UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

A New Heat-Flow Contour Map Of The Conterminous United States

Sass

OPEN-FILE REPORT 76-756
Menlo Park, California
1976

United States Department of the Interior

Geological Survey

A NEW HEAT-FLOW CONTOUR MAP OF THE CONTERMINOUS UNITED STATES

by

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Open-File Report 76-756

1976

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

This report presents a series of maps depicting our interpretation of the heat flow within the conterminous United States based on all the data available to the U.S. Geological Survey (USGS) as of August 1976. Sources include all published data and about a hundred new USGS values currently being readied for publication.

Figure 1 shows the distribution of points. The dots are USGS values, and the circles, those published by other institutions. For completeness, points in northern Mexico, southern Canada, and the Pacific coastal waters are included. A few points were left off the map. These included sites where the temperature profile showed curvature not related to changes in thermal conductivity and sites within a 3-km radius of hot springs or other currently active hydrothermal manifestations. Because of problems associated with the scale of the map, we have occasionally generalized one value from a number within a small area. In other instances where a sharp transition occurs over a short distance, one point is offset to show clearly the control for the transition.

In Figure 2, observed heat-flow data (q) are shown as coded symbols with state boundaries and latitudes and longitudes as points of reference.

Figure 3 shows our interpretation of the heat-flow field as a contour map. Our aim was to produce a map that was as objective as possible, and in general, we were guided by the heat flow alone without reference to other geological or geophysical quantities; however in drawing the contours in areas of spotty control, we were guided by thermal criteria such as the presence or absence of hot springs. Figure 3a shows the contours for the entire continental United States, and Figure 3b, for the western part of the country where most of the thermal structure is found.

Figure 4 shows the reduced heat flow (q_r) plotted on a base adapted from the physiographic map of Fenneman (1946). The reduced heat flow (see e.g., Roy and others, 1972) is defined by $q_r = q - DA_o$ where q = surface heat flux, A_o, the observed radioactivity, and D, an empirically determined constant for a given heat-flow province. For the United States west of the Great Plains, D is 10 km and for eastern United States, D was taken as 7.5 km (cf. Roy and others, 1968a; Birch and others, 1968). Figures 2 and 4 represent an updating and revision of Figures 9 and 10 of Diment and others (1975). The sources of individual points (with the exception of the unpublished USGS data which are now being readied for publication) may be obtained from Table 1 which lists published data by state, physiographic province, and geographic location.

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4

					q	A
U.S.A. -- ALABAMA						
AL AP TD1	TALLADEGA	RO 68	33-16	86-01	0.95	
U.S.A. -- ARIZONA						
AZ BR SRM	SANTA RITA MTS. A719	RO 68	31-50	110-45	2.06	
AZ BR HV1	HELVETIA A729	RO 68	31-52	110-48	1.78	3.8
AZ BR CNT	CONTINENTAL A972	RO 68	31-53	111-00	2.47	
AZ BR TB2	TWIN BUTTES A940	US 71	31-53	111-02	1.56	
AZ BR TB3	TWIN BUTTES A616	US 71	31-53	111-02	1.88	5.30
AZ BR SR1	SIERRITA MTS.	RO 68	31-53	111-08	2.0	7.7
AZ BR TB4	TWIN BUTTES A911	US 71	31-54	111-02	1.98	
AZ BR TB5	TWIN BUTTES A644	US 71	31-54	111-03	2.10	5.3
AZ BR HP1	HELMET PEAK A545	US 71	31-58	111-04	2.14	
AZ BR MN1	MISSION 106	RO 68	31-59	111-04	2.98	
AZ BR DR1	DRAGOON UCSD 4	WA 69	32-02	110-04	1.58	3.1
AZ BR DR1	DRAGOON UCSD 4	WA 69	32-02	110-04	1.58	3.1
AZ BR AJ1	AJO	RO 68	32-06	112-45	2.4	6.0
AZ BR KCL	TUCSON KCL-7	US 71	32-11	111-07	2.56	
AZ BR SB1	SILVER BELL D151	RO 68	32-25	111-32	2.36	
AZ BR RR1	RED ROCK D-9-7	US 71	32-36	111-36	0.85	
AZ BR SM2	SAN MANUEL	LO 48	32-37	110-39	1.2	
AZ BR OR1	ORACLE UCSD-3	WA 69	32-37	110-48	1.85	5.7
AZ BR SM1	SAN MANUEL	US 71	32-40	110-42	1.54	6.00
AZ BR YU2	YUMA LCRP-13	US 71	32-41	114-37	2.10	
AZ BR YU3	YUMA LCRP-26	US 71	32-44	114-37	1.92	
AZ BR EL1	ELOY D-7-8	US 71	32-47	111-29	1.30	
AZ BR CH1	CHRISTMAS MINE SM-1	US 71	33-02	110-41	1.40	1.50
AZ BR RW1	RAINBOW VALLEY UCSD-2	WA 69	33-11	112-39	2.41	
AZ BR BC1	BUCKEYE HILLS UCSD-1	WA 69	33-17	112-38	3.42	
AZ BR HG1	HIGLEY D-1-6	US 71	33-19	111-43	1.70	
AZ BR TM1	TEMPE A-1-3	US 71	33-25	112-01	1.10	
AZ BR PH1	PHOENIX ST-1	US 71	33-32	112-20	3.00	
AZ BR QZ1	QUARTZSITE	RO 68	33-38	114-20	2.4	10.7
AZ BR BG2	BAGDAD 13-64	RO 68	34-35	113-11	1.64	
AZ BR BG1	BAGDAD 8-62	RO 68	34-36	113-12	1.6	6.6
AZ BR HL1	HUALAPAI MTS.	RO 68	35-08	113-49	2.14	2.0
AZ BR WHL	WHITE HILLS	RO 68	35-43	114-22	2.82	
U.S.A. -- CALIFORNIA						
CA SB ET1	EL CENTRO PO	HE 68	32-36	116-36	0.80	
CA SB ET2	EL CENTRO DU	HE 68	32-37	116-45	1.40	
CA SB ET3	EL CENTRO JA	HE 68	32-40	116-07	1.50	
CA SB ET4	EL CENTRO LO	HE 68	32-41	116-22	1.20	
CA SB ET5	EL CENTRO CW	HE 68	32-43	115-57	1.90	
CA BR IV1	IMPERIAL VALLEY UCR 127	CO 71	32-46	115-14	2.6	
CA BR IV2	IMPERIAL VALLEY UCR 116	CO 71	32-47	115-15	4.9	
CA BR IV3	IMPERIAL VALLEY UCR 123	CO 71	32-47	115-15	3.8	
CA BR IV4	IMPERIAL VALLEY UCR 122	CO 71	32-48	115-15	3.3	
CA BR IV5	IMPERIAL VALLEY UCR 124	CO 71	32-48	115-15	2.9	
CA BR IV6	IMPERIAL VALLEY UCR 125	CO 71	32-49	115-14	2.1	
CA BR IV7	IMPERIAL VALLEY UCR 126	CO 71	32-50	115-15	2.9	
CA FS ET6	EL CENTRO SV	HE 68	32-52	116-34	1.10	
CA FS AZ1	ANZA A-1	HE 68	33-30	116-36	1.87	3.60
CA FS AZ2	ANZA A-3	HE 68	33-32	116-36	1.76	2.80
CA SB AZ3	ANZA A-2	HE 68	33-32	116-48	1.46	2.20
CA BR CK3	EAGLE MT. CK-3	US 71	33-52	115-26	1.29	4.00
CA FS LB1	L. A. BASIN LB-1	US 71	33-53	118-02	1.74	
CA FS AC1	SANTA ANA AC-1	US 71	33-58	117-38	1.60	3.40
CA FS SB2	SAN BERNADINO SB-2	HE 68	34-15	117-19	1.63	
CA FS SB3	SAN BERNADINO SB-10	HE 68	34-15	117-20	1.58	3.70
CA FS SB4	SAN BERNADINO SB-5	HE 68	34-16	117-20	1.08	
CA BR LC1	LUCERNE VALLEY LV-1	HE 68	34-37	116-43	1.65	3.1
CA BR BRW	BARSTOW M10.11	RO 68	34-39	116-41	1.6	

