
RECORDED BY	C. FITZPATRICK				
WITNESSED BY	N|A				
EMAIL TO	A. KARGAR				
DEPTH CORRELATION	LINER TOP				

Events	Time	Equipment Data	
On Location	07:30 AM	Collar Locator	■ 1.375"
Ran In Hole	08:00 AM	Temperature Tool	🟩 1.375"
Begin Survey	08:10 AM	Audio Detector	🟦 1.375"
Pull out of Hole	12:15 PM		
Off Location	01:00 PM		

Remarks/Survey Results

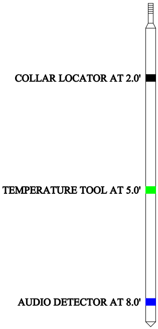
SAND TAG MARKERS: UNAVAILABLE

CASING AND TUBING RECORD

SIZE	WT(#)	FROM	TO	SIZE	WT(#)	FROM	TO
13.375"	54.5	SURFACE	1126.0'				
9.625"	47	SURFACE	7505.0'				
7.000"	29	7393.6'	7963.0'				
3.500"	9.3	SURFACE	7395'				

STR.	PIPE DIA.	PERFORATIONS
L	7.000"	ESS LINER: 7566'-7963'.

AUDIO TOOL DIAGRAM



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     Audio Data:  FERNANDO FEE 32H
   ---------------------------------------------------
      DEPTH |   200HZ |   600HZ |  1000HZ |  2000HZ |
   ---------------------------------------------------
         50 |    5.30 |    4.50 |    2.10 |    0.60 |
        250 |    7.50 |    5.20 |    5.00 |    1.60 |
        500 |    9.10 |    3.50 |    3.10 |    0.80 |
        750 |    4.50 |    3.50 |    3.20 |    0.80 |
