



d.b.a. COLORADO WELL LOGGING

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September 25, 1986

Mr. Joe Iovenitti
Thermal Power Co.
Suite 120
3333 Mendocino Avenue
Santa Rosa, CA 95401

Re: Borehole Geophysical Logging for Clackamas Geothermal Test Well No. 1, September 3-5, 1986.

Dear Joe,

The following letter serves as a report on the final logging program for Thermal Power's Clackamas Geothermal Test Well recorded September 3-5, 1986. I've also attached the original analog data in final form for both logging trips, a copy of the deviation data, and a tabular printout of the digitized log values including the temperature in degrees F.

Colog mobilized September 1-3 to the Clackamas job site and was on site ready to start the logging operations at noon, Sept. 3rd. HQ drilling pipe had parted and was left in the well as casing from approx. 830-4200 ft. HQ casing had been run back down to 830 ft. and the well then drilled from 4200 ft. to approximately 4800 ft. The drilling crew had run NX drill pipe into the well to T.D. and had started circulating (pumping cool water down the well; it did not return to the surface.) prior to Colog's arrival on-site. The drill pipe was pulled from the well and a MRT survey was recorded by the drillers prior to Colog starting logging operations. This MRT survey indicated that the well had been cooled to 153 degrees F, a level acceptable by Colog's downhole probes.

At 23:30 Colog started to rig up and then preceded to run the dual G-G density and caliper log in the well. The dual G-G function on the logging probe failed due to excessive borehole temperature before a density log could be obtained on the open portion of the drill hole (4200-4800 ft.). A caliper log was obtained in this portion of the well, and both caliper and density logs were recorded inside the drill pipe from 900 to 775 ft. These logs were recorded through this interval of drill pipe to investigate the area in which the HQ drill rods had parted at 830 ft. No gaps were apparent on the caliper log. It is possible from the density logs that the joint may be slightly thicker i.e. there is an overlap at the joint that shows as apparent higher density. This probe was out of the drill hole at 03:30 and the three MRT's on the cable immediately above the probe showed 184, 188, and 217 degrees F. These temperatures all greatly exceed the dual density tool manufacturer's temperature rating of approx. 150 degrees F. Apparently the borehole temperature rebounded rapidly.

Colog next attempted the full-wave form sonic log. The probe centralizers had to be removed to get the tool down the HX (pipe ID - 3.5", tool OD 2.60") drill pipe because of the grease on the inside of the pipe. Sonic data was recorded going downward from 4225 to 4425'. The tool then failed due to the excessive borehole temperatures. Because of the way the tool failed, the digital full wave form data was lost, and only the analog Delta T and Amplitude data was salvaged. The Delta T data showed formation values of 50 to 100 micro sec./ft. (20,000 to 10,000 ft./sec.). The 100 micro sec./ft. occurred at 4320 ft. and is indicative of high porosity. Numerous cycle skips probably are indicative of fractures in the formation and should be correlated with the core.

Colog next attempted to record the 16-64" resistivity and SP logs. This data could not be collected, because of an apparent short that had developed in the cable. A 6 ft. lateral resistivity and SP log were recorded with this same probe. However, because of the problems demonstrated on the normal resistivity logs this data is questionable. Colog was out of the well at 11:30 and the drillers immediately started to 'trip' the NX pipe back into the well and cool the well. A short in the logging cable was found and repaired. No prints of these logs have been provided.

Cool water was pumped down the well bore for approximately 10 hours and the NX pipe was left in the well to T.D. At 23:30, Colog attempted the gamma-neutron log. This probe was lowered to the bottom of the well as fast as possible and then logged upwards. The probe failed because of the excessive borehole temperatures after logging from 4800 to 4650 feet. The gamma function never completely failed but, is very questionable from 4450 to approx. 4100 feet. The neutron log was totally dead from 4650 to 4520 feet and partially functional to 4100 feet. Data was recorded up to 3500 feet and then the probe was lowered back down to 3950 feet. It was then logged downward until it failed because of the borehole temperature at 4466 feet. The probe was then brought back to 3500 feet and logged out to the surface. At approximately 3000 feet, the gamma function died off to zero. The tool was turned off and initialized again and the gamma function started working. The logs were repeated over the questioned area and then logged to the surface. It is not known why the gamma function died at this point, however, it may have been a result of the high temperatures at depth. A composite gamma-neutron log is attached to this report. Baseline shifts occur in both the gamma and neutron logs where the hole diameter and casing changes. For example, at 4200 ft. the hole diameter decreases from approx. 3.5" to 3" and the neutron log is shifted to the right (less water effect because of smaller borehole - therefore greater count rate). The gamma log also shifts to the right at this point because it is no longer looking through two layers of casing; the NX and the HX. These same type changes also occur at the bottom of the surface casing.

A deviation log was to be the next log recorded in the well. However, a problem developed with the module and the temperature and fluid resistivity logs were recorded while a loose connection on the deviation module was repaired. The temperature and fluid resistivity logs were recorded downward to 4875 feet through the drill pipe. The maximum bottom hole temperature was 361 degrees Kelvin (88 degrees C or 190 degrees F). The temperature log showed only small changes including a cooling trend down to approximately 750 feet with gradual warming to depth. There were several zones that had significantly different temperature gradients including 860-1060 feet in which there was only a very slight increase in borehole temperature. The fluid resistivity log showed an apparent decrease in water quality with depth. From approx. 40 ohm-m at the surface to 9 ohm-m at the bottom of the well. This shift is almost entirely a function of the increase in borehole temperature. A copy of a calibration curve for the Fluid resistivity measurement (in tap water) versus temperature is attached. I have very limited experience with MRT surveys and based upon the variation between the apparent temperatures that were read with the three different MRTs used each time, I question their accuracy to greater than 10%. I have more experience with calibration of Colog's temperature tool and believe it to be accurate to within 1%.

The deviation log was recorded after the T,FR logs by logging downward through the drill pipe at 25 foot intervals. The directional deviation data is erroneous because of the steel casing and pipe in the well bore. The steel casing and pipe is randomly magnetized and the direction Colog's tool measures is magnetically based. It is obvious when the direction changes 180 degrees in 25 feet and the angle doesn't change that the steel is influencing the readings. The steel pipe doesn't effect the vertical angle reading. Overall, this was a very straight borehole.

Upon completion of the deviation survey, 600 feet of drill pipe was then pulled out of the well leaving the bottom 4200-4800 feet open. The 16-64" normal resistivities, SP, IP, and a 6 ft. lateral resistivity were recorded in this portion of the well. All of the resistivity data was consistent between the different types of measurements and the pre and post logging calibrations checks were the same. Additionally, Colog's equipment manufacture specifies that the 16" short normal resistivity log should indicate approx. 5.1 ohm-m for every ohm of load used in calibration, and the 64" long normal resistivity should indicate approximately 20 ohm-M for every ohm of load. This is consistent with the field calibration checks. The small variation between actual and theoretical resistivities is due to the cable length, variation within the load resistors (nominal 10% resistors), and contact resistance. Therefore, I believe the tool to be working correctly and the data to be valid. Please note that the previous 6 foot lateral resistivity and SP data showed the same shape of curve, however, the logging scales were substantially

different. I don't believe the original 6 foot lateral quantitative data to be valid because of the cable problems that were found after it was recorded.

It is somewhat disconcerting to see resistivity values in the 4 to 10 ohm-M range. The core samples were altered however, the neutron data indicates that the formation has very low hydrogen content (no water) and these resistivity values seem unrealistically low. The 9 ohm-M borehole fluid values would mean that apparent formation resistivity values of 9 ohm-M would indicate 100% porosity. For the apparent formation resistivity to be less than this value, the formation needs to be more conductive than the borehole fluid, i.e. contain saline formation water, disseminated sulfide, or some other conductive material.

The neutron logs suggest that there is very little formation water available. The slower sonic delta T's correspond to the lower resistivity values and also indicate higher porosity. Therefore, I am inclined to believe the porosity is dry. G-G density data in this area would have been very beneficial. The increase in borehole temperature will decrease the apparent resistivity some, however, I don't believe it would be significant enough to cause these extremely low values. At best, I think that the temperature correction would only increase these values by 20-25 ohm-M. One temperature correction formula for normal resistivity logs was obtained from literature and states that $R_1(T_1+7) = R_2(T_2+7)$ with the temperature in degrees F. Five ohm-M at 200 degrees F would equal approx. 20 ohm-M at 50 degrees F with this formula. I haven't seen enough information to know the limits, if any, for this formula. More investigation, including some core resistivity measurements, needs to be made to explain this result. It should be noted that the higher resistivity layers correspond to the higher (lower apparent porosity) neutron values and faster sonic velocity values, which is consistent.

The gamma, neutron, dual G-G density, caliper, and sonic logs were simultaneously recorded in digital and analog format. The digital sonic data was lost when the tool failed from the temperature. This was a very different shut-down than the up-hole logging equipment was designed for. The deviation data was also recorded digitally. The temperature, fluid resistivity, 16-64" normal resistivity, 6 ft. lateral resistivity, spontaneous potential, and induced potential logs were record only in analog form and then digitized.

The logging program for the well was effected by the overall borehole conditions. Significant data was not obtainable after the HQ drill pipe was parted and left in the well. This includes continuous resistivities from the surface to the bottom interval, density, and sonic data. Density and complete sonic, gamma, and neutron data could not be collected in the open portion of the well (4200-4800 ft.) because of the borehole temperatures. The

temperature in this drill hole rebounded very rapidly after the cooling attempts.

A major conclusion does seem to be apparent from the well log data collected. The well below 2000 feet appears to have a very low porosity, little permeability, and low potential as a natural geothermal aquifer. This is demonstrated by the lack of thermal gradient changes in the temperature log (which indicates lack of aquifer systems in this area), the overall low formation temperature, the high neutron count values (indicative of low formation water), and the lack of SP change which suggests little permeability. The low resistivity values are consistent with major clay alteration which would further reduce any permeability, however, they still need more explanation. They don't seem realistic with the known core and neutron values.

It was not practical to link the logging data from the first trip with these last logs primarily because of the lack of data that could be collected through the cased portion of the well. I will work with this data in more detail when I receive additional information, including a comprehensive geologic description, and ideally some resistivity and porosity values from the core and/or several pieces of the cores that we could test.

If you have any questions about this report or some additional information, please call.

Thanks again,



Robert E. Crowder
President / Geophysicist

enclosures
thermal8.inv

1/25/86

R. Crowden
COLPS, Inc.

COMPARISON BETWEEN
FLUID RESISTIVITY (MLP)
CALIBRATION CURVE
AND
FLUID RESISTIVITY
DATA FROM
CLACKAMAS GEOTHERMAL
TEST WELL LOG VALUES

90
80
70
60
50
40
30
20
10

TEMPERATURE (°C)

APPARANT FLUID RESISTIVITY

CALIBRATION CURVE
(TAP WATER)
CLACKAMAS DATA

10 20 30 40 50 60

OHM-M

POLYNOMIAL

DEGREE PATTERN

1 

2 

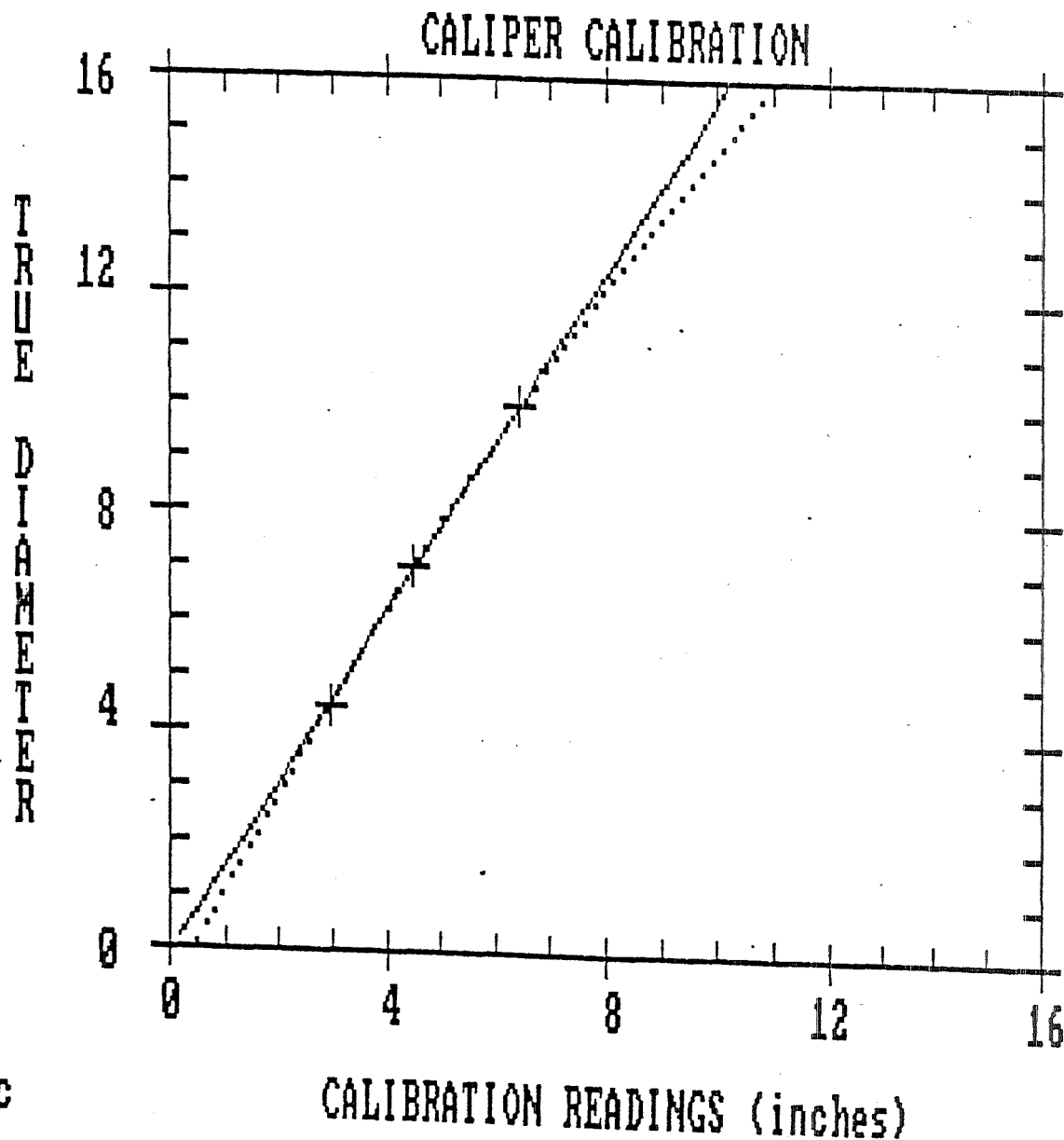
PLEASE SELECT DEGREE

(1 or 2)

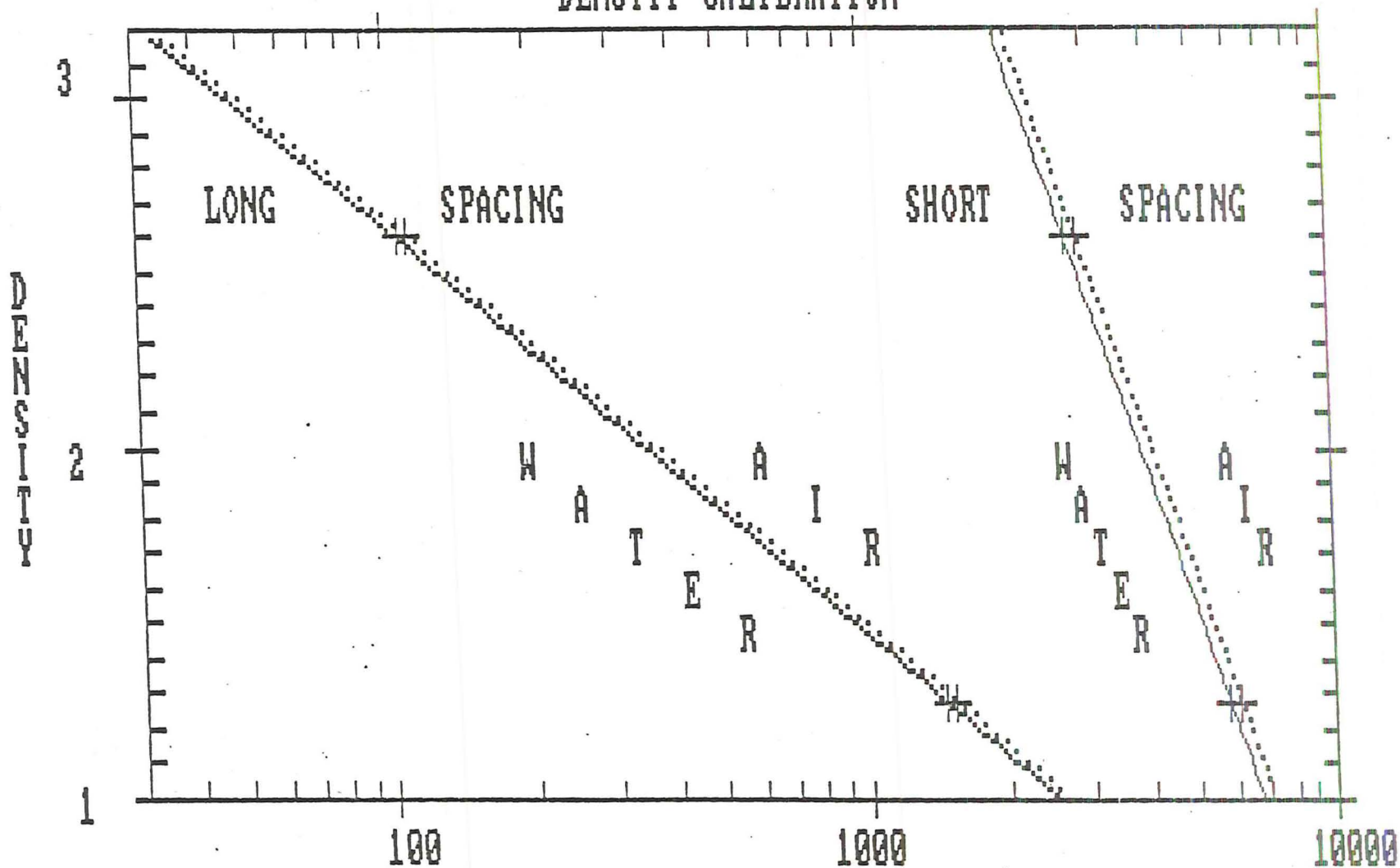
DEFAULT = 1

1

Input file c:\ctghl\ggc.rmc



DENSITY CALIBRATION



CALIBRATION READINGS (cps)

CTGH 1

COLOR, INC

CLACKAMAS GEOTHERMAL TEST WELL NO. 1 (CTGH-1)
 SONIC LOG TABULAR PRINTOUT
 LOGGED BY: COLOG, INC.
 DATE: SEPTEMBER 6, 1986

Note: Sonic delta t (DT) is
 in microsec. Used a 1-foot spacing
 between the 2 receivers (3' and 4'
 from transmitter, respectively). Therefore
 delta t is microsec/ft and $1/\text{delta t}$
 is velocity in ft/sec.

DEPTH	AMP	DT
4220.0	24.73%	0.0000
4220.5	43.34%	0.0000
4221.0	61.95%	0.0000
4221.5	58.55%	0.0000
4222.0	58.81%	0.0000
4222.5	60.72%	0.0000
4223.0	14.72%	0.0000
4223.5	34.39%	0.0000
4224.0	54.06%	0.0000
4224.5	73.73%	0.0000
4225.0	28.38%	21.7827
4225.5	60.62%	54.2059
4226.0	73.43%	81.9915
4226.5	37.32%	7.5380
4227.0	65.42%	8.1980
4227.5	39.58%	8.8587
4228.0	38.98%	9.5193
4228.5	71.72%	8.3906
4229.0	75.15%	6.7017
4229.5	69.91%	5.0141
4230.0	72.49%	200.0000
4230.5	31.24%	53.8847
4231.0	73.84%	77.1531
4231.5	76.70%	82.5144
4232.0	71.50%	83.7582
4232.5	69.19%	86.7295
4233.0	48.77%	74.3073
4233.5	70.00%	73.9961
4234.0	29.52%	59.2250
4234.5	52.78%	4.7907
4235.0	24.75%	6.5574
4235.5	40.41%	8.4421
4236.0	67.05%	27.5547
4236.5	47.16%	46.6774
4237.0	23.68%	65.7999
4237.5	33.11%	81.5975
4238.0	61.36%	83.6622
4238.5	67.63%	81.7832
4239.0	66.43%	79.0529
4239.5	64.92%	76.9548
4240.0	67.65%	75.1555
4240.5	67.94%	78.0892
4241.0	66.00%	79.3414
4241.5	65.30%	80.6865
4242.0	63.05%	81.4067
4242.5	56.05%	82.4476
4243.0	44.02%	82.0963
4243.5	38.58%	81.7446
4244.0	36.54%	81.3933

4244.5	34.27%	81.1390
4245.0	36.70%	81.3367
4245.5	39.33%	81.0072
4246.0	44.11%	80.0522
4246.5	42.96%	78.9286
4247.0	48.89%	77.9952
4247.5	56.97%	78.1880
4248.0	57.88%	78.4016
4248.5	56.73%	79.1833
4249.0	55.47%	79.9651
4249.5	55.99%	81.0254
4250.0	56.64%	82.8811
4250.5	57.18%	84.8173
4251.0	46.47%	86.8538
4251.5	21.43%	87.7596
4252.0	40.80%	79.2059
4252.5	51.48%	65.4236
4253.0	52.56%	61.5514
4253.5	53.07%	60.6730
4254.0	58.49%	58.5148
4254.5	64.35%	55.1295
4255.0	66.31%	52.0276
4255.5	18.68%	54.2997
4256.0	17.55%	53.8260
4256.5	16.42%	54.0742
4257.0	44.50%	54.4092
4257.5	37.73%	55.0303
4258.0	48.57%	20.2770
4258.5	45.30%	15.8201
4259.0	53.73%	36.6994
4259.5	69.65%	53.8879
4260.0	28.82%	54.4556
4260.5	66.63%	54.7317
4261.0	69.57%	53.5108
4261.5	68.37%	54.3098
4262.0	63.36%	54.9552
4262.5	27.09%	27.7856
4263.0	47.86%	56.0831
4263.5	63.65%	57.3240
4264.0	64.74%	23.9585
4264.5	63.65%	26.6663
4265.0	61.71%	32.9452
4265.5	59.77%	56.2939
4266.0	60.08%	34.2702
4266.5	61.72%	5.2198
4267.0	63.46%	50.1506
4267.5	65.17%	71.3925
4268.0	63.40%	72.8242
4268.5	56.59%	73.8324
4269.0	14.69%	72.8568
4269.5	15.00%	72.0011
4270.0	15.31%	74.3826
4270.5	21.10%	76.7642
4271.0	43.95%	72.6158
4271.5	45.74%	69.0774
4272.0	13.27%	63.8702

4272.5	37.40%	63.1055
4273.0	52.15%	63.1970
4273.5	55.70%	62.3218
4274.0	63.05%	59.7357
4274.5	25.63%	62.9492
4275.0	68.87%	66.9469
4275.5	66.10%	62.1562
4276.0	62.73%	32.9251
4276.5	61.01%	71.3912
4277.0	48.02%	62.9592
4277.5	28.58%	35.4949
4278.0	63.78%	47.4202
4278.5	63.04%	0.8834
4279.0	60.18%	17.4463
4279.5	62.27%	38.1851
4280.0	66.18%	190.0000
4280.5	67.28%	71.2056
4281.0	64.59%	74.6925
4281.5	63.23%	73.2357
4282.0	60.45%	67.0548
4282.5	58.16%	83.2466
4283.0	59.04%	82.5624
4283.5	60.80%	70.1866
4284.0	22.86%	26.9022
4284.5	40.31%	61.1122
4285.0	57.76%	74.3575
4285.5	69.46%	63.1951
4286.0	16.00%	53.9180
4286.5	65.05%	54.1323
4287.0	39.50%	54.3367
4287.5	69.77%	54.4467
4288.0	70.84%	54.5566
4288.5	69.14%	54.6577
4289.0	15.88%	54.7408
4289.5	41.76%	54.3747
4290.0	71.36%	53.2900
4290.5	71.16%	51.3131
4291.0	70.34%	51.8987
4291.5	71.34%	52.4841
4292.0	75.34%	52.3991
4292.5	77.50%	33.2864
4293.0	70.23%	14.1739
4293.5	19.59%	3.3829
4294.0	65.46%	2.5240
4294.5	17.47%	1.6651
4295.0	39.76%	0.8068
4295.5	42.52%	0.6023
4296.0	19.45%	20.7589
4296.5	46.57%	40.8954
4297.0	52.69%	61.0519
4297.5	53.94%	75.8981
4298.0	56.77%	76.7278
4298.5	19.33%	78.3477
4299.0	49.58%	20.2570
4299.5	78.06%	48.7051
4300.0	77.93%	77.1531

