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PRINCIPAL FACTS FOR GRAVITY DATA COLLECTED IN THE SUSITNA BASIN AREA, SOUTHCENTRAL ALASKA

by

John F. Meyer Jr., and Peter L. Boggess
Alaska Division of Oil & Gas, 550 W. 7th Ave., Suite 800, Anchorage, AK 99501

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INTRODUCTION

The Susitna basin is a topographic lowland encompassing an area of approximately 4,700 square miles, bordered by the Alaska Range on the north, the Talkeetna Mountains on the east, the Tordrillo Mountains on the west and the Cook Inlet basin on the south. The Susitna basin is considered as a northern extension of the Cook Inlet basin, separated from it by the Castle Mountain fault, which is a major regional structural feature of southcentral Alaska.

The depositional history of the region started during the late Paleozoic and early Triassic when marine sediments were deposited throughout the area. This was followed by a time of deformation and uplift during the late Triassic, which resulted in the deposition of sediments in the Cook Inlet basin to the south. Uplift and erosion of the Alaska Range during the Cretaceous through Tertiary provided the material for a thick sequence of continental shelf deposits throughout the region that were composed of fine-grained sediments rich in organic material. During the Tertiary period, a repetitive cycle of vegetative growth and sediment deposition occurred depositing sediments along with conglomerates, sands and clays that created numerous peat layers which were buried, producing the present-day coal formations. The adjacent sands and gravels deposited in the region have become potential reservoirs for oil and gas in the area (AEIDC, 1974:41; Ryherd, 2003).

The structural style of the basin is a combination of graben and half-graben basement faulting with Tertiary sedimentary fill consisting of the same formations as found in the Cook Inlet basin. The sedimentary section ranges from about 2,000 feet thick just north of the Castle Mountain Fault to over 13,000 feet in the center of the basin, while south of the fault it is estimated to be at least 20,000 feet thick (Maynard, 1987; Ryherd, 2003). The Eocene-age West Foreland Formation and Oligocene age Hemlock Conglomerate reservoir rocks that are found to the south in the Cook Inlet basin appear to be missing in this basin. The presence of dry gas source rocks in the region, similar to those found in the Cook Inlet basin, and the apparent absence of equivalent oil-prone source rocks indicate that the potential for finding gas in the basin is much greater than for finding oil within the Tertiary section. Coal seams are thick and numerous in parts of the basin, and provide targets for methane drainage drilling as well as a source for gas to charge conventional sandstone reservoirs.

This basin has not been extensively explored although a number of oil and gas exploration wells have been drilled in the region. All of these wells were plugged and abandoned as dry holes, although some did have minor gas shows. There were also prominent coal beds in the lower part of some of the wells, suggesting a correlation with the coal-bearing formations in the Cook Inlet basin that produce natural gas. Taking this into account, the petroleum potential of the basin is thought to be low to moderate (Ryherd, 2003).

In order to help stimulate interest in this area for petroleum exploration, the Division of Oil and Gas (DO&G) collected 120 additional gravity stations regionally and along profiles in the area during June and July of 2000. This survey was conducted in order to complement and extend the gravity data that is currently available from the U.S. Geological Survey (USGS). The gravity stations are located in the southeast corner of the Talkeetna and the northeast corner of the Tyonek 1:250,000 scale USGS topographic maps. The study area is bounded by 61° 45’ to

62° 30’ N. latitude and 150° 00’ to 151° 30’ W. longitude. Figure 2 represents a map of the study area showing the newly collected gravity stations in addition to the currently available USGS gravity stations.

GRAVITY-DATA ACQUISITION AND REDUCTION

A LaCoste and Romberg gravity meter (G507) was used to collect the new gravity station data. Conversion of the meter readings to milligals was made using factory calibration constants and a calibration factor determined by Dave Barnes of the USGS. During the field surveys, the gravity meter appeared to function properly, and a maximum drift of 0.09 mgal/day indicates there were no apparent tares in the data. The observed gravity values were based on an assumed linear drift between base station readings throughout the day.

Datum control for all of the gravity values was provided by the USGS Alaskan Gravity Base Station Network (Barnes, 1968; 1972) and was adjusted to the new absolute datum of the International Gravity Standardization Net 1971 (Morelli and others, 1974). A second-order base station, TLKN, was created at the new Talkeetna Railroad station as control for this survey. The observed gravity of the TLKN station was calculated based on multiple ties to the established TLKM base station. For the duration of the survey, this new station was reoccupied twice each day with survey loops limited to 10 hours or less.

Horizontal control was obtained using a Trimble Pathfinder Basic Plus portable Global Positioning System (GPS) unit and USGS topographic maps at a scale of 1:63,360. The station locations were located on USGS topographic maps in the field and digitized for comparison to the reduced GPS data. The GPS locations were processed using the Trimble GPS Pathfinder Office software and base station data obtained from the NOAA Continuously Operating Reference Stations (CORS) in Talkeetna and Anchorage. Standard processing techniques were applied to the GPS data by averaging the corrected data after applying differential corrections and selecting the best-corrected locations within the 68% confidence level. The accuracies for the corrected GPS locations were found to be ±8 feet, and in all but a few cases, were found to be of a higher accuracy, compared to the digitized locations. In a few cases, the GPS base station data did not collect enough information to get reasonable locations and the digitized values were used.

