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September 11, 1970

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EMPLOYEE RELATIONS
HASKELL LABORATORY

LEAD FEEDING STUDY

This letter summarizes our discussions on the results of your recently conducted lead feeding study. The aim was to determine the effect of varying amounts of lead present in dogs' systems on their rate of hemoglobin, hematocrit, and red blood cell production after hemorrhaging.

The analysis indicated that amount of lead present had no effect on the rate of hemoglobin and hematocrit build-up. The low-lead group showed a rate of increase in red blood cell count significantly higher than the high lead and the control groups. However, there were two dogs in the low-lead group whose rate of red blood cell build-up was considerably higher than the rates exhibited by the others in their group. When these two dogs were eliminated from the analysis, the significant effects disappeared: lead had no effect on the rate of blood production.

Scatter plots of the data and analysis of variance results have been delivered to you under separate cover. A discussion of the analysis is attached.

ENGINEERING SERVICE DIVISION

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Attachment

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HASKELL LAB.

1. Experimental Design

There were three groups of dogs in the experiment, each containing six males and six females. One group was a control. The second group was fed a small amount of lead; the third, a larger amount. Each of these sets of 12 were further divided into subgroups of three for convenience in taking measurements. Lead was built up in the dogs' systems over a period of 46 weeks. At the end of that time, blood was withdrawn from the dogs. Hemoglobin, hematocrit, and red blood cell measurements (a total of 16 each) were then taken at intervals over a period of 90 days.

2. Analysis and Results

The hemoglobin, hematocrit, and red blood cell count of each dog was expressed as a percentage of the average value over the prehemorrhage period. A plot of the logarithms of these percentages versus the log of the time elapsed after hemorrhage showed a random distribution around a straight line. This indicated that the data for each dog could be summarized by fitting an equation of the form $\log y = b_0 + b_1 \log x$, where y equals the percent hemoglobin, hematocrit, or red blood cell count at time x after hemorrhage. Also, b_0 equals the log of the percentage one day after hemorrhage and b_1 equals the slope, or rate of build-up of the measured quantity.

For several dogs, the first set of equations did not fit the data satisfactorily. The measurement taken on the day following hemorrhage did not fit the pattern set by the rest of the data. The first measurement was omitted and new equations were fitted, with better results.

An analysis of variance was done on both the b_0 and b_1 values to see if the amount of lead or the sex of the dog influenced either the value of the intercept (b_0) or the rate of blood production (b_1). The analysis was done on both sets of data: complete (16 days) and partial (first measurement omitted). The analysis showed that the dogs in the low lead group had a significantly higher mean rate of red blood cell production than either the dogs in the control group or in the high lead group. Rate of hemoglobin production for these dogs was significantly high when the 15-measurement regression data was used. No significant effects appeared in the analyses of the y -intercepts (b_0).

Examination of the data showed that two female dogs in the low lead group had recovery rates (b_1) which were appreciably higher than those of the other dogs in the same group. When their data were replaced by the average recovery rates of the other two dogs in their respective subgroups, the analysis

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of variance showed no significant effects. It can thus be concluded that neither lead nor the sex of the dog had any significant effect on the post-hemorrhage build-up of hemoglobin, red blood cells, or hematocrit.

3. Recommendations

Because the fitted equations were linear on a log-log scale, the data taken at the beginning of the study were inadequate. Lack of data between day 1 and day 5, for example, made it impossible to determine the shape of the curve in that interval. It would have been particularly helpful to do so, since the day 1 measurement did not fit the same pattern as the rest of the measurements. In the future, the number of observations taken between days 1 and 10 should equal the number taken between days 10 and 100.

