Maine Geological Survey
DEPARTMENT OF CONSERVATION
Walter A. Anderson, State Geologist

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Title: Gravity Survey of the Northern Penobscot Valley Area, Maine

Author: Peter M. Messier

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This report is preliminary and has not been edited or reviewed for conformity with Maine Geological Survey standards.

Contents: 26 page report and 2 maps

I. INTRODUCTION/BACKGROUND

Previous detailed studies[1] of gravity anomalies have shown to be helpful in evaluating seismically active areas both geologically and geophysically. Existing gravity data for Eastern Maine[2] is not dense enough to properly evaluate seismic activity in this area by this method. Therefore, a gravity survey of the Northern Penobscot Valley area has been conducted to supplement existing data and as an extension of a NRC-sponsored survey in 1980.[3] The objective of this survey is to produce a 1-milligal Bouguer anomaly map of the area covered by the following 15-minute quadrangles: Guilford, Dover-Foxcroft, Boyd Lake, Passadumkeag, Southern 2/3 of Lincoln, Southern 1/2 of Schoodic, and Southern 1/4 of Sebec.

II. SUMMARY OF SURVEY REQUIREMENTS

The following is a list of completed requirements of the gravity survey:

1. All existing and available gravity data from the National Geodetic Survey, the Defense Mapping Agency and the U.S. Geological Survey has been collected and evaluated. (359 stations).
2. All existing vertical survey data (elevations) from the National Geodetic Survey, the U.S. Geological Survey and the Maine Department of Transportation have been collected.
3. A sufficient number of gravity and elevation observations have been taken (see Table 2) which, when combined with previously existing data, will produce a 1-2 km grid of existing and observed points in areas accessible by motor vehicle.
4. Digitizing of observed points to determine their geographical positions.
5. Adjustment of gravity and elevation observations and merging with digitized positions to compute point gravity values and anomalies.
6. Combination of existing anomalies with observed anomalies and plotting to produce a 1-milligal Bouguer anomaly map at a scale of 1:62500. (1095 stations total)

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[1]Barosh, Ref 2; Kick, Ref 6

[2]Hodge et al., Ref 4; Thompson, Ref 9

[3]Weng, Ref 12

III. INSTRUMENTATION AND MEASUREMENTS

As required by sub-grant agreement, data has been collected and combined with existing data to produce a 1-2 km grid of observed stations. In keeping with the 1980 survey 1 mgal contours have been plotted at a scale of 1:62500. The instrumentation used is listed in Table 1, and the field procedures are described in Reference 11. The number of each kind of observation taken is listed in Table 2. Table 3 lists monumented stations that have been established as "Local Reference Stations" as a result of being re-measured several times.

TABLE 1

INSTRUMENTATION

Gravity:	Worden Gravity Meter No. 628
Elevation:	Three American Paulin Micro Altimeters One American Paulin Micro Barograph
Coordinates:	Talos 48" x 60" Digitizer
Computations:	IBM VM/370 Computer
Plotting:	Houston DP-8 Drum Plotter

TABLE 2

STATISTICS ON OBSERVATIONS

	Number	g
Stations:	736	----
Gravity Readings:	774	0.2 mgal
Altimeter Readings:	2322	6-8 Ft.
Points Digitized:	736	50-200 Ft.

TABLE 3

UMO - Gravity Surveys 1980-82
New Local Gravity Control Stations

g, mgal	UMO No.	Original Agency	Monument Designation
980530.90	1004	NGS	Quad 440692 Line 104 "S 49 1935"
980611.66	2101	LRIS	NB2101
980623.66	2363	LRIS	NB2363
980623.54	12077	USCGS	Line 106, N15(USGS)
980585.43	14052	USGS	Line 1, quad 73(Stetson), TT STA No 28 B1929
980585.76	14067	USGS	Line 2, quad 73(Stetson), L 17 1929
980536.14	14090	USGS	Line 4, quad 56(Brooks) 1 L 1929
980552.27	14100	USGS	Line 5, quad 56(Brooks) 6 L 1929
980540.82	14112	USGS	Line 5, quad 56(Brooks) 10 L 1929
980556.24	15263	USGS	Line 10, quad 55(Bucksport), TBM 332.7
980569.36	15268	USGS	Line 11, quad 55(Bucksport), JB 14 1942
980594.47	18010	MDOT	BM-15-E
980577.45	18018	MDOT	LA-ØØ
980594.74	18027	MDOT	CO-15-9
980565.21	20005	USCGS	Line 103, L130
980566.83	20014	USCGS	Line 103, V130
980590.58	21013	NGS	N175, quad 44068441
980576.93	24007	USCGS	Line 111, U131
980588.66	24008	UMO	24008
980590.62	24014	UMO	24014
980623.82	27009	NGS	Q200, quad 45067222
980621.85	28007	NGS	A202, quad 44067111
980604.82	30002	USCGS	Line 103, W67

Agency Abbreviation

LRIS	-	Land Registration and Information Service, PEI, Canada
MDOT	-	Maine Department of Transportation, ME
NGS	-	National Geodetic Survey, Maryland
UMO	-	University of Maine at Orono, ME
USCGS	-	U.S. Coast and Geodetic Survey, now NGS
USGS	-	U.S. Geological Survey, Virginia

IV. DATA REDUCTION

The gravity and elevation observations have been fitted and adjusted to reference values using least squares (Weng, Ref 11). The gravity is in reference to IGSN71 (Morelli, Ref 7); elevations are in reference to the mean sea level datum (NGVD) using bench marks and road intersections; the coordinates are based on the North American Datum of 1927. After merging these three types of data the normal gravity in system GRS67 (I.A.G., Ref 5) and the complete Bouguer reduction (Heiskanen and Moritz, Ref 3) was computed. Standard density $\rho = 2.67$ g/cm^3 was used. Figure 1 shows a flow chart of the overall data reduction process.

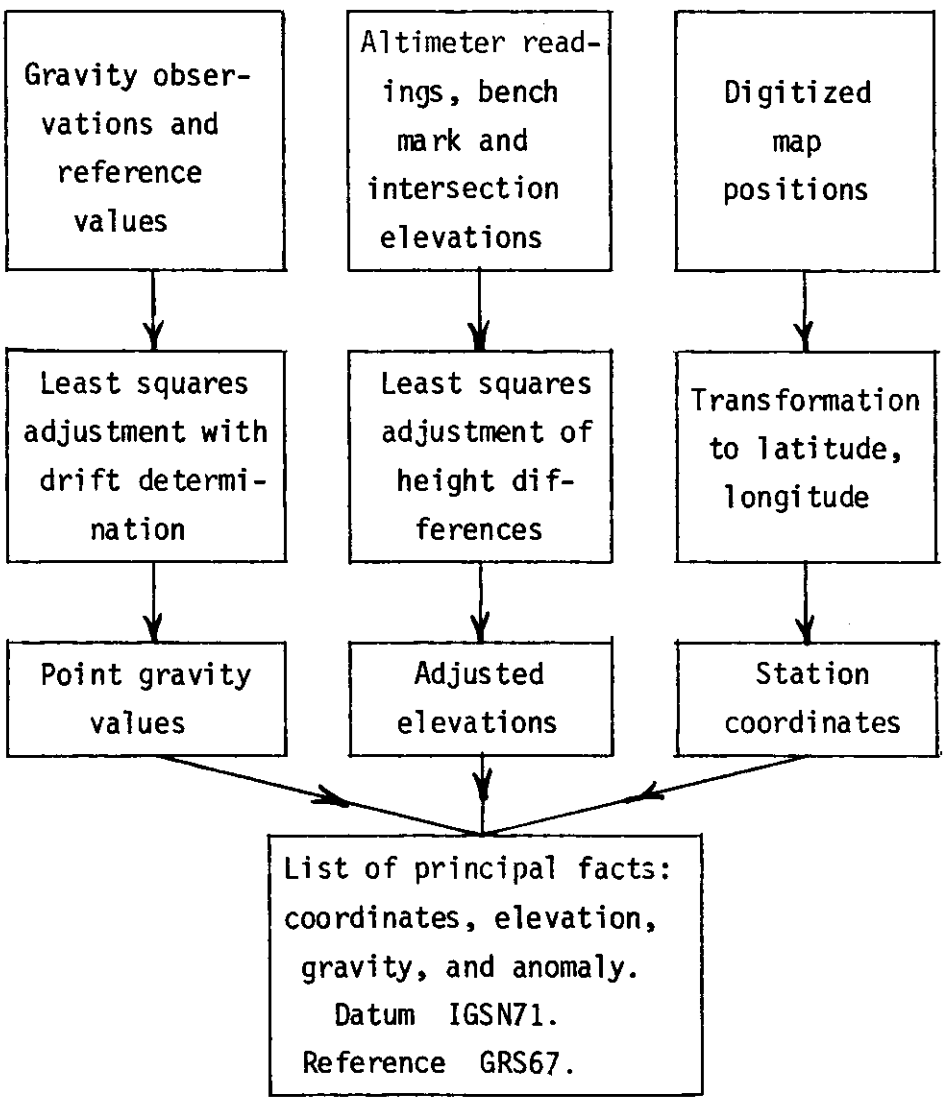

Figure 1: Data Reduction

V. PRINCIPAL FACTS

The principal facts of the UMO gravity survey are listed in the appendix. The last two columns, G and E, give codes on the nature and quality of each station. The meaning of each code is given in Figure 2.

