



Figure 1. A, Bouguer gravity anomaly profile along A-A', and B, Bouguer gravity anomaly model of major structures along A-A'.

Table 1. Conversion of metric and U.S. standards of measurement

Metric unit	U.S. unit
kilometer (km)	0.62 mile (mi)
meter (m)	3.28 feet (ft)
centimeter (cm)	0.39 inch (in.)
cubic centimeter (cc)	0.000 cubic inch (in. <sup>3</sup> )
gram (g)	0.001 ounce (oz.)

Table 2. Description of boreholes

Map No.	Operator	Name	County	Location	Kelly-Bowling (1953)	Total (1,144)
1	Amco Production Co.	Chaplin 348	Winta	5 10 118	7,483	13,784
2	Amco Production Co.	Amco A-1	Lincoln	21 19 116	(2,285)	(4,203)
3	Amco Production Co.	Amco A-2	Lincoln	11 19 116	(2,103)	(2,283)
4	Amco Production Co.	Amco A-3	Lincoln	11 19 116	(2,103)	(2,283)
5	Amco Production Co.	Amco A-4	Lincoln	11 19 116	(2,103)	(2,283)
6	Amco Production Co.	Amco A-5	Lincoln	11 19 116	(2,103)	(2,283)
7	Amco Production Co.	Amco A-6	Lincoln	11 19 116	(2,103)	(2,283)
8	Amco Production Co.	Amco A-7	Lincoln	11 19 116	(2,103)	(2,283)
9	Amco Production Co.	Amco A-8	Lincoln	11 19 116	(2,103)	(2,283)
10	Amco Production Co.	Amco A-9	Lincoln	11 19 116	(2,103)	(2,283)
11	Amco Production Co.	Amco A-10	Lincoln	11 19 116	(2,103)	(2,283)
12	Amco Production Co.	Amco A-11	Lincoln	11 19 116	(2,103)	(2,283)
13	Amco Production Co.	Amco A-12	Lincoln	11 19 116	(2,103)	(2,283)
14	Amco Production Co.	Amco A-13	Lincoln	11 19 116	(2,103)	(2,283)
15	Amco Production Co.	Amco A-14	Lincoln	11 19 116	(2,103)	(2,283)
16	Amco Production Co.	Amco A-15	Lincoln	11 19 116	(2,103)	(2,283)
17	Amco Production Co.	Amco A-16	Lincoln	11 19 116	(2,103)	(2,283)
18	Amco Production Co.	Amco A-17	Lincoln	11 19 116	(2,103)	(2,283)
19	Amco Production Co.	Amco A-18	Lincoln	11 19 116	(2,103)	(2,283)
20	Amco Production Co.	Amco A-19	Lincoln	11 19 116	(2,103)	(2,283)
21	Amco Production Co.	Amco A-20	Lincoln	11 19 116	(2,103)	(2,283)
22	Amco Production Co.	Amco A-21	Lincoln	11 19 116	(2,103)	(2,283)
23	Amco Production Co.	Amco A-22	Lincoln	11 19 116	(2,103)	(2,283)
24	Amco Production Co.	Amco A-23	Lincoln	11 19 116	(2,103)	(2,283)
25	Amco Production Co.	Amco A-24	Lincoln	11 19 116	(2,103)	(2,283)
26	Amco Production Co.	Amco A-25	Lincoln	11 19 116	(2,103)	(2,283)
27	Amco Production Co.	Amco A-26	Lincoln	11 19 116	(2,103)	(2,283)
28	Amco Production Co.	Amco A-27	Lincoln	11 19 116	(2,103)	(2,283)
29	Amco Production Co.	Amco A-28	Lincoln	11 19 116	(2,103)	(2,283)
30	Amco Production Co.	Amco A-29	Lincoln	11 19 116	(2,103)	(2,283)
31	Amco Production Co.	Amco A-30	Lincoln	11 19 116	(2,103)	(2,283)
32	Amco Production Co.	Amco A-31	Lincoln	11 19 116	(2,103)	(2,283)

