

HC-HAT CREEK 75(N)H

HAT CREEK BASIN GRAVITY SURVEY

Jan 8, 1976 by C.A.Ager, PhD

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GEOLOGICAL BRANCH
ASSESSMENT REPORT

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HAT CREEK BASIN GRAVITY SURVEY

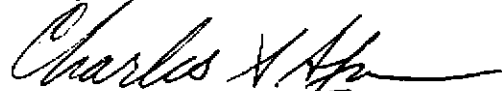
SUMMARY

The enclosed report contains the final results of the gravity survey that was completed over the Hat Creek basin area, B.C. during the period May-December, 1975. The complete Bouguer gravity plan map clearly outlines the basin structure as well as the coal deposits within it. Proper interpretation of residual anomalies will produce good approximations to the three dimensional geometry of the coal deposits as well as give upper limits on the total tonnage of the coal reserves.

The results of the Medicine Creek reconnaissance line are inconclusive but do not appear to be of much economic importance at this time.

January 8, 1976

Respectfully submitted



Charles A. Ager, Ph.D.

Geophysicist

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INTRODUCTION

The purpose of the gravity survey over the Hat Creek sedimentary basin (Figure 1) was to outline the gross geometry of the basin as well as to delineate the coal zones within it. The large density contrast (about -0.7 g/cc) between the coal and the basin rocks was expected to manifest itself as a gravity low of the order of 10 mgals over the coal zones. This preliminary information was then used to specify a gravity survey procedure that was used to cover the entire basin area.

FIELD PROCEDURES & INSTRUMENTATION

The survey grid was established by C.A.Ager & Associates Ltd. using chain and compass. Compass declination for the map area is 23.5° east. Using this value, a 1.6° west skew was noted in the survey grid as shown on Figure 2. Station interval was 200 feet along east-west grid lines spaced 2000 - 4000 feet apart. On the north-south base line, 500 foot stations were observed.

In total, 1918 gravity stations were observed using LaCoste & Romberg gravity meters with reading accuracy of ± 0.02 mgals. Most values were in the dial range 4050-4150 (#G199) and 4100-4200 (#G148) for which the instrument constants were 1.05893 and 1.05635 mgal/division respectively.

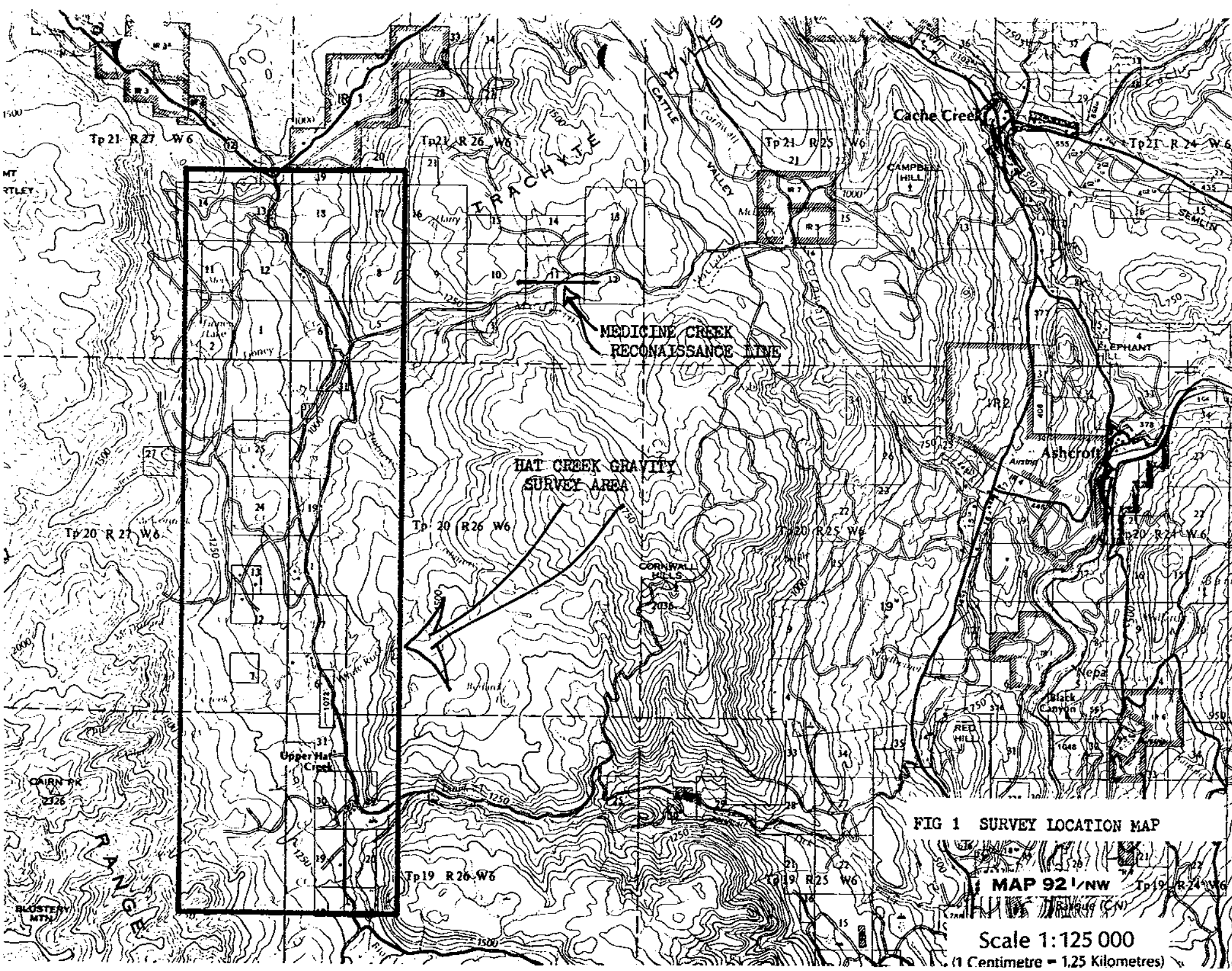


FIG 1 SURVEY LOCATION MAP

MAP 921/NW Tp 19 R 24 W 6

Scale 1:125 000

(1 Centimetre = 1.25 Kilometres)

Diurnal and instrument drift was monitored and accounted for by tying into pre-established base stations during the course of each survey day. Drift never exceeded 0.20 mgal/8 hour day and averaged 0.07 mgal/8 hour day. Observed gravity values so determined are considered accurate to about ± 0.04 mgal.

The absolute value of the vertical component of the gravity field was determined for each of the four base stations by ex-center ties to the National Network station at Cache Creek (No. 9047-54). The table below summarizes the values so determined:

<u>STATION</u>	<u>LOCATION</u>	<u>NATIONAL NETWORK OBSERVED GRAVITY VALUE</u>
9047-54	Cache Creek	980,929.20 mgal
GB 75-1	11,871E+ 14,826S	980,775.02 mgal
GB 75-2	4,600E + 10,635S	980,770.58 mgal
GB 75-3	11,450E + 10,620S	980,824.78 mgal
GB 75-4	15,100E + 33,791S	980,767.60 mgal

The relative elevation of each station was calculated from the angle and slope chainage between adjoining stations. Angles were measured to instrument height on the stadia rod using high resolution theodolites with a reading accuracy of $\pm 20''$ of arc. Most angles were in the range $80^\circ - 100^\circ$ which corresponds to a slope of 10° or less. Slope chainage

was determined using standard nylon/vinyl surveyors chain to an accuracy of ± 0.25 feet for each station. Relative station elevations accurate to ± 0.10 feet (or better) were determined in this manner (See Appendix for details of error analysis).

Elevations along the base line (L10,000E) were determined using standard level surveying techniques to an absolute accuracy of ± 0.10 feet. These elevations along with the McElhanney bench marks on the east road provided for good elevation control during the course of the survey. The absolute elevation for each station is listed in the Appendix and each was determined from closure ties to the aforesaid reference marks. Absolute elevations are considered accurate to ± 1.0 foot over the survey area.

It should also be pointed out at this time that the Dolmage Campbell reference grid coordinates have been changed since the survey field work was completed. All reference to coordinate positions in this report are made using the actual survey coordinates. The relationship of these coordinates to the new Dolmage Campbell grid are shown on Figure 2.

DATA REDUCTION

As is well known, the observed gravity field (g_0) contains much information of non-interest in exploration geophysics. Simply stated,

the problem is to separate the effects caused by the large earth itself (g_E) from the observed field (g_0). The complete Bouguer gravity map (Δg_B) is defined as follows:

$$\Delta g_B = g_0 - g_E \quad (1)$$

where

$$g_E = g_L + g_{FA} + g_{ES} + g_{TE} \quad (2)$$

Latitude effect Bouguer Slab effect
 Free Air effect Terrain Effect

The complete Bouguer gravity values for the survey area were found by applying standard procedures in solving Equation 1 above and are listed in the Appendix. Bouguer slab and terrain densities were taken as 2.20 g/cc. Terrain effects were calculated to a radius of 4800 feet about every other station using the method of Ager (1972). The terrain effects of intermediate stations were determined from the average values of adjoining stations except in regions of steep topography where total calculations were made at every station. The complete Bouguer gravity values are all relative to the National Network value at Cache Creek (9047-54) which was taken as -124.00 mgals.

It should be pointed out that the gravity anomaly values exist at the coordinates of the station. The elevation datum used for data reduction was mean sea level (MSL). This choice of 'datum' has no special significance to the "form" of the gravity profile and relates only to its absolute "amplitude".

There are two accuracies involved when considering the gravity survey data. They are the 'relative accuracy' between adjoining stations and the 'absolute accuracy' between any two stations within the survey area. The table below summarizes the errors involved in calculating the Δg_E map and states the maximum amount of error inherent in the map. As seen from the table, most error is due to uncertainties in calculating the terrain effects. This error when combined with elevation uncertainties accounts for more than 70% of the total survey error.

As listed below, the maximum relative error is ± 0.11 mgal and the maximum absolute error is ± 0.26 mgal. This implies that local anomalies of less than 0.11 mgal are not discernable and that coal and basin anomalies of less than 0.26 mgal are also lost. That is, for this case, contouring can be done at 0.30 mgal (or greater) intervals with significance.

The computer contoured C.B. Gravity Map is given in Figure 2. For clarity of presentation, contour interval is 1.0 mgal. Computer punched cards containing all pertinent gravity data for each station are also supplied.

Hat Creek Survey Errors

Source of Error	Relative Amount		Absolute Amount	
Observation		<u>+0.02</u>		<u>+0.02</u>
Drift	(10%)	0.007	(20%)	0.014
Position				
x,y	(+10')	0.002	(+200')	0.024
z	(+10')	0.007	(+1.0')	0.066
Terrain	(10%)	0.07	(20%)	0.14
		<u> </u>		<u> </u>
	Maximum Error	<u>+</u> 0.11 mgal		<u>+</u> 0.26 mgal

DISCUSSION OF THE GRAVITY MAP

The C.B. Gravity Map (figure 2) clearly delineates the Hat Creek sedimentary basin as well as the coal deposits within it. Generally speaking, the broad gravity low anomaly occupying the entire survey area defines the basin with the sharper trough anomaly outlining the coal deposits. The steep gradients on the eastern edge of the basin are caused by the more dense limestones and/or volcanics overlying and/or adjoining the less dense sedimentary units.

By careful regional-residual anomaly separation, it should be possible

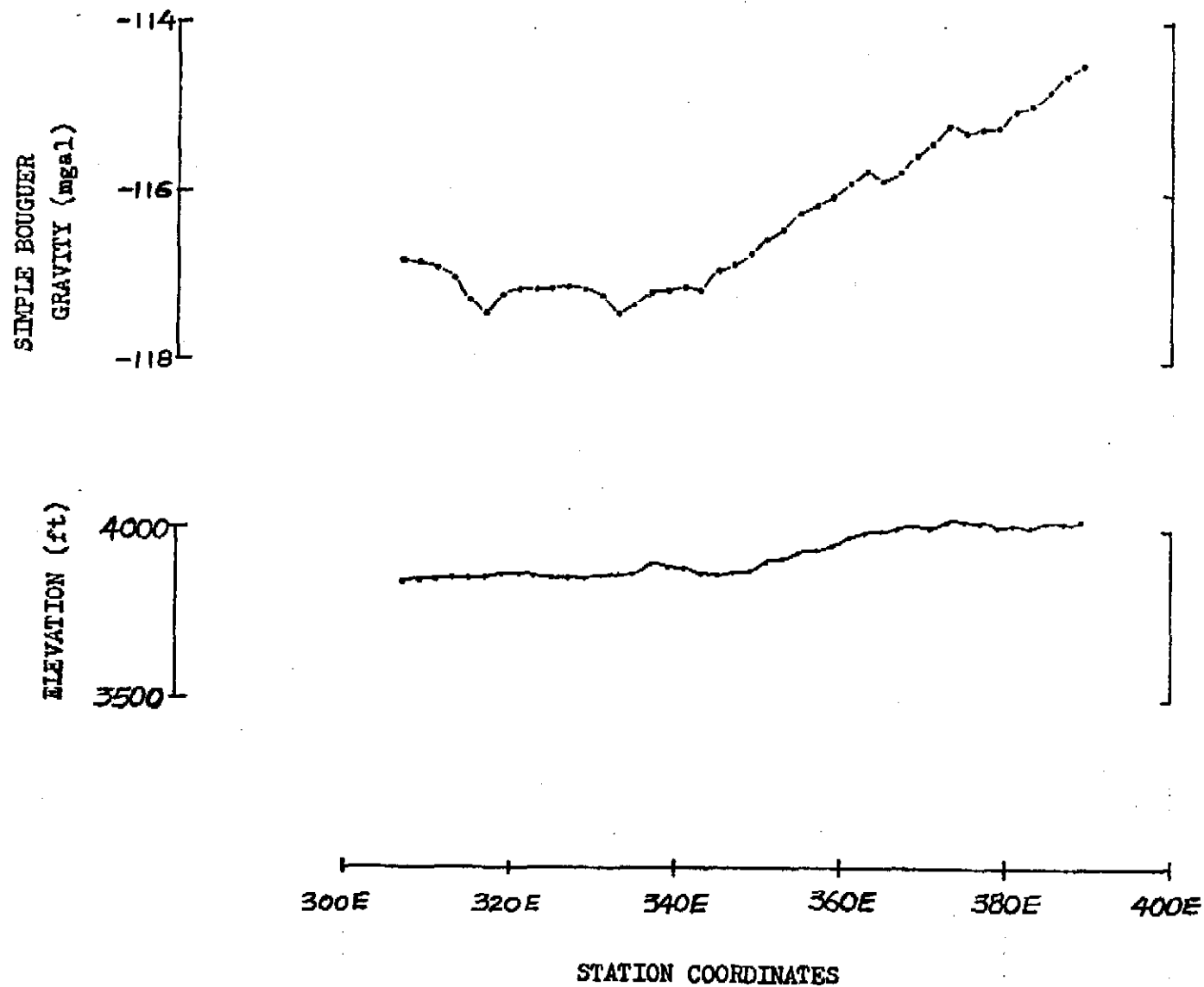
to provide quantitative three dimensional models of the basin as well as the coal deposits within it. Care should be exercised in areas where the drilling indicates the coal to underlie limestones and/or volcanic units. Here the coal anomaly may be severely masked by these heavier units. In these regions, attention should be placed on subtle changes (decreases) in the gravity gradient which could signal the presence of buried coal.