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

					q	A
CA FS LH3	LAKE HUGHES LH-3	HE 68	34-39	118-29	1.68	2.60
CA FS LH2	LAKE HUGHES LH-2	HE 68	34-41	118-26	1.56	3.40
CA FS LH1	LAKE HUGHES LH-1	HE 68	34-44	118-24	1.72	8.70
CA FE TE1	TEHACHAPI MT. DH15A	HE 68	34-51	118-44	1.48	
CA FE TE2	TEHACHAPI MT. DH-70	HE 68	34-52	118-45	2.21	
CA FE TE3	TEHACHAPI MT. DH-14	HE 68	34-52	118-45	2.03	7.70
CA FE TE4	TEHACHAPI MT. DH-43	HE 68	34-53	118-46	2.02	2.10
CA FE TE5	TEJON RANCH DH-43	US 71	34-53	118-46	1.83	
CA FE TE6	TEHACHAPI MT. DH-65,67	HE 68	34-56	118-49	1.30	1.10
CA FE TE7	TEJON RANCH DH-65,67,6	US 71	34-56	118-49	1.36	
CA FE EH1	ELK HILLS 382-36	US 71	35-16	119-23	1.26	
CA FE EH2	ELK HILLS 343-36	US 71	35-16	119-24	1.12	
CA FE EH3	ELK HILLS 344-35S	US 71	35-17	119-22	1.20	
CA FE EH4	ELK HILLS 372-35R	US 71	35-17	119-28	1.30	
CA FE EH5	ELK HILLS 326-28R	US 71	35-17	119-31	1.26	
CA FE EH6	ELK HILLS 385-24Z	US 71	35-18	119-33	1.20	
CA FE EH7	ELK HILLS 366-24Z	US 71	35-18	119-34	1.00	
CA FW TS1	LA PANZA TS-1	US 71	35-26	120-30	2.21	5.40
CA FE WB1	WEST OF BAKERSFIELD	BE 47	35-28	119-45	1.29	
CA BR CO3	COSO AREA	CO 75	36-03	117-46	10.3	
CA FW HT3	HOLLISTER HO-3	HE 68	36-32	121-40	1.20	
CA FW HT5	HOLLISTER HO-5	HE 68	36-35	121-27	1.90	
CA FW HT1	HOLLISTER HO-1	HE 68	36-43	121-24	1.71	3.40
CA FW HT4	HOLLISTER HO-4	HE 68	36-48	121-20	2.30	
CA FW HT6	HOLLISTER HO-6	HE 68	36-50	121-17	2.30	
CA FW HT2	HOLLISTER HO-2 & 7	HE 68	36-53	121-35	1.70	
CA FW HT7	HOLLISTER HO-8	HE 68	36-55	120-58	1.40	
CA SN JB1	JOSE BASIN	US 71	37-06	119-23	0.77	3.7
CA SN SJR	SAN JOAQUIN EX. RANGE	US 71	37-06	119-44	0.61	2.1
CA SN HC1	HELMS CREEK	US 71	37-08	118-59	1.30	9.0
CA SN ST1	SHERMAN THOMAS	US 71	37-10	120-04	0.45	0.70
CA FE PRM	PERMANENTE	US 71	37-19	122-07	2.20	
CA BR DSP	DEEP SPRINGS	US 71	37-24	118-00	1.80	3.4
CA FE SE1	SUNNYVALE C-3	US 71	37-27	122-02	2.02	
CA FE MP1	MENLO PARK MP-1	US 68	37-27	122-10	2.16	
CA FE DM1	DUMBARTON S.F. BAY	US 71	37-29	122-08	2.25	
CA BR BRK	BLACK ROCK	US 71	37-41	118-32	2.00	
CA FE TR1	TRACY DH-2	US 71	37-48	121-35	0.96	
CA FE MST	BERKELEY MSTW	US 71	37-52	122-15	2.00	
CA SN OM1	OMO RANCH	RO 68	38-33	120-34	0.72	
CA SN WR1	WRIGHT'S LAKE	RO 68	38-50	120-15	0.83	4.70
CA SN LO1	LOOMIS	RO 68	38-50	121-10	0.62	1.80
CA SN BL1	BLODGETT	RO 68	38-52	120-39	1.06	6.40
CA SN ADM	AUBURN DAM	US 71	38-52	121-03	0.70	
CA SN LK1	LOON LAKE	RO 68	38-59	120-19	1.25	6.8
CA SN GR1	GRASS VALLEY	CL 57	39-12	121-03	0.69	3.20
CA SN SJ3	SAN JUAN RIDGE	US 71	39-24	120-52	0.69	1.70
CA FE FBG	FORT BRAGG	US 71	39-26	123-44	2.00	
CA FE WIL	WILLITTS EC-1	US 71	39-34	123-07	1.85	
CA CR EG7	COTTONWOOD GLADE EG-7	US 71	39-42	122-48	1.20	2.80
CA CR EG8	COLD CREEK EG-8	US 71	39-42	122-53	1.50	2.40
CA BS MLV	MOONLIGHT VALLEY	US 71	40-13	120-48	1.93	10.50
U.S.A. --	COLORADO					
CO RM TI1	TRINIDAD #1	RE 75	37-13	104-43	4.69	
CO RM HS1	HESPERUS DDH-1	RO 68	37-23	108-04	2.08	
CO RM SMM	SUMMITVILLE DDH-SM31	DB 74	37-26	106-36	2.46	
CO CP DV1	DOVE CREEK DDH-8,9	DB 74	37-47	108-46	2.17	
CO CP DV2	DOVE CREEK DDH-K1	DB 74	37-47	108-51	2.99	
CO RM SN1	SILVERTON	RE 75	37-48	107-37	2.22	
CO RM OU1	OURAY DDH-1	DB 74	37-56	107-40	3.7	
CO RM MAK	MARY ALICE CREEK	RE 75	38-03	107-30	3.44	

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

								q	A
CO	RM	NE1	NELLIE CREEK	RE	75	38-04	107-23	3.07	
CO	RM	WJ1	WESTCLIFFE DDH-3,4,9,1	DB	74	38-08	105-27	1.62	
CO	CP	AT1	ATKLUSON MESA	RE	75	38-12	108-49	1.38	
CO	RM	WT1	WETMORE #1	RE	75	38-14	105-05	1.23	
CO	RM	GK1	GEM PARK DDH-3,4	DB	74	38-16	105-32	1.87	
CO	CP	WSM	WILD STEER MESA	RE	75	38-26	108-46	1.33	
CO	RM	CCY	CANON CITY DDH-1	RO	68	38-30	105-20	1.84	
CO	RM	CUP	CUMBERLAND PASS DDH-CP2	DB	74	38-41	106-30	1.86	
CO	RM	BVA	BUENA VISTA	RE	75	38-47	106-10	2.13	
CO	GP	REC	RED CREEK ?	BI	50	38-49	104-49	1.4	
CO	RM	CBE	CRESTED BUTTE	RE	75	38-55	107-07	2.40	
CO	CP	GL1	GLADE PARK DDH-10,11,16	DB	74	38-57	108-37	1.45	
CO	RM	PD1	PARADISE PASS DDHPP-2	RO	68	39-00	107-04	1.55	
CO	RM	KO1	KOKOMO DDH-1201	DB	74	39-26	106-08	2.8	
CO	RM	SPK	SOUTH PARK	RE	75	39-28	105-47	2.33	
CO	RM	RB1	ROBERTS TUNNEL	RO	68	39-30	105-50	2.46	
CO	RM	RD1	REDCLIFFE	RE	75	39-31	106-22	2.64	
CO	RM	GMN	GILMAN DDH E324	RO	68	39-33	106-24	2.25	
CO	RM	UR1	URAD DDH-CX111,124	DB	74	39-46	105-50	2.50	
CO	CP	TG2	RIO BLANCO TG2,3	US	71	39-46	108-09	1.50	
CO	RM	GD1	GOLDEN DDH-1	RO	68	39-47	105-16	1.52	
CO	RM	CRY	CENTRAL CITY	RE	75	39-48	105-35	2.20	
CO	RM	RMA	ROCKY MT. ARSENAL	US	71	39-51	104-51	2.00	3.90
CO	RM	APX	APEX DDH-178H	DB	74	39-52	105-33	1.67	
CO	CP	RF1	RIFLE 28-1 & 14-1	RO	68	39-57	108-23	1.24	
CO	CP	YC2	YELLOW CREEK CH-2	US	71	39-58	108-28	1.40	
CO	CP	YC1	YELLOW CREEK CH-1	US	71	40-03	108-20	1.50	
CO	CP	BRU	BARCUS CREEK BC-1	US	71	40-03	108-31	2.00	
CO	CP	YC3	YELLOW CREEK CH-3	US	71	40-03	108-21	1.50	
CO	RM	AM1	ADAMS TUNNEL	BI	50	40-15	105-40	1.7	
U.S.A. -- DIST OF COLUM									
DC	AP	DC1	DRB-1	DW	64	39-00	77-00	1.12	
USA -- FLORIDA									
FL	CN	001	NEAR ORLANDO	KI	72	28-28	81-13	0.92	
U.S.A. -- GEORGIA									
GA	CN	LR1	LA GRANGE	DR	63	33-	85-	1.0	
GA	CN	GH1	GRIFFIN	DR	63	33-13	84-15	0.97	
U.S.A. -- IDAHO									
ID	CU	ID1	PT. PICKED OFF MAP	RO	72	44-06	115-40	3.0	
ID	RM	WA1	WALLACE	US	71	47-29	115-58	2.30	
ID	RM	SR1	SILVER SUMMIT	RO	68	47-30	116-02	2.25	
ID	RM	CM1	CRESCENT MINE	RO	68	47-30	116-05	2.22	
U.S.A. -- ILLINOIS									
IL	IP	CY1	CRESCENT CITY, TADEN 1	CO	70	40-45	87-47	1.44	
IL	IP	CY2	CRESCENT CITY, F. WESSEL	CO	70	40-46	87-48	1.39	
IL	IP	CY3	CRESCENT CITY, CONDUIT 1	CO	70	40-49	87-54	1.42	
IL	IP	AN1	ANCONA, MUSSER 1	CO	70	41-01	88-54	1.41	
U.S.A. -- INDIANA									
IN	IP	RO1	ROYAL CENTER S-36,38	CO	70	40-53	86-28	1.40	
IN	IP	RO2	ROYAL CENTER S-55	CO	70	40-55	86-27	1.39	
IN	IP	RO3	ROYAL CENTER S-46	CO	70	40-55	86-28	1.41	
IN	IP	MI1	MONROEVILLE, L. WELL	CO	70	40-59	84-52	0.97	
IN	IP	LF1	LINKVILLE FIELD	CO	70	41-23	86-14	1.28	
U.S.A. -- IOWA									
IA	IP	CIO	CAIRO, P. HUTCHINSON 2	CO	70	41-12	91-20	1.47	
IA	IP	KE1	KEOTA, L. VOGEL 1	CO	70	41-22	91-55	1.49	
IA	IP	KE2	KEOTA, J. ANDERSON 1	CO	70	41-23	91-55	1.49	
IA	IP	RL1	REDFIELD, BOOK 1	CO	70	41-34	94-06	1.17	
IA	IP	RL2	REDFIELD, BRODERICK 1	CO	70	41-40	94-10	1.17	
IA	IP	RL3	REDFIELD, PRICE 1	CO	70	41-42	94-10	1.16	
IA	IP	VI1	VINCENT, ANDERSON 1,3	CO	70	42-38	94-01	0.91	

