WELL ANALYSIS CORPORATION

AUDIO DETECTION SURVEY

FILING NO.

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

LOCATION:
DISTRICT 2

OTHER SVC:

CB

API NUMBER: 0403721359
SEC: 27 TWN: 3N RNG: 16W

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

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

DATE LOG RAN	03-09-2016
RUN NUMBER	ONE
EFFECTIVE DEPTH	7676'
PICKUP DEPTH	7141'
BOT LOGGED INT	7141'
TOP LOGGED INT	10'
TYPE OF INJECT	NONE
FLUID IN WELL	GAS
FLUID LEVEL	N/A
WELL STATUS	STATIC
MAX TEMPERATURE	149.0 F.
AT DEPTH	7141.0'
TEMPERATURE SENS	1 F/DIV.
LOGGING SPEED	100 FPM
RECORDED BY	S. MACIAS
WITNESSED BY	N/A
EMAIL TO	A. KARGAR
DEPTH CORRELATION	N/A

PRESSURE	FLOWING	INJECTION	SHUT-IN
TUBING PSI			1098
CASING PSI			1098

INJECTION RATE	N/A
OBSERVED RATE	N/A
R/A SOURCE	N/A
ACTIVITY	N/A
HALF LIFE	N/A

PRODUCTION DATA

OIL Gr.		OIL =
GAS Gr.		GAS=
MPP		BHP =
		WATER=

Equipment Data

COLLAR LOCATOR	1.375"		
TEMPERATURE TOOL	1.375"		
AUDIO DETECTOR	1.375"		

Remarks/Survey Results

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11:45 AM - ON LOCATION
12:09 PM - RAN IN HOLE
12:09 PM - BEGIN SURVEY

SAND TAG MARKERS: 7235' TOP S1
                  7338' TOP S4
                  7375' TOP S8
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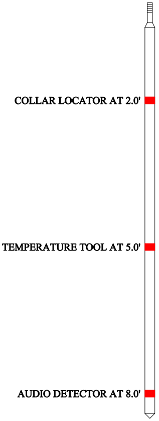
CASING AND TUBING RECORD

SIZE	WT(#)	FROM	TO	SIZE	WT(#)	FROM	TO
13.375"	48.0	SURFACE	798'	2.875"	6.5	7162'	7167'
8.625"	36.0	SURFACE	7339'				
6.625"	28.0	7204'	7676'				
3.500"		SURFACE	7162'				

STR.	PIPE DIA.	PERFORATIONS
A	6.625"	7300'-7676', WSO: 7324', WSO: 7325'.
		PACKERS: 7163'-7167'.
		GAS LIFT MANDREL: 7079.6'-7085.9'.
		SLIDING SLEEVES: 7120.2'-7124.2'.
		NO-GO: 7151'.
		STAGE COLLAR: 3738'.
		PENGO PATCH: 3737'-3759'.