4300.5	75.76%	15.6796
4301.0	60.55%	52.2585
4301.5	58.38%	3.4933
4302.0	56.96%	25.1355
4302.5	54.85%	46.7777
4303.0	50.88%	68.3196
4303.5	48.20%	85.7157
4304.0	46.35%	84.3379
4304.5	47.00%	81.5963
4305.0	54.57%	78.9801
4305.5	58.22%	10.2791
4306.0	70.44%	80.0441
4306.5	73.06%	81.6477
4307.0	71.83%	79.6344
4307.5	70.11%	78.1368
4308.0	69.75%	75.7402
4308.5	74.48%	71.8304
4309.0	76.45%	70.8417
4309.5	75.31%	69.7048
4310.0	64.09%	66.5779
4310.5	57.68%	55.1320
4311.0	68.93%	52.0553
4311.5	60.99%	51.6384
4312.0	61.82%	52.7504
4312.5	59.85%	58.4922
4313.0	59.66%	71.4716
4313.5	61.40%	78.6036
4314.0	63.17%	82.5260
4314.5	62.42%	82.4858
4315.0	59.54%	80.0542
4315.5	67.05%	79.1532
4316.0	72.44%	78.5748
4316.5	71.89%	35.5751
4317.0	71.29%	65.8904
4317.5	70.53%	71.6246
4318.0	69.86%	70.4834
4318.5	70.50%	13.6117
4319.0	71.23%	38.2051
4319.5	70.98%	62.8187
4320.0	69.74%	86.0720
4320.5	68.78%	95.8191
4321.0	69.76%	93.2694
4321.5	70.69%	90.4612
4322.0	71.47%	89.1381
4322.5	72.81%	94.3610
4323.0	74.55%	97.1052
4323.5	77.79%	99.2797
4324.0	74.69%	96.6672
4324.5	69.80%	93.2596
4325.0	61.32%	93.8783
4325.5	58.33%	94.4974
4326.0	54.74%	94.2167
4326.5	56.04%	92.0146
4327.0	57.44%	89.5151
4327.5	59.14%	87.7559
4328.0	61.01%	84.8373

4328.5	63.68%	80.5938
4329.0	58.85%	77.5647
4329.5	36.17%	74.4327
4330.0	58.97%	70.7262
4330.5	62.13%	66.6683
4331.0	65.43%	63.1248
4331.5	69.87%	60.4321
4332.0	71.91%	58.5412
4332.5	71.90%	55.4381
4333.0	71.16%	50.9624
4333.5	63.80%	50.6936
4334.0	26.30%	50.7764
4334.5	59.59%	51.0385
4335.0	66.62%	53.0992
4335.5	66.88%	57.4182
4336.0	65.49%	69.4187
4336.5	63.74%	21.2006
4337.0	66.70%	79.1005
4337.5	68.48%	81.1821
4338.0	58.05%	81.6891
4338.5	55.10%	77.9913
4339.0	57.06%	74.0488
4339.5	52.71%	74.5150
4340.0	54.62%	75.8795
4340.5	57.84%	77.3413
4341.0	53.45%	78.8846
4341.5	53.79%	78.5936
4342.0	59.80%	78.7855
4342.5	62.02%	79.3564
4343.0	65.04%	81.4407
4343.5	67.64%	82.9640
4344.0	65.27%	88.9354
4344.5	65.15%	91.9393
4345.0	67.37%	89.7134
4345.5	69.63%	86.7972
4346.0	66.80%	85.9841
4346.5	63.05%	88.9756
4347.0	59.88%	83.8636
4347.5	55.85%	78.4581
4348.0	54.47%	75.1003
4348.5	57.28%	73.1617
4349.0	60.54%	76.5885
4349.5	61.72%	78.8295
4350.0	62.68%	74.6202
4350.5	62.60%	74.7126
4351.0	65.33%	76.7654
4351.5	70.78%	78.4694
4352.0	69.57%	78.4192
4352.5	63.39%	77.4982
4353.0	71.00%	79.0215
4353.5	72.12%	81.1697
4354.0	75.11%	83.5417
4354.5	19.17%	84.7275
4355.0	42.72%	85.3088
4355.5	66.28%	84.4885
4356.0	68.91%	78.7291

4356.5	68.60%	72.2169
4357.0	67.89%	72.3976
4357.5	65.46%	75.9135
4358.0	52.56%	76.1866
4358.5	69.55%	76.3262
4359.0	68.48%	77.7234
4359.5	67.12%	78.4204
4360.0	63.76%	78.6117
4360.5	47.97%	76.8169
4361.0	47.59%	73.8130
4361.5	51.95%	23.6097
4362.0	55.09%	81.6289
4362.5	50.12%	79.6711
4363.0	49.94%	79.4412
4363.5	52.77%	79.3436
4364.0	56.44%	66.4926
4364.5	60.77%	49.3475
4365.0	68.02%	84.8123
4365.5	74.37%	82.7380
4366.0	71.43%	79.7479
4366.5	64.11%	80.5146
4367.0	62.89%	81.7192
4367.5	62.87%	82.9244
4368.0	64.26%	75.5232
4368.5	66.89%	70.1565
4369.0	69.07%	70.3547
4369.5	69.01%	72.9296
4370.0	68.22%	75.4417
4370.5	67.46%	70.7889
4371.0	71.64%	69.6045
4371.5	70.18%	72.2520
4372.0	68.69%	76.0740
4372.5	64.75%	79.7455
4373.0	56.92%	74.6210
4373.5	51.52%	75.0583
4374.0	47.97%	75.6970
4374.5	47.72%	69.2029
4375.0	49.46%	60.4949
4375.5	51.76%	56.1433
4376.0	54.18%	54.3490
4376.5	55.00%	53.6614
4377.0	55.13%	54.9299
4377.5	55.21%	55.3876
4378.0	49.86%	56.6616
4378.5	44.55%	59.1943
4379.0	45.24%	58.0004
4379.5	46.24%	57.9778
4380.0	44.19%	59.3530
4380.5	44.02%	60.1962
4381.0	43.79%	59.1598
4381.5	31.68%	55.7794
4382.0	21.59%	54.4855
4382.5	37.05%	55.0275
4383.0	19.21%	55.2534
4383.5	68.62%	54.3603
4384.0	73.43%	53.6774

4384.5	74.89%	54.1150
4385.0	74.32%	54.3484
4385.5	70.39%	53.4424
4386.0	74.31%	52.2780
4386.5	69.78%	51.5042
4387.0	72.27%	51.1486
4387.5	67.33%	50.4254
4388.0	63.61%	50.1159
4388.5	60.06%	35.0130
4389.0	62.48%	40.1024
4389.5	66.31%	23.4993
4390.0	67.98%	6.8862
4390.5	68.53%	78.1067
4391.0	68.04%	80.2950
4391.5	64.77%	38.1449
4392.0	60.95%	36.2176
4392.5	58.54%	86.5388
4393.0	60.91%	83.9364
4393.5	63.27%	85.8412
4394.0	66.05%	88.1335
4394.5	68.31%	89.6792
4395.0	69.29%	89.6171
4395.5	63.82%	88.9706
4396.0	60.53%	86.7571
4396.5	62.10%	83.4722
4397.0	68.97%	79.5021
4397.5	67.06%	75.1907
4398.0	66.16%	70.5731
4398.5	66.37%	67.4563
4399.0	63.09%	64.7485
4399.5	56.88%	61.3406
4400.0	46.03%	61.1292
4400.5	61.76%	64.4994
4401.0	68.07%	62.0470
4401.5	70.98%	61.2446
4402.0	71.53%	60.9874
4402.5	67.17%	60.8447
4403.0	68.06%	56.5524
4403.5	70.94%	52.9462
4404.0	71.35%	49.9423
4404.5	66.54%	48.6210
4405.0	61.45%	49.2847
4405.5	61.96%	53.0566
4406.0	62.88%	56.5950
4406.5	61.63%	65.3884
4407.0	64.61%	65.8527
4407.5	62.17%	69.5216
4408.0	57.15%	71.5731
4408.5	25.63%	72.1366
4409.0	62.15%	70.9690
4409.5	59.69%	69.5054
4410.0	59.94%	68.0021
4410.5	59.47%	69.5090
4411.0	54.75%	69.9899
4411.5	52.91%	69.0781
4412.0	55.85%	69.4952

4412.5	53.40%	69.9219
4413.0	54.59%	67.1250
4413.5	56.43%	65.4348
4414.0	53.26%	63.3156
4414.5	49.50%	64.2076
4415.0	51.08%	36.4786
4415.5	52.53%	58.4220
4416.0	52.71%	65.3746
4416.5	52.66%	66.4092
4417.0	52.60%	66.7725
4417.5	52.51%	63.9329
4418.0	52.42%	67.5736
4418.5	52.33%	68.6270
4419.0	52.29%	69.2151
4419.5	52.25%	70.2155
4420.0	52.22%	71.7050
4420.5	52.20%	73.2659
4421.0	52.22%	67.7524
4421.5	52.23%	62.8890
4422.0	52.24%	60.1761
4422.5	52.24%	59.4197
4423.0	52.24%	59.5583
4423.5	52.25%	59.8140
4424.0	52.27%	60.0696
4424.5	52.26%	60.3253
4425.0	52.19%	60.3896

CLACKAMAS GEOTHERMAL TEST WELL NO. 1 (CTGW-1)
 TEMPERATURE & FLUID RESISTIVITY
 LOGGED BY: COLOG, INC.
 DATE: SEPTEMBER 5, 1986

JLS

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
10	0.000	285.70	12.69	54.85
20	0.000	286.26	13.26	55.86
30	32.275	285.87	12.87	55.17
40	32.817	285.41	12.41	54.33
50	33.681	285.03	12.03	53.65
60	33.739	284.91	11.91	53.43
70	33.868	284.86	11.86	53.34
80	33.928	284.80	11.80	53.23
90	34.213	284.68	11.68	53.03
100	34.251	284.54	11.54	52.76
110	34.240	284.44	11.44	52.59
120	34.230	284.36	11.36	52.45
130	34.219	284.29	11.29	52.32
140	34.208	284.19	11.19	52.13
150	34.318	284.04	11.04	51.87
160	34.257	283.96	10.96	51.72
170	34.866	283.86	10.86	51.54
180	34.944	283.79	10.79	51.42
190	34.905	283.67	10.67	51.21
200	35.410	283.49	10.49	50.89
210	35.289	283.42	10.42	50.76
220	35.394	283.39	10.39	50.70
230	35.392	283.40	10.40	50.72
240	35.485	283.12	10.12	50.22
250	36.569	282.10	9.10	48.38
260	37.273	281.55	8.55	47.38
270	37.310	281.83	8.83	47.90
280	37.167	281.45	8.44	47.20
290	38.004	281.05	8.05	46.48
300	38.052	281.15	8.15	46.66
310	38.044	281.25	8.25	46.86
320	37.350	281.72	8.72	47.70
330	37.368	281.79	8.79	47.83
340	37.383	281.91	8.90	48.03
350	37.079	281.94	8.94	48.10
360	36.928	282.03	9.02	48.24
370	36.870	282.16	9.16	48.50
380	36.895	282.25	9.25	48.65
390	36.730	282.36	9.36	48.85
400	36.603	282.39	9.39	48.91
410	36.698	282.30	9.30	48.75
420	36.845	282.07	9.07	48.33
430	36.909	282.03	9.03	48.25
440	36.931	281.98	8.98	48.16
450	37.119	281.85	8.85	47.93
460	37.214	281.81	8.81	47.85
470	37.295	281.80	8.80	47.85
480	37.338	281.80	8.80	47.85
490	37.361	281.71	8.71	47.67

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
500	37.393	281.62	8.62	47.52
510	37.648	281.45	8.45	47.21
520	37.454	281.46	8.46	47.23
530	37.493	281.54	8.54	47.38
540	37.598	281.54	8.54	47.38
550	37.641	281.54	8.54	47.36
560	37.662	281.48	8.48	47.26
570	37.759	281.65	8.65	47.56
580	37.913	281.67	8.67	47.61
590	37.845	281.71	8.71	47.67
600	37.751	281.73	8.73	47.71
610	37.715	281.76	8.76	47.76
620	37.640	281.80	8.80	47.83
630	37.659	281.81	8.81	47.86
640	37.553	281.86	8.86	47.95
650	37.560	281.90	8.90	48.01
660	37.567	281.93	8.93	48.07
670	37.575	282.00	9.00	48.19
680	37.582	282.02	9.01	48.23
690	37.448	282.07	9.07	48.33
700	37.297	282.18	9.18	48.52
710	37.243	282.19	9.19	48.54
720	37.314	282.26	9.26	48.67
730	37.281	282.32	9.32	48.77
740	37.189	282.47	9.47	49.04
750	37.098	282.54	9.54	49.17
760	37.007	282.57	9.57	49.23
770	36.916	282.63	9.63	49.34
780	36.825	282.69	9.69	49.45
790	36.706	282.88	9.88	49.79
800	36.633	283.08	10.08	50.15
810	36.408	283.16	10.16	50.29
820	36.186	283.29	10.29	50.52
830	36.254	283.46	10.46	50.82
840	35.964	283.65	10.65	51.16
850	35.776	283.87	10.87	51.57
860	35.687	284.02	11.01	51.83
870	35.171	284.16	11.16	52.09
880	35.157	284.42	11.42	52.56
890	34.831	284.42	11.42	52.56
900	34.782	284.44	11.44	52.59
910	34.294	284.66	11.66	52.99
920	34.258	284.67	11.67	53.01
930	34.189	284.66	11.66	52.98
940	34.301	284.74	11.74	53.13
950	34.075	284.99	11.99	53.59
960	33.905	285.16	12.16	53.90
970	33.617	285.29	12.29	54.11
980	33.632	285.35	12.35	54.22
990	33.619	285.22	12.22	54.00
1000	33.605	285.22	12.22	54.00
1010	33.591	285.40	12.40	54.32
1020	33.334	285.49	12.49	54.49
1030	33.263	285.60	12.60	54.66

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
1040	33.313	285.72	12.72	54.89
1050	33.306	285.77	12.77	54.98
1060	33.298	285.76	12.76	54.97
1070	33.291	285.72	12.72	54.89
1080	33.283	285.66	12.66	54.78
1090	33.276	285.68	12.68	54.82
1100	33.269	285.78	12.78	55.00
1110	33.261	285.85	12.85	55.13
1120	33.101	285.98	12.98	55.36
1130	32.944	286.09	13.09	55.56
1140	32.807	286.22	13.22	55.79
1150	32.651	286.42	13.42	56.15
1160	32.393	286.56	13.56	56.41
1170	32.336	286.70	13.70	56.66
1180	32.372	286.83	13.83	56.89
1190	32.062	286.99	13.99	57.19
1200	31.931	287.04	14.04	57.26
1210	32.088	287.18	14.18	57.52
1220	31.938	287.16	14.15	57.48
1230	31.781	287.32	14.32	57.78
1240	31.624	287.47	14.47	58.05
1250	31.467	287.66	14.66	58.39
1260	31.305	287.82	14.82	58.68
1270	31.190	287.88	14.88	58.78
1280	31.016	288.08	15.08	59.14
1290	30.892	288.34	15.34	59.61
1300	30.771	288.50	15.50	59.90
1310	30.638	288.56	15.56	60.00
1320	30.512	288.72	15.72	60.30
1330	30.194	288.89	15.89	60.59
1340	30.197	289.11	16.11	60.99
1350	30.108	289.19	16.19	61.14
1360	29.979	289.23	16.23	61.22
1370	29.849	289.36	16.36	61.45
1570	27.405	292.83	19.83	67.69
1580	27.304	292.98	19.98	67.97
1590	27.204	293.10	20.10	68.19
1600	27.104	293.26	20.26	68.47
1610	27.004	293.51	20.51	68.92
1620	26.957	293.64	20.64	69.15
1630	26.833	293.89	20.89	69.60
1640	26.777	294.19	21.19	70.14
1650	26.629	294.36	21.36	70.44
1660	26.499	294.61	21.61	70.89
1670	26.364	294.89	21.89	71.40
1680	26.230	295.35	22.35	72.24
1690	26.095	295.48	22.48	72.46
1700	25.960	295.90	22.90	73.22
1710	25.826	295.96	22.96	73.33
1720	25.691	296.06	23.06	73.51
1730	25.629	296.22	23.22	73.80
1740	25.490	296.34	23.34	74.02
1750	25.412	296.61	23.61	74.50
1760	25.268	296.69	23.69	74.65

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
1770	25.203	296.80	23.80	74.83
1780	25.139	296.85	23.85	74.92
1790	25.074	297.08	24.08	75.34
1800	25.010	297.15	24.15	75.46
1810	24.945	297.34	24.34	75.81
1820	24.881	297.45	24.44	76.00
1830	24.816	297.60	24.60	76.29
1840	24.752	297.94	24.94	76.90
1850	24.644	297.92	24.92	76.85
1860	24.397	298.15	25.15	77.27
1870	24.444	298.50	25.50	77.89
1880	24.330	298.65	25.65	78.16
1890	24.171	298.64	25.64	78.14
1900	24.066	298.79	25.79	78.41
1910	23.962	298.92	25.92	78.66
1920	23.858	299.16	26.16	79.08
1930	23.754	299.25	26.25	79.25
1940	23.650	299.64	26.64	79.96
1950	23.546	299.71	26.71	80.07
1960	23.442	299.84	26.84	80.31
1970	23.337	299.94	26.94	80.49
1980	23.233	300.25	27.25	81.05
1990	23.112	300.57	27.57	81.63
2000	22.972	300.90	27.90	82.22
2010	22.879	301.30	28.30	82.93
2020	22.762	301.36	28.36	83.04
2030	22.646	301.61	28.61	83.50
2040	22.529	301.90	28.90	84.01
2050	22.412	302.09	29.09	84.36
2060	22.296	302.36	29.36	84.84
2070	22.179	302.45	29.45	85.01
2080	22.063	302.69	29.69	85.43
2090	21.946	302.66	29.66	85.39
2100	21.811	302.86	29.86	85.74
2110	21.788	303.13	30.13	86.23
2120	21.718	303.15	30.15	86.27
2130	21.634	303.35	30.35	86.64
2140	21.550	303.54	30.54	86.97
2150	21.465	303.58	30.58	87.04
2160	21.381	304.02	31.02	87.84
2170	21.297	303.94	30.94	87.68
2180	21.213	304.14	31.13	88.04
2190	21.129	304.42	31.42	88.55
2200	21.044	304.59	31.59	88.86
2210	20.960	304.69	31.69	89.05
2220	20.876	305.00	32.00	89.59
2230	20.792	305.34	32.33	90.20
2240	20.708	305.29	32.29	90.12
2250	20.624	305.57	32.57	90.62
2260	20.539	305.74	32.74	90.93
2270	20.455	306.03	33.03	91.46
2280	20.371	306.12	33.12	91.62
2290	20.279	306.49	33.49	92.28
2300	20.191	306.74	33.74	92.73

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
2310	20.122	307.11	34.11	93.40
2320	20.052	307.06	34.06	93.30
2330	19.983	307.39	34.39	93.90
2340	19.913	307.31	34.31	93.75
2350	19.844	307.60	34.60	94.27
2360	19.775	307.98	34.98	94.97
2370	19.705	308.02	35.02	95.04
2380	19.636	308.32	35.32	95.57
2390	19.566	308.45	35.45	95.82
2400	19.497	308.73	35.73	96.31
2410	19.428	308.90	35.90	96.62
2420	19.358	309.10	36.10	96.97
2430	19.306	309.29	36.29	97.32
2440	19.079	309.49	36.49	97.68
2450	18.724	309.92	36.92	98.46
2460	18.661	310.07	37.07	98.73
2470	18.717	310.30	37.30	99.15
2480	18.641	310.52	37.51	99.53
2490	18.565	310.73	37.73	99.91
2500	18.489	311.00	38.00	100.40
2510	18.414	311.46	38.46	101.23
2520	18.338	311.51	38.51	101.32
2530	18.262	311.77	38.77	101.78
2540	18.186	311.96	38.96	102.14
2550	18.110	312.14	39.14	102.46
2560	18.035	312.41	39.41	102.94
2570	17.959	312.56	39.56	103.21
2580	17.883	312.76	39.76	103.56
2590	17.807	312.99	39.99	103.98
2600	17.732	313.18	40.18	104.32
2610	17.656	313.38	40.38	104.68
2620	17.580	313.53	40.53	104.95
2630	17.504	313.73	40.73	105.31
2640	17.429	313.90	40.90	105.61
2650	17.353	314.10	41.10	105.97
2660	17.277	314.29	41.29	106.33
2670	17.199	314.53	41.53	106.75
2680	17.212	314.74	41.74	107.13
2690	17.154	314.98	41.98	107.56
2700	17.093	315.21	42.21	107.97
2710	17.032	315.39	42.39	108.30
2720	16.971	315.59	42.59	108.65
2730	16.910	315.83	42.83	109.09
2740	16.849	315.98	42.98	109.36
2750	16.788	316.26	43.26	109.87
2760	16.727	316.39	43.39	110.11
2770	16.666	316.59	43.59	110.47
2780	16.605	316.89	43.89	111.00
2790	16.544	317.15	44.15	111.46
2800	16.483	317.41	44.40	111.93
2810	16.422	317.63	44.63	112.34
2820	16.361	317.87	44.87	112.76
2830	16.300	318.17	45.17	113.31
2840	16.239	318.36	45.36	113.65

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
2850	16.178	318.61	45.61	114.10
2860	16.117	318.78	45.78	114.40
2870	16.055	319.00	46.00	114.79
2880	16.051	319.15	46.15	115.07
2890	15.988	319.36	46.36	115.45
2900	15.924	319.54	46.54	115.78
2910	15.861	319.74	46.74	116.13
2920	15.797	319.94	46.94	116.49
2930	15.734	320.10	47.10	116.77
2940	15.671	320.38	47.38	117.28
2950	15.607	320.55	47.55	117.59
2960	15.544	320.79	47.79	118.03
2970	15.480	321.28	48.28	118.91
2980	15.417	321.56	48.56	119.42
2990	15.354	321.79	48.79	119.81
3000	15.290	321.99	48.99	120.17
3010	15.227	322.22	49.21	120.59
3020	15.163	322.45	49.45	121.00
3030	15.100	322.61	49.61	121.30
3040	15.037	322.76	49.76	121.57
3050	14.973	322.97	49.97	121.94
3060	14.910	323.18	50.18	122.32
3070	14.846	323.39	50.39	122.69
3080	14.783	323.61	50.61	123.10
3090	14.720	323.85	50.85	123.53
3100	14.656	324.07	51.07	123.93
3110	14.593	324.28	51.28	124.30
3120	14.617	324.68	51.68	125.02
3130	14.544	324.94	51.94	125.49
3140	14.505	325.11	52.11	125.80
3150	14.465	325.33	52.33	126.20
3160	14.425	325.52	52.52	126.54
3170	14.386	325.77	52.77	126.98
3180	14.346	326.02	53.01	127.43
3190	14.306	326.23	53.23	127.82
3200	14.267	326.40	53.40	128.12
3210	14.227	326.69	53.69	128.63
3220	14.187	326.93	53.93	129.08
3230	14.148	327.11	54.11	129.41
3240	14.108	327.37	54.37	129.87
3250	14.068	327.55	54.55	130.18
3260	14.029	327.74	54.74	130.53
3270	13.989	328.02	55.02	131.04
3280	13.949	328.07	55.07	131.12
3290	13.910	328.25	55.25	131.44
3300	13.870	328.46	55.46	131.83
3310	13.830	328.63	55.63	132.14
3320	13.791	328.88	55.88	132.59
3330	13.751	328.95	55.95	132.72
3340	13.711	329.05	56.05	132.90
3350	13.672	329.38	56.38	133.48
3360	13.632	329.69	56.69	134.05
3370	13.592	329.95	56.95	134.52
3380	13.552	330.20	57.20	134.97

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
3390	13.513	330.39	57.39	135.30
3400	13.473	330.63	57.63	135.73
3410	13.433	330.82	57.82	136.07
3420	12.953	331.23	58.23	136.81
3430	12.905	331.42	58.42	137.16
3440	12.858	331.59	58.59	137.45
3450	12.811	331.99	58.99	138.18
3460	12.763	332.26	59.26	138.67
3470	12.716	332.61	59.61	139.29
3480	12.668	332.80	59.80	139.64
3490	12.621	333.28	60.28	140.50
3500	12.574	333.37	60.37	140.66
3510	12.526	333.62	60.62	141.11
3520	12.479	334.01	61.01	141.82
3530	12.431	334.04	61.04	141.88
3540	12.384	334.43	61.43	142.58
3550	12.336	334.73	61.73	143.11
3560	12.289	334.77	61.77	143.18
3570	12.242	334.95	61.95	143.52
3580	12.194	335.36	62.36	144.25
3590	12.147	335.56	62.56	144.61
3600	12.099	335.74	62.74	144.92
3610	12.052	336.11	63.11	145.59
3620	12.005	336.39	63.39	146.10
3630	11.957	336.57	63.57	146.43
3640	11.910	336.77	63.76	146.78
3650	11.664	337.04	64.04	147.27
3660	11.512	337.37	64.37	147.86
3670	11.571	337.55	64.55	148.20
3680	11.538	337.84	64.84	148.71
3690	11.504	337.93	64.93	148.88
3700	11.470	338.18	65.18	149.33
3710	11.436	338.41	65.41	149.73
3720	11.402	338.58	65.58	149.73
3730	11.368	338.80	65.80	150.04
3740	11.334	338.99	65.99	150.43
3750	11.300	339.37	66.37	150.77
3760	11.266	339.44	66.44	151.47
3770	11.232	339.62	66.62	151.59
3780	11.199	339.91	66.91	151.92
3790	11.165	340.25	67.25	152.44
3800	11.131	340.37	67.37	153.04
3810	11.097	340.58	67.58	153.27
3820	11.063	341.00	68.00	153.65
3830	11.029	341.19	68.19	154.40
3840	10.995	341.67	68.67	154.74
3850	10.961	341.65	68.65	155.60
3860	10.927	342.18	69.18	155.67
3870	10.893	342.33	69.33	155.57
3880	10.860	342.53	69.53	155.80
3890	10.826	342.81	69.81	156.80
3900	10.792	342.91	69.91	157.15
3910	10.758	343.17	70.17	157.53
3920	10.724	343.42	70.42	157.66