ATTACHMENT 1
ANALYSIS OF VARIANCE TABLE

N36845.02

DUP050308570

The data constituted a crossed experimental design. Analyses were done on the slope (b_1) and y-intercept (b_0) for each of the three blood measurements. Two separate sets of slopes and intercepts were used: those calculated from the complete data, and those calculated with measurement 1 omitted. Each of the 12 analyses had the following table:

SOURCE	DEGREES OF FREEDOM
TOTAL	35
PB GROUP (P)	2
SEX (S)	1
SUBGROUP (G)	1
PXS	2
PXG	2
SXG	1
PXSXG	2
REPLICATES	24

ATTACHMENT 2

ORIGINAL DATA: 1. HEMOGLOBIN
2. HEMATOCRIT
3. RED BLOOD CELL COUNT

N36845.03

DUP050308572

TITLE HEMOGLOBIN HALF DOGS

1	9.7	8.9	9.7	10.3	12.1	11.4	12.6	9.9	8.7
11.1	11.6	10.4	10.2	10.3	11.6	11.1	10.9	9.8	1
5	9.9	10.4	11.7	9.9	12.4	11.7	12.6	11.0	10.1
11.7	12.8	11.7	11.9	11.9	12.8	12.3	11.0	11.0	
7	11.0	11.7	12.4	12.6	12.8	12.1	14.1	11.9	12.1
12.1	12.2	11.7	13.1	11.9	12.6	13.1	11.7	11.4	
12	10.7	11.8	12.5	13.0	12.8	12.8	14.4	11.9	13.3
12.4	14.5	11.9	13.4	13.2	13.5	14.2	12.4	12.4	
14	13.1	12.5	13.8	13.5	13.8	13.1	15.3	12.0	13.8
13.8	15.6	12.6	13.6	13.9	13.4	14.5	12.6	12.9	
19	12.0	13.1	14.2	13.9	14.2	13.5	15.6	12.0	14.2
14.2	13.5	12.4	14.6	14.2	13.5	15.0	13.1	14.2	
21	11.3	13.5	14.2	14.2	14.2	13.5	15.3	12.0	14.2
14.2	16.1	13.5	14.6	15.3	13.5	15.8	13.9	14.6	
26	11.9	13.3	14.1	15.0	14.3	13.5	15.6	11.7	14.2
14.6	15.6	13.5	15.0	15.5	15.0	16.1	14.2	15.2	
28	13.4	14.2	14.9	15.2	14.6	13.9	15.0	12.6	15.3
14.4	15.3	15.2	14.7	15.9	14.4	15.9	14.3	15.3	
33	12.4	14.3	15.3	14.9	14.9	14.7	17.0	13.3	15.6
15.2	16.3	14.2	15.3	15.2	15.6	16.3	14.7	15.2	
40	13.5	14.9	15.5	14.5	14.3	13.5	17.0	13.5	16.8
14.2	15.6	14.5	15.9	14.0	16.0	14.9	14.2	15.1	
47	13.8	15.6	15.6	15.6	15.6	15.8	17.8	13.1	15.6
14.5	17.5	14.2	16.3	14.9	16.6	17.0	15.6	16.3	
54	13.1	13.1	15.9	15.3	15.3	16.0	17.8	13.1	16.3
14.7	18.3	15.3	15.8	16.2	16.3	16.0	16.0	16.6	
61	14.3	16.2	15.2	15.2	17.0	16.6	18.6	14.9	16.6
16.3	17.8	15.6	16.6	15.6	17.0	16.3	15.1	17.0	
68	16.0	16.0	16.0	15.8	15.8	17.5	18.6	14.7	17.6
16.6	17.6	15.8	15.5	15.8	17.6	16.8	16.9	17.6	
90	14.5	15.8	16.6	16.6	17.3	16.6	18.6	16.0	16.4
16.4	18.6	17.3	16.6	16.3	17.7	17.2	15.8	16.6	

NOTE: The first number in each set denotes the day on which the data were taken. The eighteen numbers following are the measurements on each of the eighteen dogs.