TOOL DIAGRAM



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     Audio Data:  c:\data\noise.txt
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   DEPTH |   200HZ |   600HZ |  1000HZ |  2000HZ |
--------------------------------------------------
      50 |   15.60 |   14.60 |    7.70 |    2.90 |
     100 |   17.60 |   16.80 |    8.50 |    2.80 |
     200 |   19.60 |   18.80 |    9.30 |    2.80 |
     300 |   16.90 |   15.80 |    7.30 |    2.80 |
     400 |   16.20 |   15.00 |    7.10 |    2.80 |
     500 |   19.00 |   18.00 |    9.50 |    2.90 |
     600 |   22.30 |   21.20 |   11.20 |    2.80 |
     700 |   23.70 |   22.70 |   11.70 |    3.20 |
     800 |   24.50 |   23.40 |   11.30 |    2.80 |
     900 |   24.30 |   23.30 |   11.40 |    2.80 |
    1000 |   21.60 |   20.20 |    9.90 |    2.80 |
    1100 |   22.00 |   20.80 |   10.10 |    2.80 |
    1200 |   22.90 |   21.70 |   10.30 |    2.80 |
    1220 |   24.60 |   23.10 |   10.80 |    2.90 |
    1240 |   23.90 |   22.60 |   10.60 |    2.80 |
    1260 |   22.90 |   21.00 |   10.50 |    3.00 |
    1280 |   23.20 |   21.70 |   10.50 |    2.80 |
    1300 |   24.00 |   22.40 |   10.80 |    2.80 |
    1320 |   23.80 |   22.40 |   11.00 |    2.80 |
    1340 |   27.30 |   25.90 |   11.60 |    2.80 |
    1360 |   25.20 |   23.50 |   10.90 |    2.80 |
    1380 |   25.80 |   24.30 |   11.20 |    2.80 |
    1400 |   26.70 |   25.10 |   11.90 |    2.80 |
    1420 |   27.60 |   26.20 |   11.80 |    2.80 |
    1440 |   28.00 |   26.60 |   12.30 |    3.10 |
    1460 |   28.70 |   27.50 |   13.20 |    2.80 |
    1480 |   29.30 |   28.10 |   13.30 |    2.80 |
    1500 |   28.60 |   27.20 |   12.50 |    2.80 |
    1600 |   25.70 |   24.30 |   12.20 |    2.80 |
    1700 |   27.10 |   26.00 |   12.80 |    2.80 |