G - code (Gravity)
1 - IGSN71 reference station
2 - UMO - local reference station
3 - re-measured point
4 - measured once
E - code (Elevation)
1&3- Bench mark or road intersection with elevation from USGS map
4 - Elevation determined using altimeters

Figure 2: The G and E Codes

VI. PLOTTING

The anomaly map is based on 736 UMO-values and 359 previously existing values. A recent contouring module (Sünkel, Ref 8) has been used to plot the map, which is described in Figure 3.

Bouguer Gravity Map	
Contour interval:	1 mgal
Datum:	IGSN71
Reference:	GRS67
Density:	2.67 g/cm^3
Scale:	1/62,500
Projection:	Lambert Conformal Conic, Standard Parallel at 45°, Central Meridian at 69°

Figure 3: Map Description

VII. ACKNOWLEDGEMENTS

Many people have played a role in producing the map. Dr. David Tyler and Willy Weng (Information and guidance), Dr. Lawrence Fisher (Implementing the contouring module at UMO), John Sherblom (Computer consultant), Dr. Alfred Leick (Geodetic consultant), Robert Freeman & Jeffrey Wood (Field work and data entry), Dr. Terrance Keating and George Wheelwright of Sewall Company (Technical guidance during digitizing), Louis Morin (Technical assistance during computer plotting), and Rosemary Shorey (Typing of proposal and reports).

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APPENDIX

U M O - G R A V I T Y S U R V E Y

P R I N C I P A L F A C T S

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
1060	45.2476	68.6696	180	980616.3	-14.4	3	1
1063	45.1483	68.6273	137	980616.2	-8.1	4	1
1066	45.1854	68.6282	174	980614.5	-10.9	4	1
1079	45.2370	68.6503	167	980614.7	-15.8	3	1
1082	45.0131	68.6387	115	980605.9	-7.5	3	1
1083	45.1839	68.6142	138	980618.5	-9.0	4	1
1084	45.1230	68.5916	135	980614.3	-7.8	3	1
1085	45.2392	68.5556	333	980604.6	-16.1	4	1
1086	45.2151	68.5296	280	980605.8	-15.9	4	1
1099	45.0877	68.8983	296	980598.3	-10.9	3	1
1103	45.0312	68.6654	130	980606.7	-7.4	3	1
1108	45.0137	68.7233	159	980603.2	-7.5	4	1
1138	45.2101	68.8426	293	980599.7	-20.8	4	1
1144	45.2589	68.9243	398	980597.1	-21.6	3	1
1149	45.1932	69.1702	300	980597.4	-21.1	4	1
1153	45.2669	68.6773	165	980617.6	-15.7	3	1
1154	45.2905	68.6560	173	980617.9	-17.1	4	1
1155	45.2788	68.6710	246	980612.8	-16.8	4	1
1156	45.3018	68.6394	189	980617.8	-17.3	4	1
1160	45.3296	68.6039	180	980620.1	-18.0	4	1
1164	45.3520	68.5776	193	980621.2	-18.1	4	1
1165	45.3627	68.5665	266	980618.6	-17.3	4	1
1186	45.3732	68.5560	289	980618.5	-17.0	4	4
1206	45.0821	69.0625	464	980579.3	-19.3	4	1
1222	45.1189	68.8166	192	980608.0	-10.3	3	1
1223	45.1315	68.8913	326	980596.0	-15.4	4	1
1225	45.1585	68.8564	203	980604.4	-16.8	4	1
1226	45.1678	68.8431	314	980598.2	-17.2	3	1
1227	45.1580	68.7102	237	980607.3	-11.9	4	1
1228	45.1210	68.9424	306	980595.1	-16.5	4	1
1229	45.1771	68.8544	415	980591.8	-18.4	4	1
1230	45.1995	68.9077	316	980597.4	-20.8	3	1
1231	45.2064	68.9095	321	980598.2	-20.3	4	1