TITLE HEMOGLOBIN FEMALE DOGS

1	10.7	10.6	11.1	10.5	11.4	10.4	10.0	8.3	9.5
8.9	13.1	11.2	9.9	11.3	9.8	9.9	11.4	10.7	
5	12.2	11.1	11.7	10.3	12.1	11.0	11.7	9.2	11.7
8.2	11.0	11.9	10.7	12.3	10.3	10.7	12.4	10.8	
7	11.4	12.1	13.5	11.4	12.1	10.8	11.7	10.3	12.4
9.7	12.1	14.9	12.3	13.1	11.6	11.7	13.8	11.0	
12	18.1	12.9	13.3	14.2	14.2	12.4	12.3	11.9	13.6
11.4	12.1	16.3	12.9	13.3	13.1	12.1	14.7	11.4	
14	15.1	12.6	13.3	13.1	15.6	13.1	12.1	12.0	14.3
12.1	11.7	17.0	12.9	13.0	12.1	13.1	15.2	12.1	
19	16.5	13.5	14.7	14.6	16.1	13.9	13.5	14.2	16.4
13.5	12.7	18.1	12.0	13.5	13.1	12.9	16.8	14.2	
21	15.6	13.5	14.9	15.2	16.1	12.9	13.5	15.0	15.5
12.4	12.4	18.0	12.6	13.5	12.0	14.2	17.5	14.2	
26	14.9	14.7	15.0	15.3	16.5	15.0	13.6	14.9	16.4
13.5	12.8	17.5	13.6	14.2	13.0	13.9	17.3	14.2	
28	16.6	14.6	15.3	15.6	15.9	14.6	13.9	13.9	15.3
14.9	13.3	18.0	12.4	14.6	13.1	13.9	17.2	14.0	
33	16.3	14.0	17.8	15.2	16.0	13.7	15.6	15.6	17.8
14.0	14.5	18.2	13.3	15.6	13.5	14.7	16.3	13.5	
40	15.3	14.2	16.6	15.6	18.5	14.9	13.1	15.6	15.2
14.9	13.8	13.7	13.5	15.3	14.2	14.2	18.5	14.5	
47	16.8	14.2	17.9	15.8	17.0	16.0	16.0	16.8	18.2
16.0	15.8	18.3	14.8	15.6	14.9	14.9	18.5	14.9	
54	15.6	15.6	16.6	15.8	16.8	15.3	16.6	17.0	15.3
16.3	14.9	18.3	15.3	16.2	15.8	14.7	18.9	14.7	
61	16.6	18.3	16.9	16.6	17.8	15.6	16.6	17.5	17.5
17.8	15.3	19.7	14.3	16.8	16.8	14.9	18.5	15.6	
68	17.0	15.9	17.9	17.8	16.3	16.5	16.6	17.5	18.5
17.9	16.6	19.3	15.5	16.6	16.3	16.2	19.3	16.2	
90	15.1	16.6	19.2	18.4	17.3	18.0	14.4	18.0	18.4
17.3	15.1	20.2	14.2	17.4	18.4	15.6	20.2	15.8	