Inflection points along each gravity traverse indicate a change in the density and/or geometry of the underlying geological units. By correlating this data with the available drilling and other geological information, these inflection points can then be interpreted as contacts, faults, etc. This 'inflection' data will then prove to be a valuable aid in defining the boundaries of density units for the quantitative modelling.

The gravity profile for the Medicine Creek reconnaissance line is given in Figure 3. The gravity values are tied to the Hat Creek survey base station GB75-3. The elevations are relative to the lake level of the eastern most station (389E+90N) which was selected as 4025.0 feet. By comparing the absolute value of the Δg_B profile to that of Hat Creek we note that the amplitude of the subtle trough centered around 330E is about -117 mgal which is about 40 mgal higher than the low over the

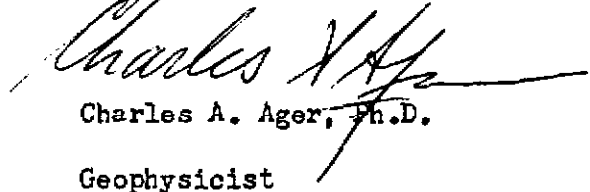
FIG 3 : MEDICINE CREEK RECONAISSANCE LINE 9000N

scale 1"=2000'



Hat Creek basin. These values are in line with the indicated regional gravity values as observed along the eastern end of line 140N. The broad gravity low feature of 3 mgal amplitude centered around 330E appears somewhat interesting. Although it is not of the same magnitude as the coal anomalies to the west, its form could well be indicating a shallower sedimentary basin feature with or without coal features superimposed. Simply stated, the economic importance of the reconnaissance gravity profile is unknown at this time.

Respectfully submitted,


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Geophysicist

January 8, 1976

REFERENCES

Ager, C.A. (1972). Gravity model for the Guichon Creek batholith,
Unpubl. M.Sc. thesis, Dept. of Geophysics, U.B.C.

APPENDIX 1 - CALCULATION OF ELEVATION ERRORS

The equation for Δh is:

$$\Delta h = x \cos\phi \quad (1)$$

The corresponding error equation is:

$$d(\Delta h) = dx \cos\phi - x \sin\phi d\phi \quad (2)$$

Solving equation 2 using the survey parameters, we have:

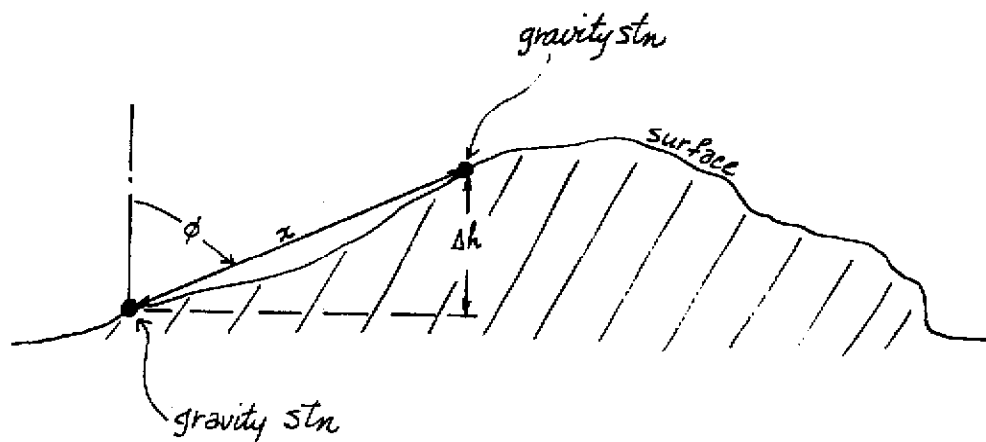
$$dx = \pm 0.25 \text{ feet}$$

$$80^\circ \leq \phi \leq 100^\circ$$

$$x = 200 \text{ feet}$$

$$d\phi = \pm 20'' \text{ of arc}$$

which implies $d(\Delta h) = \pm 0.06 \text{ feet}$



HAT CREEK GRAVITY DATA - NOVEMBER 1975

X, Y, ELEV IN FEET C.B. GRAV IN MGALS

STN NO	X COORD	Y COORD	ELEV	C.B. GRAV
GE75-1	11871.	-14326.	3472.30	-157.55
GE75-2	4600.	-10635.	3760.90	-144.74
GB75-3	11450.	10620.	2872.30	-153.86
GB75-4	15100.	-33791.	3699.70	-145.80
1	10000.	-52000.	4557.56	-137.92
2	10000.	-51500.	4511.48	-139.21
3	10000.	-51000.	4433.45	-140.99
4	10000.	-50500.	4350.00	-142.40
5	10000.	-50000.	4337.40	-143.51
6	10000.	-49500.	4335.17	-144.58
7	10000.	-49000.	4379.13	-145.73
8	10000.	-48500.	4429.08	-146.99
9	10000.	-48000.	4424.38	-148.07
10	10000.	-47500.	4393.61	-149.13
11	10000.	-47000.	4348.80	-150.25
12	10000.	-46500.	4311.33	-150.93
13	10000.	-46000.	4290.29	-151.32
14	10000.	-45500.	4259.74	-151.64
15	10000.	-45000.	4242.51	-151.79
16	10000.	-44500.	4225.88	-151.96
17	10000.	-44000.	4199.20	-152.01
18	10000.	-43500.	4177.13	-151.85
19	10000.	-43000.	4167.90	-151.64
20	10000.	-42500.	4150.63	-151.54
21	10000.	-42000.	4147.63	-151.39
22	10000.	-41500.	4132.90	-151.24
23	10000.	-41000.	4115.30	-151.45
24	10000.	-40500.	4123.67	-151.10
25	10000.	-40000.	4146.54	-151.02
26	10000.	-39500.	4162.48	-151.30
27	10000.	-39000.	4219.17	-150.80
28	10000.	-38500.	4222.40	-152.41
29	10000.	-38000.	4210.82	-152.20
30	10000.	-37500.	4140.54	-152.12
31	10000.	-37000.	4089.04	-151.98
32	10000.	-36500.	4054.82	-152.08
33	10000.	-36000.	4027.65	-151.78
34	10000.	-35500.	4001.18	-151.83
35	10000.	-35000.	3996.89	-151.69
36	10000.	-34500.	3949.70	-151.92
37	10000.	-34000.	3911.64	-152.09
38	10000.	-33500.	3870.73	-152.63
39	10000.	-33000.	3888.48	-152.52
40	10000.	-32500.	3879.61	-152.83
41	10000.	-32000.	3881.40	-152.64
42	10000.	-31500.	3880.04	-153.01
43	10000.	-31000.	3871.95	-152.32
44	10000.	-30500.	3860.35	-152.44
45	10000.	-30000.	3837.67	-153.04

46	10000.	-29500.	3307.96	-153.96
47	10000.	-29000.	3742.70	-154.47
48	10000.	-28500.	3782.96	-154.23
49	10000.	-28000.	3784.78	-154.52
50	10000.	-27500.	3822.21	-154.98
51	10000.	-27000.	3823.32	-155.18
52	10000.	-26500.	3827.02	-155.25
53	10000.	-26000.	3810.74	-155.03
54	10000.	-25500.	3762.19	-155.10
55	10000.	-25000.	3726.97	-155.41
56	10000.	-24500.	3692.89	-155.89
57	10000.	-24000.	3653.78	-156.07
58	10000.	-23500.	3653.26	-156.09
59	10000.	-23000.	3641.48	-156.31
60	10000.	-22500.	3603.61	-156.33
61	10000.	-22000.	3586.55	-156.32
62	10000.	-21500.	3533.05	-156.75
63	10000.	-21000.	3505.01	-156.80
64	10000.	-20500.	3497.61	-156.64
65	10000.	-20000.	3478.26	-157.01
66	10000.	-19500.	3448.55	-157.04
67	10000.	-19000.	3437.11	-156.95
68	10000.	-18500.	3419.26	-156.87
69	10000.	-18000.	3413.92	-156.53
70	10000.	-17500.	3406.43	-156.79
71	10000.	-17000.	3405.29	-156.76
72	10000.	-16500.	3399.37	-156.60
73	10000.	-16000.	3399.67	-156.40
74	10000.	-15500.	3414.75	-155.54
75	10000.	-15000.	3415.09	-155.51
76	10000.	-14500.	3401.37	-155.77
77	10000.	-14000.	3393.37	-155.64
78	10000.	-13500.	3401.52	-155.76
79	10000.	-13000.	3437.52	-154.47
80	10000.	-12500.	3445.65	-155.51
81	10000.	-12000.	3406.04	-155.53
82	10000.	-11500.	3494.17	-155.68
83	10000.	-11000.	3514.99	-156.01
84	10000.	-10500.	3494.48	-156.47
85	10000.	-10000.	3478.38	-157.17
86	10000.	-9500.	3458.54	-157.84
87	10000.	-9000.	3422.05	-158.73
88	10000.	-8500.	3414.53	-158.94
89	10000.	-8000.	3395.91	-159.08
90	10000.	-7500.	3365.29	-158.71
91	10000.	-7000.	3345.81	-158.14
92	10000.	-6500.	3334.13	-157.56
93	10000.	-6000.	3310.55	-157.35
94	10000.	-5500.	3295.23	-157.01
95	10000.	-5000.	3293.62	-156.60
96	10000.	-4500.	3293.84	-156.16
97	10000.	-4000.	3282.55	-155.99
98	10000.	-3500.	3275.84	-155.91
99	10000.	-3000.	3281.96	-155.77
100	10000.	-2500.	3280.09	-155.86
101	10000.	-2000.	3291.39	-155.68
102	10000.	-1500.	3284.07	-155.57
103	10000.	-1000.	3271.56	-155.54
104	10000.	-500.	3279.80	-155.36
105	10000.	-0.	3294.67	-154.77

106	10000.	500.	3299.24	-154.48
107	10000.	1000.	3287.42	-154.28
108	10000.	1500.	3281.34	-154.18
109	10000.	2000.	3281.19	-153.78
110	10000.	2500.	3271.80	-155.06
111	10000.	3000.	3270.63	-153.82
112	10000.	3500.	3279.28	-153.52
113	10000.	4000.	3263.71	-153.32
114	10000.	4500.	3276.80	-153.14
115	10000.	5000.	3267.61	-152.79
116	10000.	5500.	3262.55	-152.84
117	10000.	6000.	3273.38	-152.77
118	10000.	6500.	3278.51	-152.85
119	10000.	7000.	3291.37	-152.89
120	10000.	7500.	3267.24	-152.97
121	10000.	8000.	3204.26	-153.08
122	10000.	8500.	3203.90	-152.57
123	10000.	9000.	3182.02	-152.10
124	10000.	9500.	3147.67	-151.63
125	10000.	10000.	3102.87	-150.89
126	10000.	10500.	3085.38	-150.19
127	10000.	11000.	2877.44	-148.23
128	10000.	11500.	2866.29	-146.77
129	10000.	12000.	2919.27	-145.31
130	10000.	12500.	2921.59	-144.08
131	10000.	13000.	2865.22	-143.95
132	10000.	13500.	2821.77	-143.01
133	10000.	14000.	2817.81	-142.51
134	10000.	14500.	2894.37	-140.86
135	10000.	15000.	2862.90	-140.02
136	10000.	15500.	2831.56	-139.12
137	10000.	16000.	2828.89	-138.65
138	10000.	16500.	2837.63	-136.66
139	10000.	17000.	2736.47	-136.53
140	10000.	17500.	2729.99	-135.33
141	10000.	18000.	2721.13	-134.99
142	8000.	18000.	2993.27	-130.99
143	8200.	18000.	2986.30	-130.98
144	8400.	18000.	2963.57	-132.69
145	8600.	18000.	2916.15	-133.08
146	8800.	18000.	2896.82	-132.88
147	9000.	18000.	2897.11	-132.81
148	9200.	18000.	2871.48	-133.08
149	9400.	18000.	2857.70	-133.24
150	9600.	18000.	2783.20	-134.05
151	9800.	18000.	2723.88	-134.17
152	10000.	18000.	2721.13	-134.99
153	10200.	18000.	2735.22	-135.86
154	10400.	18000.	2739.55	-136.05
155	10600.	18000.	2787.81	-135.99
156	10800.	18000.	2794.60	-135.82
157	11000.	18000.	2815.80	-135.79
158	11200.	18000.	2830.62	-135.73
159	11400.	18000.	2840.25	-135.65
160	11600.	18000.	2850.43	-135.74
161	11800.	18000.	2868.30	-136.39
162	12000.	18000.	2834.36	-136.90
163	12200.	18000.	2904.36	-137.57
164	12400.	18000.	2923.29	-138.06
165	12600.	18000.	2924.29	-138.46

166	12800.	18000.	2954.89	-138.90
167	13000.	18000.	2969.91	-139.31
168	13200.	18000.	2955.49	-140.15
169	13400.	18000.	2889.02	-141.03
170	13600.	18000.	2956.66	-140.67
171	13800.	18000.	3013.03	-140.45
172	14000.	18000.	3040.49	-140.54
173	14200.	18000.	3072.66	-140.68
174	14400.	18000.	3078.73	-140.96
175	14600.	18000.	3097.59	-141.01
176	14800.	18000.	3115.47	-140.90
177	15000.	18000.	3111.57	-140.96
178	15200.	18000.	3108.02	-140.93
179	15400.	18000.	3118.88	-140.84
180	15600.	18000.	3148.59	-140.55
181	15800.	18000.	3140.69	-140.33
182	16000.	18000.	3151.55	-140.08
183	16200.	18000.	3153.68	-139.64
184	16400.	18000.	3162.71	-139.39
185	16600.	18000.	3190.85	-139.01
186	16800.	18000.	3215.39	-138.84
187	17000.	18000.	3239.13	-138.40
188	17200.	18000.	3270.66	-138.20
189	17400.	18000.	3309.07	-137.65
190	17600.	18000.	3392.54	-137.36
191	17800.	18000.	3502.26	-136.73
192	18000.	18000.	3560.94	-136.13
193	8000.	16000.	2829.75	-135.52
194	8200.	16000.	2828.64	-135.70
195	8400.	16000.	2798.80	-135.90
196	8600.	16000.	2831.80	-135.92
197	8800.	16000.	2828.38	-136.43
198	9000.	16000.	2775.30	-136.82
199	9200.	16000.	2738.65	-137.47
200	9400.	16000.	2739.03	-138.03
201	9600.	16000.	2763.62	-138.42
202	9800.	16000.	2820.01	-138.33
203	10000.	16000.	2828.89	-138.65
204	10200.	16000.	2841.52	-138.75
205	10400.	16000.	2852.52	-139.09
206	10600.	16000.	2865.32	-139.39
207	10800.	16000.	2907.02	-139.59
208	11000.	16000.	2927.02	-139.76
209	11200.	16000.	2943.30	-139.91
210	11400.	16000.	2945.49	-140.33
211	11600.	16000.	2953.86	-140.62
212	11800.	16000.	2965.40	-140.96
213	12000.	16000.	2975.55	-141.15
214	12200.	16000.	2933.98	-141.23
215	12400.	16000.	3000.25	-141.54
216	12600.	16000.	3029.58	-141.73
217	12800.	16000.	3050.67	-141.93
218	13000.	16000.	3073.22	-142.10
219	12200.	16000.	3090.60	-142.25
220	13400.	16000.	3104.06	-142.51
221	13600.	16000.	3104.51	-142.64
222	13800.	16000.	3095.56	-142.95
223	14000.	16000.	3091.87	-143.13
224	14200.	16000.	3090.08	-143.35
225	14400.	16000.	3095.90	-143.31