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
1232	45.2200	68.9207	309	980600.4	-20.0	4	1
1233	45.2270	68.9313	342	980598.8	-20.3	4	1
1234	45.2305	68.9563	292	980601.3	-21.1	3	1
1235	45.0009	68.8787	137	980602.6	-8.3	3	1
1237	45.0265	68.8682	156	980602.1	-10.0	4	1
1238	45.0398	68.8551	150	980603.1	-10.5	4	1
1239	45.0536	68.8477	149	980603.6	-11.4	4	1
1241	45.3776	68.5041	230	980620.8	-18.6	3	1
1257	45.2211	69.0237	302	980600.8	-20.2	4	1
1261	45.1360	69.2342	489	980581.1	-20.9	4	1
1263	45.1776	69.2543	405	980590.2	-20.7	4	1
1268	45.2692	69.1164	358	980595.4	-26.6	3	1
1273	45.2516	68.9904	287	980603.2	-21.4	3	1
1274	45.2856	68.8527	337	980603.6	-21.1	3	1
1275	45.2757	68.8090	217	980610.5	-20.5	3	1
1276	45.2747	68.7858	188	980612.8	-19.9	4	1
1277	45.2294	69.0990	461	980591.1	-21.1	3	1
1278	45.2000	69.0045	316	980599.5	-18.8	4	1
1279	45.1774	69.2110	410	980589.6	-20.9	3	1
1280	45.1833	69.2244	384	980592.1	-20.5	4	1
1281	45.1748	69.1902	479	980586.4	-19.7	3	1
1282	45.1454	69.1431	533	980579.7	-20.5	3	1
1283	45.1278	69.1284	608	980574.2	-20.0	4	1
1284	45.0591	69.0645	340	980587.3	-16.7	3	1
1285	45.0258	69.0305	323	980590.9	-11.1	3	1
1286	45.0392	69.0442	265	980593.3	-13.4	4	1
1287	45.0478	69.0521	293	980591.0	-14.8	4	1
1291	45.1338	69.4350	577	980572.4	-24.2	3	1
1294	45.1387	69.2578	564	980577.2	-20.6	4	1
1295	45.0020	69.0247	305	980592.4	-8.6	3	1
1296	45.1094	69.4010	685	980565.1	-22.7	4	1
1297	45.0465	69.3765	352	980579.5	-22.6	3	1
1298	45.0551	69.2680	544	980569.6	-21.8	3	1
1299	45.0377	69.4426	386	980574.7	-24.6	4	1
1307	45.2134	69.4744	455	980586.1	-24.9	4	1
1308	45.2047	69.4564	434	980585.2	-26.3	3	1
1310	45.1690	69.3609	383	980588.3	-23.1	3	1
1312	45.1960	69.4570	435	980585.3	-25.4	3	1
20101	45.1906	68.9130	300	980596.9	-21.4	4	4
20102	45.2014	68.9166	349	980596.0	-20.4	4	4
20103	45.2104	68.9254	485	980588.7	-20.3	4	4
20104	45.1862	68.9288	309	980597.0	-20.4	4	4
20105	45.2026	68.9266	406	980593.0	-20.0	4	4
20106	45.2173	68.9322	506	980589.6	-18.8	4	4
20107	45.2244	68.9437	315	980601.0	-19.5	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
20108	45.2405	68.9693	301	980602.1	-20.7	4	4
20109	45.2494	68.9813	315	980601.7	-21.0	4	4
20110	45.2236	68.9748	279	980602.0	-20.6	4	4
20111	45.2058	68.9923	331	980598.5	-19.4	4	4
20112	45.1991	68.9816	347	980597.0	-19.2	4	4
20113	45.1997	68.9723	390	980594.3	-19.4	4	3
20114	45.1735	68.9714	464	980586.1	-20.8	4	4
20115	45.1638	68.9879	463	980584.5	-21.6	4	3
20116	45.1775	68.9987	541	980582.6	-20.1	4	3
20117	45.2282	68.9793	273	980602.4	-20.9	4	4
20118	45.2303	68.9973	299	980600.8	-21.1	3	4
20119	45.2453	68.9936	352	980599.4	-20.8	4	4
20120	45.2108	68.9585	419	980594.5	-18.6	4	4
20121	45.2132	68.9477	401	980595.4	-18.9	4	4
20122	45.1540	68.9666	362	980589.5	-21.8	4	3
20201	45.3078	68.6368	166	980619.7	-17.3	4	4
20202	45.3165	68.6292	152	980620.4	-18.2	4	4
20203	45.3216	68.6159	175	980620.1	-17.5	4	4
20204	45.3395	68.5898	164	980621.0	-18.9	4	4
20205	45.3819	68.5461	263	980620.5	-17.3	4	4
20206	45.3901	68.5318	282	980619.5	-18.0	4	4
20207	45.3963	68.5132	232	980623.9	-17.1	4	4
20301	45.0071	68.8911	162	980601.1	-8.9	4	4
20302	45.0185	68.8970	168	980600.9	-9.8	4	4
20303	45.0033	68.9961	294	980593.7	-8.1	4	4
20304	45.0024	68.9672	203	980597.8	-9.3	4	4
20305	45.1281	68.9634	322	980591.9	-19.4	4	4
20306	45.1569	68.9477	366	980590.0	-21.3	4	4
20307	45.1594	68.9302	409	980588.2	-20.8	4	4
20308	45.1761	68.9354	301	980594.9	-22.1	4	4
20309	45.1696	68.9303	384	980589.3	-22.1	4	3
20310	45.1439	68.9472	317	980592.9	-20.2	4	4
20401	45.1283	68.9796	337	980590.0	-20.4	4	4
20402	45.1372	68.9921	441	980583.7	-21.3	4	4
20403	45.1428	68.9993	419	980585.6	-21.3	4	4
20404	45.1242	68.9182	305	980596.4	-15.6	4	4
20405	45.1337	68.9189	367	980593.0	-16.1	4	4
20406	45.0643	68.7813	256	980602.0	-7.6	4	4
20407	45.0138	68.8769	157	980601.9	-9.0	4	4
20408	45.0346	68.8584	152	980602.5	-10.5	4	4
20409	45.0010	68.8205	145	980602.8	-7.7	4	4
20410	45.0006	68.8411	159	980602.9	-6.7	4	4
20411	45.2582	68.6789	193	980616.8	-14.1	4	4
20412	45.2556	68.6951	201	980616.6	-13.6	4	4
20413	45.2638	68.7100	204	980615.4	-15.3	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
20414	45.2729	68.7262	204	980614.3	-17.3	4	4
20415	45.2767	68.7438	191	980613.7	-19.0	4	4
20501	45.2525	68.6382	170	980614.8	-17.0	3	4
20502	45.2610	68.6383	188	980614.3	-17.1	4	4
20503	45.2724	68.6383	167	980615.8	-17.9	4	4
20504	45.2873	68.6251	168	980617.9	-17.1	4	4
20505	45.2960	68.6212	174	980618.1	-17.4	3	4
20506	45.3119	68.6199	181	980618.8	-17.6	4	4
20507	45.3105	68.6086	200	980617.8	-17.4	4	4
20508	45.3261	68.6022	172	980620.0	-18.2	3	3
20509	45.3220	68.5938	219	980616.9	-18.1	4	4
20510	45.3077	68.5878	250	980614.0	-17.9	4	4
20511	45.2948	68.5906	240	980612.1	-19.2	4	4
20512	45.2826	68.5916	275	980608.8	-19.3	4	4
20513	45.2666	68.5862	218	980611.4	-18.7	4	4
20514	45.2562	68.5850	200	980612.8	-17.4	3	4
20515	45.2567	68.5913	243	980611.0	-16.7	4	4
20516	45.3624	68.5056	236	980617.3	-20.4	4	4
20517	45.3632	68.5145	263	980617.2	-18.9	4	4
20518	45.3686	68.5326	204	980622.3	-17.9	4	4
20519	45.3562	68.5287	226	980619.2	-18.6	4	4
20520	45.3480	68.5504	197	980620.3	-18.4	4	4
20521	45.3402	68.5716	186	980620.1	-18.6	4	4
20522	45.3344	68.5813	195	980619.3	-18.4	4	4
20523	45.3266	68.5733	218	980617.1	-18.5	4	4
20524	45.3196	68.5589	250	980614.7	-18.3	4	4
20601	45.3494	68.5171	382	980607.3	-20.5	4	4
20602	45.3431	68.5107	535	980595.7	-22.3	4	4
20603	45.3325	68.5011	276	980607.1	-25.5	4	4
20604	45.2922	68.5185	208	980606.4	-26.7	4	4
20605	45.3000	68.5128	354	980596.7	-28.3	4	4
20606	45.3057	68.5025	557	980584.3	-29.0	4	4
20607	45.3352	68.5141	472	980598.0	-23.1	4	4
20608	45.3047	68.5370	350	980602.0	-23.7	4	4
20609	45.2974	68.5280	209	980609.5	-23.9	4	4
20610	45.2720	68.5613	229	980608.4	-21.5	4	4
20611	45.2802	68.5528	201	980610.6	-21.8	4	4
20612	45.2550	68.5650	253	980607.3	-19.7	4	3
20701	45.2584	68.6804	173	980617.0	-15.1	4	4
20702	45.2679	68.6796	168	980616.0	-17.2	4	4
20703	45.2810	68.6710	250	980611.7	-17.8	4	4
20704	45.3084	68.6597	227	980613.8	-19.6	4	4
20705	45.3208	68.6493	182	980617.6	-19.6	4	4
20706	45.3312	68.6353	187	980618.0	-19.8	4	4
20707	45.3418	68.6212	219	980617.2	-19.6	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
20708	45.3503	68.6101	287	980615.1	-18.5	4	4
20709	45.2945	68.6651	261	980612.8	-17.3	4	4
20710	45.2806	68.6818	254	980612.0	-17.3	4	4
20711	45.3014	68.7411	198	980614.7	-19.7	4	4
20712	45.3107	68.7425	367	980605.8	-19.4	4	4
20713	45.3178	68.7482	421	980603.8	-18.7	4	4
20714	45.3793	68.7159	529	980603.3	-18.4	4	4
20715	45.3689	68.6981	258	980619.2	-17.7	4	4
20801	45.3895	68.7172	281	980618.7	-18.8	4	4
20802	45.4000	68.7091	251	980621.7	-18.5	4	4
20803	45.4055	68.7148	280	980620.3	-18.7	4	4
20804	45.4082	68.7272	295	980619.0	-19.3	4	4
20805	45.4154	68.7146	334	980618.3	-18.4	4	4
20806	45.4166	68.6959	289	980621.2	-18.2	4	4
20807	45.4135	68.6864	319	980619.5	-17.9	4	4
20808	45.3811	68.6050	246	980621.2	-17.6	4	4
20809	45.3953	68.6011	276	980620.8	-17.5	4	4
20810	45.4091	68.5956	311	980619.4	-18.1	4	4
20811	45.4230	68.5901	364	980616.9	-18.6	4	4
20812	45.3762	68.6108	196	980623.5	-17.8	4	4
20813	45.3856	68.6147	204	980624.0	-17.8	4	4
20814	45.3920	68.6092	243	980622.4	-17.6	4	4
20815	45.3999	68.6145	287	980620.5	-17.5	4	4
20816	45.4173	68.6131	253	980623.3	-18.4	4	4
20817	45.4029	68.6230	191	980626.0	-18.1	4	4
20818	45.4065	68.6312	224	980623.9	-18.5	4	4
20819	45.4161	68.6299	294	980619.9	-19.2	4	4
20821	45.2815	68.7505	179	980613.4	-20.4	4	4
20822	45.2746	68.7659	267	980607.5	-20.4	4	3
20823	45.2712	68.7854	236	980608.5	-20.9	4	4
20824	45.2692	68.8069	280	980605.5	-21.2	4	4
20825	45.2612	68.8206	361	980600.0	-21.1	4	4
20826	45.2551	68.8366	252	980605.6	-21.4	4	4
20827	45.2613	68.7602	509	980591.6	-20.5	4	3
20828	45.2532	68.7581	530	980590.4	-19.8	4	4
20901	45.2523	68.9764	305	980602.2	-21.5	4	3
20902	45.2512	68.9630	343	980599.4	-21.8	4	4
20903	45.2579	68.9679	322	980601.8	-21.3	4	4
20904	45.2605	68.9906	345	980600.1	-21.9	4	4
20905	45.2699	68.9990	329	980601.0	-22.8	4	4
20906	45.2676	68.9703	281	980603.9	-22.6	4	4
20907	45.2739	68.9829	314	980602.6	-22.4	4	4
20908	45.2819	68.9982	350	980601.0	-22.6	4	4
20909	45.2814	68.9728	403	980597.8	-22.5	4	3
20910	45.2884	68.9915	475	980593.3	-23.4	4	3