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
3930	10.690	343.86	70.86	159.55
3940	10.656	344.07	71.07	159.92
3950	10.626	344.12	71.12	160.02
3960	10.606	344.28	71.28	160.31
3970	10.587	344.68	71.68	161.02
3980	10.568	344.88	71.88	161.39
3990	10.548	345.01	72.01	161.62
4000	10.529	345.17	72.17	161.90
4010	10.510	345.30	72.30	162.13
4020	10.490	345.51	72.51	162.52
4030	10.471	345.67	72.67	162.81
4040	10.452	345.73	72.73	162.91
4050	10.432	346.02	73.02	163.43
4060	10.413	346.18	73.18	163.73
4070	10.394	346.33	73.33	164.00
4080	10.374	346.63	73.63	164.53
4090	10.355	346.62	73.62	164.52
4100	10.336	346.80	73.80	164.85
4110	10.316	347.00	74.00	165.20
4120	10.297	347.10	74.10	165.39
4130	10.278	347.22	74.22	165.60
4140	10.258	347.39	74.39	165.90
4150	10.239	347.62	74.62	166.31
4160	10.220	347.77	74.77	166.59
4170	10.200	347.96	74.96	166.94
4180	10.181	348.29	75.29	167.52
4190	10.162	348.52	75.52	167.94
4200	10.142	348.74	75.74	168.34
4210	10.123	349.10	76.10	168.97
4220	10.104	349.15	76.15	169.07
4230	10.084	349.87	76.87	170.37
4240	10.065	350.14	77.14	170.85
4250	10.001	350.20	77.20	170.96
4260	9.964	350.50	77.50	171.50
4270	9.940	350.78	77.78	172.00
4280	9.915	351.00	78.00	172.40
4290	9.890	350.40	77.40	171.33
4300	9.866	351.45	78.45	173.21
4310	9.841	351.68	78.68	173.62
4320	9.816	351.95	78.95	174.10
4330	9.791	352.05	79.05	174.28
4340	9.767	352.21	79.21	174.58
4350	9.742	352.40	79.40	174.92
4360	9.717	352.61	79.61	175.29
4370	9.693	352.83	79.82	175.68
4380	9.668	353.01	80.01	176.02
4390	9.643	353.27	80.27	176.49
4400	9.618	353.47	80.47	176.84
4410	9.594	353.54	80.54	176.98
4420	9.569	353.75	80.75	177.34
4430	9.544	353.84	80.84	177.51
4440	9.519	354.05	81.05	177.89
4450	9.495	354.26	81.26	178.28
4460	9.470	354.53	81.53	178.75

DEPTH	F-RES	TEMP-K	TEMP-C	TEMP-F
4470	9.445	354.71	81.71	179.07
4480	9.421	354.89	81.89	179.40
4490	9.396	355.08	82.08	179.75
4500	9.371	355.28	82.28	180.10
4510	9.346	355.54	82.54	180.58
4520	9.322	355.75	82.75	180.95
4530	9.297	355.85	82.85	181.13
4540	9.272	356.01	83.01	181.43
4550	9.248	356.29	83.29	181.92
4560	9.223	356.45	83.45	182.20
4570	9.162	356.61	83.61	182.50
4580	9.107	356.70	83.70	182.67
4590	9.052	356.93	83.93	183.08
4600	8.997	357.10	84.10	183.39
4610	8.942	357.24	84.24	183.64
4620	8.887	357.44	84.44	183.98
4630	8.832	357.67	84.67	184.40
4640	8.777	357.83	84.83	184.69
4650	8.722	358.04	85.04	185.07
4660	8.667	358.30	85.30	185.54
4670	8.612	358.47	85.47	185.84
4680	8.557	358.54	85.54	185.97
4690	8.502	358.67	85.67	186.20
4700	8.447	358.85	85.85	186.53
4710	8.392	359.26	86.26	187.28
4720	8.337	359.37	86.37	187.47
4730	8.282	359.55	86.55	187.79
4740	8.227	359.67	86.67	188.01
4750	8.105	359.86	86.86	188.35

CLARK HAS GEOTHERMAL TEST WELL #1 (CTAH-1)
 DEVIATION SURVEY
 SEPTEMBER 5, 1986
 COLOG, INC.
 GOLDEN, CO

(JLS)

R. BATES R. CROWDER

NOTE: Entire log run inside steel casing. Angle values are valid. Deviation values should NOT be relied upon due to magnetic influence of casing.

DEPTH	ANGLE	DIRECTION
75	1.5	192
100	1.5	197
125	0.8	109
150	0.7	206
175	0.6	292
200	0.9	279
225	0.6	309
250	0.6	128
275	0.1	217
300	0.4	270
325	0.3	318
350	0.6	257
375	0.5	304
400	0.4	262
425	0.6	329
450	1.4	200
475	2.1	12
500	2.3	4
525	2.4	327
550	2.5	359
575	2.5	1
600	2.6	360
625	2.4	2
650	2.3	161
675	2.3	359
700	2.2	4
725	2.2	306
750	2.3	1
775	2.5	6
800	2.4	333
825	2.0	30
850	2.4	265
875	2.1	16
900	2.3	142
925	2.5	121
950	2.8	171
975	3.1	330
1000	2.9	87
1025	3.0	245
1050	3.1	88
1075	2.9	26
1100	2.9	239

1125	2.9	78
1150	2.9	11
1175	3.1	72
1200	3.1	155
1225	2.8	41
1250	2.6	230
1275	2.8	296
1300	2.7	270
1325	2.6	175
1350	2.7	71
1375	2.9	225
1400	2.7	307
1425	2.3	5
1450	1.6	332
1475	1.3	142
1500	1.0	146
1525	0.7	153
1550	0.3	147
1575	0.3	92
1600	0.4	108
1625	0.4	70
1650	0.5	222
1675	0.4	146
1700	0.4	32
1725	0.4	297
1750	0.3	126
1775	0.2	50
1800	0.2	195
1825	0.4	144
1850	0.4	180
1875	0.4	159
1900	0.5	15
1925	0.4	48
1950	0.5	47
1975	0.3	310
2000	0.2	346
2025	0.4	48
2050	0.5	127
2075	0.3	75
2100	0.2	144
2125	0.2	169
2150	0.4	203
2175	0.5	183
2200	0.6	228
2225	0.8	176
2250	0.6	151
2275	0.8	133
2300	0.6	140
2325	0.5	329
2350	1.1	172
2375	0.7	286
2400	0.6	356
2425	0.6	152
2450	0.8	359
2475	0.7	177
2500	0.6	226

2525	0.8	142
2550	1.0	177
2575	0.7	319
2600	0.6	120
2625	0.8	208
2650	1.0	222
2675	0.6	146
2700	0.6	113
2725	0.7	194
2750	0.8	92
2775	0.6	47
2800	0.7	209
2825	0.9	3
2850	0.9	174
2875	0.8	36
2900	0.8	24
2925	0.9	296
2950	0.9	48
2975	1.1	271
3000	1.1	59
3025	1.2	318
3050	1.1	334
3075	1.2	325
3100	1.2	341
3125	1.3	107
3150	1.0	206
3175	0.9	263
3200	0.6	68
3225	0.8	329
3250	0.7	359
3275	0.8	38
3300	0.6	287
3325	0.8	274
3350	0.8	324
3375	0.7	64
3400	0.6	316
3425	0.6	272
3450	0.7	126
3475	0.7	335
3500	0.6	0
3525	0.7	168
3550	0.7	158
3575	0.4	95
3600	0.7	153
3625	0.7	244
3650	0.7	159
3675	0.7	202
3700	0.5	111
3725	0.3	147
3750	0.5	156
3775	0.5	327
3800	0.3	89
3825	0.4	99
3850	0.4	91
3875	0.4	65
3900	0.4	325

3925	0.7	161
3950	0.4	315
3975	0.3	270
4000	0.3	60
4025	0.6	163
4050	0.6	292
4075	0.4	14
4100	0.6	204
4125	0.3	136
4150	0.3	296
4175	0.7	109
4200	0.3	297
4225	0.5	99
4250	0.7	128
4275	0.4	78
4300	0.5	220
4325	0.4	110
4350	0.5	309
4375	0.4	116
4400	0.5	180
4425	0.7	188
4450	0.6	68
4475	0.8	173
4500	0.9	70
4525	0.9	80
4550	1.0	152
4575	0.8	235
4600	0.9	221
4625	1.0	149
4650	1.1	198
4675	1.0	232
4700	0.7	254
4725	1.0	222
4750	0.9	328
4775	0.9	47
4800	1.0	28

CLACKAMAS GEOTHERMAL TEST WELL NO. 1 (CTGH-1)
 ELECTRIC LOG TABULAR PRINTOUT (113)
 LOGGED BY: COLOG, INC.
 DATE: SEPTEMBER 5, 1986

DEPTH	SP-1	LAT	SP-2	IP-1	16-1	64-1	SP-3	IP-2	16-2	64-2
4200.0	0.00	0.00	0.00	0.52	0.00	0.34	0.00	0.00	0.00	0.00
4200.5	0.00	0.00	0.00	0.50	0.00	0.29	0.00	0.00	0.00	0.00
4201.0	0.00	0.00	0.00	0.47	0.00	0.26	0.00	0.00	0.00	0.00
4201.5	0.00	0.00	0.00	0.45	0.00	0.23	0.00	0.00	0.00	0.00
4202.0	0.00	0.00	0.00	0.41	0.00	0.21	0.00	0.00	0.00	0.00
4202.5	0.00	0.00	0.00	0.34	0.00	0.18	0.00	0.00	0.00	0.00
4203.0	0.00	0.00	0.00	0.34	0.00	0.15	0.00	0.00	0.00	0.00
4203.5	0.00	0.00	0.00	0.37	0.00	0.19	0.00	0.00	0.00	0.00
4204.0	0.00	0.00	0.00	0.38	0.00	0.27	0.00	0.00	0.00	0.00
4204.5	0.00	0.00	0.04	0.36	0.00	0.47	0.00	0.00	0.00	0.00
4205.0	0.00	0.00	0.06	0.33	0.00	1.32	18.21	0.00	0.00	0.00
4205.5	0.00	0.00	0.06	0.29	0.00	5.17	17.75	0.00	0.00	0.00
4206.0	0.00	0.00	0.08	0.24	0.00	6.20	17.22	0.00	0.00	0.00
4206.5	0.00	0.00	0.13	0.21	0.00	6.93	15.81	0.00	0.00	0.00
4207.0	2.03	0.00	0.44	0.19	0.01	7.02	17.81	0.00	0.00	0.00
4207.5	1.45	0.00	6.56	0.18	0.04	7.12	23.84	0.00	0.00	0.00
4208.0	1.47	0.00	5.96	0.17	0.11	7.26	29.96	0.00	0.00	6.85
4208.5	2.23	0.00	6.17	0.16	0.88	7.38	40.88	0.00	0.00	6.94
4209.0	3.64	0.00	6.80	0.15	4.06	7.47	45.67	0.00	0.00	7.00
4209.5	4.98	0.00	7.55	0.15	4.87	7.57	45.24	0.00	0.00	7.07
4210.0	6.19	0.00	8.96	0.15	5.19	7.71	45.21	0.00	4.46	7.13
4210.5	8.31	0.00	11.93	0.15	5.31	7.84	47.75	0.00	4.88	7.22
4211.0	9.50	0.00	12.55	0.15	5.35	7.99	48.83	0.02	5.27	7.39
4211.5	9.70	0.00	13.63	0.14	5.30	8.17	50.90	0.02	5.53	7.55
4212.0	9.41	0.00	14.23	0.14	5.19	8.92	52.12	0.09	5.36	7.78
4212.5	8.80	0.00	13.95	0.14	5.11	9.50	52.58	0.16	5.20	8.21
4213.0	7.62	0.00	13.14	0.14	5.09	9.62	52.68	0.16	5.20	8.58
4213.5	7.56	0.67	12.45	0.15	5.35	9.61	52.55	0.15	5.27	8.92
4214.0	7.90	3.71	12.30	0.15	5.53	9.63	52.32	0.15	5.35	9.32
4214.5	8.32	5.50	12.39	0.15	5.66	9.68	52.06	0.15	5.40	9.61
4215.0	8.77	6.16	12.65	0.15	5.80	9.75	51.76	0.15	5.45	9.68
4215.5	9.24	6.12	13.26	0.15	6.77	9.85	51.55	0.16	5.51	9.52
4216.0	9.33	5.76	13.59	0.16	7.14	10.23	51.78	0.17	5.57	9.39
4216.5	8.86	5.23	14.10	0.17	7.33	10.87	52.23	0.18	5.97	9.41
4217.0	8.13	4.48	14.04	0.19	7.56	12.58	53.02	0.19	6.80	10.18
4217.5	7.41	3.88	13.47	0.23	7.81	12.77	53.06	0.21	7.28	11.05
4218.0	7.24	4.31	11.87	0.29	8.06	12.87	52.77	0.27	7.50	12.08
4218.5	7.28	5.68	11.78	0.35	8.31	12.93	52.33	0.33	7.64	12.62
4219.0	7.36	6.35	11.85	0.42	8.80	12.99	51.83	0.36	7.83	12.80
4219.5	7.44	6.80	11.94	0.47	10.53	13.03	51.52	0.38	8.53	12.93
4220.0	7.47	7.11	12.15	0.52	13.35	12.93	51.48	0.40	10.91	13.01
4220.5	7.48	7.45	12.30	0.55	14.92	12.70	51.56	0.48	11.54	13.08
4221.0	7.43	8.26	12.39	0.57	16.24	12.22	51.63	0.51	12.80	13.03
4221.5	7.38	10.61	12.43	0.58	16.88	11.67	51.63	0.54	14.69	12.73
4222.0	7.33	10.77	12.46	0.59	16.72	11.19	51.62	0.55	16.71	12.34
4222.5	7.28	10.45	12.49	0.59	16.55	10.72	51.61	0.56	16.73	11.87
4223.0	7.23	9.89	12.45	0.61	17.11	10.16	51.82	0.58	16.60	11.38
4223.5	7.16	9.85	12.40	0.62	18.95	9.63	51.96	0.60	17.43	10.89
4224.0	7.09	10.51	12.29	0.64	20.74	8.54	52.04	0.62	18.99	10.39

4224.5	7.09	12.47	12.19	0.65	20.96	7.09	52.11	0.60	20.55	9.28
4225.0	7.19	14.84	12.23	0.63	21.26	6.44	52.19	0.63	21.03	7.37
4225.5	7.31	18.31	12.35	0.60	22.07	6.47	52.28	0.65	21.16	6.55
4226.0	7.45	19.08	12.55	0.58	23.25	6.58	52.37	0.61	21.30	6.39
4226.5	7.60	19.51	12.77	0.57	26.05	6.72	52.37	0.54	22.65	6.33
4227.0	7.81	20.28	13.03	0.56	27.29	6.88	52.38	0.53	25.72	6.25
4227.5	8.08	20.86	13.28	0.55	28.04	7.02	52.40	0.53	27.49	6.47
4228.0	8.22	22.28	13.34	0.54	29.58	7.11	52.43	0.52	29.45	6.68
4228.5	8.33	24.27	13.33	0.54	29.87	7.13	52.47	0.52	30.03	6.90
4229.0	8.35	24.43	13.31	0.53	29.53	7.06	52.51	0.53	30.20	7.04
4229.5	8.40	24.12	13.29	0.54	29.13	6.98	53.11	0.57	29.60	7.10
4230.0	8.57	23.91	13.28	0.55	28.65	6.89	53.37	0.59	29.07	7.09
4230.5	8.76	23.88	13.29	0.55	28.38	6.80	53.35	0.59	28.85	7.07
4231.0	9.14	24.14	13.31	0.54	25.95	6.70	53.30	0.57	28.51	6.98
4231.5	10.36	24.59	13.39	0.53	21.39	6.58	53.24	0.52	28.02	6.86
4232.0	10.71	25.55	13.62	0.55	18.12	6.47	53.32	0.51	22.38	6.74
4232.5	10.77	20.11	14.74	0.57	14.03	6.34	53.42	0.51	18.99	6.59
4233.0	10.82	10.87	15.53	0.57	8.80	6.18	53.56	0.52	13.45	6.42
4233.5	10.69	6.50	15.60	0.56	6.48	6.02	54.14	0.54	7.96	6.23
4234.0	10.60	6.30	15.57	0.56	5.95	5.89	55.20	0.57	6.36	6.05
4234.5	10.62	6.60	15.47	0.57	5.41	5.76	55.41	0.60	5.83	5.92
4235.0	10.95	6.79	15.41	0.60	4.99	5.65	55.63	0.59	5.29	5.83
4235.5	11.42	6.60	15.44	0.62	4.78	5.58	55.80	0.58	4.84	5.73
4236.0	11.70	6.38	15.68	0.63	4.51	5.51	55.77	0.56	4.59	5.60
4236.5	11.75	6.14	16.09	0.61	4.52	5.50	55.74	0.55	4.49	5.48
4237.0	11.73	5.90	16.44	0.60	4.56	5.47	55.71	0.56	4.53	5.36
4237.5	11.69	5.69	16.50	0.56	4.58	5.40	55.68	0.56	4.59	5.31
4238.0	11.67	5.44	16.43	0.56	4.60	5.36	55.65	0.55	4.60	5.31
4238.5	11.74	5.32	16.36	0.59	4.62	5.39	55.64	0.55	4.59	5.33
4239.0	11.81	5.19	16.33	0.58	4.63	5.51	55.77	0.63	4.59	5.36
4239.5	11.88	5.08	16.45	0.57	4.63	5.63	55.91	0.65	4.65	5.40
4240.0	11.97	5.26	16.67	0.56	4.64	5.73	56.04	0.65	4.72	5.51
4240.5	12.04	5.34	16.88	0.54	4.83	5.83	56.13	0.60	4.81	5.63
4241.0	12.05	5.23	16.93	0.53	4.92	5.91	56.22	0.55	4.90	5.77
4241.5	11.97	5.05	16.92	0.50	4.91	5.99	56.30	0.50	4.98	5.93
4242.0	11.89	4.90	16.89	0.49	4.89	6.05	56.40	0.49	4.97	6.05
4242.5	11.81	4.91	16.84	0.47	4.88	6.07	56.50	0.49	4.96	6.05
4243.0	12.33	4.99	16.76	0.42	4.86	6.10	56.61	0.48	4.95	6.03
4243.5	13.17	4.90	16.81	0.38	4.87	6.15	56.70	0.47	4.94	6.01
4244.0	13.15	4.68	17.23	0.35	4.81	6.19	56.77	0.40	4.93	5.99
4244.5	12.85	4.31	17.99	0.31	4.68	6.23	56.83	0.35	4.89	6.01
4245.0	12.57	3.95	17.87	0.28	4.85	6.27	56.83	0.30	4.84	6.02
4245.5	12.45	3.88	17.63	0.26	4.86	6.31	56.80	0.26	4.78	6.02
4246.0	12.52	3.86	17.44	0.25	4.76	6.37	56.77	0.24	4.72	6.02
4246.5	12.59	3.85	17.34	0.25	4.66	6.49	56.74	0.24	4.64	6.10
4247.0	12.65	3.87	17.36	0.24	4.56	6.66	56.76	0.24	4.56	6.17
4247.5	12.69	3.89	17.42	0.24	4.47	6.96	56.78	0.24	4.50	6.28
4248.0	12.65	3.89	17.43	0.26	4.42	7.34	56.81	0.24	4.48	6.42
4248.5	12.52	3.87	17.41	0.28	4.37	7.71	56.80	0.24	4.45	6.56
4249.0	12.39	3.86	17.36	0.30	4.35	7.92	56.72	0.25	4.42	6.68
4249.5	12.26	3.85	17.28	0.31	4.36	8.02	56.63	0.25	4.40	6.89
4250.0	12.09	3.83	17.11	0.32	4.38	8.04	56.51	0.24	4.37	7.33
4250.5	11.76	3.80	16.92	0.31	4.46	8.05	56.33	0.24	4.35	7.69
4251.0	11.30	3.85	16.64	0.30	4.54	8.07	56.16	0.24	4.34	7.83
4251.5	10.94	3.89	16.24	0.30	4.64	8.08	56.06	0.24	4.34	7.96
4252.0	10.70	3.94	15.70	0.30	4.80	8.07	55.96	0.23	4.37	8.06

4252.5	10.56	4.04	15.40	0.30	4.92	8.06	55.52	0.24	4.50	8.12
4253.0	10.56	4.07	15.37	0.31	5.01	8.04	55.09	0.29	4.67	8.18
4253.5	10.62	4.02	15.52	0.34	5.11	8.04	54.89	0.36	4.88	8.24
4254.0	10.69	3.89	15.64	0.42	5.22	8.16	54.74	0.41	5.05	8.29
4254.5	10.81	3.69	15.72	0.47	5.55	8.46	54.74	0.39	5.18	8.31
4255.0	10.58	3.32	15.46	0.50	5.95	9.81	54.73	0.41	5.32	8.33
4255.5	9.75	3.10	15.06	0.52	6.44	10.49	54.61	0.46	5.40	8.45
4256.0	9.40	3.05	14.53	0.53	6.84	10.87	54.42	0.50	5.50	8.67
4256.5	8.97	3.52	14.35	0.54	7.21	11.18	54.21	0.50	5.66	8.99
4257.0	8.79	5.51	14.25	0.56	7.56	11.37	53.85	0.51	6.27	10.46
4257.5	9.27	6.73	14.13	0.58	7.91	11.33	53.69	0.54	6.94	11.05
4258.0	9.35	6.83	14.04	0.63	8.22	11.12	53.57	0.54	7.64	11.27
4258.5	9.34	8.92	14.14	0.83	8.52	10.80	53.73	0.61	8.33	11.43
4259.0	9.33	6.58	14.25	0.69	10.99	10.10	53.95	0.69	8.93	11.43
4259.5	9.33	8.44	14.36	0.48	15.60	9.41	54.18	0.72	9.69	11.37
4260.0	9.32	8.32	14.47	0.41	17.28	8.82	54.43	0.57	14.80	11.22
4260.5	9.31	8.27	14.47	0.48	17.71	8.38	54.65	0.55	16.43	10.59
4261.0	9.33	8.25	14.47	0.47	17.59	7.98	54.68	0.53	17.61	9.96
4261.5	9.39	8.37	14.47	0.46	16.96	7.88	54.70	0.53	17.79	9.19
4262.0	9.51	8.61	14.45	0.45	16.63	7.91	54.70	0.52	17.64	8.50
4262.5	9.62	8.86	14.44	0.44	16.31	7.87	54.67	0.46	17.39	8.20
4263.0	9.64	9.27	14.43	0.43	15.83	7.82	54.49	0.40	16.91	8.05
4263.5	9.70	10.15	14.42	0.43	15.46	7.79	54.31	0.38	16.16	7.95
4264.0	9.84	12.94	14.41	0.43	14.97	7.78	54.32	0.36	15.62	7.89
4264.5	9.97	15.37	14.40	0.41	14.25	7.80	54.38	0.38	14.96	7.85
4265.0	10.01	15.61	14.56	0.40	14.14	7.84	54.41	0.44	14.22	7.81
4265.5	10.00	15.94	14.73	0.41	14.37	7.86	54.42	0.46	13.80	7.81
4266.0	10.00	16.90	14.93	0.43	14.26	7.76	54.44	0.43	13.96	7.84
4266.5	10.01	19.01	15.05	0.48	13.69	7.61	54.51	0.41	14.14	7.78
4267.0	10.05	20.84	15.75	0.50	12.85	7.43	54.58	0.45	14.00	7.71
4267.5	10.80	21.50	16.28	0.51	11.90	7.27	54.66	0.52	13.55	7.63
4268.0	12.12	22.50	16.71	0.50	10.57	7.11	55.04	0.54	11.66	7.52
4268.5	12.59	22.20	17.31	0.46	8.29	7.00	56.02	0.53	9.72	7.41
4269.0	13.54	20.87	18.22	0.45	7.04	6.91	56.64	0.49	8.71	7.23
4269.5	13.75	11.45	18.53	0.47	6.34	6.83	56.98	0.45	7.25	7.09
4270.0	13.71	8.83	18.61	0.51	5.94	6.75	57.16	0.45	6.47	7.01
4270.5	13.68	8.06	18.60	0.55	5.48	6.64	57.23	0.51	5.60	6.90
4271.0	13.69	7.79	18.60	0.58	5.05	6.55	57.27	0.56	5.32	6.76
4271.5	13.70	7.83	18.60	0.58	4.92	6.46	57.32	0.55	5.06	6.65
4272.0	13.74	7.81	18.60	0.58	4.83	6.41	57.32	0.55	4.86	6.42
4272.5	13.76	7.53	18.61	0.58	4.87	6.38	57.30	0.55	4.75	6.23
4273.0	13.61	7.03	18.63	0.58	5.29	6.36	57.28	0.63	4.73	6.22
4273.5	13.45	6.52	18.67	0.55	5.34	6.36	57.27	0.63	4.73	6.22
4274.0	13.37	6.41	18.69	0.50	5.42	6.35	57.27	0.57	4.93	6.26
4274.5	13.29	6.27	18.67	0.48	5.48	6.36	57.27	0.45	5.17	6.31
4275.0	13.22	5.57	18.59	0.46	5.52	6.40	57.28	0.42	5.35	6.32
4275.5	13.18	5.42	18.45	0.44	5.79	6.44	57.29	0.40	5.57	6.33
4276.0	13.24	5.47	18.28	0.39	6.50	6.47	57.31	0.38	6.09	6.30
4276.5	13.34	5.61	18.04	0.28	6.66	6.58	57.32	0.35	6.49	6.27
4277.0	13.58	6.33	17.69	0.22	6.66	6.69	57.26	0.28	6.68	6.32
4277.5	13.71	7.71	17.64	0.20	6.64	6.81	57.20	0.23	6.80	6.54
4278.0	13.68	7.91	18.05	0.18	6.62	6.97	57.14	0.18	6.86	6.70
4278.5	13.58	7.65	18.75	0.17	6.57	7.18	57.13	0.17	6.81	6.77
4279.0	13.08	5.99	18.95	0.16	6.52	7.40	57.13	0.17	6.66	6.72
4279.5	11.85	4.71	18.90	0.16	7.17	7.63	57.29	0.16	6.75	6.76
4280.0	11.97	5.40	18.62	0.16	7.31	7.93	57.50	0.16	7.07	6.93