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								q	A
IA	IP	VI2	VINCENT, HOFFMAN 1-OLSON	CO	70	42-38	94-03	0.95	
IA	IP	SPE	SPENCER	RO	68	43-10	95-11	0.44	
U.S.A. -- KANSAS									
KS	IP	SYR	SYRACUSE	BI	50	37-57	101-45	1.55	
KS	IP	LY1	LYONS HOLE 1,2	US	71	38-23	98-10	1.50	
U.S.A. -- LAKE SUPERIOR									
MI	CS	LS1	STATION 8	HS	65	47-11	91-15	0.30	
MI	CS	LS2	STATION 5	HS	65	47-35	88-13	0.79	
MI	CS	LS3	STATION 4	HS	65	47-49	88-54	0.75	
MI	CS	LS4	STATION 7	HS	65	48-02	86-14	0.87	
U.S.A. -- MAINE									
ME	AP	CAO	CASCO	RO	68	44-03	70-37	1.80	12.9
ME	AP	BLU	BLUE HILL	RO	68	44-24	68-37	1.44	
U.S.A. -- MASSACHUSETTS									
MA	AP	BW1	BREWSTER	RO	68	41-45	70-05	1.16	
MA	AP	CBR	CAMBRIDGE	RO	68	42-23	71-07	1.20	
MA	AP	MF1	MILLERS FALLS	RO	68	42-37	72-27	1.67	
MA	AP	CHE	CHELMSFORD	RO	68	42-38	71-25	1.63	11.6
U.S.A. -- MICHIGAN									
MI	IP	LEN	LENEY 1956	LE	56	42-06	83-23	0.8	
MI	IP	NV2	NORTHVILLE 106	JB	73	42-26	83-34	1.20	
MI	IP	NV1	NORTHVILLE, N-203	CO	70	42-26	83-34	1.39	
MI	IP	BP1	BURNIPS, S-503-E	CO	70	42-43	85-49	1.07	
MI	IP	OL1	OVERISEL 150	JB	73	42-44	86-00	0.90	
MI	IP	OL1	OVERISEL 157	JB	73	42-44	86-00	0.90	
MI	IP	OL1	OVERISEL 162	JB	73	42-44	86-00	0.90	
MI	IP	MUT	MUTTONVILLE 2	JB	73	42-48	82-44	0.80	
MI	IP	BGY	BILLINGSLEY 1	JB	73	43-32	85 36	1.00	
MI	IP	AU1	AUSTIN-MAREK 1	JB	73	43-32	85-16	1.20	
MI	IP	EE1	E. BREGGS 2	JB	73	43-50	85-35	1.20	
MI	IP	MO1	MARION 972	CO	70	44-03	85-05	1.10	
MI	IP	MO2	MARION 965	JB	73	44-04	85-05	1.30	
MI	IP	MO3	MARION 829	JB	73	44-09	85-00	1.20	
MI	IP	MO4	MARION 192	JB	73	44-12	85-11	1.10	
MI	CS	WP1	WHITE PINE, N-55,65	RO	68	46-45	89-34	1.05	
MI	CS	CJ1	CALUMET	BI	54	47-17	88-28	0.93	
MI	CS	DW1	DELAWARE	RO	68	47-24	88-01	0.99	
U.S.A. -- MINNESOTA									
MN	CS	WI1	ROY CITES WILLIAMS 71	RO	72	44-54	93-12	1.15	
MN	CS	WI2	ROY CITES WILLIAMS 71	RO	72	46-06	93-42	1.03	
MN	CS	WI3	ROY CITES WILLIAMS 71	RO	72	47-09	95-12	0.89	
MN	CS	EY1	ELY 3,4	RO	68	47-49	91-43	0.82	1.4
U.S.A. -- MISSOURI									
MO	IP	IT1	IRONTON K-13	RO	68	37-30	90-40	1.24	
MO	IP	BD1	BOSS USA-7	RO	68	37-39	91-10	1.2	
MO	IP	BF1	BOURBON B-20	RO	68	38-09	91-15	1.24	
MO	IP	LVY	LEVASY	RO	68	39-05	94-10	1.17	5.5
U.S.A. -- MONTANA									
MT	RM	CN1	COOKE CITY 1,2	BL	67	45-03	109-57	1.31	
MT	RM	DN1	DILLON	BL	73	45-19	112-53	1.5	
MT	RM	NB1	NYE BASIN HOLE NB-2	US	71	45-22	109-49	1.39	5.50
MT	RM	VG1	VERDIGRIS CREEK M-22	US	71	45-23	109-54	1.63	5.50
MT	RM	VG2	VERDIGRIS CREEK M-19A	US	71	45-23	109-55	1.41	5.50
MT	RM	SD1	SILVER STAR	BL	73	45-43	112-20	1.94	5.2
MT	RM	WLL	WHITEHALL	BL	73	45-55	112-01	1.8	
MT	RM	SF1	SILVER BOW	BL	73	45-57	112-42	2.0	4.8
MT	RM	BJ1	BUTTE DDH B-3	BL	67	46-03	112-33	2.1	8.6
MT	RM	SH1	SELK PARK	BL	73	46-15	112-27	1.98	7.0
MT	RM	DG1	DEER LODGE	BL	73	46-23	112-35	1.93	
MT	RM	PG1	PHILIPSBURG	BL	73	46-28	113-25	1.91	
MT	RM	UN1	UNIONVILLE	BL	73	46-29	112-07	1.92	

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

								q	A
MT	RM	OT1	OTTOWA GULCH DDH-1,2	BB	73	46-44	112-19	3.2	
MT	RM	WO1	WOODCHOPPER G. DDH-4,6	BB	73	46-44	112-19	4.7	
MT	RM	CQ1	CONTINENTAL DIVIDE DDH-	BB	73	46-43	112-19	5.0	
MT	RM	BQ1	BALD BUTTE DDH-9,10-13	BB	73	46-43	112-21	6.5	
MT	RM	EM1	EMPIRE CREEK DDH-15	BB	73	46-45	112-22	9.5	
MT	RM	NH1	NEIHART 36,37	BL	67	46-58	110-43	1.66	
MT	RM	LI1	LINCOLN 1,29	BL	67	47-02	112-23	2.16	
MT	RM	LE1	LIBBY	BL	67	48-14	115-55	1.75	
MT	RM	CX1	CONRAD	BL	69	48-20	111-55	0.9	
MT	RM	KN1	KEVIN-SUNBURST	BL	69	48-45	111-50	1.0	
U.S.A. --			NEVADA						
NV	BR	CE1	CRESCENT PEAK 1	RO	68	35-28	115-08	2.33	7.90
NV	BR	IN1	INDIAN SPR. VALLEY TW-4	US	71	36-36	115-47	2.17	
NV	BR	RK1	ROCK VALLEY TW-5	US	71	36-38	116-18	2.00	
NV	BR	FF1	FRENCHMAN FLAT TW-3	US	71	36-46	115-52	2.20	
NV	BR	HH1	HAMPEL HILL TW-F	US	71	36-46	116-07	1.81	
NV	BR	YM1	YUCCA MT. TW-6	US	71	36-48	116-24	1.60	
NV	BR	YF1	YUCCA FLAT TW-E	US	71	37-03	116-00	0.70	
NV	BR	DL1	DOLOMITE HILL	US	71	37-11	116-12	1.90	
NV	BR	PM1	PAHUTE MESA PM-1	US	71	37-17	116-24	1.00	
NV	BR	PM2	PAHUTE MESA PM-2	US	71	37-21	116-34	1.50	
NV	BR	TP4	TEMPIUTE	US	71	37-38	115-33	1.10	5.40
NV	BR	SK1	SILVER PEAK	US	71	37-43	117-47	1.90	
NV	BR	GFD	GOLDFIELD	US	71	37-44	117-12	2.30	10.30
NV	BR	MH1	MANHATTAN GAP	US	71	37-58	114-36	1.74	
NV	BR	BS1	BRISTOL RANGE ESP-1	US	71	38-04	114-36	1.69	
NV	BR	PO1	PIOCHE B-1 & B-3	RO	68	38-05	114-37	1.92	
NV	BR	BS2	BRISTOL RANGE ESP-3	US	71	38-06	114-36	1.74	
NV	BR	CG1	CROW SPRINGS 2,4,7,8&10	RO	68	38-14	117-33	2.30	
NV	BR	SV1	STONE CABIN VALLEY UCE-2	US	71	38-18	116-35	1.30	
NV	BR	HA1	HALL MINE 87 & 90	RO	68	38-19	117-18	2.52	
NV	BR	RY1	ROYSTON	RO	68	38-19	117-31	1.68	
NV	BR	PTM	PILOT MTS. DH-1,2 & 3	US	71	38-19	117-52	1.95	2.7
NV	BR	LN1	LUNING M-4	US	71	38-29	118-12	7.20	
NV	BR	UE1	RALSTON VALLEY UCE-1	US	71	38-34	116-56	1.79	4.40
NV	BR	HY1	HOT CREEK VALLEY UCE-18	US	71	38-35	116-12	1.28	
NV	BR	PS1	PATTERSON PASS PP-2 & 3	US	71	38-36	114-44	1.22	
NV	BR	FV1	FISH LAKE VALLEY UCE-10	US	71	38-41	116-28	1.20	
NV	BR	LSV	LITTLE SMOKEY VA. UCE-14	US	71	38-43	116-02	1.50	
NV	BR	FV2	FISH LAKE VALLEY UCE-9	US	71	38-49	116-27	1.20	
NV	BS	GRV	GARDNERVILLE	RO	68	38-51	119-45	1.14	
NV	BR	PNC	PINE NUT CANYON PN-19	US	71	38-52	119-35	2.45	5.00
NV	BR	FV3	FISH LAKE VALLEY UCE-12A	US	71	38-55	116-20	1.40	
NV	BR	YR1	YERINGTON	RO	63	38-55	119-04	2.36	
NV	BR	YR2	YERINGTON	US	71	38-56	119-04	1.84	
NV	BR	SC1	SCHURZ	RO	68	38-57	118-38	1.88	5.30
NV	BR	MV1	MONITOR VALLEY UCE-3	US	71	38-58	116-38	2.00	
NV	BR	SG1	SINGATSE RANGE	RO	68	38-58	119-16	1.56	
NV	BR	WM1	WARD MT.	RO	68	39-04	114-55	2.05	
NV	BR	TC1	TAYLOR CANYON	RO	68	39-05	114-41	5.32	
NV	BR	SS1	SAND SPRINGS	US	71	39-12	118-22	1.57	3.20
NV	BR	ME1	MONTE CRISTO 9 & 14	RO	68	39-14	115-34	2.14	
NV	BR	CV1	SILVER CITY CV-1	US	71	39-15	119-40	1.93	5.70
NV	BR	RT1	RUTH	RO	68	39-16	114-59	1.82	7.70
NV	BR	SP1	SPRING VALLEY	RO	68	39-17	114-21	1.83	
NV	BR	VC1	VIRGINIA CITY C-63	US	71	39-18	119-39	7.00	3.40
NV	BR	LW1	LOUSETOWN	US	71	39-23	119-38	2.80	
NV	BR	WH1	WASHINGTON HILL VC-4	US	71	39-28	119-38	2.10	
NV	BR	EK1	EUREKA	US	71	39-30	116-00	0.85	4.50
NV	BR	LL1	LOVELOCK	RO	68	40-02	118-19	2.50	
NV	BR	GAP	GOLD ACRE PIT	US	71	40-16	116-45	2.50	4.60