Vertical control was obtained using a Trimble Pathfinder Basic Plus portable GPS unit, American Paulin Model T-5 altimeters and USGS topographic maps at a scale of 1:63,360. The altimetry data was collected using three meters with the readings averaged at each station and corrected for diurnal barometric variations. Where feasible, the gravity stations were located at U.S. Coast and Geodetic Survey Vertical Angle Benchmarks (VABM) for comparison. Temperature and drift corrections were also applied and yielded elevations with an accuracy of ±30 feet. Elevations were also digitized from USGS topographic maps with an accuracy of ±50 feet and the GPS data was processed as described above and yielded data with an accuracy of ±14 feet. A comparison of the three elevations was made (Figure 1) and it was determined that for most of the stations, the GPS values provided the most accurate and consistent values for use in reducing the data.

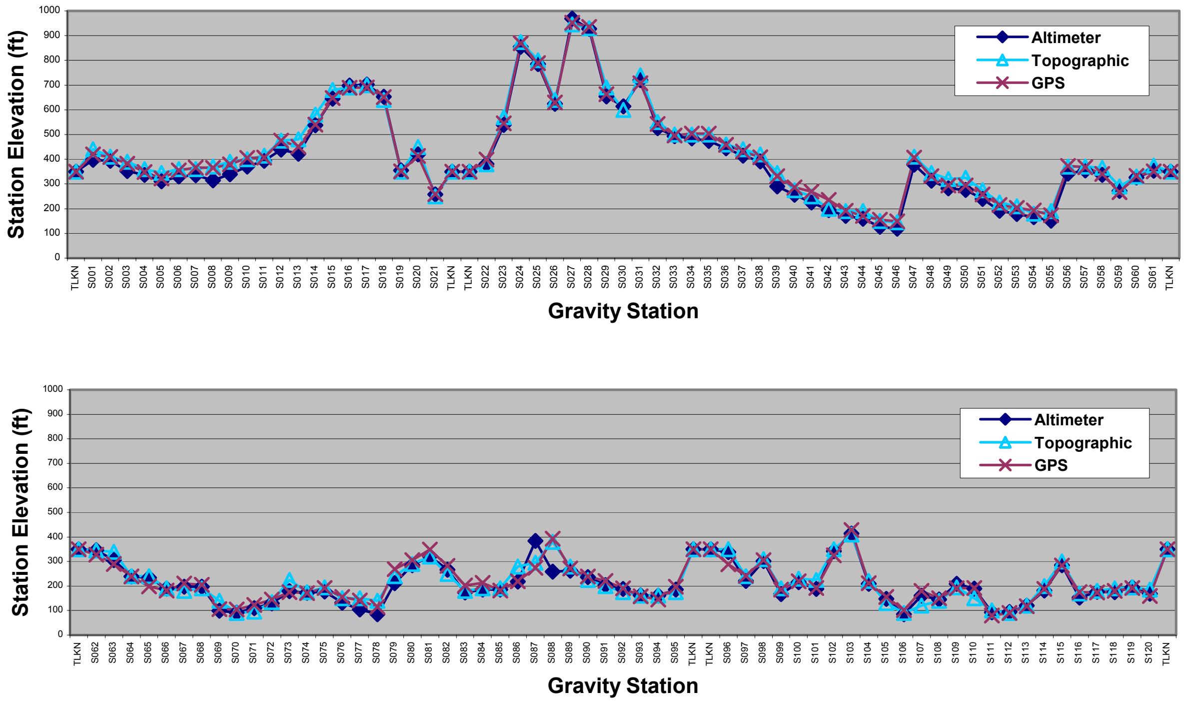

Figure 1. Graph comparing the altimetry, GPS and topographic station elevations.

Gravity reductions were run on all of the data (including the data obtained from the USGS) using standard techniques. Corrections for the variation of gravity with latitude at each station were computed based on the Geodetic Reference System 1967 (International Association of Geodesy, 1971) using the International Gravity Standardization Net 1971 gravity datum (Morelli and others, 1974). The observed gravity values were calculated by adding the meter drift and earth-tide corrections to the meter readings converted to milligals. Free-air anomalies were calculated by subtracting the theoretical gravity from the observed gravity and adding a free-air correction. Simple Bouguer anomalies were calculated by subtracting the Bouguer correction from the free-air anomaly, calculated using a gravitational constant of 6.67×10^{-11} m^3 kg^{-1} s^{-2} and a standard density of 2.67 gm/cc. Complete Bouguer anomalies were calculated by adding the terrain correction to the simple Bouguer anomaly and isostatic anomalies were calculated by adding the isostatic correction to the complete Bouguer anomaly.

Bob Morin of the USGS computed the terrain corrections for this data by using a computer program (Plouff, 1966, 1977; Godson and Plouff, 1988) and a digital terrain model. This program calculated the gravity effects of the surrounding terrain for each station from a radial distance of 0.39 km to a distance of 166.7 km using the standard Hammer technique (Hammer, 1939), in which average elevation estimates within zones surrounding the station are used to compute the gravity effect of each zone. The station elevations used for this correction were taken from the digitized USGS topographic maps at a scale of 1:63,360 in order to be consistent with the elevation model used for the terrain. No inner zone correction was applied due to the flat topography surrounding the stations.

Bob Morin also processed these data with an isostatic reduction program (Jachens and Roberts, 1981) to compensate for the effects of crustal roots that buoyantly support topography. The isostatic reduction assumes an Airy-Heiskanen model with a density of topography above sea level of 2.6 gm/cc and a crustal thickness at sea level of 25 km.