4280.5	12.26	6.85	17.76	0.17	7.05	8.12	57.44	0.16	7.09	7.24
4281.0	12.69	7.45	17.26	0.17	6.72	8.30	56.95	0.16	7.12	7.58
4281.5	12.86	7.54	17.30	0.18	6.40	8.42	56.29	0.16	7.03	7.84
4282.0	12.81	7.30	17.64	0.19	6.22	8.37	56.30	0.18	6.61	8.04
4282.5	12.62	6.81	17.83	0.28	6.16	8.20	56.36	0.21	6.18	8.19
4283.0	12.34	6.09	17.80	0.39	6.20	8.04	56.46	0.26	5.95	8.23
4283.5	12.20	5.97	17.62	0.48	6.19	7.84	56.67	0.34	5.97	8.18
4284.0	12.25	6.14	17.36	0.51	5.91	7.72	56.52	0.45	5.99	8.08
4284.5	12.19	6.02	17.32	0.54	5.49	7.57	56.36	0.53	5.90	7.96
4285.0	11.90	5.41	17.41	0.66	5.21	7.36	56.26	0.56	5.41	7.73
4285.5	11.64	4.55	17.33	0.79	5.32	7.01	56.16	0.54	5.29	7.45
4286.0	11.83	4.54	17.16	0.78	5.47	6.61	56.06	0.55	5.25	7.11
4286.5	12.79	4.70	17.09	0.75	5.60	6.89	56.06	0.57	5.21	6.88
4287.0	13.14	4.77	17.17	0.70	5.58	7.61	56.15	0.65	5.26	6.71
4287.5	12.83	4.37	17.97	0.68	5.51	8.15	56.23	0.67	5.39	6.77
4288.0	12.39	3.93	18.20	0.70	6.55	8.31	56.32	0.66	5.37	7.40
4288.5	11.79	3.60	18.06	0.72	7.32	8.28	56.38	0.61	5.42	7.98
4289.0	11.61	4.66	17.54	0.73	7.84	7.87	56.38	0.67	5.79	8.30
4289.5	11.56	6.62	17.23	0.70	8.11	6.51	56.39	0.67	6.51	8.36
4290.0	11.55	8.59	17.11	0.59	8.33	6.19	56.39	0.62	8.25	7.91
4290.5	11.49	10.29	17.13	0.53	10.51	6.36	56.36	0.57	9.15	7.17
4291.0	11.41	10.85	17.17	0.53	15.20	6.54	56.31	0.53	11.76	6.35
4291.5	11.32	11.00	17.20	0.62	22.39	6.74	56.26	0.51	16.05	6.07
4292.0	11.32	10.92	17.23	0.73	26.29	6.94	56.20	0.67	20.47	6.07
4292.5	11.37	10.80	17.22	0.67	27.22	7.16	56.17	0.91	23.47	6.26
4293.0	11.47	10.70	17.17	0.63	27.45	7.34	56.21	0.72	25.65	6.50
4293.5	11.52	10.76	17.03	0.56	27.61	7.41	56.24	0.56	27.11	6.79
4294.0	11.59	11.05	16.80	0.60	27.57	7.44	56.22	0.57	27.60	7.17
4294.5	11.59	11.50	16.81	0.65	27.27	7.35	56.18	0.62	27.68	7.30
4295.0	11.56	13.67	16.83	0.67	26.85	7.26	56.14	0.64	27.61	7.29
4295.5	11.57	15.90	16.85	0.65	25.85	7.12	56.14	0.56	27.38	7.25
4296.0	11.75	19.37	16.85	0.61	21.34	6.87	56.14	0.48	26.87	7.13
4296.5	12.94	20.89	16.85	0.57	18.29	6.71	56.23	0.54	26.18	6.97
4297.0	15.08	20.43	17.26	0.53	15.36	6.57	56.39	0.67	24.69	6.80
4297.5	15.04	13.22	18.15	0.49	9.16	6.38	56.55	0.67	20.41	6.63
4298.0	14.61	9.14	19.96	0.46	7.26	6.11	56.90	0.59	15.47	6.45
4298.5	13.90	6.43	20.37	0.43	5.91	5.72	58.76	0.52	8.52	6.19
4299.0	13.46	4.77	20.16	0.41	5.36	5.43	58.95	0.45	6.64	5.92
4299.5	13.38	5.37	19.65	0.38	4.82	5.41	58.81	0.36	5.96	5.69
4300.0	13.27	5.64	18.70	0.36	4.41	5.40	58.49	0.29	5.32	5.52
4300.5	13.11	5.99	18.68	0.34	4.34	5.53	58.11	0.26	4.88	5.40
4301.0	12.95	6.10	18.50	0.39	4.40	5.68	57.46	0.29	4.42	5.31
4301.5	12.90	6.12	18.33	0.43	4.62	5.84	57.00	0.36	4.43	5.31
4302.0	13.08	5.95	18.41	0.46	4.69	6.14	56.92	0.48	4.54	5.37
4302.5	13.33	5.78	18.57	0.48	4.78	6.67	56.91	0.53	4.65	5.61
4303.0	13.41	5.59	18.73	0.51	4.94	7.34	56.94	0.52	4.77	5.88
4303.5	13.44	5.38	18.80	0.53	5.12	7.81	56.94	0.53	4.87	6.24
4304.0	13.17	5.18	18.62	0.56	5.41	7.89	56.82	0.54	4.98	6.86
4304.5	12.20	5.95	18.30	0.59	5.64	7.72	56.63	0.60	5.14	7.44
4305.0	12.15	7.53	17.59	0.64	5.45	7.53	56.49	0.65	5.64	7.75
4305.5	12.89	9.41	17.43	0.63	4.92	7.29	56.38	0.65	5.67	7.59
4306.0	13.36	8.03	17.74	0.59	4.42	7.00	56.30	0.65	5.26	7.34
4306.5	13.21	6.48	18.71	0.55	4.88	6.30	56.26	0.67	4.73	7.01
4307.0	12.96	3.29	18.60	0.60	5.55	5.85	57.04	0.63	5.25	6.69
4307.5	12.97	2.59	18.44	0.67	5.87	5.63	57.18	0.59	5.88	6.48
4308.0	13.02	2.57	18.18	0.75	5.69	5.54	57.22	0.55	5.89	6.23

4308.5	13.11	2.63	18.23	0.80	5.54	5.48	57.13	0.62	5.67	5.95
4309.0	13.16	2.93	18.35	0.81	5.41	5.54	56.96	0.69	5.42	5.76
4309.5	13.07	3.26	18.57	0.73	5.44	5.68	56.85	0.82	5.18	5.67
4310.0	12.78	3.57	18.48	0.62	5.58	5.86	56.82	0.71	5.32	5.61
4310.5	12.80	3.88	18.27	0.65	5.72	6.13	56.87	0.66	5.98	5.72
4311.0	12.83	4.21	18.21	0.72	5.87	6.42	56.98	0.67	6.27	5.84
4311.5	12.81	4.73	18.28	0.78	6.03	6.69	57.09	0.72	6.30	6.08
4312.0	12.78	6.89	18.40	0.83	6.40	6.91	57.09	0.80	6.48	6.55
4312.5	12.60	7.31	18.47	0.80	7.07	7.19	57.00	0.96	6.86	7.22
4313.0	11.97	7.11	18.45	0.82	7.66	7.13	56.88	0.94	7.67	7.20
4313.5	11.62	7.36	17.98	0.87	8.37	6.92	56.75	0.90	8.33	7.17
4314.0	11.45	8.29	17.51	0.92	8.89	6.70	56.61	0.86	9.05	7.13
4314.5	11.53	10.92	17.31	0.87	8.68	6.32	56.47	0.86	9.19	6.67
4315.0	12.15	12.21	17.26	0.82	8.44	5.88	56.31	0.93	8.88	6.32
4315.5	12.79	11.31	17.37	0.81	8.19	5.24	56.31	0.99	8.55	5.95
4316.0	12.93	9.40	17.74	0.86	7.94	4.89	56.54	0.76	8.21	5.46
4316.5	12.76	6.23	18.24	0.82	7.44	4.71	56.74	0.65	7.30	5.00
4317.0	12.47	4.37	18.36	0.73	6.80	4.83	56.77	0.71	6.96	4.77
4317.5	12.28	3.24	18.34	0.61	6.67	4.95	56.73	0.77	6.82	4.75
4318.0	12.23	3.49	18.05	0.57	6.51	5.08	56.68	0.68	6.48	4.85
4318.5	12.30	4.65	17.90	0.59	6.21	5.22	56.55	0.56	6.24	4.99
4319.0	12.42	5.33	17.91	0.59	5.67	5.46	56.48	0.40	5.89	5.22
4319.5	12.58	5.97	18.00	0.56	5.66	5.71	56.59	0.44	5.53	5.38
4320.0	12.88	6.34	18.19	0.50	5.94	6.06	56.80	0.53	5.62	5.51
4320.5	13.41	6.66	18.45	0.44	6.25	6.80	57.04	0.56	5.73	5.65
4321.0	13.48	7.36	18.85	0.42	6.38	6.76	57.34	0.53	5.83	6.18
4321.5	13.18	8.12	19.06	0.41	6.34	6.72	57.42	0.47	5.89	6.47
4322.0	12.72	8.39	19.03	0.35	6.20	6.69	57.35	0.33	5.94	6.73
4322.5	13.32	10.93	18.73	0.28	5.84	6.55	57.23	0.25	5.86	6.68
4323.0	13.74	11.58	18.42	0.24	5.30	6.50	57.05	0.26	5.04	6.62
4323.5	13.76	10.23	19.09	0.27	4.49	6.53	57.04	0.28	4.32	6.50
4324.0	13.77	8.05	19.16	0.36	4.63	6.54	57.20	0.31	4.98	6.44
4324.5	13.79	3.33	19.11	0.43	5.41	6.58	57.45	0.42	5.35	6.44
4325.0	13.76	2.96	18.91	0.52	5.19	6.61	57.69	0.54	5.02	6.42
4325.5	13.62	2.89	18.69	0.51	4.67	6.65	57.72	0.52	4.45	6.41
4326.0	13.32	2.88	18.93	0.50	4.26	6.78	57.75	0.48	4.03	6.43
4326.5	13.00	2.85	19.33	0.51	4.22	6.89	57.72	0.49	3.87	6.44
4327.0	12.84	2.99	19.41	0.58	4.22	6.92	57.63	0.55	3.85	6.52
4327.5	12.76	3.27	19.11	0.67	4.22	6.80	57.45	0.62	3.88	6.63
4328.0	12.44	3.45	18.59	0.70	4.20	6.58	57.13	0.63	3.95	6.76
4328.5	12.05	4.02	18.30	0.64	4.19	6.21	56.62	0.63	4.05	6.68
4329.0	12.13	4.91	18.02	0.70	4.23	5.74	56.41	0.66	4.15	6.50
4329.5	12.33	5.06	17.96	0.86	4.32	5.14	56.19	0.71	4.20	6.12
4330.0	12.81	5.04	17.95	0.82	4.46	4.82	56.34	0.78	4.31	5.72
4330.5	13.50	4.75	18.05	0.79	4.61	4.59	56.37	0.67	4.50	5.32
4331.0	13.68	4.32	18.29	0.78	4.85	4.56	56.39	0.71	4.72	4.84
4331.5	13.74	4.03	18.64	0.78	5.12	4.57	56.41	0.91	4.98	4.59
4332.0	13.67	3.86	19.04	0.80	5.29	4.63	56.43	0.84	5.17	4.34
4332.5	13.53	3.76	19.19	0.83	5.45	4.77	56.67	0.77	5.36	4.24
4333.0	13.27	3.84	19.17	0.95	5.59	4.92	56.81	0.72	5.56	4.54
4333.5	12.62	3.97	19.10	1.00	5.74	5.22	56.80	0.84	5.76	4.96
4334.0	11.66	4.65	18.70	1.02	6.13	5.54	56.65	0.88	5.98	5.34
4334.5	11.54	6.97	17.94	1.04	6.68	5.96	56.57	0.84	6.28	5.70
4335.0	11.50	8.35	17.52	1.24	7.92	6.22	56.50	0.86	6.70	5.95
4335.5	11.62	9.49	17.24	1.51	8.36	6.30	56.42	1.11	7.23	6.06
4336.0	11.80	9.75	17.27	1.66	8.84	6.28	56.38	1.09	7.95	6.06

4336.5	11.99	9.79	17.36	1.82	9.65	6.09	56.34	0.97	8.73	6.04
4337.0	12.25	9.80	17.48	1.58	11.80	5.88	56.35	0.79	9.88	6.01
4337.5	12.80	9.69	17.64	0.64	12.56	5.61	56.37	0.82	11.22	5.94
4338.0	13.13	8.86	17.82	1.01	12.33	5.38	56.39	0.89	12.42	5.81
4338.5	12.85	6.51	18.10	0.88	11.68	5.23	56.59	0.91	12.39	5.66
4339.0	12.58	4.13	18.54	0.87	10.27	5.18	56.68	0.87	10.79	5.43
4339.5	11.90	3.27	18.23	0.86	8.33	5.17	56.61	0.81	8.52	5.30
4340.0	11.55	3.15	17.79	0.77	6.32	5.16	56.49	0.65	7.41	5.17
4340.5	11.79	3.38	17.53	0.73	6.04	5.13	56.33	0.68	6.72	5.06
4341.0	12.15	3.87	17.50	0.75	5.76	5.11	56.15	0.80	6.10	5.09
4341.5	12.71	4.96	17.89	0.82	5.47	5.11	55.95	1.07	5.76	5.13
4342.0	13.05	5.42	18.63	0.85	5.31	5.12	56.30	0.80	5.45	5.16
4342.5	13.64	5.99	19.08	0.78	5.19	5.16	56.89	0.64	5.21	5.23
4343.0	14.36	6.38	19.40	0.71	5.08	5.15	57.41	0.85	5.04	5.34
4343.5	14.62	6.47	19.73	0.65	4.98	5.12	57.86	0.99	4.95	5.30
4344.0	14.71	6.47	20.26	0.79	4.73	5.09	58.17	0.92	4.87	5.27
4344.5	14.70	6.47	20.45	0.83	4.43	5.06	58.28	0.84	4.73	5.22
4345.0	14.68	6.42	20.32	0.88	4.13	5.00	58.37	0.73	4.29	5.16
4345.5	14.61	6.32	20.20	0.95	3.84	4.99	58.50	0.64	4.07	5.11
4346.0	14.54	5.96	20.07	0.96	3.62	4.99	58.54	0.68	3.95	5.07
4346.5	14.45	5.21	19.92	0.87	3.46	4.96	58.46	0.73	3.82	5.04
4347.0	14.34	4.70	19.89	0.82	3.36	4.92	58.38	0.79	3.71	5.01
4347.5	14.24	4.31	19.92	0.80	3.27	4.87	58.36	0.78	3.63	4.99
4348.0	14.15	3.98	19.92	0.79	3.23	4.83	58.34	0.75	3.57	4.96
4348.5	14.07	3.72	19.77	0.79	3.19	4.79	58.31	0.71	3.51	4.92
4349.0	13.97	3.56	19.53	0.83	3.16	4.77	58.20	0.71	3.45	4.89
4349.5	13.85	3.46	19.42	0.86	3.13	4.77	58.06	0.79	3.40	4.87
4350.0	13.74	3.46	19.53	0.86	3.11	4.76	57.92	0.86	3.34	4.85
4350.5	13.66	3.48	19.62	0.83	3.08	4.76	57.79	0.84	3.33	4.82
4351.0	13.60	3.52	19.51	0.80	3.12	4.77	57.71	0.79	3.32	4.77
4351.5	13.59	3.59	19.36	0.76	3.18	4.78	57.57	0.79	3.36	4.72
4352.0	13.58	3.71	19.31	0.74	3.32	4.76	57.44	0.83	3.38	4.68
4352.5	13.57	3.83	19.30	0.73	3.40	4.73	57.34	0.83	3.40	4.67
4353.0	13.58	3.86	19.34	0.75	3.49	4.70	57.28	0.75	3.42	4.67
4353.5	13.62	3.78	19.38	0.78	3.60	4.69	57.22	0.80	3.45	4.67
4354.0	13.73	3.71	19.43	0.82	3.72	4.69	57.24	1.02	3.49	4.66
4354.5	13.54	3.67	19.39	0.88	3.84	4.73	57.34	0.96	3.55	4.66
4355.0	13.31	3.87	19.35	0.86	3.86	4.77	57.34	0.78	3.61	4.68
4355.5	12.88	4.05	19.19	0.84	3.83	4.77	57.34	0.70	3.68	4.71
4356.0	13.13	4.21	18.89	0.82	3.82	4.77	57.35	0.74	3.77	4.73
4356.5	13.89	4.35	19.17	0.80	3.87	4.79	57.35	0.86	3.82	4.75
4357.0	13.94	4.42	19.61	0.78	3.92	4.81	57.28	0.72	3.83	4.79
4357.5	13.93	4.40	19.74	0.76	3.98	4.80	57.21	0.65	3.83	4.85
4358.0	13.85	4.02	19.70	0.75	4.05	4.80	57.14	0.77	3.81	4.91
4358.5	13.68	3.60	19.53	0.73	4.10	4.79	57.07	0.84	3.79	4.92
4359.0	13.28	3.53	19.34	0.72	4.14	4.81	57.00	0.76	3.75	4.93
4359.5	12.92	3.50	18.90	0.78	4.18	4.83	56.91	0.84	3.70	4.94
4360.0	12.89	3.50	18.61	0.78	4.20	4.85	56.82	0.72	3.79	4.92
4360.5	13.06	3.49	18.67	0.73	4.18	4.89	56.73	0.65	3.90	4.91
4361.0	13.20	3.55	18.81	0.63	4.15	4.93	56.77	0.61	4.01	4.89
4361.5	13.28	3.64	18.97	0.56	4.13	4.97	56.83	0.64	4.12	4.93
4362.0	13.37	3.74	19.09	0.62	4.13	5.02	57.05	0.67	4.18	4.99
4362.5	14.14	3.84	19.42	0.68	4.14	5.08	57.28	0.77	4.22	5.03
4363.0	14.29	3.88	19.91	0.71	4.12	5.13	57.46	0.70	4.26	5.07
4363.5	14.38	3.88	20.18	0.67	4.10	5.21	57.58	0.58	4.30	5.11
4364.0	14.45	3.86	20.36	0.59	4.08	5.29	57.73	0.45	4.33	5.14

4364.5	14.50	3.74	20.48	0.50	4.06	5.36	57.98	0.41	4.33	5.18
4365.0	14.51	3.62	20.51	0.42	4.09	5.43	58.18	0.37	4.32	5.21
4365.5	14.47	3.52	20.48	0.34	4.13	5.48	58.31	0.35	4.32	5.25
4366.0	14.41	3.48	20.39	0.28	4.17	5.52	58.29	0.32	4.33	5.32
4366.5	14.29	3.52	20.30	0.25	4.21	5.55	58.20	0.28	4.34	5.40
4367.0	14.16	3.60	20.21	0.23	4.23	5.55	58.14	0.26	4.36	5.48
4367.5	13.97	3.67	20.12	0.22	4.26	5.59	58.10	0.22	4.37	5.57
4368.0	13.74	3.73	20.03	0.22	4.28	5.79	57.99	0.19	4.36	5.70
4368.5	13.48	3.74	19.93	0.21	4.31	6.04	57.82	0.19	4.36	5.85
4369.0	13.39	3.71	19.81	0.20	4.33	6.36	57.62	0.18	4.35	6.01
4369.5	13.49	3.64	19.53	0.19	4.35	6.75	57.40	0.18	4.35	6.17
4370.0	13.37	3.51	19.32	0.18	4.36	7.19	57.17	0.18	4.36	6.46
4370.5	12.91	3.50	19.30	0.18	4.38	7.68	56.93	0.17	4.42	7.07
4371.0	12.32	3.50	19.23	0.17	4.39	7.82	56.72	0.17	4.49	7.29
4371.5	12.37	3.61	18.84	0.16	4.42	7.87	56.66	0.16	4.57	7.45
4372.0	12.51	3.95	18.46	0.15	4.44	7.91	56.73	0.15	4.65	7.59
4372.5	12.64	4.06	18.54	0.14	4.46	8.01	56.65	0.14	4.54	7.72
4373.0	12.74	4.01	18.62	0.14	4.48	8.15	56.56	0.13	4.54	7.78
4373.5	12.67	3.92	18.68	0.13	4.55	8.18	56.63	0.13	4.67	7.85
4374.0	12.60	3.83	18.72	0.13	4.64	8.23	56.71	0.13	4.86	7.93
4374.5	12.54	3.75	18.65	0.13	4.86	8.34	56.75	0.13	5.08	8.08
4375.0	12.49	3.67	18.58	0.12	5.10	8.44	56.78	0.14	5.18	8.18
4375.5	12.41	3.62	18.53	0.12	5.32	8.99	56.85	0.15	5.22	8.26
4376.0	12.77	3.57	18.59	0.13	5.56	9.62	56.97	0.16	5.31	8.38
4376.5	13.73	3.52	18.94	0.20	5.78	10.96	57.08	0.20	5.51	8.66
4377.0	13.74	3.47	19.84	0.27	5.97	13.04	57.21	0.25	5.74	9.66
4377.5	13.41	3.42	19.82	0.37	6.10	13.95	57.28	0.36	6.02	10.91
4378.0	12.24	3.21	19.07	0.44	6.52	14.70	57.22	0.46	6.30	11.81
4378.5	12.21	3.90	18.34	0.49	8.27	15.75	57.02	0.43	7.18	13.61
4379.0	12.34	5.63	18.17	0.53	8.84	16.00	56.75	0.40	8.21	14.69
4379.5	12.47	7.32	18.25	0.57	9.04	15.81	56.42	0.48	8.50	15.47
4380.0	12.63	8.48	18.43	0.76	9.27	15.56	56.09	0.55	8.90	15.93
4380.5	12.81	8.69	18.61	0.87	10.90	14.48	55.83	0.62	9.55	16.13
4381.0	12.80	8.75	18.67	0.87	14.79	13.31	55.67	0.60	11.23	15.87
4381.5	12.79	8.57	18.76	0.85	16.47	11.97	55.67	0.64	13.69	15.11
4382.0	12.71	7.87	18.84	0.82	17.66	10.15	55.68	0.70	16.02	14.04
4382.5	12.61	7.90	18.76	0.90	18.92	8.81	55.66	0.78	16.89	11.96
4383.0	12.54	8.06	18.68	0.91	20.74	8.11	55.64	0.92	19.55	10.83
4383.5	12.51	8.40	18.61	0.81	21.91	7.58	55.62	0.86	19.91	9.92
4384.0	12.39	8.75	18.67	0.74	23.02	7.13	55.63	0.75	20.56	9.23
4384.5	12.05	9.10	18.58	0.65	24.06	7.08	55.70	0.67	21.34	7.62
4385.0	11.92	10.76	18.12	0.58	24.34	7.10	55.76	0.71	23.99	7.01
4385.5	11.83	13.17	18.01	0.56	24.36	7.19	55.71	0.71	24.34	6.90
4386.0	11.61	19.56	17.76	0.57	25.79	7.41	55.62	0.70	24.10	6.99
4386.5	11.56	20.36	17.53	0.58	28.27	7.61	55.54	0.69	24.67	7.14
4387.0	11.64	21.11	17.66	0.56	29.58	7.61	55.51	0.69	26.79	7.39
4387.5	11.80	24.92	17.98	0.52	30.98	7.58	55.48	0.60	30.44	7.44
4388.0	12.37	30.95	18.21	0.47	31.19	7.59	55.64	0.55	31.01	7.50
4388.5	12.24	33.88	18.21	0.43	32.49	7.60	55.90	0.56	31.04	7.54
4389.0	11.87	35.70	17.93	0.40	32.48	7.58	55.84	0.52	31.69	7.58
4389.5	11.44	36.89	17.58	0.34	28.94	7.54	55.67	0.47	32.87	7.61
4390.0	10.88	37.46	17.14	0.32	26.21	7.54	55.50	0.40	32.97	7.62
4390.5	10.64	35.38	16.79	0.31	23.26	7.56	55.27	0.36	30.62	7.63
4391.0	10.53	32.12	16.62	0.30	19.21	7.59	55.05	0.33	25.14	7.65
4391.5	10.91	26.87	16.68	0.30	12.97	7.54	54.84	0.31	20.57	7.61
4392.0	12.49	22.77	16.92	0.31	10.38	7.49	54.70	0.30	17.26	7.57