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

				q	A
MT RM OT1 OTTOWA GULCH DOH-1,2	BB 73	46-44	112-19	3.2	
MT RM WO1 WOODCHOPPER G, DOH-4,6	BB 73	46-44	112-10	4.7	
MT RM CO1 CONTINENTAL DIVIDE DOH-	BB 73	46-43	112-19	5.0	
MT RM BO1 BALD BUTTE DOH-9,10-13	BB 73	46-43	112-21	6.5	
MT RM EM1 EMPIRE CREEK DOH-15	BB 73	46-45	112-22	9.5	
MT RM NH1 NEIHART 36,37	BL 67	46-58	110-43	1.60	
MT RM LI1 LINCOLN 1,25	BL 67	47-02	112-25	2.16	
MT RM LE1 LIBBY	BL 67	48-14	115-35	1.75	
MT RM CX1 CONRAD	BL 69	48-20	111-55	0.9	
MT RM KN1 KEVIN-SUNBURST	BL 69	48-45	111-50	1.0	
U.S.A. -- NEVADA					
NV BR CE1 CRESCENT PEAK 1	RO 68	35-28	115-08	2.33	7.60
NV BR IN1 INDIAN SPR. VALLEY TW-4	US 71	36-36	115-07	2.17	
NV BR RK1 ROCK VALLEY TW-9	US 71	36-36	116-18	2.00	
NV BR FF1 FRENCHMAN FLAT TW-3	US 71	36-46	115-52	2.20	
NV BR HH1 HAMPEL HILL TW-F	US 71	36-46	116-07	1.81	
NV BR YM1 YUCCA MT, TW-6	US 71	36-48	116-29	1.60	
NV BR YF1 YUCCA FLAT TW-E	US 71	37-03	116-00	0.70	
NV BR DL1 DOLOMITE HILL	US 71	37-11	116-12	1.90	
NV BR PM1 PAHUTE MESA PM-1	US 71	37-17	116-24	1.00	
NV BR PM2 PAHUTE MESA PM-2	US 71	37-21	116-26	1.50	
NV BR TP1 TEMPIUTE	US 71	37-38	115-33	1.10	5.40
NV BR SK1 SILVER PEAK	US 71	37-47	117-47	1.90	
NV BR GFD GOLDFIELD	US 71	37-44	117-12	2.30	10.30
NV BR MH1 MANHATTAN GAP	US 71	37-58	116-36	1.74	
NV BR BS1 BRISTOL RANGE ESP-1	US 71	38-06	114-36	1.69	
NV BR PO1 PIOCHE B-1 & B-3	RO 68	38-02	114-37	1.92	
NV BR BS2 BRISTOL RANGE ESP-3	US 71	38-04	114-36	1.74	
NV BR CG1 CROW SPRINGS 2,4,7,8&10	RO 68	38-14	117-33	2.30	
NV BR SV1 STONE CABIN VALLEY UCE-2	US 71	38-16	116-35	1.30	
NV BR HA1 HALL MINE 87 & 90	RO 68	38-19	117-18	2.52	
NV BR RY1 ROYSTON	RO 68	38-19	117-31	1.68	
NV BR PTM PILOT MTS, DH-1:2 & 3	US 71	38-19	117-32	1.95	2.7
NV BR LN1 LUNING M-6	US 71	38-29	118-12	7.20	
NV BR UE1 RALSTON VALLEY UCE-1	US 71	38-34	118-59	1.79	6.40
NV BR HV1 HOT CREEK VALLEY UCE-18	US 71	38-35	116-15	1.28	
NV BR PS1 PATTERSON PASS PP-2 & 3	US 71	38-36	114-44	1.22	
NV BR FV1 FISH LAKE VALLEY UCE-10	US 71	38-41	118-28	1.20	
NV BR LSV LITTLE SMOKEY VA, UCE-16	US 71	38-43	116-02	1.30	
NV BR FV2 FISH LAKE VALLEY UCE-9	US 71	38-49	118-27	1.20	
NV GS GRV GARDNERVILLE	RO 68	38-51	119-45	1.16	
NV BR PNC PINE NUT CANYON PN-1&	US 71	38-52	119-32	2.45	5.00
NV BR FV3 FISH LAKE VALLEY UCE-12A	US 71	38-56	118-20	1.40	
NV BR YR1 YERINGTON	RO 68	38-55	119-04	2.36	
NV BR YR2 YERINGTON	US 71	38-56	119-04	1.04	
NV BR SC1 SCHURZ	RO 68	38-57	118-38	1.88	5.30
NV BR MV1 MONITOR VALLEY UCE-3	US 71	38-40	116-30	2.00	
NV BR SG1 SINGATSE RANGE	RO 68	38-56	119-16	1.50	
NV BR WM1 WARD MT.	RO 68	39-04	114-55	2.05	
NV BR TC1 TAYLOR CANYON	RO 68	39-05	116-41	5.32	
NV BR SS1 SAND SPRINGS	US 71	39-12	118-22	1.87	3.20
NV BR ME1 MONTE CRISTO 9 & 1A	RO 68	39-14	115-36	2.14	
NV BR CV1 SILVER CITY CV-1	US 71	39-15	119-40	1.93	5.70
NV BR RT1 RUTH	RO 68	39-16	114-59	1.82	7.70
NV BR SP1 SPRING VALLEY	RO 68	39-17	114-21	1.83	
NV BR VC1 VIRGINIA CITY C-63	US 71	39-18	119-39	7.00	3.40
NV BR LW1 LOUSETOWN	US 71	39-23	119-36	2.80	
NV BR WH1 WASHINGTON HILL VC-4	US 71	39-28	119-28	2.10	
NV BR EK1 EUREKA	US 71	39-30	116-00	0.85	4.30
NV BR LL1 LOVELOCK	RO 68	40-02	118-19	2.85	
NV BR GAP GOLD ACRE PIT	US 71	40-16	116-45	2.50	6.60

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

									q	A
NV	BR	TN2	TENABO	US	71	40-18	116-40		3.53	4.1
NV	BR	LD1	LANDER	US	71	40-20	116-43		3.00	
NV	BR	IRC	IRON CANYON	US	71	40-33	117-06		3.50	4.3
NV	BR	BM1	PANTHER CANYON BM3 & 37	US	71	40-33	117-34		3.80	
NV	BR	BT1	BATTLE MT.	RO	68	40-33	117-14		2.06	
NV	BR	BUK	BUCKINGHAM B-6 & 11	US	71	40-37	117-04		2.70	7.60
NV	BR	EC1	ELDER CREEK EC-4	US	71	40-41	117-04		3.20	3.90
NV	BR	GV1	ADELAIDE GV-1	US	71	40-50	117-32		3.40	6.3
NV	BR	WE1	WHITE ELEPHANT BUTTE	US	71	41-53	115-05		3.30	
U.S.A. -- NEW HAMPSHIRE										
NH	AP	FW1	FITZWILLIAM	RO	68	42-47	72-08		1.63	9.6
NH	AP	DU1	DURHAM	RO	68	43-07	70-55		1.08	3.8
NH	AP	CCD	CONCORD	RO	68	43-12	71-32		1.73	
NH	AP	BX1	BRADFORD	RO	68	43-16	71-59		1.59	
NH	AP	WV1	WATERVILLE	RO	68	43-56	71-32		2.15	21.2
NH	AP	KA1	KANCAMAGUS	RO	68	44-02	71-29		2.27	20.7
NH	AP	NC1	NORTH CONWAY	RO	68	44-04	71-10		1.89	17.6
NH	AP	NR1	NORTH HAVERHILL	RO	68	44-06	72-00		1.34	7.8
U.S.A. -- NEW MEXICO										
NM	BR	HI1	HACHITA	DS	75	31-51	108-18		2.40	4.5
NM	BR	LT1	LITTLE HACHET MT.	RE	75	31-54	108-26		2.30	
NM	BR	CD1	CORNUDAS	DS	75	32-01	105-29		2.00	
NM	BR	GG1	GRANITE GAP	RE	75	32-07	108-56		1.22	
NM	BR	SI1	STEINS	RE	75	32-10	109-02		2.92	
NM	IP	SU1	SUPERIOR NO. 1	HC	56	32-14	104-07		1.20	
NM	BR	WS1	WHITE SANDS #2	RE	75	32-17	106-24		2.28	
NM	IP	MW1	MARLAND-OHIO #1	HC	56	32-18	103-45		1.00	
NM	BR	LG1	LORDSBURG	DS	75	32-20	108-47		1.70	2.30
NM	BR	MR1	MIRAGE	RE	75	32-22	107-40		9.68	
NM	IP	BB1	BLUEBIRD #1	HC	56	32-24	104-16		0.90	
NM	BR	OG1	OROGRANDE	DS	75	32-24	106-07		3.10	5.10
NM	BR	OG2	OROGRANDE UCSD-6	WA	69	32-26	106-06		2.24	6.70
NM	BR	WS2	WHITE SANDS #3	RE	75	32-26	106-27		2.08	
NM	BR	ON1	ORGAN DDH-1	DB	74	32-27	106-36		2.76	
NM	BR	ON2	ORGAN	DS	75	32-27	106-36		2.80	3.40
NM	BR	OG3	OROGRANDE NORTH	RE	75	32-30	106-00		1.75	
NM	IP	GO1	GETTY #7 DOOLEY	HC	56	32-31	104-09		1.00	
NM	BR	WS3	WHITE SANDS #4	RE	75	32-32	106-25		2.18	
NM	BR	CPK	COOKS PEAK	DS	75	32-32	107-41		3.60	2.40
NM	BR	WG1	WHITE SIGNAL	RO	68	32-32	108-21		2.06	
NM	IP	SAM	SANDBURG AND MILLS #1	HC	56	32-38	104-14		1.20	
NM	BR	TY1	TYRONE UCSD-5	WA	69	32-40	108-29		2.16	7.10
NM	BR	LAK	LAKE VALLEY	DS	75	32-43	107-35		2.60	4.90
NM	IP	CRO	CAP ROCK OIL AND GAS #1	HC	56	32-47	103-48		1.2	
NM	BR	SRA	SANTA RITA	DS	75	32-48	108-04		1.80	4.20
NM	BR	BK1	BITTER CREEK	RO	68	32-54	109-02		2.77	
NM	BR	AP1	ANIMAS PEAK	RE	75	32-58	107-32		1.70	
NM	BR	CF1	CLIFFE	RO	68	33-03	108-30		2.56	
NM	BR	TT1	T OR C NORTH	RE	75	33-17	107-16		2.20	
NM	BR	CI1	CHLORIDE #1 & 2	RE	75	33-19	107-42		2.92	
NM	BR	SA1	SIERRA BLANCA	RE	75	33-28	105-47		1.77	
NM	BR	RS1	RAILROAD CAN. SOUTH	RE	75	33-31	108-11		1.98	
NM	BR	MC1	MONTICELLO CAN. #1 & 2	RE	75	33-34	107-36		3.36	
NM	BR	FT1	FORT CRAIG	RE	75	33-37	107-08		2.81	
NM	BR	CZ1	CARRIZO/NW	RE	75	33-44	106-02		1.44	
NM	BR	BN1	BIG RED CANYON	RE	75	33-44	107-21		1.28	
NM	BR	RS2	RAILROAD CAN. NORTH	RE	75	33-45	107-49		1.75	
NM	BR	BH1	BINGHAM SOUTH	RE	75	33-53	106-21		1.56	
NM	BR	BH2	BINGHAM NE	RE	75	33-57	106-17		1.46	
NM	BR	NY1	NORTH BALDY	RE	75	34-02	107-13		2.48	
NM	BR	CD1	CHUPADERA MESA	RE	75	34-06	106-48		2.20	