The locations of the gravity data collected in this survey as well as the data collected and available by the USGS can be seen in Figure 2. The data locations have been plotted on a topographic base with the new stations plotted in red while the USGS data are plotted in black. Figure 3 shows the contoured free-air anomaly values, Figure 4 shows the contoured complete Bouguer anomaly values and Figure 5 shows the contoured isostatic anomaly values. Table 1 lists the principal facts for the gravity stations collected during this survey.

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Table 1. Principal facts for the gravity stations collected during this survey. Topo represents the topographic elevation taken from USGS topographic maps at 1:63,360 scale. Elev represents the GPS station elevation used for reducing the data. FAA is the free-air anomaly, SBA is the simple Bouguer anomaly, CBA is the complete Bouguer anomaly and IA is the isostatic anomaly.

Station	Topo		Elev		Lat	Lon	Obs Grav	FAA	SBA	CBA	IA
TLKN	350.00	F	359.00	F	62.31681483	-150.10045169	982005.714	-55.053	-67.297	-67.137	-10.927
S001	440.00	F	419.55	F	62.25669913	-150.29579449	981981.683	-68.897	-83.206	-83.296	-33.176
S002	410.00	F	409.76	F	62.23502986	-150.34035619	981979.009	-70.872	-84.847	-84.967	-36.307
S003	390.00	F	381.61	F	62.22191765	-150.36413737	981980.500	-71.047	-84.062	-84.192	-36.322
S004	360.00	F	348.58	F	62.20502818	-150.39372319	981974.999	-78.391	-90.280	-90.410	-43.490
S005	345.00	F	322.18	F	62.19385708	-150.41787149	981972.275	-82.762	-93.750	-93.890	-47.620
S006	360.00	F	354.77	F	62.18138800	-150.44599100	981968.338	-82.699	-94.799	-94.949	-49.399
S007	360.00	F	366.66	F	62.17347327	-150.45632174	981964.818	-84.508	-97.013	-97.173	-52.003
S008	370.00	F	365.08	F	62.16387700	-150.47969000	981961.669	-87.087	-99.538	-99.698	-55.018
S009	390.00	F	379.76	F	62.14754223	-150.50420059	981958.093	-88.057	-101.009	-101.179	-57.239
S010	400.00	F	405.70	F	62.13929075	-150.52095008	981954.879	-88.213	-102.050	-102.220	-58.650
S011	415.00	F	406.79	F	62.12564913	-150.54599401	981950.052	-91.915	-105.789	-105.949	-63.039
S012	475.00	F	475.21	F	62.11161721	-150.57600763	981943.886	-90.593	-106.800	-106.960	-64.610
S013	480.00	F	450.45	F	62.09683769	-150.59857261	981943.963	-91.735	-107.098	-107.238	-65.458
S014	580.00	F	540.67	F	62.08668220	-150.62289572	981946.298	-80.152	-98.592	-98.732	-57.332
S015	680.00	F	647.77	F	62.05907814	-150.67715488	981925.707	-88.597	-110.690	-110.830	-70.410
S016	690.00	F	689.44	F	62.04503390	-150.69499174	981920.663	-88.666	-112.180	-112.330	-72.370
S017	700.00	F	690.34	F	62.02892600	-150.72119000	981915.651	-92.383	-115.928	-116.068	-76.658
S018	640.00	F	651.40	F	62.01386021	-150.76114845	981915.648	-94.915	-117.132	-117.272	-78.292
S019	350.00	F	350.55	F	61.99722678	-150.78902017	981933.492	-104.118	-116.074	-116.034	-77.484
S020	450.00	F	413.23	F	61.98543276	-150.81604194	981926.351	-104.476	-118.570	-118.740	-80.460
S021	250.00	F	259.07	F	61.97364453	-150.83598302	981932.493	-111.948	-120.784	-120.814	-82.854
S022	380.00	F	398.71	F	62.23411406	-150.42136206	981974.272	-76.579	-90.177	-90.287	-42.237
S023	570.00	F	544.95	F	62.22564000	-150.54214500	981957.504	-78.958	-97.544	-97.614	-50.114
S024	875.00	F	868.60	F	62.19689544	-150.68067841	981930.126	-73.743	-103.367	-103.367	-56.777
S025	800.00	F	788.29	F	62.19139729	-150.76916715	981935.140	-75.870	-102.756	-102.286	-55.446
S026	640.00	F	629.94	F	62.17854061	-150.88201754	981957.705	-67.237	-88.721	-88.721	-41.681
S027	945.00	F	951.92	F	62.16105119	-150.99172287	981934.019	-59.327	-91.793	-91.773	-44.543
S028	930.00	F	935.54	F	62.14790241	-150.97150657	981936.190	-57.711	-89.618	-89.578	-43.228
S029	690.00	F	663.05	F	62.13186426	-150.95429250	981946.668	-71.661	-94.275	-94.105	-48.735
S030	600.00	F	614.34	F	62.12680553	-150.93252959	981945.804	-76.727	-97.680	-97.400	-52.440
S031	740.00	F	707.20	F	62.10800784	-150.90788625	981927.987	-84.400	-108.520	-108.580	-64.710
S032	550.00	F	542.89	F	62.08507559	-150.88509494	981929.335	-96.785	-115.301	-115.271	-72.631
S033	500.00	F	496.00	F	62.07598498	-150.86183121	981928.155	-101.694	-118.610	-118.590	-76.540
S034	500.00	F	504.10	F	62.06712513	-150.84327944	981927.652	-100.770	-117.963	-118.043	-76.503
S035	500.00	F	503.41	F	62.05620500	-150.81577200	981928.040	-99.627	-116.796	-116.846	-75.916
S036	460.00	F	458.09	F	62.03612011	-150.82296707	981929.287	-101.133	-116.757	-116.867	-76.707
S037	440.00	F	431.41	F	62.02115657	-150.82285287	981929.192	-102.613	-117.326	-117.426	-77.816
S038	420.00	F	408.25	F	62.01107630	-150.82484418	981929.282	-103.942	-117.866	-117.966	-78.726

