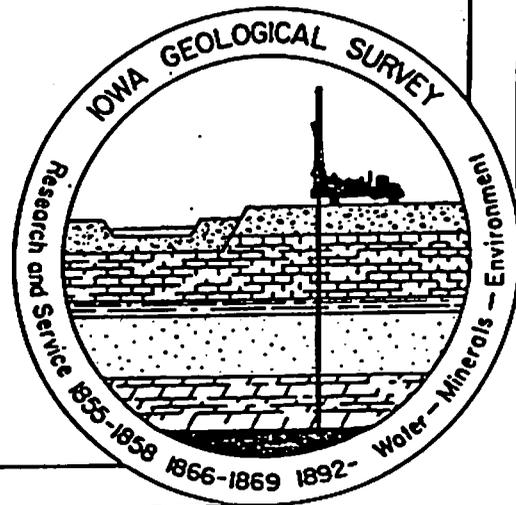


REGIONAL GRAVITY DATA  
FOR SOUTHWEST IOWA

by

Steven W. Daut

**IOWA GEOLOGICAL SURVEY**  
Dr. Stanley C. Grant, Director and State Geologist  
123 North Capitol Street, Iowa City, Iowa 52242



**Open File Report**

JANUARY 1980

Open-file Report  
Regional Gravity data for southwest Iowa

The field work for these stations was conducted in summer of 1979, with the idea of completing the regional grid of gravity data in Southwest Iowa. Stations are at 6 mile spacings, at approximate township centers. The instrument used was the Prospector Model Worden gravimeter owned by the Iowa Geological Survey.

Stations were run in first, second and third degree loops off of the I.G.S. gravity base station network established by Hase, Campbell and Van Eck (I.G.S. Report of Investigations 8, 1969). Values established here should only be considered accurate to  $\pm 1.5$  milligals.

Included with this report is a list of the location, elevation and gravity values for each station, station descriptions for future locating, and a book of highway maps with the locations plotted. Stations are numbered according to township and range. If any questions arise concerning any aspect of this gravity network, contact Steve Daut.

Descriptions of Township Center Gravity Stations  
in Southwest Iowa

Field Work conducted July and August 1979  
Steve W. Daut, I.G.S.

- Stn. 67-32  
At T where Co. road J55 from E T's onto N-S sec. line road of secs. 9 and 10. T is SW of place where J55 curves EW, with farm drive to W and farmhouse to NW. Station is at the centerline intersections.
- Stn. 67-33  
At int. of secs. 10, 11, 14 and 15 where gravel from E T's onto Co. road N58. NE corner of int., on fence line to S and 5.6 feet S and 6.6 feet W of stop sign.
- Stn. 67-34  
At int. of secs. 9, 10, 15 and 16 where Co. road J55 angles from N to W. On NW corner of int., along fence line to N and 8.3 feet E and 4.8 feet S of stop sign.
- Stn. 67-35  
Between secs. 9 and 16 where  $\frac{1}{2}$  sec. road from S T's with E-W road J55. On Centerline of NS road and 13.9 feet S of center of EW road.
- Stn. 67-36  
At int. of secs. 9, 10, 15 and 16 where road from S T's onto E-W road. At triangular intersection, on centerline of N-W road and 6.5 feet S of center of E-W road.
- Stn. 67-37  
Int. of secs. 15, 16, 21 and 22. Where gravel road from N T's with E-W gravel. On S side of int., on centerline of N-S road, and 9.9 feet S of center of E-W road.
- Stn. 67-38  
Int. of secs. 15, 16, 21 and 22. S-W corner of gravel road int., on S fence line of EW road and 6.0 feet W of center of NS road.
- Stn. 67-39  
Int. of secs. 15, 16, 21 and 22. On SE corner of gravel road int., on S fence line of EW road and 12.0 feet E of center of NS road.
- Stn. 67-40  
Int. of secs. 15 and 22 at  $\frac{1}{2}$  sec. On NW corner of int. on N fence line of dirt road to W and 5.2 feet W of center of NS road.
- Stn. 67-41  
Int. of secs. 15, 16, 21, and 22 on S side of int. On center line of NS dirt road and 12.7 feet S of center of EW gravel.

- Stn. 67-42  
E  $\frac{1}{4}$ , SE  $\frac{1}{4}$  sec. 15 where gravel road NE of Hamburg curves from W to N.  
At approx. SE corner of curve 18.0 feet S of culvert.
- Stn. 68-32  
Int. of secs. 21 and 22 at  $\frac{1}{4}$  sec. SE corner where gravel from S T's  
onto Hwy. 2. 6.8 feet W of stop sign on gravel road.
- Stn. 68-33  
At int. of secs. 16 and 22 on NW corner of int. where center line of  
abandoned road to E and fence line to N intersect.
- Stn. 68-34  
At int. of secs. 14, 15, 22 and 23 where gravel road from W T's with  
Hwy. 148 on W fence line of 148 and 6.5 feet N of stop sign on S side  
of gravel road to W.
- Stn. 68-35  
Approx. center of sec. 22 where dirt road from the N T's onto EW gravel  
road at int. 7.8 feet S of center line of EW road and on center line of  
NS dirt road.
- Stn. 68-36  
At int. of secs. 16, 17, 21 and 22. Where gravel on road from N ends  
road to S is abandoned, road to E is dirt. At old road int.
- Stn. 68-37  
Int. of secs. 15, 16, 21 and 22. On the SW corner of int., on W fence  
line of NS road and 12.0 feet S of center of EW road.
- Stn. 68-38  
Center NW  $\frac{1}{4}$ , sec. 23 where gravel from N T's with EW gravel road. On  
center line of NS road 9.2 feet N of center of EW road.
- Stn. 68-39  
Int. of secs. 21, 22, 27 and 28. On SE corner of int. on S fence line  
of EW road and 5.7 feet E of center line of NS road.
- Stn. 68-40  
Int. of secs. 15, 16, 21 and 22. On N fence line of EW gravel and  
center line of dirt road to N.
- Stn. 68-41  
Center, N  $\frac{1}{4}$ , NW  $\frac{1}{4}$ , sec. 32. Where NS gravel Y's to E. Another NS gravel  
Y's to N. On NW side of curve approx. at int.
- Stn. 68-42  
Int. of secs. 17 and 20. Where Co. road L48 from E T's onto Co. road L44.  
NE corner of int. 28.4 feet E of center line of L44 and 8.0 feet N of  
center of L48.

- Stn. 68-43  
Int. of secs. 16, 17, 20 and 21. On dead end road to N at end of road where dirt road used to extend to the E. At old int. (road is a dead end due to Interstate 29).
- Stn. 69-32  
At int. of secs. 9, 10, 15 and 16. On SW corner of int. 24.7 feet NE of stop sign on S side of road to W. On line between this stop sign and stop sign on N side of road to E.
- Stn. 69-33  
Int. of secs. 15, 16, 21 and 22. Where dirt road from W T's onto Hwy. 49. On edge of pave lip of 49 on center line of dirt road. On W side of int.
- Stn. 69-34  
Int. of secs. 9, 10, 15 and 16. At NW corner of int. 10.6 feet E of stop sign on W side of road to N.
- Stn. 69-35  
No description available.
- Stn. 69-36  
Center, E  $\frac{1}{2}$ , sec. 15. Where Co. road J31 curves to N and gravel road splits off to S. SE corner of int. on fence line, on E and S side of J 51. 13.8 feet W of stop sign on E side of gravel road to S and 8.0 feet E of center line of gravel road to S.
- Stn. 69-37  
At int. of secs. 14, 15, 22 and 23. On SE corner of int. on fence line of S side of road to E and 8.9 feet W and 1.0 feet S of stop sign on E side of road to S.
- Stn. 69-38  
Int. of secs. 15 and 22. Station on NW corner of int. on N fence line of EW road and 10.2 feet W of center of NS road.
- Stn. 69-39  
At int. of secs. 15, 16, 21 and 22. NW corner of int. on N fence line of EW road and 11.9 feet W of center of NS road.
- Stn. 69-40  
Int. of secs. 15, 16, 21 and 22. Where old Hwy. 2 intersects with NS gravel road. On NW corner of int., on N fence line of Hwy. 2 and 3.7 feet W of center of NS gravel.
- Stn. 69-41  
Int. of secs. 14, 15, 22 and 23. Old Hwy. 2 and abandoned dirt road to N and gravel to S. On SE corner of int., on SE fence line of Hwy. 2 and center line of abandoned dirt road.
- Stn. 69-42  
Int. of secs. 6, 15, 16, 21 and 22. Where abandoned dirt road to S T's with EW gravel. On center line of NS road and S fence line of EW road.

