WELL ANALYSIS CORPORATION

AUDIO DETECTION SURVEY

FILING NO.

NP

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

LOCATION:

DISTRICT 2

API NUMBER: 0403721872
SEC: 27 TWN: 3N RNG: 16W

OTHER SVC:

PERMANENT DATUM: GROUND LEVEL ELEV: 1995.00'

LOG MEASURED FROM KB 19' ABOVE PERM DATUM

DRILLING MEASURED FROM

-ELEVATIONS-
KB: 2014.00 Ft.
DF: Ft.
GL: 1995.00 Ft.

DATE LOG RAN	09-15-2011	PRESSURE	FLOWING	INJECTION	SHUT-IN	
RUN NUMBER	ONE	TUBING PSI			2599	
EFFECTIVE DEPTH	7485'	CASING PSI			2599	
PICKUP DEPTH	7442'	INJECTION RATE		N/A		
BOT LOGGED INT	7442'	OBSERVED RATE		N/A		
TOP LOGGED INT	50'	R/A SOURCE		N/A		
TYPE OF INJECT	NONE	ACTIVITY		N/A		
FLUID IN WELL	GAS	HALF LIFE		N/A		
FLUID LEVEL	N/A					
WELL STATUS	STATIC			PRODUCTION DATA		
MAX TEMPERATURE	148.0 F	OIL Gr.		OIL =		
AT DEPTH	6890.5'	GAS Gr.		GAS=		
TEMPERATURE SENS	1 F/DIV.	MPP		BHP =		
LOGGING SPEED	100 FPM			WATER=		
RECORDED BY	S. MACIAS					
WITNESSED BY	N/A					
ENGINEER	A. KARGAR					
DEPTH CORRELATION	LINER TOP					

Equipment Data

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

Remarks/Survey Results

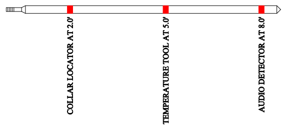
SURVEY INDCATES NO ABOVE NORMAL ACITIVITY.
10:00AM ON LOCATION
11:30AM RIG IN HOLE
11:34AM BEGIN SURVEY
4:44PM PULL OUT OF HOLE
5:30PM OFF LOCATION

CASING AND TUBING RECORD

SIZE	WT(#)	FROM	TO	SIZE	WT(#)	FROM	TO
8.625"	36	SURFACE	7290'				
5.500"	20	7196'	7486'				
3.500"	9.3	SURFACE	7171.8'				