       1000 |    4.90 |    3.60 |    3.20 |    0.80 |
       1020 |    3.90 |    3.50 |    3.20 |    0.80 |
       1040 |    4.70 |    3.70 |    3.40 |    0.80 |
       1060 |    4.90 |    3.60 |    3.30 |    0.80 |
       1080 |    4.70 |    3.60 |    3.30 |    0.80 |
       1100 |    4.20 |    3.50 |    3.10 |    0.80 |
       1120 |    4.30 |    3.60 |    3.20 |    0.80 |
       1140 |    4.50 |    4.10 |    3.70 |    0.90 |
       1160 |    4.30 |    3.90 |    3.50 |    0.90 |
       1180 |    4.30 |    3.80 |    3.40 |    0.80 |
       1200 |    4.00 |    3.60 |    3.20 |    0.80 |
       1500 |    4.60 |    4.20 |    3.90 |    0.90 |
       1750 |    4.30 |    3.80 |    3.50 |    0.80 |
       2000 |    4.40 |    3.80 |    3.40 |    0.80 |
       2250 |    4.20 |    3.70 |    3.40 |    0.80 |
       2500 |    4.40 |    4.10 |    3.60 |    0.80 |
       2750 |    5.30 |    4.50 |    2.10 |    0.60 |
       3000 |    4.30 |    3.90 |    3.40 |    0.80 |
       3250 |    4.20 |    3.80 |    3.40 |    0.80 |
       3500 |    4.00 |    3.60 |    3.20 |    0.80 |
       3750 |    4.80 |    4.10 |    3.60 |    0.80 |
       4000 |    4.70 |    3.60 |    3.20 |    0.80 |