    1800 |   28.50 |   27.00 |   12.00 |    2.80 |
    1850 |   25.80 |   24.30 |   11.80 |    2.80 |
    1900 |   26.40 |   24.80 |   11.20 |    2.80 |
    1950 |   26.80 |   24.80 |   11.40 |    3.20 |
    2000 |   25.50 |   24.10 |   11.40 |    2.90 |
    2050 |   29.40 |   26.70 |   12.70 |    2.90 |
    2100 |   25.40 |   24.00 |   11.30 |    2.80 |
    2150 |   28.30 |   26.50 |   13.10 |    4.70 |
    2200 |   27.70 |   26.20 |   12.70 |    2.90 |
    2220 |   27.00 |   25.60 |   12.80 |    2.80 |
    2240 |   26.70 |   25.30 |   12.20 |    2.80 |
    2260 |   25.80 |   24.50 |   12.40 |    2.90 |
    2280 |   28.10 |   26.60 |   13.10 |    2.80 |
    2300 |   26.90 |   25.30 |   12.40 |    2.80 |
    2320 |   27.50 |   25.60 |   12.30 |    3.10 |
    2340 |   27.80 |   26.30 |   13.20 |    2.90 |
    2360 |   27.60 |   26.00 |   12.00 |    2.80 |
    2380 |   27.50 |   26.10 |   12.70 |    2.80 |