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
20911	45.2876	68.9706	418	980597.3	-22.8	3	3
20912	45.2961	68.9775	564	980589.1	-23.0	4	4
20913	45.3059	68.9855	697	980582.0	-22.9	4	4
20914	45.3135	68.9925	777	980578.4	-22.4	4	4
20915	45.2976	68.9659	461	980595.9	-22.5	4	4
20916	45.3123	68.9630	416	980599.7	-22.7	4	4
20917	45.3239	68.9640	531	980594.3	-22.3	4	4
20918	45.3270	68.9428	607	980592.0	-20.2	4	4
20919	45.3231	68.9292	491	980598.6	-20.3	4	4
20920	45.3312	68.9345	457	980603.9	-17.8	4	4
20921	45.3231	68.9094	463	980599.6	-20.9	4	4
20922	45.2680	68.9551	282	980603.9	-22.5	4	4
20923	45.2571	68.9461	282	980603.6	-21.8	4	4
20924	45.2634	68.9335	415	980597.1	-20.9	4	4
21101	45.2513	68.9018	275	980603.3	-22.0	4	4
21102	45.2588	68.8952	266	980605.3	-21.3	4	4
21103	45.2613	68.8760	270	980604.9	-21.6	4	4
21104	45.2645	68.8592	346	980601.2	-21.1	4	4
21105	45.2656	68.8438	241	980607.7	-20.9	4	4
21106	45.2910	68.8437	291	980607.5	-20.4	4	4
21107	45.2841	68.8228	230	980610.3	-20.7	4	4
21108	45.2795	68.7696	266	980608.4	-20.0	4	4
21109	45.2883	68.7548	190	980614.4	-19.4	4	4
21110	45.3049	68.7595	288	980610.2	-19.1	4	4
21111	45.3195	68.7725	333	980608.9	-19.1	4	4
21112	45.2978	68.8677	377	980601.7	-21.7	4	4
21113	45.3054	68.8795	398	980600.6	-22.2	4	4
21114	45.3175	68.8941	431	980600.0	-22.0	4	4
21115	45.3250	68.9000	449	980599.6	-21.9	4	4
21116	45.3043	68.8513	322	980605.5	-21.8	4	4
21117	45.3135	68.8506	382	980602.0	-22.5	4	4
21118	45.3254	68.8494	362	980603.5	-23.3	4	4
21119	45.3377	68.8511	380	980604.0	-22.9	4	4
21201	45.3456	68.8548	380	980604.5	-23.1	4	4
21202	45.3562	68.8575	379	980604.8	-23.8	4	4
21203	45.3184	68.8786	342	980605.3	-22.0	4	4
21204	45.2740	68.9347	310	980602.8	-22.5	4	4
21301	45.2905	68.9244	419	980597.7	-22.6	4	4
21302	45.3012	68.8340	315	980606.2	-21.2	4	4
21303	45.3136	68.8283	395	980602.3	-21.4	4	4
21304	45.2869	68.7994	263	980608.7	-20.6	4	4
21401	45.3593	68.9737	624	980589.2	-24.9	4	4
21402	45.3577	68.9845	696	980584.6	-25.1	4	4
21403	45.3553	68.9995	761	980580.6	-25.0	4	4
21404	45.3444	69.0012	572	980590.5	-25.4	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
21405	45.3453	68.9934	661	980586.2	-24.5	4	4
21406	45.3131	69.0321	390	980598.3	-25.7	4	4
21407	45.3100	69.0199	513	980591.8	-24.5	4	4
21408	45.3126	69.0018	744	980579.1	-23.7	3	4
21409	45.2963	69.0147	365	980600.0	-24.0	3	4
21501	45.2879	69.0085	336	980601.1	-23.8	4	4
21502	45.3116	69.0558	551	980588.7	-25.5	4	4
21503	45.3158	69.0652	682	980580.7	-26.0	4	4
21504	45.3132	69.0434	382	980598.8	-25.7	4	4
21505	45.3138	69.0793	635	980583.4	-26.0	4	4
21506	45.3116	69.0994	540	980588.0	-26.9	4	4
21507	45.3050	69.0975	550	980586.7	-27.0	4	4
21508	45.3090	69.1465	498	980587.1	-30.1	4	4
21509	45.3173	69.1642	562	980583.8	-30.3	4	4
21510	45.3179	69.1775	543	980584.6	-30.7	4	4
21511	45.2768	69.1246	431	980590.1	-28.2	4	4
21512	45.2897	69.1458	563	980581.8	-29.7	4	4
21513	45.2884	69.1161	624	980579.9	-27.9	4	4
21514	45.2673	69.1302	350	980595.4	-26.9	4	4
21515	45.2496	69.0909	638	980581.7	-21.7	4	4
21516	45.2521	69.0738	559	980587.3	-21.1	4	4
21517	45.2554	69.0577	576	980587.2	-20.5	4	4
21601	45.2858	69.1720	412	980589.3	-30.9	4	4
21602	45.2669	69.1468	346	980594.1	-28.3	4	4
21603	45.2671	69.1745	339	980592.9	-30.0	4	4
21604	45.2807	69.2148	391	980588.3	-32.7	4	4
21605	45.2928	69.2005	576	980578.6	-32.4	4	3
21606	45.3022	69.2057	540	980582.5	-31.6	4	4
21607	45.3112	69.2079	593	980580.9	-30.8	4	4
21608	45.2835	69.2227	477	980583.8	-32.3	4	4
21609	45.2692	69.2498	350	980589.3	-33.2	4	4
21701	45.2378	69.1276	547	980586.0	-21.8	4	4
21702	45.2358	69.1471	635	980579.9	-22.4	4	3
21703	45.2463	69.1499	866	980564.0	-25.5	4	4
21704	45.2363	69.1612	678	980576.3	-23.5	4	4
21705	45.2521	69.1612	537	980582.6	-27.0	4	4
21706	45.2628	69.1566	424	980589.2	-28.2	4	4
21707	45.2285	69.1622	682	980576.3	-22.5	4	4
21708	45.2603	69.1899	333	980591.8	-30.8	4	4
21709	45.2086	69.0648	309	980599.8	-19.6	4	4
21710	45.2104	69.0445	305	980598.8	-21.0	4	4
21801	45.2163	69.0307	291	980601.3	-19.9	4	4
21802	45.2279	69.0058	296	980601.4	-20.5	4	4
21803	45.2554	69.0143	403	980596.4	-21.6	4	3
21804	45.2500	68.9987	344	980599.9	-21.2	4	4