226	14600.	16000.	3107.52	-143.28
227	14800.	16000.	3120.78	-143.19
228	15000.	16000.	3143.84	-142.98
229	15200.	16000.	3154.59	-142.85
230	15400.	16000.	3158.94	-142.63
231	15600.	16000.	3155.90	-142.45
232	15800.	16000.	3148.61	-142.43
233	16000.	16000.	3143.72	-142.00
234	16200.	16000.	3165.25	-141.57
235	16400.	16000.	3173.98	-141.23
236	16600.	16000.	3178.80	-140.75
237	16800.	16000.	3189.44	-140.65
238	17000.	16000.	3205.93	-139.98
239	17200.	16000.	3228.46	-139.72
240	17400.	16000.	3258.22	-139.12
241	17600.	16000.	3291.70	-138.85
242	17800.	16000.	3331.70	-138.07
243	18000.	16000.	3366.21	-137.92
244	4800.	14000.	2933.01	-135.88
245	5000.	14000.	2921.92	-130.17
246	5200.	14000.	2925.72	-136.16
247	5400.	14000.	2909.91	-136.53
248	5600.	14000.	2901.94	-136.67
249	5800.	14000.	2900.43	-137.17
250	6000.	14000.	2900.08	-137.57
251	6200.	14000.	2929.00	-137.88
252	6400.	14000.	2932.67	-137.85
253	6600.	14000.	2936.59	-137.86
254	6800.	14000.	2924.39	-138.02
255	7000.	14000.	2924.20	-138.42
256	7200.	14000.	2966.52	-138.40
257	7400.	14000.	2966.62	-138.11
258	7600.	14000.	2960.19	-138.33
259	7800.	14000.	2933.97	-138.85
260	8000.	14000.	2901.85	-139.35
261	8200.	14000.	2885.03	-139.79
262	8400.	14000.	2875.16	-140.14
263	8600.	14000.	2866.81	-140.38
264	8800.	14000.	2869.01	-140.74
265	9000.	14000.	2795.66	-141.32
266	9200.	14000.	2797.07	-141.40
267	9400.	14000.	2783.85	-141.78
268	9600.	14000.	2784.92	-142.05
269	9800.	14000.	2787.66	-142.20
270	10000.	14000.	2817.81	-142.51
271	10200.	14000.	2822.86	-143.07
272	10400.	14000.	2912.68	-142.99
273	10600.	14000.	2944.02	-142.66
274	10800.	14000.	2947.83	-143.04
275	11000.	14000.	2951.40	-143.23
276	11200.	14000.	2960.75	-143.66
277	11400.	14000.	2979.97	-143.94
278	11600.	14000.	2907.24	-144.13
279	11800.	14000.	2975.77	-144.41
280	12000.	14000.	3027.60	-144.50
281	12200.	14000.	3054.91	-144.54
282	12400.	14000.	3070.82	-144.65
283	12600.	14000.	3081.16	-144.73
284	12800.	14000.	3119.19	-144.71
285	13000.	14000.	3134.52	-144.74

286	13200.	14000.	3145.96	-144.77
287	13400.	14000.	3158.82	-144.89
288	13600.	14000.	3162.53	-144.84
289	13800.	14000.	3164.09	-144.87
290	14000.	14000.	3162.02	-144.90
291	14200.	14000.	3169.65	-144.92
292	14400.	14000.	3172.45	-144.85
293	14600.	14000.	3171.09	-144.85
294	14800.	14000.	3175.71	-144.79
295	15000.	14000.	3182.45	-144.59
296	15200.	14000.	3189.79	-144.40
297	15400.	14000.	3197.86	-144.06
298	15600.	14000.	3205.47	-143.46
299	15800.	14000.	3213.24	-143.49
300	16000.	14000.	3221.31	-142.62
301	16200.	14000.	3231.50	-142.21
302	16400.	14000.	3239.32	-141.69
303	16600.	14000.	3245.89	-140.94
304	16800.	14000.	3249.55	-140.66
305	17000.	14000.	3258.86	-139.73
306	17200.	14000.	3280.83	-139.29
307	17400.	14000.	3303.65	-138.72
308	17600.	14000.	3335.37	-138.23
309	17800.	14000.	3390.12	-137.54
310	18000.	14000.	3464.59	-136.91
311	18200.	14000.	3501.07	-136.36
312	18400.	14000.	3530.04	-135.66
313	18600.	14000.	3551.45	-134.59
314	18800.	14000.	3579.34	-133.65
315	19000.	14000.	3606.13	-132.78
316	19200.	14000.	3655.49	-131.92
317	19400.	14000.	3713.00	-130.81
318	19600.	14000.	3723.23	-130.17
319	19800.	14000.	3750.58	-129.52
320	20000.	14000.	3805.07	-128.86
321	20200.	14000.	3882.04	-127.98
322	20400.	14000.	3971.40	-127.28
323	20600.	14000.	4013.13	-126.72
324	20800.	14000.	4006.07	-126.08
325	21000.	14000.	3967.71	-125.60
326	21200.	14000.	3980.96	-124.92
327	21400.	14000.	4002.33	-124.39
328	21600.	14000.	4036.76	-123.78
329	21800.	14000.	4085.06	-123.08
330	22000.	14000.	4141.68	-122.51
331	22200.	14000.	4163.10	-122.01
332	22400.	14000.	4212.70	-121.70
333	22600.	14000.	4229.76	-121.39
334	22800.	14000.	4244.08	-121.13
335	23000.	14000.	4262.15	-121.01
336	23200.	14000.	4283.69	-120.65
337	23400.	14000.	4300.07	-120.23
338	23600.	14000.	4312.87	-119.76
339	23800.	14000.	4321.06	-119.46
340	24000.	14000.	4326.84	-119.11
341	24200.	14000.	4332.98	-118.78
342	24400.	14000.	4329.34	-118.39
343	24600.	14000.	4334.38	-118.26
344	24800.	14000.	4338.11	-118.19
345	25000.	14000.	4341.09	-118.03

346	25200.	14000.	4347.53	-118.25
347	25400.	14000.	4351.38	-118.10
348	25600.	14000.	4363.69	-117.93
349	25800.	14000.	4374.45	-117.72
350	26000.	14000.	4384.71	-117.33
351	26200.	14000.	4395.65	-117.14
352	26400.	14000.	4409.71	-117.24
353	26600.	14000.	4457.83	-117.30
354	26800.	14000.	4492.23	-117.22
355	27000.	14000.	4514.26	-117.08
356	27200.	14000.	4530.55	-116.78
357	27400.	14000.	4552.91	-116.63
358	27600.	14000.	4574.33	-116.59
359	27800.	14000.	4586.53	-116.59
360	28000.	14000.	4610.68	-116.54
361	28200.	14000.	4625.13	-116.39
362	28400.	14000.	4639.57	-116.44
363	28600.	14000.	4654.28	-116.21
364	28800.	14000.	4662.98	-116.25
365	29000.	14000.	4663.06	-116.38
366	29200.	14000.	4678.03	-116.61
367	29400.	14000.	4665.21	-116.46
368	29600.	14000.	4651.27	-116.78
369	29800.	14000.	4634.03	-116.98
370	30000.	14000.	4608.71	-116.96
371	30200.	14000.	4581.04	-116.96
372	30400.	14000.	4552.32	-116.72
373	4000.	10000.	3473.00	-142.71
374	4200.	10000.	3486.02	-142.21
375	4400.	10000.	3475.36	-142.24
376	4600.	10000.	3443.67	-142.40
377	4800.	10000.	3429.29	-142.40
378	5000.	10000.	3399.67	-142.55
379	5200.	10000.	3374.71	-142.64
380	5400.	10000.	3359.13	-142.87
381	5600.	10000.	3355.29	-143.00
382	5800.	10000.	3342.64	-143.08
383	6000.	10000.	3315.59	-143.24
384	6200.	10000.	3292.41	-143.37
385	6400.	10000.	3279.73	-143.51
386	6600.	10000.	3275.80	-142.77
387	6800.	10000.	3271.57	-143.06
388	7000.	10000.	3300.54	-143.47
389	7200.	10000.	3259.59	-143.99
390	7400.	10000.	3274.64	-144.28
391	7600.	10000.	3256.98	-144.54
392	7800.	10000.	3229.00	-145.05
393	8000.	10000.	3187.14	-145.57
394	8200.	10000.	3196.37	-146.01
395	8400.	10000.	3191.84	-146.56
396	8600.	10000.	3174.58	-147.35
397	8800.	10000.	3184.65	-148.37
398	9000.	10000.	3173.31	-149.01
399	9200.	10000.	3164.71	-148.97
400	9400.	10000.	3143.47	-149.25
401	9600.	10000.	3144.26	-149.81
402	9800.	10000.	3127.66	-150.37
403	10000.	10000.	3102.87	-150.89
404	10200.	10000.	3091.47	-151.31
405	10400.	10000.	3076.67	-151.52

MARK LIMITED

406	10600.	10000.	3025.47	-151.93
407	10800.	10000.	3006.70	-152.30
408	11000.	10000.	2973.75	-152.88
409	11200.	10000.	2964.88	-153.12
410	11400.	10000.	2951.65	-152.45
411	11600.	10000.	2854.15	-153.01
412	11800.	10000.	2854.43	-152.72
413	12000.	10000.	2860.00	-152.59
414	12200.	10000.	2874.71	-152.62
415	12400.	10000.	2897.99	-152.63
416	12600.	10000.	2943.25	-152.25
417	12800.	10000.	2982.40	-151.83
418	13000.	10000.	3006.34	-151.34
419	13200.	10000.	3010.04	-151.83
420	13400.	10000.	3032.81	-151.22
421	13600.	10000.	3068.70	-150.54
422	13800.	10000.	3093.89	-150.07
423	14000.	10000.	3122.56	-149.63
424	14200.	10000.	3160.17	-148.95
425	14400.	10000.	3174.23	-148.52
426	14600.	10000.	3166.13	-148.22
427	14800.	10000.	3171.62	-148.05
428	15000.	10000.	3181.94	-147.47
429	15200.	10000.	3172.57	-147.08
430	15400.	10000.	3173.62	-146.44
431	15600.	10000.	3181.65	-145.98
432	15800.	10000.	3199.46	-145.03
433	16000.	10000.	3218.96	-144.47
434	16200.	10000.	3240.86	-143.69
435	2000.	6000.	3902.90	-140.20
436	2200.	6000.	3903.87	-140.40
437	2400.	6000.	3908.00	-140.82
438	2600.	6000.	3914.07	-140.77
439	2800.	6000.	3933.24	-141.06
440	3000.	6000.	3933.94	-140.80
441	3200.	6000.	3942.94	-140.99
442	3400.	6000.	3946.35	-141.04
443	3600.	6000.	3923.82	-141.76
444	3800.	6000.	3873.07	-142.21
445	4000.	6000.	3822.32	-142.40
446	4200.	6000.	3785.29	-142.79
447	4400.	6000.	3731.18	-142.90
448	4600.	6000.	3692.54	-143.18
449	4800.	6000.	3645.33	-143.46
450	5000.	6000.	3614.86	-143.53
451	5200.	6000.	3603.42	-143.74
452	5400.	6000.	3549.76	-144.39
453	5600.	6000.	3534.40	-144.44
454	5800.	6000.	3524.67	-144.66
455	6000.	6000.	3547.96	-144.57
456	6200.	6000.	3546.24	-144.95
457	6400.	6000.	3507.22	-145.25
458	6600.	6000.	3485.71	-145.82
459	6800.	6000.	3479.42	-145.90
460	7000.	6000.	3438.87	-146.09
461	7200.	6000.	3424.22	-146.46
462	7400.	6000.	3451.83	-146.82
463	7600.	6000.	3466.27	-147.05
464	7800.	6000.	3468.67	-147.45
465	8000.	6000.	3436.34	-148.13

AM LIMITED

466	8200.	6000.	3405.79	-148.76
467	8400.	6000.	3376.05	-149.29
468	8600.	6000.	3394.03	-149.60
469	8800.	6000.	3373.76	-149.98
470	9000.	6000.	3343.27	-150.63
471	9200.	6000.	3320.56	-151.18
472	9400.	6000.	3317.76	-151.72
473	9600.	6000.	3308.23	-152.29
474	9800.	6000.	3280.35	-152.66
475	10000.	6000.	3273.38	-152.77
476	10200.	6000.	3256.97	-152.91
477	10400.	6000.	3242.41	-153.08
478	10600.	6000.	3228.80	-153.11
479	10800.	6000.	3203.92	-153.29
480	11000.	6000.	3189.70	-153.38
481	11200.	6000.	3174.70	-153.40
482	11400.	6000.	3166.32	-153.34
483	11600.	6000.	3156.33	-153.07
484	11800.	6000.	3152.04	-152.82
485	12000.	6000.	3148.37	-152.54
486	12200.	6000.	3138.10	-152.35
487	12400.	6000.	3122.90	-152.17
488	12600.	6000.	3098.53	-152.12
489	12800.	6000.	3074.20	-151.89
490	13000.	6000.	3053.20	-151.65
491	13200.	6000.	3046.57	-151.27
492	13400.	6000.	3032.51	-150.98
493	13600.	6000.	3008.98	-150.85
494	13800.	6000.	2974.25	-150.62
495	14000.	6000.	2947.48	-150.57
496	14200.	6000.	2951.24	-149.94
497	14400.	6000.	2938.13	-149.69
498	14600.	6000.	2950.88	-149.39
499	14800.	6000.	2989.66	-148.72
500	15000.	6000.	3008.13	-148.12
501	15200.	6000.	3050.66	-147.23
502	15400.	6000.	3066.71	-146.62
503	15600.	6000.	3083.54	-145.97
504	15800.	6000.	3099.12	-145.28
505	16000.	6000.	3117.65	-144.76
506	16200.	6000.	3139.47	-143.91
507	16400.	6000.	3166.19	-143.21
508	16600.	6000.	3194.92	-142.40
509	16800.	6000.	3221.97	-141.41
510	17000.	6000.	3250.46	-140.80
511	17200.	6000.	3310.53	-140.01
512	17400.	6000.	3320.12	-139.48
513	17600.	6000.	3339.13	-139.00
514	17800.	6000.	3392.81	-138.19
515	18000.	6000.	3425.21	-137.31
516	18200.	6000.	3469.75	-136.61
517	18400.	6000.	3507.11	-135.88
518	18600.	6000.	3516.38	-135.37
519	0.	2000.	4026.31	-137.09
520	200.	2000.	4051.81	-138.27
521	400.	2000.	4045.36	-138.58
522	600.	2000.	4015.91	-138.89
523	800.	2000.	3999.00	-139.23
524	1000.	2000.	4014.19	-139.57
525	1200.	2000.	4018.51	-139.87

