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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Principal facts for a gravity survey of
Summer Lake Known Geothermal Resource
Area, Oregon

Lake Co.

By

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

**UNIVERSITY OF UTAH
RESEARCH INSTITUTE
EARTH SCIENCE LAB.**

PRINCIPAL FACTS FOR A GRAVITY SURVEY OF SUMMER LAKE KNOWN GEOTHERMAL RESOURCE AREA, OREGON

Explanation of the headings of the columns of the accompanying table of principal facts:

Station identification	Gravity Survey Station Number
Latitude	North latitude in degrees, minutes and hundredths of minutes
Longitude	West longitude in degrees, minutes, and hundredths of minutes
Elev.	Elevation in feet (to convert to meters, multiply by 0.3048)
ST	State
ST. GRV.	Theoretical gravity computed using the "Geodetic Reference System 1967"
Free-Air	Free-air correction in milligals
Bouguer	Bouguer correction in milligals (includes elevation and curvature correction)
Bouguer Anomaly	Simple Bouguer Anomaly in milligals for an assumed density of 2.67 grams per cc.

These data are referenced to the A.C.I.C. station located at the Alkali Lake Air Port, Alkali Lake, Oregon, at the north edge of the landing strip, in line with the center line of the road leading to the landing strip from Highway 395 (A.C.I.C. reference number 1277-0)

Reference:

"Geodetic Reference System 1967", International Assn. of Geodesy, Special Publication No. 3.

BOUGUER GRAVITY DATA

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SUMNER LAKE OREGON MGRA
 DON PETERSON 1976
 DENSITY: 2.67

STATION IDENTIFICATION	LATITUDE	LOCATION		ELEV.	ST.	OBSERVED		CORRECTIONS			BOUGUER ANOMALY	SPEC. FIELD
		LONGITUDE				GRAVITY	STD. GRV.	TERRAIN	FREE-AIR	BOUGUER		
SUMNER, SL01	42 41.60	-120 32.50		4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33
SUMNER, SL02	42 41.62	-120 32.88		4369.0	OR	980003.52	-980410.56		410.78	-150.34		-146.50
SUMNER, SL03	42 42.48	-120 33.18		4408.0	OR	979998.82	-980411.86		414.45	-151.67		-150.26
SUMNER, SL04	42 42.94	-120 34.82		4382.0	OR	979997.75	-980412.55		412.00	-150.78		-153.58
SUMNER, SL05	42 43.18	-120 35.23		4363.0	OR	979997.03	-980412.91		410.22	-150.13		-155.79
SUMNER, SL06	42 43.26	-120 35.56		4355.0	OR	979998.89	-980413.03		409.47	-149.86		-154.53
SUMNER, SL07	42 43.40	-120 36.90		4311.0	OR	980004.68	-980413.24		405.33	-148.35		-151.58
SUMNER, SL08	42 43.41	-120 37.31		4299.0	OR	980004.11	-980413.25		404.20	-147.94		-152.88
SUMNER, SL09	42 43.30	-120 37.31		4311.0	OR	980004.79	-980413.09		405.33	-148.35		-151.32
SUMNER, SL10	42 43.40	-120 37.78		4281.0	OR	980003.87	-980413.24		402.51	-147.32		-154.18
