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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Audio-magnetotelluric data log and station location map for
Gerlach Northwest Known Geothermal Resource Area, Nevada

By

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FIGURE 1. AUDIO-MAGNETOTELLURIC STATION LOCATION MAP FOR THE GERLACH NORTHEAST KGRA, NEVADA.

U.S. GEOLOGICAL SURVEY A.M.T. DATA LOG

pa = observed apparent resistivity in ohm-metres

N = number of observations

Er = standard error in ohm metres

- = no data

"NOTE" - Telluric line orientation indicated with station numbers.

		FREQUENCY											
Sta. No.		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
1 _{NS}	pa	70.2	76.4	47.9	39.7	20.5	-	-	-	-	26.7	9.53	13.3
	N	5	5	6	6	6					6	1	1
	Er	13.4	15.2	6.07	3.20	0.47					1.39	-	-
1 _{EW}	pa	30.3	20.0	13.5	13.5	11.7	-	-	-	-	7.25	10.7	6.43
	N	5	5	6	7	5					6	1	1
	Er	3.28	3.4	1.26	1.06	0.58					0.20	-	-
2 _{NS}	pa	3.8	2.6	2.0	1.9	3.56	1.15	-	-	-	5.95	3.13	9.05
	N	6	6	5	6	5	5				7	1	1
	Er	0.60	0.60	0.40	0.30	0.36	0.08				0.09	-	-
2 _{EW}	pa	1.2	0.95	0.80	1.10	2.37	1.95	-	-	-	2.21	3.61	-
	N	6	4	5	6	6	6				6	1	
	Er	0.30	0.30	0.20	0.10	0.17	0.15				0.09	-	
3 _{NS}	pa	3.12	2.65	2.15	1.38	0.91	0.96	-	-	-	2.75	1.31	1.49
	N	4	5	6	7	5	6				5	1	1
	Er	.79	.66	0.17	0.08	0.10	0.43				0.08	-	-
3 _{EW}	pa	2.15	1.00	0.49	0.86	0.59	0.63	-	-	-	1.14	1.48	1.07
	N	6	7	5	5	5	5				5	1	1
	Er	0.62	0.18	0.16	0.14	0.09	0.05				0.02	-	-
4 _{NS}	pa	1.7	0.80	1.20	0.80	1.98	0.45	-	-	-	2.06	1.43	1.47
	N	6	5	4	4	7	6				6	1	1
	Er	0.20	0.10	0.20	0.20	0.90	0.03				0.08	-	-
4 _{EW}	pa	3.9	3.2	0.90	0.60	1.92	0.73	-	-	-	0.93	1.04	-
	N	4	4	5	6	5	5				5	1	
	Er	1.0	0.90	0.10	0.08	0.08	0.04				0.07	-	

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Sta. No.		FREQUENCY											
		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
5 _{NS}	pa	16.1	—	→	—	—	—	—	—	—	—	←	—
	N	5											
	Er	2.24											
5 _{EW}	pa	12.3	—	→	—	—	—	—	—	—	—	←	—
	N	7											
	Er	2.20											
6 _{NS}	pa	91.2	197.	103.	89.3	—	—	—	—	—	11.4	7.88	10.8
	N	4	6	6	4						5	1	1
	Er	19.9	31.6	23.7	10.1						0.46	—	—
6 _{EW}	pa	155.	787.	296.	209.	—	—	—	—	—	4.55	4.44	1.57
	N	5	6	4	4						5	1	1
	Er	14.3	213	52.3	35.6						0.24	—	—
7 _{NS}	pa	1.79	1.77	1.37	0.60	0.52	0.20	—	—	—	1.48	1.06	1.28
	N	6	5	5	8	8	5				5	1	1
	Er	0.18	0.17	0.12	0.05	0.08	0.04				0.02	—	—
7 _{EW}	pa	1.94	0.85	0.42	0.40	0.48	0.52	—	—	—	0.64	1.10	0.93
	N	5	5	5	6	6	5				5	1	1
	Er	0.44	0.23	0.07	0.04	0.03	0.04				0.01	—	—
8 _{NS}	pa	2.5	1.30	0.70	0.60	0.40	0.20	—	—	—	1.09	0.71	0.80
	N	5	5	5	5	6	5				6	1	1
	Er	0.70	0.20	0.10	0.03	0.03	0.01				0.06	—	—
8 _{EW}	pa	1.80	0.70	0.40	0.20	0.30	0.36	—	—	—	0.62	0.77	0.63
	N	5	5	5	6	5	4				6	1	1
	Er	0.30	0.10	0.04	0.0	0.05	0.05				0.05	—	—