TITLE HEMATOCRIT MALE DOG

1.	26.	23.	24.	25.	32.	30.	33.	27.	22.
28.	30.	28.	26.	27.	32.	29.	29.	26.	22.
5.	25.	29.	31.	26.	33.	32.	34.	29.	28.
31.	35.	33.	33.	32.	35.	74.	33.	33.	
7.	29.	32.	36.	38.	33.	32.	40.	33.	33.
33.	32.	32.	36.	33.	35.	36.	32.	22.	
12.	30.	34.	36.	37.	37.	36.	43.	34.	38.
35.	40.	34.	38.	37.	38.	40.	36.	36.	
14.	37.	36.	40.	38.	33.	35.	45.	33.	40.
38.	44.	36.	38.	40.	39.	42.	36.	38.	
19.	33.	36.	41.	38.	39.	38.	45.	34.	41.
40.	39.	36.	41.	41.	39.	44.	39.	41.	
21.	31.	39.	42.	39.	40.	78.	45.	34.	41.
39.	46.	39.	42.	45.	39.	45.	39.	42.	
26.	37.	38.	41.	43.	39.	79.	45.	32.	40.
40.	44.	39.	43.	44.	42.	46.	42.	44.	
28.	37.	42.	42.	43.	43.	40.	45.	36.	43.
41.	44.	44.	42.	45.	41.	46.	44.	45.	
33.	36.	43.	45.	43.	42.	43.	50.	38.	45.
43.	48.	41.	46.	46.	46.	46.	42.	46.	
40.	39.	44.	44.	45.	43.	41.	50.	39.	48.
42.	48.	45.	47.	41.	48.	45.	44.	46.	
47.	38.	44.	45.	44.	45.	47.	53.	39.	45.
41.	49.	42.	47.	42.	48.	47.	43.	44.	
54.	38.	36.	46.	44.	44.	47.	54.	37.	47.
43.	52.	45.	47.	46.	48.	46.	46.	49.	
61.	49.	40.	47.	41.	47.	48.	54.	42.	47.
46.	49.	46.	47.	45.	50.	48.	44.	49.	
68.	46.	46.	45.	45.	46.	50.	55.	43.	49.
46.	49.	46.	48.	46.	50.	47.	46.	49.	
90.	41.	46.	46.	45.	50.	46.	54.	46.	47.
46.	52.	50.	47.	46.	52.	47.	45.	47.	

YULE HEMATOCRIT FEMALE 006

1.	28.	28.	28.	27.	30.	27.	25.	20.	25.
20.	33.	28.	21.	30.	25.	26.	30.	28.	31.
5.	33.	29.	31.	27.	33.	31.	31.	24.	31.
20.	29.	32.	29.	35.	28.	30.	35.	30.	35.
7.	32.	33.	37.	31.	33.	30.	31.	28.	35.
25.	31.	42.	34.	36.	32.	33.	39.	30.	40.
12.	41.	37.	38.	41.	40.	34.	36.	32.	40.
33.	33.	37.	38.	38.	37.	36.	41.	35.	41.
14.	43.	35.	38.	37.	45.	37.	42.	34.	41.
34.	32.	48.	36.	36.	33.	37.	42.	35.	49.
19.	45.	38.	43.	39.	46.	39.	37.	42.	49.
39.	32.	51.	35.	39.	37.	37.	46.	40.	45.
21.	45.	37.	42.	43.	46.	35.	36.	43.	45.
35.	36.	52.	35.	39.	35.	40.	48.	41.	48.
26.	42.	42.	41.	43.	48.	41.	40.	42.	48.
39.	36.	50.	37.	41.	38.	40.	48.	41.	45.
28.	46.	41.	43.	44.	47.	41.	40.	38.	45.
43.	38.	52.	35.	41.	39.	41.	48.	40.	52.
33.	47.	39.	52.	44.	47.	39.	47.	45.	52.
41.	42.	53.	38.	43.	39.	42.	45.	39.	45.
40.	44.	40.	50.	46.	56.	43.	39.	46.	45.
44.	41.	56.	39.	45.	44.	42.	54.	42.	53.
47.	49.	40.	52.	42.	46.	43.	48.	50.	53.
44.	43.	50.	42.	45.	42.	43.	52.	42.	44.
54.	43.	38.	50.	45.	48.	44.	45.	46.	44.
48.	43.	57.	44.	48.	45.	42.	55.	42.	51.
61.	47.	40.	49.	47.	52.	43.	47.	50.	51.
51.	44.	57.	40.	48.	48.	44.	52.	44.	55.
68.	48.	44.	51.	49.	47.	47.	48.	51.	55.
50.	47.	57.	44.	49.	45.	46.	55.	46.	52.
90.	43.	46.	54.	52.	49.	51.	42.	50.	52.
48.	43.	56.	38.	50.	52.	43.	55.	43.	43.