       4250 |    3.90 |    3.80 |    3.40 |    0.80 |
       4500 |    4.00 |    3.60 |    3.30 |    0.80 |
       4750 |    3.90 |    3.70 |    3.40 |    0.80 |
       5000 |    3.60 |    3.50 |    3.20 |    0.80 |
       5250 |    3.60 |    3.50 |    3.20 |    0.80 |
       5340 |    3.60 |    3.50 |    3.20 |    0.80 |
       5360 |    3.60 |    3.50 |    3.20 |    0.80 |
       5380 |    3.60 |    3.50 |    3.20 |    0.80 |
       5400 |    3.70 |    3.60 |    3.20 |    0.80 |
       5420 |    3.60 |    3.50 |    3.20 |    0.80 |
       5440 |    4.10 |    3.80 |    3.50 |    0.90 |
       5460 |    3.60 |    3.50 |    3.20 |    0.80 |
       5480 |    3.60 |    3.50 |    3.20 |    0.80 |
       5500 |    4.00 |    3.80 |    3.40 |    0.90 |
       5520 |    4.60 |    4.40 |    4.00 |    1.40 |
       5540 |    3.70 |    3.60 |    3.20 |    0.80 |
       5560 |    3.60 |    3.50 |    3.20 |    0.80 |
       5580 |    3.60 |    3.50 |    3.20 |    0.80 |
       5600 |    4.20 |    4.10 |    3.70 |    1.10 |
       5620 |    3.60 |    3.50 |    3.20 |    0.80 |
       5640 |    3.70 |    3.60 |    3.20 |    0.80 |
       5660 |    3.70 |    3.50 |    3.20 |    0.80 |