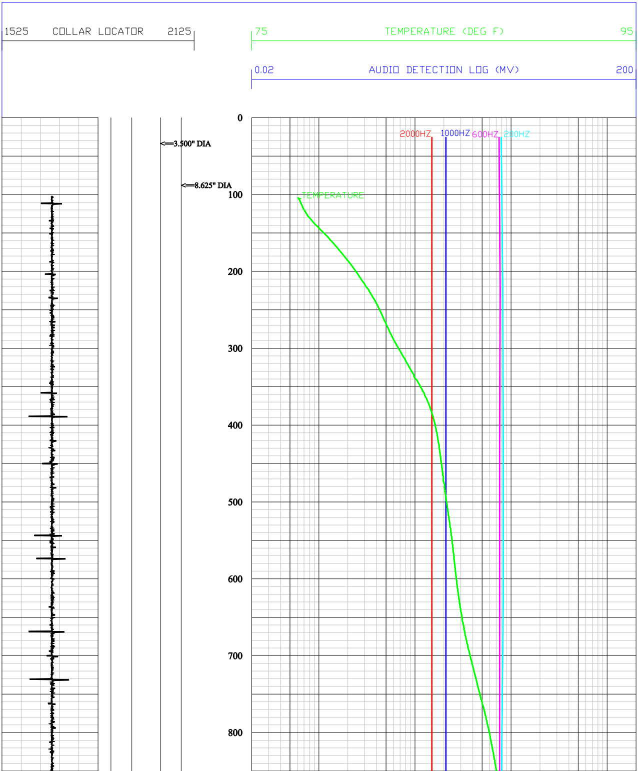
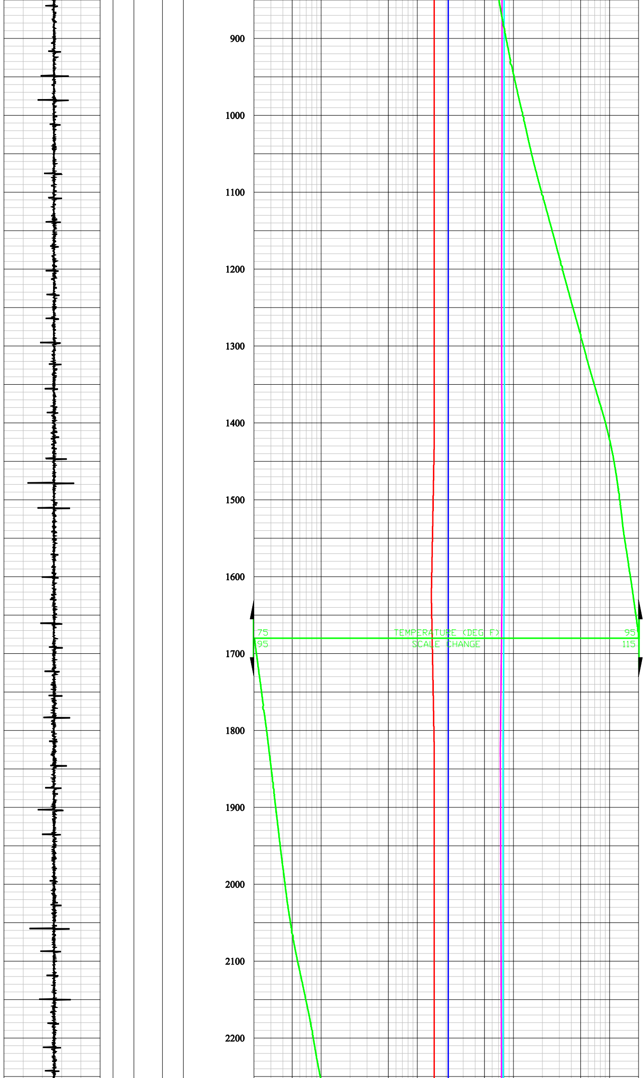
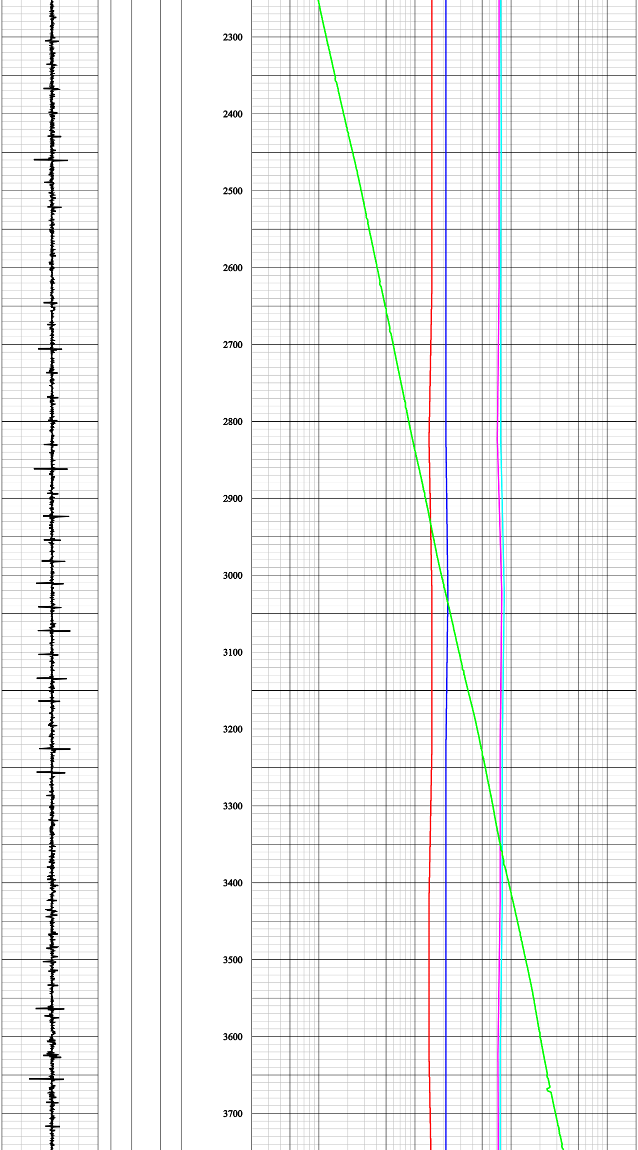