- Stn. 69-43  
Int. of secs. 15, 16, 21 and 22. On N fence line of EW road and center line of dirt road to N.
- Stn. 70-32  
Int. of secs. 15, 16, 21 and 22. On NW corner of int. 5.2 feet E of stop sign on W side of road to N.
- Stn. 70-33  
Int. of secs. 16 and 22. On NW corner of int. 6.5 feet E of stop sign on W side of road to N.
- Stn. 70-34  
Int. of secs. 15, 16, 21 and 22. EW Co. road J20 is paved, road to S is a dead end. NW corner of int. 3.8 feet S of stop sign on W side of road to N.
- Stn. 70-35  
Int. of secs. 15, 16, 21 and 22. Station on S shoulder of EW road and on center line of old road to N. 2.0 feet S of edge of pavement.
- Stn. 70-36  
Int. of secs. 15, 16, 21 and 22. Roads Hwy. 71 and Co. road J20. Station on NE corner of int. on N fence line of EW road and 41.9 feet W of culvert on N side of J20.
- Stn. 70-37  
Int. of secs. 15, 16, 21 and 22. On NE corner of int. on line of telephone poles on W side of M63 and 13.2 feet S and 0.5 feet E of stop sign on N side of road to E.
- Stn. 70-38  
Int. of secs. 15, 16, 21 and 22. Int. of center line of NS dirt road and N fence line of EW road.
- Stn. 70-39  
Int. of secs. 15, 16, 21 and 22. SE corner of int. on telephone pole line of EW road and 14.5 feet E of center of NS road.
- Stn. 70-40  
Int. of secs. 15, 16, 21 and 22. On SW corner, on W fence line of NS road and 10.0 feet S of center of EW road.
- Stn. 70-41  
Int. of secs. 15, 16, 21 and 22. Station on E side of int., on E fence line of Co. road L66 and center line of dirt road to E.
- Stn. 70-42  
Int. of secs. 15, 16, 21 and 22. Where gravel road from E T's onto Hwy. 275. On E fence line of Hwy. 275 and 10.2 feet N of center of gravel road.

- Stn. 70-43  
No description available.
- Stn. 71-32  
Int. of secs. 15, 16, 21 and 22. On SE corner of int., 15.7 N of stop sign on E side of road to S.
- Stn. 71-33  
Int. of secs. 15, 16, 21 and 22. On SW corner of int., 10.0 feet S and 29.2 feet E of stop sign, on S side of road to W and on fence line on S side of road to E.
- Stn. 71-34  
Int. of secs. 15, 16, 21 and 22. On N side of int., on center line of NS road, 4.0 feet S of reflector post and 14.5 feet S of telephone cable box on N side of EW road.
- Stn. 71-35  
At int. of secs. 15, 16, 21 and 22. NW corner of int., 3.3 feet E of stop sign on W side of NS road.
- Stn. 71-36  
Int. of secs. 21 and 22. 3/4 mi. N of the town of Villisca where Co. road H46 from W T's onto Hwy. 71. E side of int. on center line of H46 and 16.0 feet E of center line of 71.
- Stn. 71-37  
Int. of secs. 15, 16, 21 and 22. On SW corner, 26.1 feet W of center of Co. road M63 and 20.0 feet S of center of gravel road.
- Stn. 71-38  
Int. of secs. 15, 16, 21 and 22. SE corner of int., on SE fence line of EW road and 4.1 feet E of center of NS road. Where gravel from S T's onto EW gravel.
- Stn. 71-39  
Int. of secs. 15, 16, 21 and 22. Where gravel from N T's onto EW gravel. NE corner of int., 22.0 feet N of EW center line, 8.4 feet E of NS center line.
- Stn. 71-40  
Int. of secs. 15, 16, 21 and 22. On N fence line of EW asphalt road and 10.6 feet W of center of NS road.
- Stn. 71-41  
Int. of secs. 15, 16, 21 and 22. Asphalt road from E T's onto NS asphalt. On center line of EW road and 11.1 feet W of center of NS road.
- Stn. 71-42  
Int. of secs. 15, 16, 21 and 22. Where gravel from E T's with Hwy. 275. On NE corner, on E fence line of Hwy. 275 and 20.0 feet N of center of EW gravel.

- Stn. 71-43  
Int. of secs. 16, 17, 20 and 21. Where gravel from E T's onto NS Co. road L31. On NE corner, on E fence line of L31 and 9.2 feet N of center of EW gravel.
- Stn. 72-32  
Int. of secs. 15, 16, 21 and 22. SW corner of int., 24 feet E of stop sign on S side of road to W.
- Stn. 72-33  
Int. of secs. 15, 16, 21 and 22. Where Co. road H33 intersects with Co. road N55. SE corner of int., 7.7 feet W of stop sign on E side of S N55.
- Stn. 72-34  
No sections given. Int. of Hwys. 148 and 95 with gravel road to E. Station on gravel road to E, 5 feet S of stop sign on that road.
- Stn. 72-35  
At int. of secs. 15 and 22. Just S of one-lane bridge. NE corner of int., 10.1 feet S of stop sign on N side of road to E.
- Stn. 72-36  
Between secs. 16 and 17 where gravel from W T's with Co. road N16. Dead end road to east. On NE corner, on center line of EW road and SE fence line of Co. road N16.
- Stn. 72-37  
Int. of secs. 15, 16, 21 and 22. SW corner of int., on W fence line of NS road and 9.0 feet S of center of EW road.
- Stn. 72-38  
Int. of secs. 15, 16, 21 and 22. One mi. NE of Red Oak where dirt from S T's onto EW gravel. On SE corner of int., on S fence line of Ratliss, and 9.0 feet E of center line of Eastern Avenue.
- Stn. 72-39  
Int. of secs. 16 and 22. Where Co. road N37 crosses Hwy. 34. On SE corner, 43.3 feet S of edge of pavement of Hwy. 34 and 9.0 feet E of center of gravel road.
- Stn. 72-40  
Int. of secs. 15, 16, 21 and 22. EW Hwy. 34 and NS asphalt road. NW corner, 5.0 feet E of stop sign on W side of asphalt road.
- Stn. 72-41  
Int. of secs. 15, 16, 21 and 22. Gravel from N T's onto Hwy. 34. On NE corner, on NW fence line of Hwy. 34 and 10.0 feet E of center of gravel road.
- St. 72-42  
Int. of secs. 15, 16, 21 and 22. Where Hwy. 34 and Hwy. 275 intersect with gravel road to N. NW corner of int., on N fence line of Hwy. 34 and 12.2 feet W of center of NS gravel.