Table 1 (continued)

Station	Topo		Elev		Lat	Lon	Obs Grav	FAA	SBA	CBA	IA
S039	345.00	F	331.20	F	61.98502440	-150.77566955	981933.422	-105.090	-116.386	-116.466	-78.466
S040	275.00	F	286.09	F	61.97814850	-150.74865657	981934.616	-107.622	-117.379	-117.139	-79.499
S041	250.00	F	269.66	F	61.96333603	-150.73375026	981931.302	-111.366	-120.563	-120.553	-83.483
S042	200.00	F	235.77	F	61.94736975	-150.72854427	981931.826	-112.828	-120.869	-120.869	-84.329
S043	190.00	F	191.57	F	61.93495618	-150.70601132	981935.792	-112.085	-118.618	-118.618	-82.498
S044	190.00	F	170.46	F	61.92490425	-150.69413944	981937.909	-111.195	-117.009	-117.079	-81.319
S045	150.00	F	155.48	F	61.91208623	-150.68387646	981939.249	-110.298	-115.601	-115.691	-80.311
S046	145.00	F	148.66	F	61.89535292	-150.66818870	981942.377	-106.550	-111.620	-111.700	-76.830
S047	410.00	F	406.99	F	61.87202453	-150.56514050	981945.008	-77.862	-91.743	-91.973	-57.743
S048	345.00	F	332.16	F	61.85511009	-150.53462809	981943.230	-85.402	-96.730	-96.970	-63.090
S049	320.00	F	293.69	F	61.84555941	-150.50665237	981945.789	-85.739	-95.756	-95.996	-62.266
S050	325.00	F	294.13	F	61.83261642	-150.48695760	981947.519	-82.991	-93.023	-93.273	-59.803
S051	275.00	F	257.77	F	61.81656058	-150.46863425	981949.542	-83.175	-91.967	-92.227	-59.047
S052	225.00	F	215.06	F	61.80415263	-150.44406546	981950.977	-84.820	-92.155	-92.415	-59.365
S053	210.00	F	204.00	F	61.79277652	-150.42443138	981950.582	-85.396	-92.353	-92.613	-59.703
S054	180.00	F	193.13	F	61.77868378	-150.40561968	981951.037	-84.898	-91.485	-91.745	-59.045
S055	190.00	F	173.61	F	61.76720354	-150.38641498	981950.766	-86.137	-92.058	-92.318	-59.728
S056	370.00	F	373.65	F	62.24718520	-150.19039937	981989.204	-64.982	-77.725	-77.755	-26.335
S057	370.00	F	368.24	F	62.19893103	-150.25643138	981977.134	-73.951	-86.510	-86.620	-38.360
S058	365.00	F	340.06	F	62.14241314	-150.30901325	981972.440	-77.060	-88.658	-88.818	-43.538
S059	290.00	F	266.36	F	62.10649954	-150.38562371	981967.198	-86.541	-95.626	-95.836	-52.846
S060	330.00	F	332.98	F	62.09956538	-150.25652294	981970.975	-75.977	-87.334	-87.484	-42.924
S061	375.00	F	351.64	F	62.13852785	-150.23430236	981977.375	-70.745	-82.738	-82.868	-36.468
S062	345.00	F	328.06	F	62.10518985	-150.52585985	981953.655	-94.183	-105.371	-105.551	-63.441
S063	340.00	F	289.42	F	62.07109774	-150.51072747	981952.555	-96.357	-106.228	-106.438	-65.588
S064	240.00	F	239.12	F	62.00026737	-150.46543947	981953.092	-95.229	-103.384	-103.614	-65.064
S065	240.00	F	198.63	F	61.96441512	-150.45676347	981953.738	-95.692	-102.467	-102.727	-65.347
S066	190.00	F	181.69	F	61.92946209	-150.45746494	981954.213	-94.178	-100.375	-100.625	-64.355
S067	180.00	F	210.15	F	61.89427312	-150.44344984	981953.261	-89.801	-96.968	-97.218	-61.868
S068	190.00	F	204.77	F	61.85875519	-150.42655976	981956.348	-84.541	-91.525	-91.785	-57.275
S069	140.00	F	105.97	F	61.85719800	-150.36887100	981959.122	-90.942	-94.556	-94.816	-59.806
S070	90.00	F	104.45	F	61.80115991	-150.34775006	981960.382	-85.593	-89.156	-89.356	-55.556
S071	95.00	F	122.96	F	61.82036782	-150.19482413	981976.338	-69.348	-73.541	-73.711	-36.791
S072	135.00	F	144.46	F	61.87778677	-150.15899046	981970.906	-77.091	-82.018	-82.128	-42.568
S073	225.00	F	175.41	F	61.93727581	-150.18895073	981975.744	-73.827	-79.810	-79.940	-39.260
S074	175.00	F	171.58	F	61.98073400	-150.14547000	981981.204	-71.999	-77.851	-77.911	-34.641
S075	195.00	F	192.06	F	61.95877810	-150.84955455	981931.650	-117.974	-124.524	-124.684	-87.114
S076	150.00	F	155.60	F	61.94801987	-150.87536270	981931.745	-120.499	-125.806	-126.006	-88.546
S077	150.00	F	141.22	F	61.93524410	-150.90699940	981930.138	-122.495	-127.312	-127.532	-90.152
S078	140.00	F	114.57	F	61.89597700	-150.95193500	981929.285	-122.895	-126.803	-127.003	-90.083
S079	240.00	F	268.52	F	61.89686359	-150.99163567	981919.608	-118.160	-127.318	-127.508	-90.038
S080	290.00	F	305.65	F	61.88279501	-150.99974397	981915.584	-117.629	-128.054	-128.244	-90.894
S081	320.00	F	348.78	F	61.87130285	-151.02582580	981913.338	-114.952	-126.848	-127.028	-89.488