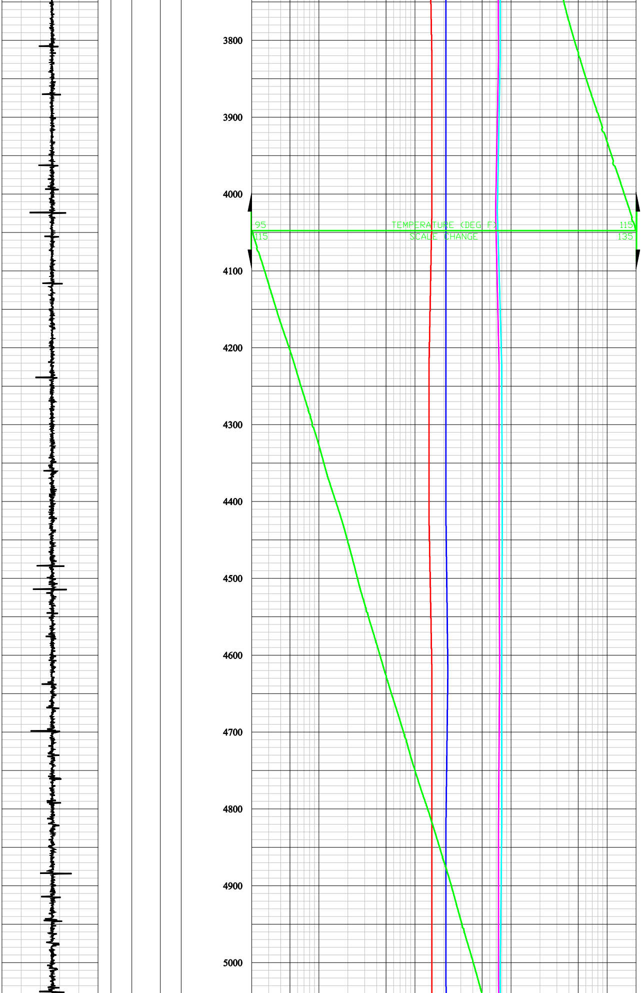
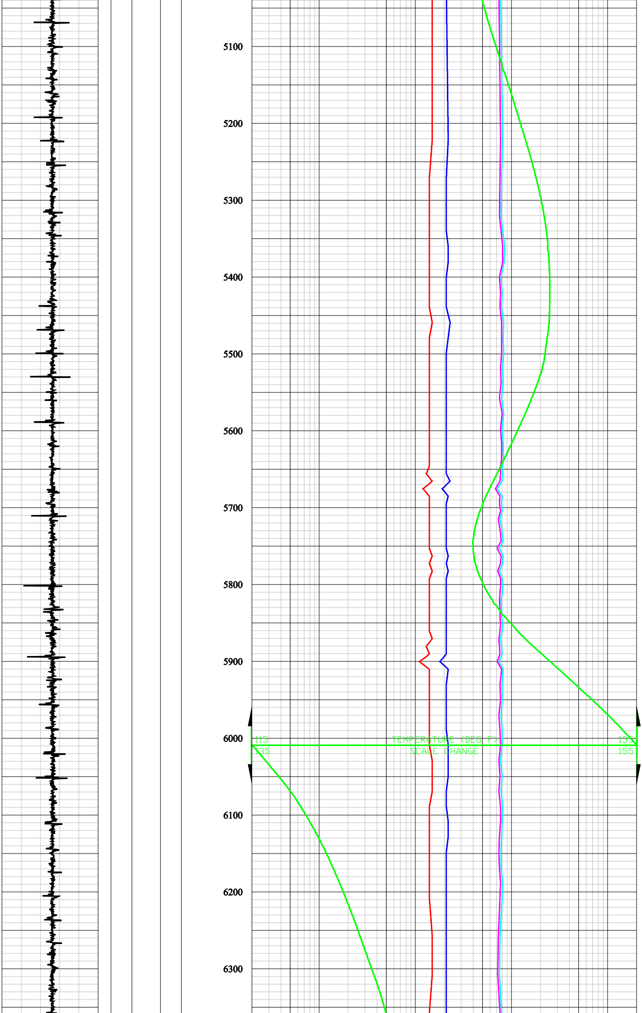
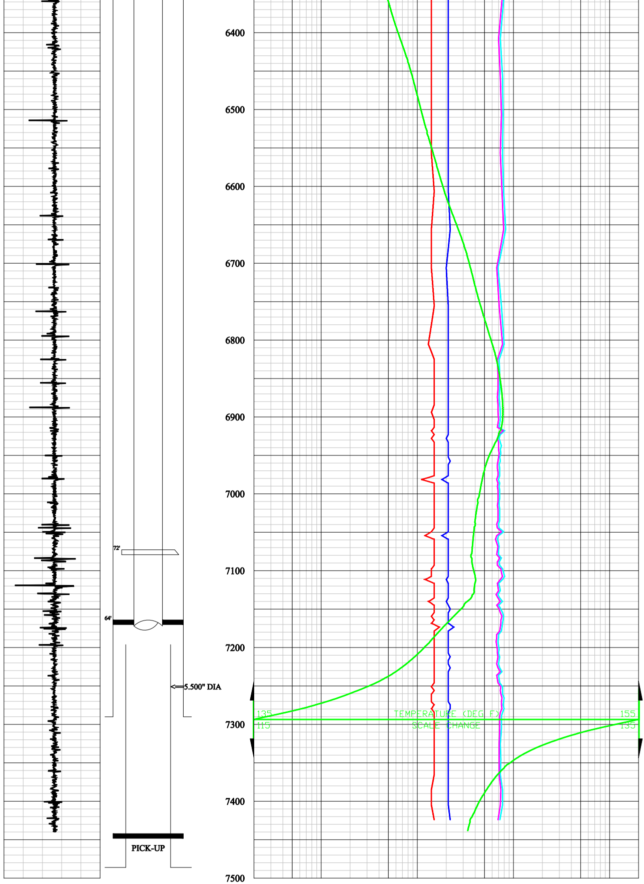
STR.	PIPE DIA.	PERFORATIONS
		PACKERS: 7164'-7170'.
		MANDRELS: 7072.7'-7079.1'.
		NO-GO: 7152.7'.