SUMNER, SL11	42 43.40	-120 38.20		4264.0	OR	980004.56	-980413.24		400.91	-146.74		-154.51
SUMNER, SL12	42 43.40	-120 38.82		4264.0	OR	980005.49	-980413.24		400.91	-146.74		-153.58
SUMNER, SL13	42 43.42	-120 39.77		4219.0	OR	980003.08	-980413.27		396.68	-145.20		-158.71
SUMNER, SL14	42 43.47	-120 40.49		4210.0	OR	980003.59	-980413.24		395.84	-144.89		-158.80
SUMNER, SL15	42 43.50	-120 41.48		4215.0	OR	980007.92	-980413.39		396.31	-145.06		-154.22
SUMNER, SL16	42 43.62	-120 42.04		4232.0	OR	980010.08	-980413.57		397.90	-145.64		-151.23
SUMNER, SL17	42 43.79	-120 42.63		4231.0	OR	980012.91	-980413.83		397.81	-145.61		-148.72
SUMNER, SL18	42 43.82	-120 43.21		4281.0	OR	980016.02	-980413.87		402.51	-147.32		-142.66
SUMNER, SL19	42 44.17	-120 42.08		4173.0	OR	980007.89	-980414.40		392.36	-143.62		-157.77
SUMNER, SL20	42 44.41	-120 42.08		4158.0	OR	980004.85	-980414.76		390.95	-143.11		-162.07
SUMNER, SL21	42 41.60	-120 32.50		4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33
SUMNER, SL22	42 43.35	-120 34.30		4371.0	OR	979999.03	-980413.16		410.97	-150.41		-153.57
SUMNER, SL23	42 43.53	-120 33.43		4388.0	OR	979998.33	-980413.43		412.57	-150.99		-153.52
SUMNER, SL24	42 44.68	-120 34.12		4356.0	OR	980003.97	-980415.16		409.56	-149.89		-151.52
SUMNER, SL25	42 44.17	-120 33.69		4378.0	OR	980003.57	-980414.40		411.63	-150.64		-149.84
SUMNER, SL26	42 43.19	-120 32.45		4395.0	OR	979997.60	-980412.92		413.23	-151.23		-153.32
SUMNER, SL27	42 43.67	-120 32.87		4388.0	OR	979997.75	-980413.65		412.57	-150.99		-154.32
SUMNER, SL28	42 44.18	-120 32.90		4387.0	OR	980000.54	-980414.41		412.48	-150.95		-152.34
SUMNER, SL29	42 43.79	-120 32.20		4396.0	OR	979997.79	-980413.83		413.32	-151.26		-153.98
SUMNER, SL30	42 43.46	-120 31.78		4374.0	OR	979999.06	-980413.33		411.25	-150.51		-153.53
SUMNER, SL31	42 42.50	-120 31.91		4384.0	OR	979996.54	-980411.89		412.19	-150.85		-154.01
SUMNER, SL32	42 42.36	-120 32.58		4422.0	OR	979996.44	-980411.68		415.77	-152.15		-151.62
SUMNER, SL01	42 41.60	-120 32.50		4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33
SUMNER, SL01	42 41.60	-120 32.50		4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33
SUMNER, SL32	42 41.94	-120 34.53		4710.0	OR	979983.55	-980411.04		442.83	-162.02		-146.68
SUMNER, SL33	42 40.67	-120 36.69		5554.0	OR	979928.73	-980409.14		522.16	-190.90		-149.15
SUMNER, SL34	42 40.72	-120 37.28		5791.0	OR	979913.96	-980409.21		544.43	-199.00		-149.82
SUMNER, SL35	42 41.17	-120 38.53		6026.0	OR	979896.94	-980409.89		566.51	-207.03		-153.47
SUMNER, SL36	42 41.11	-120 39.38		6355.0	OR	979870.87	-980409.60		597.43	-218.26		-159.76
SUMNER, SL37	42 41.12	-120 40.31		6207.0	OR	979881.89	-980409.81		563.52	-213.21		-157.61