Table 3. Densities and stratigraphic contacts of bodies 1-6

Body	Density used (g/cm <sup>3</sup> )	Density range (g/cm <sup>3</sup> )	Stratigraphic contacts
1	2.50	2.20-2.57	Quaternary alluvium or horizon within Blair Formation.
2	2.37	2.20-2.45	Quaternary alluvium (surface).
3	2.58	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
4	2.365	2.20-2.45	Quaternary alluvium (surface).
5	2.22	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
6	2.43	2.40-2.65	Top of Moberly Shale.
7	2.60	2.57-2.75	Top of Morgan Formation.
8	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
9	2.60	2.57-2.75	Top of Morgan Formation.
10	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
11	2.60	2.57-2.75	Top of Morgan Formation.
12	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
13	2.60	2.57-2.75	Top of Morgan Formation.
14	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
15	2.60	2.57-2.75	Top of Morgan Formation.
16	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
17	2.60	2.57-2.75	Top of Morgan Formation.
18	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
19	2.60	2.57-2.75	Top of Morgan Formation.
20	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
21	2.60	2.57-2.75	Top of Morgan Formation.
22	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
23	2.60	2.57-2.75	Top of Morgan Formation.
24	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
25	2.60	2.57-2.75	Top of Morgan Formation.
26	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
27	2.60	2.57-2.75	Top of Morgan Formation.
28	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
29	2.60	2.57-2.75	Top of Morgan Formation.
30	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
31	2.60	2.57-2.75	Top of Morgan Formation.
32	2.67	2.60-2.75	Amson Formation, or Madison Limestone.

Table 4. Average rock densities of selected bodies (g/cm<sup>3</sup>)

Body No.	Density (g/cm <sup>3</sup> )	Standard deviation (g/cm <sup>3</sup> )
1	2.50	0.10
2	2.37	0.08
3	2.58	0.12
4	2.365	0.09
5	2.22	0.07
6	2.43	0.11
7	2.60	0.08
8	2.67	0.10
9	2.60	0.09
10	2.67	0.11
11	2.60	0.08
12	2.67	0.10
13	2.60	0.09
14	2.67	0.11
15	2.60	0.08
16	2.67	0.10
17	2.60	0.09
18	2.67	0.11
19	2.60	0.08
20	2.67	0.10
21	2.60	0.09
22	2.67	0.11
23	2.60	0.08
24	2.67	0.10
25	2.60	0.09
26	2.67	0.11
27	2.60	0.08
28	2.67	0.10
29	2.60	0.09
30	2.67	0.11
31	2.60	0.08
32	2.67	0.10

Table 5. Densities and stratigraphic contacts of bodies 1-6 (continued)

Body	Density used (g/cm <sup>3</sup> )	Density range (g/cm <sup>3</sup> )	Stratigraphic contacts
1	2.50	2.20-2.57	Quaternary alluvium or horizon within Blair Formation.
2	2.37	2.20-2.45	Quaternary alluvium (surface).
3	2.58	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
4	2.365	2.20-2.45	Quaternary alluvium (surface).
5	2.22	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
6	2.43	2.40-2.65	Top of Moberly Shale.
7	2.60	2.57-2.75	Top of Morgan Formation.
8	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
9	2.60	2.57-2.75	Top of Morgan Formation.
10	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
11	2.60	2.57-2.75	Top of Morgan Formation.
12	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
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14	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
15	2.60	2.57-2.75	Top of Morgan Formation.
16	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
17	2.60	2.57-2.75	Top of Morgan Formation.
18	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
19	2.60	2.57-2.75	Top of Morgan Formation.
20	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
21	2.60	2.57-2.75	Top of Morgan Formation.
22	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
23	2.60	2.57-2.75	Top of Morgan Formation.
24	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
25	2.60	2.57-2.75	Top of Morgan Formation.
26	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
27	2.60	2.57-2.75	Top of Morgan Formation.
28	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
29	2.60	2.57-2.75	Top of Morgan Formation.
30	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
31	2.60	2.57-2.75	Top of Morgan Formation.
32	2.67	2.60-2.75	Amson Formation, or Madison Limestone.