    2400 |   25.00 |   23.40 |   12.00 |    2.80 |
    2420 |   23.10 |   21.70 |   11.10 |    2.80 |
    2440 |   25.00 |   22.60 |   11.80 |    2.90 |
    2460 |   25.60 |   24.20 |   12.70 |    3.20 |
    2480 |   26.00 |   24.40 |   12.10 |    3.60 |
    2500 |   25.50 |   23.80 |   12.20 |    2.80 |
    2520 |   26.50 |   24.90 |   11.90 |    2.80 |
    2540 |   23.60 |   22.20 |   11.10 |    2.70 |
    2560 |   24.40 |   22.70 |   11.10 |    2.80 |
    2580 |   21.50 |   19.50 |    9.30 |    2.70 |
    2600 |   24.20 |   22.10 |   11.50 |    3.00 |
    2620 |   23.90 |   22.50 |   11.10 |    2.80 |
    2640 |   24.60 |   22.90 |   11.30 |    2.80 |
    2660 |   25.20 |   23.40 |   11.40 |    2.80 |
    2680 |   22.40 |   19.90 |    9.90 |    2.80 |
    2700 |   20.10 |   17.60 |    8.60 |    2.70 |
    2950 |   18.80 |   16.30 |    7.80 |    2.80 |
    3200 |   14.00 |   11.70 |    6.00 |    2.70 |