Table 1 (continued)

Station	Topo		Elev		Lat	Lon	Obs Grav	FAA	SBA	CBA	IA
S082	250.00	F	281.47	F	61.85888706	-151.04562581	981918.023	-115.661	-125.261	-125.431	-87.711
S083	180.00	F	202.73	F	61.84721706	-151.06747276	981923.964	-116.245	-123.160	-123.300	-85.310
S084	190.00	F	212.35	F	61.84272158	-151.08364543	981923.494	-115.471	-122.714	-122.844	-84.594
S085	190.00	F	181.35	F	61.83115596	-151.10503948	981922.651	-118.356	-124.542	-124.602	-85.992
S086	280.00	F	219.18	F	61.81742400	-151.12625500	981920.501	-115.912	-123.387	-123.377	-84.367
S087	295.00	F	273.83	F	61.79135029	-151.16996015	981926.559	-102.743	-112.082	-111.622	-71.602
S088	380.00	F	393.59	F	61.77423748	-151.19852611	981925.209	-91.535	-104.959	-102.959	-62.159
S089	280.00	F	271.84	F	61.84881020	-151.35687048	981968.542	-65.287	-74.559	-74.269	-29.719
S090	225.00	F	238.76	F	61.86478888	-151.41800872	981970.533	-67.614	-75.757	-75.467	-29.267
S091	200.00	F	220.17	F	61.87985200	-151.34222600	981970.140	-70.892	-78.401	-78.261	-34.261
S092	175.00	F	190.11	F	61.93493000	-151.31711300	981966.372	-81.640	-88.124	-88.134	-44.564
S093	160.00	F	157.72	F	61.95506529	-151.25769884	981971.717	-80.858	-86.237	-86.287	-43.657
S094	160.00	F	145.05	F	61.96600871	-151.18394195	981956.428	-98.163	-103.110	-103.160	-61.560
S095	175.00	F	196.86	F	61.97037078	-150.91473747	981932.274	-117.772	-124.486	-124.606	-86.146
S096	350.00	F	288.96	F	62.20762721	-150.15835213	981982.701	-76.491	-86.346	-86.366	-35.756
S097	240.00	F	241.65	F	62.12083600	-150.10903000	981991.609	-65.530	-73.772	-73.742	-24.792
S098	310.00	F	305.61	F	62.05743062	-150.24179760	981966.860	-79.503	-89.927	-90.087	-46.687
S099	190.00	F	184.80	F	62.03349486	-150.29897860	981968.300	-87.627	-93.930	-94.110	-52.580
S100	230.00	F	219.37	F	62.00091900	-150.37335400	981958.903	-91.324	-98.806	-99.036	-59.636
S101	225.00	F	191.59	F	61.98456916	-150.40844662	981958.171	-93.439	-99.973	-100.213	-61.733
S102	350.00	F	324.43	F	61.92905884	-150.53361508	981941.871	-93.065	-104.130	-104.370	-68.480
S103	410.00	F	428.71	F	61.89175584	-150.60801903	981931.018	-91.297	-105.918	-106.138	-71.388
S104	220.00	F	211.52	F	61.86214080	-150.65244869	981939.826	-100.683	-107.897	-108.147	-74.117
S105	130.00	F	155.63	F	61.84746653	-150.71892705	981931.791	-112.867	-118.175	-118.465	-84.515
S106	90.00	F	102.23	F	61.82233400	-150.75313300	981929.132	-118.651	-122.138	-122.418	-88.728
S107	120.00	F	179.53	F	61.79755300	-150.82025800	981916.363	-122.278	-128.401	-128.641	-94.671
S108	140.00	F	150.73	F	61.76859868	-150.90018615	981916.677	-122.484	-127.625	-127.805	-93.035
S109	195.00	F	190.13	F	61.80502569	-150.90292638	981917.007	-121.201	-127.685	-127.895	-92.835
S110	150.00	F	192.03	F	61.83728436	-150.88839100	981918.601	-121.866	-128.415	-128.605	-93.385
S111	100.00	F	80.11	F	61.86384195	-150.86755625	981927.750	-125.248	-127.980	-128.230	-92.850
S112	90.00	F	90.26	F	61.86937300	-150.81828800	981930.450	-122.011	-125.089	-125.369	-90.349
S113	120.00	F	117.29	F	61.89769304	-150.77617608	981933.356	-118.699	-122.699	-122.959	-87.599
S114	200.00	F	188.17	F	61.92955278	-150.78613000	981932.373	-115.416	-121.834	-122.064	-85.794
S115	300.00	F	282.81	F	61.95539693	-150.77788258	981929.529	-111.304	-120.950	-121.130	-84.110
S116	170.00	F	174.57	F	61.93922600	-151.29253400	981966.457	-83.341	-89.294	-89.344	-46.244
S117	180.00	F	174.18	F	61.91415715	-151.22880229	981963.416	-84.528	-90.469	-90.569	-49.049
S118	190.00	F	179.76	F	61.86612782	-151.13313687	981924.493	-119.304	-125.435	-125.545	-86.255
S119	195.00	F	191.28	F	61.81733474	-151.02125501	981920.551	-118.479	-125.003	-125.143	-88.143
S120	185.00	F	159.27	F	61.79707475	-150.97183437	981919.072	-121.438	-126.870	-127.010	-90.960