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pa = observed apparent resistivity in ohm-metres

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Sta. No.		FREQUENCY											
		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
9 _{NS}	pa	2.23	1.37	1.36	3.61	1.60	-	-	-	-	0.83	1.90	-
	N	5	5	5	6	5					5	1	
	Er	0.47	0.20	0.07	0.83	0.28					0.04	-	
9 _{EW}	pa	1.53	0.62	-	0.82	0.48	1.45	-	-	-	1.12	-	6.04
	N	6	4		4	6	5				5		1
	Er	0.33	0.06		0.19	0.12	0.28				0.09		-
10 _{NS}	pa	2.40	3.30	1.10	0.90	0.50	0.20	-	-	-	0.80	0.20	0.80
	N	5	4	6	5	6	5				6	1	1
	Er	0.30	0.90	0.20	0.05	0.03	0.01				0.02	-	-
10 _{EW}	pa	1.30	0.70	0.50	0.40	0.70	0.40	-	-	-	0.50	0.20	0.50
	N	4	5	6	6	6	5				5	1	1
	Er	0.04	0.20	0.10	0.04	0.10	0.02				0.02	-	-
11 _{NS}	pa	1.27	1.19	0.66	0.50	0.39	0.20	-	-	-	1.55	1.07	1.10
	N	5	6	6	5	5	4				5	1	1
	Er	0.13	0.12	0.05	0.05	0.02	0.01				0.02	-	-
11 _{EW}	pa	1.53	0.80	0.59	0.31	0.56	0.39	-	-	-	0.89	1.10	0.80
	N	3	2	5	6	5	5				5	1	1
	Er	0.17	0.09	0.07	0.04	0.05	0.02				0.05	-	-
12 _{NS}	pa	0.90	1.20	0.80	0.70	0.30	0.30	-	-	-	2.60	1.00	1.00
	N	6	6	6	5	6	6				5	1	1
	Er	0.02	0.10	0.04	0.02	0.01	0.04				0.50	-	-
12 _{EW}	pa	0.80	0.60	0.40	0.30	0.30	0.70	-	-	-	0.60	0.80	0.70
	N	5	4	4	4	5	5				4	1	1
	Er	0.02	0.06	0.06	0.02	0.01	0.20				0.01	-	-

U.S. GEOLOGICAL SURVEY A.M.T. DATA LOG

ρ_a = observed apparent resistivity in ohm-metres

N = number of observations

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- = no data

"NOTE" - Telluric line orientation indicated with station numbers.

Sta. No.		FREQUENCY											
		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
13NS	ρ_a	2.43	2.55	0.53	1.28	0.96	0.46	-	-	-	5.02	1.67	1.46
	N	5	7	7	7	7	7				7	1	1
	Er	0.13	0.41	0.13	0.10	0.02	0.04				0.34	-	-
13EW	ρ_a	2.51	1.31	0.23	0.80	1.17	1.43	-	-	-	0.37	1.48	2.51
	N	5	7	7	7	7	7				7	1	1
	Er	0.46	0.33	0.04	0.11	0.08	0.17				0.09	-	-
	ρ_a												
	N												
	Er												
	ρ_a												
	N												
	Er												
	ρ_a												
	N												
	Er												
	ρ_a												
	N												
	Er												
	ρ_a												
	N												
	Er												
	ρ_a												
	N												
	Er												

ADVISORY NOTE

West of the KGRA's (Known Geothermal Resource Areas) is a high-voltage ($\pm 400,000$ V), D.C. transmission line belonging to the city of Los Angeles. The transmission line was a serious source of noise in the AMT frequency band. Large-amplitude, even harmonics of 60Hz were radiated by the line. In addition, large-amplitude, apparently natural signals in the lower frequency AMT range were noted when operating near the transmission line during a previous survey. It is not known whether this latter effect is due to concentration of the natural fields in the vicinity of the transmission line or noise due to DC/AC converters and load variations on the line.

Users of this data should keep in mind that the plane-wave assumptions used in computing the apparent resistivities may not be valid.