4392.5	12.83	14.11	17.65	0.31	7.11	7.44	54.64	0.28	14.58	7.53
4393.0	12.79	10.61	18.73	0.31	6.39	7.38	54.61	0.26	9.94	7.49
4393.5	12.99	9.09	19.01	0.32	5.89	7.33	55.04	0.26	9.76	7.47
4394.0	13.73	8.24	19.30	0.34	5.17	7.27	56.22	0.28	9.39	7.46
4394.5	14.11	7.43	19.73	0.35	4.73	7.23	56.87	0.31	8.39	7.44
4395.0	14.31	6.75	20.06	0.35	4.40	7.21	57.28	0.33	6.08	7.42
4395.5	14.30	6.36	20.10	0.36	4.11	7.26	57.48	0.34	5.51	7.39
4396.0	13.89	5.84	19.93	0.37	3.96	7.32	57.42	0.34	4.88	7.34
4396.5	12.99	5.46	19.33	0.39	3.91	7.38	57.31	0.36	4.55	7.30
4397.0	12.53	5.10	18.97	0.42	3.92	7.46	57.05	0.38	4.31	7.27
4397.5	11.92	4.86	18.64	0.42	3.96	7.54	56.69	0.38	4.13	7.27
4398.0	11.02	4.82	17.92	0.37	4.06	7.64	56.09	0.39	4.10	7.27
4398.5	11.06	4.88	16.88	0.35	4.19	7.76	55.67	0.39	4.14	7.29
4399.0	11.71	5.01	17.48	0.34	4.42	7.92	55.30	0.37	4.26	7.37
4399.5	12.26	5.29	18.10	0.34	4.65	8.10	54.98	0.35	4.46	7.46
4400.0	12.81	5.23	18.64	0.36	4.91	8.36	54.77	0.35	4.66	7.56
4400.5	12.90	4.65	18.91	0.33	5.23	8.79	54.77	0.35	4.86	7.67
4401.0	12.97	3.63	18.98	0.35	5.62	9.33	54.92	0.36	5.06	7.95
4401.5	13.02	3.89	18.98	0.39	5.73	9.86	55.33	0.37	5.27	8.27
4402.0	13.00	4.36	18.98	0.38	5.95	10.15	55.64	0.38	5.67	8.73
4402.5	12.97	4.99	18.97	0.36	6.42	10.50	55.72	0.38	6.08	9.31
4403.0	12.94	5.54	18.96	0.35	7.23	10.85	55.80	0.38	6.52	10.04
4403.5	12.89	5.63	18.96	0.34	7.93	11.11	55.76	0.38	6.99	10.36
4404.0	12.82	5.71	18.94	0.35	8.37	11.29	55.66	0.37	7.46	10.67
4404.5	12.72	5.79	18.85	0.37	8.92	11.46	55.56	0.36	8.07	10.91
4405.0	12.63	5.95	18.76	0.39	9.74	11.59	55.46	0.35	8.75	11.10
4405.5	12.53	6.16	18.66	0.40	10.05	11.62	55.36	0.35	9.31	11.29
4406.0	12.34	6.37	18.55	0.41	10.19	11.65	55.29	0.37	9.80	11.43
4406.5	12.16	6.50	18.40	0.42	10.27	11.67	55.24	0.43	10.02	11.53
4407.0	11.96	6.67	18.23	0.42	10.34	11.63	55.20	0.45	10.12	11.55
4407.5	11.78	6.88	18.06	0.42	10.36	11.59	55.17	0.45	10.22	11.57
4408.0	11.65	7.05	17.87	0.38	10.39	11.54	55.14	0.43	10.30	11.56
4408.5	11.63	7.32	17.67	0.41	10.39	11.48	55.17	0.40	10.34	11.53
4409.0	11.69	7.62	17.79	0.48	10.37	11.42	55.05	0.39	10.30	11.48
4409.5	11.83	8.23	17.96	0.52	10.34	11.34	54.86	0.37	10.27	11.42
4410.0	11.90	8.97	18.18	0.49	10.29	11.20	54.69	0.39	10.25	11.35
4410.5	11.93	9.74	18.35	0.47	10.21	11.01	54.52	0.49	10.24	11.28
4411.0	11.94	10.48	18.37	0.45	10.11	10.97	54.43	0.50	10.23	11.17
4411.5	11.95	10.97	18.36	0.42	9.94	10.94	54.34	0.50	10.13	11.05
4412.0	11.94	11.35	18.33	0.41	9.76	10.81	54.25	0.48	10.00	10.95
4412.5	11.93	11.56	18.33	0.46	9.54	10.64	54.23	0.45	9.79	10.85
4413.0	11.91	11.79	18.34	0.52	9.33	10.48	54.27	0.48	9.52	10.75
4413.5	11.88	12.08	18.34	0.56	9.20	10.28	54.31	0.51	9.35	10.62
4414.0	11.85	12.56	18.39	0.54	9.11	10.06	54.34	0.63	9.19	10.48
4414.5	11.82	12.89	18.38	0.55	9.01	9.92	54.38	0.64	9.08	10.35
4415.0	11.78	12.86	18.22	0.61	8.94	9.84	54.34	0.67	8.98	10.23
4415.5	11.76	12.76	18.04	0.78	8.88	9.77	54.29	0.73	8.90	10.11
4416.0	11.73	12.43	18.03	0.78	8.85	9.70	54.25	0.65	8.83	9.99
4416.5	11.69	12.43	18.14	0.79	8.82	9.64	54.20	0.62	8.75	9.90
4417.0	11.65	12.54	18.08	0.84	8.80	9.63	54.26	0.78	8.72	9.81
4417.5	11.60	12.47	17.96	0.91	8.77	9.54	54.33	0.74	8.70	9.72
4418.0	11.54	12.25	17.88	0.84	8.75	9.34	54.40	0.61	8.70	9.64
4418.5	11.49	12.02	17.83	0.76	8.73	8.33	54.48	0.56	8.70	9.56
4419.0	11.46	12.08	17.79	0.63	8.71	7.49	54.56	0.70	8.67	9.45
4419.5	11.45	12.38	17.75	0.75	8.67	7.03	54.61	0.91	8.64	9.11
4420.0	11.50	12.58	17.69	0.82	8.59	6.65	54.58	0.89	8.60	8.60

4448.5	13.65	2.77	19.87	0.76	3.49	4.09	55.91	0.71	3.30	4.07
4449.0	13.49	2.68	19.84	0.75	3.42	4.12	55.87	0.76	3.48	4.14
4449.5	13.36	2.75	19.81	0.78	3.34	4.15	55.86	0.83	3.51	4.22
4450.0	13.27	3.07	19.77	0.85	3.26	4.20	55.88	0.86	3.55	4.30
4450.5	13.26	3.34	19.70	0.87	3.19	4.26	55.92	0.72	3.52	4.33
4451.0	13.34	3.50	19.65	0.83	3.33	4.31	55.92	0.69	3.45	4.35
4451.5	13.32	3.49	19.63	0.79	3.48	4.36	55.89	0.77	3.42	4.35
4452.0	13.14	3.52	19.67	0.84	3.72	4.38	55.87	0.82	3.58	4.34
4452.5	13.00	3.75	19.63	0.89	3.90	4.40	55.83	0.84	3.79	4.34
4453.0	12.91	3.99	19.58	0.97	3.87	4.36	55.79	0.77	4.03	4.33
4453.5	13.37	4.06	19.55	1.01	3.83	4.31	55.75	0.72	4.10	4.33
4454.0	13.79	3.89	19.70	0.98	3.78	4.26	55.73	0.71	3.99	4.33
4454.5	13.95	3.64	20.21	0.91	3.80	4.21	55.75	0.92	3.84	4.34
4455.0	13.99	3.34	20.34	0.91	3.85	4.15	56.39	0.91	3.76	4.33
4455.5	13.97	3.09	20.38	0.96	3.99	4.16	56.95	0.85	3.71	4.33
4456.0	13.95	3.16	20.37	0.97	4.17	4.21	57.22	0.89	3.86	4.32
4456.5	13.99	3.79	20.35	0.95	4.29	4.26	57.26	0.93	4.02	4.32
4457.0	14.09	4.29	20.34	0.86	4.26	4.30	57.20	1.05	4.19	4.33
4457.5	14.20	4.43	20.33	0.80	4.23	4.33	57.14	1.07	4.26	4.34
4458.0	14.16	4.44	20.37	0.79	4.26	4.35	57.08	1.05	4.31	4.41
4458.5	14.00	4.50	20.45	0.83	4.29	4.35	57.04	1.01	4.37	4.49
4459.0	13.71	4.55	20.50	0.86	4.43	4.34	57.01	0.92	4.45	4.57
4459.5	13.68	4.63	20.41	0.89	4.47	4.32	57.01	0.78	4.51	4.64
4460.0	13.70	4.74	20.03	0.90	4.41	4.28	57.04	0.89	4.53	4.66
4460.5	13.86	4.83	20.11	0.88	4.36	4.26	57.07	0.94	4.47	4.66
4461.0	14.06	4.80	20.20	0.80	4.31	4.26	57.05	0.96	4.42	4.63
4461.5	14.82	4.52	20.45	0.76	4.25	4.47	57.02	0.94	4.36	4.60
4462.0	15.52	4.32	20.88	0.75	4.18	4.60	57.35	0.82	4.32	4.57
4462.5	15.54	4.23	21.74	0.76	4.12	4.71	57.80	0.81	4.34	4.55
4463.0	15.21	4.23	22.06	0.71	4.07	4.73	58.20	0.83	4.28	4.53
4463.5	14.45	4.24	22.04	0.67	4.02	4.70	58.47	0.91	4.16	4.53
4464.0	13.37	4.20	21.40	0.69	3.96	4.66	58.38	0.88	4.03	4.53
4464.5	12.58	4.22	20.48	0.69	3.86	4.61	58.23	0.79	3.91	4.54
4465.0	12.31	4.31	19.64	0.66	3.75	4.58	57.79	0.78	3.80	4.61
4465.5	12.37	4.28	19.22	0.57	3.61	4.57	57.13	0.76	3.71	4.70
4466.0	12.81	4.25	19.07	0.50	3.45	4.55	56.39	0.71	3.62	4.70
4466.5	14.03	4.14	19.23	0.47	3.31	4.54	55.76	0.58	3.51	4.66
4467.0	14.87	3.94	19.74	0.41	3.20	4.51	55.93	0.46	3.39	4.60
4467.5	14.75	3.53	20.75	0.36	3.11	4.49	56.56	0.40	3.27	4.55
4468.0	14.47	3.06	20.93	0.32	2.98	4.67	57.25	0.34	3.14	4.54
4468.5	14.33	2.76	20.59	0.26	2.87	4.86	57.65	0.30	2.98	4.57
4469.0	14.27	2.91	20.39	0.22	2.79	4.97	57.88	0.26	2.83	4.63
4469.5	14.22	3.05	20.35	0.18	2.87	5.08	57.73	0.22	2.72	4.69
4470.0	13.98	3.15	20.25	0.16	3.10	5.27	57.37	0.18	2.67	4.85
4470.5	13.40	3.33	20.10	0.14	3.32	5.50	57.09	0.16	2.74	5.03
4471.0	12.87	3.78	19.79	0.14	3.48	5.95	56.96	0.14	2.90	5.22
4471.5	12.62	4.22	19.36	0.14	3.76	6.29	56.91	0.12	3.14	5.43
4472.0	13.32	4.33	19.33	0.14	3.86	6.60	56.87	0.12	3.37	5.74
4472.5	13.66	4.15	19.49	0.14	3.91	6.93	56.81	0.12	3.61	6.05
4473.0	13.61	3.87	19.83	0.17	3.93	7.19	56.74	0.12	3.85	6.36
4473.5	13.55	3.54	20.19	0.20	3.91	7.42	56.70	0.14	3.95	6.70
4474.0	13.22	3.20	20.31	0.19	3.90	7.57	56.74	0.16	4.04	7.08
4474.5	12.88	2.99	20.24	0.18	3.91	7.68	56.78	0.17	4.14	7.43
4475.0	12.45	2.80	20.04	0.20	3.91	7.81	56.80	0.19	4.24	7.52
4475.5	11.72	2.73	19.79	0.27	4.12	7.83	56.70	0.21	4.25	7.58
4476.0	11.22	2.73	19.65	0.31	4.25	7.81	56.51	0.24	4.26	7.61

4420.5	11.55	12.50	17.60	0.97	8.51	6.31	54.55	0.86	8.55	7.84
4421.0	11.65	12.36	17.65	0.95	8.41	6.12	54.60	0.83	8.42	6.91
4421.5	12.11	12.19	17.72	0.90	8.16	6.00	54.68	0.87	8.30	6.39
4422.0	12.43	11.92	18.01	0.85	7.86	5.97	54.76	1.00	8.18	6.17
4422.5	12.51	11.18	18.43	0.68	7.56	5.94	54.83	0.95	7.83	5.97
4423.0	12.46	10.03	18.54	0.85	7.33	5.91	54.89	0.91	7.39	5.86
4423.5	12.32	9.37	18.55	0.95	7.17	5.92	54.95	0.93	7.15	5.81
4424.0	11.60	9.05	18.43	0.85	7.11	5.92	55.00	0.91	7.01	5.87
4424.5	11.08	8.97	18.26	0.87	7.13	5.93	54.90	0.84	6.87	5.94
4425.0	10.58	9.59	17.94	0.99	7.08	5.96	54.67	0.87	6.84	5.97
4425.5	10.17	10.69	17.68	1.04	7.03	5.98	54.37	0.93	6.86	5.94
4426.0	10.24	12.64	16.91	1.07	7.00	5.95	53.95	0.99	6.89	5.87
4426.5	10.43	14.12	16.30	1.04	6.96	5.88	53.55	1.06	6.92	5.80
4427.0	11.81	15.42	16.26	1.00	6.27	5.78	53.16	1.09	6.92	5.73
4427.5	12.65	14.27	16.94	0.95	5.66	5.67	52.92	1.11	6.80	5.68
4428.0	12.72	9.67	18.22	0.85	5.29	5.50	52.95	0.96	6.38	5.64
4428.5	12.80	7.38	18.88	0.94	5.00	5.33	54.08	0.89	5.79	5.60
4429.0	12.88	5.97	18.83	0.77	4.75	5.17	54.92	0.94	5.49	5.51
4429.5	12.90	5.23	18.85	0.85	4.55	5.06	55.06	1.01	5.19	5.41
4430.0	12.89	5.05	18.92	0.89	4.32	4.96	55.18	1.07	4.89	5.27
4430.5	12.87	5.09	18.94	0.92	4.09	4.86	55.27	1.00	4.60	5.13
4431.0	12.91	5.15	18.95	0.89	3.95	4.77	55.32	0.87	4.32	5.01
4431.5	13.08	5.23	18.95	0.84	3.85	4.75	55.38	0.83	4.04	4.99
4432.0	13.39	5.40	18.97	0.78	3.80	4.73	55.53	0.87	3.75	4.97
4432.5	13.80	5.65	19.22	0.71	3.76	4.68	55.67	0.96	3.47	4.93
4433.0	13.91	5.85	20.11	0.89	3.70	4.63	55.83	0.97	3.38	4.89
4433.5	13.79	5.87	20.18	0.90	3.63	4.59	56.01	0.90	3.55	4.86
4434.0	13.42	5.72	19.97	0.83	3.59	4.56	56.07	0.77	3.62	4.83
4434.5	13.26	5.50	19.61	0.70	3.56	4.53	56.07	0.79	3.67	4.80
4435.0	13.16	5.26	19.32	0.70	3.52	4.52	56.05	0.84	3.66	4.78
4435.5	13.12	5.04	19.13	0.81	3.48	4.50	55.90	0.80	3.62	4.76
4436.0	13.15	4.68	19.08	0.89	3.43	4.47	55.63	0.71	3.56	4.71
4436.5	13.19	4.32	19.04	0.88	3.38	4.44	55.45	0.74	3.51	4.66
4437.0	13.24	3.93	19.04	0.86	3.34	4.41	55.31	0.85	3.45	4.61
4437.5	13.25	3.81	19.10	0.79	3.29	4.34	55.19	0.96	3.42	4.56
4438.0	13.21	3.72	19.19	0.74	3.24	4.25	55.06	0.92	3.36	4.51
4438.5	13.09	3.63	19.22	0.75	3.18	4.17	55.13	0.91	3.29	4.46
4439.0	13.31	3.58	19.25	0.77	3.12	4.09	55.26	0.94	3.26	4.41
4439.5	13.57	3.54	19.29	0.81	3.09	4.02	55.41	0.87	3.30	4.36
4440.0	13.89	3.51	19.47	0.86	3.07	4.01	55.55	0.96	3.29	4.31
4440.5	13.91	3.49	19.64	0.85	3.08	4.01	55.64	1.07	3.29	4.26
4441.0	13.75	3.47	19.65	0.77	3.10	4.01	55.68	1.04	3.30	4.21
4441.5	13.65	3.45	19.59	0.76	3.16	4.01	55.71	0.86	3.30	4.21
4442.0	13.66	3.44	19.50	0.76	3.22	4.04	55.71	0.76	3.27	4.20
4442.5	13.71	3.45	19.47	0.75	3.27	4.07	55.69	0.69	3.30	4.19
4443.0	13.86	3.52	19.57	0.69	3.33	4.11	55.73	0.76	3.38	4.15
4443.5	14.12	3.63	19.79	0.80	3.40	4.14	55.82	0.97	3.47	4.09
4444.0	14.42	3.73	20.30	0.78	3.48	4.17	55.92	0.82	3.54	4.11
4444.5	14.91	3.82	20.58	0.73	3.58	4.18	56.01	0.74	3.60	4.18
4445.0	15.00	3.99	20.54	0.66	3.66	4.19	56.13	0.69	3.66	4.25
4445.5	14.61	4.30	20.49	0.62	3.61	4.19	56.27	0.70	3.63	4.29
4446.0	14.30	4.38	20.36	0.67	3.43	4.21	56.35	0.75	3.53	4.33
4446.5	14.34	4.27	20.22	0.70	3.31	4.23	56.37	0.79	3.41	4.31
4447.0	14.27	4.07	20.09	0.73	3.33	4.22	56.37	0.79	3.28	4.28
4447.5	14.04	3.70	20.00	0.82	3.40	4.17	56.21	0.68	3.18	4.20
4448.0	13.88	3.20	19.91	0.82	3.54	4.12	56.06	0.68	3.20	4.12

4476.5	11.15	2.80	19.40	0.31	4.30	7.79	56.25	0.29	4.32	7.63
4477.0	11.61	2.97	18.72	0.33	4.35	7.77	56.08	0.34	4.39	7.62
4477.5	12.25	3.18	18.55	0.39	4.39	7.75	55.90	0.39	4.57	7.63
4478.0	12.78	3.26	18.51	0.46	4.46	7.73	55.68	0.44	4.75	7.65
4478.5	12.92	3.19	18.59	0.52	4.53	7.80	55.57	0.47	4.90	7.71
4479.0	12.94	3.12	19.13	0.56	4.79	8.35	55.81	0.51	5.05	7.79
4479.5	12.90	3.12	19.70	0.63	5.36	8.87	56.09	0.54	5.24	7.93
4480.0	12.91	3.27	19.89	0.69	6.09	11.22	56.27	0.57	5.44	8.30
4480.5	12.92	3.49	19.83	0.71	6.59	14.06	56.44	0.64	5.77	8.79
4481.0	12.73	3.97	19.70	0.71	7.07	14.63	56.49	0.70	6.19	9.49
4481.5	12.41	4.74	19.62	0.71	7.68	14.13	56.48	0.72	6.79	11.58
4482.0	12.17	6.78	19.37	0.71	8.57	12.79	56.47	0.73	8.88	13.53
4482.5	12.35	9.62	18.81	0.71	9.94	11.10	56.49	0.75	9.96	14.71
4483.0	12.52	10.13	18.55	0.72	14.24	8.01	56.54	0.74	11.09	14.25
4483.5	12.57	9.28	18.49	0.71	18.78	5.03	56.45	0.64	12.38	10.59
4484.0	12.46	8.87	18.48	0.69	25.87	4.40	56.31	0.59	16.49	8.07
4484.5	12.69	8.89	18.52	0.66	32.96	4.43	56.26	0.60	20.73	5.74
4485.0	12.56	10.03	18.59	0.63	42.08	4.99	56.31	0.61	26.52	4.63
4485.5	12.49	10.30	18.63	0.59	44.08	5.71	56.41	0.55	32.30	4.57
4486.0	12.71	10.85	18.65	0.55	41.04	6.32	56.50	0.51	44.70	4.62
4486.5	13.51	12.82	18.58	0.52	39.31	6.84	56.44	0.47	42.62	5.41
4487.0	14.63	16.04	18.64	0.47	40.94	7.09	56.43	0.44	40.04	5.82
4487.5	15.07	20.24	18.93	0.38	39.55	7.60	56.54	0.42	39.83	6.25
4488.0	15.35	20.87	19.92	0.31	37.35	8.22	56.67	0.39	40.94	6.90
4488.5	15.42	21.84	21.32	0.28	37.48	8.41	56.97	0.34	40.76	7.76
4489.0	15.16	27.41	21.43	0.30	39.41	8.43	58.52	0.30	39.17	8.07
4489.5	14.62	39.77	21.42	0.35	38.23	8.36	59.26	0.28	37.55	8.32
4490.0	13.57	45.89	21.55	0.39	36.25	8.24	59.38	0.36	38.79	8.35
4490.5	12.84	48.56	21.36	0.42	33.01	8.11	59.14	0.38	39.38	8.37
4491.0	13.37	42.09	19.92	0.43	25.52	7.95	58.88	0.36	37.43	8.34
4491.5	14.08	32.37	19.78	0.43	21.16	7.77	58.53	0.35	33.51	8.24
4492.0	14.61	13.58	20.41	0.44	8.21	7.53	58.29	0.35	14.69	8.04
4492.5	15.16	3.67	21.24	0.47	6.60	7.33	58.34	0.38	12.20	7.84
4493.0	15.26	3.54	21.89	0.50	5.83	7.13	58.71	0.45	6.86	7.65
4493.5	15.10	3.62	22.08	0.54	5.46	6.95	59.44	0.49	6.01	7.44
4494.0	14.89	3.96	22.10	0.58	4.96	6.66	60.44	0.53	5.59	7.23
4494.5	14.54	4.71	21.80	0.63	4.63	6.17	60.60	0.56	5.12	7.09
4495.0	13.89	5.26	21.18	0.69	4.32	5.68	60.60	0.60	4.88	6.93
4495.5	13.43	5.68	20.80	0.72	4.27	5.28	60.56	0.64	4.69	6.69
4496.0	12.60	5.99	20.56	0.67	4.27	4.91	60.53	0.69	4.47	6.38
4496.5	11.89	5.97	20.26	0.68	4.35	4.76	60.43	0.75	4.38	6.02
4497.0	11.74	5.85	19.14	0.67	4.42	4.70	60.22	0.79	4.40	5.50
4497.5	12.10	5.63	18.79	0.66	4.60	4.69	60.02	0.75	4.51	4.88
4498.0	12.45	5.42	18.86	0.67	4.90	4.79	59.80	0.69	4.61	4.86
4498.5	12.57	5.26	19.28	0.72	5.21	5.01	59.59	0.66	4.78	4.91
4499.0	12.91	5.22	19.89	0.77	5.53	5.39	59.42	0.69	4.97	4.96
4499.5	13.23	5.21	20.09	0.82	5.94	5.76	59.34	0.72	5.16	5.17
4500.0	13.21	5.35	20.25	0.72	6.40	6.09	60.16	0.72	5.46	5.49
4500.5	13.19	5.74	20.35	0.61	6.82	6.58	61.44	0.71	5.78	5.78
4501.0	13.18	6.90	20.36	0.58	7.13	6.98	61.97	0.69	6.09	6.01
4501.5	13.11	8.69	20.34	0.59	7.40	7.35	61.98	0.73	6.37	6.24
4502.0	12.81	9.54	20.26	0.58	8.02	7.52	61.97	0.72	6.94	6.75
4502.5	12.66	10.51	19.94	0.55	11.07	7.55	61.97	0.70	7.90	7.13
4503.0	13.28	11.02	19.80	0.52	11.40	7.51	62.62	0.66	8.86	7.26
4503.5	13.48	10.23	20.15	0.53	9.43	7.42	63.69	0.61	12.14	7.33
4504.0	13.39	6.15	20.56	0.45	9.25	7.32	63.86	0.53	11.33	7.34