TAIWAN LIMITED

526	1400.	2000.	4021.85	-140.07
527	1600.	2000.	3989.49	-140.93
528	1800.	2000.	4087.03	-140.04
529	2000.	2000.	4140.83	-140.04
530	2200.	2000.	4110.70	-140.61
531	2400.	2000.	4059.10	-141.17
532	2600.	2000.	4001.33	-141.18
533	2800.	2000.	3942.37	-141.56
534	3000.	2000.	3891.86	-141.98
535	3200.	2000.	3845.53	-142.43
536	3400.	2000.	3799.74	-142.88
537	3600.	2000.	3765.51	-143.19
538	3800.	2000.	3732.58	-143.70
539	4000.	2000.	3723.20	-143.79
540	4200.	2000.	3697.05	-144.29
541	4400.	2000.	3692.10	-144.47
542	4600.	2000.	3683.15	-144.53
543	4800.	2000.	3685.26	-144.67
544	5000.	2000.	3687.21	-144.81
545	5200.	2000.	3673.91	-145.05
546	5400.	2000.	3649.59	-145.40
547	5600.	2000.	3628.89	-146.10
548	5800.	2000.	3614.69	-146.20
549	6000.	2000.	3594.92	-146.46
550	6200.	2000.	3573.45	-146.72
551	6400.	2000.	3553.83	-147.07
552	6600.	2000.	3528.47	-147.40
553	6800.	2000.	3510.07	-147.56
554	7000.	2000.	3492.08	-147.94
555	7200.	2000.	3465.51	-148.19
556	7400.	2000.	3456.77	-148.49
557	7600.	2000.	3444.40	-148.83
558	7800.	2000.	3432.03	-149.64
559	8000.	2000.	3416.95	-149.94
560	8200.	2000.	3403.99	-149.86
561	8400.	2000.	3380.96	-150.15
562	8600.	2000.	3362.45	-150.53
563	8800.	2000.	3353.30	-151.06
564	9000.	2000.	3325.94	-151.47
565	9200.	2000.	3321.33	-151.97
566	9400.	2000.	3302.59	-152.28
567	9600.	2000.	3297.55	-152.63
568	9800.	2000.	3287.14	-153.22
569	10000.	2000.	3281.19	-153.78
570	10200.	2000.	3260.91	-154.28
571	10400.	2000.	3257.23	-154.49
572	10600.	2000.	3248.48	-154.54
573	10800.	2000.	3241.53	-154.42
574	11000.	2000.	3229.64	-154.34
575	11200.	2000.	3232.33	-153.97
576	11400.	2000.	3223.08	-153.70
577	11600.	2000.	3239.33	-153.34
578	11800.	2000.	3234.91	-152.75
579	12000.	2000.	3234.21	-152.28
580	12200.	2000.	3226.50	-151.85
581	12400.	2000.	3226.00	-151.47
582	12600.	2000.	3233.32	-150.97
583	12800.	2000.	3224.93	-150.59
584	13000.	2000.	3204.82	-150.36
585	13200.	2000.	3192.66	-149.82

AIN LIMITED

586	13400.	2000.	3166.56	-149.54
587	13600.	2000.	3149.65	-149.23
588	13800.	2000.	3126.46	-149.49
589	14000.	2000.	3103.61	-148.77
590	14200.	2000.	3095.31	-148.35
591	14400.	2000.	3093.12	-147.99
592	14600.	2000.	3037.37	-147.58
593	14800.	2000.	3014.41	-147.48
594	15000.	2000.	3017.53	-147.01
595	15200.	2000.	3042.40	-146.25
596	15400.	2000.	3057.58	-145.32
597	15600.	2000.	3035.05	-144.59
598	15800.	2000.	3136.66	-144.05
599	16000.	2000.	3158.96	-143.28
600	16200.	2000.	3188.90	-142.69
601	16400.	2000.	3215.48	-141.91
602	16600.	2000.	3263.31	-141.21
603	400.	-2000.	4507.57	-141.05
604	600.	-2000.	4572.43	-140.25
605	800.	-2000.	4624.28	-140.88
606	1000.	-2000.	4624.91	-140.89
607	1200.	-2000.	4592.70	-141.18
608	1400.	-2000.	4570.35	-140.99
609	1600.	-2000.	4543.42	-141.61
610	1800.	-2000.	4459.15	-142.51
611	2000.	-2000.	4349.84	-142.56
612	2200.	-2000.	4255.37	-142.55
613	2400.	-2000.	4182.71	-142.62
614	2600.	-2000.	4120.92	-142.92
615	2800.	-2000.	4083.92	-142.72
616	3000.	-2000.	4031.82	-143.20
617	3200.	-2000.	3973.84	-143.77
618	3400.	-2000.	3928.63	-144.53
619	3600.	-2000.	3863.40	-144.50
620	3800.	-2000.	3814.13	-145.01
621	4000.	-2000.	3775.85	-145.24
622	4200.	-2000.	3740.20	-145.77
623	4400.	-2000.	3711.12	-144.61
624	4600.	-2000.	3686.01	-145.07
625	4800.	-2000.	3663.53	-145.32
626	5000.	-2000.	3636.66	-145.73
627	5200.	-2000.	3607.02	-146.05
628	5400.	-2000.	3594.25	-146.49
629	5600.	-2000.	3577.14	-146.87
630	5800.	-2000.	3570.16	-147.37
631	6000.	-2000.	3561.49	-147.85
632	6200.	-2000.	3550.56	-148.32
633	6400.	-2000.	3549.11	-148.79
634	6600.	-2000.	3525.61	-149.56
635	6800.	-2000.	3499.09	-149.89
636	7000.	-2000.	3472.15	-149.88
637	7200.	-2000.	3477.12	-150.24
638	7400.	-2000.	3454.26	-150.76
639	7600.	-2000.	3443.56	-151.22
640	7800.	-2000.	3434.00	-151.68
641	8000.	-2000.	3435.15	-152.23
642	8200.	-2000.	3421.66	-152.63
643	8400.	-2000.	3424.00	-153.12
644	8600.	-2000.	3395.59	-153.78
645	8800.	-2000.	3356.67	-154.45

646	9000.	-2000.	3331.37	-154.91
647	9200.	-2000.	3334.42	-155.13
648	9400.	-2000.	3332.44	-155.34
649	9600.	-2000.	3304.70	-155.57
650	9800.	-2000.	3307.30	-155.60
651	10000.	-2000.	3291.39	-155.68
652	10200.	-2000.	3277.87	-155.66
653	10400.	-2000.	3268.43	-155.41
654	10600.	-2000.	3243.21	-155.35
655	10800.	-2000.	3241.51	-155.08
656	11000.	-2000.	3237.14	-154.62
657	11200.	-2000.	3231.59	-154.36
658	11400.	-2000.	3195.76	-154.23
659	11600.	-2000.	3181.76	-154.04
660	11800.	-2000.	3195.83	-153.77
661	12000.	-2000.	3181.36	-153.26
662	12200.	-2000.	3170.77	-152.86
663	12400.	-2000.	3172.23	-152.34
664	12600.	-2000.	3164.11	-151.92
665	12800.	-2000.	3134.48	-151.98
666	13000.	-2000.	3106.95	-151.19
667	13200.	-2000.	3100.19	-150.83
668	13400.	-2000.	3135.51	-150.41
669	13600.	-2000.	3177.76	-149.58
670	13800.	-2000.	3205.14	-148.71
671	14000.	-2000.	3221.77	-147.94
672	14200.	-2000.	3223.32	-147.46
673	14400.	-2000.	3259.36	-146.22
674	14600.	-2000.	3310.93	-145.12
675	14800.	-2000.	3352.27	-144.13
676	15000.	-2000.	3351.87	-143.37
677	15200.	-2000.	3366.64	-142.68
678	15400.	-2000.	3369.52	-142.13
679	15600.	-2000.	3270.66	-142.25
680	15800.	-2000.	3282.57	-141.14
681	16000.	-2000.	3284.98	-140.83
682	16200.	-2000.	3371.56	-140.11
683	16400.	-2000.	3414.96	-139.18
684	16600.	-2000.	3424.83	-138.48
685	16800.	-2000.	3439.10	-137.99
686	0.	-6000.	4024.02	-138.38
687	200.	-6000.	4032.88	-138.16
688	400.	-6000.	4023.30	-138.47
689	600.	-6000.	3992.83	-138.86
690	800.	-6000.	3983.77	-138.98
691	1000.	-6000.	3975.84	-139.53
692	1200.	-6000.	3964.66	-139.80
693	1400.	-6000.	3960.05	-140.30
694	1600.	-6000.	3943.79	-140.77
695	1800.	-6000.	3933.12	-141.55
696	2000.	-6000.	3902.69	-141.79
697	2200.	-6000.	3897.50	-141.92
698	2400.	-6000.	3891.82	-141.98
699	2600.	-6000.	3884.84	-142.18
700	2800.	-6000.	3878.69	-142.47
701	3000.	-6000.	3838.18	-142.49
702	3200.	-6000.	3805.91	-142.76
703	3400.	-6000.	3770.59	-142.87
704	3600.	-6000.	3753.25	-142.96
705	3800.	-6000.	3751.97	-143.54

706	4000.	-6000.	3726.52	-143.65
707	4200.	-6000.	3704.25	-143.99
708	4400.	-6000.	3695.90	-144.32
709	4600.	-6000.	3693.46	-144.82
710	4800.	-6000.	3660.36	-145.25
711	5000.	-6000.	3644.98	-145.64
712	5200.	-6000.	3635.97	-146.20
713	5400.	-6000.	3606.17	-146.84
714	5600.	-6000.	3572.68	-147.50
715	5800.	-6000.	3573.60	-147.95
716	6000.	-6000.	3567.77	-148.47
717	6200.	-6000.	3583.64	-149.00
718	6400.	-6000.	3559.57	-149.63
719	6600.	-6000.	3549.93	-150.56
720	6800.	-6000.	3536.49	-150.95
721	7000.	-6000.	3522.13	-151.35
722	7200.	-6000.	3504.66	-152.08
723	7400.	-6000.	3482.83	-152.88
724	7600.	-6000.	3434.35	-153.77
725	7800.	-6000.	3415.29	-154.36
726	8000.	-6000.	3408.13	-154.91
727	8200.	-6000.	3428.69	-154.81
728	8400.	-6000.	3405.70	-155.20
729	8600.	-6000.	3380.59	-155.74
730	8800.	-6000.	3373.83	-155.85
731	9000.	-6000.	3373.86	-156.27
732	9200.	-6000.	3367.86	-156.38
733	9400.	-6000.	3356.49	-156.61
734	9600.	-6000.	3341.57	-156.85
735	9800.	-6000.	3330.13	-157.06
736	10000.	-6000.	3310.55	-157.35
737	10200.	-6000.	3312.16	-156.61
738	10400.	-6000.	3302.97	-156.48
739	10600.	-6000.	3307.20	-156.06
740	10800.	-6000.	3308.00	-155.64
741	11000.	-6000.	3296.11	-155.21
742	11200.	-6000.	3280.80	-154.82
743	11400.	-6000.	3265.73	-154.27
744	11600.	-6000.	3198.75	-154.75
745	11800.	-6000.	3245.14	-154.05
746	12000.	-6000.	3293.20	-153.24
747	12200.	-6000.	3290.03	-152.30
748	12400.	-6000.	3310.89	-151.76
749	12600.	-6000.	3338.45	-151.21
750	12800.	-6000.	3350.00	-150.57
751	13000.	-6000.	3373.95	-149.78
752	13200.	-6000.	3402.45	-149.10
753	13400.	-6000.	3413.80	-148.24
754	13600.	-6000.	3428.65	-147.61
755	13800.	-6000.	3441.01	-146.61
756	14000.	-6000.	3469.12	-146.04
757	14200.	-6000.	3485.90	-145.32
758	14400.	-6000.	3494.32	-144.55
759	14600.	-6000.	3536.64	-143.36
760	14800.	-6000.	3583.85	-142.51
761	15000.	-6000.	3684.67	-141.42
762	15200.	-6000.	3767.74	-140.50
763	15400.	-6000.	3807.66	-139.06
764	15600.	-6000.	3794.32	-137.77
765	15800.	-6000.	3792.46	-137.26

766	16000.	-6000.	3801.05	-136.38
767	16200.	-6000.	3736.01	-135.56
768	16400.	-6000.	3694.11	-134.61
769	16600.	-6000.	3693.17	-133.83
770	16800.	-6000.	3705.58	-133.04
771	17000.	-6000.	3694.92	-132.99
772	17200.	-6000.	3679.82	-132.44
773	17400.	-6000.	3678.58	-132.05
774	17600.	-6000.	3663.76	-131.65
775	17800.	-6000.	3651.39	-130.88
776	18000.	-6000.	3604.76	-130.79
777	18200.	-6000.	3625.01	-130.25
778	18400.	-6000.	3652.40	-129.62
779	18600.	-6000.	3671.91	-129.11
780	18800.	-6000.	3695.05	-128.78
781	19000.	-6000.	3722.65	-128.19
782	19200.	-6000.	3746.80	-127.74
783	19400.	-6000.	3764.76	-127.34
784	19600.	-6000.	3779.54	-127.21
785	19800.	-6000.	3803.00	-126.79
786	20000.	-6000.	3814.47	-126.49
787	20200.	-6000.	3853.37	-126.13
788	20400.	-6000.	3858.39	-125.73
789	20600.	-6000.	3879.70	-125.49
790	20800.	-6000.	3911.14	-125.13
791	21000.	-6000.	3928.07	-124.82
792	21200.	-6000.	3968.90	-124.54
793	21400.	-6000.	3983.52	-124.24
794	21600.	-6000.	4000.11	-123.86
795	21800.	-6000.	4014.68	-123.48
796	22000.	-6000.	4010.40	-123.10
797	0.	-10000.	4426.26	-135.61
798	200.	-10000.	4374.56	-136.53
799	400.	-10000.	4323.79	-136.97
800	600.	-10000.	4283.06	-137.68
801	800.	-10000.	4253.64	-137.98
802	1000.	-10000.	4230.62	-138.45
803	1200.	-10000.	4207.95	-138.64
804	1400.	-10000.	4179.88	-139.01
805	1600.	-10000.	4145.88	-139.31
806	1800.	-10000.	4125.66	-139.57
807	2000.	-10000.	4119.57	-139.83
808	2200.	-10000.	4107.61	-140.15
809	2400.	-10000.	4077.59	-140.77
810	2600.	-10000.	4066.76	-141.05
811	2800.	-10000.	4056.41	-141.28
812	3000.	-10000.	4046.52	-141.30
813	3200.	-10000.	4028.21	-141.62
814	3400.	-10000.	3993.74	-142.15
815	3600.	-10000.	3946.32	-142.60
816	3800.	-10000.	3888.32	-143.05
817	4000.	-10000.	3845.08	-143.46
818	4200.	-10000.	3807.92	-144.04
819	4400.	-10000.	3783.44	-144.53
820	4600.	-10000.	3761.12	-145.18
821	4800.	-10000.	3733.47	-145.70
822	5000.	-10000.	3709.18	-146.34
823	5200.	-10000.	3685.86	-146.98
824	5400.	-10000.	3662.62	-147.59
825	5600.	-10000.	3649.67	-148.21