       5680 |    4.40 |    3.70 |    3.30 |    0.80 |
       5700 |    4.30 |    3.90 |    3.50 |    0.80 |
       5720 |    3.60 |    3.50 |    3.20 |    0.80 |
       5740 |    4.30 |    3.60 |    3.20 |    0.80 |
       5760 |    3.70 |    3.60 |    3.20 |    0.80 |
       5780 |    3.60 |    3.50 |    3.20 |    0.80 |
       5800 |    3.60 |    3.50 |    3.20 |    0.80 |
       5820 |    3.70 |    3.60 |    3.20 |    0.80 |
       5840 |    3.70 |    3.60 |    3.20 |    0.80 |
       5860 |    3.60 |    3.50 |    3.20 |    0.80 |
       5880 |    3.70 |    3.50 |    3.20 |    0.80 |
       5900 |    3.70 |    3.60 |    3.20 |    0.80 |
       5920 |    3.60 |    3.50 |    3.20 |    0.80 |
       5940 |    3.80 |    3.60 |    3.30 |    0.80 |
       5960 |    3.70 |    3.60 |    3.20 |    0.80 |
       5980 |    3.70 |    3.60 |    3.20 |    0.80 |
       6000 |    3.70 |    3.60 |    3.20 |    0.80 |
       6020 |    3.70 |    3.50 |    3.20 |    0.80 |
       6040 |    3.70 |    3.60 |    3.20 |    0.80 |
       6060 |    3.60 |    3.50 |    3.20 |    0.80 |
       6080 |    3.60 |    3.50 |    3.20 |    0.80 |