- Stn. 72-43  
Int. of secs. 21 and 22.  $\frac{1}{2}$  mi. N and  $\frac{1}{4}$  E of the town of Pacific Junction where gravel road from S T's onto EW gravel. At int., on center of NS road and 11.3 feet S of center of EW road.
- Stn. 73-32  
Int. of secs. 21 and 28. NE corner of int., 7.2 feet S of stop sign on N side of road to E. NS road is Co. road N77.
- Stn. 73-33  
Int. of secs. 15 and 22. Where Co. road N55 intersects with EW dirt road. NE corner of int., 5.5 feet S of stop sign on dirt road.
- Stn. 73-34  
Approx. center of sec. 22. Where Hwy. 148 and EW  $\frac{1}{2}$  section road intersect. On NS line with and 10.1 feet S of stop sign on  $\frac{1}{2}$  section road.
- Stn. 73-35  
Lincoln Center intersection. Where Co. roads N28 and H20 intersect. On grass line. 20.0 feet W of stop sign on N side of H20 and E side of N28.
- Stn. 73-36  
Int. of secs. 15 and 16. NE corner of int. on E fence line of NS road and 5.0 feet N of center of EW road.
- Stn. 73-37  
Int. of secs. 15, 16, 21 and 22 on SW corner of int. 20.0 feet W of center of NS road and 7.0 feet S of center of EW dirt road.
- Stn. 73-38  
Int. of secs. 15, 16, 21 and 22 where NS gravel T's onto Co. road H16. N side of int., on center line of NS road and 9.9 feet N of center of H16.
- Stn. 73-39  
Int. of secs. 15, 16, 21 and 22 at the town of Wales. On NE corner of mail int.; 15.2 feet E of center of NS paved road and 20.4 feet N of center of EW gravel.
- Stn. 73-40  
Int. of secs. 15, 16, 21 and 22 where Co. road M21 curves from E to N and gravel from W T's onto it. SW corner of int., 9.3 feet S of EW center line and 31.0 feet W of M21 center line.
- Stn. 73-41  
Int. of secs. 14, 15, 22 and 23. Where gravel from W T's with NS gravel. On SW corner, on SW fence line of NS road and 8.2 feet S on center of EW road.
- Stn. 73-42  
Int. of secs. 15 and 22. On NW corner of int., on NE fence line of EW road and 10.0 feet W of center of NS road.

- Stn. 73-43  
Int. of secs. 16 and 22. At end of dead end road, which is abandoned int.
- Stn. 74-32  
Int. of secs. 15, 16, 21 and 22. On SE corner of int., on S fence line of Co. road G81 and ?E of center of Co. road N77.
- Stn. 74-33  
Int. of secs. 15, 16, 21 and 22. Where gravel from S T's onto EW gravel. On SE corner, 8.2 feet E of center of NS gravel, on S fence line of EW gravel.
- Stn. 74-34  
Int. of secs. 14, 15, 22 and 23 on SE corner of int., on SE fence line of EW road and ?E of center of NS road.
- Stn. 74-35  
Int. of secs. 15, 16, 21 and 22. On NE corner, on NE fence line of Co. road N28 and 9.6 feet N of center of gravel road.
- Stn. 74-36  
Int. of secs. 15, 16, 21 and 22. Where EW gravel crosses Hwy. 71. 4.6 feet N of stop sign on S side of gravel road to W.
- Stn. 74-37  
Int. of secs. 15, 16, 21 and 22. On SE corner, on S fence line of EW gravel road and 3.7 feet E of center of NS gravel.
- Stn. 74-38  
Int. of secs. 15, 16, 21 and 22. On SE corner, on S fence line of EW gravel and 6.4 feet E of center of NS gravel.
- Stn. 74-39  
Int. of secs. 15, 16, 21 and 22. Where gravel from E T's onto NS gravel. NE corner of int., on E fence line of NS road and 9.5 feet N of center of EW road.
- Stn. 74-40  
Approx. center of sec. 15. Where gravel from W T's onto NS gravel. On E side of int., on center of EW road and 7.3 feet E of center of NS road.
- Stn. 74-41  
Int. of secs. 14, 15, 22 and 23. On SW corner of int., on W fence line of NS gravel and 6.7 feet S of center of EW gravel.
- Stn. 74-42  
Int. of secs. 21, 22, 15 and 16. Where gravel from S T's onto EW gravel. SE corner of int., on S fence line of EW gravel and 9.7 feet E of center of NS gravel.

- Stn. 74-43  
Approx. center sec. 12. Where gravel from E T's onto Hwy. 275. On SE corner, 10.0 feet S of center of EW gravel and 30.5 feet E of center of Hwy. 275.
- Stn. 75-32  
Int. of secs. 21 and 22 where gravel from S T's onto EW gravel. At int. on center line of road to S and 11.9 feet S of center of EW road.
- Stn. 75-33  
Int. of secs. 15, 16, 21 and 22. On SE corner of int., on E fence line of NS road and 8.0 feet S of center of EW road.
- Stn. 75-34  
Int. of secs. 15, 16, 21 and 22. EW gravel crosses Hwy. 148. W side of int., on W fence line of Hwy. 148 and on center line of EW road.
- Stn. 75-35  
Between secs. 21 and 22  $\frac{1}{2}$  mi. N of town of Cumberland where local gravel T's from E onto Co. road N28. NE corner of int., on E fence line of N28 and 8.0 feet N of gravel center line.
- Stn. 75-36  
Int. of secs. 15, 16, 21 and 22. Where EW gravel crosses Hwy. 71. NE corner of int., 7.6 feet N of center of EW gravel and 29.4 feet W of NE fence line of Hwy. 71.
- Stn. 75-37  
Int. of secs. 15, 16, 21 and 22 where gravel from S T's onto EW gravel. N side of int., on center line of NS gravel, and 8.7 feet N of center of EW road.
- Stn. 75-38  
Int. of secs. 15, 16, 21 and 22. SE corner of int., 11.0 feet W of stop sign on E side of road to S.
- Stn. 75-39  
Int. of secs. 15, 16, 21 and 22. NE corner of int., on E fence line of NS gravel and 8.0 feet N of center of EW gravel.
- Stn. 75-40  
Int. of secs. 15, 16, 21 and 22. Where NS gravel crosses Hwy. 6. SE corner of int., 24.0 feet E of center of NS gravel and 28.2 feet N of stop sign on E side of road to S.
- Stn. 75-41  
Int. of secs. 15, 16, 21 and 22. Where NS gravel crosses Hwy. 6. NW corner of int., on SW fence line of NS road and 13.8 feet N of center of Hwy. 6
- Stn. 75-42  
Int. of secs. 15, 16, 21 and 22. Where Co. road L52 crosses Hwy. 6. NW corner of int., just off edge of pavement where white stop line is painted on W side of L52 to N.