TOOL DIAGRAM



```
     Audio Data:  C:/DATA\NOISE.txt
-------------------------------------------------
  DEPTH |   200HZ |   600HZ |  1000HZ |  2000HZ |
-------------------------------------------------
     25 |    7.90 |    7.50 |    2.10 |    1.50 |
    200 |    8.20 |    7.70 |    2.10 |    1.50 |
    400 |    8.30 |    7.60 |    2.10 |    1.50 |
    600 |    8.30 |    7.60 |    2.10 |    1.50 |
    800 |    8.00 |    7.60 |    2.10 |    1.50 |
   1000 |    8.00 |    7.60 |    2.10 |    1.50 |
   1200 |    8.00 |    7.50 |    2.10 |    1.50 |
   1400 |    8.10 |    7.60 |    2.10 |    1.50 |
   1600 |    8.00 |    7.60 |    2.10 |    1.40 |
   1800 |    7.80 |    7.30 |    2.10 |    1.50 |
   2000 |    7.80 |    7.40 |    2.10 |    1.50 |
   2200 |    7.80 |    7.50 |    2.10 |    1.50 |
   2400 |    7.90 |    7.50 |    2.10 |    1.50 |
   2600 |    7.80 |    7.50 |    2.10 |    1.50 |
   2800 |    7.80 |    7.20 |    2.10 |    1.40 |
   3000 |    8.50 |    8.00 |    2.20 |    1.50 |
   3200 |    8.10 |    7.70 |    2.10 |    1.50 |
   3400 |    8.10 |    7.70 |    2.10 |    1.40 |
   3600 |    7.70 |    7.30 |    2.10 |    1.40 |
   3800 |    7.70 |    7.40 |    2.10 |    1.50 |
   4000 |    7.20 |    6.90 |    2.10 |    1.50 |
   4200 |    8.00 |    7.50 |    2.10 |    1.40 |
   4400 |    8.10 |    7.50 |    2.10 |    1.40 |
   4600 |    8.00 |    7.60 |    2.20 |    1.50 |
   4800 |    8.00 |    7.40 |    2.10 |    1.50 |
   5000 |    7.70 |    7.40 |    2.10 |    1.50 |
   5200 |    8.10 |    7.70 |    2.20 |    1.50 |
   5250 |    7.90 |    7.60 |    2.10 |    1.40 |
   5300 |    7.80 |    7.50 |    2.10 |    1.40 |
   5320 |    8.10 |    7.80 |    2.10 |    1.40 |
   5340 |    8.50 |    8.10 |    2.20 |    1.40 |
   5360 |    8.40 |    8.10 |    2.20 |    1.40 |
   5380 |    7.80 |    7.50 |    2.10 |    1.40 |
   5400 |    8.00 |    7.70 |    2.10 |    1.40 |
   5420 |    7.90 |    7.60 |    2.10 |    1.40 |
   5440 |    8.30 |    7.90 |    2.30 |    1.50 |
   5460 |    8.20 |    7.90 |    2.20 |    1.40 |
   5480 |    8.30 |    7.90 |    2.10 |    1.40 |
   5500 |    8.10 |    7.70 |    2.10 |    1.40 |
   5520 |    8.20 |    7.80 |    2.10 |    1.40 |
   5540 |    7.90 |    7.50 |    2.10 |    1.40 |
   5560 |    8.30 |    8.00 |    2.10 |    1.40 |
   5580 |    8.00 |    7.70 |    2.10 |    1.40 |
   5600 |    8.20 |    7.90 |    2.10 |    1.40 |
   5610 |    8.20 |    7.90 |    2.10 |    1.40 |