       6100 |    3.90 |    3.70 |    3.20 |    0.80 |
       6120 |    3.60 |    3.50 |    3.20 |    0.80 |
       6140 |    3.60 |    3.50 |    3.20 |    0.80 |
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 6160 |    3.60 |    3.50 |    3.20 |    0.80 |
 6180 |    3.70 |    3.50 |    3.20 |    0.80 |
 6200 |    3.60 |    3.50 |    3.20 |    0.80 |
 6220 |    3.60 |    3.50 |    3.20 |    0.80 |
 6240 |    3.90 |    3.60 |    3.20 |    0.90 |
 6260 |    3.70 |    3.50 |    3.20 |    0.80 |
 6280 |    3.60 |    3.50 |    3.10 |    0.80 |
 6300 |    3.70 |    3.50 |    3.20 |    0.80 |
 6320 |    3.80 |    3.60 |    3.20 |    0.80 |
 6340 |    3.90 |    3.70 |    3.30 |    0.80 |
 6360 |    3.70 |    3.50 |    3.20 |    0.80 |
 6380 |    3.60 |    3.50 |    3.20 |    0.80 |
 6400 |    3.30 |    3.20 |    2.70 |    0.60 |
 6420 |    3.20 |    3.10 |    2.40 |    0.60 |
 6440 |    3.20 |    3.10 |    2.40 |    0.50 |
 6460 |    3.20 |    3.10 |    2.50 |    0.60 |
 6480 |    3.20 |    3.10 |    2.50 |    0.50 |
 6500 |    3.10 |    3.10 |    2.40 |    0.50 |
 6520 |    3.20 |    3.10 |    2.40 |    0.50 |
 6540 |    3.40 |    3.20 |    2.50 |    0.50 |