- Stn. 75-43  
Approx. center SW $\frac{1}{4}$ , sec. 16 where EW gravel from E T's onto NS gravel.  
W side of int., on center of EW gravel and 8.5 feet W of center of  
NS road.
- Stn. 76-32  
Int. of secs. 15, 16, 21 and 22. NE corner of int., on N fence line  
of EW gravel and 5.2 feet E of center of NS gravel.
- Stn. 76-33  
Int. of secs. 15, 16, 21 and 22. On SW corner of int., on W fence  
line of NS gravel road and 8.4 feet S of center of EW gravel.
- Stn. 76-34  
Int. of secs. 15, 16, 21 and 22. Where Co. road G35 curves from S to E.  
On W edge of pavement on G35, on EW center line.
- Stn. 76-35  
Int. of secs. 22 and 23. On NW corner of int., on N fence line of  
Co. road G35, and 7.4 feet W of center of NS gravel.
- Stn. 76-36  
Int. of secs. 15, 16, 21 and 22. On Hwy. 71 2 mi. S of the town of  
Atlantic. NE corner of int., 46.0 feet E of center line of Hwy. 71  
and 15.0 feet N of center of EW gravel.
- Stn. 76-37  
Between secs. 15 and 22 at  $\frac{1}{2}$  sec. Where mud road curves from W to N.  
At the curve on center of road.
- Stn. 76-38  
Int. of secs. 15, 16, 21 and 22. On SW corner of int., on W fence  
line of NS paved road and 8.5 feet S of center of EW gravel road.
- Stn. 76-39  
Int. of secs. 15, 16, 21 and 22. Where gravel from E T's onto NS gravel.  
NE corner of int., on E fence line of NS road and 6.2 feet N of center  
of EW road.
- Stn. 76-40  
Int. of secs. 15, 16, 21 and 22. On SE corner of int., on SE fence  
line of EW road and 6.2 feet E of center of NS road.
- Stn. 76-41  
Int. of secs. 15, 16, 21 and 22. On gravel T road about 1500 feet SE  
of the place where Co. road G30 curves from N to W. On E side of int.,  
on center line of EW gravel and 7.8 feet E of center of NS gravel.
- Stn. 76-42  
At Underwood where Co. road L52 T's from S onto Co. road G30. On edge  
of pavement, 12.0 feet SW of stop sign on E side of L52. On white stop  
line painted on pavement.

- Stn. 76-43  
Int. of secs. 15, 16, 21 and 22. Where gravel from W T's onto NS gravel.  
On center line of EW gravel and 6.5 feet E of center of NS gravel
- Stn. 76-44  
No secs. given. Where abandoned dirt road from S T's with EW gravel.  
On S side of int., on center line of NS dirt road, and 7.9 feet S of  
center of EW gravel.
- Stn. 77-32  
Int. of secs. 15, 16, 21 and 22. SE fence line of EW road and 8.4 feet  
E of center of NS road.
- Stn. 77-33  
Int. of secs. 15, 16, 21 and 22. On NE corner of int., on NE fence line  
of NS road and 11.0 feet N of center of EW gravel.
- Stn. 77-34  
Int. of secs. 16, 17, 20 and 21 where gravel from W T's onto NS Co. road  
G16. E side of int., on center line of EW gravel and 10.0 feet E of  
center of G16.
- Stn. 77-35  
Int. of secs. 14, 15, 22 and 23 where gravel from N T's onto EW gravel.  
N side of int., on center line of NS road and 8.5 feet N of center of  
EW road.
- Stn. 77-36  
Int. of secs. 15, 16, 21 and 22. Where EW dirt road from E T's onto  
NS gravel. E side of int., on center line of EW dirt road and 7.9  
feet E of center of NS gravel.
- Stn. 77-37  
Int. of secs. 15, 16, 21 and 22. Where gravel from N T's onto EW gravel.  
Triangular int. On N side of int., on center line of NS road and 10.0  
feet N of center of EW road.
- Stn. 77-38  
Int. of secs. 15, 16, 21 and 22. Where EW gravel crosses Hwy. 83 about  
3/4 mi. S of the town of Walnut. On NE corner, 8.5 feet S of stop sign  
on N side of gravel road to E.
- Stn. 77-39  
Between secs. 21 and 22 about 1000 feet S of secs. 15 and 16. One mi.  
S of the town of Adoca where gravel from W T's with NS gravel. On E  
side of int., on center line of EW gravel and 3.3 feet E of center of  
NS gravel.
- Stn. 77-40  
Int. of secs. 15, 16, 21 and 22. Where dirt road from N T's onto EW  
gravel. On N side of int., on center line of NS road and 6.8 feet N  
of center of EW gravel road.

- Stn. 77-41  
Int. of secs. 8, 9, 16 and 17 about 1 mi. NW of the town of Minden.  
On NE corner of int., on E fence line of NS gravel and 6.7 feet N  
of center of EW gravel.
- Stn. 77-42  
Int. of secs. 15, 16, 21 and 22. On NE corner of int., on NE fence  
line of NS road and 7.0 feet N of center of EW road.
- Stn. 77-43  
Int. of secs. 15, 16, 21 and 22. Where gravel from E T's onto NS  
gravel. W side of int., on center line of EW road and 3.9 feet W  
of center of NS road.
- Stn. 77-44  
Between secs. 16 and 17 at approx. N end. Bench mark E of dead end  
road. About 100 feet S of T where gravel road runs off across old  
steel bridge to W. Bench mark is 20.0 feet E of center of NS road.  
Station is adjacent to bench mark.
- Stn. 78-32  
Int. of secs. 15, 16, 21 and 22. On SE corner of int., on E fence line  
of NS gravel road and 7.0 feet S of center of EW gravel.
- Stn. 78-33  
Int. of secs. 15, 16, 21 and 22. On NE corner of int., 9.2 feet N of  
center of EW gravel and 17.0 feet E of center of NS Co. road L34.
- Stn. 78-34  
No secs. given. Gravel from S T's onto EW gravel. On S side, on center  
of NS gravel and 10.2 feet S of center of EW gravel.
- Stn. 78-35  
No description available.
- Stn. 78-36  
Between secs. 17 and 18 at  $\frac{1}{2}$  sec. On SW corner of int., on SW fence  
line of NS oil road and 5.8 feet S of center of EW gravel.
- Stn. 78-37  
Between secs. 15 and 22 about  $\frac{1}{4}$  mi. E of western edge. SE corner of  
int. on S fence line of EW oil road and 7.7 feet E of center of NS  
gravel.
- Stn. 78-38  
Int. of secs. 15, 16, 21 and 22. On NW corner of int., on N fence  
line of EW road and 8.9 feet W of center of NS road.
- Stn. 78-39  
Center, W  $\frac{1}{2}$  of sec. 23. On NW corner of int., on N fence line of EW  
oil road and 5.2 feet W of center of dirt road to N.

- Stn. 78-40  
Between secs. 15 and 22 at  $\frac{1}{2}$  sec. Where gravel from E T's onto NS oil road. W side of int., on center line of EW gravel and 7.5 feet W of center of oil road.
- Stn. 78-41  
Int. of secs. 15, 16, 21 and 22 where Co. road L66 curves from E to N and gravel T's from W. At center of curve where gravel T's, 14.7 feet W of center of L66.
- Stn. 78-42  
Int. of secs. 15, 16, 21 and 22. Where gravel from W T's onto NS gravel. On W side of int., on center of EW gravel and 8.0 feet W of center of NS gravel.
- Stn. 78-43  
Int. of secs. 15, 16, 21 and 22. Where gravel from S T's onto EW gravel. S side of int., on SW fence line of NS road and center line of NS road.
- Stn. 78-44  
Equivalent to I.G.S. station 43.
- Stn. 78-45  
No secs. given. Station on SW edge of curve where short gravel field road goes into corn field. Sec. center of field road just off edge of curve on gravel road. No bench mark found.
- Stn. 79-32  
Between secs. 15 and 22 at  $\frac{1}{2}$  sec. Gravel from E T's onto NS gravel. On E side, on center line of road to E and 15.6 feet E of center of NS road.
- Stn. 79-33  
Int. of secs. 15, 16, 21 and 22. On W side of int., on center line of EW gravel and 15.4 feet W of center of NS gravel.
- Stn. 79-36  
Int. of secs. 15, 16, 21 and 22. On NW corner of int., on N fence line of EW gravel road and 5.2 feet W of center of NS gravel.
- Stn. 79-37  
Int. of secs. 15, 16, 21 and 22. At main int. in the town of Victoria. On NE corner of int., 16.4 feet W and 4.7 feet S of SE cement corner post at old grocery store.
- Stn. 79-38  
Between secs. 15 and 22 about  $\frac{1}{2}$  mi. from E edge. On SE corner of int., where Co. road M47 from S T's onto Hwy. 44. On S fence line of Hwy. 44 and 13.7 feet E of center of M47.