   5620 |    8.30 |    7.90 |    2.10 |    1.40 |
   5630 |    8.00 |    7.70 |    2.10 |    1.40 |
   5640 |    8.10 |    7.70 |    2.10 |    1.30 |
   5650 |    8.00 |    7.60 |    2.30 |    1.50 |
   5660 |    7.10 |    6.80 |    1.90 |    1.20 |
   5670 |    8.00 |    7.60 |    2.20 |    1.40 |
   5680 |    7.90 |    7.50 |    2.10 |    1.40 |
   5690 |    8.00 |    7.70 |    2.10 |    1.40 |
   5700 |    7.60 |    7.30 |    2.10 |    1.40 |
   5710 |    7.90 |    7.50 |    2.10 |    1.40 |
   5720 |    8.00 |    7.70 |    2.10 |    1.40 |
   5730 |    8.20 |    7.80 |    2.10 |    1.40 |
   5740 |    7.50 |    7.10 |    2.10 |    1.40 |
   5750 |    8.20 |    7.80 |    2.20 |    1.50 |
   5760 |    8.10 |    7.70 |    2.10 |    1.40 |
   5770 |    7.50 |    7.20 |    2.20 |    1.50 |
   5780 |    8.00 |    7.70 |    2.10 |    1.40 |
   5790 |    8.10 |    7.70 |    2.10 |    1.40 |
   5800 |    8.00 |    7.60 |    2.10 |    1.40 |
   5810 |    7.80 |    7.50 |    2.10 |    1.40 |
   5820 |    7.90 |    7.60 |    2.10 |    1.40 |
   5830 |    7.90 |    7.60 |    2.10 |    1.40 |
   5840 |    8.10 |    7.70 |    2.10 |    1.40 |
   5850 |    8.00 |    7.60 |    2.10 |    1.40 |
   5860 |    7.70 |    7.40 |    2.10 |    1.50 |
   5870 |    7.90 |    7.50 |    2.10 |    1.30 |
   5880 |    8.00 |    7.60 |    2.10 |    1.40 |
   5890 |    7.40 |    7.10 |    1.80 |    1.10 |
   5900 |    8.20 |    7.90 |    2.20 |    1.40 |
   5920 |    8.00 |    7.60 |    2.10 |    1.40 |
   5940 |    8.00 |    7.70 |    2.10 |    1.40 |
   5960 |    7.80 |    7.40 |    2.10 |    1.40 |
   5980 |    8.00 |    7.60 |    2.10 |    1.40 |
   6000 |    8.00 |    7.70 |    2.20 |    1.40 |
   6020 |    7.70 |    7.40 |    2.20 |    1.50 |
   6040 |    8.00 |    7.60 |    2.20 |    1.50 |
   6060 |    7.80 |    7.40 |    2.10 |    1.50 |
   6080 |    8.10 |    7.70 |    2.10 |    1.40 |
   6100 |    8.00 |    7.70 |    2.20 |    1.40 |
   6120 |    7.90 |    7.50 |    2.20 |    1.40 |
   6140 |    7.80 |    7.40 |    2.10 |    1.40 |
   6160 |    7.80 |    7.50 |    2.10 |    1.40 |
   6180 |    8.10 |    7.70 |    2.10 |    1.40 |
   6200 |    8.00 |    7.60 |    2.10 |    1.40 |
   6250 |    7.60 |    7.30 |    2.10 |    1.50 |
   6300 |    7.50 |    7.20 |    2.10 |    1.50 |
   6350 |    7.90 |    7.60 |    2.10 |    1.40 |
   6400 |    7.30 |    7.00 |    2.10 |    1.40 |
   6450 |    7.70 |    7.30 |    2.10 |    1.40 |
```