826	5800.	-10000.	3639.28	-148.67
827	6000.	-10000.	3645.54	-149.15
828	6200.	-10000.	3623.21	-149.72
829	6400.	-10000.	3612.61	-150.24
830	6600.	-10000.	3595.62	-150.96
831	6800.	-10000.	3580.11	-151.41
832	7000.	-10000.	3569.51	-151.91
833	7200.	-10000.	3561.03	-152.49
834	7400.	-10000.	3547.47	-152.79
835	7600.	-10000.	3531.23	-153.27
836	7800.	-10000.	3531.31	-153.64
837	8000.	-10000.	3527.88	-153.75
838	8200.	-10000.	3530.26	-154.05
839	8400.	-10000.	3539.32	-154.24
840	8600.	-10000.	3556.72	-154.44
841	8800.	-10000.	3567.20	-154.77
842	9000.	-10000.	3573.76	-154.91
843	9200.	-10000.	3577.20	-155.12
844	9400.	-10000.	3568.52	-155.40
845	9600.	-10000.	3552.64	-155.87
846	9800.	-10000.	3515.12	-156.44
847	10000.	-10000.	3478.38	-157.17
848	10200.	-10000.	3444.22	-157.90
849	10400.	-10000.	3419.55	-158.69
850	10600.	-10000.	3391.50	-158.90
851	10800.	-10000.	3339.87	-159.00
852	11000.	-10000.	3319.15	-158.37
853	11200.	-10000.	3327.28	-156.96
854	11400.	-10000.	3342.17	-155.85
855	11600.	-10000.	3334.36	-155.43
856	11800.	-10000.	3344.86	-154.51
857	12000.	-10000.	3399.52	-153.39
858	12200.	-10000.	3410.97	-152.65
859	12400.	-10000.	3454.26	-151.69
860	12600.	-10000.	3467.72	-150.77
861	12800.	-10000.	3496.33	-149.85
862	13000.	-10000.	3497.41	-149.01
863	13200.	-10000.	3521.78	-148.09
864	13400.	-10000.	3522.70	-147.11
865	13600.	-10000.	3528.53	-146.16
866	13800.	-10000.	3535.80	-144.93
867	14000.	-10000.	3547.70	-143.63
868	14200.	-10000.	3561.91	-142.12
869	14400.	-10000.	3586.37	-140.82
870	14600.	-10000.	3606.67	-141.70
871	14800.	-10000.	3657.48	-138.40
872	15000.	-10000.	3689.25	-136.95
873	15200.	-10000.	3720.31	-135.88
874	15400.	-10000.	3767.20	-135.00
875	15600.	-10000.	3791.03	-134.03
876	15800.	-10000.	3807.33	-133.31
877	16000.	-10000.	3833.26	-132.58
878	16200.	-10000.	3868.96	-132.10
879	16400.	-10000.	3906.52	-131.48
880	16600.	-10000.	3941.34	-130.99
881	16800.	-10000.	3967.51	-130.42
882	17000.	-10000.	3982.97	-130.01
883	17200.	-10000.	4003.64	-129.62
884	17400.	-10000.	4012.57	-129.25
885	17600.	-10000.	4004.76	-128.85

886	17800.	-10000.	3995.16	-128.58
887	18000.	-10000.	3987.54	-128.24
888	18200.	-10000.	3974.06	-128.01
889	18400.	-10000.	3958.26	-127.80
890	18600.	-10000.	3955.88	-127.44
891	18800.	-10000.	3968.14	-127.17
892	19000.	-10000.	3966.50	-126.83
893	19200.	-10000.	3966.74	-126.47
894	19400.	-10000.	3953.78	-126.30
895	19600.	-10000.	3919.77	-126.05
896	19800.	-10000.	3877.70	-125.59
897	20000.	-10000.	3864.74	-125.15
898	20200.	-10000.	3866.76	-124.37
899	20400.	-10000.	3839.96	-124.12
900	20600.	-10000.	3893.16	-123.87
901	20800.	-10000.	3929.01	-123.54
902	21000.	-10000.	3985.34	-122.94
903	21200.	-10000.	4022.87	-122.64
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905	21600.	-10000.	4051.72	-122.14
906	21800.	-10000.	4026.47	-121.95
907	22000.	-10000.	4025.18	-121.74
908	4200.	-12000.	3807.56	-144.37
909	4400.	-12000.	3773.05	-144.99
910	4600.	-12000.	3752.41	-145.85
911	4800.	-12000.	3738.15	-146.23
912	5000.	-12000.	3714.12	-146.75
913	5200.	-12000.	3706.86	-146.95
914	5400.	-12000.	3697.64	-147.46
915	5600.	-12000.	3688.11	-147.89
916	5800.	-12000.	3677.26	-148.40
917	6000.	-12000.	3667.42	-149.05
918	6200.	-12000.	3655.87	-149.60
919	6400.	-12000.	3648.02	-150.25
920	6600.	-12000.	3631.35	-150.93
921	6800.	-12000.	3618.98	-151.56
922	7000.	-12000.	3609.19	-152.08
923	7200.	-12000.	3604.81	-152.41
924	7400.	-12000.	3599.68	-152.74
925	7600.	-12000.	3598.52	-152.92
926	7800.	-12000.	3596.08	-153.02
927	8000.	-12000.	3593.36	-153.21
928	8200.	-12000.	3594.14	-153.37
929	8400.	-12000.	3596.10	-153.57
930	8600.	-12000.	3580.49	-153.79
931	8800.	-12000.	3582.95	-153.99
932	9000.	-12000.	3585.92	-154.04
933	9200.	-12000.	3573.55	-154.22
934	9400.	-12000.	3551.46	-154.43
935	9600.	-12000.	3528.90	-154.75
936	9800.	-12000.	3492.40	-155.12
937	10000.	-12000.	3466.04	-155.53
938	10200.	-12000.	3437.54	-155.68
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940	10600.	-12000.	3400.15	-156.11
941	10800.	-12000.	3367.00	-156.84
942	11000.	-12000.	3355.17	-157.44
943	11200.	-12000.	3379.88	-157.69
944	11400.	-12000.	3450.06	-157.32
945	11600.	-12000.	3478.27	-156.85

946	11800.	-12000.	3498.66	-156.03
947	12000.	-12000.	3522.14	-154.90
948	12200.	-12000.	3542.87	-153.74
949	12400.	-12000.	3535.75	-152.82
950	12600.	-12000.	3557.48	-151.96
951	12800.	-12000.	3562.27	-150.75
952	13000.	-12000.	3567.96	-149.64
953	13200.	-12000.	3570.75	-148.64
954	13400.	-12000.	3591.88	-147.63
955	13600.	-12000.	3614.75	-146.34
956	13800.	-12000.	3643.47	-145.31
957	14000.	-12000.	3681.21	-144.11
958	14200.	-12000.	3695.63	-142.35
959	14400.	-12000.	3723.02	-140.77
960	14600.	-12000.	3736.29	-139.29
961	14800.	-12000.	3761.48	-138.26
962	15000.	-12000.	3799.13	-136.88
963	15200.	-12000.	3839.22	-136.10
964	15400.	-12000.	3867.34	-135.16
965	15600.	-12000.	3879.59	-134.24
966	15800.	-12000.	3874.53	-133.39
967	16000.	-12000.	3894.90	-132.87
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969	16400.	-12000.	3951.06	-131.85
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971	16800.	-12000.	4026.36	-130.82
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974	17400.	-12000.	4117.24	-129.55
975	17600.	-12000.	4129.23	-129.13
976	17800.	-12000.	4137.49	-128.81
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980	18600.	-12000.	4115.57	-127.13
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984	19400.	-12000.	4120.55	-125.55
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987	20000.	-12000.	4038.27	-124.55
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989	20400.	-12000.	3995.74	-123.35
990	20600.	-12000.	3978.72	-122.65
991	20800.	-12000.	3975.05	-122.43
992	21000.	-12000.	3972.69	-122.03
993	21200.	-12000.	3990.94	-121.96
994	21400.	-12000.	4053.01	-121.82
995	21600.	-12000.	4097.43	-121.24
996	21800.	-12000.	4131.21	-120.92
997	22000.	-12000.	4163.20	-120.98
998	0.	-15000.	4578.34	-135.71
999	200.	-15000.	4556.54	-136.22
1000	400.	-15000.	4522.77	-136.46
1001	600.	-15000.	4499.11	-136.71
1002	800.	-15000.	4483.01	-136.97
1003	1000.	-15000.	4466.08	-137.13
1004	1200.	-15000.	4437.65	-137.46
1005	1400.	-15000.	4407.83	-137.88

1006	1600.	-15000.	4371.46	-138.12
1007	1800.	-15000.	4328.92	-138.33
1008	2000.	-15000.	4281.13	-138.43
1009	2200.	-15000.	4267.04	-138.97
1010	2400.	-15000.	4245.50	-139.25
1011	2600.	-15000.	4220.08	-139.65
1012	2800.	-15000.	4190.60	-140.00
1013	3000.	-15000.	4154.50	-140.46
1014	3200.	-15000.	4127.73	-141.08
1015	3400.	-15000.	4064.93	-141.46
1016	3600.	-15000.	4070.10	-141.80
1017	3800.	-15000.	4007.52	-142.40
1018	4000.	-15000.	3963.38	-142.90
1019	4200.	-15000.	3914.45	-143.16
1020	4400.	-15000.	3878.40	-143.69
1021	4600.	-15000.	3845.16	-144.41
1022	4800.	-15000.	3800.00	-145.27
1023	5000.	-15000.	3776.28	-145.80
1024	5200.	-15000.	3762.80	-146.74
1025	5400.	-15000.	3752.24	-147.44
1026	5600.	-15000.	3744.86	-147.77
1027	5800.	-15000.	3732.23	-148.18
1028	6000.	-15000.	3714.31	-148.58
1029	6200.	-15000.	3703.84	-148.74
1030	6400.	-15000.	3693.95	-149.07
1031	6600.	-15000.	3684.10	-149.19
1032	6800.	-15000.	3678.03	-149.66
1033	7000.	-15000.	3662.31	-150.09
1034	7200.	-15000.	3648.96	-150.54
1035	7400.	-15000.	3634.33	-150.90
1036	7600.	-15000.	3612.50	-151.50
1037	7800.	-15000.	3590.55	-152.13
1038	8000.	-15000.	3566.74	-152.75
1039	8200.	-15000.	3549.92	-153.05
1040	8400.	-15000.	3559.43	-153.63
1041	8600.	-15000.	3499.29	-153.94
1042	8800.	-15000.	3477.89	-154.25
1043	9000.	-15000.	3464.23	-154.61
1044	9200.	-15000.	3464.09	-154.69
1045	9400.	-15000.	3458.14	-155.03
1046	9600.	-15000.	3447.62	-155.17
1047	9800.	-15000.	3420.79	-155.50
1048	10000.	-15000.	3415.09	-155.51
1049	10200.	-15000.	3389.45	-155.89
1050	10400.	-15000.	3385.55	-156.27
1051	10600.	-15000.	3382.58	-156.36
1052	10800.	-15000.	3382.35	-156.82
1053	11000.	-15000.	3378.18	-157.29
1054	11200.	-15000.	3390.02	-157.92
1055	11400.	-15000.	3407.54	-157.77
1056	11600.	-15000.	3427.40	-158.18
1057	11800.	-15000.	3448.98	-157.97
1058	12000.	-15000.	3522.83	-157.91
1059	12200.	-15000.	3585.85	-157.29
1060	12400.	-15000.	3670.58	-156.65
1061	12600.	-15000.	3738.48	-154.60
1062	12800.	-15000.	3816.22	-153.39
1063	13000.	-15000.	3908.48	-151.87
1064	13200.	-15000.	3923.46	-150.34
1065	13400.	-15000.	3949.71	-149.74

1066	13600.	-15000.	3966.30	-148.03
1067	13800.	-15000.	3943.52	-146.92
1068	14000.	-15000.	3944.86	-145.81
1069	14200.	-15000.	3944.65	-144.77
1070	14400.	-15000.	3963.30	-143.62
1071	14600.	-15000.	4001.72	-142.61
1072	14800.	-15000.	4015.36	-141.60
1073	15000.	-15000.	4019.24	-140.36
1074	15200.	-15000.	4027.83	-139.23
1075	15400.	-15000.	4043.48	-138.33
1076	15600.	-15000.	4065.48	-136.85
1077	15800.	-15000.	4083.48	-136.36
1078	16000.	-15000.	4105.76	-135.68
1079	16200.	-15000.	4103.09	-134.70
1080	16400.	-15000.	4077.16	-133.49
1081	16600.	-15000.	4093.98	-132.81
1082	16800.	-15000.	4122.07	-132.29
1083	17000.	-15000.	4151.71	-131.62
1084	17200.	-15000.	4170.35	-131.09
1085	17400.	-15000.	4189.21	-130.54
1086	17600.	-15000.	4218.31	-130.16
1087	17800.	-15000.	4262.43	-129.62
1088	18000.	-15000.	4284.60	-129.08
1089	18200.	-15000.	4304.15	-128.55
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1091	18600.	-15000.	4368.78	-127.65
1092	18800.	-15000.	4367.80	-127.04
1093	19000.	-15000.	4351.15	-126.49
1094	19200.	-15000.	4331.71	-125.86
1095	19400.	-15000.	4322.75	-125.55
1096	19600.	-15000.	4311.67	-124.89
1097	19800.	-15000.	4307.41	-124.49
1098	20000.	-15000.	4304.75	-124.02
1099	20200.	-15000.	4307.28	-123.55
1100	20400.	-15000.	4304.05	-123.09
1101	20600.	-15000.	4308.37	-122.60
1102	20800.	-15000.	4316.25	-122.22
1103	21000.	-15000.	4320.38	-121.69
1104	21200.	-15000.	4323.89	-121.38
1105	21400.	-15000.	4329.24	-120.68
1106	21600.	-15000.	4340.42	-120.78
1107	21800.	-15000.	4336.32	-120.42
1108	22000.	-15000.	4328.24	-120.33
1109	0.	-18000.	4843.40	-134.35
1110	200.	-18000.	4834.46	-135.46
1111	400.	-18000.	4756.23	-135.61
1112	600.	-18000.	4692.83	-136.42
1113	800.	-18000.	4630.70	-136.66
1114	1000.	-18000.	4569.18	-137.39
1115	1200.	-18000.	4532.59	-137.84
1116	1400.	-18000.	4499.20	-138.46
1117	1600.	-18000.	4481.21	-138.34
1118	1800.	-18000.	4464.10	-138.65
1119	2000.	-18000.	4450.96	-138.75
1120	2200.	-18000.	4446.53	-138.64
1121	2400.	-18000.	4463.00	-138.60
1122	2600.	-18000.	4464.95	-138.66
1123	2800.	-18000.	4452.89	-138.99
1124	3000.	-18000.	4447.27	-139.07
1125	3200.	-18000.	4409.21	-139.62