- Stn. 79-39  
Int. of secs. 15, 16, 21 and 22. Where NS oil road crosses Hwy. 44. On NW corner of int., on SW fence line of NS oil road and 31.8 feet N of center of Hwy. 44.
- Stn. 79-40  
Int. of secs. 14, 15, 22 and 23. NW oil road crosses Hwy. 44. On NE corner of int., adjacent to east end of small concrete abutment over culvert on E fence line of NS road.
- Stn. 79-41  
Int. of secs. 15, 16, 21 and 22. Where NS Co. road L66 crosses EW Hwy. 44. N side of int., on center of gravel to N and on NW fence line of Hwy. 44.
- Stn. 79-43  
Approx. center sec. 15. Where gravel from S T's onto curve in EW gravel. On N side of int., on center line of NS road and on line of N railing of bridge just W on EW road.
- Stn. 79-44  
Int. of secs. 15, 16, 21 and 22. On NE corner of int., on E fence line of NS gravel and 4.4 feet N of center of EW gravel.
- Stn. 79-45  
No secs. given. Station at U.S.G.S. bench mark on center line of EW road and 50 feet W of NS road center where gravel from E T's onto NS gravel. Station level with bench mark and 5.4 feet W of center of NS road.
- Stn. 80-32  
Int. of secs. 15, 16, 21 and 22. Where paved Co. road N70 and F32 intersect with gravel road to S. On NW corner of int., on pavement at edge of stop line on road from N.
- Stn. 80-33  
Int. of secs. 15, 16, 21 and 22. Where gravel from N T's onto EW Co. road F32. On S side of int., on center line of NS gravel and 13.0 feet S of center of EW road.
- Stn. 80-36  
Between secs. 16 and 22 at  $\frac{1}{2}$  sec. Where gravel from S T's onto EW gravel. On S side of int., on center of NS road and 11.3 feet S of center of EW road.
- Stn. 80-37  
Int. of secs. 15, 16, 21 and 22. On SW corner of int., on W fence line of NS road and 12.6 feet S of center of EW road.

- Stn. 80-38  
½ mi. W of int. of secs. 14, 15, 22 and 23 where black top from E T's onto NS black top. On center line of EW road and 9.5 feet W of center of NS road.
- Stn. 80-39  
Int. of secs. 15, 16, 21 and 22. Dirt road from N T's with EW oil road. On W fence line of NS road and 15.7 feet N of center of EW road.
- Stn. 80-40  
Between secs. 16 and 22 at ½ sec. On SE corner of int., on S fence line of EW oil road and 10.1 feet E of center of NS oil road.
- Stn. 80-41  
Between secs. 15 and 16 at ½ sec. Where dirt road from E T's onto NS gravel. On center of EW dirt road and on W fence line of NS gravel.
- Stn. 80-42  
Int. of secs. 14, 15, 22 and 23 about ½ mi. W of the town of Woodbine. Gravel from S T's onto EW paved road. On S fence line of EW road and center line of NS road.
- Stn. 80-43  
Between secs. 21 and 22 at ½ sec. Where gravel from N T's onto EW gravel. On N side, on center line of gravel to N and 11.1 feet N of center of EW gravel road.
- Stn. 80-44  
Center of sec. 21. Where gravel from W T's onto Hwy. 183 about 1 mi. N of Hwy. 127 cut off to W. SW corner of int., on W fence line of 183 and 8.2 feet S of center of EW gravel.
- Stn. 80-45  
No sec. given but station in center of sec. Where Hwy. 127 ends to W, just W of I29 overpass. On W side of int., on center of 127 to E and 5.0 feet E of int. of center lines.
- Stn. 81-32  
Int. of secs. 15, 16, 21 and 22. On NW corner of int., on W fence line of NS gravel and 10.0 feet N of center of EW gravel.
- Stn. 81-33  
Int. of secs. 15, 16, 21 and 22. On E side of int., on E fence line of NS gravel and on center line of EW gravel
- Stn. 81-34  
Int. of secs. 15, 16, 21 and 22. On W fence line of NS paved road and 7.7 feet S of center of EW gravel. On SW corner of int.
- Stn. 81-35  
Int. of secs. 15, 16, 21 and 22. On SE corner of int. On E fence line of NS gravel and 11.4 feet S of center of EW gravel.

- Stn. 81-36  
Int. of secs. 15, 16, 21 and 22. On SW corner. On S fence line of EW gravel and 9.0 feet W of center of NS gravel.
- Stn. 81-37  
Int. of secs. 15, 16, 21 and 22. Where oil road from N T's onto EW oil road. On center line of road to N and 11.4 feet S of center of EW road.
- Stn. 81-38  
Int. of secs. 15, 16, 21 and 22. SW corner of int., 18.9 feet W of center of NS oil road and 17.4 feet S of center of EW oil road.
- Stn. 81-39  
Int. of secs. 15, 16, 21 and 22. Where oil road from N T's onto EW black top. On S side of int., on center of NS road and 11.7 feet S of center of EW road.
- Stn. 81-40  
Between secs. 15 and 22 near E side of sec. Oil road from N T's onto EW gravel. On N side of int., on center line of NS road and 9.0 feet N of center of EW road.
- Stn. 81-41  
Between secs. 15 and 23. Where gravel road from W T's onto NS Co. road L66. On SW fence line of L66 and 7.2 feet S of center of EW gravel.
- Stn. 81-42  
Int. of secs. 21 and 22 at  $\frac{1}{2}$  sec. On gravel road where road changes from winding to straight. At 25 m.p.h. curve where road curves from E to N. On SW corner of curve, on E fence line of road to N and 8.5 feet S of center of road at curve.
- Stn. 81-43  
Between secs. 21 and 22 at  $\frac{1}{2}$  sec. About 1000 feet NE of place where Co. road F20 curves from W to S. On 3-way gravel int., on center of gravel to W and 8.5 feet W of center of NS gravel.
- Stn. 81-44  
Approx. center, SW  $\frac{1}{4}$ , sec. 22. Where dead end gravel from E T's onto Hwy. 183. SE corner of int., 33.9 feet E of center of Hwy. 183 and 5.6 feet S of center of EW gravel.
- Stn. 81-45  
No secs. given. Where gravel from N T's onto EW gravel. S side of int., on center of NS gravel and 8.6 feet S of center of EW gravel.