 6560 |    3.20 |    3.10 |    2.40 |    0.50 |
 6580 |    3.20 |    3.10 |    2.40 |    0.50 |
 6600 |    3.20 |    3.10 |    2.50 |    0.50 |
 6750 |    3.20 |    3.10 |    2.40 |    0.50 |
 7000 |    3.30 |    3.20 |    2.50 |    0.60 |
 7010 |    3.30 |    3.20 |    2.50 |    0.60 |
 7020 |    3.30 |    3.10 |    2.50 |    0.60 |
 7030 |    3.30 |    3.10 |    2.50 |    0.60 |
 7040 |    3.30 |    3.20 |    2.50 |    0.60 |
 7050 |    3.40 |    3.20 |    2.50 |    0.60 |
 7060 |    3.40 |    3.30 |    2.60 |    0.60 |
 7070 |    3.90 |    3.70 |    3.00 |    1.00 |
 7080 |    3.30 |    3.20 |    2.60 |    0.60 |
 7090 |    2.90 |    2.30 |    1.40 |    0.60 |
 7100 |    3.00 |    2.40 |    1.40 |    0.60 |
 7110 |    2.90 |    2.40 |    1.30 |    0.60 |
 7120 |    2.90 |    2.40 |    1.30 |    0.60 |
 7130 |    2.90 |    2.30 |    1.40 |    0.60 |
 7140 |    2.90 |    2.30 |    1.40 |    0.60 |
 7150 |    3.00 |    2.40 |    1.40 |    0.60 |
 7160 |    3.00 |    2.40 |    1.40 |    0.60 |
 7170 |    2.90 |    2.40 |    1.40 |    0.60 |
 7180 |    3.00 |    2.40 |    1.40 |    0.70 |
 7190 |    3.00 |    2.40 |    1.40 |    0.60 |
 7200 |    3.00 |    2.50 |    1.40 |    0.60 |