1126	3400.	-18000.	4338.29	-140.48
1127	3600.	-18000.	4271.25	-141.13
1128	3800.	-18000.	4175.66	-142.04
1129	4000.	-18000.	4100.01	-142.52
1130	4200.	-18000.	4050.90	-143.14
1131	4400.	-18000.	4029.24	-143.77
1132	4600.	-18000.	3992.20	-144.57
1133	4800.	-18000.	3970.89	-145.40
1134	5000.	-18000.	3911.91	-145.96
1135	5200.	-18000.	3894.13	-146.12
1136	5400.	-18000.	3860.91	-147.02
1137	5600.	-18000.	3847.36	-147.55
1138	5800.	-18000.	3828.26	-147.97
1139	6000.	-18000.	3809.60	-148.39
1140	6200.	-18000.	3790.34	-148.72
1141	6400.	-18000.	3769.90	-149.09
1142	6600.	-18000.	3758.98	-148.78
1143	6800.	-18000.	3746.13	-149.15
1144	7000.	-18000.	3718.64	-149.53
1145	7200.	-18000.	3705.52	-150.13
1146	7400.	-18000.	3697.72	-150.81
1147	7600.	-18000.	3660.93	-151.18
1148	7800.	-18000.	3658.30	-151.61
1149	8000.	-18000.	3654.61	-152.06
1150	8200.	-18000.	3643.03	-152.64
1151	8400.	-18000.	3631.47	-153.06
1152	8600.	-18000.	3612.88	-153.94
1153	8800.	-18000.	3579.53	-154.37
1154	9000.	-18000.	3540.01	-155.01
1155	9200.	-18000.	3512.72	-155.36
1156	9400.	-18000.	3497.58	-155.72
1157	9600.	-18000.	3475.24	-156.07
1158	9800.	-18000.	3457.32	-156.23
1159	10000.	-18000.	3413.92	-156.53
1160	10200.	-18000.	3416.55	-156.72
1161	10400.	-18000.	3442.10	-156.73
1162	10600.	-18000.	3425.61	-156.89
1163	10800.	-18000.	3415.74	-157.06
1164	11000.	-18000.	3417.96	-157.27
1165	11200.	-18000.	3422.15	-157.54
1166	11400.	-18000.	3442.25	-157.73
1167	11600.	-18000.	3459.85	-158.08
1168	11800.	-18000.	3473.10	-158.20
1169	12000.	-18000.	3483.22	-158.53
1170	12200.	-18000.	3505.05	-158.58
1171	12400.	-18000.	3540.33	-158.17
1172	12600.	-18000.	3600.29	-157.85
1173	12800.	-18000.	3645.00	-156.96
1174	13000.	-18000.	3682.99	-155.66
1175	13200.	-18000.	3710.37	-154.52
1176	13400.	-18000.	3716.59	-153.21
1177	13600.	-18000.	3758.67	-152.05
1178	13800.	-18000.	3855.59	-150.01
1179	14000.	-18000.	3935.31	-148.94
1180	14200.	-18000.	3989.95	-146.62
1181	14400.	-18000.	4049.73	-145.63
1182	14600.	-18000.	4106.02	-144.55
1183	14800.	-18000.	4097.37	-143.31
1184	15000.	-18000.	4105.28	-142.52
1185	15200.	-18000.	4122.71	-141.48

1186	15400.	-18000.	4126.59	-141.54
1187	15600.	-18000.	4106.34	-140.48
1188	15800.	-18000.	4129.21	-140.07
1189	16000.	-18000.	4120.01	-138.83
1190	16200.	-18000.	4127.68	-138.14
1191	16400.	-18000.	4143.96	-137.27
1192	16600.	-18000.	4172.08	-137.07
1193	16800.	-18000.	4196.11	-136.10
1194	17000.	-18000.	4220.60	-135.52
1195	17200.	-18000.	4241.29	-134.80
1196	17400.	-18000.	4258.32	-134.15
1197	17600.	-18000.	4280.08	-133.44
1198	17800.	-18000.	4300.42	-132.51
1199	18000.	-18000.	4339.42	-131.84
1200	18200.	-18000.	4377.36	-131.21
1201	18400.	-18000.	4408.23	-130.55
1202	18600.	-18000.	4439.66	-129.94
1203	18800.	-18000.	4457.92	-129.29
1204	19000.	-18000.	4475.21	-128.80
1205	19200.	-18000.	4482.32	-128.09
1206	19400.	-18000.	4487.78	-127.72
1207	19600.	-18000.	4495.08	-127.14
1208	19800.	-18000.	4499.87	-126.61
1209	20000.	-18000.	4519.18	-126.16
1210	20200.	-18000.	4525.44	-125.79
1211	20400.	-18000.	4535.21	-125.13
1212	20600.	-18000.	4555.58	-124.61
1213	20800.	-18000.	4562.36	-124.01
1214	21000.	-18000.	4560.50	-123.55
1215	21200.	-18000.	4564.68	-123.10
1216	21400.	-18000.	4564.94	-122.42
1217	21600.	-18000.	4549.44	-121.84
1218	21800.	-18000.	4553.87	-121.14
1219	22000.	-18000.	4570.93	-120.59
1220	4200.	-20000.	4062.59	-143.74
1221	4400.	-20000.	4043.97	-144.24
1222	4600.	-20000.	4012.45	-144.70
1223	4800.	-20000.	3982.74	-145.07
1224	5000.	-20000.	3956.58	-145.57
1225	5200.	-20000.	3937.72	-145.78
1226	5400.	-20000.	3907.42	-146.35
1227	5600.	-20000.	3880.56	-147.92
1228	5800.	-20000.	3872.59	-147.74
1229	6000.	-20000.	3845.16	-148.05
1230	6200.	-20000.	3828.90	-148.23
1231	6400.	-20000.	3812.76	-148.66
1232	6600.	-20000.	3799.45	-148.78
1233	6800.	-20000.	3779.90	-149.21
1234	7000.	-20000.	3755.01	-149.76
1235	7200.	-20000.	3735.42	-150.15
1236	7400.	-20000.	3722.60	-150.56
1237	7600.	-20000.	3709.85	-150.89
1238	7800.	-20000.	3698.02	-151.23
1239	8000.	-20000.	3691.48	-151.75
1240	8200.	-20000.	3682.72	-152.23
1241	8400.	-20000.	3663.55	-152.71
1242	8600.	-20000.	3648.75	-153.28
1243	8800.	-20000.	3627.13	-153.88
1244	9000.	-20000.	3601.09	-154.43
1245	9200.	-20000.	3576.17	-154.83

1246	9400.	-20000.	3553.15	-155.56
1247	9600.	-20000.	3523.28	-155.96
1248	9800.	-20000.	3508.91	-156.31
1249	10000.	-20000.	3478.26	-157.01
1250	10200.	-20000.	3452.47	-157.33
1251	10400.	-20000.	3454.39	-157.40
1252	10600.	-20000.	3454.67	-157.48
1253	10800.	-20000.	3452.69	-157.59
1254	11000.	-20000.	3450.15	-157.67
1255	11200.	-20000.	3447.18	-157.90
1256	11400.	-20000.	3443.97	-157.98
1257	11600.	-20000.	3443.18	-158.26
1258	11800.	-20000.	3456.54	-158.38
1259	12000.	-20000.	3456.26	-158.57
1260	12200.	-20000.	3467.76	-158.55
1261	12400.	-20000.	3477.07	-158.90
1262	12600.	-20000.	3496.09	-159.05
1263	12800.	-20000.	3518.19	-159.32
1264	13000.	-20000.	3543.26	-159.28
1265	13200.	-20000.	3575.13	-159.49
1266	13400.	-20000.	3619.39	-159.17
1267	13600.	-20000.	3660.84	-158.40
1268	13800.	-20000.	3692.91	-157.58
1269	14000.	-20000.	3737.52	-156.61
1270	14200.	-20000.	3782.00	-155.17
1271	14400.	-20000.	3828.96	-153.83
1272	14600.	-20000.	3857.92	-152.74
1273	14800.	-20000.	3909.41	-151.72
1274	15000.	-20000.	3952.81	-150.64
1275	15200.	-20000.	3969.83	-149.43
1276	15400.	-20000.	3994.75	-148.35
1277	15600.	-20000.	4024.23	-147.23
1278	15800.	-20000.	4034.31	-145.56
1279	16000.	-20000.	4049.63	-144.51
1280	16200.	-20000.	4083.82	-143.44
1281	16400.	-20000.	4154.85	-142.65
1282	16600.	-20000.	4231.85	-141.59
1283	16800.	-20000.	4340.19	-140.76
1284	17000.	-20000.	4430.28	-139.14
1285	17200.	-20000.	4478.28	-138.74
1286	17400.	-20000.	4418.43	-138.44
1287	17600.	-20000.	4391.80	-136.69
1288	17800.	-20000.	4384.13	-136.24
1289	18000.	-20000.	4355.92	-135.12
1290	18200.	-20000.	4327.06	-134.40
1291	18400.	-20000.	4305.21	-133.10
1292	18600.	-20000.	4302.77	-132.37
1293	18800.	-20000.	4306.32	-131.43
1294	19000.	-20000.	4313.46	-130.49
1295	19200.	-20000.	4299.82	-129.79
1296	19400.	-20000.	4321.21	-129.02
1297	19600.	-20000.	4339.17	-128.41
1298	19800.	-20000.	4356.61	-127.78
1299	20000.	-20000.	4391.17	-127.28
1300	20200.	-20000.	4419.43	-126.93
1301	20400.	-20000.	4463.78	-126.35
1302	20600.	-20000.	4503.98	-125.90
1303	20800.	-20000.	4527.55	-125.23
1304	21000.	-20000.	4558.20	-124.78
1305	21200.	-20000.	4578.93	-124.43

1306	21400.	-20000.	4578.36	-124.02
1307	21600.	-20000.	4519.43	-123.53
1308	21800.	-20000.	4515.74	-122.77
1309	22000.	-20000.	4558.96	-122.21
1310	2000.	-23000.	4150.73	-142.07
1311	2200.	-23000.	4133.81	-143.03
1312	2400.	-23000.	4117.88	-143.45
1313	2600.	-23000.	4113.68	-144.12
1314	2800.	-23000.	4092.25	-144.61
1315	3000.	-23000.	4082.47	-145.12
1316	3200.	-23000.	4069.16	-145.41
1317	3400.	-23000.	4065.86	-145.62
1318	3600.	-23000.	4052.90	-145.95
1319	3800.	-23000.	4039.28	-146.19
1320	4000.	-23000.	4019.34	-146.47
1321	4200.	-23000.	4002.12	-146.81
1322	4400.	-23000.	3978.88	-147.04
1323	4600.	-23000.	3966.09	-147.32
1324	4800.	-23000.	3948.33	-147.67
1325	5000.	-23000.	3935.20	-148.03
1326	5200.	-23000.	3915.59	-148.25
1327	5400.	-23000.	3893.82	-148.61
1328	5600.	-23000.	3877.27	-149.00
1329	5800.	-23000.	3852.76	-149.41
1330	6000.	-23000.	3832.95	-149.91
1331	6200.	-23000.	3822.70	-150.27
1332	6400.	-23000.	3807.99	-150.62
1333	6600.	-23000.	3806.34	-150.96
1334	6800.	-23000.	3797.12	-151.34
1335	7000.	-23000.	3796.41	-151.64
1336	7200.	-23000.	3785.48	-151.99
1337	7400.	-23000.	3781.49	-152.35
1338	7600.	-23000.	3766.88	-152.73
1339	7800.	-23000.	3760.72	-152.94
1340	8000.	-23000.	3753.56	-153.28
1341	8200.	-23000.	3744.49	-153.70
1342	8400.	-23000.	3733.23	-154.19
1343	8600.	-23000.	3722.93	-154.67
1344	8800.	-23000.	3697.85	-155.12
1345	9000.	-23000.	3692.03	-155.60
1346	9200.	-23000.	3695.04	-155.66
1347	9400.	-23000.	3672.79	-155.94
1348	9600.	-23000.	3635.18	-156.13
1349	9800.	-23000.	3632.22	-156.20
1350	10000.	-23000.	3641.48	-156.31
1351	10200.	-23000.	3638.81	-156.42
1352	10400.	-23000.	3629.16	-156.48
1353	10600.	-23000.	3626.02	-156.55
1354	10800.	-23000.	3637.75	-156.63
1355	11000.	-23000.	3641.09	-156.29
1356	11200.	-23000.	3624.40	-156.98
1357	11400.	-23000.	3605.77	-157.02
1358	11600.	-23000.	3572.20	-157.12
1359	11800.	-23000.	3508.00	-157.41
1360	12000.	-23000.	3547.98	-157.24
1361	12200.	-23000.	3572.65	-156.96
1362	12400.	-23000.	3577.45	-156.96
1363	12600.	-23000.	3578.54	-156.97
1364	12800.	-23000.	3593.88	-156.97
1365	13000.	-23000.	3611.30	-156.92

KIN LIMITED

1366	13200.	-23000.	3627.69	-156.82
1367	13400.	-23000.	3628.66	-156.81
1368	13600.	-23000.	3637.58	-156.89
1369	13800.	-23000.	3650.92	-156.90
1370	14000.	-23000.	3678.33	-156.65
1371	14200.	-23000.	3705.21	-156.44
1372	14400.	-23000.	3723.41	-156.24
1373	14600.	-23000.	3748.12	-155.89
1374	14800.	-23000.	3777.28	-155.57
1375	15000.	-23000.	3812.08	-155.04
1376	15200.	-23000.	3852.52	-154.01
1377	15400.	-23000.	3862.91	-153.16
1378	15600.	-23000.	3881.79	-152.40
1379	15800.	-23000.	3899.90	-151.41
1380	16000.	-23000.	3904.32	-150.62
1381	16200.	-23000.	3908.28	-149.75
1382	16400.	-23000.	3918.22	-148.88
1383	16600.	-23000.	3934.75	-147.73
1384	16800.	-23000.	3958.78	-146.69
1385	17000.	-23000.	3969.94	-145.71
1386	17200.	-23000.	3984.69	-144.54
1387	17400.	-23000.	4001.81	-143.51
1388	17600.	-23000.	4049.49	-142.20
1389	17800.	-23000.	4050.88	-141.06
1390	18000.	-23000.	4066.95	-139.74
1391	18200.	-23000.	4101.90	-138.50
1392	18400.	-23000.	4119.12	-137.03
1393	18600.	-23000.	4133.96	-135.92
1394	18800.	-23000.	4177.59	-134.86
1395	19000.	-23000.	4187.43	-133.76
1396	19200.	-23000.	4199.62	-132.40
1397	19400.	-23000.	4196.48	-130.28
1398	19600.	-23000.	4226.29	-129.38
1399	19800.	-23000.	4241.79	-129.51
1400	20000.	-23000.	4258.25	-128.92
1401	20200.	-23000.	4293.75	-128.06
1402	20400.	-23000.	4319.41	-127.33
1403	20600.	-23000.	4373.45	-126.88
1404	20800.	-23000.	4396.68	-126.54
1405	21000.	-23000.	4449.63	-126.29
1406	21200.	-23000.	4486.23	-125.92
1407	21400.	-23000.	4494.32	-125.61
1408	21600.	-23000.	4483.68	-125.16
1409	21800.	-23000.	4492.29	-124.76
1410	22000.	-23000.	4501.01	-124.34
1411	4200.	-28000.	4155.24	-148.71
1412	4400.	-28000.	4123.65	-148.87
1413	4600.	-28000.	4087.50	-149.35
1414	4800.	-28000.	4053.96	-149.60
1415	5000.	-28000.	4033.33	-149.74
1416	5200.	-28000.	4061.91	-149.70
1417	5400.	-28000.	4059.98	-150.01
1418	5600.	-28000.	4023.66	-150.35
1419	5800.	-28000.	3995.13	-150.49
1420	6000.	-28000.	3984.44	-150.68
1421	6200.	-28000.	3985.28	-150.91
1422	6400.	-28000.	4001.00	-151.03
1423	6600.	-28000.	3981.89	-151.27
1424	6800.	-28000.	3957.14	-151.63
1425	7000.	-28000.	3953.93	-152.00