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
67-32	40.6167	94.5267	361.88	130.76	-62.3
67-33	40.6117	94.6217	376.63	125.24	-64.4
67-34	40.6183	94.7467	351.73	125.25	-69.4
67-35	40.6183	94.8667	339.93	127.68	-69.8
67-36	40.6200	94.9717	329.26	126.95	-72.8
67-37	40.6067	95.0883	327.13	125.61	-73.3
67-38	40.6100	95.2017	315.24	125.41	-76.2
67-39	40.6117	95.3150	328.38	119.67	-79.5
67-40	40.6133	95.4217	360.96	111.84	-77.0
67-41	40.6150	95.5450	328.04	119.50	-76.3
67-42	40.6183	95.6400	281.41	128.98	-76.8
68-32	40.6750	94.5267	379.86	133.58	-61.1
68-33	40.6833	94.6517	362.48	133.91	-64.9
68-34	40.6900	94.7267	370.41	130.42	-67.5
68-35	40.6817	94.8483	326.52	135.26	-70.5
68-36	40.6917	94.9900	297.26	136.14	-76.3
68-37	40.6933	95.0867	368.58	118.48	-80.1

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
68-38	40.6933	95.1767	357.91	118.84	-81.8
68-39	40.6833	95.3150	321.34	119.67	-87.3
68-40	40.7000	95.4283	340.54	111.97	-92.7
68-41	40.8650	95.5383	282.32	126.27	-104.6
68-42	40.7017	95.6817	300.61	126.57	-86.1
68-43	40.7050	95.7883	281.10	135.93	-80.9
69-32	40.7817	94.5283	383.82	104.82	-60.6
69-33	40.7683	94.6417	381.69	102.48	-62.2
69-34	40.7833	94.7567	394.70	94.99	-68.4
69-35	40.7617	94.8700	342.67	97.30	-74.4
69-36	40.7733	94.9717	354.86	126.63	-81.8
69-37	40.7683	95.0800	361.94	119.19	-87.4
69-38	40.7700	95.2250	344.20	118.10	-92.1
69-39	40.7717	95.3300	338.41	116.95	-94.5
69-40	40.7733	95.4417	318.59	121.24	-94.3
69-41	40.7733	95.5383	324.23	121.52	-92.9
69-42	40.7717	95.6700	352.43	122.42	-86.3

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
69-43	40.7717	95.7850	283.85	144.76	-77.5
70-32	40.8533	94.5267	374.37	113.36	-60.3
70-33	40.8550	94.6500	371.63	105.13	-69.2
70-34	40.8550	94.7567	367.97	99.50	-75.6
70-35	40.8533	94.8700	369.19	92.73	-82.0
70-36	40.8550	94.9850	314.33	136.94	-86.7
70-37	40.8550	95.0983	358.53	122.82	-92.2
70-38	40.8567	95.2133	358.83	121.81	-93.3
70-39	40.8567	95.3267	315.12	129.80	-93.9
70-40	40.8567	95.4417	338.10	129.27	-89.9
70-41	40.8583	95.5533	302.74	145.12	-81.1
70-42	40.8583	95.6683	336.91	155.49	-64.0
70-43	40.8500	95.8033	286.96	183.72	-44.9
71-32	40.9417	94.5250	377.72	108.19	-72.7
71-33	40.9417	94.6417	390.53	99.96	-78.4
71-34	40.9433	94.7567	370.10	100.68	-81.9
71-35	40.9433	94.8717	333.59	103.41	-86.3
71-36	40.9383	94.9883	323.17	115.02	-85.1

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
71-37	40.9433	95.1033	378.03	101.94	-87.9
71-38	40.9450	95.2150	365.84	104.25	-88.1
71-39	40.9467	95.3283	344.81	146.15	-79.7
71-40	40.9450	95.4400	337.80	163.64	-63.5
71-41	40.9450	95.5550	296.95	188.55	-46.6
71-42	40.9467	95.6700	378.33	192.81	-26.5
71-43	40.9467	95.8017	289.03	228.89	- 8.0
72-32	41.0283	94.5267	372.54	109.26	-80.4
72-33	41.0283	94.6400	374.37	104.79	-84.6
72-34	41.0400	94.7567	354.83	108.81	-85.4
72-35	41.0317	94.8717	328.04	111.63	-87.1
72-36	41.0317	95.0033	334.14	125.90	-80.5
72-37	41.0283	95.0983	385.95	116.53	-79.3
72-38	41.0167	95.2133	351.51	169.37	-61.5
72-39	41.0300	95.3367	344.50	196.33	-37.1
72-40	41.0317	95.4400	337.80	207.01	-27.9
72-41	41.0317	95.5533	320.36	221.38	-16.9
72-42	41.0300	95.6700	367.64	221.31	- 7.6

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
72-43	41.0217	95.7830	291.47	241.90	- 1.2
73-32	41.1000	94.5350	373.15	112.00	-84.0
73-33	41.1150	94.6417	380.38	110.94	-85.0
73-34	41.1117	94.7567	351.57	119.80	-84.5
73-35	41.1150	94.8733	369.10	120.61	-77.5
73-36	41.1267	94.9850	367.67	151.15	-57.1
73-37	41.1133	95.0967	376.51	164.28	-41.1
73-38	41.1167	95.2117	363.09	218.26	-19.3
73-39	41.1183	95.3250	367.06	226.36	-10.5
73-40	41.1150	96.4400	313.75	240.11	- 7.0
73-41	41.1150	95.5350	338.10	236.53	- 5.8
73-42	41.1150	95.6583	357.91	229.95	- 8.4
73-43	41.1150	95.7950	337.19	237.90	- 4.6
74-32	41.2000	94.5283	398.76	96.95	-77.4
74-33	41.2017	94.6417	357.00	112.23	-70.5
74-34	41.2000	94.7383	411.86	144.07	-62.1
74-35	41.2017	94.8733	354.62	176.69	-40.9

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
74-36	41.2017	94.9850	375.07	196.14	-17.4
74-37	41.2017	95.0967	374.68	211.56	- 2.1
74-38	41.2017	95.2117	360.35	190.00	+ 5.6
74-39	41.2033	95.3250	369.19	185.82	+ 3.0
74-40	41.2083	95.4483	357.30	183.78	- 1.7
74-41	41.2000	95.5367	352.61	181.99	- 3.7
74-42	41.2000	95.6683	329.87	190.36	+ 0.1
74-43	41.1900	95.7733	310.06	194.48	+ 1.2
75-32	41.2800	94.5300	370.41	122.60	-64.5
75-33	41.2867	94.6417	371.93	143.09	-44.3
75-34	41.2867	94.7583	420.40	187.28	-25.0
75-35	41.2833	94.8733	401.80	210.43	- 5.2
75-36	41.2883	94.9833	366.72	233.63	+10.6
75-37	41.2883	95.0800	349.07	243.60	+17.1
75-38	41.2883	95.2100	367.97	202.98	+12.3
75-39	41.2883	95.3267	386.56	192.67	+ 5.6
75-40	41.2883	94.4383	364.62	195.50	+ 4.1

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
75-41	41.2883	95.5550	388.39	185.21	- 1.4
75-42	41.2900	95.6683	342.67	187.62	- 8.1
75-43	41.3067	95.7817	316.46	183.17	-19.2
76-32	41.3750	94.5283	411.252	153.13	-34.5
76-33	41.3750	94.6433	407.35	173.64	-14.7
77-34	41.3733	94.7600	414.00	198.54	+11.5
76-35	41.3667	94.8533	408.84	206.17	+18.7
76-36	41.3750	94.9833	382.08	251.06	+23.2
76-37	41.3750	95.0867	392.66	245.91	+20.2
76-38	41.3750	95.2100	403.94	205.44	+14.0
76-39	41.3767	95.3233	399.06	196.13	+ 3.6
76-40	41.3767	95.4367	377.42	189.47	- 7.2
76-41	41.3617	95.5517	403.02	172.65	-17.6
76-42	41.3750	95.6850	322.86	171.21	-36.0
76-43	41.3767	95.7783	391.75	151.41	-42.4
76-44	41.3900	95.8917	302.13	151.37	-61.3
77-32	41.4633	94.5283	394.49	193.73	- 5.0