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

							q	A
NM BR MG1	MAGDALENA WEST	RE	75	34-07	107-17		2.01	
NM BR MG2	MAGDALENA NW	RE	75	34-09	107-18		1.91	
NM BR NK1	NORTH LAKE	RE	75	34-14	107-38		1.91	
NM BR IS1	INDIAN SPRINGS	RE	75	34-18	107-26		1.95	
NM BR PI1	PIE TOWN NORTH	RE	75	34-19	108-07		1.55	
NM BR QS1	QUEMADO SOUTH	RE	75	34-20	108-30		1.98	
NM BR PI2	PIETOWN NW	RE	75	34-23	108-13		1.46	
NM BR SY1	SILVER CITY	RE	75	34-47	108-16		2.33	
NM BR AQ1	ALBUQUERQUE #1 & 2	RE	75	34-56	106-33		1.50	
NM BR ZP1	ZUNI PIA MESA	RE	75	34-58	108-45		2.96	
NM BR CF1	CLINES CORNERS	RE	75	35-00	105-37		0.82	
NM BR WW1	WAGON WHEEL	RE	75	35-00	105-43		1.61	
NM BR MYE	MORIARTY EAST	RE	75	35-00	105-54		1.82	
NM BR AQ2	ALBUQERQUE	RE	75	35-03	106-31		1.08	
NM BR GS1	GRANTS	RE	75	35-07	107-46		1.68	
NM BR HW1	HOLWEG	RE	75	35-09	106-16		1.58	
NM BR RU1	RIO PUERCO #2	RE	75	35-12	107-01		2.27	
NM BR RU2	RIO PUERCO #3	RE	75	35-12	107-05		2.66	
NM BR RU3	RIO PUERCO #1	RE	75	35-13	107-01		3.08	
NM BR BBO	BIBO NORTH.SOUTH	RE	75	35-13	107-19		2.36	
NM BR SPR	SAN PEDRO #1 & 3	RE	75	35-15	106-11		1.32	
NM BR MZ1	MARQUEZ SE	RE	75	35-15	107-13		2.11	
NM BR MZ2	MARQUEZ	RE	75	35-17	107-15		2.14	
NM BR SFP	SAN FELIPE	RE	75	35-18	106-15		1.86	
NM BR OZ1	ORTIZ MT.	RE	75	35-20	106-11		1.76	
NM BR SMO	SAN MATEO MESA	RE	75	35-20	107-37		1.66	
NM BR GI1	GALISTEO	RE	75	35-25	106-00		1.48	
NM BR CS1	CERRILLOS	RO	68	35-28	106-07		1.22	
NM BR GW1	GALLUP WEST	RE	75	35-33	108-46		2.94	
NM BR GW2	GALLUP WEST #2	RE	75	35-35	108-51		1.66	
NM BR MK1	MARIANO LAKE	RE	75	35-38	108-19		2.35	
NM BR GW3	GALLUP WEST #3	RE	75	35-38	109-02		1.27	
NM BR GW4	GALLUP	DB	74	35-39	108-31		1.61	
NM BR CW1	CROWN POINT	RE	75	35-40	108-08		1.91	
NM BR CW2	CROWN POINT EAST	RE	75	35-62	107-56		2.04	
NM BR CSL	CHACO SLOPE	RE	75	35-51	107-24		1.49	
NM BR BU1	BUCKMAN	RE	75	35-52	106-09		1.91	
NM BR GT1	LOS ALAMOS GT-1	PO	73	35 54	106 40		3.6	
NM BR RA1	RED MT.	RE	75	35-55	107-49		1.70	
NM BR CWH	CHACO WASH	RE	75	35-56	107-48		1.63	
NM BR CYN	CHACO CAN.	RE	75	36-02	107-54		1.56	
NM BR DX1	DIXON	RE	75	36-13	105-48		5.25	
NM BR GAV	GAVILIAN EAST	RE	75	36-22	106-54		1.51	
NM BR TA1	TIERA AMARILLA	RE	75	36-23	106 23		2.34	
NM BR TO1	TAOS #1	RE	75	36-27	105-35		2.29	
NM BR EV1	EL VADO SW	RE	75	36-32	106-51		1.60	
NM BR GB2	GOBERNADOR SOUTH	RE	75	36-36	107-21		1.35	
NM BR MU1	MUNOZ CREEK	RE	75	36-36	107-25		1.29	
NM BR TAB	TABLE MESA #1 & 2	RE	75	36-37	108-37		2.30	
NM BR TRP	TRES PIEDPAS	RE	75	36-39	105-59		2.66	
NM BR CZK	CARRIZO CREEK	RE	75	36-39	107-40		1.26	
NM BR GB1	GOBERNADOR GB-1	US	71	36-41	107-12		2.01	
NM BR QU1	QUESTA EAST	RE	75	36-42	105-28		2.04	
NM BR QU2	QUESTA	RO	68	36-42	105-31		1.53	
NM BR BO1	BLANCO EAST #2	RE	75	36-42	107-43		1.33	
NM BR RV1	RED RIVER DDH-1	DB	74	36-43	105-24		1.90	
NM BR VJ1	VERMAJO RIVER	RE	75	36-45	104-53		1.93	
NM BR BO2	BLANCO EAST #1	RE	75	36-45	107-43		1.31	
NM BR RN1	RATTLESNAKE	RE	75	36-45	108-48		1.46	
NM BR NG1	NO AGUA	RE	75	36-46	105-58		3.02	
NM BR BO3	BLANCO NORTH	RE	75	36-47	107-50		1.72	

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

				q	A
NM BR AE1 AZTEC NE	RE 75	36-50	107-55	1.47	
NM BR VJ2 VERMAJO PARK	RE 75	36-54	104-55	2.86	
NM BR AE2 AZTEC NORTH	RE 75	36-54	108-01	1.46	
NM BR CHW CEDAR HILL WEST	RE 75	36-57	107-59	1.51	
U.S.A. -- NEW JERSEY					
NJ AP FR1 FRANKLIN-OGDENSBURG	UR 71	41-06	74-35	0.91	
U.S.A. -- NEW YORK					
NY AP WK1 WATKINS GLEN HOLE 23	UR 71	42-25	76-54	1.72	
NY AP GA1 GILBOA B-1.2	UR 71	42-27	74-26	1.00	
NY AP WY1 WEST VALLEY HOLE-1	UR 71	42-27	78-38	1.19	
NY AP HM1 HIMROD M-7.8	UR 71	42-34	76-57	1.55	
NY AP LX1 LACKAWANNA, BUFFALO HOLE	UR 71	42-48	78-51	1.20	
NY AP NF1 NIAGARA FALLS WPL-1	UR 71	43-05	79-00	1.16	
NY AP MT1 MIDDLEPORT FMC-1	UR 71	43-12	78-28	1.18	
NY AP GN1 GLENN FALLS	RO 68	43-18	73-37	1.05	
NY AP EZ1 ELIZABETHTOWN	RO 68	44-13	73-32	0.81	0.4
NY AP WD1 WADHAMS	RO 68	44-14	73-28	0.79	0.4
NY CS BZ1 BALMAT	UR 71	44-16	75-25	1.22	
NY AP SQ1 SARANAC LAKE	RO 68	44-20	74-16	0.81	0.4
NY AP RX1 RIVERVIEW	RO 68	44-35	73-54	1.22	5.8
U.S.A. -- NORTH DAKOTA					
ND IP LJ1 LONE TREE	BL 69	48-18	101-40	1.4	
ND IP CHV CARRIE HOVLAND #1	CO 70	48-55	102-26	2.20	
ND IP EN1 E.L.K. #1 NELSON	CO 70	48-56	100-50	2.20	
U.S.A. -- OKLAHOMA					
OK IP PC1 PICHER 43-C.P-5	RO 68	36-59	94-52	1.4	7.6
U.S.A. -- OREGON					
OR BR KL1 KLAMATH CO.	BL 69	42-12	121-50	1.6	
OR CU AL1 ALVORD 39-34S2	BO 73	42-17	118-41	2.3	
OR BR TK1 THOMAS CR. 37-18S14	BO 73	42-22	120-27	3.2	
OR CU BRS BURNS	BL 69	43-27	118-06	2.0	
OR CU GY1 GRASSY MT. 21-43S36	BO 73	43-41	117-23	1.5	
OR CU VE1 VALE	BL 69	43-46	117-22	1.6	
OR CU CB1 CHALK BUTTE 19-45S26	BO 73	43-52	117-10	3.6	
OR CU CB2 CHALK BUTTE 19-45S25	BO 73	43-53	117-09	6.9	
OR CU CB3 CHALK BUTTE 19-45S22	BO 73	43-53	117-11	3.3	
OR CU CB4 CHALK BUTTE 19-45S14	BO 73	43-54	117-10	5.4	
OR CU CB5 CHALK BUTTE 19-45S11	BO 73	43-55	117-10	5.7	
U.S.A. -- PENNSYLVANIA					
PA AP MM1 MT. HOLLY SPRING	UR 71	40-06	77-11	0.57	
PA AP RP1 READING -OLEY	UR 71	40-22	75-50	0.70	
PA AP RQ1 RIEGELSVILLE	UR 71	40-34	75-12	0.89	
PA AP LU1 LEHIGH P.C.CO. #1	JO 60	40-59	80-08	1.2	
PA AP SX1 SABULA	UR 71	41-12	78-39	1.31	
PA AP ER1 E.N.CLAIR #1	JO 60	41-52	78-00	1.31	
PA AP EI1 EARL A. HILL #1	JO 60	41-56	77-51	1.47	
U.S.A. - SOUTH CAROLINA					
SC CN AK1 AIKEN	DI 65	33-17	81-40	1.06	
U.S.A. -- SOUTH DAKOTA					
SD IP AS1 ASSMAN #1	CO 70	43-15	100-12	2.10	
SD IP MOO MOONSHINE GULCH NBH-2	US 71	44-08	103-43	0.50	
SD IP WFS WINDY FLATS NBH-1	US 71	44-18	103-40	0.50	
SD IP LM1 LEAD-YATES	BL 67	44-21	103-45	1.9	
SD IP DY1 DACY RTM-1	US 71	44-22	103-53	1.90	
U.S.A. -- TENNESSEE					
TN AP OE1 OAK RIDGE	DR 63	35-55	84-19	0.82	
U.S.A. -- TEXAS					
TX IP UV1 NEAR UVALDE	KI 72	29-07	99-41	1.11	
TX BR SZ1 SHAFTER	DS 75	29-48	104-24	1.5	3.5
TX IP GJ1 GULF #1 NORTHRUP	HC 56	31-10	103-14	1.1	
TX IP BE1 BIG LAKE #1-B	BC 45	31-12	101-29	2.0	