UMC STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
21805	45.2506	69.0292	556	980587.4	-21.0	4	4
21806	45.2499	69.0527	510	980590.6	-20.5	4	4
21807	45.1871	69.2069	393	980592.4	-20.1	4	4
21808	45.1909	69.1868	381	980593.0	-20.5	4	4
21809	45.2023	69.1709	323	980596.7	-21.3	4	4
21810	45.1972	69.1469	295	980597.8	-21.4	4	4
21811	45.2003	69.1267	329	980596.6	-20.8	4	3
21812	45.2079	69.1133	295	980598.9	-21.3	4	4
21813	45.2095	69.1044	298	980599.1	-21.0	4	4
21814	45.2030	69.0809	303	980599.0	-20.2	4	4
21815	45.1884	69.0845	405	980592.1	-19.8	4	3
21816	45.1922	69.0656	397	980593.0	-19.6	4	4
21817	45.1818	69.0629	358	980594.7	-19.3	4	4
21818	45.1932	69.0460	363	980595.7	-19.1	4	4
21819	45.1974	69.0255	302	980599.6	-19.2	4	4
21820	45.1841	69.0005	498	980586.4	-19.5	4	3
21821	45.1852	69.0340	338	980595.9	-19.6	4	4
21822	45.1789	69.0218	429	980589.9	-19.6	4	4
21823	45.1684	69.0187	495	980584.0	-20.6	4	4
21824	45.1627	69.0059	430	980586.5	-21.5	4	4
21825	45.1553	69.0137	491	980581.9	-21.8	4	4
21901	45.1874	69.2301	351	980594.1	-20.8	4	4
21902	45.2067	69.2115	468	980588.2	-21.5	4	3
21903	45.2190	69.2149	628	980577.4	-23.8	4	3
21904	45.2224	69.1947	715	980573.5	-22.9	4	3
21905	45.2273	69.2110	749	980570.6	-24.1	4	3
21906	45.2405	69.2017	669	980573.4	-27.3	4	3
21907	45.2507	69.2041	541	980580.0	-29.3	4	4
21908	45.2588	69.2063	350	980589.2	-32.3	4	4
21909	45.2590	69.2176	333	980589.7	-32.8	4	4
21910	45.1936	69.2437	391	980591.8	-21.3	4	4
21911	45.1766	69.1752	382	980591.8	-20.4	4	4
21912	45.1789	69.1612	449	980587.5	-20.9	4	4
21913	45.1808	69.1457	405	980590.3	-20.8	4	4
21914	45.1830	69.1292	388	980591.6	-20.7	4	4
21915	45.1847	69.1141	396	980591.4	-20.6	4	3
21916	45.1953	69.1133	302	980597.5	-21.1	4	4
21917	45.1865	69.0980	466	980587.1	-20.9	4	4
21918	45.1750	69.1104	397	980591.6	-19.5	4	4
21919	45.1652	69.1482	393	980591.2	-19.2	4	4
21920	45.1676	69.1279	348	980594.1	-19.3	4	4
21921	45.1579	69.1460	345	980591.9	-20.8	4	4
21922	45.1670	69.2129	477	980585.8	-19.8	4	4
21923	45.1549	69.2024	440	980586.3	-20.4	4	4
21924	45.1434	69.1905	408	980586.5	-21.1	4	3

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
21925	45.1480	69.1663	514	980580.6	-21.1	4	3
21926	45.1498	69.1500	524	980580.3	-20.9	4	4
21927	45.1574	69.1694	366	980590.8	-20.6	4	4
21928	45.1662	69.1884	444	980587.1	-20.4	4	3
22101	45.1392	69.1190	438	980585.6	-19.8	4	4
22102	45.1369	69.1324	484	980582.0	-20.4	4	4
22103	45.1249	69.1490	634	980571.9	-20.4	4	4
22104	45.1162	69.1512	588	980573.3	-21.0	4	3
22105	45.1077	69.1488	526	980575.1	-22.1	4	4
22106	45.1229	69.1719	458	980582.1	-20.6	4	4
22107	45.1284	69.1864	485	980580.6	-21.0	4	3
22108	45.1342	69.2060	481	980581.6	-20.8	4	4
22109	45.1324	69.2271	483	980581.1	-21.0	4	3
22110	45.1814	69.2428	473	980586.6	-20.5	4	4
22111	45.1597	69.2496	459	980586.0	-20.0	4	4
22112	45.1214	69.2190	473	980580.5	-21.2	4	4
22113	45.1054	69.2111	467	980580.1	-20.5	4	4
22114	45.0992	69.2220	488	980577.7	-21.1	4	4
22115	45.0908	69.2220	463	980577.2	-22.3	4	4
22116	45.0814	69.2305	504	980573.6	-22.6	4	4
22117	45.0704	69.2404	587	980567.6	-22.6	4	3
22118	45.0634	69.2483	599	980566.5	-22.4	4	4
22119	45.1122	69.2012	441	980582.3	-20.5	3	3
22120	45.1213	69.1869	484	980580.7	-20.3	3	4
22121	45.1091	69.1796	463	980579.9	-21.3	4	3
22122	45.1000	69.1626	485	980576.6	-22.5	4	4
22123	45.0930	69.1506	457	980578.0	-22.0	4	3
22124	45.0852	69.1389	540	980572.7	-21.7	4	4
22125	45.0867	69.1334	483	980575.9	-22.1	4	4
22126	45.0814	69.1479	670	980564.3	-21.9	4	4
22127	45.0981	69.1758	493	980576.5	-21.9	4	3
22128	45.0963	69.1906	550	980572.6	-22.2	4	4
22129	45.0943	69.2061	524	980573.9	-22.3	4	4
22130	45.0822	69.1973	594	980568.0	-22.8	4	4
22201	45.0681	69.0536	331	980588.0	-17.4	4	4
22202	45.0706	69.0359	304	980590.9	-16.3	4	4
22203	45.0724	69.0190	297	980592.2	-15.6	4	4
22204	45.0740	69.0061	342	980590.2	-15.0	4	3
22205	45.0934	69.0427	474	980579.9	-19.2	4	4
22206	45.0869	69.0267	368	980587.1	-17.8	4	4
22207	45.0902	69.0094	353	980589.2	-16.9	4	4
22208	45.1057	69.0130	543	980576.6	-19.5	4	3
22209	45.1004	69.0443	666	980568.0	-20.2	4	3
22210	45.1020	69.0307	548	980575.3	-20.1	4	4
22211	45.1161	69.0465	450	980581.0	-21.6	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
22212	45.1258	69.0498	518	980577.5	-21.9	4	3
22213	45.1400	69.0585	449	980583.2	-21.6	4	4
22214	45.1537	69.0719	352	980591.7	-20.1	4	3
22215	45.1351	69.0897	481	980581.3	-21.1	4	4
22216	45.1211	69.0863	498	980578.1	-22.1	4	4
22217	45.1094	69.0834	533	980575.2	-21.8	4	4
22218	45.0915	69.0586	611	980570.5	-20.2	4	4
22219	45.0583	69.0314	293	980592.3	-14.5	4	4
22220	45.0550	69.0163	234	980596.6	-13.4	4	4
22221	45.0576	69.0021	261	980595.9	-12.7	4	4
22222	45.0435	69.0168	270	980594.3	-12.5	4	3
22223	45.0463	69.0061	217	980598.2	-12.0	4	4
22224	45.0280	69.0048	243	980597.1	-9.9	4	4
22225	45.0093	69.0090	293	980593.8	-8.5	4	4
22226	45.0432	69.0305	281	980593.4	-12.8	4	4
22227	45.0629	69.0995	460	980578.9	-18.3	4	4
22228	45.0618	69.1121	381	980583.1	-18.7	4	4
22229	45.0580	69.1318	499	980575.3	-19.1	4	4
22230	45.0704	69.1348	689	980562.8	-21.3	4	4
22231	45.0665	69.1729	535	980572.1	-20.9	4	4
22232	45.0638	69.1538	707	980560.8	-21.7	4	4
22233	45.0538	69.1642	487	980574.7	-20.1	4	4
22234	45.0619	69.1787	807	980554.9	-21.4	4	4
22235	45.0831	69.1754	583	980569.1	-22.5	4	4
22236	45.0723	69.1875	712	980560.5	-22.4	4	4
22237	45.0407	69.1358	381	980582.4	-17.5	4	3
22238	45.0462	69.1159	379	980583.2	-17.3	4	3
22239	45.0488	69.0961	314	980587.8	-16.9	4	3
22301	45.0306	69.0559	242	980593.3	-14.1	4	4
22302	45.0338	69.1342	342	980583.9	-17.8	4	4
22303	45.0296	69.1191	260	980589.7	-16.4	4	4
22304	45.0376	69.1139	309	980587.2	-16.8	4	4
22305	45.0240	69.0848	307	980587.9	-14.9	4	4
22306	45.0108	69.0734	307	980589.0	-12.7	4	4
22307	45.0161	69.0532	209	980595.8	-12.2	4	4
22308	45.0002	69.0573	201	980596.2	-10.9	4	4
22309	45.0241	69.1502	339	980583.8	-17.1	4	4
22310	45.0139	69.1636	355	980582.7	-16.4	4	3
22311	45.0051	69.1509	394	980580.7	-15.2	4	4
22312	45.0271	69.1764	409	980579.2	-17.8	4	4
22313	45.0228	69.1950	358	980581.5	-18.1	4	4
22314	45.0505	69.1872	622	980565.1	-21.2	4	3
22315	45.0587	69.1894	806	980554.0	-22.0	4	4
22316	45.0483	69.2038	607	980565.6	-21.4	4	4
22317	45.0469	69.2201	765	980555.6	-21.8	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
22318	45.0523	69.2273	787	980554.5	-22.1	4	3
22319	45.0400	69.2499	726	980557.5	-21.7	4	4
22401	45.0111	69.1859	485	980578.4	-12.6	4	4
22402	45.0008	69.1646	502	980576.6	-12.5	4	4
22403	45.0267	69.2150	446	980577.0	-17.7	4	4
22404	45.0247	69.2285	389	980578.4	-19.6	4	3
22405	45.0156	69.2124	466	980574.3	-18.2	4	4
22406	45.0245	69.2499	451	980574.1	-20.2	4	4
22407	45.0137	69.2444	372	980578.4	-19.6	4	3
22408	45.0076	69.2674	357	980579.5	-18.9	4	4
22409	45.0005	69.2618	448	980574.4	-17.8	4	4
22410	45.0002	69.2412	519	980571.1	-16.9	4	3
22411	45.0034	69.2238	415	980577.6	-16.9	4	4
22412	45.0051	69.2095	402	980578.8	-16.6	4	4
22501	45.0093	69.2810	307	980581.8	-19.7	4	4
22502	45.0016	69.2822	311	980581.6	-19.0	4	4
22503	45.0151	69.2984	392	980576.1	-20.8	4	4
22504	45.0051	69.3134	374	980576.9	-20.2	4	4
22505	45.0042	69.3365	620	980562.5	-19.7	4	4
22506	45.0044	69.3612	534	980567.5	-20.0	4	4
22507	45.0019	69.3849	551	980565.1	-21.1	4	4
22508	45.0032	69.4258	550	980561.4	-24.9	4	4
22509	45.0237	69.3788	542	980568.0	-20.7	4	4
22510	45.0330	69.3829	575	980565.4	-22.2	4	4
22511	45.0233	69.3548	648	980562.3	-20.0	4	4
22512	45.0393	69.3590	595	980567.0	-20.0	4	3
22513	45.0370	69.2583	824	980552.3	-20.7	4	4
22514	45.0368	69.2805	518	980569.4	-21.9	4	4
22515	45.0498	69.2673	515	980570.5	-22.2	4	4
22516	45.0556	69.2580	548	980569.5	-21.8	4	4
22601	45.0706	69.2657	531	980572.8	-20.8	4	4
22602	45.0404	69.3023	533	980570.6	-20.1	4	4
22603	45.0534	69.2976	568	980569.3	-20.5	4	4
22604	45.0618	69.2996	674	980563.1	-21.2	4	3
22605	45.0641	69.2803	608	980566.9	-21.5	4	4
22606	45.0690	69.3015	616	980567.0	-21.3	4	4
22607	45.0802	69.3022	403	980581.6	-20.6	4	4
22608	45.0405	69.3207	550	980569.3	-20.4	4	4
22609	45.0499	69.3352	579	980568.1	-20.7	4	4
22610	45.0396	69.3391	537	980570.5	-20.0	4	4
22611	45.0346	69.3233	470	980573.3	-20.7	4	3
22612	45.0244	69.3300	437	980573.8	-21.3	4	4
22613	45.0214	69.3431	553	980567.7	-20.2	4	4
22614	45.0535	69.3980	368	980577.8	-24.0	4	4
22615	45.0610	69.3852	329	980580.8	-24.1	4	3