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
77-33	41.4617	94.6417	429.30	206.84	+14.9
77-34	41.4600	94.7767	401.19	226.98	+29.7
77-35	41.4600	94.8533	391.75	231.22	+32.0
77-36	41.4600	94.9833	391.44	257.18	+23.6
77-37	41.4600	95.0983	390.83	246.44	+12.7
77-38	41.4650	95.2250	409.42	196.19	- 2.1
77-39	41.4783	95.3250	363.70	193.08	-15.4
77-40	41.4633	95.4383	363.70	177.37	-29.8
77-41	41.4783	95.5700	365.17	152.76	-55.4
77-42	41.4650	95.6650	385.65	139.09	-63.9
77-43	41.4633	95.7817	353.95	122.91	-86.1
77-44	41.4767	95.9150	302.74	131.01	-89.3
78-32	41.5483	94.5300	384.13	217.38	+14.5
78-33	41.5483	94.6433	422.53	223.34	+28.0
78-34	41.5483	94.7400	415.52	229.02	+32.3
78-36	41.5567	95.0233	435.03	199.02	+ 5.4
78-37	41.5483	95.0933	397.23	195.63	- 4.6
78-38	41.5550	95.2133	401.80	176.25	-23.2

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
78-39	41.5583	95.3217	358.22	163.74	-45.1
78-40	41.5500	95.4300	399.06	138.77	-61.3
78-41	41.5500	95.5450	390.22	108.09	-93.7
78-42	41.5500	95.6683	377.12	106.16	-98.2
78-43	41.5500	95.7833	389.00	105.71	-96.3
78-45	41.5633	96.0383	307.04	133.93	-85.4
79-32	41.6450	94.5617	388.70	238.55	+27.8
79-33	41.6450	94.6867	426.80	226.50	+23.3
79-36	41.6467	95.0350	398.15	186.49	-22.4
79-37	41.6467	95.1517	387.69	168.46	-42.5
79-38	41.6450	95.2517	393.27	137.23	-72.5
79-39	41.6450	95.3833	416.43	107.12	-98.0
79-40	41.6450	95.4783	418.87	103.83	-100.8
79-41	41.6483	95.6133	390.22	111.69	-98.9
79-43	41.6550	95.8367	335.97	137.51	-84.4
79-44	41.6483	95.9617	309.45	148.28	-78.2
79-45	41.6617	96.0800	310.36	161.30	-66.2

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
81-36	41.8200	95.0367	416.74	162.66	-58.2
81-37	41.8183	95.1517	402.11	123.35	-100.2
81-38	41.8183	95.2683	438.68	107.79	-108.6
81-39	41.8183	95.3833	435.33	108.02	-109.0
81-40	41.8183	95.4850	389.92	125.32	-100.6
81-41	41.8233	95.6083	334.84	147.80	-89.4
84-42	41.8183	95.7283	365.23	149.25	-81.5
81-43	41.8167	95.8467	381.08	155.53	-72.0
81-44	41.8150	95.9367	334.75	172.48	-64.0
84-45	41.8383	96.0583	314.94	195.94	-46.6

## Detailed Bouguer Gravity Data for Traverses

## THURMAN TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
1	40.8783	95.7950	288.1	189.46	203.12	200.44	2.68
2	40.8750	95.3950	288.3	187.62	201.48	199.26	2.22
3	40.8733	95.7950	287.9	185.98	199.91	198.07	1.84
4	40.8700	95.7950	287.9	184.30	198.38	196.79	1.59
5	40.8667	95.7950	287.5	182.59	196.82	195.24	1.58
6	40.8650	95.7950	286.5	181.19	195.44	194.00	1.44
7	40.8617	95.7967	286.7	179.71	194.18	192.97	1.21
8	40.8583	95.7983	287.0	178.34	193.13	191.85	1.28
9	40.8567	95.8000	286.5	177.27	192.12	191.12	1.00
9.5	40.8550	95.8017	286.4	176.73	191.64	190.62	1.02
10	40.8550	95.8017	286.2	176.30	191.24	190.35	0.89
10.5	40.8533	95.8033	286.8	175.55	190.75	189.82	0.93
11	40.8517	95.8033	287.3	174.64	190.09	189.20	0.89
11.5	40.8500	95.8033	286.9	173.95	189.44	188.46	0.98
12	40.8500	95.8033	287.0	173.10	188.73	187.84	0.89
12.5	40.8483	95.8033	286.9	172.26	187.96	187.21	0.75

## Detailed Bouguer Gravity Data for Traverses

## THURMAN TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
13	40.8083	95.8083	285.3	147.46	167.10	167.92	-0.82
14	40.8117	95.8083	285.3	148.89	168.24	169.40	-1.16
14.5	40.8133	95.8083	285.2	149.68	168.85	169.98	-1.13
15	40.8150	95.8083	289.4	149.52	169.50	170.64	-1.14
15.5	40.8167	95.8083	288.6	150.56	170.14	171.48	-1.34
16	40.8167	95.8083	285.5	152.12	170.96	172.07	-1.11
16.5	40.8183	95.8083	285.4	153.08	171.62	172.80	-1.18
17	40.8200	95.8083	285.7	154.00	172.44	173.48	-1.04
17.5	40.8217	95.8083	285.7	154.99	173.32	174.24	-0.92
18	40.8233	95.8083	285.8	155.99	174.14	174.92	-0.78
18.5	40.8250	95.8083	285.9	156.96	174.94	175.78	-0.84
19	40.8250	95.8083	285.8	158.00	175.82	176.47	-0.65
19.5	40.8267	95.8083	286.0	159.02	176.68	177.24	-0.56
20	40.8283	95.8083	286.0	160.02	177.53	177.99	-0.46
20.5	40.8300	95.8083	286.3	161.02	178.46	178.68	-0.22
21	40.8317	95.8083	286.1	162.09	179.33	179.40	-0.07

## Detailed Bouguer Gravity Data for Traverses

## THURMAN TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
21.5	40.8333	95.8083	286.2	163.16	180.23	180.09	0.14
22	40.8333	95.8083	286.4	164.27	181.21	180.78	0.43
22.5	40.8350	95.8083	287.2	164.81	181.90	181.56	0.34
23	40.8367	95.8083	287.1	165.76	182.76	182.26	0.50
23.5	40.8383	95.8083	286.8	166.61	183.67	182.89	0.78
24	40.8400	95.8083	286.2	167.69	184.36	183.67	0.69
24.5	40.8417	95.8083	286.8	168.47	185.26	184.68	0.58
25	40.8433	95.8083	286.5	169.35	186.12	185.46	0.66
25.5	40.8450	95.8083	286.7	170.33	186.86	186.15	0.71
26	40.8450	95.8083	288.0	170.85	187.41	186.78	0.53

## Detailed Bouguer Gravity Data for Traverses

## TABOR TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
Base	40.8733	95.6283	346.2	138.89	168.24	168.24	0.00
1.5	40.8733	95.6333	340.1	141.26	169.11	168.75	0.36
2	40.8767	95.6283	337.3	142.17	169.19	169.40	-0.21
3	40.8800	95.6283	328.2	145.76	170.56	170.66	-0.10
4	40.8817	95.6283	316.2	149.90	171.66	171.93	-0.27
5	40.8850	95.6283	326.4	149.50	172.88	172.98	-0.10
6	40.8867	95.6283	338.0	148.63	174.22	174.20	0.02
7	40.8900	95.6283	334.3	151.19	175.57	175.42	0.15
8	40.8933	95.6283	340.5	151.48	177.26	176.72	0.54
8.5	40.8933	95.6283	336.1	153.24	177.87	177.26	0.62
9	40.8700	95.6333	325.7	143.04	167.62	167.59	0.03
10	40.8667	95.6333	322.3	142.34	166.51	166.34	0.28
11	40.8650	95.6333	333.1	139.06	165.58	165.18	0.40
12	40.8617	95.6333	341.6	134.91	164.50	164.07	0.43
13	40.8600	95.6333	334.8	135.26	163.71	163.09	0.62
14	40.8567	95.6333	329.1	135.38	163.13	161.90	1.23