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

								q	A
TX	IP	BE2	BIG LAKE-UNIVERSITY	HC	56	31-15	101-28	1.1	
TX	IP	DK1	DONNELLY AND GERKE #1	HC	56	31-23	101-48	1.1	
TX	IP	VH1	VAN HORN	DS	75	31-27	104-53	1.0	
TX	IP	STP	STANDARD POTASH #2 TEST	HC	56	31-39	102-15	1.2	
U.S.A. -- UTAH									
UT	BR	CC2	CEDAR CITY N-6	US	71	37-38	113-26	2.19	
UT	BR	CC1	CEDAR CITY DE HOLES	US	71	37-42	113-18	2.12	5.50
UT	CP	HB1	HORSE RANGE MESA	RE	75	37-59	109-03	1.46	
UT	CP	LA1	LA SAL	WR	66	38-15	109-17	1.2	
UT	BR	MD1	MILFORD	RO	68	38-29	113-08	2.22	10.3
UT	CP	BY1	BALSLEY #1-C	SP	64	38-46	109-38	1.10	
UT	CP	HE1	HYDE #1	SP	64	38-51	109-30	1.01	
UT	CP	RE1	REED., CRESC, EAGLE, BR.	SP	64	38-55	109-50	1.32	
UT	BR	SO1	SPOR MOUNTAIN	WR	66	39-43	113-13	2.8	
UT	BR	GC1	GOVERNMENT CANYON GC-1A	RO	68	39-52	112-03	1.90	
UT	BR	EA1	EUREKA ET-5(A)	RO	68	39-57	112-03	2.0	
UT	CP	OUR	OURAY W-EX-1	US	71	39-59	109-36	1.50	
UT	BR	BI1	BINGHAM KCC-124	RO	68	40-31	112-09	1.91	
UT	BR	BI2	BINGHAM D-142	CW	73	40-32	112-09	2.3	
UT	BR	JV1	JORDAN VALLEY	WR	66	40-47	112-04	1.8	
U.S.A. -- VERMONT									
VT	AP	LZ1	LONDONDERRY	RO	68	43-15	72-50	1.23	
VT	AP	WN1	WESTON	RO	68	43-17	72-49	1.22	
VT	AP	NS1	NORTH SPRINGFIELD	RO	68	43-20	72-33	1.20	
U.S.A. -- VIRGINIA									
VA	AP	CRI	CRIPPLE CREEK	RE	73	36-49	81-06	1.03	
VA	AP	AA1	ALBERTA	DI	65	36-52	77-54	1.4	
VA	AP	GQ1	GRUNDY	RE	73	37-20	82-00	1.70	
U.S.A. -- WASHINGTON									
WA	CU	RZ1	RICHLAND DH-3	US	71	46-21	119-17	1.50	
WA	PC	RAE	RANDLE	BL	74	46-21	122-06	1.5	
WA	CU	BOI	BENTON CITY	BL	69	46-25	119-34	1.7	
WA	CU	RZ5	RATTLESNAKE HILLS	US	71	46-26	119-47	1.38	
WA	PC	CHH	CHEHALIS	US	71	46-32	122-50	0.83	
WA	CU	RZ4	WILLA DH-1	US	71	46-35	119-31	1.52	
WA	PC	WQ1	WESTPORT	BL	74	46-51	124-06	0.9	
WA	PC	MQ1	MOCLIPS	BL	69	47-12	124-06	1.1	
WA	CU	OD2	ODESSA	BL	74	47-20	118-55	1.7	
WA	PC	WU1	WENATCHEE	BL	74	47-22	120-18	1.5	
WA	PC	ND1	NORTH BEND	BL	69	47-30	121-22	1.26	
WA	CU	REO	REARDON	BL	74	47-52	118-07	2.1	
WA	CU	WX1	WILBUR	RO	68	48-04	118-42	1.68	
WA	RM	NM1	NESPELEM	BL	74	48-22	118-53	1.7	
WA	PC	AO1	ANACORTES	BL	74	48-28	122-38	0.9	
WA	PC	MX1	MAZAMA	BL	74	48-37	120-23	1.7	
WA	RM	RUI	REPUBLIC	BL	74	48-40	118-46	1.8	
WA	RM	TQ1	TONASKIT	BL	74	48-43	119-31	1.8	
WA	RM	MIE	METALINE	RO	68	48-55	117-20	2.52	
WA	RM	LOI	LEADPOINT	BL	69	48-55	117-36	2.96	
WA	RM	CUW	CURLEW	BL	74	49-00	118-36	1.7	
WA	RM	OV1	OROVILLE	BL	74	49-00	119-29	1.7	
U.S.A. -- WEST VIRGINIA									
WV	AP	LWW	LEWIS MAXWELL #11-F	JO	60	39-17	80-46	1.22	
WV	AP	GX1	M.O. GOFF #1	JO	60	39-18	80-14	1.26	
WV	AP	JL1	J.H. LAKE #1	JO	60	39-25	80-05	1.20	
WV	AP	MWO	MORGANTOWN	UR	71	39-40	79-59	1.12	
U.S.A. -- WYOMING									
WY	RM	GZ1	GREEN RIVER GR1-1	US	71	41-32	109-25	1.60	
WY	RM	RIE	ROCK R. FIELD	BL	69	41-40	106-07	1.2	
WY	RM	FD1	FERRIS FIELD	BL	69	42-10	107-08	1.4	
WY	RM	PE1	PINEDALE DHPW	US	71	42-46	109-34	1.30	4.30

TABLE 1. Locations, heat flow (q, HFU) and heat production (A, HGU) for published values plotted on Figures 1 through 4 (continued)

							q	A
WY	RM	PE1	PINEDALE DHPW	US 71	42-46	109-34	1.30	4.30
WY	RM	BY1	BIG MUDDY FIELD	BL 69	42-51	106-58	1.4	
WY	IP	LCF	LANCE CK. FIELD	BL 69	43-04	104-38	2.0	
WY	IP	SCF	SALT CK. FIELD	BL 69	43-35	106-15	1.8	
WY	RM	GEL	GEBO FIELD	BL 69	43-48	108-14	1.6	
WY	RM	MEE	MEETEETSE	RO 68	43-52	109-17	1.95	
WY	RM	LSD	LITTLE SAND DRAW FIELD	BL 69	44-22	109-00	1.3	
WY	RM	OB1	OREGON BASIN FIELD	BL 69	44-22	108-56	1.3	
WY	RM	YS1	YELLOWSTONE	WH 65	44-27	110-50	3.49	

BB 73	Blackwell and Baag, 1973
BC 45	Birch and Clark, 1945
BE 47	Benfield, 1947
BI 50	Birch, 1950
BI 54	Birch, 1954
BL 67	Blackwell, 1967
BL 69	Blackwell, 1969
BL 73	Blackwell and Robertson, 1973
BL 74	Blackwell, 1974
BO 73	Bowen, 1973
CL 57	Clark, 1957
CO 70	Combs, 1970 (see also Combs and Simmons, 1973)
CO 71	Combs, 1971
CO 75	Combs, 1975
CW 73	Costain and Wright, 1973
DB 74	Decker and Birch, 1974 (see also Decker and Smithson, 1973)
DI 65	Diment et al., 1965a, 1965b
DR 63	Diment and Robertson, 1963
DS 75	Decker and Smithson, 1975
DW 64	Diment and Werre, 1964
HC 56	Herrin and Clark, 1956
HE 68	Henyey, 1968; Henyey and Wasserburg, 1971
HS 65	Hart and Steinhart, 1965
JB 73	Judge and Beck, 1973
JO 60	Joyner, 1960
KI 72	King and Simmons, 1972
LE 56	Leney, 1956
LO 48	Lovering, 1948
PO 73	Potter, 1973
RE 65	Reiter et al., 1975
RO 68	Roy et al., 1968a, 1968b
RO 72	Roy et al., 1972
SP 64	Spicer, 1964
UR 71	Urban, 1970; Diment et al., 1972
US 68	Sass et al., 1968
US 71	Sass et al., 1971
WA 69	Warren et al., 1969
WH 65	White, 1965
WR 66	Wright, 1966 (see also Costain and Wright, 1973)

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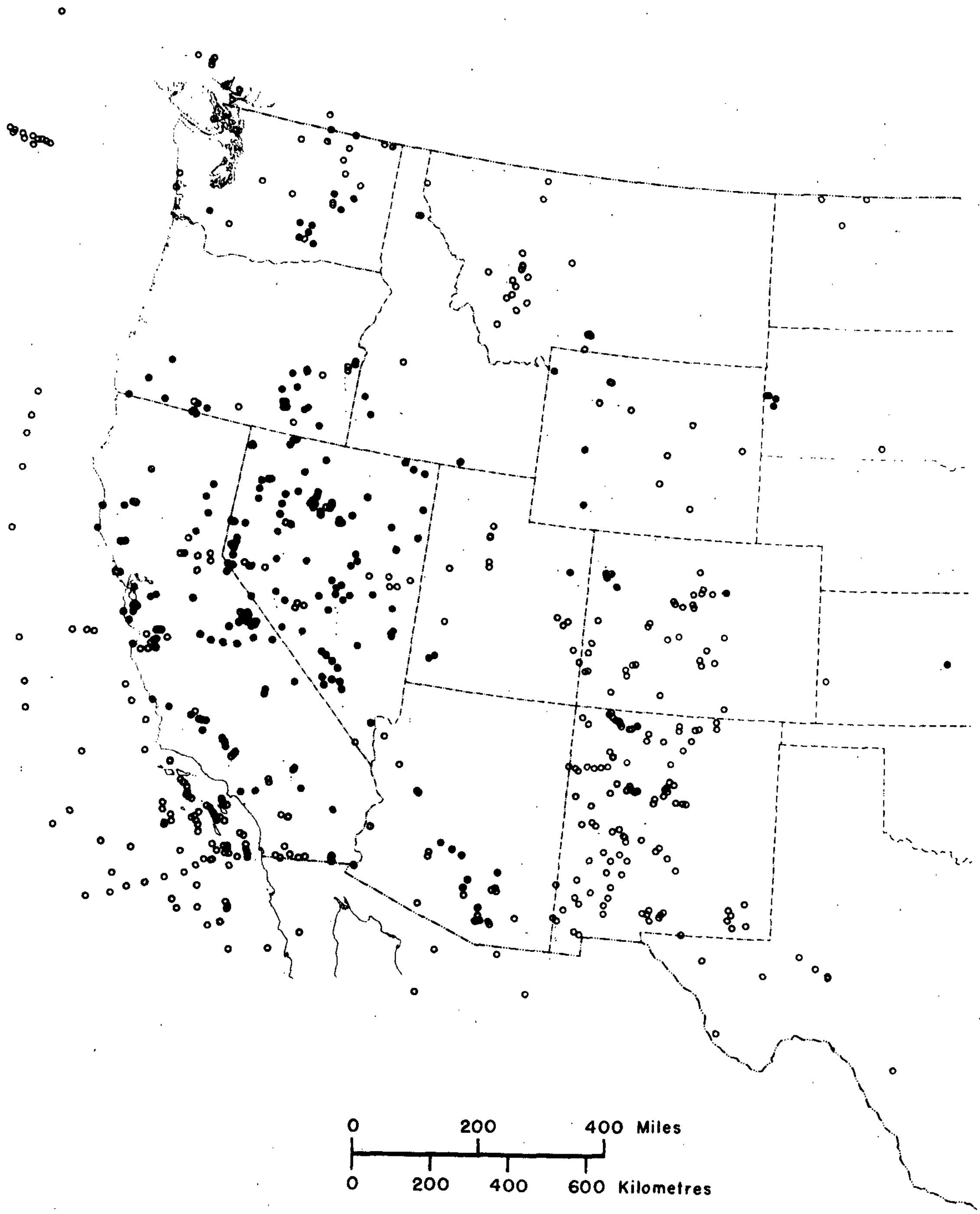

Figure 1a. Locations of heat-flow determinations in the western United States. Dots are USGS values, open circles, those published by other investigators.