    3450 |   11.20 |    8.40 |    4.60 |    2.80 |
    3700 |    9.80 |    7.40 |    4.50 |    3.00 |
    3720 |   10.70 |    7.70 |    4.60 |    3.10 |
    3740 |   11.10 |    8.10 |    5.20 |    3.50 |
    3760 |   11.00 |    7.80 |    4.70 |    3.00 |
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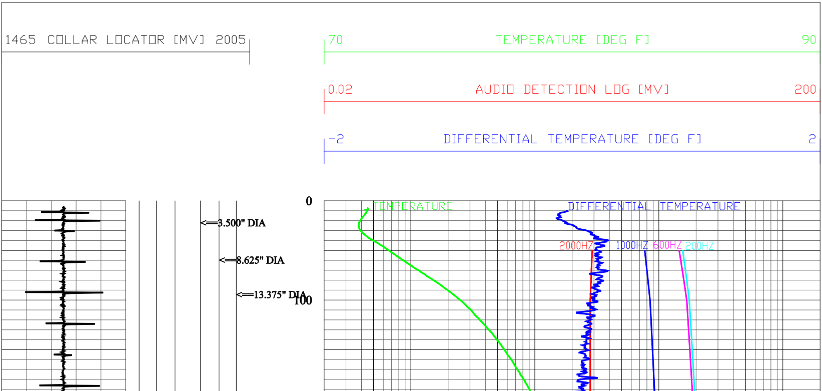
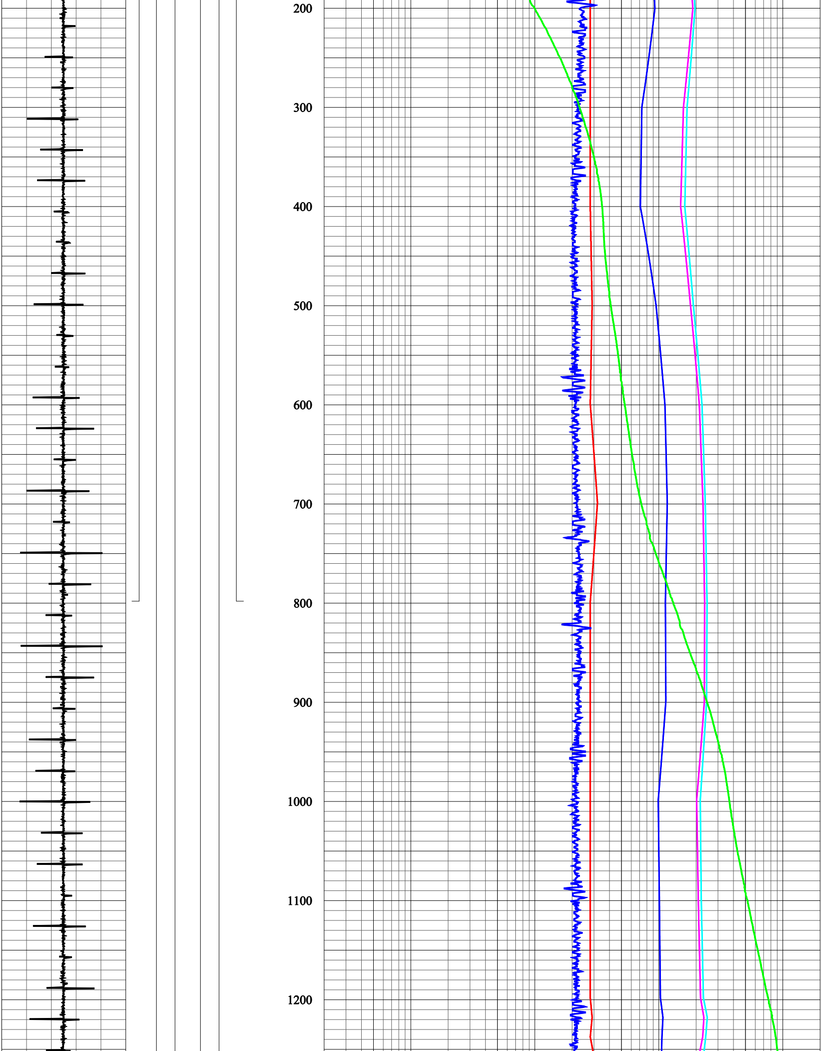
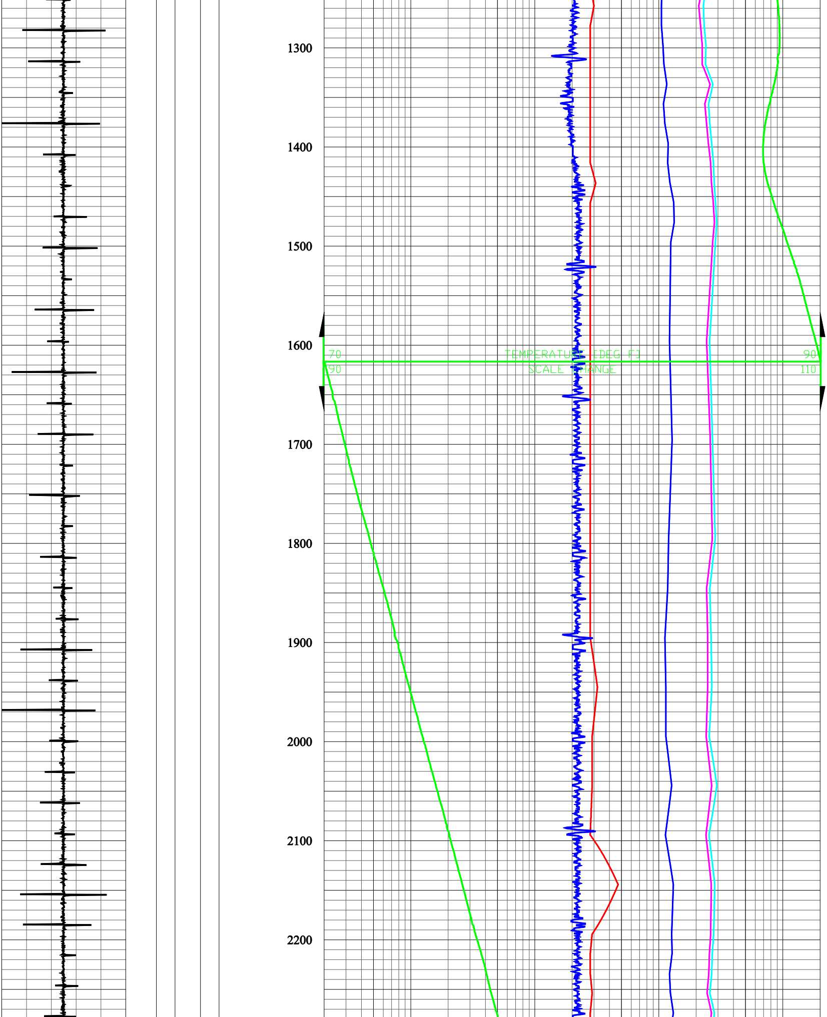
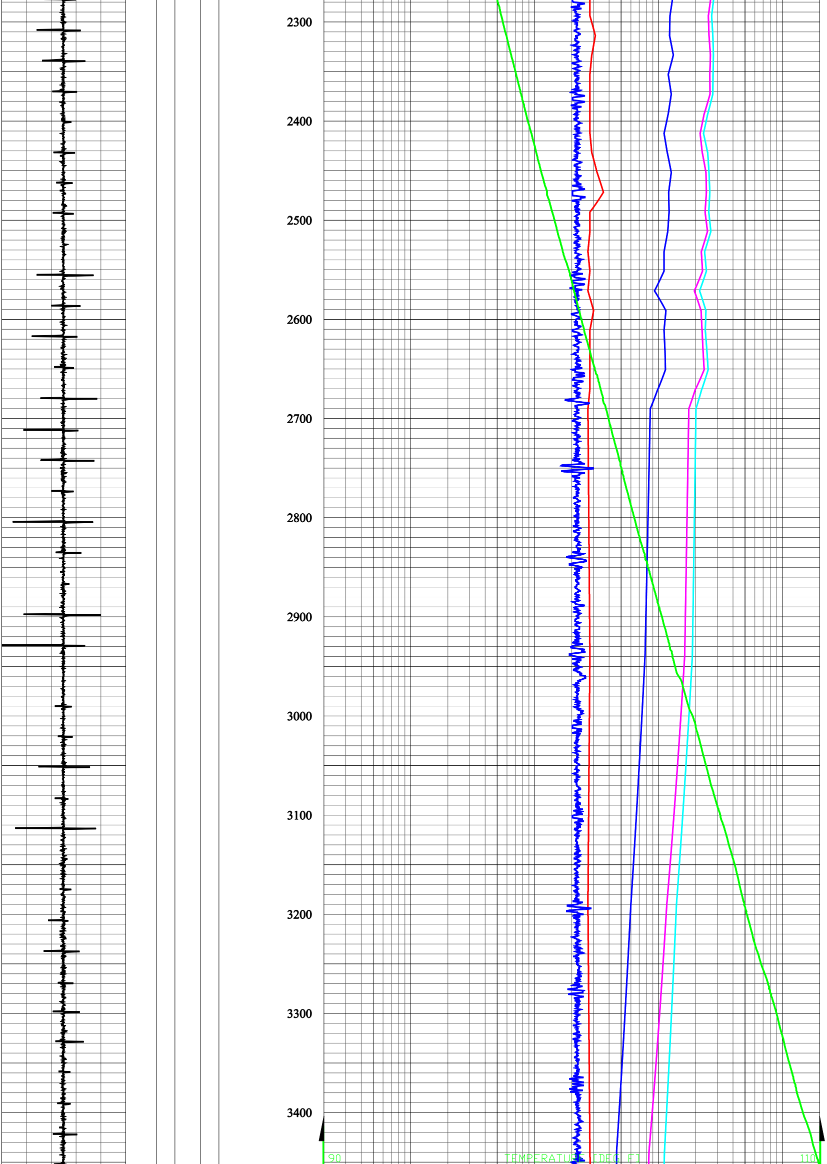
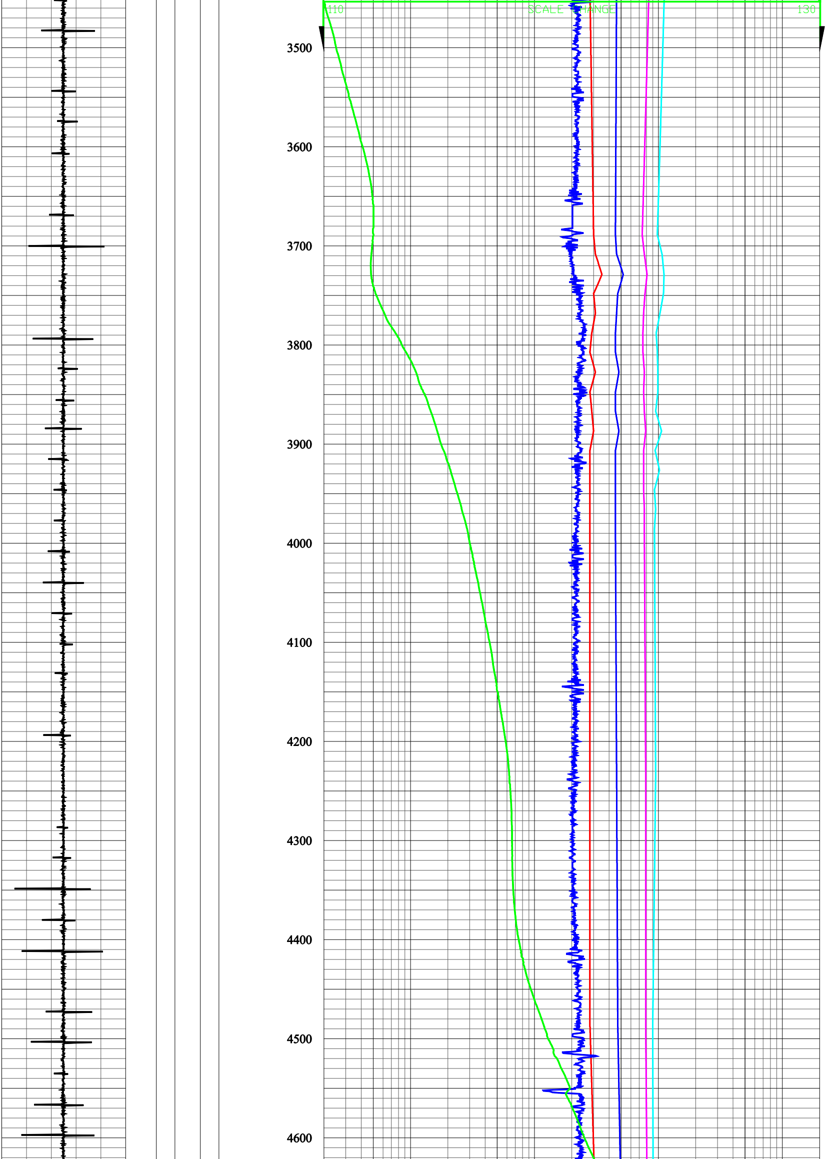
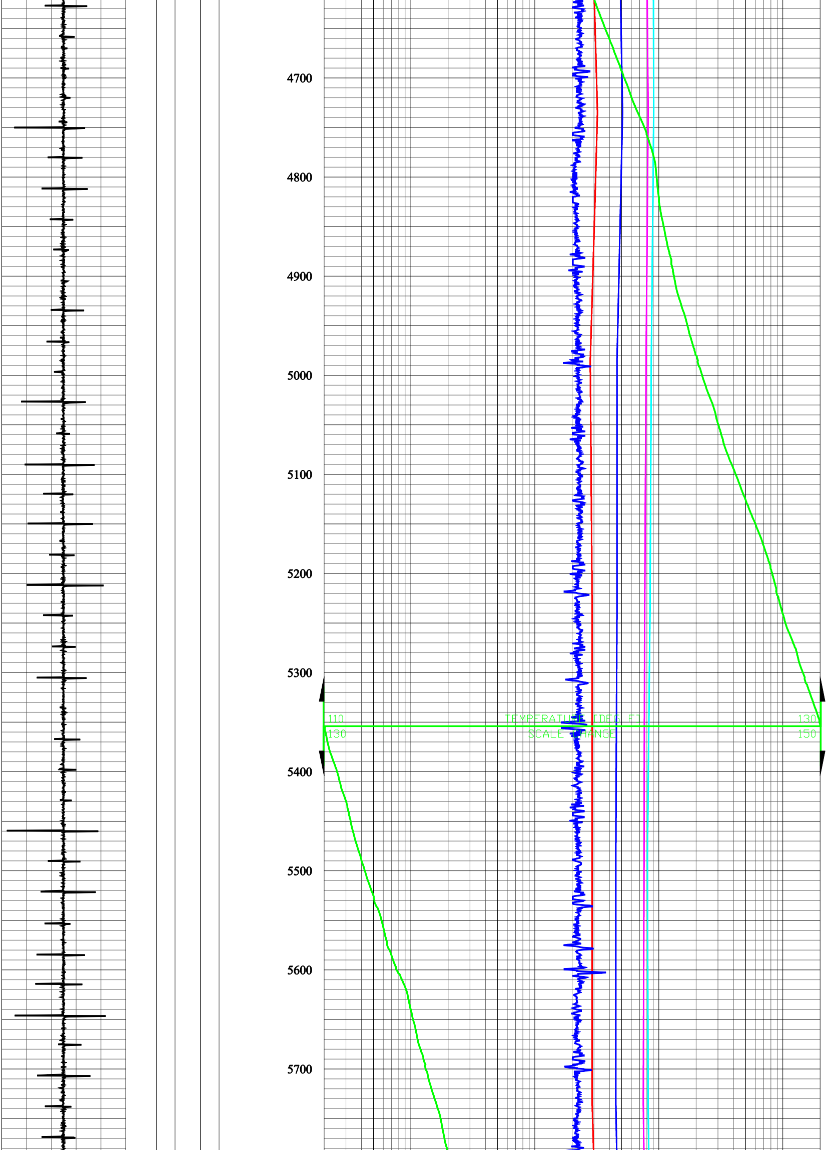
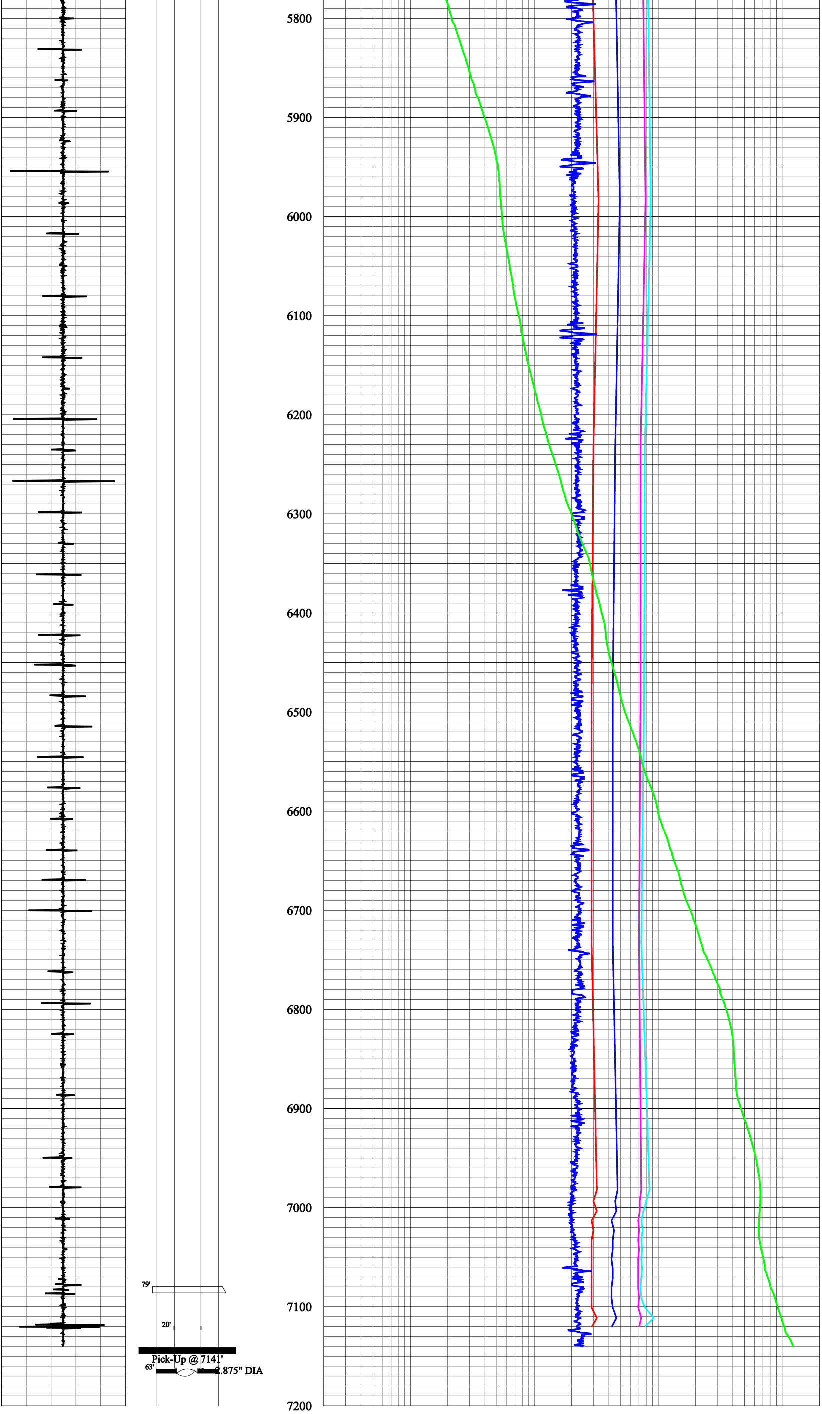
3780	10.30	7.60	4.60	3.10
3800	9.60	7.50	4.50	2.90
3820	9.80	7.50	4.50	2.80
3840	9.90	7.70	4.80	3.10
3860	9.90	7.60	4.50	2.80
3880	9.50	7.70	4.50	2.90
3900	10.60	7.90	4.80	3.00
3920	9.40	7.60	4.50	2.80
3940	10.20	7.60	4.50	2.80
3960	9.30	7.60	4.50	2.80
3980	9.50	7.70	4.50	2.80
4000	9.30	7.70	4.50	2.80