## Detailed Bouguer Gravity Data for Traverses

## TABOR TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
15	40.8550	95.6333	333.0	133.54	162.15	160.92	1.23
16	40.8517	95.6333	345.1	129.82	161.33	159.84	1.49
17	40.8483	95.6333	349.3	127.81	160.52	158.91	1.61
18	40.8467	95.6333	341.5	128.50	159.45	157.93	1.52
19	40.8433	95.6333	329.7	130.03	158.21	156.94	1.27

## Detailed Bouguer Gravity Data for Traverses

## RED OAK TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
Base	41.0750	95.1950	323.7	164.81	168.75	168.22	0.53
2N	41.0767	95.1950	322.7	166.79	170.30 170.30	169.54 169.54	0.76
3N	41.0800	95.1950	323.5	168.49	171.93	170.85	1.08
4N	41.0833	95.1950	333.0	168.65	174.13	172.42	1.71
6N	41.0883	95.1950	338.4	171.25	177.79	175.19	2.60
7N	41.0917	95.1950	345.6	171.21	179.35	176.74	2.61
2S	41.0717	95.1950	324.6	162.77	167.13	166.88	0.25
3S	41.0683	95.1950	325.6	160.45	165.30	165.30	0.00
4S	41.0667	95.1950	328.1	158.02	163.66	163.99	-0.33
5S	41.0633	95.1950	330.1	155.52	161.87	162.51	-0.64
6S	41.0600	95.1950	350.0	149.22	160.53	160.94	-0.36
7S	41.0583	95.1950	347.1	147.74	158.65	159.47	-0.82
8S	41.0550	95.1950	347.1	145.85	157.03	157.92	-0.89
9S	41.0517	95.1950	360.4	141.03	156.04	156.28	-0.24
10S	41.0483	95.1950	346.7	142.25	154.22	155.00	-0.78
11S	41.0467 0467	95.1950	347.7	140.17	152.64	153.56	-0.92

## Detailed Bouguer Gravity Data for Traverses

## RED OAK TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
12S	41.0433	95.1950	362.1	135.31	151.53	152.14	-0.61
13S	41.0400	95.1950	363.7	133.06	149.93	150.89	-0.96
14S	41.0383	95.1950	361.0	132.02	148.45	149.58	-1.13
15S	41.0350	95.1950	356.4	131.49	147.06	148.20	-1.14
16S	41.0317	95.1950	342.8	132.83	145.28	146.83	-1.55

## Detailed Bouguer Gravity Data for Traverses

## GRANT TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
Base	41.1300	94.9850	338.0	149.28	160.19	159.98	0.21
2	41.1283	94.9850	337.3	147.91	158.94	158.90	0.04
3	41.1250	94.9850	336.6	146.30	157.39	157.63	-0.24
4	41.1233	94.9850	335.9	144.77	155.91	156.25	-0.34
5	41.1200	94.9850	335.2	143.25	154.47	154.81	-0.34
6	41.1200	94.9850	335.2	141.60	152.76	153.49	-0.73
7	41.1333	94.9850	338.8	150.82	161.15	161.44	-0.29
8	41.1367	94.9850	339.8	152.40	162.72	163.00	-0.28
9	41.1383	94.9850	338.8	154.21	164.14	164.51	-0.37
10	41.1417	94.9850	341.6	155.07	165.52	165.94	-0.42
11	41.1450	94.9850	349.0	155.72	167.06	167.48	-0.41
12	41.1467	94.9850	349.8	157.32	168.50	168.85	-0.35
13	41.1500	94.9850	343.8	160.44	170.00	170.23	-0.23
14	41.1517	94.9850	355.8	159.61	171.59	171.90	-0.31
15	41.1550	94.9850	359.0	161.19	173.63	173.70	-0.06

## Detailed Bouguer Gravity Data for Traverses

## GRANT TRAVERSE :

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
16	41.1583	94.9850	363.6	161.82	175.06	175.03	0.03
17	41.1600	94.9850	370.2	162.03	176.57	176.52	0.05
18	41.1633	94.9850	378.8	162.07	178.31	178.04	0.27
19	41.1667	94.9850	384.3	162.63	179.96	179.66	0.30
20	41.1683	94.9850	381.7	164.88	181.32	181.29	0.03
21	41.1717	94.9850	377.5	167.80	182.80	182.76	0.04
22	41.1733	94.9850	373.9	170.08	184.26	184.29	-0.03

## Detailed Bouguer Gravity Data for Traverses

## MIDDLE RIVER TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
Base	41.3467	94.4900	403.4	136.06	157.57	161.83	-4.26
2	41.3500	94.4900	393.3	139.36	158.28	162.64	-4.36
3	41.3517	94.4900	398.6	139.56	159.52	163.29	-3.77
4	41.3550	94.4900	401.8	140.02	160.50	163.98	-3.48
5	41.3583	94.4900	397.6	143.14	162.33	164.85	-2.52
6	41.3617	94.4900	413.2	140.70	163.18	166.05	-2.87
7	41.3633	94.4900	414.9	142.00	164.67	166.89	-2.22
8	41.3667	94.4900	413.8	140.58	166.19	167.60	-1.41
9	41.3683	94.4900	414.8	139.45	167.58	168.66	-1.09
10	41.3717	94.4900	416.7	138.36	167.07	169.81	-0.75
11	41.3750	94.4900	415.6	137.62	170.48	171.07	-0.59
12	41.3783	94.4900	408.5	138.51 <small>138.51</small>	171.66 <small>171.66</small>	171.93 <small>171.93</small>	-0.27
13	41.3800	94.4900	410.5	137.92	173.33	173.10	0.22
14	41.3833	94.4900	403.0	139.02	174.31	174.37	-0.06
15	41.3867	94.4900	418.4	136.99	175.90	175.39	0.51
16	41.3900	94.4900	404.0	144.00	176.55	176.85	-0.30
17	41.3917	94.4900	399.9	148.90	177.52	177.90	-0.38
18	41.3950	94.4900	390.8	154.24	178.48	179.11	-0.63

Regional Gravity Data in S.W. Iowa

Station/ Township and Range	Degrees North Latitude	Degrees East Longitude	Elevation (meters)	Observed Gravity (milligals)	Bouguer Anomaly (milligals)
80-32	41.7317	94.5717	372.85	243.94	+22.3
80-33	41.7300	94.6867	409.42	226.36	+12.1
80-36	41.7317	95.0433	423.44	172.49	-39.1
80-37	41.7300	95.1517	419.48	143.28	-68.9
80-38	41.7317	95.2533	377.42	121.03	-99.6
80-39	41.7317	95.3833	431.98	103.45	-106.4
80-40	41.7317	95.5083	419.48	107.84	-104.5
80-41	41.7417	95.6150	387.78	122.59	-96.9
80-42	41.7350	95.7167	334.75	139.01	-90.3
80-43	41.7283	95.8467	352.43	144.35	-80.9
80-44	41.7283	95.9733	318.23	163.09	-68.9
80-45	41.7133	96.0517	311.28	168.84	-63.1
81-32	41.8183	94.5717	365.84	250.13	+19.3
81-33	41.8183	94.6850	377.72	236.64	+ 8.2
81-34	41.8217	94.8033	430.15	210.73	- 7.6
81-35	41.8217	94.9183	446.61	186.10	-29.0

## Detailed Bouguer Gravity Data for Traverses

## MIDDLE RIVER TRAVERSE

Station	Degrees N. Latitude	Degrees E. Longitude	Elevation (meters)	Observed G. (mgal)	Bouguer G.	Predicted G.	Residual G.
19	41.3983	94.4900	396.0	157.25	179.57	180.34	-0.77
20	41.4000	94.4900	408.3	158.36	180.61	181.43	-0.82
21	41.4033	94.4900	410.8	160.69	181.55	182.53	-0.98