TYLE RED BLOOD CELL MALE DOG

1	3.88	3.68	3.72	3.60	4.56	4.28	4.92	4.20	3.48
4.35	4.40	3.96	4.16	4.28	4.72	4.60	4.40	3.54	4.20
5	3.48	4.20	4.52	3.60	5.00	4.60	4.56	4.40	4.20
4.32	4.92	4.48	4.88	5.08	5.04	5.04	4.72	4.28	4.88
7	4.40	4.32	5.04	4.92	5.12	4.68	5.56	4.68	4.88
4.68	5.04	5.16	4.72	4.92	5.36	4.92	4.92	4.60	5.56
12	4.72	4.96	5.16	4.88	5.04	5.44	6.04	5.16	5.56
4.96	5.56	5.12	5.36	5.64	5.48	5.96	5.44	5.48	5.56
14	5.22	5.16	5.68	5.56	5.92	5.76	6.22	5.42	5.84
5.74	6.16	5.68	5.56	5.84	5.88	6.16	5.52	5.88	5.84
19	5.60	5.28	5.92	5.84	5.96	6.00	5.76	5.28	5.88
6.16	5.32	5.44	5.84	6.24	5.92	6.40	5.88	5.88	5.88
21	4.72	5.68	6.04	6.04	6.28	6.08	7.08	5.28	5.96
6.12	6.00	5.64	5.56	6.56	5.64	6.76	5.72	6.92	5.96
26	5.00	5.72	5.76	6.20	6.28	6.24	7.28	5.24	5.64
5.96	6.32	6.28	5.68	6.64	6.28	6.72	6.28	6.64	5.64
28	5.64	6.08	6.16	6.16	6.48	5.96	6.64	6.00	6.64
6.52	5.44	6.72	6.16	6.68	6.16	6.88	6.48	6.68	6.64
33	5.16	5.76	6.04	6.60	6.68	6.56	7.00	5.60	6.24
6.84	7.16	6.72	6.16	6.56	6.60	7.12	6.40	7.04	6.24
40	5.92	6.48	6.60	6.24	6.88	6.08	7.88	6.68	6.00
6.16	6.72	7.00	5.92	6.12	6.84	6.76	6.56	7.12	6.00
47	5.88	6.76	6.72	6.48	7.44	7.20	8.20	6.20	6.56
6.80	7.48	6.84	6.68	6.44	6.76	7.44	6.88	7.60	6.56
54	6.08	5.84	6.84	6.56	6.92	6.84	8.58	6.24	7.20
6.72	7.80	7.16	6.92	7.04	7.28	7.16	7.12	7.60	7.20
61	5.72	6.28	6.28	6.08	7.08	6.92	7.84	6.64	6.80
6.84	7.08	6.64	6.40	6.48	6.68	7.00	6.28	7.00	6.80
68	6.76	6.56	6.60	6.32	7.32	7.28	8.24	6.60	7.28
7.48	7.36	6.92	7.04	6.64	7.40	7.08	6.92	7.32	7.28
90	6.16	6.76	6.76	6.88	7.80	7.60	8.54	6.52	6.88
5.80	7.60	7.96	6.76	6.76	7.32	7.28	7.04	7.32	6.88