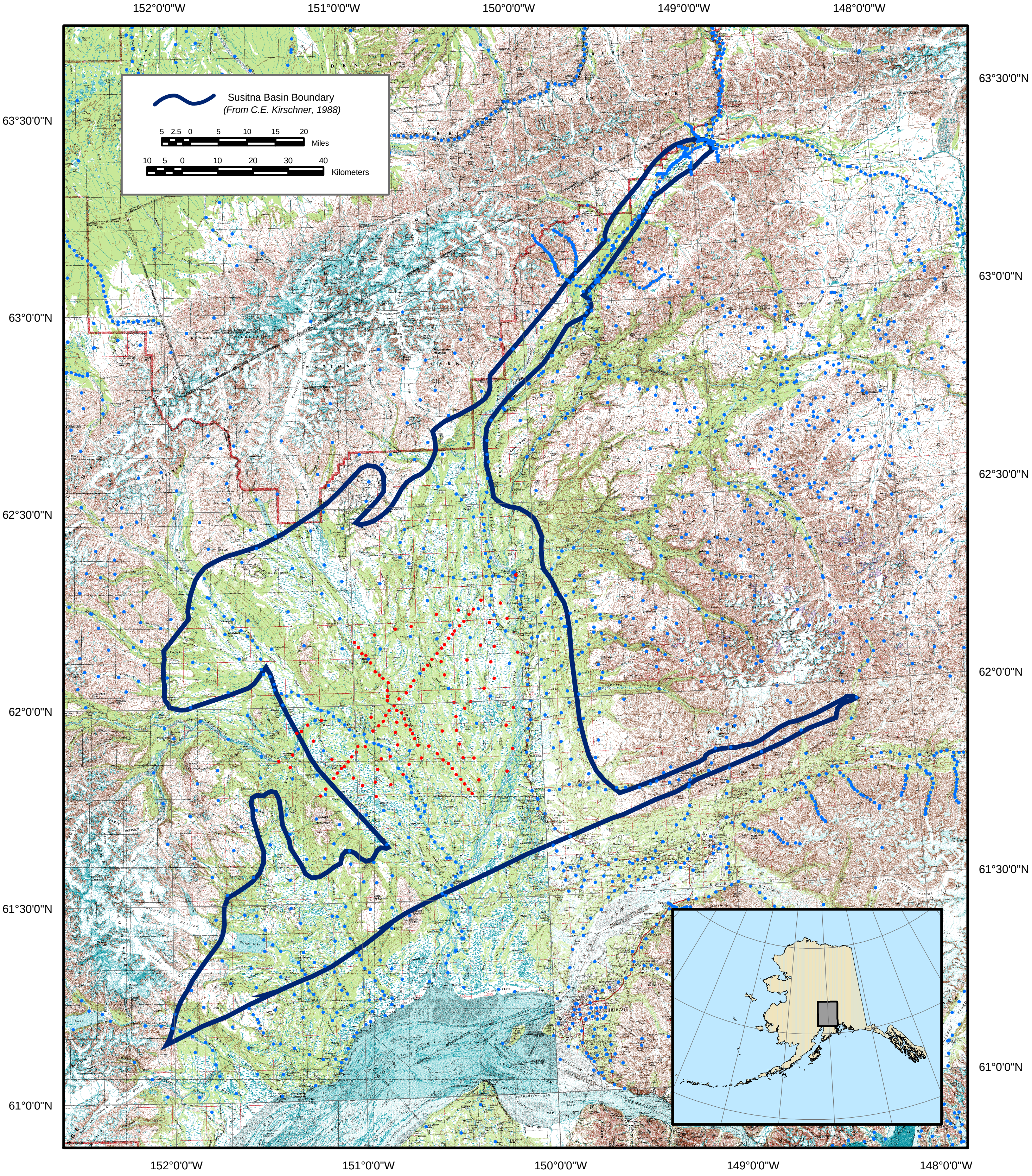

Figure 2. Index map of the study area showing the locations of the gravity data collected for this study in red. The previously collected data is shown in black. The map base is a composite of USGS 1:250,000 scale topographic maps.