Table 6. Densities and stratigraphic contacts of bodies 1-6 (continued)

Body	Density used (g/cm <sup>3</sup> )	Density range (g/cm <sup>3</sup> )	Stratigraphic contacts
1	2.50	2.20-2.57	Quaternary alluvium or horizon within Blair Formation.
2	2.37	2.20-2.45	Quaternary alluvium (surface).
3	2.58	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
4	2.365	2.20-2.45	Quaternary alluvium (surface).
5	2.22	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
6	2.43	2.40-2.65	Top of Moberly Shale.
7	2.60	2.57-2.75	Top of Morgan Formation.
8	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
9	2.60	2.57-2.75	Top of Morgan Formation.
10	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
11	2.60	2.57-2.75	Top of Morgan Formation.
12	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
13	2.60	2.57-2.75	Top of Morgan Formation.
14	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
15	2.60	2.57-2.75	Top of Morgan Formation.
16	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
17	2.60	2.57-2.75	Top of Morgan Formation.
18	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
19	2.60	2.57-2.75	Top of Morgan Formation.
20	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
21	2.60	2.57-2.75	Top of Morgan Formation.
22	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
23	2.60	2.57-2.75	Top of Morgan Formation.
24	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
25	2.60	2.57-2.75	Top of Morgan Formation.
26	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
27	2.60	2.57-2.75	Top of Morgan Formation.
28	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
29	2.60	2.57-2.75	Top of Morgan Formation.
30	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
31	2.60	2.57-2.75	Top of Morgan Formation.
32	2.67	2.60-2.75	Amson Formation, or Madison Limestone.

Table 7. Densities and stratigraphic contacts of bodies 1-6 (continued)

Body	Density used (g/cm <sup>3</sup> )	Density range (g/cm <sup>3</sup> )	Stratigraphic contacts
1	2.50	2.20-2.57	Quaternary alluvium or horizon within Blair Formation.
2	2.37	2.20-2.45	Quaternary alluvium (surface).
3	2.58	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
4	2.365	2.20-2.45	Quaternary alluvium (surface).
5	2.22	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
6	2.43	2.40-2.65	Top of Moberly Shale.
7	2.60	2.57-2.75	Top of Morgan Formation.
8	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
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11	2.60	2.57-2.75	Top of Morgan Formation.
12	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
13	2.60	2.57-2.75	Top of Morgan Formation.
14	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
15	2.60	2.57-2.75	Top of Morgan Formation.
16	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
17	2.60	2.57-2.75	Top of Morgan Formation.
18	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
19	2.60	2.57-2.75	Top of Morgan Formation.
20	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
21	2.60	2.57-2.75	Top of Morgan Formation.
22	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
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25	2.60	2.57-2.75	Top of Morgan Formation.
26	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
27	2.60	2.57-2.75	Top of Morgan Formation.
28	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
29	2.60	2.57-2.75	Top of Morgan Formation.
30	2.67	2.60-2.75	Amson Formation, or Madison Limestone.
31	2.60	2.57-2.75	Top of Morgan Formation.
32	2.67	2.60-2.75	Amson Formation, or Madison Limestone.

Table 8. Densities and stratigraphic contacts of bodies 1-6 (continued)

Body	Density used (g/cm <sup>3</sup> )	Density range (g/cm <sup>3</sup> )	Stratigraphic contacts
1	2.50	2.20-2.57	Quaternary alluvium or horizon within Blair Formation.
2	2.37	2.20-2.45	Quaternary alluvium (surface).
3	2.58	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
4	2.365	2.20-2.45	Quaternary alluvium (surface).
5	2.22	2.20-2.45	Horizon within Blair Formation or top of Lewis Shale.
6	2.43	2.40-2.65	Top of Moberly Shale.
7	2.60	2.57-2.75	Top of Morgan Formation.
8	2.67	2.60-2.75	Amson Formation, or Madison Limestone.