TITLE RED BLOOD CELL FEMALE 006

1	4.20	4.20	4.68	4.28	4.60	3.64	3.96	3.40	3.80
3.24	4.72	4.12	3.52	4.56	3.96	3.72	4.48	4.34	1
5	4.76	4.16	4.88	4.12	4.88	3.92	4.16	3.68	4.56
2.96	4.48	4.64	3.92	4.68	3.96	4.32	4.88	4.52	
7	4.76	4.84	5.84	4.76	4.92	4.28	4.72	4.16	5.08
3.64	4.84	5.84	5.16	5.20	4.60	4.48	5.44	4.44	
12	5.56	5.68	5.60	5.92	5.68	4.84	5.24	4.64	5.72
4.44	5.20	6.24	5.44	5.56	5.68	4.88	5.56	4.60	
14	6.24	5.28	5.88	5.36	6.52	5.48	4.76	5.04	6.08
4.84	5.72	6.88	5.64	5.48	5.20	5.04	6.16	5.32	
19	6.64	5.68	6.56	5.72	6.64	5.56	5.32	5.12	6.80
5.20	5.36	7.24	5.64	5.76	5.88	5.20	6.28	5.48	
21	6.80	6.00	6.52	6.44	6.68	5.00	5.68	6.12	6.84
4.68	6.00	7.60	5.52	5.88	5.44	5.76	6.44	5.76	
26	6.48	6.80	6.52	6.20	7.08	5.64	5.88	5.98	6.84
5.36	6.12	7.28	6.16	6.04	6.00	5.76	7.08	6.00	
28	6.92	6.24	6.56	6.52	6.64	5.96	6.00	5.48	6.00
5.52	6.12	7.28	5.56	6.04	6.12	5.84	7.08	5.92	
33	6.64	5.92	7.36	6.60	6.76	5.92	6.84	5.20	7.68
5.44	7.12	7.80	5.68	6.44	5.12	5.16	6.80	5.96	
40	6.72	5.84	7.44	6.68	7.88	5.76	6.80	6.40	6.80
5.88	6.84	7.84	6.00	6.40	6.60	6.00	7.84	5.96	
47	7.12	6.32	8.04	6.56	7.24	6.16	7.24	6.84	8.00
6.32	7.40	7.52	6.76	6.48	6.52	6.72	8.04	6.40	
54	6.76	5.96	7.40	5.68	7.28	6.04	7.00	6.72	6.80
6.84	7.36	8.64	7.12	7.28	7.40	5.56	7.88	6.56	
61	6.52	5.68	7.16	6.64	7.44	6.12	7.08	7.16	7.64
6.68	7.00	7.84	6.76	7.12	7.20	5.96	7.12	6.44	
68	7.16	6.64	7.64	7.36	6.92	6.80	7.08	7.28	8.20
7.20	7.64	8.40	6.72	7.16	7.20	6.88	8.24	7.08	
90	6.48	6.84	7.64	8.08	7.44	7.36	6.52	7.16	7.60
6.92	7.04	8.32	6.20	7.44	8.08	6.56	8.56	7.08	

ATTACHMENT 3

VALUES OF b_0 AND b_1 : 1. HEMOGLOBIN
2. HEMATOCRIT
3. RED BLOOD CELL COUNT

N36845.04

DUP050308579

HEMOGLOBIN
INTERCEPT 16 AND 15

1	M	A	808	-1.865	-2249
1	M	A	809	-1.874	-1839
1	M	A	812	-1.865	-1833
1	M	B	813	-2212	-2495
1	M	B	822	-1.589	-1991
1	M	B	823	-1.928	-2453
1	F	A	790	-1.1491	-1486
1	F	A	793	-1.171	-2040
1	F	A	797	-2.063	-2488
1	F	B	802	-2408	-2921
1	F	B	805	-1.502	-1728
1	F	B	864	-2.499	-3038
2	M	A	810	-1.763	-2208
2	M	A	811	-1.760	-1983
2	M	A	814	-2.356	-2379
2	M	B	816	-1.672	-1991
2	M	B	817	-2.024	-2385
2	M	B	818	-1.995	-2467
2	F	A	795	-2.003	-2214
2	F	A	799	-3.255	-3816
2	F	A	800	-2.437	-2423
2	F	B	803	-3.285	-4260
2	F	B	804	-1.418	-2373
2	F	B	863	-2.170	-2212
3	M	A	815	-1.794	-1799
3	M	A	819	-1.673	-1687
3	M	A	820	-2.031	-2459
3	M	B	821	-1.817	-1854
3	M	B	824	-1.950	-2435
3	M	B	825	-2.375	-2722
3	F	A	791	-2.071	-1912
3	F	A	792	-1.910	-2246
3	F	A	794	-2.284	-2819
3	F	B	796	-1.993	-2209
3	F	B	798	-2.195	-2467
3	F	B	801	-1.881	-2425