4250	9.50	7.90	4.60	2.80
4500	9.00	7.90	4.70	2.80
4750	9.10	8.20	5.10	3.20
5000	8.70	7.90	4.60	2.80
5250	8.50	7.70	4.60	2.90
5500	8.10	7.60	4.50	2.90
5750	8.20	7.50	4.50	2.90
6000	8.70	7.90	4.90	3.30
6250	7.80	7.20	4.50	3.00
6500	7.70	7.20	4.30	2.90
6750	7.30	7.00	4.30	2.90
7000	8.50	7.30	4.70	3.20
7011	8.00	7.10	4.50	3.00
7021	7.60	7.10	4.60	3.20
7031	7.30	6.90	4.20	2.90
7041	7.50	7.00	4.40	3.00
7051	7.30	6.90	4.30	2.90
7061	7.40	7.00	4.30	2.90
7071	7.30	6.90	4.20	2.90
7081	7.40	6.90	4.30	2.90
7091	7.30	6.90	4.30	2.90
7101	7.20	6.90	4.20	2.90
7111	7.30	7.00	4.20	2.90
7121	7.80	6.90	4.30	2.90
7131	9.20	7.30	4.60	3.20
7141	7.70	7.00	4.20	2.90


1465 COLLAR LOCATOR [MV] 2005
70 TEMPERATURE [DEG F] 90
0.02 AUDIO DETECTION LOG [MV] 200
-2 DIFFERENTIAL TEMPERATURE [DEG F] 2
0
100
<==3.500" DIA
<==8.625" DIA
<==13.375" DIA
TEMPERATURE
DIFFERENTIAL TEMPERATURE
2000HZ
1000HZ
600HZ
200HZ