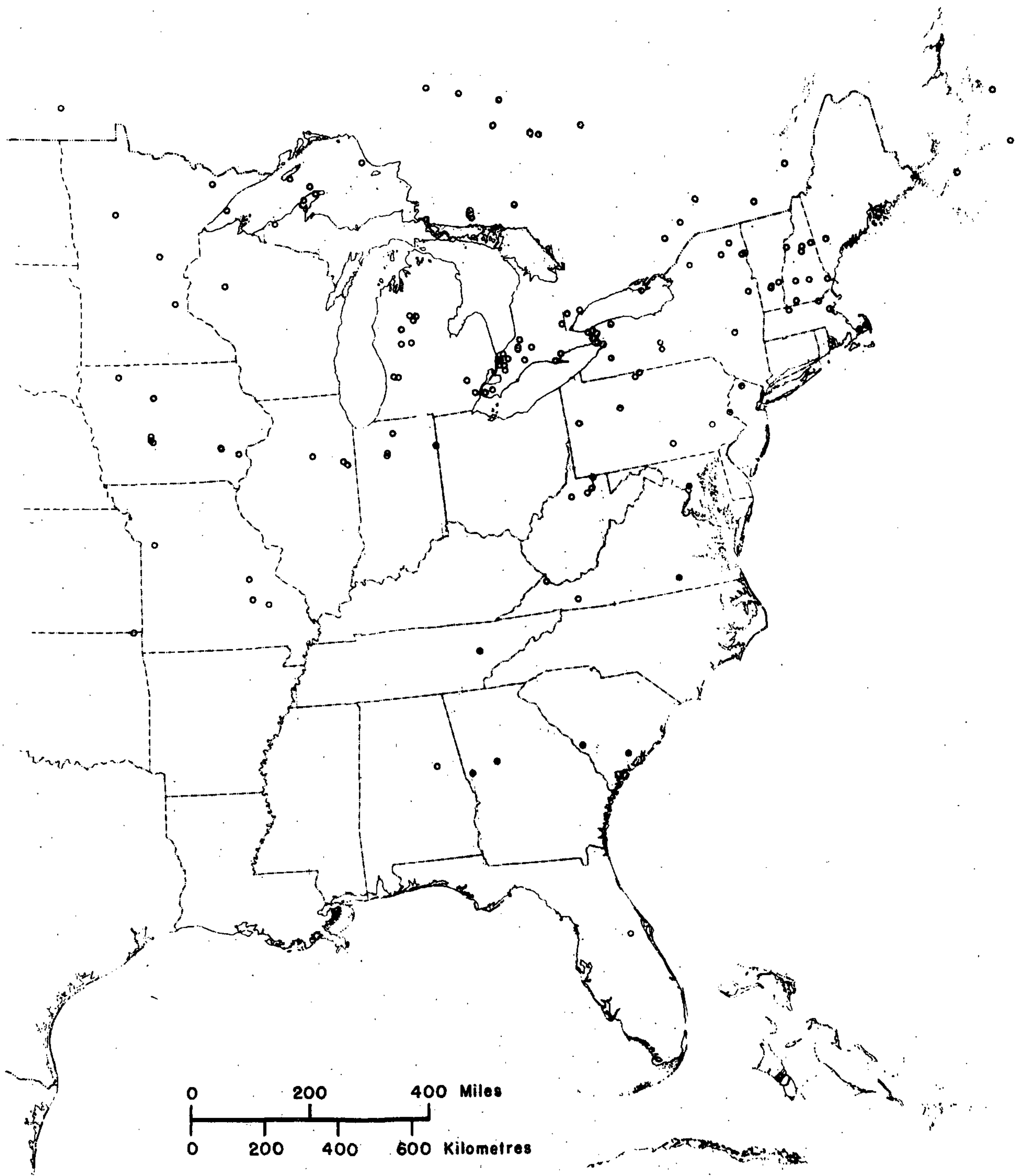

Figure 1b. Locations of heat-flow determinations in the eastern United States. Dots are USGS values, open circles, those published by other investigators.

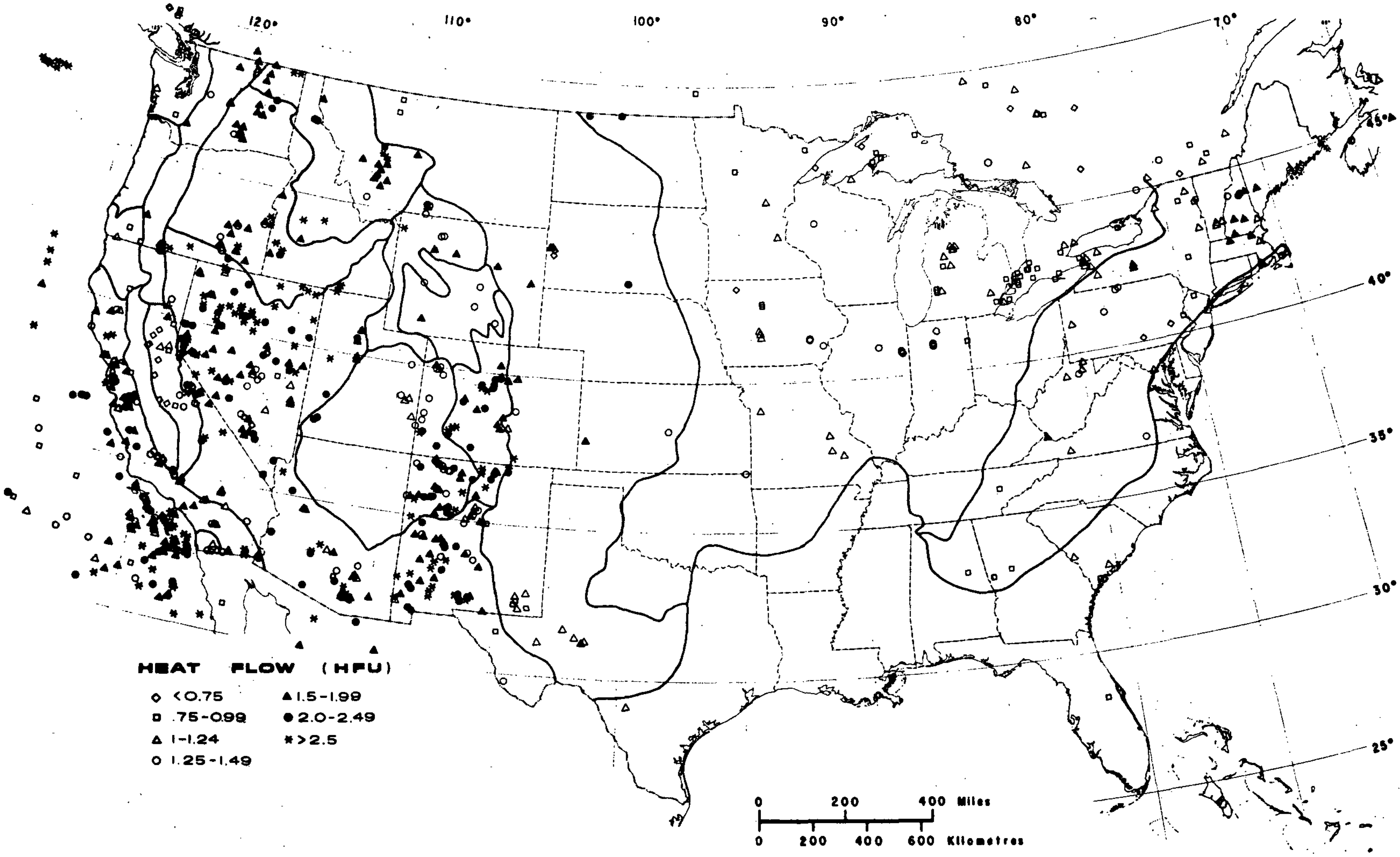

Figure 2. Observed heat flow (q) in the United States. Physiographic boundaries (Figure 4) have been generalized from Fenneman (1946).