6500	7.80	7.50	2.10	1.40
6550	7.70	7.30	2.10	1.40
6600	7.90	7.60	2.10	1.50
6650	8.30	7.90	2.20	1.40
6700	6.90	6.70	2.00	1.40
6750	7.50	7.10	2.10	1.50
6800	8.00	7.70	2.10	1.30
6820	7.10	6.80	2.10	1.50
6840	7.20	6.90	2.10	1.50
6860	7.20	6.90	2.10	1.50
6870	7.10	6.80	2.10	1.50
6880	7.20	6.90	2.10	1.50
6890	7.30	6.90	2.10	1.40
6900	7.30	7.00	2.10	1.50
6905	7.20	6.90	2.10	1.50
6910	7.10	6.80	2.10	1.50
6915	8.10	7.80	2.10	1.40
6920	7.30	7.00	2.10	1.50
6925	7.10	6.80	2.00	1.40
6930	7.30	7.00	2.10	1.50
6935	7.50	7.00	2.10	1.50
6940	7.30	7.00	2.10	1.50
6945	7.40	7.10	2.10	1.50
6950	7.20	7.00	2.10	1.50
6955	7.30	6.90	2.20	1.50
6959	7.10	6.80	2.10	1.50
6965	7.20	6.80	2.10	1.50
6970	7.20	6.90	2.10	1.50
6975	7.20	6.90	2.10	1.50
6980	7.00	6.70	1.80	1.10
6985	7.20	6.90	2.10	1.50
6990	7.10	6.80	2.10	1.50
6995	7.20	6.90	2.10	1.50
7000	7.20	6.90	2.10	1.50
7005	7.20	6.90	2.10	1.50
7010	7.10	6.90	2.10	1.50
7015	7.10	6.80	2.10	1.50
7020	7.20	6.90	2.10	1.50
7025	7.20	6.90	2.10	1.50
7030	7.20	6.90	2.10	1.50
7035	7.20	6.90	2.10	1.50
7040	7.00	6.70	2.10	1.50
7045	7.10	6.80	2.10	1.50
7050	7.90	7.50	2.10	1.40
7055	7.00	6.70	1.80	1.20
7060	6.80	6.50	2.10	1.50
7065	7.00	6.70	2.10	1.50
7070	7.10	6.90	2.10	1.50
7075	7.00	6.80	2.10	1.50
7080	7.00	6.70	2.10	1.50
7085	7.50	7.20	2.10	1.50
7090	7.10	6.80	2.10	1.50
7095	7.20	6.80	2.10	1.50
7100	7.70	7.40	2.10	1.40
7105	7.90	7.50	2.10	1.40
7110	8.10	7.70	2.10	1.40
7115	7.70	7.30	2.00	1.20
7120	7.00	6.80	2.10	1.50
7125	7.20	6.90	2.10	1.50
7130	7.30	7.00	2.10	1.50
7135	6.90	6.60	2.10	1.50
7140	7.20	6.90	2.10	1.50
7145	7.70	7.30	2.00	1.30
7150	7.00	6.70	2.10	1.50
7155	7.40	7.10	2.20	1.50
7160	7.70	7.30	2.10	1.50
7165	7.90	7.60	2.10	1.40
7170	7.80	7.40	2.10	1.50
7175	7.70	7.40	2.10	1.40
7180	7.60	7.30	2.40	1.70
7185	7.50	7.20	2.10	1.50
7190	7.00	6.70	2.10	1.50
7195	7.00	6.70	2.10	1.50
7200	6.90	6.60	2.10	1.50
7205	7.00	6.70	2.10	1.50
7210	7.10	6.80	2.10	1.50
7215	7.00	6.80	2.10	1.50
7220	7.20	6.90	2.20	1.50
7225	7.10	6.80	2.10	1.50
7230	7.00	6.70	2.10	1.50

7235	7.20	6.90	2.20	1.50
7240	7.60	7.30	2.10	1.50
7245	7.00	6.70	2.10	1.50
7250	7.10	6.80	2.10	1.50
7255	7.20	6.90	2.10	1.50
7260	7.70	7.40	2.10	1.40
7265	7.70	7.30	2.10	1.50
7270	7.70	7.40	2.10	1.40
7275	8.00	7.60	2.10	1.40
7280	7.90	7.50	2.10	1.40
7285	7.80	7.50	2.20	1.50
7290	8.00	7.60	2.20	1.40
7295	7.70	7.30	2.10	1.50
7300	7.50	7.20	2.10	1.50
7317	7.50	7.20	2.10	1.50
7337	7.30	7.10	2.10	1.50
7357	7.40	7.10	2.10	1.50
7377	7.30	7.10	2.10	1.50
7397	7.70	7.40	2.10	1.40
7417	7.70	7.30	2.10	1.40
7437	7.20	6.90	2.20	1.50