POUGUER GRAVITY DATA

SUMMER LAKE OREGON KGPA

	STATION IDENTIFICATION	LATITUDE	LOCATION		ELEV.	ST.	OBSERVED GRAVITY		CORRECTIONS			BOUGUER ANOMALY	SPEC. FIELD
			LONGITUDE				GRAVITY	STD. GRV.	TERRAIN	FREE-AIR	BOUGUER		
	SUMMER SL38	42 40.86	-120 41.28	6033.0	OR	979894.52	-980409.42		567.17	-207.27		-155.00	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	UR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL39	42 43.04	-120 37.40	4463.0	OR	979995.20	-980412.70		419.62	-153.56		-151.44	
	SUMMER SL40	42 42.87	-120 37.52	4565.0	OR	979989.15	-980412.44		429.20	-157.05		-151.14	
	SUMMER SL41	42 42.63	-120 37.78	4741.0	OR	979976.90	-980412.08		445.75	-163.08		-152.51	
	SUMMER SL42	42 42.48	-120 37.67	4824.0	OR	979971.92	-980411.86		453.55	-165.92		-152.31	
	SUMMER SL43	42 42.31	-120 37.69	5010.0	OR	979959.09	-980411.60		471.03	-172.29		-153.77	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	CR	980003.06	-980410.53		410.31	-150.17		-147.33	
3	SUMMER SL44	42 42.69	-120 34.98	4484.0	OR	979995.11	-980412.17		421.59	-154.28		-149.75	
	SUMMER SL45	42 42.44	-120 35.02	4713.0	OR	979982.40	-980411.80		443.11	-162.12		-148.41	
	SUMMER SL46	42 42.27	-120 35.09	4961.0	OR	979967.21	-980411.54		466.42	-170.61		-148.52	
	SUMMER SL47	42 42.02	-120 35.02	5171.0	OR	979954.12	-980411.16		486.16	-177.80		-148.68	
	SUMMER SL48	42 42.00	-120 35.25	5246.0	OR	979949.28	-980411.13		493.21	-180.36		-149.00	
	SUMMER SL49	42 41.99	-120 35.48	5222.0	OR	979951.01	-980411.12		490.96	-179.54		-148.69	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	UR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL50	42 43.78	-120 34.30	4365.0	OR	979999.68	-980413.81		410.41	-150.20		-153.92	
	SUMMER SL51	42 43.79	-120 34.90	4344.0	OR	979997.55	-980413.81		408.43	-149.48		-157.31	
	SUMMER SL52	42 43.78	-120 35.48	4325.0	OR	979997.82	-980413.81		406.65	-148.83		-158.17	
	SUMMER SL53	42 44.00	-120 35.49	4326.0	OR	979996.60	-980414.14		406.74	-148.86		-159.66	
	SUMMER SL54	42 44.50	-120 35.58	4308.0	OR	979995.51	-980414.89		405.05	-148.25		-162.58	
	SUMMER SL55	42 44.02	-120 36.70	4282.0	OR	979996.47	-980414.17		402.60	-147.36		-162.46	
	SUMMER SL56	42 43.75	-120 36.81	4296.0	OR	979998.92	-980413.77		403.92	-147.84		-158.77	
	SUMMER SL57	42 43.71	-120 38.50	4229.0	OR	979999.62	-980413.71		397.62	-145.54		-162.01	
	SUMMER SL58	42 43.08	-120 39.69	4258.0	OR	980003.33	-980412.76		400.35	-146.53		-155.61	
	SUMMER SL59	42 42.98	-120 40.76	4266.0	OR	980005.04	-980412.61		401.29	-146.88		-153.16	
	SUMMER SL60	42 42.84	-120 41.40	4333.0	OR	980005.37	-980412.40		407.40	-149.10		-148.73	
	SUMMER SL61	42 42.27	-120 34.30	4421.0	OR	980001.57	-980411.54		415.67	-152.12		-146.42	
	SUMMER SL62	42 42.25	-120 33.71	4423.0	OR	980001.12	-980411.51		415.86	-152.19		-146.72	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	UR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL63	42 41.53	-120 38.53	5625.0	OR	979915.90	-980410.43		528.83	-193.32		-159.02	
	SUMMER SL64	42 41.98	-120 38.53	5498.0	OR	979927.44	-980411.10		516.89	-188.98		-155.75	
	SUMMER SL65	42 42.17	-120 38.84	5516.0	OR	979924.35	-980411.39		518.59	-189.60		-158.05	
	SUMMER SL66	42 42.10	-120 38.21	5307.0	OR	979942.26	-980411.28		498.94	-182.45		-152.53	
	SUMMER SL67	42 42.30	-120 37.90	5361.0	OR	979937.28	-980411.59		504.02	-184.30		-154.59	
	SUMMER SL01	42 41.60	-120 32.50	4364.0	OR	980003.06	-980410.53		410.31	-150.17		-147.33	
	SUMMER SL68	42 42.63	-120 40.61	4338.0	OR	980002.24	-980412.08		407.87	-149.27		-151.24	
	SUMMER SL69	42 42.62	-120 39.95	4348.0	OR	980000.19	-980412.07		408.81	-149.62		-152.69	

BOUGUER GRAVITY DATA

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SUMMER LAKE OREGON KGRA

STATION IDENTIFICATION	LATITUDE	LOCATION		ELEV.	ST.	OBSERVED		CORRECTIONS			BOUGUER ANOMALY	SPEC. FIELD
		LONGITUDE				GRAVITY	STD. GRV.	TERRAIN	FREE-AIR	BOUGUER		
SUMMER.	SL70	42 42.70	-120 39.39	4353.0	OR	980000.58	-980412.19		409.28	-149.79	-152.12	
SUMMER.	SL71	42 42.83	-120 38.80	4328.0	OR	980001.94	-980412.38		406.93	-148.93	-152.44	
SUMMER.	SL72	42 43.00	-120 38.50	4317.0	OR	980004.85	-980412.64		405.89	-148.55	-150.45	
SUMMER.	SL73	42 44.15	-120 38.50	4185.0	OR	979996.18	-980414.37		393.49	-144.03	-168.73	
SUMMER.	SL01	42 41.60	-120 32.50	4364.0	OR	980003.06	-980410.53		410.31	-150.17	-147.33	