1 HFU = 1 x 10^{-6} cal/cm^2sec = 41.8 mW/m^2

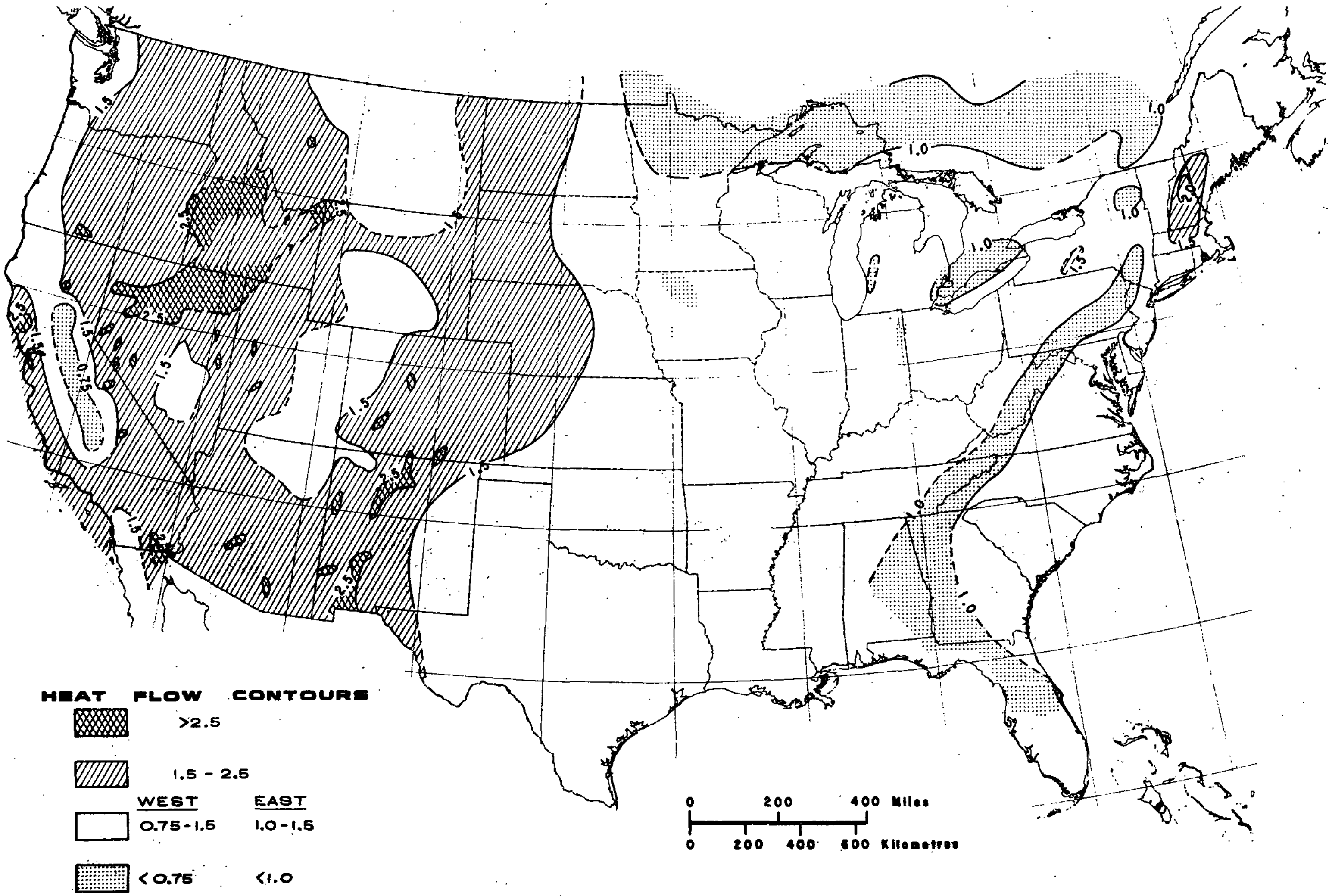

Figure 3a. A generalized representation of heat flow (q) in the United States. Contours are conjectural in places and will undoubtedly change with additional measurements.

1 HFU = 1×10^{-6} cal/cm^{2}sec = 41.8 mW/m^2

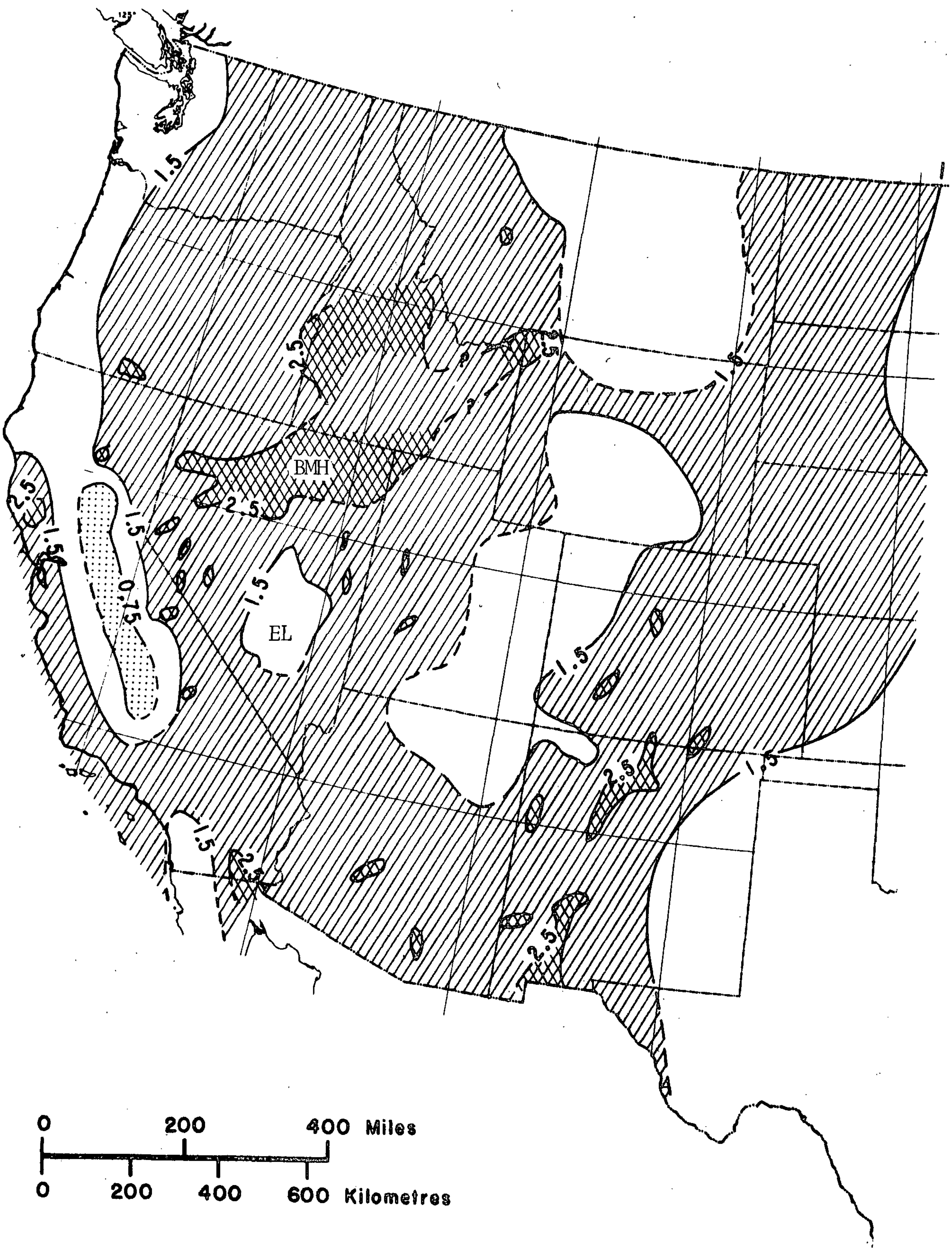

Figure 3b. Enlargement of the western part of Figure 3a. BMH is the Battle Mountain High, and EL, the Eureka Low (cf. Sass and others, 1971).

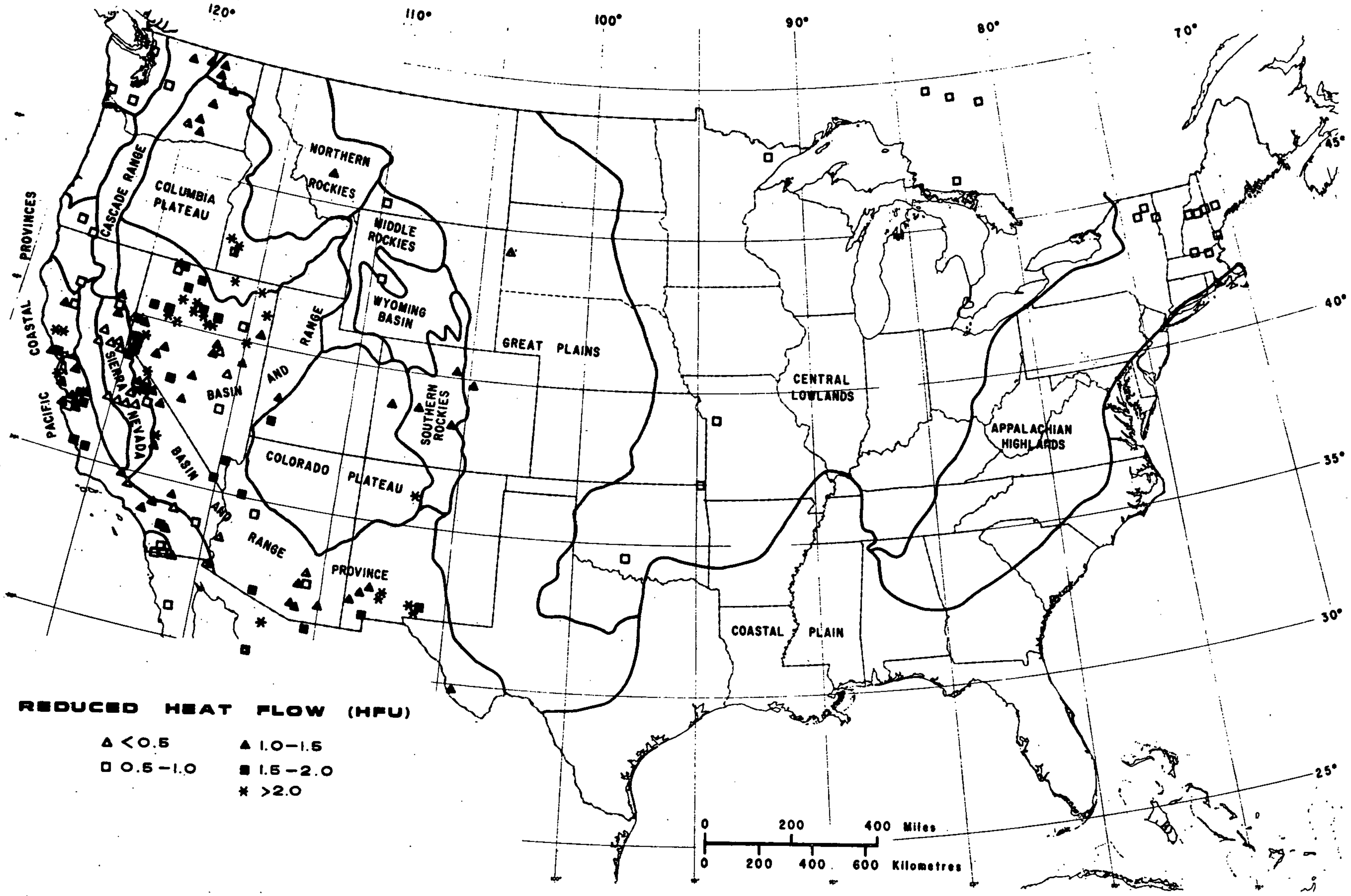

Figure 4. Reduced heat flow (q*) in the United States. Physiographic provinces after Fenneman (1946).
1 HFU = 1 x 10^{-6} cal/cm^2sec = 41.8 mW/m^2