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
22616	45.0674	69.3743	341	980581.9	-22.8	4	4
22617	45.0725	69.3885	528	980571.8	-22.2	4	3
22618	45.0837	69.3963	522	980572.3	-23.0	4	4
22619	45.0965	69.3925	611	980568.5	-22.6	4	4
22620	45.0884	69.3723	521	980573.1	-22.7	4	3
22621	45.0826	69.3588	416	980579.7	-21.9	4	4
22622	45.0752	69.3458	340	980582.9	-22.6	4	4
22623	45.0767	69.4085	552	980569.9	-23.0	4	4
22701	45.0661	69.4107	514	980571.0	-23.2	4	4
22702	45.0773	69.4314	596	980566.6	-23.7	4	4
22703	45.0898	69.4436	794	980556.2	-23.4	4	3
22704	45.0935	69.4326	702	980563.0	-22.4	4	4
22705	45.0813	69.4701	743	980557.1	-24.8	4	3
22706	45.0727	69.4789	648	980561.8	-25.0	4	4
22707	45.0643	69.4853	655	980560.5	-25.1	4	3
22708	45.0491	69.4918	711	980555.1	-25.8	4	4
22709	45.0388	69.4893	694	980555.1	-25.9	4	4
22710	45.0247	69.4856	545	980562.1	-26.6	4	4
22711	45.0088	69.4877	372	980570.9	-26.6	4	4
22712	45.0036	69.4983	438	980566.5	-26.6	4	4
22713	45.0928	69.4162	602	980569.3	-22.0	4	4
22714	45.0644	69.4266	647	980562.6	-23.5	4	4
22715	45.0511	69.4111	391	980576.5	-23.8	4	4
22716	45.0452	69.4262	373	980576.3	-24.4	4	4
22717	45.0340	69.4520	339	980576.1	-25.7	4	4
22718	45.0232	69.4605	369	980573.0	-26.0	4	4
22719	45.0605	69.4596	593	980563.4	-25.6	4	4
22720	45.0540	69.4452	719	980555.9	-25.0	4	3
22721	45.1079	69.4693	661	980564.5	-24.7	4	4
22722	45.1035	69.4826	716	980560.6	-24.9	4	4
22723	45.0961	69.4805	622	980565.8	-24.7	4	4
22724	45.0989	69.4963	860	980552.0	-24.4	4	4
22801	45.1329	69.4435	598	980570.4	-24.8	4	4
22802	45.1302	69.4624	593	980570.1	-25.2	4	3
22803	45.1227	69.4848	819	980556.7	-24.3	4	3
22804	45.1123	69.5002	991	980545.6	-24.2	4	4
22805	45.1416	69.4876	528	980574.7	-25.6	4	4
22806	45.1475	69.5000	512	980575.6	-26.1	4	4
22807	45.1537	69.4774	492	980578.0	-25.4	4	4
22808	45.1602	69.4514	458	980581.1	-25.0	3	3
22809	45.1702	69.4522	548	980576.0	-25.6	4	4
22810	45.1310	69.4230	486	980577.4	-24.3	4	4
22811	45.1252	69.4056	607	980570.4	-23.6	4	4
22812	45.1340	69.3984	553	980574.7	-23.4	4	4
22813	45.1408	69.3888	487	980579.8	-22.8	4	3