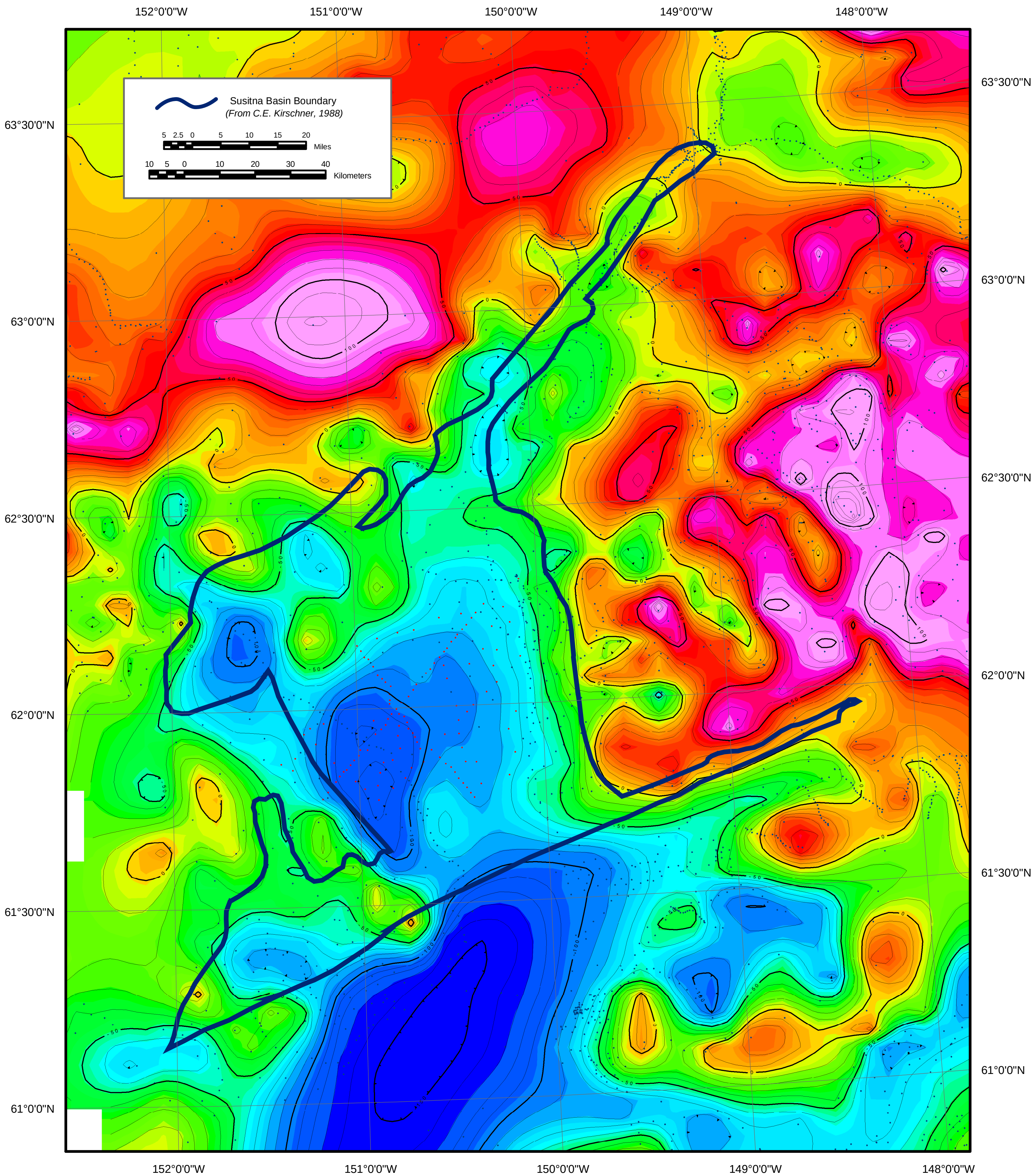

Figure 3. Free-air gravity map of the Susitna Basin with a contour interval of 10 mGal.