1426	7200.	-28000.	3938.04	-152.08
1427	7400.	-28000.	3940.08	-152.08
1428	7600.	-28000.	3935.75	-152.36
1429	7800.	-28000.	3915.32	-152.69
1430	8000.	-28000.	3920.58	-152.85
1431	8200.	-28000.	3920.86	-153.32
1432	8400.	-28000.	3901.34	-153.70
1433	8600.	-28000.	3881.88	-153.87
1434	8800.	-28000.	3882.09	-154.16
1435	9000.	-28000.	3871.97	-154.22
1436	9200.	-28000.	3862.66	-154.18
1437	9400.	-28000.	3835.53	-154.19
1438	9600.	-28000.	3820.53	-154.25
1439	9800.	-28000.	3806.00	-154.55
1440	10000.	-28000.	3784.78	-154.52
1441	10200.	-28000.	3764.67	-154.71
1442	10400.	-28000.	3739.86	-154.79
1443	10600.	-28000.	3724.15	-154.75
1444	10800.	-28000.	3711.54	-154.75
1445	11000.	-28000.	3680.34	-154.92
1446	11200.	-28000.	3660.71	-154.95
1447	11400.	-28000.	3638.45	-154.96
1448	11600.	-28000.	3611.34	-154.82
1449	11800.	-28000.	3599.73	-154.80
1450	12000.	-28000.	3596.80	-154.72
1451	12200.	-28000.	3592.04	-155.05
1452	12400.	-28000.	3589.20	-155.15
1453	12600.	-28000.	3581.04	-155.42
1454	12800.	-28000.	3575.72	-155.27
1455	13000.	-28000.	3571.61	-155.00
1456	13200.	-28000.	3569.49	-154.93
1457	13400.	-28000.	3569.26	-154.51
1458	13600.	-28000.	3572.31	-154.30
1459	13800.	-28000.	3571.77	-154.12
1460	14000.	-28000.	3596.23	-153.90
1461	14200.	-28000.	3623.33	-153.57
1462	14400.	-28000.	3657.15	-153.10
1463	14600.	-28000.	3674.33	-152.70
1464	14800.	-28000.	3717.16	-152.33
1465	15000.	-28000.	3735.00	-151.77
1466	15200.	-28000.	3767.68	-151.18
1467	15400.	-28000.	3763.83	-150.20
1468	15600.	-28000.	3824.26	-149.18
1469	15800.	-28000.	3867.62	-147.97
1470	16000.	-28000.	3883.28	-146.98
1471	16200.	-28000.	3915.68	-146.14
1472	16400.	-28000.	3941.70	-145.18
1473	16600.	-28000.	3978.70	-144.07
1474	16800.	-28000.	3992.18	-143.08
1475	17000.	-28000.	4010.50	-142.09
1476	17200.	-28000.	4022.02	-140.96
1477	17400.	-28000.	4045.22	-139.22
1478	17600.	-28000.	4071.56	-137.48
1479	17800.	-28000.	4097.52	-135.26
1480	18000.	-28000.	4134.73	-132.72
1481	3000.	-32000.	4433.75	-146.45
1482	3200.	-32000.	4431.71	-146.49
1483	3400.	-32000.	4441.13	-145.96
1484	3600.	-32000.	4442.04	-146.06
1485	3800.	-32000.	4420.74	-146.15

1486	4000.	-32000.	4403.83	-146.38
1487	4200.	-32000.	4390.32	-146.16
1488	4400.	-32000.	4357.44	-146.71
1489	4600.	-32000.	4343.12	-147.15
1490	4800.	-32000.	4324.91	-147.48
1491	5000.	-32000.	4285.88	-147.99
1492	5200.	-32000.	4282.95	-148.39
1493	5400.	-32000.	4240.96	-148.76
1494	5600.	-32000.	4183.38	-148.64
1495	5800.	-32000.	4133.96	-148.74
1496	6000.	-32000.	4174.90	-148.96
1497	6200.	-32000.	4148.61	-149.42
1498	6400.	-32000.	4118.44	-149.57
1499	6600.	-32000.	4086.01	-149.59
1500	6800.	-32000.	4076.83	-149.56
1501	7000.	-32000.	4078.26	-149.71
1502	7200.	-32000.	4074.81	-149.89
1503	7400.	-32000.	4075.98	-149.97
1504	7600.	-32000.	4068.95	-150.28
1505	7800.	-32000.	4073.37	-150.59
1506	8000.	-32000.	4050.08	-150.99
1507	8200.	-32000.	4020.45	-151.38
1508	8400.	-32000.	4004.76	-151.69
1509	8600.	-32000.	3995.33	-151.72
1510	8800.	-32000.	3993.18	-151.88
1511	9000.	-32000.	3981.83	-152.08
1512	9200.	-32000.	3966.54	-152.03
1513	9400.	-32000.	3950.33	-152.27
1514	9600.	-32000.	3926.23	-152.51
1515	9800.	-32000.	3904.92	-152.62
1516	10000.	-32000.	3881.40	-152.64
1517	10200.	-32000.	3837.15	-153.10
1518	10400.	-32000.	3813.29	-153.01
1519	10600.	-32000.	3804.83	-153.05
1520	10800.	-32000.	3773.43	-153.07
1521	11000.	-32000.	3760.85	-153.02
1522	11200.	-32000.	3724.26	-152.96
1523	11400.	-32000.	3716.70	-152.94
1524	11600.	-32000.	3702.02	-152.78
1525	11800.	-32000.	3685.73	-153.13
1526	12000.	-32000.	3686.75	-152.94
1527	12200.	-32000.	3684.53	-152.94
1528	12400.	-32000.	3682.87	-152.94
1529	12600.	-32000.	3670.24	-152.80
1530	12800.	-32000.	3660.37	-152.61
1531	13000.	-32000.	3648.93	-152.53
1532	13200.	-32000.	3651.96	-152.39
1533	13400.	-32000.	3617.89	-152.29
1534	13600.	-32000.	3604.88	-152.02
1535	13800.	-32000.	3604.92	-151.48
1536	14000.	-32000.	3606.08	-151.05
1537	14200.	-32000.	3621.08	-150.19
1538	14400.	-32000.	3636.80	-149.83
1539	14600.	-32000.	3641.48	-148.72
1540	14800.	-32000.	3652.96	-148.09
1541	15000.	-32000.	3678.63	-146.46
1542	15200.	-32000.	3703.74	-145.24
1543	15400.	-32000.	3736.41	-143.72
1544	15600.	-32000.	3784.37	-142.14
1545	15800.	-32000.	3838.46	-140.61

1546	16000.	-32000.	3887.10	-139.22
1547	16200.	-32000.	3937.06	-137.36
1548	16400.	-32000.	3983.01	-136.37
1549	16600.	-32000.	4030.23	-135.04
1550	16800.	-32000.	4098.99	-134.10
1551	17000.	-32000.	4138.98	-132.79
1552	17200.	-32000.	4197.45	-132.03
1553	17400.	-32000.	4263.88	-131.10
1554	17600.	-32000.	4322.38	-130.29
1555	17800.	-32000.	4385.38	-129.57
1556	18000.	-32000.	4457.40	-128.94
1557	18200.	-32000.	4525.27	-128.55
1558	18400.	-32000.	4591.59	-127.67
1559	18600.	-32000.	4664.46	-127.02
1560	0.	-36000.	5137.00	-132.48
1561	200.	-36000.	5109.15	-133.47
1562	400.	-36000.	5070.65	-134.13
1563	600.	-36000.	5011.18	-135.12
1564	800.	-36000.	4964.20	-135.88
1565	1000.	-36000.	4901.91	-136.88
1566	1200.	-36000.	4906.54	-137.80
1567	1400.	-36000.	4858.13	-138.79
1568	1600.	-36000.	4782.25	-139.93
1569	1800.	-36000.	4778.55	-140.36
1570	2000.	-36000.	4727.43	-141.05
1571	2200.	-36000.	4685.26	-141.70
1572	2400.	-36000.	4630.68	-142.09
1573	2600.	-36000.	4585.80	-142.48
1574	2800.	-36000.	4574.72	-142.46
1575	3000.	-36000.	4540.76	-143.06
1576	3200.	-36000.	4513.13	-143.37
1577	3400.	-36000.	4466.98	-143.72
1578	3600.	-36000.	4422.54	-143.91
1579	3800.	-36000.	4405.08	-144.30
1580	4000.	-36000.	4405.07	-144.43
1581	4200.	-36000.	4402.56	-144.85
1582	4400.	-36000.	4406.23	-145.09
1583	4600.	-36000.	4421.29	-145.34
1584	4800.	-36000.	4415.32	-145.63
1585	5000.	-36000.	4403.40	-146.00
1586	5200.	-36000.	4369.13	-146.46
1587	5400.	-36000.	4323.97	-146.78
1588	5600.	-36000.	4287.41	-146.99
1589	5800.	-36000.	4275.79	-147.30
1590	6000.	-36000.	4284.79	-147.65
1591	6200.	-36000.	4309.95	-147.64
1592	6400.	-36000.	4336.13	-148.05
1593	6600.	-36000.	4340.58	-148.26
1594	6800.	-36000.	4344.18	-148.70
1595	7000.	-36000.	4297.88	-149.01
1596	7200.	-36000.	4285.08	-149.67
1597	7400.	-36000.	4191.29	-149.75
1598	7600.	-36000.	4158.79	-149.91
1599	7800.	-36000.	4163.54	-149.86
1600	8000.	-36000.	4153.27	-150.18
1601	8200.	-36000.	4180.04	-150.51
1602	8400.	-36000.	4138.92	-150.52
1603	8600.	-36000.	4128.74	-150.79
1604	8800.	-36000.	4115.61	-150.94
1605	9000.	-36000.	4080.19	-151.15

1606	9200.	-36000.	4073.44	-151.29
1607	9400.	-36000.	4075.97	-151.46
1608	9600.	-36000.	4088.05	-151.60
1609	9800.	-36000.	4066.32	-151.64
1610	10000.	-36000.	4027.65	-151.78
1611	10200.	-36000.	4015.59	-151.91
1612	10400.	-36000.	3989.95	-152.15
1613	10600.	-36000.	3947.76	-152.36
1614	10800.	-36000.	3966.12	-152.38
1615	11000.	-36000.	3966.39	-152.41
1616	11200.	-36000.	3958.64	-152.45
1617	11400.	-36000.	3946.05	-152.65
1618	11600.	-36000.	3914.44	-152.94
1619	11800.	-36000.	3828.72	-152.96
1620	12000.	-36000.	3793.99	-152.90
1621	12200.	-36000.	3787.07	-152.62
1622	12400.	-36000.	3779.75	-152.47
1623	12600.	-36000.	3769.17	-152.36
1624	12800.	-36000.	3755.44	-152.37
1625	13000.	-36000.	3713.98	-152.40
1626	13200.	-36000.	3697.44	-152.13
1627	13400.	-36000.	3691.97	-151.84
1628	13600.	-36000.	3685.82	-151.49
1629	13800.	-36000.	3661.18	-151.24
1630	14000.	-36000.	3652.17	-150.85
1631	14200.	-36000.	3652.37	-150.71
1632	14400.	-36000.	3652.48	-150.01
1633	14600.	-36000.	3652.67	-149.40
1634	14800.	-36000.	3653.65	-148.65
1635	15000.	-36000.	3652.70	-147.90
1636	15200.	-36000.	3652.40	-147.27
1637	15400.	-36000.	3653.56	-145.87
1638	15600.	-36000.	3657.71	-144.90
1639	15800.	-36000.	3655.12	-143.12
1640	16000.	-36000.	3632.19	-146.13
1641	16200.	-36000.	3723.34	-139.08
1642	16400.	-36000.	3758.87	-137.79
1643	16600.	-36000.	3801.18	-136.88
1644	2600.	-40000.	4875.88	-138.39
1645	2800.	-40000.	4846.48	-138.94
1646	3000.	-40000.	4815.61	-140.19
1647	3200.	-40000.	4735.48	-140.50
1648	3400.	-40000.	4657.17	-140.73
1649	3600.	-40000.	4610.38	-141.01
1650	3800.	-40000.	4602.86	-141.59
1651	4000.	-40000.	4621.88	-141.83
1652	4200.	-40000.	4637.80	-142.67
1653	4400.	-40000.	4669.50	-142.97
1654	4600.	-40000.	4673.52	-143.05
1655	4800.	-40000.	4682.33	-143.54
1656	5000.	-40000.	4710.98	-143.15
1657	5200.	-40000.	4740.63	-143.65
1658	5400.	-40000.	4723.29	-144.38
1659	5600.	-40000.	4667.57	-144.40
1660	5800.	-40000.	4629.02	-144.72
1661	6000.	-40000.	4621.17	-145.03
1662	6200.	-40000.	4580.11	-145.78
1663	6400.	-40000.	4549.00	-145.63
1664	6600.	-40000.	4527.99	-146.00
1665	6800.	-40000.	4507.23	-146.37

1666	7000.	-40000.	4490.14	-146.56
1667	7200.	-40000.	4476.95	-146.95
1668	7400.	-40000.	4471.20	-147.01
1669	7600.	-40000.	4466.57	-147.32
1670	7800.	-40000.	4444.40	-147.81
1671	8000.	-40000.	4397.54	-143.06
1672	8200.	-40000.	4367.21	-148.42
1673	8400.	-40000.	4333.68	-148.66
1674	8600.	-40000.	4303.14	-148.94
1675	8800.	-40000.	4288.63	-149.30
1676	9000.	-40000.	4267.26	-149.56
1677	9200.	-40000.	4243.13	-150.00
1678	9400.	-40000.	4220.27	-150.58
1679	9600.	-40000.	4202.99	-151.17
1680	9800.	-40000.	4175.54	-151.30
1681	10000.	-40000.	4146.54	-151.02
1682	10200.	-40000.	4128.61	-150.81
1683	10400.	-40000.	4131.04	-150.95
1684	10600.	-40000.	4124.64	-151.20
1685	10800.	-40000.	4110.98	-151.22
1686	11000.	-40000.	4078.93	-151.45
1687	11200.	-40000.	4031.11	-151.57
1688	11400.	-40000.	3995.98	-151.70
1689	11600.	-40000.	3983.37	-151.58
1690	11800.	-40000.	3957.92	-151.68
1691	12000.	-40000.	3935.32	-151.62
1692	12200.	-40000.	3911.31	-151.61
1693	12400.	-40000.	3929.60	-151.22
1694	12600.	-40000.	3900.01	-151.06
1695	12800.	-40000.	3874.27	-150.77
1696	13000.	-40000.	3846.58	-150.84
1697	13200.	-40000.	3855.35	-150.57
1698	13400.	-40000.	3864.72	-150.28
1699	13600.	-40000.	3862.07	-149.99
1700	13800.	-40000.	3856.22	-149.57
1701	14000.	-40000.	3848.62	-149.12
1702	14200.	-40000.	3836.36	-148.74
1703	14400.	-40000.	3834.45	-143.35
1704	14600.	-40000.	3824.91	-148.27
1705	14800.	-40000.	3806.77	-148.03
1706	15000.	-40000.	3767.72	-147.92
1707	15200.	-40000.	3735.18	-147.70
1708	15400.	-40000.	3732.63	-146.81
1709	15600.	-40000.	3732.61	-145.96
1710	15800.	-40000.	3733.76	-144.94
1711	16000.	-40000.	3732.73	-144.12
1712	16200.	-40000.	3732.38	-143.06
1713	16400.	-40000.	3751.56	-141.74
1714	16600.	-40000.	3737.48	-140.66
1715	16800.	-40000.	3735.66	-139.67
1716	17000.	-40000.	3736.18	-138.16
1717	17200.	-40000.	3736.46	-136.65
1718	17400.	-40000.	3756.50	-135.24
1719	17600.	-40000.	3731.76	-134.98
1720	17800.	-40000.	3762.99	-134.71
1721	18000.	-40000.	3752.72	-134.39
1722	18200.	-40000.	3763.08	-133.84
1723	18400.	-40000.	3780.84	-133.14
1724	18600.	-40000.	3789.91	-132.03
1725	18800.	-40000.	3779.50	-131.69