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
22814	45.1287	69.3848	486	980578.5	-23.1	4	3
22815	45.1146	69.4216	576	980570.9	-24.0	4	4
22816	45.1058	69.3772	483	980577.2	-22.5	4	4
22817	45.1463	69.4551	633	980570.4	-24.0	4	4
22818	45.1238	69.4432	546	980573.7	-23.9	4	4
22819	45.1398	69.4236	605	980571.8	-23.6	4	4
22820	45.1511	69.4153	620	980572.4	-23.2	4	4
23112	45.2034	69.2564	546	980582.6	-22.2	4	3
23113	45.2184	69.2687	759	980569.0	-24.4	4	4
23201	45.2293	69.2716	706	980570.1	-27.4	4	4
23202	45.1910	69.2722	443	980588.2	-21.6	4	4
23203	45.2281	69.4876	723	980571.4	-24.9	4	4
23204	45.2338	69.4985	707	980572.4	-25.4	4	4
23205	45.2356	69.4891	687	980573.9	-25.3	4	4
23206	45.2471	69.4918	673	980574.9	-26.2	4	3
23207	45.2253	69.4745	516	980583.9	-24.6	4	4
23301	45.2178	69.4459	449	980587.1	-24.8	4	4
23302	45.2273	69.4301	427	980588.6	-25.4	4	3
23303	45.2368	69.4707	615	980579.1	-24.5	4	4
23304	45.2265	69.4484	605	980578.2	-25.1	4	4
23305	45.2053	69.4364	464	980583.4	-26.4	4	4
23306	45.1964	69.4139	643	980573.8	-24.5	4	4
23307	45.1874	69.4007	653	980573.0	-23.9	4	4
23308	45.1959	69.4464	433	980584.9	-26.0	4	4
23309	45.1616	69.3643	487	980582.6	-21.8	4	3
23310	45.1498	69.3700	455	980582.0	-23.3	4	4
23311	45.1605	69.3819	532	980579.4	-22.3	4	4
23312	45.1628	69.3308	575	980578.7	-20.6	4	4
23313	45.1658	69.3050	474	980585.2	-20.5	4	4
23314	45.1663	69.2842	445	980587.0	-20.4	4	4
23315	45.1704	69.2655	464	980586.1	-20.6	4	4
23316	45.1607	69.2811	397	980588.8	-21.0	4	4
23317	45.1589	69.2668	470	980584.5	-20.8	4	4
23318	45.1599	69.2509	444	980586.2	-20.7	4	4
23319	45.1522	69.2928	543	980579.0	-21.2	4	4
23320	45.1499	69.3152	599	980575.0	-21.7	4	3
23321	45.1521	69.3314	639	980572.0	-22.5	4	4
23322	45.1291	69.3628	581	980572.2	-23.8	4	3
23323	45.1097	69.3539	674	980565.6	-22.9	4	4
23324	45.0954	69.3258	563	980571.1	-22.8	4	4
23325	45.0922	69.3544	473	980575.9	-23.2	4	4
23326	45.1339	69.3213	562	980575.6	-21.9	4	4
23327	45.1379	69.3115	569	980575.7	-21.7	4	4
23328	45.1171	69.3190	554	980574.2	-22.2	4	3
23329	45.1110	69.3011	475	980578.1	-22.6	4	3

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
23330	45.0961	69.2681	567	980572.9	-20.9	4	3
23331	45.0916	69.2998	445	980579.0	-21.6	4	3
23332	45.0879	69.2505	480	980576.6	-21.6	4	4
23333	45.1101	69.2755	615	980570.3	-21.8	4	3
23334	45.1211	69.2782	630	980570.7	-21.5	4	3
23335	45.1358	69.2799	622	980573.3	-20.8	4	3
85001	44.9699	68.7673	130	980600.8	-7.7	4	4
85002	44.9569	68.7519	125	980599.5	-8.1	4	4
85006	44.9442	68.7782	126	980597.7	-8.8	4	4
86001	44.9468	68.7992	132	980597.9	-8.4	4	4
86002	44.9264	68.7848	130	980596.2	-8.4	4	4
91002	45.0307	68.5221	196	980601.9	-8.2	4	4
91003	45.0423	68.4970	237	980602.3	-6.4	4	4
91004	45.0556	68.5039	133	980607.8	-8.3	4	4
91005	45.0691	68.5073	163	980607.5	-8.1	4	4
91006	45.0810	68.5050	163	980609.3	-7.3	4	4
91007	45.0557	68.5987	241	980602.7	-7.0	4	4
91008	45.0708	68.5943	179	980607.8	-7.0	4	4
91009	45.0822	68.6124	201	980607.1	-7.3	4	4
91010	45.0976	68.6237	175	980609.7	-7.7	4	4
91011	45.1077	68.6293	149	980612.1	-7.8	4	4
91012	45.1151	68.6150	143	980613.1	-7.8	4	4
91013	45.1046	68.5691	168	980610.2	-8.2	4	4
91014	45.0901	68.5571	217	980606.2	-8.0	4	4
91015	45.0776	68.5456	200	980606.0	-8.1	4	4
91016	45.0607	68.5381	263	980600.0	-8.7	4	4
91017	45.0514	68.5827	200	980603.6	-8.1	4	4
91018	45.0293	68.6511	125	980607.3	-6.9	4	4
91019	45.0446	68.6607	123	980608.5	-7.2	4	4
91020	45.0615	68.6558	118	980610.4	-7.2	4	4
91021	45.0757	68.6522	119	980611.4	-7.3	4	4
91022	45.0954	68.6393	117	980613.2	-7.5	4	4
91023	45.1351	68.6124	132	980614.3	-9.1	4	4
91024	45.1523	68.6178	159	980614.6	-8.7	4	4
91025	45.1692	68.6203	166	980615.9	-8.5	4	4
91026	45.1858	68.5974	137	980617.6	-10.1	4	4
91027	45.1833	68.5792	169	980613.7	-11.8	4	4
91028	45.1661	68.5720	178	980612.0	-11.4	4	4
91029	45.1560	68.5689	216	980609.9	-10.4	4	4
91030	45.1413	68.5732	222	980608.7	-9.8	4	4
92001	45.1341	68.5608	200	980611.0	-8.2	4	4
92002	45.1112	68.5518	198	980610.1	-7.1	4	4
92003	45.1264	68.5434	187	980611.6	-7.7	4	4
92004	45.1332	68.5422	200	980611.8	-7.3	4	4
92005	45.1403	68.5483	199	980610.9	-8.9	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
92006	45.1293	68.5815	180	980611.9	-8.1	4	4
92007	45.1316	68.5990	148	980613.6	-8.5	4	4
92008	45.1143	68.6335	143	980612.7	-8.2	4	4
92009	45.0805	68.5932	138	980611.6	-6.4	4	4
92010	45.0906	68.5931	118	980612.9	-7.3	4	4
92011	45.0911	68.6496	171	980610.1	-7.0	4	4
92012	45.1931	68.6069	165	980616.8	-9.8	4	4
92013	45.2005	68.6004	152	980617.5	-10.6	4	4
92014	45.2116	68.5896	193	980614.8	-11.9	4	3
92015	45.2257	68.5803	181	980615.3	-13.4	4	3
92016	45.2172	68.5782	203	980613.4	-13.2	4	4
92017	45.2005	68.5788	220	980611.3	-12.7	4	4
92018	45.1979	68.6139	140	980618.2	-10.4	4	4
92019	45.2112	68.6320	144	980617.3	-12.2	4	4
92020	45.2194	68.6439	164	980614.8	-14.3	4	4
92021	45.2313	68.6456	192	980613.9	-14.6	4	4
92022	45.2410	68.6326	171	980615.1	-15.5	4	4
92023	45.2440	68.6144	167	980614.5	-16.7	4	4
92024	45.2364	68.5454	352	980601.9	-17.5	4	4
92025	45.2057	68.5052	332	980602.8	-15.0	4	4
92026	45.2400	68.5737	153	980616.8	-14.8	4	4
93001	45.0986	68.6658	134	980612.8	-7.2	4	4
93002	45.1315	68.6518	156	980613.1	-8.5	4	4
93003	45.1423	68.6601	174	980613.4	-8.1	4	4
93004	45.1542	68.6627	159	980613.6	-9.9	4	4
93005	45.1629	68.6936	133	980612.7	-13.2	4	4
93006	45.2355	68.6798	241	980610.8	-15.2	4	4
93007	45.2325	68.7253	270	980608.0	-15.9	4	4
93008	45.2484	68.6421	182	980614.3	-16.3	4	4
94001	45.0115	68.6305	131	980604.4	-7.9	4	4
94002	45.0119	68.6085	140	980604.2	-7.5	4	4
94003	45.0172	68.5890	167	980602.5	-8.1	4	4
94004	45.0225	68.5740	136	980604.6	-8.4	4	4
94005	45.0238	68.5537	164	980602.8	-8.5	4	4
94006	45.0189	68.5330	121	980605.0	-8.5	4	4
94007	45.0085	68.5268	121	980604.3	-8.2	4	4
95001	45.2249	68.6782	245	980610.4	-14.3	4	4
95002	45.2105	68.6808	244	980609.2	-14.2	4	4
95003	45.1975	68.6859	213	980610.2	-13.9	4	4
95004	45.1837	68.6914	241	980608.1	-13.1	4	4
95005	45.1699	68.6978	184	980611.9	-11.5	4	4
95006	45.1557	68.7032	210	980610.0	-10.6	4	4
95007	45.1409	68.7038	201	980610.3	-9.4	4	4
95008	45.1265	68.7039	207	980610.7	-7.4	4	4
95009	45.1121	68.7020	170	980614.8	-4.2	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
95010	45.0975	68.7004	195	980611.7	-4.5	4	4
95011	45.0829	68.6993	226	980607.8	-5.2	4	4
95012	45.0682	68.6963	205	980607.9	-5.1	4	4
95013	45.0536	68.6949	152	980609.1	-5.7	4	4
95014	45.0390	68.6955	178	980605.8	-6.1	4	4
95015	45.0243	68.6984	126	980607.4	-6.3	4	4
95016	45.0096	68.6998	125	980606.1	-6.3	4	4
96001	45.1056	68.8215	159	980607.8	-11.3	4	4
96002	45.0953	68.8430	199	980603.2	-12.5	4	4
96003	45.0935	68.8576	184	980604.3	-12.2	4	4
96004	45.1105	68.8616	299	980598.2	-13.0	4	4
96005	45.0907	68.8783	275	980600.4	-10.4	4	4
96006	45.1042	68.8959	268	980600.2	-12.3	4	4
96007	45.1169	68.8935	294	980598.4	-13.6	4	4
96008	45.1441	68.8748	289	980598.8	-16.0	4	4
96009	45.1711	68.8190	272	980601.7	-16.5	4	4
96010	45.1751	68.7987	352	980604.7	-9.1	4	4
96011	45.1781	68.7729	271	980603.9	-15.0	4	4
96012	45.1772	68.7510	278	980604.0	-14.4	4	4
96013	45.1572	68.7303	213	980609.1	-11.4	4	4
96014	45.1416	68.7169	176	980610.1	-11.2	4	4
96015	45.1432	68.7415	234	980605.9	-12.0	4	4
96016	45.1552	68.7609	251	980605.2	-12.8	4	4
96017	45.1645	68.7728	255	980604.5	-14.1	4	4
97001	45.0739	68.8883	276	980599.9	-9.3	4	4
97002	45.0768	68.8677	215	980602.6	-10.5	4	3
97003	45.0736	68.8440	174	980603.7	-11.6	4	3
97004	45.0678	68.8400	157	980604.2	-11.5	4	4
97005	45.0590	68.8845	208	980600.9	-11.0	4	4
97006	45.0489	68.8720	153	980601.5	-12.8	4	4
97007	45.0557	68.8984	224	980600.0	-10.7	4	4
97008	45.0700	68.9165	237	980598.9	-12.2	4	4
97009	45.0525	68.9126	150	980602.9	-12.0	4	4
98001	45.1073	68.9301	283	980597.0	-14.8	4	4
98002	45.0910	68.9246	289	980597.2	-12.8	4	4
98003	45.0794	68.9186	289	980597.6	-11.3	4	4
98004	45.0647	68.9567	243	980599.1	-11.3	4	3
98005	45.0609	68.9811	238	980597.6	-12.7	4	3
98006	45.0777	68.9855	299	980594.0	-14.2	4	3
98007	45.0924	68.9898	406	980587.7	-15.4	4	4
98008	45.1051	68.9920	453	980584.8	-16.6	4	4
98009	45.0943	68.9752	391	980589.1	-15.0	4	4
98010	45.1041	68.9770	428	980587.1	-15.7	4	4
98011	45.0534	68.9534	248	980598.8	-10.2	4	3
98012	45.0546	68.9448	216	980601.1	-10.0	4	4