4504.5	13.11	4.72	20.66	0.46	9.59	7.21	63.10	0.45	9.08	7.34
4505.0	11.99	4.55	20.63	0.53	9.36	7.09	66.82	0.41	9.80	7.35
4505.5	11.04	4.97	20.03	0.68	8.97	7.00	68.29	0.61	10.10	7.33
4506.0	10.32	5.39	19.01	0.70	8.50	6.90	70.14	0.89	9.88	7.29
4506.5	9.80	5.48	18.02	0.54	7.56	6.80	70.39	0.75	9.30	7.24
4507.0	9.44	5.28	17.24	0.50	6.84	6.79	70.46	0.54	8.33	7.18
4507.5	9.26	5.08	16.74	0.50	6.51	6.78	70.17	0.47	6.97	7.08
4508.0	9.37	5.01	16.45	0.53	6.10	6.78	69.38	0.49	6.31	6.97
4508.5	9.60	5.18	16.88	0.59	5.63	6.92	66.52	0.53	5.82	6.83
4509.0	9.86	5.70	17.54	0.64	5.29	7.07	65.77	0.63	5.50	6.80
4509.5	10.07	6.70	17.71	0.68	4.91	7.06	67.45	0.66	5.35	6.84
4510.0	10.42	6.97	17.73	0.67	4.67	7.02	67.65	0.66	5.20	6.87
4510.5	10.52	6.81	17.88	0.63	4.57	6.80	68.84	0.67	5.08	6.91
4511.0	10.46	6.61	17.84	0.60	4.56	6.25	67.96	0.68	4.96	6.92
4511.5	10.37	6.46	17.70	0.63	4.55	5.17	71.38	0.69	4.83	6.91
4512.0	10.59	6.35	17.50	0.70	4.56	4.47	74.43	0.71	4.71	6.79
4512.5	11.15	6.32	18.23	0.81	4.57	4.16	75.59	0.76	4.67	6.54
4513.0	11.57	6.26	19.05	0.91	4.59	3.92	77.47	0.85	4.64	5.81
4513.5	11.88	5.72	19.24	0.92	4.69	3.82	80.89	0.87	4.64	4.46
4514.0	12.33	5.29	19.40	0.87	4.80	3.76	87.21	0.84	4.69	4.11
4514.5	12.87	5.01	19.65	0.82	4.91	3.70	87.79	0.81	4.74	3.97
4515.0	14.11	4.85	20.12	0.77	4.96	3.69	86.88	0.76	4.78	3.85
4515.5	15.00	4.78	20.64	0.72	5.00	3.71	85.72	0.97	4.83	3.76
4516.0	15.01	4.64	21.55	0.67	5.03	3.76	84.34	0.92	4.89	3.67
4516.5	14.98	4.28	22.15	0.72	5.06	3.98	84.78	0.83	4.94	3.60
4517.0	14.88	3.96	22.27	0.80	5.10	4.83	86.88	0.82	4.98	3.53
4517.5	14.34	3.95	22.31	0.88	5.20	5.28	88.68	0.79	5.00	3.76
4518.0	13.27	4.93	22.30	0.87	5.37	5.44	88.18	0.68	5.02	4.09
4518.5	12.85	6.12	22.10	0.80	5.74	5.48	87.79	0.72	5.14	4.87
4519.0	13.10	11.64	20.55	0.79	6.64	5.53	90.51	0.82	5.54	5.25
4519.5	12.74	13.91	20.71	0.87	5.44	5.58	89.17	0.90	6.21	5.39
4520.0	11.43	10.82	21.05	0.88	3.93	5.59	85.22	0.92	5.49	5.44
4520.5	10.96	8.41	20.01	0.76	5.76	5.60	86.68	0.81	4.37	5.45
4521.0	11.70	4.75	19.23	0.72	6.38	5.59	88.78	0.77	5.72	5.47
4521.5	12.73	2.76	19.27	0.75	6.15	5.55	91.51	0.81	6.49	5.43
4522.0	13.40	2.79	19.79	0.82	5.78	5.49	93.64	0.88	6.44	5.37
4522.5	13.74	3.20	20.77	0.86	5.40	5.36	94.38	0.85	6.13	5.30
4523.0	14.10	3.62	21.28	0.89	5.07	5.21	95.41	0.80	5.70	5.24
4523.5	14.38	3.51	21.73	0.73	4.86	5.08	95.55	0.76	5.16	5.18
4524.0	14.70	3.41	22.34	0.77	4.62	4.93	95.55	0.74	4.83	5.11
4524.5	14.83	3.41	22.48	0.90	4.37	4.72	95.49	0.74	4.60	5.01
4525.0	14.45	3.95	22.56	0.93	4.20	4.56	95.42	0.85	4.35	4.91
4525.5	14.32	5.17	22.96	0.94	4.07	4.53	95.32	0.94	4.17	4.80
4526.0	14.26	5.34	22.72	0.95	3.95	4.48	95.21	0.99	3.99	4.67
4526.5	13.97	5.23	22.40	0.96	3.84	4.41	95.11	0.95	3.81	4.54
4527.0	13.54	5.03	22.37	0.99	3.69	4.37	94.49	0.91	3.77	4.46
4527.5	13.46	4.83	22.31	0.95	3.55	4.35	93.54	0.86	3.71	4.41
4528.0	13.64	4.61	21.95	0.84	3.45	4.35	93.91	0.80	3.59	4.36
4528.5	14.35	4.41	21.60	0.78	3.43	4.36	94.30	0.76	3.48	4.36
4529.0	13.93	4.32	21.58	0.83	3.41	4.37	94.98	0.74	3.46	4.38
4529.5	13.58	4.30	21.94	0.89	3.40	4.38	95.33	0.74	3.45	4.41
4530.0	13.37	4.50	22.28	0.90	3.43	4.41	95.52	0.75	3.50	4.43
4530.5	13.20	4.59	21.55	0.88	3.47	4.44	95.67	0.77	3.61	4.44
4531.0	13.00	4.50	21.40	0.83	3.54	4.47	95.47	0.79	3.72	4.45
4531.5	12.97	4.38	21.45	0.77	3.59	4.50	95.10	0.84	3.59	4.47
4532.0	13.31	4.22	21.45	0.70	3.58	4.52	94.51	0.87	3.48	4.48

4532.5	13.81	4.08	21.36	0.68	3.57	4.55	94.56	0.79	3.75	4.48
4533.0	13.76	3.96	21.42	0.63	3.55	4.58	95.22	0.71	3.87	4.49
4533.5	13.45	3.79	21.71	0.56	3.54	4.63	95.84	0.64	3.79	4.49
4534.0	12.94	3.74	21.94	0.49	3.60	4.68	96.38	0.54	3.71	4.50
4534.5	12.74	3.81	21.76	0.38	3.69	4.73	96.78	0.48	3.74	4.54
4535.0	13.08	4.22	21.40	0.33	3.75	4.79	97.13	0.40	3.86	4.57
4535.5	13.32	4.27	21.08	0.26	3.78	4.85	97.37	0.31	4.06	4.64
4536.0	13.23	3.85	21.04	0.22	3.66	4.91	97.35	0.24	3.98	4.71
4536.5	13.15	3.34	21.25	0.18	3.82	4.99	97.29	0.20	3.78	4.78
4537.0	13.04	3.20	21.17	0.15	3.90	5.06	97.20	0.17	3.76	4.86
4537.5	12.90	3.27	20.61	0.13	3.94	5.13	97.11	0.15	4.05	4.94
4538.0	12.81	3.84	20.00	0.11	3.95	5.22	97.06	0.13	4.11	5.03
4538.5	12.83	4.20	19.68	0.10	3.87	5.33	97.04	0.11	4.02	5.15
4539.0	12.78	4.12	19.67	0.10	3.79	5.53	96.95	0.10	3.93	5.27
4539.5	12.79	4.04	19.65	0.11	3.74	5.73	95.99	0.08	3.82	5.41
4540.0	13.14	4.05	19.83	0.16	3.73	5.93	94.42	0.11	3.69	5.56
4540.5	13.54	4.02	20.20	0.43	3.73	6.20	93.92	0.25	3.57	5.71
4541.0	14.15	4.05	20.59	0.47	3.77	6.62	93.65	0.44	3.56	5.80
4541.5	14.96	4.00	21.08	0.48	3.80	7.08	94.03	0.48	3.55	5.92
4542.0	14.78	3.55	21.86	0.58	3.84	7.54	95.17	0.50	3.56	6.12
4542.5	14.47	3.05	21.88	0.67	3.87	7.65	96.06	0.52	3.57	6.36
4543.0	14.07	2.99	21.48	0.73	3.90	7.69	96.41	0.55	3.62	6.65
4543.5	13.47	3.17	20.94	0.71	3.93	7.64	96.70	0.78	3.69	7.06
4544.0	13.10	3.45	20.51	0.69	3.96	7.47	96.96	0.73	3.76	7.47
4544.5	12.91	3.52	20.14	0.75	4.06	7.16	97.21	0.72	3.83	7.69
4545.0	12.73	3.49	19.87	0.84	4.24	6.73	97.42	0.80	3.92	7.68
4545.5	12.71	3.39	19.87	0.91	4.47	6.05	97.52	0.96	4.05	7.42
4546.0	13.41	3.28	20.07	0.87	4.72	4.21	97.62	1.04	4.23	7.01
4546.5	13.68	3.16	20.61	0.81	5.02	3.22	97.64	0.96	4.47	6.34
4547.0	13.98	3.11	21.20	0.79	5.47	2.80	97.63	0.86	4.74	5.25
4547.5	14.27	3.10	21.52	0.80	6.05	2.94	97.59	0.78	5.18	4.27
4548.0	14.67	3.24	21.82	0.85	6.86	3.15	97.54	0.85	5.63	3.43
4548.5	14.98	3.52	22.21	0.93	8.21	3.67	97.48	0.98	6.18	2.82
4549.0	14.91	4.07	22.11	0.94	9.27	4.19	97.29	0.96	6.73	2.61
4549.5	14.84	7.01	21.90	0.91	10.50	4.68	97.12	0.95	8.73	2.70
4550.0	14.75	8.50	21.80	0.92	12.99	5.14	97.17	0.89	11.05	3.16
4550.5	14.69	9.89	21.75	0.90	16.89	5.70	97.78	0.89	14.09	3.73
4551.0	14.76	11.63	21.73	0.85	21.16	5.81	98.10	0.91	17.12	4.26
4551.5	14.95	13.61	21.76	0.80	24.71	5.74	98.07	0.92	20.15	4.74
4552.0	15.15	14.75	21.84	0.76	29.46	5.68	98.00	0.90	23.18	5.18
4552.5	15.35	16.18	21.91	0.72	39.13	5.62	97.86	0.79	24.89	5.45
4553.0	15.66	19.41	22.05	0.66	43.69	5.56	97.76	0.70	28.40	5.56
4553.5	16.21	20.38	22.34	0.61	46.94	5.48	97.75	0.66	39.03	5.59
4554.0	16.83	18.73	22.92	0.55	43.69	5.41	97.87	0.64	45.53	5.55
4554.5	16.87	16.24	23.37	0.38	41.40	5.33	97.92	0.58	47.00	5.43
4555.0	16.84	10.24	23.41	0.36	15.12	5.23	97.91	0.50	46.81	5.28
4555.5	16.82	3.62	23.36	0.26	6.58	5.14	97.92	0.44	36.37	5.18
4556.0	16.89	2.82	23.31	0.18	5.75	5.04	98.19	0.39	11.86	5.07
4556.5	16.97	2.99	24.13	0.16	5.14	5.10	98.26	0.35	6.75	4.99
4557.0	17.10	3.57	24.27	0.18	4.74	5.19	98.25	0.24	5.84	4.90
4557.5	17.14	4.03	24.31	0.23	4.44	5.30	98.13	0.15	5.19	4.87
4558.0	17.04	4.50	24.31	0.32	4.19	5.40	97.88	0.13	4.57	4.87
4558.5	16.62	4.98	24.31	0.38	3.93	5.48	97.60	0.30	4.20	4.91
4559.0	16.18	5.41	23.58	0.46	3.74	5.58	97.81	0.35	3.99	5.00
4559.5	15.82	5.69	23.10	0.66	3.68	5.76	98.42	0.35	3.82	5.12
4560.0	15.76	5.64	23.03	0.69	3.63	6.04	98.42	0.46	3.65	5.28

4560.5	15.74	5.14	23.03	0.67	3.57	6.31	98.29	0.64	3.56	5.53
4561.0	15.69	4.87	23.05	0.65	3.55	6.43	98.10	0.71	3.60	5.84
4561.5	15.68	4.65	23.09	0.62	3.54	6.34	97.97	0.73	3.71	6.08
4562.0	15.84	4.58	23.15	0.70	3.53	6.04	97.85	0.72	3.75	6.26
4562.5	16.16	4.64	23.33	0.80	3.51	5.15	97.74	0.67	3.69	6.21
4563.0	16.43	4.67	23.54	0.88	3.50	4.20	97.68	0.64	3.59	6.13
4563.5	16.34	4.57	23.66	0.93	3.56	3.44	97.64	0.78	3.50	5.68
4564.0	16.03	4.22	23.26	0.93	3.63	2.86	97.61	0.84	3.51	5.00
4564.5	15.74	3.88	22.75	0.90	3.69	2.31	97.58	0.74	3.63	4.29
4565.0	15.06	3.60	22.47	0.86	3.75	2.12	97.53	0.76	3.79	3.44
4565.5	14.65	3.34	22.09	0.80	3.91	2.19	97.49	0.84	4.03	2.38
4566.0	14.55	3.10	21.63	0.75	4.12	2.48	97.44	0.86	4.26	2.13
4566.5	14.69	2.90	21.72	0.78	4.36	3.33	97.38	0.86	4.44	2.15
4567.0	15.18	2.73	22.15	0.81	4.61	4.26	97.28	0.88	4.59	2.42
4567.5	15.60	2.62	22.98	0.85	5.15	5.22	97.15	0.93	4.55	2.73
4568.0	14.70	2.53	22.86	0.85	5.86	6.20	96.71	0.97	4.76	3.63
4568.5	14.34	4.04	22.29	0.82	7.01	6.94	95.57	0.90	5.79	4.54
4569.0	14.28	7.19	21.47	0.78	8.59	7.21	90.52	0.88	7.02	5.63
4569.5	14.22	11.18	21.40	0.74	11.49	7.12	88.51	0.85	8.59	6.49
4570.0	14.21	12.54	21.33	0.78	32.43	7.03	90.14	0.77	10.22	6.85
4570.5	14.24	13.55	21.33	0.89	52.30	6.85	88.26	0.74	18.94	6.85
4571.0	14.29	13.30	21.35	0.96	66.95	6.67	88.35	0.76	35.17	6.75
4571.5	14.76	11.69	21.60	0.99	80.90	6.46	86.12	0.79	51.41	6.54
4572.0	15.15	5.69	22.66	0.96	73.82	6.19	83.10	0.82	67.63	6.27
4572.5	15.30	2.46	22.71	0.92	15.04	5.93	82.25	0.84	80.59	6.02
4573.0	15.45	1.60	22.77	0.89	9.94	5.67	82.71	0.78	43.10	5.78
4573.5	15.64	1.14	23.08	0.86	7.49	5.51	81.03	0.74	15.63	5.49
4574.0	15.86	1.28	23.55	0.77	5.94	5.39	84.17	0.81	11.25	5.33
4574.5	15.86	1.69	23.47	0.69	4.98	5.29	82.50	0.87	6.86	5.25
4575.0	15.64	2.69	23.37	0.79	4.39	5.21	80.99	0.88	5.79	5.18
4575.5	15.48	5.28	23.18	0.81	4.23	5.16	80.83	0.89	4.94	5.12
4576.0	15.24	6.54	22.81	0.79	4.11	5.13	80.29	0.88	4.20	5.12
4576.5	15.14	6.92	22.60	0.77	4.00	5.11	78.56	0.85	3.91	5.12
4577.0	15.09	7.10	22.47	0.75	3.95	5.09	71.10	0.80	3.84	5.12
4577.5	14.86	7.07	22.53	0.73	3.91	5.07	67.23	0.87	3.80	5.11
4578.0	14.45	6.98	22.42	0.74	3.87	5.04	65.04	0.86	3.74	5.08
4578.5	14.24	6.73	22.11	0.72	3.84	5.01	63.54	0.80	3.69	5.05
4579.0	14.30	6.30	21.62	0.69	3.80	4.99	62.12	0.83	3.67	5.01
4579.5	14.76	5.62	21.78	0.54	3.74	4.97	61.48	0.91	3.67	4.95
4580.0	15.05	5.21	22.14	0.47	3.67	4.99	60.89	0.82	3.69	4.92
4580.5	15.17	4.86	22.60	0.45	3.69	5.01	60.46	0.72	3.70	4.91
4581.0	15.29	4.55	22.71	0.44	3.71	5.04	65.48	0.66	3.69	4.90
4581.5	15.37	4.34	22.82	0.46	3.73	5.07	69.50	0.52	3.70	4.88
4582.0	15.45	4.15	22.91	0.51	3.74	5.11	68.48	0.47	3.77	4.89
4582.5	15.58	3.98	22.96	0.50	3.75	5.18	69.26	0.45	3.75	4.96
4583.0	15.65	3.88	23.02	0.48	3.78	5.34	67.73	0.45	3.72	5.00
4583.5	15.68	3.89	23.10	0.50	3.81	5.50	65.01	0.45	3.70	5.03
4584.0	15.72	3.92	23.19	0.65	3.76	5.64	73.58	0.44	3.68	5.08
4584.5	15.95	3.93	23.30	0.82	3.72	5.74	73.23	0.42	3.66	5.15
4585.0	16.11	3.90	23.41	0.85	3.67	5.78	71.72	0.40	3.64	5.23
4585.5	16.00	3.82	23.42	0.83	3.62	6.00	70.89	0.50	3.62	5.30
4586.0	15.71	3.74	23.35	0.80	3.59	6.21	82.25	0.60	3.60	5.37
4586.5	15.30	3.67	22.94	0.77	3.57	6.26	84.63	0.82	3.56	5.46
4587.0	15.00	3.64	22.19	0.78	3.54	5.90	88.74	0.85	3.53	5.56
4587.5	14.92	3.62	21.84	0.86	3.55	5.17	92.79	0.82	3.53	5.84
4588.0	14.89	3.60	21.83	0.93	3.59	4.10	93.11	0.83	3.54	6.12

4588.5	14.86	3.58	21.92	0.91	3.63	3.40	93.12	0.85	3.54	6.04
4589.0	14.85	3.56	22.05	0.85	3.72	3.01	93.99	0.87	3.53	5.85
4589.5	14.85	3.53	22.18	0.79	3.83	2.87	93.87	0.88	3.50	5.36
4590.0	14.85	3.47	22.30	0.77	3.95	2.78	95.71	0.77	3.46	3.00
4590.5	14.83	3.38	22.32	0.88	4.07	2.70	96.81	0.78	3.42	2.72
4591.0	14.78	3.30	22.38	0.90	4.19	2.74	96.91	0.88	3.49	2.64
4591.5	14.83	3.28	22.44	0.90	4.33	2.79	95.32	0.86	3.61	2.61
4592.0	15.01	3.36	22.48	0.89	4.61	3.14	73.83	0.83	3.75	2.57
4592.5	16.07	3.27	23.34	0.92	4.86	3.87	57.05	0.79	3.88	2.59
4593.0	16.38	3.12	23.94	0.96	5.19	4.89	57.19	0.83	4.02	2.71
4593.5	16.54	2.88	24.18	0.91	5.62	5.46	57.32	0.87	4.17	3.18
4594.0	16.19	3.12	23.93	0.86	5.80	5.62	57.45	0.87	4.44	3.91
4594.5	15.83	4.25	23.60	0.85	6.51	5.74	57.72	0.81	4.91	4.73
4595.0	15.94	12.57	23.58	0.85	6.79	5.58	57.84	0.75	5.54	5.53
4595.5	16.64	15.02	23.79	0.85	6.63	5.44	57.94	0.78	6.58	5.85
4596.0	16.84	14.11	24.51	0.85	6.43	5.31	58.03	0.82	6.60	5.76
4596.5	16.51	12.13	24.44	0.92	6.69	5.11	58.04	0.86	6.26	5.63
4597.0	15.91	4.57	23.50	0.98	7.05	4.86	58.03	0.89	6.19	5.39
4597.5	15.15	2.84	22.87	1.03	7.28	4.71	57.95	0.92	6.57	5.24
4598.0	14.92	2.74	22.50	0.99	6.73	4.56	57.76	0.89	7.05	5.12
4598.5	14.66	2.46	22.36	0.95	5.79	4.46	57.30	0.86	7.24	5.05
4599.0	14.06	2.12	22.29	0.90	5.04	4.41	56.67	0.83	5.21	4.98
4599.5	13.77	1.96	22.21	0.85	4.59	4.37	55.93	0.86	4.52	4.91
4600.0	13.59	2.07	22.01	0.89	4.40	4.33	55.42	1.06	4.18	4.81
4600.5	13.47	2.29	21.35	0.95	4.32	4.30	54.97	1.06	4.07	4.71
4601.0	13.36	2.81	21.14	0.87	4.25	4.27	54.66	0.98	3.98	4.59
4601.5	13.28	5.68	20.93	0.82	4.23	4.24	54.36	0.94	3.94	4.46
4602.0	13.20	6.28	20.85	0.91	4.21	4.21	54.19	0.90	3.90	4.33
4602.5	13.15	6.32	20.88	0.92	4.18	4.20	53.99	0.87	3.90	4.26
4603.0	13.11	5.97	20.99	0.86	4.16	4.21	53.72	0.93	3.92	4.21
4603.5	13.08	5.78	21.08	0.79	4.17	4.22	53.47	1.00	3.97	4.16
4604.0	13.09	5.65	21.12	0.80	4.18	4.22	53.36	1.00	4.03	4.11
4604.5	13.10	5.59	21.09	0.92	4.20	4.22	53.30	0.83	4.08	4.07
4605.0	13.12	5.50	21.05	0.96	4.17	4.23	53.26	0.77	4.12	4.02
4605.5	13.13	5.33	21.03	0.98	4.12	4.26	53.23	0.82	4.15	4.00
4606.0	13.15	4.79	21.04	0.88	3.97	4.30	53.21	0.84	4.13	4.10
4606.5	13.18	4.32	21.10	0.80	3.86	4.35	53.22	0.79	4.10	4.17
4607.0	13.19	4.20	21.17	0.74	3.79	4.38	53.25	0.75	3.97	4.21
4607.5	13.20	4.10	21.27	0.71	3.73	4.42	53.93	0.83	3.82	4.24
4608.0	13.21	3.99	21.39	0.69	3.66	4.46	54.52	0.81	3.67	4.30
4608.5	13.28	3.91	21.49	0.68	3.61	4.50	54.88	0.77	3.56	4.35
4609.0	13.40	3.83	21.59	0.66	3.56	4.57	54.82	0.73	3.54	4.40
4609.5	13.54	3.75	21.68	0.74	3.51	4.61	54.75	0.79	3.53	4.45
4610.0	13.68	3.74	21.74	0.85	3.47	4.61	54.67	0.90	3.53	4.48
4610.5	13.83	3.77	21.78	0.97	3.48	4.62	54.63	0.81	3.53	4.52
4611.0	13.99	3.80	21.89	0.99	3.49	4.62	54.63	0.77	3.52	4.56
4611.5	14.20	3.86	22.02	0.94	3.49	4.61	54.61	0.80	3.51	4.59
4612.0	14.36	3.91	22.17	0.88	3.48	4.59	54.58	0.97	3.50	4.59
4612.5	14.43	3.92	22.17	0.83	3.46	4.58	54.57	0.81	3.48	4.59
4613.0	14.41	3.88	22.08	0.76	3.44	4.49	54.58	0.77	3.52	4.57
4613.5	14.37	3.80	21.97	0.77	3.46	4.40	54.59	0.91	3.55	4.50
4614.0	14.32	3.73	21.94	0.80	3.50	4.31	54.60	0.98	3.59	4.44
4614.5	14.18	3.69	21.97	0.77	3.53	4.24	54.62	0.93	3.53	4.39
4615.0	14.05	3.64	22.05	0.80	3.55	4.19	54.66	0.88	3.48	4.35
4615.5	13.90	3.49	21.98	0.99	3.56	4.21	54.71	0.78	3.43	4.24
4616.0	13.75	3.45	21.82	0.94	3.58	4.23	54.74	0.81	3.39	4.13