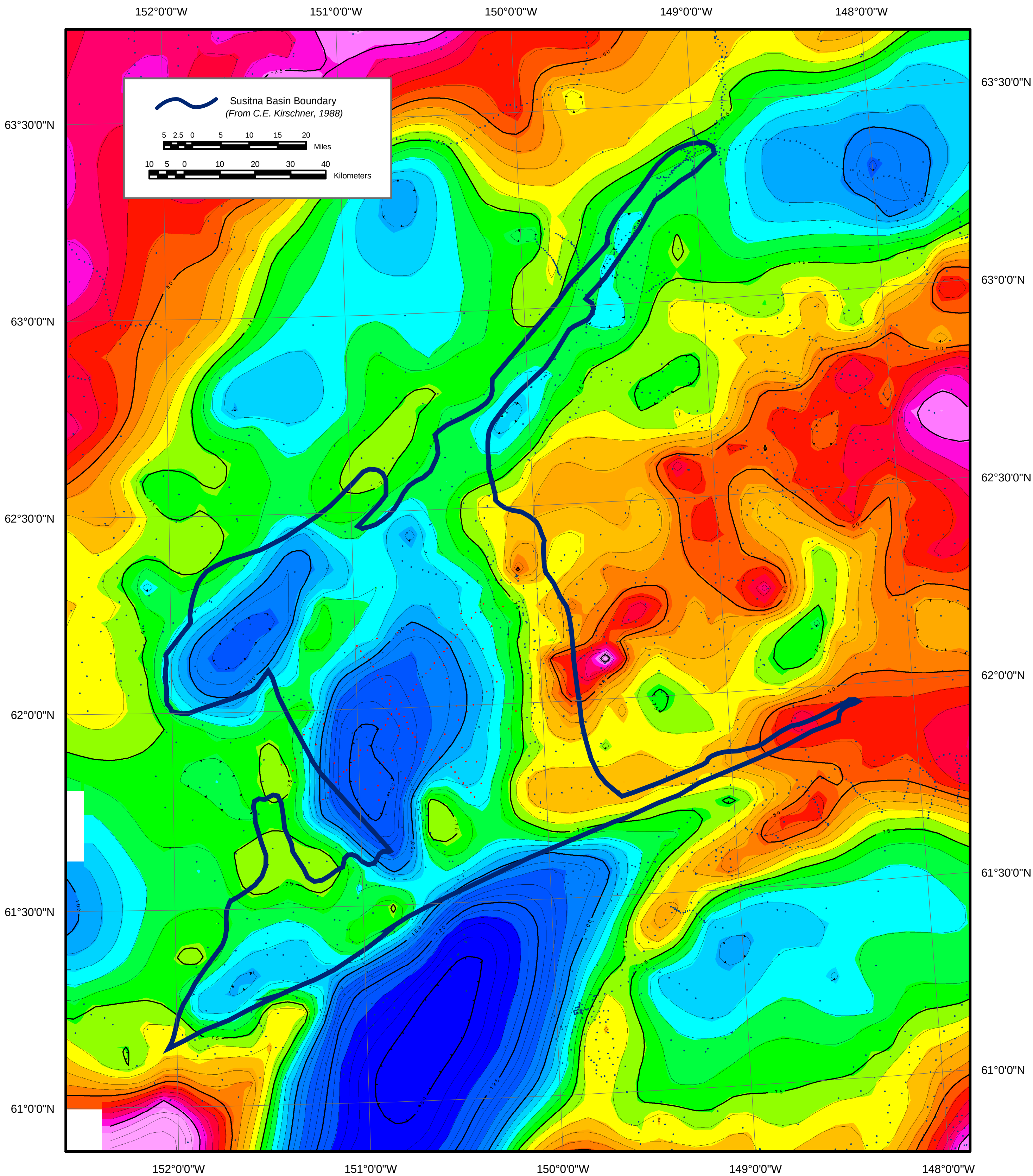

Figure 4. Complete Bouguer gravity map of the Susitna Basin with a contour interval of 5 mGal.

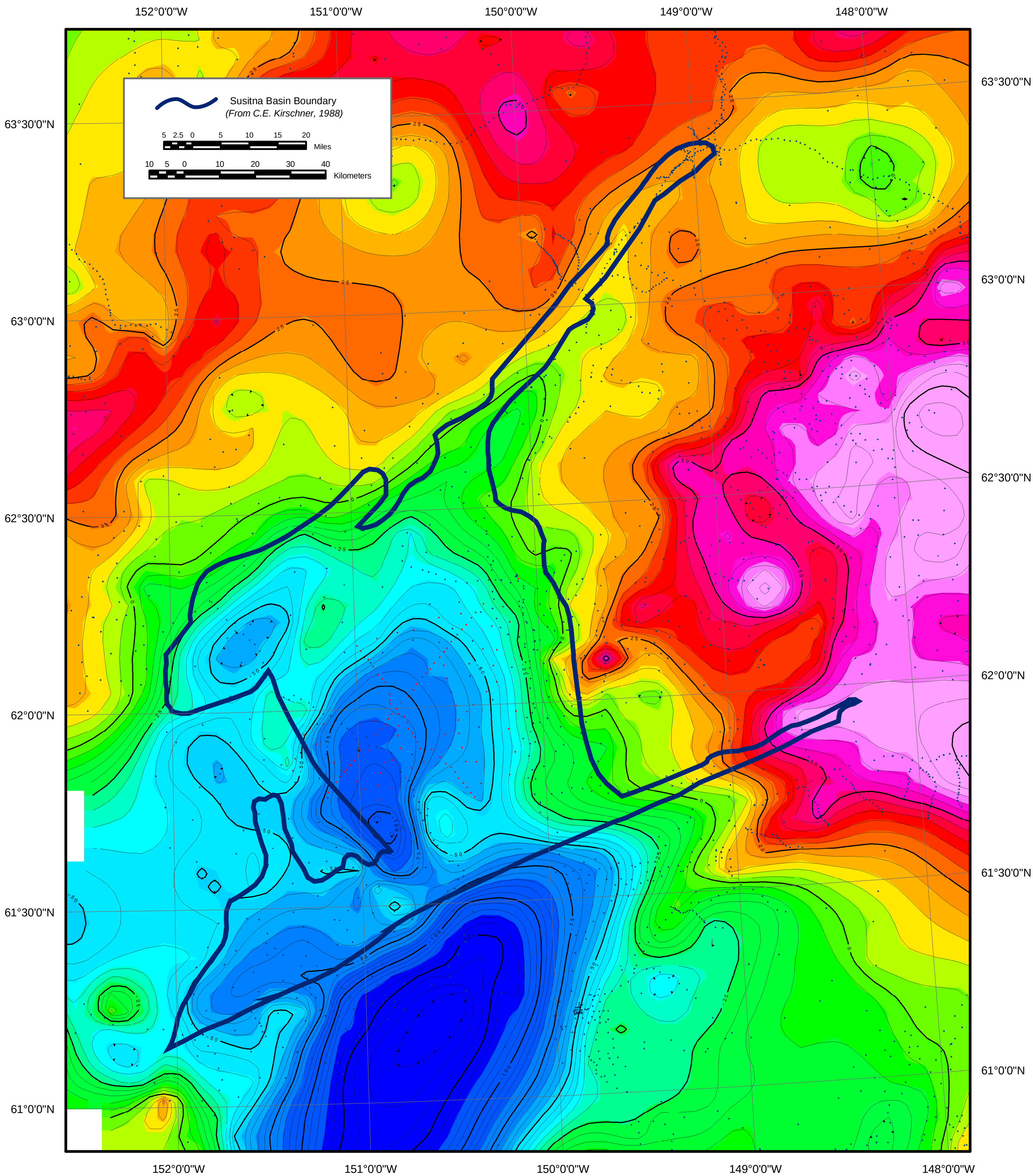

Figure 5. Isostatic gravity map of the Susitna Basin with a contour interval of 5 mGal.