UMO STATION	NORTH LATITUDE	WEST LONGITUDE	HEIGHT FEET	GRAVITY MGAL	BOUGUER ANOMALY	G	E
98013	45.0383	68.9491	205	980601.6	-8.7	4	4
98014	45.0296	68.9575	156	980603.9	-8.5	4	4
98015	45.0134	68.9836	244	980597.2	-8.5	4	4
98016	45.0110	68.9986	348	980590.9	-8.2	4	4
98017	45.0318	68.9753	246	980597.9	-9.3	4	4
98018	45.0466	68.9810	200	980600.7	-10.5	4	4
98019	45.0449	68.9955	232	980597.9	-11.3	4	4
98020	45.1456	68.8948	327	980595.9	-16.8	4	4
98021	45.1614	68.8973	317	980595.2	-19.5	4	3
98022	45.1622	68.9168	322	980594.1	-20.4	4	4
98023	45.1784	68.8969	368	980592.6	-20.5	4	4
99002	45.1921	68.8602	389	980592.7	-20.4	4	3
99003	45.1945	68.8470	321	980596.6	-20.8	4	4
99004	45.2218	68.8395	294	980600.1	-21.4	4	4
99005	45.2322	68.8334	302	980601.0	-21.0	4	4
99006	45.2490	68.8300	281	980604.0	-20.7	4	4
99007	45.2464	68.8477	412	980595.8	-20.9	4	4
99008	45.2445	68.8670	391	980596.7	-21.0	4	4
99009	45.2489	68.8835	332	980600.8	-20.9	4	4
99010	45.2442	68.8920	301	980602.2	-20.9	4	4
99011	45.2360	68.8801	550	980587.4	-20.1	4	4
99012	45.2096	68.8596	331	980597.4	-20.8	4	4
99013	45.1759	68.8667	336	980596.3	-18.6	4	4
99014	45.1805	68.8781	300	980597.1	-20.3	4	4
99015	45.1888	68.8960	318	980595.9	-21.2	4	4
99016	45.2316	68.9346	299	980601.3	-20.8	4	4
99017	45.2323	68.9154	285	980602.5	-20.5	4	4
99018	45.2404	68.8988	274	980603.8	-20.6	4	4

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BOUGUER GRAVITY MAP OF NORTHERN PENOBSCOT VALLEY

By

LAWRENCE T. FISHER
ELECTRICAL ENGINEERING
and
PETER M. MESSIER
ENGINEERING TECHNOLOGY

UNIVERSITY OF MAINE, ORONO

Maine Geological Survey
DEPARTMENT OF CONSERVATION
WALTER A. ANDERSON
STATE GEOLOGIST

1983

OPEN FILE NO. 83-5

Preparation of this map was supported by funds furnished by the Nuclear Regulatory Commission Grant No. NRC-04-76-291 and the Maine Geological Survey.

Contour Interval	: 1 mgal
Datum	: IGSN71
Reference	: GRS67
Density	: 2.67 g/cm^3
Scale	: 1:62,500
Projection	: Lambert Conformal Conic, Standard Parallel at 45°, Central Meridian at 69°

SCALE 1: 62,500

1 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 0 1 2 3 4 5 KILOMETERS

N

45°15'

45°00'

69°30'

69°15'

69°00'

68°45'

68°30'

GRAVITY STATIONS IN NORTHERN PENOBSCOT VALLEY

(VALUES SHOWN ARE REDUCED TO SHOW BOUGUER ANOMALY)

By

LAWRENCE T. FISHER
ELECTRICAL ENGINEERING
and
PETER M. MESSIER
ENGINEERING TECHNOLOGY

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U.M.O. Station Number — 623
Location — x −29
Anomaly in mgal —

Datum	: IGSN71
Reference	: GRS67
Density	: 2.67 g/cm^3
Scale	: 1:62,500
Projection	: Lambert Conformal Conic, Standard Parallel at 45°, Central Meridian at 69°

SCALE 1: 62,500

1 0 1 2 3 4 MILES
5000 0 5000 10000 15000 20000 25000 30000 FEET
1 0 1 2 3 4 5 KILOMETERS

N

45°15'
45°00'
69°30'
69°15'
69°00'
68°45'
68°30'