4616.5	13.60	3.58	21.49	0.90	3.60	4.26	54.71	0.86	3.36	4.03
4617.0	13.56	3.78	21.44	0.89	3.63	4.28	54.69	0.92	3.37	3.92
4617.5	13.60	3.98	21.65	0.87	3.66	4.32	54.65	0.93	3.39	3.97
4618.0	15.07	4.06	22.04	0.84	3.71	4.44	54.60	0.78	3.42	4.05
4618.5	15.77	4.06	22.96	0.69	3.82	4.56	54.77	0.73	3.46	4.13
4619.0	16.19	4.05	24.79	0.60	3.96	4.65	55.49	0.74	3.54	4.22
4619.5	16.46	4.04	24.90	0.50	4.05	4.74	56.67	0.73	3.63	4.31
4620.0	16.72	4.47	25.04	0.42	3.98	4.81	57.48	0.64	3.71	4.41
4620.5	16.99	4.80	25.15	0.37	3.70	4.89	57.72	0.53	3.68	4.58
4621.0	16.79	4.44	24.84	0.32	3.58	4.93	57.86	0.44	3.47	4.70
4621.5	16.39	4.10	23.61	0.34	3.86	4.98	57.83	0.38	3.69	4.81
4622.0	16.03	4.40	23.57	0.39	3.97	5.02	57.77	0.33	3.87	4.90
4622.5	16.03	4.53	23.63	0.41	3.97	5.08	57.67	0.28	3.85	4.95
4623.0	16.05	4.26	23.70	0.47	3.96	5.19	57.50	0.27	3.80	4.99
4623.5	16.10	3.94	23.81	0.58	3.95	5.30	57.19	0.42	3.89	5.05
4624.0	16.13	3.69	23.94	0.70	3.94	5.45	57.17	0.46	4.02	5.18
4624.5	16.17	3.60	24.10	0.69	3.92	5.67	57.24	0.59	3.95	5.40
4625.0	16.23	3.53	24.34	0.68	3.89	6.06	57.31	0.68	3.87	5.60
4625.5	16.41	3.56	24.62	0.70	3.85	6.59	57.40	0.74	3.80	5.76
4626.0	16.57	3.60	24.94	0.78	3.83	6.71	57.47	0.79	3.73	6.07
4626.5	16.70	3.71	25.17	0.80	3.82	6.63	57.48	0.77	3.69	6.21
4627.0	16.66	3.84	25.16	0.77	3.82	6.34	57.48	0.69	3.66	6.33
4627.5	16.51	3.94	25.11	0.78	3.84	5.16	57.44	0.61	3.66	5.77
4628.0	16.09	3.93	24.80	0.83	3.85	3.65	57.41	0.64	3.66	4.82
4628.5	15.65	3.82	24.12	0.81	3.84	2.88	57.13	0.69	3.68	3.87
4629.0	15.65	3.67	23.54	0.77	3.84	2.65	56.62	0.76	3.70	3.10
4629.5	15.55	3.50	23.47	0.72	3.84	2.53	55.78	0.81	3.72	2.68
4630.0	15.91	3.32	23.76	0.73	3.95	2.41	55.89	0.79	3.77	2.46
4630.5	16.26	3.08	24.23	0.77	4.05	2.30	56.31	0.77	3.83	2.40
4631.0	16.83	2.88	24.52	0.78	4.17	2.30	56.71	0.82	3.90	2.36
4631.5	17.20	2.74	24.80	0.76	4.30	2.86	57.12	0.87	4.06	2.35
4632.0	17.29	2.67	25.01	0.74	4.61	3.64	57.42	0.86	4.34	2.91
4632.5	17.39	2.86	25.16	0.71	4.99	4.76	57.62	0.82	4.62	3.61
4633.0	17.37	3.13	25.08	0.76	5.59	5.91	57.69	0.78	4.94	4.41
4633.5	17.32	4.38	24.79	0.88	6.35	6.17	57.74	0.74	5.26	5.84
4634.0	17.27	8.82	24.46	0.93	7.08	6.30	57.79	0.69	6.19	6.39
4634.5	17.20	11.96	24.19	0.87	8.07	6.13	57.72	0.70	6.68	6.35
4635.0	17.16	17.00	24.28	0.83	11.40	5.90	57.59	0.74	8.21	6.24
4635.5	17.19	15.76	24.51	0.81	18.71	5.66	57.68	0.81	12.10	6.08
4636.0	17.42	13.65	24.83	0.80	25.36	5.46	57.83	0.79	18.90	5.84
4636.5	17.62	3.67	25.20	0.79	13.99	5.26	57.98	0.74	26.44	5.61
4637.0	17.78	2.11	25.40	0.69	8.33	5.23	58.09	0.67	15.32	5.41
4637.5	17.86	1.70	25.45	0.50	6.11	5.22	58.15	0.58	7.87	5.29
4638.0	17.87	1.71	25.34	0.31	5.43	5.22	58.17	0.51	6.35	5.24
4638.5	17.82	1.75	25.10	0.24	4.89	5.22	58.13	0.47	5.51	5.21
4639.0	17.69	1.82	24.86	0.18	4.44	5.26	57.95	0.37	4.95	5.22
4639.5	17.50	1.93	24.69	0.15	4.15	5.35	57.73	0.21	4.59	5.24
4640.0	17.30	2.57	24.49	0.15	3.98	5.54	57.50	0.17	4.36	5.26
4640.5	17.24	3.81	24.40	0.17	3.87	5.67	57.32	0.15	4.14	5.29
4641.0	17.25	5.22	24.30	0.21	3.79	5.83	57.16	0.14	3.98	5.35
4641.5	17.21	6.07	24.03	0.23	3.72	6.08	56.94	0.12	3.86	5.42
4642.0	17.04	5.97	23.80	0.22	3.68	6.25	56.83	0.14	3.81	5.48
4642.5	16.82	5.65	23.71	0.21	3.68	6.49	56.78	0.15	3.78	5.64
4643.0	16.61	5.30	23.64	0.21	3.69	6.63	56.74	0.15	3.72	5.85
4643.5	16.40	4.91	23.62	0.22	3.70	6.65	56.71	0.14	3.71	6.02
4644.0	16.26	4.44	23.61	0.23	3.72	6.51	56.69	0.13	3.69	6.23

4644.5	16.21	4.02	23.62	0.35	3.73	6.37	56.66	0.11	3.68	6.46
4645.0	16.26	3.68	23.63	0.53	3.73	6.21	56.64	0.09	3.69	6.64
4645.5	16.31	3.27	23.63	0.70	3.73	6.02	56.61	0.15	3.70	6.49
4646.0	16.36	3.11	23.62	0.68	3.73	5.83	56.62	0.35	3.72	6.28
4646.5	16.13	3.40	23.59	0.59	3.77	5.68	56.66	0.44	3.73	6.00
4647.0	15.89	3.44	23.51	0.60	3.81	5.59	56.70	0.57	3.74	5.75
4647.5	15.86	3.36	23.43	0.69	3.86	5.52	56.73	0.54	3.75	5.59
4648.0	15.94	3.19	23.35	0.66	3.92	5.46	56.73	0.53	3.79	5.44
4648.5	16.13	2.82	23.34	0.61	3.99	5.89	56.73	0.62	3.86	5.26
4649.0	16.30	2.45	23.45	0.61	4.24	6.97	56.73	0.72	3.93	5.34
4649.5	16.46	2.45	23.74	0.78	4.35	9.09	56.74	0.73	4.03	6.02
4650.0	17.07	2.55	24.44	0.83	4.64	8.85	56.83	0.71	4.22	6.96
4650.5	17.23	2.66	24.47	0.78	4.98	7.46	57.16	0.75	4.49	8.22
4651.0	17.10	3.33	24.07	0.77	5.63	5.68	57.32	0.80	4.84	9.14
4651.5	16.97	5.59	24.05	0.83	6.73	5.09	57.27	0.84	5.18	7.84
4652.0	16.88	8.12	24.11	0.91	7.53	4.61	56.95	0.88	5.75	5.44
4652.5	16.81	8.12	24.16	0.97	8.77	4.80	56.70	0.96	6.38	4.93
4653.0	16.77	7.21	24.15	0.86	12.72	5.05	56.60	0.75	7.05	4.66
4653.5	16.76	6.77	24.09	0.66	22.85	5.33	56.50	0.99	8.14	4.87
4654.0	16.70	7.08	23.75	0.82	24.28	5.63	56.49	0.92	18.34	5.07
4654.5	16.67	7.56	23.44	0.82	27.35	5.92	56.49	0.83	23.53	5.34
4655.0	16.76	7.75	23.57	0.79	27.68	6.13	56.48	0.76	26.35	5.68
4655.5	16.86	7.96	23.64	0.69	27.93	6.22	56.47	0.76	27.22	6.06
4656.0	16.94	8.31	23.64	0.70	28.98	6.16	56.46	0.82	27.53	6.20
4656.5	16.99	8.82	23.63	0.76	29.49	6.05	56.44	0.91	28.74	6.29
4657.0	16.97	10.01	23.58	0.72	29.45	5.94	56.43	0.78	29.61	6.33
4657.5	16.95	11.95	23.38	0.66	29.45	5.74	56.43	0.66	29.69	6.27
4658.0	16.38	16.82	23.00	0.71	29.18	5.50	56.38	0.68	29.42	6.08
4658.5	15.32	24.39	22.27	0.79	26.61	5.28	56.31	0.72	28.56	5.89
4659.0	15.21	28.18	21.74	1.02	23.89	5.15	56.25	0.81	23.34	5.70
4659.5	15.11	26.72	21.88	0.90	16.86	5.06	56.20	0.84	19.79	5.49
4660.0	14.61	14.16	21.75	0.84	9.77	4.99	55.64	0.74	12.98	5.26
4660.5	13.83	10.37	21.11	0.87	6.62	4.92	55.20	0.85	6.72	5.12
4661.0	13.72	4.92	20.88	0.89	6.00	4.88	54.73	0.82	6.32	5.06
4661.5	13.67	5.11	20.80	0.80	5.53	4.84	54.35	0.79	5.99	5.05
4662.0	13.80	5.71	20.77	0.91	4.68	4.80	54.03	0.79	4.86	5.00
4662.5	14.18	6.10	21.10	1.04	3.98	4.74	53.86	0.85	4.20	4.96
4663.0	14.59	6.20	21.99	0.95	3.80	4.66	53.83	0.96	3.89	4.91
4663.5	14.97	6.13	22.06	0.89	3.77	4.61	54.54	1.02	3.66	4.88
4664.0	14.95	6.02	22.10	0.93	3.73	4.59	54.99	0.86	3.48	4.86
4664.5	14.88	5.97	21.79	0.99	3.69	4.58	55.34	0.84	3.39	4.83
4665.0	14.78	6.12	21.62	0.92	3.67	4.55	55.22	0.81	3.34	4.81
4665.5	15.05	6.28	21.64	0.83	3.66	4.50	55.07	0.85	3.38	4.76
4666.0	15.86	6.01	22.07	0.77	3.62	4.49	54.97	0.89	3.41	4.70
4666.5	16.95	5.38	23.27	0.48	3.58	4.51	55.00	0.93	3.41	4.63
4667.0	17.19	4.40	24.06	0.87	3.56	4.57	55.24	0.97	3.39	4.56
4667.5	16.96	3.94	23.82	0.78	3.57	4.65	55.89	0.93	3.38	4.51
4668.0	15.57	3.88	22.33	0.48	3.58	4.61	56.56	0.89	3.39	4.46
4668.5	13.65	3.97	20.54	0.95	3.63	4.56	56.59	0.83	3.40	4.42
4669.0	13.15	4.21	19.98	1.11	3.68	4.55	56.46	0.89	3.40	4.40
4669.5	12.95	4.53	19.82	1.14	3.72	4.50	54.54	1.07	3.42	4.38
4670.0	13.08	4.73	19.91	1.03	3.76	4.45	53.41	1.07	3.44	4.34
4670.5	13.23	4.70	20.07	0.91	3.79	4.36	53.34	0.97	3.48	4.30
4671.0	13.49	4.32	20.55	0.90	3.83	4.25	53.48	0.94	3.51	4.26
4671.5	15.05	3.95	21.79	0.95	3.86	4.15	53.63	1.04	3.53	4.22
4672.0	15.69	3.55	22.57	1.00	3.88	4.08	53.87	0.89	3.54	4.18

4672.5	15.79	3.39	22.68	0.96	3.85	4.04	54.17	0.92	3.56	4.14
4673.0	15.69	3.43	22.68	0.95	3.81	3.99	55.49	1.01	3.57	4.10
4673.5	15.81	3.49	22.75	1.04	3.73	3.95	56.14	1.10	3.53	4.07
4674.0	16.26	3.56	23.12	1.05	3.64	3.97	56.32	1.10	3.48	4.03
4674.5	16.53	3.63	23.61	0.94	3.54	3.99	56.45	1.03	3.42	4.00
4675.0	16.61	3.67	23.82	1.07	3.44	3.99	56.48	0.93	3.34	4.02
4675.5	16.69	3.71	23.71	1.03	3.35	3.99	56.43	0.84	3.26	4.05
4676.0	16.69	3.75	23.50	0.95	3.31	3.99	56.33	0.81	3.25	4.09
4676.5	16.69	3.78	23.33	0.84	3.31	3.98	56.27	1.06	3.24	4.08
4677.0	16.68	3.82	23.23	0.83	3.30	3.99	56.23	1.04	3.23	4.06
4677.5	16.63	3.83	23.18	0.90	3.30	4.03	56.29	0.96	3.19	4.05
4678.0	16.57	3.77	23.17	1.00	3.30	4.06	56.36	0.91	3.14	4.03
4678.5	16.53	3.70	23.15	0.74	3.30	4.10	56.42	0.95	3.09	4.01
4679.0	16.51	3.62	23.13	0.75	3.30	4.13	56.49	1.00	3.04	4.01
4679.5	16.50	3.53	23.13	0.80	3.31	4.16	56.52	0.92	2.98	4.04
4680.0	16.49	3.44	23.13	0.85	3.31	4.19	56.52	0.92	2.98	4.05
4680.5	16.50	3.38	23.11	0.91	3.32	4.22	56.52	0.89	2.99	4.06
4681.0	16.51	3.33	23.07	0.91	3.33	4.24	56.53	0.83	3.00	4.07
4681.5	16.53	3.28	23.05	0.87	3.37	4.27	56.53	0.71	3.01	4.09
4682.0	16.55	3.25	23.04	0.80	3.41	4.29	56.48	0.95	3.02	4.12
4682.5	16.58	3.23	23.04	0.72	3.46	4.31	56.43	1.00	3.03	4.16
4683.0	16.60	3.21	23.05	0.68	3.49	4.34	56.38	0.83	3.04	4.25
4683.5	16.62	3.20	23.01	0.65	3.49	4.40	56.30	0.78	3.06	4.34
4684.0	16.63	3.21	22.93	0.69	3.49	4.46	56.23	0.69	3.07	4.42
4684.5	16.64	3.21	22.86	0.70	3.50	4.52	56.15	0.71	3.08	4.49
4685.0	16.63	3.22	22.81	0.68	3.50	4.59	56.09	0.76	3.10	4.56
4685.5	16.62	3.24	22.77	0.66	3.50	4.67	56.03	0.80	3.12	4.62
4686.0	16.60	3.26	22.74	0.61	3.50	4.74	55.96	0.77	3.13	4.69
4686.5	16.58	3.27	22.71	0.52	3.50	4.82	55.91	0.71	3.13	4.76
4687.0	16.52	3.24	22.65	0.41	3.49	4.92	55.85	0.62	3.13	4.83
4687.5	16.44	3.22	22.55	0.34	3.48	5.01	55.79	0.54	3.13	4.91
4688.0	16.24	3.20	22.37	0.36	3.48	5.14	55.62	0.45	3.15	4.99
4688.5	16.08	3.18	22.17	0.43	3.48	5.26	55.45	0.44	3.19	5.03
4689.0	16.05	3.20	21.84	0.36	3.52	5.37	55.38	0.44	3.23	5.06
4689.5	16.03	3.24	21.74	0.29	3.55	5.48	55.45	0.41	3.27	5.08
4690.0	16.02	3.26	21.69	0.29	3.57	5.58	55.59	0.23	3.33	5.15
4690.5	16.01	3.27	21.65	0.36	3.59	5.69	55.69	0.22	3.38	5.23
4691.0	16.01	3.27	21.65	0.37	3.63	5.84	55.75	0.24	3.44	5.32
4691.5	15.97	3.26	21.64	0.30	3.67	5.99	55.94	0.26	3.50	5.43
4692.0	15.94	3.26	21.63	0.22	3.73	6.19	56.52	0.33	3.56	5.57
4692.5	15.91	3.29	21.64	0.16	3.80	6.41	57.33	0.30	3.63	5.73
4693.0	15.89	3.38	21.67	0.15	3.86	6.68	58.24	0.23	3.70	5.89
4693.5	15.87	3.48	21.74	0.16	3.93	6.84	59.33	0.19	3.78	6.07
4694.0	15.85	3.61	21.84	0.18	4.01	6.97	59.84	0.16	3.83	6.26
4694.5	15.89	3.69	22.01	0.29	4.08	7.06	60.21	0.14	3.88	6.49
4695.0	16.43	3.65	22.57	0.35	4.17	7.44	60.67	0.13	4.01	6.70
4695.5	17.46	3.42	23.85	0.38	4.27	7.90	61.57	0.17	4.13	6.87
4696.0	17.94	3.07	24.27	0.41	4.36	8.37	62.44	0.25	4.25	6.91
4696.5	18.25	3.03	24.40	0.44	4.55	8.09	63.01	0.34	4.40	6.91
4697.0	18.34	3.15	24.36	0.48	4.75	7.46	63.96	0.47	4.56	7.32
4697.5	18.24	3.47	23.03	0.71	4.88	6.44	65.51	0.63	4.65	7.94
4698.0	15.84	3.82	21.90	0.80	5.05	5.36	67.01	0.71	4.77	8.30
4698.5	15.39	4.18	21.09	0.68	5.50	4.89	68.27	0.77	4.91	7.93
4699.0	15.18	4.39	20.85	0.55	6.12	4.98	69.13	0.81	5.16	7.57
4699.5	15.50	4.48	21.13	0.61	6.80	5.01	68.80	0.81	5.58	7.14
4700.0	16.73	4.58	22.76	0.75	7.44	3.75	68.60	0.77	6.33	5.77

4700.5	17.39	4.37	23.38	0.71	8.48	2.22	68.50	0.74	6.64	5.01
4701.0	17.84	3.79	23.26	0.65	9.86	1.87	68.53	0.70	6.89	4.99
4701.5	18.11	3.25	23.00	0.80	11.43	2.21	69.85	0.78	7.63	5.03
4702.0	18.03	3.99	22.68	0.95	10.39	2.64	71.32	0.95	10.03	2.17
4702.5	17.49	6.01	22.52	0.86	8.95	3.27	73.32	0.93	11.12	1.80
4703.0	16.89	7.21	22.26	0.98	10.58	4.33	74.19	0.78	10.28	1.97
4703.5	16.88	6.28	22.11	1.00	12.80	5.15	74.64	0.56	8.71	2.31
4704.0	17.05	5.24	23.53	0.96	14.88	5.25	75.30	0.75	9.22	3.08
4704.5	19.05	4.19	24.97	0.83	14.30	5.37	76.47	0.91	11.40	4.97
4705.0	20.44	12.32	25.45	0.73	15.63	5.50	77.62	0.78	14.38	5.15
4705.5	20.63	15.90	25.50	0.66	30.20	5.68	78.47	0.73	14.24	5.23
4706.0	20.45	18.57	25.29	0.63	46.58	5.76	80.57	0.66	14.11	5.29
4706.5	19.45	15.21	24.44	0.68	62.79	5.78	83.90	0.54	15.20	5.39
4707.0	18.72	13.31	23.04	0.78	67.78	5.51	85.09	0.90	32.13	5.67
4707.5	18.31	11.49	22.93	0.84	58.22	5.12	85.35	0.92	68.34	5.97
4708.0	18.22	12.20	23.00	0.87	48.79	4.97	85.49	0.83	62.97	5.86
4708.5	18.21	13.36	23.19	0.86	39.36	4.84	85.67	0.83	52.21	5.67
4709.0	18.29	18.92	23.26	0.82	11.55	4.71	85.94	0.87	51.35	5.47
4709.5	18.31	9.72	23.23	0.73	6.10	4.60	86.28	0.94	8.77	5.27
4710.0	18.32	4.24	23.00	0.68	5.37	4.51	89.73	0.92	7.40	5.06
4710.5	17.87	1.52	22.65	0.84	4.81	4.46	90.43	0.81	6.92	4.83
4711.0	17.36	1.77	22.25	0.81	4.40	4.41	91.00	0.72	5.44	4.59
4711.5	16.93	2.81	21.88	0.76	4.10	4.35	91.35	0.64	4.80	4.39
4712.0	16.48	5.01	21.44	0.75	3.82	4.28	92.21	0.78	4.29	4.29
4712.5	16.68	5.31	22.11	0.85	3.70	4.23	91.87	0.84	3.80	4.25
4713.0	17.36	5.40	22.69	0.82	3.64	4.18	91.85	0.88	3.65	4.22
4713.5	17.39	5.44	22.75	0.79	3.61	4.13	94.11	0.91	3.51	4.19
4714.0	17.38	5.54	22.80	0.76	3.60	4.15	94.63	0.96	3.36	4.15
4714.5	17.60	5.64	23.07	0.73	3.58	4.18	94.96	1.07	3.27	4.12
4715.0	18.09	5.87	23.52	0.83	3.57	4.21	95.19	0.99	3.27	4.08
4715.5	18.23	5.62	23.73	0.91	3.55	4.24	95.36	0.83	3.27	4.06
4716.0	18.18	4.87	23.58	0.88	3.52	4.29	95.46	0.85	3.25	4.04
4716.5	17.25	4.33	23.05	0.85	3.49	4.34	95.39	0.89	3.18	4.05
4717.0	16.20	4.06	22.19	0.83	3.46	4.36	95.33	0.93	3.10	4.06
4717.5	15.18	4.02	20.85	0.81	3.43	4.35	95.24	0.94	3.04	4.08
4718.0	15.04	4.00	20.45	0.83	3.40	4.33	95.15	0.93	3.05	4.09
4718.5	15.21	3.98	20.58	0.89	3.40	4.31	95.07	0.85	3.06	4.11
4719.0	15.53	3.95	20.91	1.01	3.41	4.31	94.99	0.81	3.13	4.12
4719.5	15.94	3.89	21.14	1.13	3.43	4.31	94.91	0.79	3.21	4.12
4720.0	16.22	3.78	21.43	1.14	3.46	4.32	94.96	0.90	3.30	4.11
4720.5	16.39	3.65	21.81	1.08	3.53	4.29	95.24	0.88	3.38	4.10
4721.0	16.44	3.52	21.97	1.03	3.54	4.27	95.59	0.81	3.46	4.09
4721.5	16.57	3.35	22.01	0.97	3.44	4.25	95.74	0.74	3.47	4.08
4722.0	16.85	3.18	22.12	0.86	3.34	4.21	95.49	0.79	3.46	4.09
4722.5	17.19	3.06	22.41	0.76	3.38	4.17	95.06	0.83	3.43	4.10
4723.0	16.83	2.99	22.56	0.75	3.41	4.13	94.50	0.75	3.40	4.10
4723.5	16.34	3.02	21.80	0.81	3.59	4.08	93.86	0.67	3.40	4.07
4724.0	16.20	3.18	21.20	0.88	3.74	4.02	93.37	0.64	3.39	4.08
4724.5	16.37	3.35	21.16	0.83	3.71	4.00	92.74	0.64	3.39	4.10
4725.0	16.62	3.44	21.53	0.72	3.69	3.99	91.34	0.65	3.37	4.10
4725.5	16.78	3.49	21.83	0.64	3.65	4.00	92.30	0.68	3.35	4.07
4726.0	16.95	3.51	22.06	0.62	3.62	4.02	92.60	0.75	3.33	4.07
4726.5	17.47	3.49	22.27	0.62	3.58	4.04	92.29	0.75	3.35	4.10
4727.0	17.67	3.47	22.55	0.61	3.58	4.11	91.80	0.67	3.37	4.10
4727.5	17.05	3.47	22.47	0.60	3.59	4.20	91.17	0.64	3.40	4.10
4728.0	16.08	3.47	22.17	0.58	3.61	4.29	90.45	0.71	3.42	4.10