HEMOGLOBIN
SLOPE 16 AND 15

1	M	A	808	.0944	.1221
1	M	A	809	.1241	.1218
1	M	A	812	.1201	.1179
1	M	R	813	.1175	.1363
1	M	Q	822	.0926	.1092
1	M	R	823	.1017	.1364
1	F	A	790	.1065	.1062
1	F	A	793	.1007	.1185
1	F	A	797	.1296	.1576
1	F	R	802	.1391	.1730
1	F	R	805	.1140	.1289
1	F	R	864	.1284	.1640
2	M	A	810	.1092	.1337
2	M	A	811	.0941	.1089
2	M	A	814	.1611	.1626
2	M	R	816	.0993	.1195
2	M	B	817	.1160	.1399
2	M	B	818	.1042	.1355
2	F	A	795	.1160	.1300
2	F	A	799	.2052	.2423
2	F	A	800	.1510	.1500
2	F	R	803	.1957	.2603
2	F	R	804	.0715	.1348
2	F	B	863	.1401	.1430
3	M	A	815	.1153	.1156
3	M	A	819	.1071	.1080
3	M	A	820	.1051	.1334
3	M	R	821	.1024	.1056
3	M	Q	824	.1090	.1401
3	M	R	825	.1448	.1677
3	F	A	791	.1122	.1016
3	F	A	792	.1013	.1235
3	F	A	794	.1377	.1731
3	F	B	796	.1148	.1291
3	F	B	798	.1176	.1555
3	F	B	801	.1109	.1470

HEMATOCRIT
INTERCEPT 16 AND 15

1	M	A	808	-2207	-2931
1	M	A	809	-2007	-1794
1	M	A	812	-2179	-1890
1	M	B	813	-2431	-2600
1	M	B	822	-1800	-2302
1	M	B	823	-2174	-2740
1	F	A	790	-1615	-1494
1	F	A	793	-1911	-2086
1	F	A	797	-2408	-2731
1	F	B	802	-2585	-3018
1	F	R	805	-1598	-1755
1	F	R	864	-2616	-3018
2	M	A	810	-1995	-2336
2	M	A	811	-1923	-2247
2	M	A	814	-2595	-2408
2	M	B	816	-1879	-2086
2	M	B	817	-2174	-2453
2	M	B	818	-2169	-2520
2	F	A	795	-2410	-2568
2	F	A	799	-3774	-4199
2	F	A	800	-2561	-2461
2	F	B	803	-3870	-4616
2	F	B	804	-1719	-2724
2	F	R	863	-2468	-2331
3	M	A	815	-2138	-2015
3	M	A	819	-1917	-1855
3	M	A	820	-2163	-2657
3	M	B	821	-1854	-1758
3	M	B	824	-1919	-2171
3	M	B	825	-2297	-2369
3	F	A	791	-2170	-1852
3	F	A	792	-2085	-2359
3	F	A	794	-2321	-2914
3	F	B	796	-2047	-2078
3	F	B	798	-2216	-2375
3	F	B	801	-1904	-2263