 7210 |    2.90 |    2.40 |    1.40 |    0.60 |
 7220 |    3.00 |    2.40 |    1.40 |    0.60 |
 7230 |    3.20 |    2.50 |    1.50 |    0.70 |
 7240 |    3.10 |    2.60 |    1.50 |    0.70 |
 7250 |    2.90 |    2.40 |    1.40 |    0.60 |
 7260 |    3.10 |    2.50 |    1.50 |    0.70 |
 7270 |    3.10 |    2.50 |    1.60 |    0.70 |
 7280 |    3.00 |    2.40 |    1.50 |    0.70 |
 7290 |    3.20 |    2.60 |    1.60 |    0.70 |
 7300 |    3.00 |    2.50 |    1.50 |    0.80 |
 7310 |    3.00 |    2.50 |    1.60 |    0.80 |
 7320 |    3.30 |    2.50 |    1.60 |    0.80 |
 7330 |    3.30 |    2.50 |    1.60 |    0.80 |
 7340 |    3.30 |    2.70 |    1.80 |    0.80 |
 7350 |    3.50 |    3.00 |    2.20 |    1.30 |
 7360 |    3.40 |    2.70 |    2.00 |    1.20 |
 7370 |    3.20 |    2.70 |    1.90 |    1.10 |
 7380 |    3.40 |    2.90 |    2.20 |    1.30 |
 7390 |    4.00 |    3.40 |    2.60 |    1.20 |
 7400 |    4.90 |    4.20 |    3.60 |    1.80 |
 7410 |    9.30 |    6.30 |    5.10 |    2.20 |
 7420 |   11.40 |    8.30 |    6.10 |    2.10 |
 7430 |   11.00 |    8.60 |    6.30 |    2.40 |
 7440 |   15.70 |   11.60 |    6.90 |    2.10 |