4728.5	15.68	3.53	20.65	0.55	3.57	4.43	90.43	0.67	3.43	4.10
4729.0	15.57	3.60	20.13	0.51	3.54	4.47	93.23	0.62	3.43	4.11
4729.5	15.46	3.74	20.08	0.49	3.61	4.50	93.82	0.58	3.44	4.07
4730.0	15.36	3.86	20.05	0.59	3.67	4.51	93.65	0.52	3.46	4.06
4730.5	15.22	3.91	20.03	0.74	3.71	4.52	93.36	0.49	3.49	4.09
4731.0	15.02	3.90	20.01	0.71	3.80	4.56	93.08	0.49	3.56	4.13
4731.5	14.74	3.86	19.92	0.69	3.91	4.62	92.55	0.50	3.67	4.26
4732.0	15.15	3.78	20.48	0.86	3.98	4.77	91.71	0.54	3.82	4.38
4732.5	16.75	3.70	21.48	0.80	3.93	4.94	90.49	0.60	3.96	4.53
4733.0	17.97	3.62	22.53	0.73	3.85	4.81	89.23	0.58	3.89	4.66
4733.5	18.19	3.56	23.02	0.85	3.68	4.61	87.88	0.55	3.73	4.77
4734.0	18.12	3.50	22.79	0.95	3.56	4.33	85.98	0.58	3.58	4.83
4734.5	17.71	3.45	22.36	0.95	3.45	4.12	81.54	0.85	3.47	4.79
4735.0	17.30	3.41	21.74	0.90	3.50	3.99	80.75	0.91	3.40	4.65
4735.5	16.98	3.37	21.31	0.80	3.56	4.00	80.70	0.90	3.38	4.46
4736.0	16.85	3.34	21.27	0.78	3.63	4.02	60.80	0.84	3.39	4.27
4736.5	16.69	3.32	20.98	0.88	3.73	4.07	58.10	0.78	3.62	4.08
4737.0	16.44	3.29	20.69	0.92	3.83	4.13	56.20	0.85	3.85	3.94
4737.5	16.23	3.23	20.66	0.90	3.93	4.20	54.93	0.94	3.89	3.97
4738.0	16.23	3.17	20.79	0.92	4.05	4.30	54.37	0.91	3.93	4.03
4738.5	16.41	3.08	20.92	0.97	4.19	4.39	54.23	0.87	3.97	4.08
4739.0	16.66	3.03	20.62	1.00	4.34	4.51	54.12	0.90	4.01	4.23
4739.5	16.78	3.06	20.21	0.99	4.53	4.64	54.05	0.96	4.22	4.49
4740.0	16.61	3.45	19.80	0.95	4.71	4.81	54.05	1.02	4.43	4.67
4740.5	16.25	4.98	19.55	0.91	4.95	4.87	54.05	0.95	4.60	4.83
4741.0	15.93	5.96	19.45	0.85	5.26	4.84	54.04	1.06	4.79	4.97
4741.5	15.69	6.66	19.47	0.76	5.60	4.77	53.85	0.93	5.04	4.96
4742.0	15.48	7.07	19.42	0.66	5.97	4.70	53.67	0.85	5.42	4.91
4742.5	15.37	6.75	18.96	0.75	6.15	4.59	53.46	0.78	5.81	4.86
4743.0	15.18	6.16	18.07	1.01	6.22	4.48	53.23	1.02	6.09	4.83
4743.5	14.50	5.24	17.75	1.21	5.98	4.37	52.91	0.85	6.21	4.81
4744.0	14.03	4.72	17.69	1.07	5.69	4.23	52.32	0.85	6.32	4.77
4744.5	13.84	4.69	18.50	0.91	5.24	4.09	52.26	0.92	6.40	4.72
4745.0	14.08	4.64	19.39	0.73	4.87	3.98	52.05	1.06	6.22	4.65
4745.5	15.27	4.54	20.44	0.91	4.57	3.90	50.94	1.10	5.85	4.58
4746.0	16.62	4.05	21.47	0.96	4.32	3.84	50.92	1.03	5.38	4.52
4746.5	17.48	3.78	22.11	0.98	4.09	3.89	51.33	0.91	4.81	4.47
4747.0	17.56	3.66	21.84	0.94	3.87	4.00	52.16	0.75	4.21	4.41
4747.5	16.66	3.84	21.15	0.90	3.72	4.05	53.53	1.01	3.96	4.34
4748.0	15.74	4.18	19.77	0.84	3.57	4.09	54.68	1.08	3.73	4.28
4748.5	14.76	4.57	18.27	0.79	3.56	4.12	55.19	1.02	3.53	4.24
4749.0	13.49	4.64	17.77	0.72	3.57	4.14	55.11	0.96	3.39	4.21
4749.5	13.09	4.66	17.53	0.73	3.59	4.17	54.73	0.84	3.32	4.20
4750.0	12.81	4.74	17.41	0.75	3.61	4.21	53.93	0.79	3.32	4.22
4750.5	12.74	4.84	17.39	0.76	3.62	4.25	52.54	0.75	3.32	4.25
4751.0	12.95	4.74	17.44	0.75	3.63	4.30	51.47	0.73	3.33	4.29
4751.5	13.33	4.56	17.61	0.71	3.64	4.37	50.39	0.74	3.35	4.34
4752.0	13.58	4.33	18.07	0.69	3.62	4.45	50.13	0.75	3.36	4.39
4752.5	13.87	4.08	18.86	0.67	3.59	4.52	50.13	0.72	3.37	4.46
4753.0	14.29	3.69	19.30	0.65	3.57	4.57	50.42	0.70	3.37	4.56
4753.5	14.67	3.44	19.66	0.65	3.56	4.61	50.84	0.77	3.39	4.59
4754.0	15.02	3.27	19.97	0.65	3.55	4.66	51.29	0.77	3.42	4.62
4754.5	15.28	3.17	20.39	0.65	3.53	4.69	51.83	0.74	3.45	4.64
4755.0	16.10	3.13	20.95	0.63	3.48	4.76	52.40	0.71	3.49	4.67
4755.5	16.36	3.17	20.97	0.61	3.42	4.86	53.01	0.69	3.54	4.71
4756.0	16.41	3.19	20.87	0.60	3.34	4.95	53.40	0.66	3.57	4.77

4756.5	16.39	3.14	20.82	0.59	3.27	5.06	53.64	0.63	3.55	4.85
4757.0	16.37	3.09	20.81	0.58	3.27	5.19	53.75	0.60	3.53	4.93
4757.5	16.35	3.07	20.85	0.57	3.28	5.28	53.75	0.59	3.52	5.01
4758.0	16.32	3.07	20.86	0.56	3.33	5.32	53.77	0.57	3.51	5.07
4758.5	16.30	3.13	20.83	0.55	3.46	5.36	53.79	0.57	3.56	5.13
4759.0	16.13	3.12	20.58	0.54	3.53	5.40	53.71	0.57	3.65	5.19
4759.5	15.07	3.11	19.92	0.53	3.49	5.44	53.37	0.59	3.69	5.29
4760.0	14.20	3.47	18.67	0.52	3.36	5.54	53.41	0.63	3.72	5.37
4760.5	13.51	3.56	17.39	0.50	3.17	5.73	53.31	0.61	3.66	5.44
4761.0	12.46	3.13	16.73	0.46	3.16	5.93	52.87	0.59	3.44	5.51
4761.5	11.90	2.64	16.20	0.39	3.73	6.11	51.33	0.54	3.19	5.61
4762.0	11.41	2.59	15.82	0.30	4.25	6.38	50.37	0.45	3.27	5.71
4762.5	11.21	2.72	15.70	0.24	4.52	6.68	49.49	0.40	4.03	5.86
4763.0	11.11	2.89	15.63	0.22	4.68	7.10	48.72	0.38	4.31	6.04
4763.5	11.24	3.08	15.65	0.21	4.92	7.54	48.33	0.26	4.49	6.29
4764.0	11.71	3.29	15.83	0.20	5.17	8.00	48.08	0.22	4.68	6.57
4764.5	12.09	3.72	16.45	0.19	5.44	8.46	47.97	0.20	4.93	6.92
4765.0	12.11	4.43	16.52	0.18	5.78	8.92	47.97	0.18	5.19	7.37
4765.5	11.91	4.83	16.50	0.17	6.05	9.39	48.05	0.17	5.33	8.16
4766.0	11.67	4.90	16.42	0.17	6.23	10.06	48.15	0.15	5.48	8.76
4766.5	11.41	4.92	15.82	0.17	6.53	10.50	48.43	0.14	5.95	9.27
4767.0	11.11	4.69	15.37	0.16	7.14	10.85	48.63	0.14	6.58	9.58
4767.5	10.86	4.42	15.19	0.16	7.95	11.06	48.71	0.14	7.04	9.93
4768.0	10.83	4.41	15.10	0.16	8.74	11.26	48.35	0.14	7.47	10.42
4768.5	11.05	4.59	15.19	0.16	8.95	11.16	47.88	0.14	8.21	11.07
4769.0	11.27	4.90	15.30	0.16	8.90	11.07	47.32	0.14	8.66	11.14
4769.5	12.08	4.89	15.58	0.17	8.84	10.96	47.36	0.14	8.75	11.08
4770.0	12.98	4.79	16.88	0.19	8.73	10.72	47.68	0.15	8.72	11.01
4770.5	13.33	4.65	17.27	0.25	8.62	10.41	48.04	0.15	8.61	10.87
4771.0	13.52	4.66	17.59	0.32	8.52	10.14	48.41	0.15	8.51	10.69
4771.5	13.49	5.61	17.95	0.40	8.40	9.98	48.97	0.16	8.53	10.45
4772.0	13.18	6.17	17.73	0.47	7.90	9.82	49.71	0.19	8.48	10.16
4772.5	12.86	6.76	17.37	0.46	7.48	9.68	51.72	0.36	7.90	9.87
4773.0	12.91	6.80	17.15	0.44	7.19	9.80	55.87	0.38	7.04	9.60
4773.5	13.16	6.64	16.99	0.44	6.99	11.18	62.07	0.38	6.84	9.72
4774.0	13.87	6.31	17.19	0.62	6.89	12.55	66.90	0.38	6.79	10.56
4774.5	14.30	6.06	17.44	0.78	7.44	13.55	68.66	0.56	7.22	11.45
4775.0	14.62	6.69	17.79	0.77	8.77	13.83	74.05	0.58	7.83	12.34
4775.5	14.39	7.75	18.92	0.73	9.28	13.90	74.05	0.62	8.43	13.15
4776.0	14.01	10.24	18.89	0.64	9.54	13.68	73.57	0.62	9.39	13.76
4776.5	13.25	12.47	18.13	0.59	9.84	13.33	73.06	0.57	10.27	13.88
4777.0	12.86	14.15	17.68	0.73	12.87	11.85	75.46	0.55	11.82	13.91
4777.5	12.67	14.06	17.26	0.63	15.16	10.35	78.89	0.67	14.79	13.41
4778.0	12.59	13.89	17.08	0.54	17.97	9.63	79.63	0.74	17.19	12.55
4778.5	12.52	13.76	17.01	0.52	22.92	9.42	79.44	0.69	18.66	11.74
4779.0	12.45	13.46	16.94	0.66	25.90	9.21	79.03	0.63	22.05	10.99
4779.5	12.31	13.23	16.86	0.62	26.99	8.99	78.63	0.48	24.75	9.65
4780.0	12.08	13.13	16.74	0.54	27.85	8.80	81.12	0.48	25.85	9.24
4780.5	11.85	13.44	16.63	0.39	28.95	8.74	82.55	0.41	27.31	9.05
4781.0	11.62	14.31	16.50	0.43	29.44	8.74	78.51	0.46	28.12	8.89
4781.5	11.38	18.14	16.32	0.46	29.78	8.74	79.15	0.50	28.44	8.73
4782.0	11.14	19.27	16.12	0.41	30.45	8.69	80.82	0.41	28.90	8.64
4782.5	11.02	20.13	15.86	0.35	31.09	8.62	81.76	0.36	29.78	8.64
4783.0	10.94	21.34	15.52	0.32	31.57	8.51	82.80	0.34	31.00	8.61
4783.5	10.87	27.32	15.35	0.50	31.24	8.38	82.81	0.32	31.40	8.57
4784.0	10.76	30.87	15.27	0.54	30.56	8.26	82.31	0.25	31.34	8.52

4784.5	10.61	33.36	15.20	0.57	29.73	8.16	84.72	0.17	30.88	8.49
4785.0	10.25	32.94	14.97	0.64	28.44	8.15	85.11	0.41	29.57	8.45
4785.5	9.53	20.41	14.58	0.00	26.00	8.14	84.96	0.00	28.24	8.33
4786.0	7.47	16.07	13.82	0.00	14.70	8.04	83.19	0.00	20.51	8.03
4786.5	6.54	16.01	13.03	0.00	13.53	7.89	80.56	0.00	14.00	7.77
4787.0	4.83	15.73	11.77	0.00	12.25	7.75	67.13	0.00	13.76	7.65
4787.5	6.52	14.50	10.31	0.00	9.59	7.53	60.45	0.00	13.28	7.58
4788.0	7.37	11.72	9.67	0.00	7.55	7.13	46.61	0.00	9.77	7.52
4788.5	7.85	11.26	11.65	0.00	6.59	6.16	44.62	0.00	8.09	7.44
4789.0	8.98	11.35	12.18	0.00	6.14	5.40	43.73	0.00	6.96	7.27
4789.5	10.07	11.16	13.02	0.00	5.81	4.76	41.63	0.00	6.46	6.95
4790.0	10.75	10.57	14.09	0.00	5.54	4.52	43.38	0.00	5.85	6.40
4790.5	11.44	9.77	16.23	0.00	5.30	0.00	0.00	0.00	5.50	4.67
4791.0	12.21	9.18	17.63	0.00	5.18	0.00	0.00	0.00	5.22	3.06
4791.5	12.98	8.26	18.30	0.00	5.10	0.00	0.00	0.00	5.02	0.53
4792.0	13.39	6.67	18.55	0.00	5.08	0.00	0.00	0.00	4.84	0.00
4792.5	13.43	6.08	18.50	0.00	5.06	0.00	0.00	0.00	4.70	0.00
4793.0	13.45	5.90	18.32	0.00	5.09	0.00	0.00	0.00	4.65	0.00
4793.5	13.46	5.73	18.16	0.00	5.32	0.00	0.00	0.00	4.82	0.00
4794.0	13.47	5.95	18.11	0.00	6.18	0.00	0.00	0.00	5.18	0.00
4794.5	13.47	7.33	18.07	0.00	7.06	0.00	0.00	0.00	6.07	0.00
4795.0	13.48	9.04	18.05	0.00	7.61	0.00	0.00	0.00	6.93	0.00
4795.5	13.49	10.68	18.04	0.00	8.08	0.00	0.00	0.00	7.44	0.00
4796.0	13.50	11.86	18.05	0.00	8.70	0.00	0.00	0.00	8.03	0.00
4796.5	13.51	11.91	18.06	0.00	9.54	0.00	0.00	0.00	8.64	0.00
4797.0	13.52	11.35	18.07	0.00	8.70	0.00	0.00	0.00	9.18	0.00
4797.5	13.52	10.19	18.08	0.00	7.14	0.00	0.00	0.00	8.89	0.00
4798.0	13.53	7.51	18.09	0.00	5.84	0.00	0.00	0.00	6.95	0.00
4798.5	13.52	3.95	18.10	0.00	4.92	0.00	0.00	0.00	6.00	0.00
4799.0	13.49	4.06	18.11	0.00	4.82	0.00	0.00	0.00	5.60	0.00
4799.5	13.51	4.23	18.11	0.00	4.76	0.00	0.00	0.00	5.05	0.00
4800.0	13.52	4.34	18.12	0.00	4.72	0.00	0.00	0.00	0.13	0.00

PRUETT INDUSTRIES INC
 8915 ROSEDALE HWY, BAKERSFIELD, CA. 93308
 (805) 589-2768

SUB-SURFACE TEMPERATURE SURVEY

CO. THERMAL POWER		RUN 1A FIELD OREGON		WELL #1-CTGH
EFF DEPTH		WELL STAT	STATIC	TOOL HUNG
CASING	-	CASING PRESS		ON BOTTOM 7:15PM
LINER	-	TUBING PRESS		OFF BOTTOM 7:20PM
DATE	082786	ELEMENT RANGE	90 - 426	ZERO POINT
ELEVATION		ZONE		SHUT-IN
MAX TEMP		PICK-UP	4804'	ON-PROD
PERF	-	CAL SER NO.	10419	MPP
TUBING	-			
UNITS	ENGLISH	PURPOSE	STATIC TEMPERATURE TRAVERSE	

SURVEY DATA

CO. THERMAL POWER		RUN 1A FIELD OREGON		WELL #1-CTGH			
TIME	DEPTH	P/T	GRAD	TIME	DEPTH	P/T	GRAD
1:00	100	90.1	0.000	1:00	2900	109.9	0.000
1:00	500	90.1	0.000	1:00	2920	110.7	0.000
1:00	1000	90.1	0.000	1:00	2940	111.6	0.000
1:00	1500	90.1	0.000	1:00	2960	112.6	0.000
1:00	2000	90.1	0.000	1:00	2980	113.8	0.000
1:00	2400	90.1	0.000	1:00	3000	115.2	0.000
1:00	2420	90.1	0.000	1:00	3020	116.5	0.000
1:00	2440	91.2	0.000	1:00	3040	117.7	0.000
1:00	2460	92.3	0.000	1:00	3060	118.4	0.000
1:00	2480	92.9	0.000	1:00	3080	119.0	0.000
1:00	2500	93.5	0.000	1:00	3100	119.8	0.000
1:00	2520	94.0	0.000	1:00	3120	120.7	0.000
1:00	2540	94.6	0.000	1:00	3140	121.7	0.000
1:00	2560	95.2	0.000	1:00	3160	122.8	0.000
1:00	2580	95.6	0.000	1:00	3180	123.9	0.000
1:00	2600	96.3	0.000	1:00	3200	124.7	0.000
1:00	2620	97.1	0.000	1:00	3220	125.8	0.000
1:00	2640	97.9	0.000	1:00	3240	126.7	0.000
1:00	2660	98.6	0.000	1:00	3260	127.7	0.000
1:00	2680	99.4	0.000	1:00	3280	128.2	0.000
1:00	2700	99.8	0.000	1:00	3300	129.3	0.000
1:00	2720	100.6	0.000	1:00	3320	130.3	0.000
1:00	2740	101.2	0.000	1:00	3340	131.4	0.000
1:00	2760	102.2	0.000	1:00	3360	132.3	0.000
1:00	2780	103.1	0.000	1:00	3380	133.0	0.000
1:00	2800	104.7	0.000	1:00	3400	134.1	0.000
1:00	2820	105.9	0.000	1:00	3420	135.2	0.000
1:00	2840	107.1	0.000	1:00	3440	136.1	0.000
1:00	2860	108.1	0.000	1:00	3460	137.4	0.000
1:00	2880	109.1	0.000	1:00	3480	138.8	0.000

SURVEY DATA

THERMAL POWER				RUN 1A FIELD OREGON		WELL #1-CT6H		
TIME	DEPTH	P/T	GRAD	TIME	DEPTH	P/T	GRAD	
1:00	3500	140.4	0.000	1:00	4180	176.9	0.000	
1:00	3520	141.5	0.000	1:00	4200	177.8	0.000	
1:00	3540	142.9	0.000	1:00	4220	178.6	0.000	
1:00	3560	144.4	0.000	1:00	4240	179.8	0.000	
1:00	3580	145.3	0.000	1:00	4260	180.6	0.000	
1:00	3600	146.5	0.000	1:00	4280	181.3	0.000	
1:00	3620	147.6	0.000	1:00	4300	182.3	0.000	
1:00	3640	148.4	0.000	1:00	4320	183.2	0.000	
1:00	3660	149.5	0.000	1:00	4340	183.9	0.000	
1:00	3680	150.7	0.000	1:00	4360	184.7	0.000	
1:00	3700	152.0	0.000	1:00	4380	185.7	0.000	
1:00	3720	153.0	0.000	1:00	4400	186.7	0.000	
1:00	3740	154.1	0.000	1:00	4420	187.7	0.000	
1:00	3760	155.1	0.000	1:00	4440	188.6	0.000	
1:00	3780	155.8	0.000	1:00	4460	189.6	0.000	
1:00	3800	157.0	0.000	1:00	4480	190.4	0.000	
1:00	3820	158.1	0.000	1:00	4500	191.3	0.000	
1:00	3840	159.1	0.000	1:00	4520	192.3	0.000	
1:00	3860	160.3	0.000	1:00	4540	193.3	0.000	
1:00	3880	161.0	0.000	1:00	4560	194.3	0.000	
1:00	3900	162.2	0.000	1:00	4580	195.1	0.000	
1:00	3920	163.2	0.000	1:00	4600	196.1	0.000	
1:00	3940	164.3	0.000	1:00	4620	197.3	0.000	
1:00	3960	165.1	0.000	1:00	4640	198.2	0.000	
1:00	3980	166.2	0.000	1:00	4660	199.4	0.000	
1:00	4000	168.4	0.000	1:00	4680	200.4	0.000	
1:00	4020	169.4	0.000	1:00	4700	201.7	0.000	
1:00	4040	170.3	0.000	1:00	4720	202.9	0.000	
1:00	4060	171.3	0.000	1:00	4740	203.7	0.000	
1:00	4080	172.2	0.000	1:00	4760	204.6	0.000	
1:00	4100	173.2	0.000	1:00	4780	205.6	0.000	
1:00	4120	174.0	0.000	1:00	4804	208.2	0.000	
1:00	4140	174.9	0.000	1:00	4804	208.2	0.000	
1:00	4160	175.9	0.000	0:00	0	0.0	0.000	

TEMPERATURE READINGS TO 2420 FT. WERE BELOW THE MINIMUM RANGE OF THE TOOL
 BY P.E. AND E.D. PRUEIT

CLAUDE GEOTHERMAL TEST WELL #1 (CTGH-1)
DEVIATION SURVEY
SEPTEMBER 5, 1986
COLOG, INC.
GOLDEN, CO

JLS

R. BATES R. CROWDER

NOTE: Entire log run inside steel casing. Angle values are valid. Deviation values should NOT be relied upon due to magnetic influence of casing.

DEPTH	ANGLE	DIRECTION
75	1.5	192
100	1.5	197
125	0.8	109
150	0.7	206
175	0.6	292
200	0.9	279
225	0.6	309
250	0.6	128
275	0.1	217
300	0.4	270
325	0.3	318
350	0.6	257
375	0.5	304
400	0.4	262
425	0.6	329
450	1.4	200
475	2.1	12
500	2.3	4
525	2.4	327
550	2.5	359
575	2.5	1
600	2.6	360
625	2.4	2
650	2.3	161
675	2.3	359
700	2.2	4
725	2.2	306
750	2.3	1
775	2.5	6
800	2.4	333
825	2.0	30
850	2.4	265
875	2.1	16
900	2.3	142
925	2.5	121
950	2.8	171
975	3.1	330
1000	2.9	87
1025	3.0	245
1050	3.1	88
1075	2.9	26
1100	2.9	239

1125	2.9	78
1150	2.9	11
1175	3.1	72
1200	3.1	155
1225	2.8	41
1250	2.6	230
1275	2.8	296
1300	2.7	270
1325	2.6	175
1350	2.7	71
1375	2.9	225
1400	2.7	307
1425	2.3	5
1450	1.6	332
1475	1.3	142
1500	1.0	146
1525	0.7	153
1550	0.3	147
1575	0.3	92
1600	0.4	108
1625	0.4	70
1650	0.5	222
1675	0.4	146
1700	0.4	32
1725	0.4	297
1750	0.3	126
1775	0.2	50
1800	0.2	195
1825	0.4	144
1850	0.4	180
1875	0.4	159
1900	0.5	15
1925	0.4	48
1950	0.5	47
1975	0.3	310
2000	0.2	346
2025	0.4	48
2050	0.5	127
2075	0.3	75
2100	0.2	144
2125	0.2	169
2150	0.4	203
2175	0.5	183
2200	0.6	228
2225	0.8	176
2250	0.6	151
2275	0.8	133
2300	0.6	140
2325	0.5	329
2350	1.1	172
2375	0.7	286
2400	0.6	356
2425	0.6	152
2450	0.8	359
2475	0.7	177
2500	0.6	226

2525	0.8	142
2550	1.0	177
2575	0.7	319
2600	0.6	120
2625	0.8	208
2650	1.0	222
2675	0.6	146
2700	0.6	113
2725	0.7	194
2750	0.8	92
2775	0.6	47
2800	0.7	209
2825	0.9	3
2850	0.9	174
2875	0.8	36
2900	0.8	24
2925	0.9	296
2950	0.9	48
2975	1.1	271
3000	1.1	59
3025	1.2	318
3050	1.1	334
3075	1.2	325
3100	1.2	341
3125	1.3	107
3150	1.0	206
3175	0.9	263
3200	0.6	68
3225	0.8	329
3250	0.7	359
3275	0.8	38
3300	0.6	287
3325	0.8	274
3350	0.8	324
3375	0.7	64
3400	0.6	316
3425	0.6	272
3450	0.7	126
3475	0.7	335
3500	0.6	0
3525	0.7	168
3550	0.7	158
3575	0.4	95
3600	0.7	153
3625	0.7	244
3650	0.7	159
3675	0.7	202
3700	0.5	111
3725	0.3	147
3750	0.5	156
3775	0.5	327
3800	0.3	89
3825	0.4	99
3850	0.4	91
3875	0.4	65
3900	0.4	325

3925	0.7	161
3950	0.4	315
3975	0.3	270
4000	0.3	60
4025	0.6	163
4050	0.6	292
4075	0.4	14
4100	0.6	204
4125	0.3	136
4150	0.3	296
4175	0.7	109
4200	0.3	297
4225	0.5	99
4250	0.7	128
4275	0.4	78
4300	0.5	220
4325	0.4	110
4350	0.5	309
4375	0.4	116
4400	0.5	180
4425	0.7	188
4450	0.6	68
4475	0.8	173
4500	0.9	70
4525	0.9	80
4550	1.0	152
4575	0.8	235
4600	0.9	221
4625	1.0	149
4650	1.1	198
4675	1.0	232
4700	0.7	254
4725	1.0	222
4750	0.9	328
4775	0.9	47
4800	1.0	28

PRUETT INDUSTRIES INC
 8915 ROSEDALE HWY. BAKERSFIELD, CA. 93308
 (805) 589-2768

SUB-SURFACE PRESSURE SURVEY

CO. THERMAL POWER		RUN 01 FIELD OREGON		WELL #1-CTGH
EFF DEPTH		WELL STAT	STATIC	TOOL HUNG
CASING	-	CASING PRESS		ON BOTTOM 7:15PM
LINER	-	TUBING PRESS		OFF BOTTOM 7:20PM
DATE	082786	ELEMENT RANGE	0 - 2111	ZERO POINT
ELEVATION		ZONE		SHUT-IN
MAX TEMP		PICK-UP	4804'	ON-PROD
PERF	-	CAL SER NO.	29491	MPP
TUBING	-			
UNITS	ENGLISH	PURPOSE	STATIC PRESSURE GRADIENT	

SURVEY DATA

CO. THERMAL POWER			RUN 01 FIELD OREGON			WELL #1-CTGH		
TIME	DEPTH	P/T	GRAD	TIME	DEPTH	P/T	GRAD	
1:00	100	20.7	0.000	1:00	3000	1295.0	.439	
1:00	1000	417.7	.441	1:00	4000	1729.1	.434	
1:00	2100	899.5	.438	1:00	4804	2073.0	.428	

APPROX. FLUID LEVEL 50 FT.
 BY P.E. AND E.D. PRUETT

THERMAL POWER

STATIC TEM

OREGON

CTGH #1

8/27/86

220.0

200.0

180.0

160.0

140.0

120.0

100.0

80.0

TEMPERATURE (F)

file # 1AOP#1-C

DEPTH (F)

0.0

400.0

800.0

1200.0

1600.0

2000.0

2400.0

THERMAL POWER

STATIC

OREGON

CTGH #1

8/27/86

file # 010R#1-C

2400.0

2000.0

1600.0

1200.0

800.0

400.0

0.0

PRESSURE (PSI)

DEPTH (FT)

0.0

400.0

800.0

1200.0

1600.0

2000.0

2400.0

2800.0