HEMATOCRII
SLOPE 16 AND 15

1	M	A	808	.1158	.1608
1	M	A	809	.1424	.1283
1	M	A	812	.1488	.1296
1	M	R	813	.1423	.1535
1	M	R	822	.1083	.1416
1	M	R	823	.1278	.1653
1	F	A	790	.1225	.1145
1	F	A	793	.1093	.1205
1	F	A	797	.1605	.1819
1	F	R	802	.1593	.1880
1	F	R	805	.1348	.1452
1	F	R	864	.1421	.1688
2	M	A	810	.1308	.1534
2	M	A	811	.1118	.1333
2	M	A	814	.1832	.1709
2	M	R	816	.1726	.1363
2	M	R	817	.1375	.1560
2	M	R	819	.1332	.1565
2	F	A	795	.1515	.1619
2	F	A	799	.2548	.2740
2	F	A	800	.1744	.1678
2	F	R	803	.2484	.2978
2	F	R	804	.1053	.1719
2	F	R	863	.1688	.1597
3	M	A	815	.1423	.1342
3	M	A	819	.1285	.1244
3	M	A	820	.1222	.1550
3	M	R	821	.1185	.1115
3	M	R	824	.1182	.1349
3	M	R	825	.1537	.1584
3	F	A	791	.1212	.1061
3	F	A	792	.1200	.1381
3	F	A	794	.1622	.1883
3	F	R	796	.1297	.1317
3	F	R	798	.1495	.1600
3	F	R	801	.1258	.1496

RED BLOOD CELL
INTERCEPT 16 AND 15

1	M	A	808	-2290	-3196
1	M	A	809	-2180	-2363
1	M	A	812	-2217	-2143
1	M	B	813	-2765	-2987
1	M	R	822	-2249	-2171
1	M	B	823	-2322	-2822
1	F	A	790	-1775	-1792
1	F	A	793	-2000	-2228
1	F	A	797	-2078	-2451
1	F	R	802	-2503	-3019
1	F	B	805	-1745	-2064
1	F	B	864	-2961	-3379
2	M	A	810	-2156	-2678
2	M	A	811	-1986	-2478
2	M	A	814	-2550	-2503
2	M	R	816	-2106	-2766
2	M	B	817	-2426	-2898
2	M	B	818	-2466	-2676
2	F	A	795	-2534	-3058
2	F	A	799	-3428	-4036
2	F	A	800	-2723	-2803
2	F	R	803	-3784	-4823
2	F	B	804	-1876	-2729
2	F	B	863	-2697	-2734
3	M	A	815	-2101	-2327
3	M	A	819	-1955	-2017
3	M	A	820	-2156	-2632
3	M	B	821	-2107	-2238
3	M	R	824	-2261	-2622
3	M	B	825	-2915	-3123
3	F	A	791	-2738	-2709
3	F	A	792	-2300	-2790
3	F	A	794	-2658	-3325
3	F	R	796	-2495	-2765
3	F	B	798	-2585	-3044
3	F	R	801	-2192	-2791

RED BLOOD CELL
SLOPE 16 AND 15

1	M	A	808	.1319	.1973
1	M	A	809	.1405	.1527
1	M	A	812	.1395	.1346
1	M	R	813	.1622	.1768
1	M	R	822	.1319	.1629
1	M	R	823	.1451	.1782
1	F	A	790	.1260	.1272
1	F	A	793	.1131	.1282
1	F	A	797	.1321	.1568
1	F	R	802	.1418	.1760
1	F	R	805	.1314	.1525
1	F	R	864	.1581	.1858
2	M	A	810	.1431	.1779
2	M	A	811	.1231	.1570
2	M	A	814	.1656	.1625
2	M	R	816	.1381	.1778
2	M	R	817	.1454	.1767
2	M	R	818	.1511	.1650
2	F	A	795	.1553	.1901
2	F	A	799	.2007	.2409
2	F	A	800	.1750	.1803
2	F	R	803	.2190	.2878
2	F	R	804	.1376	.1941
2	F	R	863	.1734	.1758
3	M	A	815	.1234	.1384
3	M	A	819	.1162	.1203
3	M	A	820	.1160	.1475
3	M	R	821	.1174	.1260
3	M	R	824	.1225	.1464
3	M	R	825	.1848	.1987
3	F	A	791	.1522	.1503
3	F	A	792	.1232	.1556
3	F	A	794	.1723	.2165
3	F	R	796	.1472	.1651
3	F	R	798	.1584	.1888
3	F	R	801	.1334	.1731