 7450 |   14.40 |   10.80 |    7.00 |    2.20 |
 7460 |   11.30 |    8.70 |    6.10 |    2.30 |
 7470 |   15.10 |   12.00 |    9.50 |    3.10 |
 7480 |   16.30 |   13.20 |    7.50 |    2.60 |
 7490 |   14.10 |   10.60 |    7.10 |    2.70 |
 7500 |   12.20 |    9.80 |    7.80 |    3.00 |
 7510 |   14.40 |   12.00 |    8.50 |    3.10 |
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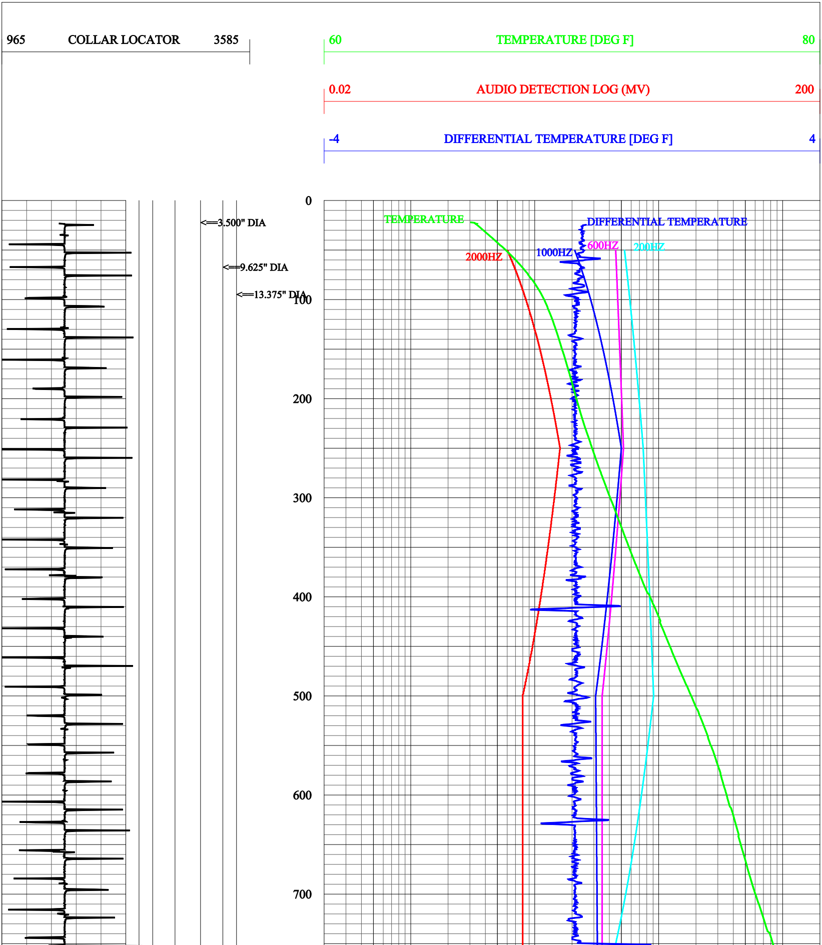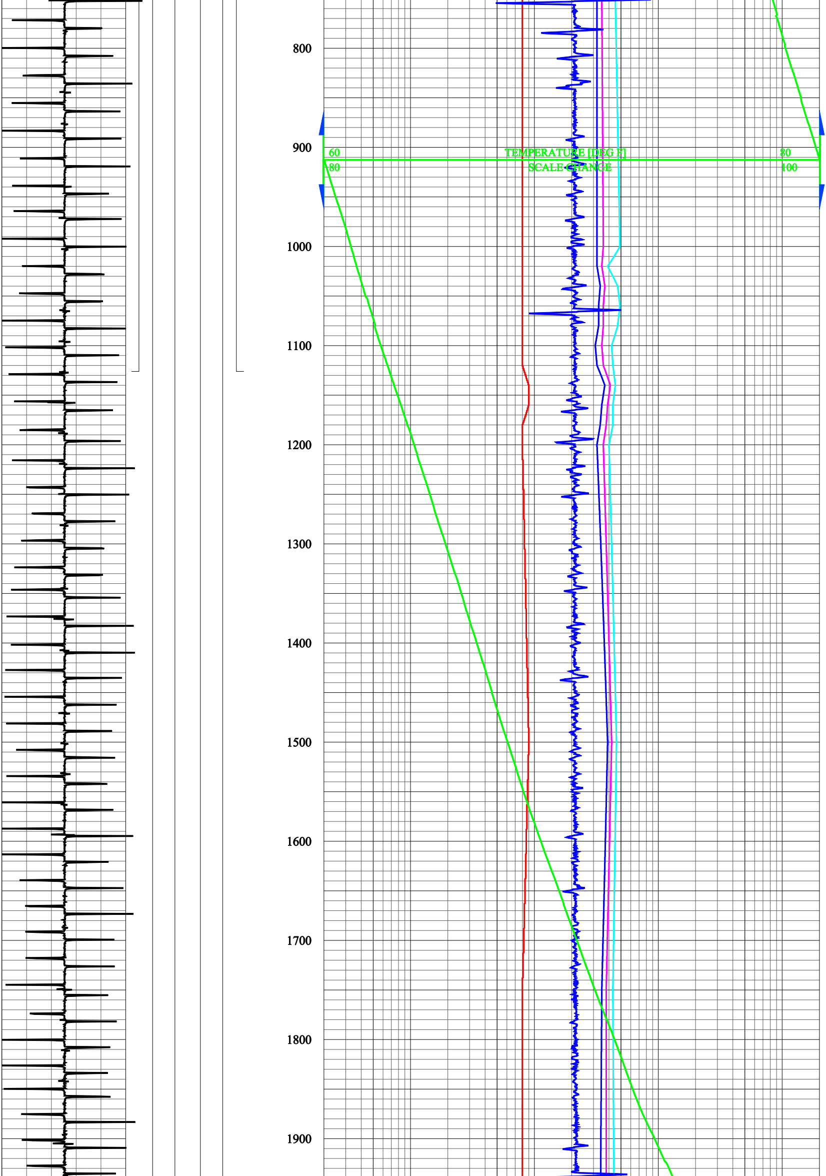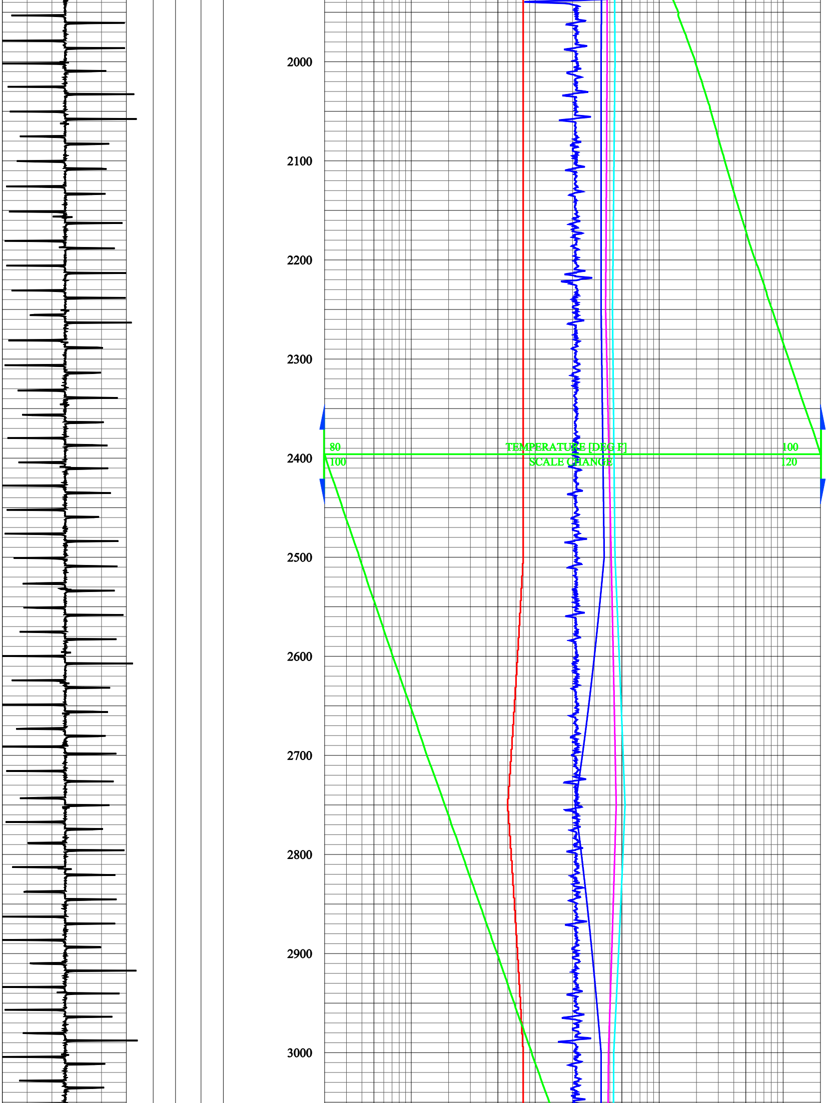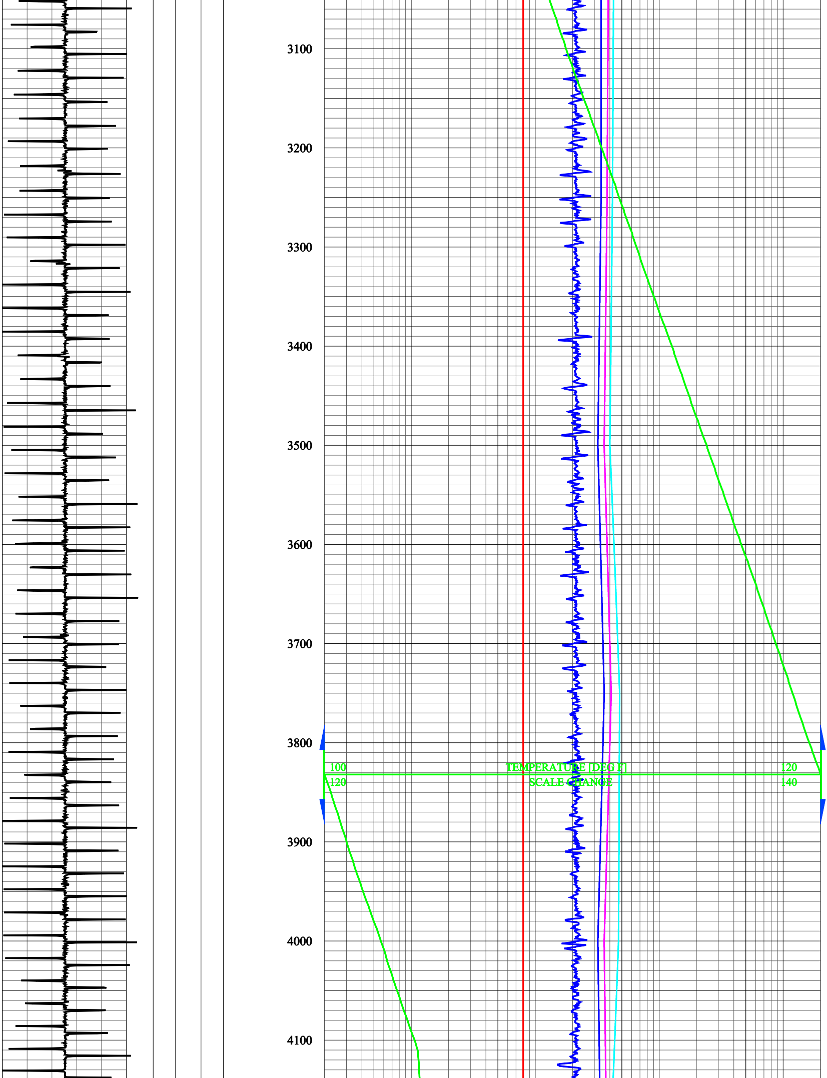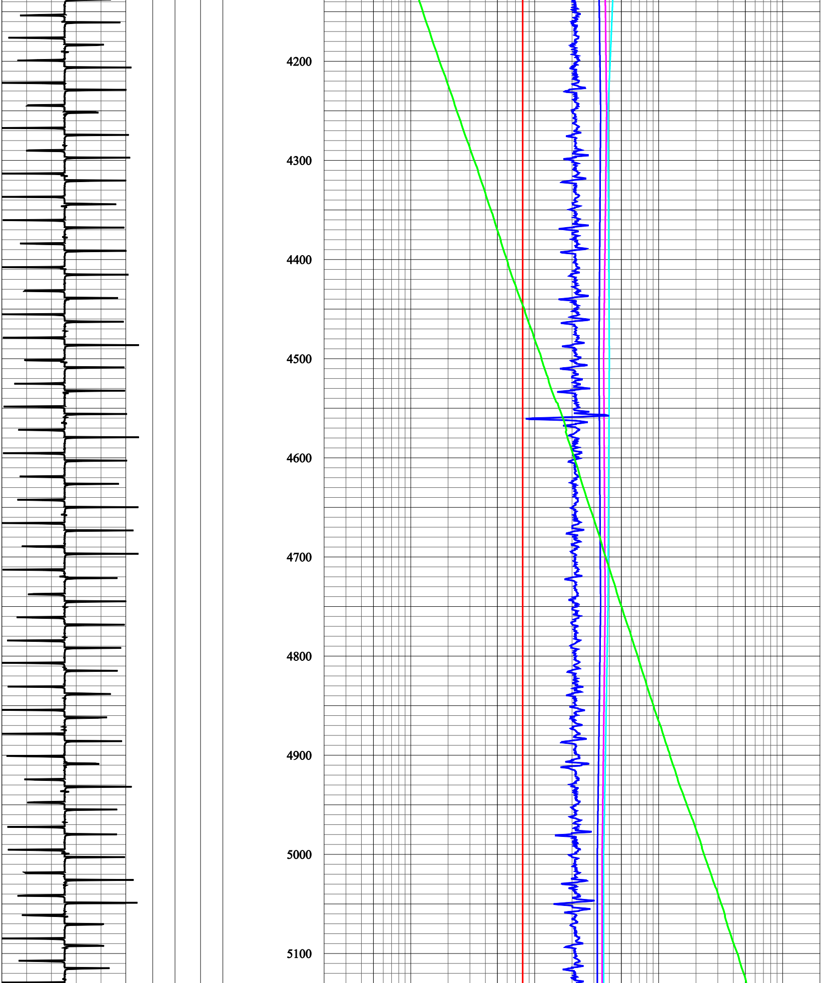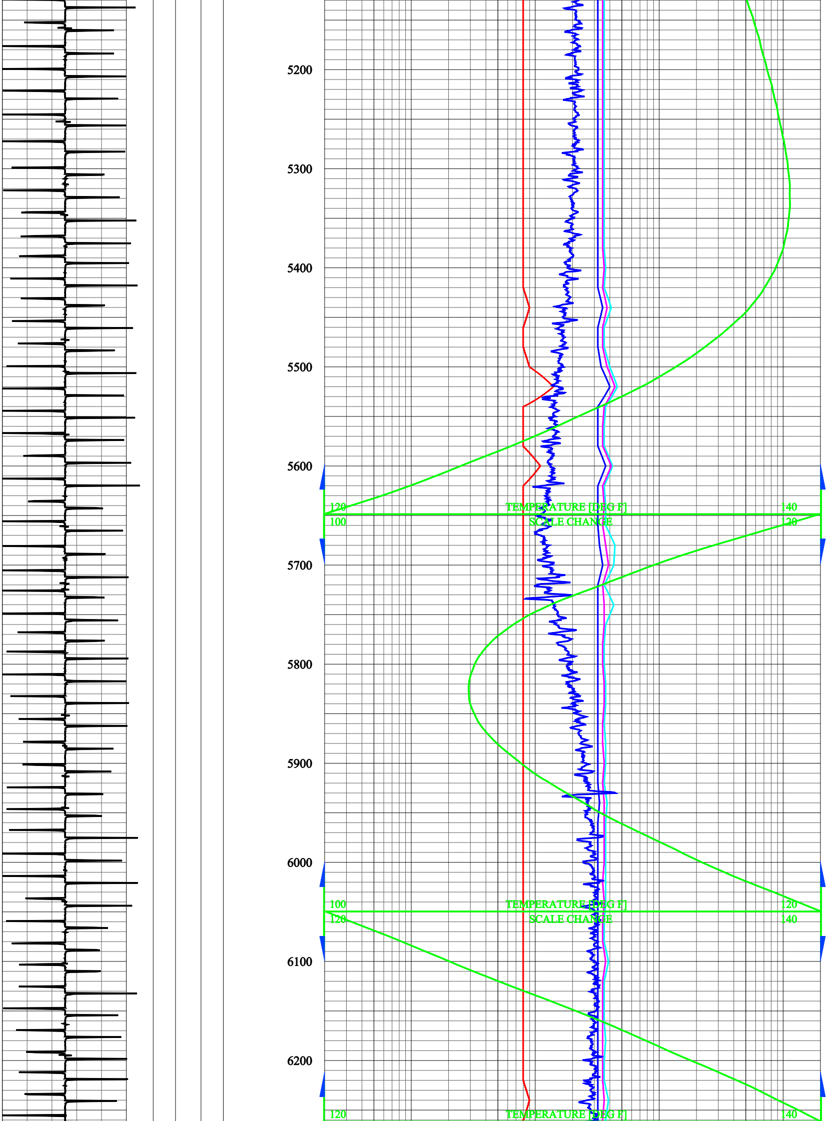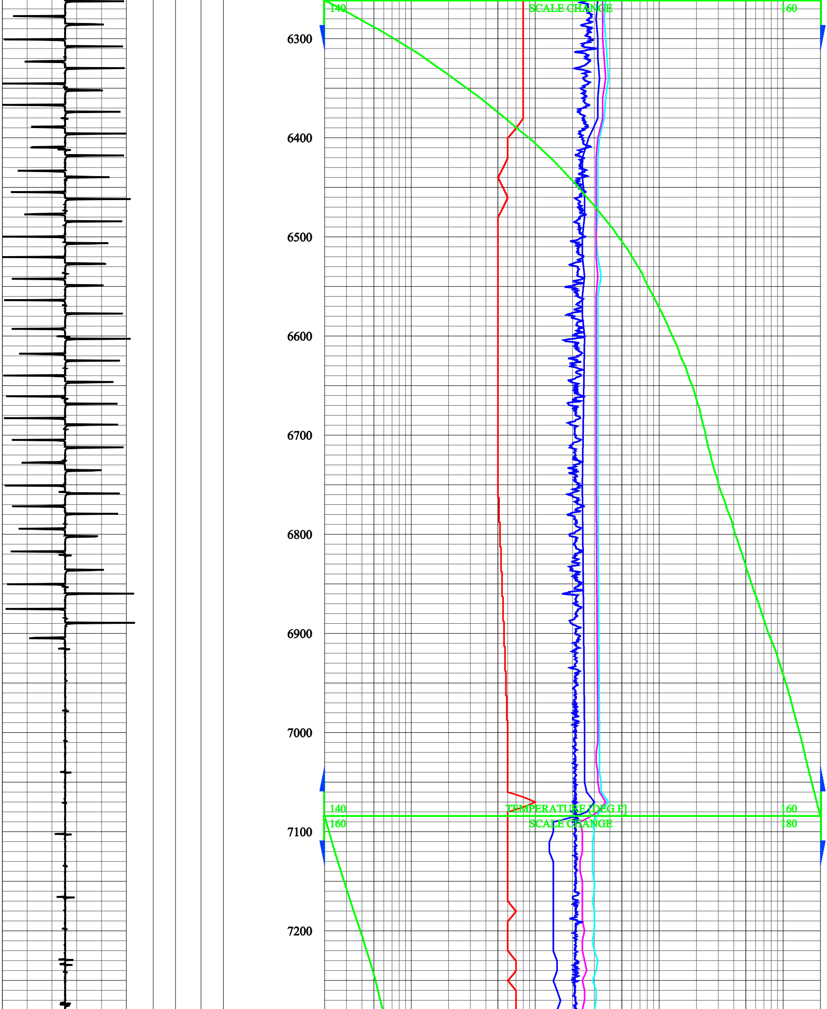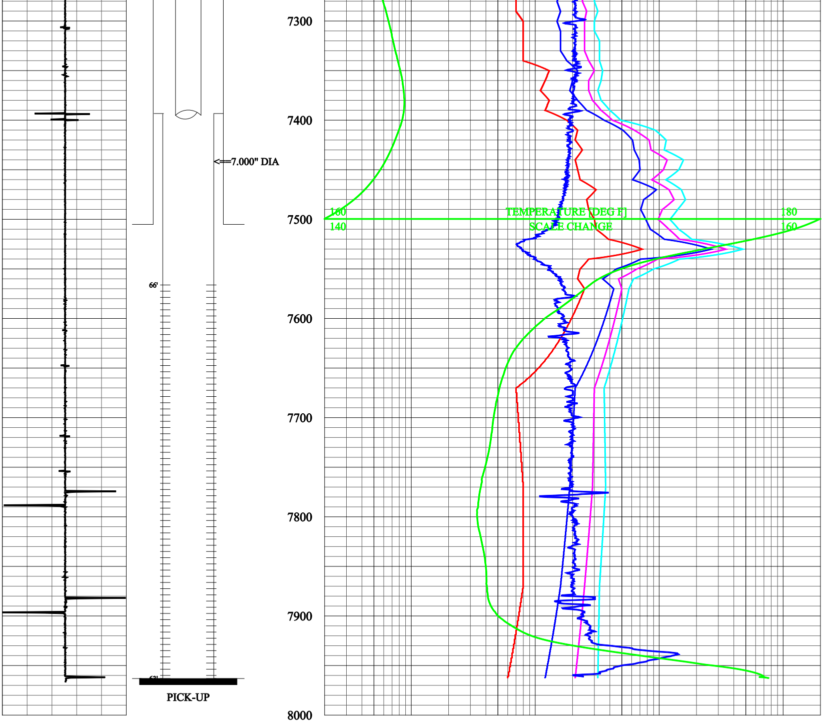```
7520 |   18.30 |   14.60 |   11.00 |    3.90 |
7530 |   47.40 |   34.60 |   26.30 |    7.30 |
7540 |   14.60 |    9.70 |    7.10 |    2.70 |
7550 |    9.00 |    6.60 |    4.50 |    2.30 |
7560 |    6.20 |    4.70 |    3.50 |    2.20 |
7570 |    5.70 |    5.00 |    4.30 |    2.50 |
7670 |    3.60 |    3.00 |    2.10 |    0.70 |
7770 |    3.70 |    2.90 |    1.90 |    0.80 |
7870 |    3.30 |    2.50 |    1.60 |    0.80 |
7963 |    3.20 |    2.10 |    1.20 |    0.60 |
```