1726	19000.	-40000.	3751.91	-131.62
1727	4000.	-44000.	4945.99	-140.34
1728	4200.	-44000.	4899.77	-141.11
1729	4400.	-44000.	4863.46	-141.67
1730	4600.	-44000.	4790.13	-142.15
1731	4800.	-44000.	4724.64	-142.38
1732	5000.	-44000.	4678.22	-143.31
1733	5200.	-44000.	4717.61	-143.31
1734	5400.	-44000.	4794.61	-143.14
1735	5600.	-44000.	4858.16	-143.29
1736	5800.	-44000.	4891.25	-143.15
1737	6000.	-44000.	4863.00	-143.29
1738	6200.	-44000.	4835.36	-143.65
1739	6400.	-44000.	4790.58	-143.93
1740	6600.	-44000.	4756.57	-144.37
1741	6800.	-44000.	4708.45	-144.70
1742	7000.	-44000.	4656.20	-145.23
1743	7200.	-44000.	4603.95	-145.62
1744	7400.	-44000.	4550.32	-146.27
1745	7600.	-44000.	4494.84	-147.03
1746	7800.	-44000.	4409.90	-147.83
1747	8000.	-44000.	4348.63	-148.11
1748	8200.	-44000.	4321.50	-148.72
1749	8400.	-44000.	4293.86	-149.23
1750	8600.	-44000.	4281.23	-149.97
1751	8800.	-44000.	4256.48	-150.45
1752	9000.	-44000.	4240.29	-150.95
1753	9200.	-44000.	4224.55	-151.22
1754	9400.	-44000.	4217.20	-151.57
1755	9600.	-44000.	4206.71	-151.75
1756	9800.	-44000.	4207.43	-151.94
1757	10000.	-44000.	4199.20	-152.01
1758	10200.	-44000.	4183.09	-152.13
1759	10400.	-44000.	4181.39	-152.15
1760	10600.	-44000.	4171.70	-152.02
1761	10800.	-44000.	4164.38	-151.99
1762	11000.	-44000.	4162.61	-151.92
1763	11200.	-44000.	4160.91	-151.86
1764	11400.	-44000.	4150.72	-151.81
1765	11600.	-44000.	4143.18	-151.85
1766	11800.	-44000.	4145.00	-152.01
1767	12000.	-44000.	4123.38	-151.74
1768	12200.	-44000.	4112.29	-151.66
1769	12400.	-44000.	4100.34	-151.77
1770	12600.	-44000.	4082.15	-151.55
1771	12800.	-44000.	4065.10	-151.38
1772	13000.	-44000.	4047.82	-151.12
1773	13200.	-44000.	4035.47	-150.97
1774	13400.	-44000.	4018.62	-150.68
1775	13600.	-44000.	3998.53	-150.41
1776	13800.	-44000.	3970.50	-150.23
1777	14000.	-44000.	3946.81	-150.01
1778	14200.	-44000.	3922.44	-149.77
1779	14400.	-44000.	3900.44	-149.64
1780	14600.	-44000.	3880.58	-149.28
1781	14800.	-44000.	3857.55	-148.95
1782	15000.	-44000.	3835.53	-148.77
1783	15200.	-44000.	3837.93	-148.35
1784	15400.	-44000.	3800.45	-147.81
1785	15600.	-44000.	3796.42	-147.32

MAIN LIMITED

1786	15800.	-44000.	3837.05	-146.72
1787	16000.	-44000.	3890.53	-145.77
1788	16200.	-44000.	3885.70	-144.93
1789	16400.	-44000.	3884.21	-144.52
1790	16600.	-44000.	3890.02	-143.42
1791	16800.	-44000.	3927.00	-142.23
1792	17000.	-44000.	3947.52	-140.63
1793	17200.	-44000.	3972.77	-139.42
1794	17400.	-44000.	4016.73	-137.88
1795	17600.	-44000.	4048.37	-136.95
1796	17800.	-44000.	4141.54	-134.91
1797	18000.	-44000.	4184.48	-133.53
1798	18200.	-44000.	4202.70	-130.96
1799	18400.	-44000.	4176.13	-130.09
1800	18600.	-44000.	4220.38	-128.88
1801	4600.	-48000.	5082.32	-137.98
1802	4800.	-48000.	5042.63	-138.19
1803	5000.	-48000.	5027.38	-138.65
1804	5200.	-48000.	4974.98	-139.03
1805	5400.	-48000.	4939.02	-139.61
1806	5600.	-48000.	4892.86	-140.02
1807	5800.	-48000.	4856.39	-140.54
1808	6000.	-48000.	4848.70	-140.91
1809	6200.	-48000.	4828.07	-141.35
1810	6400.	-48000.	4814.61	-141.70
1811	6600.	-48000.	4788.89	-141.97
1812	6800.	-48000.	4748.50	-142.32
1813	7000.	-48000.	4720.66	-142.81
1814	7200.	-48000.	4697.48	-143.29
1815	7400.	-48000.	4672.63	-143.70
1816	7600.	-48000.	4654.50	-144.03
1817	7800.	-48000.	4640.80	-144.51
1818	8000.	-48000.	4627.54	-144.98
1819	8200.	-48000.	4615.11	-145.41
1820	8400.	-48000.	4612.70	-145.82
1821	8600.	-48000.	4603.29	-146.13
1822	8800.	-48000.	4574.61	-146.52
1823	9000.	-48000.	4553.22	-146.79
1824	9200.	-48000.	4521.38	-147.05
1825	9400.	-48000.	4496.21	-147.35
1826	9600.	-48000.	4476.58	-147.55
1827	9800.	-48000.	4449.54	-147.77
1828	10000.	-48000.	4424.38	-148.07
1829	10200.	-48000.	4405.74	-148.12
1830	10400.	-48000.	4382.38	-148.25
1831	10600.	-48000.	4353.67	-148.44
1832	10800.	-48000.	4325.00	-148.40
1833	11000.	-48000.	4294.52	-148.53
1834	11200.	-48000.	4270.39	-148.44
1835	11400.	-48000.	4256.57	-148.54
1836	11600.	-48000.	4245.01	-148.43
1837	11800.	-48000.	4236.56	-148.55
1838	12000.	-48000.	4223.55	-148.65
1839	12200.	-48000.	4199.30	-148.75
1840	12400.	-48000.	4186.95	-148.76
1841	12600.	-48000.	4188.96	-148.66
1842	12800.	-48000.	4167.61	-148.66
1843	13000.	-48000.	4163.89	-148.58
1844	13200.	-48000.	4145.73	-148.43
1845	13400.	-48000.	4136.39	-148.42

ALN LIMITED

1846	13600.	-48000.	4128.67	-148.47
1847	13800.	-48000.	4103.59	-148.60
1848	14000.	-48000.	4062.13	-148.89
1849	14200.	-48000.	4044.24	-148.75
1850	14400.	-48000.	4063.36	-148.67
1851	14600.	-48000.	4054.61	-148.28
1852	14800.	-48000.	4033.87	-148.18
1853	15000.	-48000.	4015.74	-148.15
1854	15200.	-48000.	3999.04	-148.05
1855	15400.	-48000.	3979.64	-147.76
1856	15600.	-48000.	3958.58	-147.36
1857	15800.	-48000.	3944.55	-146.87
1858	16000.	-48000.	3940.10	-146.40
1859	16200.	-48000.	3936.38	-145.78
1860	16400.	-48000.	3922.95	-145.48
1861	16600.	-48000.	3924.87	-144.54
1862	16800.	-48000.	3921.18	-144.00
1863	17000.	-48000.	3924.57	-142.54
1864	17200.	-48000.	3905.36	-141.94
1865	17400.	-48000.	3908.04	-140.43
1866	17600.	-48000.	3959.69	-139.15
1867	17800.	-48000.	4010.79	-136.99
1868	18000.	-48000.	4046.54	-135.67
1869	18200.	-48000.	4126.77	-132.69
1870	18400.	-48000.	4189.07	-131.36
1871	18600.	-48000.	4257.59	-129.63

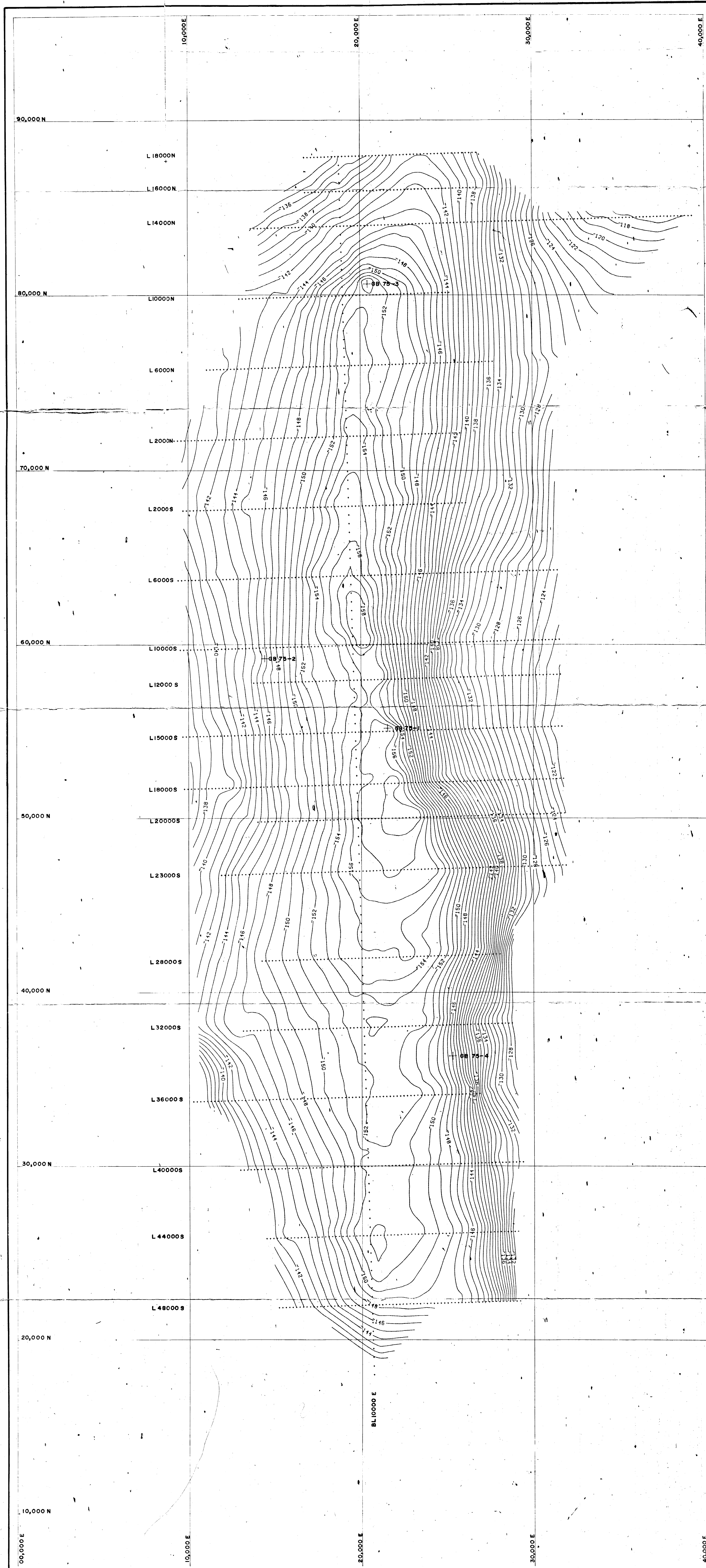
EXECUTION TERMINATED

SIGNOFF

APPENDIX 3 - MEDICINE CREEK RECONAISSANCE LINE 9000N

X,Y, ELEV.	in FEET	S.B. GRAVITY	in MGAL	
STN NO	X COORD	Y COORD	ELEVATION	S.B.GRAVITY
1872	30700	9000	3851.82	-116.79
1873	30900	9000	3852.51	-116.83
1874	31100	9000	3854.83	-116.91
1875	31300	9000	3856.40	-117.07
1876	31500	9000	3857.05	-117.27
1877	31700	9000	3863.11	-117.44
1878	31900	9000	3875.47	-117.20
1879	32100	9000	3874.37	-117.15
1880	32300	9000	3872.22	-117.15
1881	32500	9000	3868.74	-117.13
1882	32700	9000	3867.89	-117.11
1883	32900	9000	3869.18	-117.16
1884	33100	9000	3870.51	-117.23
1885	33300	9000	3872.99	-117.45
1886	33500	9000	3875.95	-117.34
1887	33700	9000	3902.56	-117.17
1888	33900	9000	3886.40	-117.17
1889	34100	9000	3882.82	-117.10

1890	34300	9000	3872.59	-117.15
1891	34500	9000	3872.13	-116.91
1892	34700	9000	3874.99	-116.84
1893	34900	9000	3881.42	-116.69
1894	35100	9000	3904.73	-116.54
1895	35300	9000	3918.22	-116.38
1896	35500	9000	3931.81	-116.24
1897	35700	9000	3940.33	-116.17
1898	35900	9000	3954.40	-116.03
1899	36100	9000	3977.88	-115.86
1900	36300	9000	3990.44	-115.72
1901	36500	9000	3996.53	-115.84
1902	36700	9000	4003.64	-115.76
1903	36900	9000	4008.17	-115.54
1904	37100	9000	4002.64	-115.40
1905	37300	9000	4024.25	-115.20
1906	37500	9000	4024.31	-115.27
1907	37700	9000	4020.95	-115.25
1908	37900	9000	4006.91	-115.23
1909	38100	9000	4012.76	-115.06
1910	38300	9000	4009.68	-114.96
1911	38500	9000	4022.80	-114.79
1912	38700	9000	4022.95	-114.62
1913	38900	9000	4025.00	-114.52



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B. C. HYDRO & POWER AUTHORITY
 DOLMAGE CAMPBELL & ASSOCIATES LTD.
 C. A. AGER & ASSOCIATES
 COMPLETE BOUGUER GRAVITY
 HAT CREEK PROJECT
 SCALE - 1 INCH TO 2000 FEET
 2000 1000 0 2000 4000 6000 8000
 CONTOUR INTERVAL = 1 MGAL