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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

Washoe Co.

By

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

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ADVISORY NOTE

Running along the edge of the KGRA (Known Geothermal Resource Area) 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, providing difficulty in operating in the mid-frequency range. In addition, large-amplitude, apparently natural signals in the lower frequency AMT range were noted when operating near the transmission line. 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.

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.

Sta. No.		FREQUENCY											
		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
1NS	pa	1.84	6.45	9.1	7.2	6.5	-	-	-	-	26.3	44.6	167
	N	5	6	8	12	7	-	-	-	-	9	6	1
	Er	.51	1.0	.89	.65	.25	-	-	-	-	.9	5	-
1EW	pa	8.66	3.97	3.44	2.6	2.81	-	-	-	-	2.0	146	259
	N	6	7	5	11	7	-	-	-	-	13	6	1
	Er	2.0	.62	.28	.24	.30	-	-	-	-	1.0	2.7	-
2NS	pa	27.5	35.9	31.3	83.1	24.5	-	-	-	-	214	174	849
	N	6	8	12	6	7	-	-	-	-	7	8	1
	Er	.72	2.5	1.6	4.8	1.9	-	-	-	-	21.7	12.9	-
2EW	pa	84.7	53.9	37.7	19.2	12.8	38.1	-	-	-	27.7	108	62
	N	6	7	8	6	7	7	-	-	-	6	7	1
	Er	3.9	6.1	4.5	1.2	.36	3.2	-	-	-	3.4	11.7	-
3NS	pa	16.8	-	15.7	5.4 [?]	97.5	-	-	-	-	-	-	-
	N	8	-	4	11	7	-	-	-	-	-	-	-
	Er	2.8	-	.44	1.7	13.8	-	-	-	-	-	-	-
3EW	pa	-	-	-	-	-	-	-	-	-	-	-	-
	N	-	-	-	-	-	-	-	-	-	-	-	-
	Er	-	-	-	-	-	-	-	-	-	-	-	-
5NS	pa	-	-	.83	0.6	-	.25	-	-	-	64.9	44.3	327
	N	-	-	7	14	-	2	-	-	-	10	6	1
	Er	-	-	.25	.01	-	0	-	-	-	3.7	.12	-
5EW	pa	-	-	.57	.29	.26	.52	-	-	-	7.6	39.4	162
	N	-	-	8	13	10	7	-	-	-	8	7	1
	Er	-	-	.17	.02	.01	.02	-	-	-	.6	.05	-

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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
6NS	pa	7.9	6.1	7.6	4.0	1.5	1.5	-	-	-	132	170	629
	N	8	6	7	6	7	7	-	-	-	6	1	1
	Er	.67	.88	1.3	1.38	.14	.03	-	-	-	8.2	-	-
6EW	pa	15.0	12.0	3.75	2.9	2.6	3.1	-	-	-	22.5	109	575
	N	6	6	8	6	8	7	-	-	-	7	1	1
	Er	2.3	1.07	.55	.8	.15	.12	-	-	-	.9	-	-
7NS	pa	1.8	1.9	2.1	2.1	.92	.47	-	-	-	56.5	48.2	431
	N	12	9	7	9	7	11	-	-	-	7	7	1
	Er	.19	.16	.54	.17	.04	.03	-	-	-	6.3	1.0	-
7EW	pa	3.4	2.3	1.39	1.24	.88	1.32	-	-	-	8.6	40.7	175
	N	18	8	8	11	8	10	-	-	-	12	6	1
	Er	.44	.40	.15	.07	.05	.07	-	-	-	.3	.6	1
8NS	pa	7.51	4.14	6.9	7.0	-	11.8	-	-	-	-	-	-
	N	8	6	8	7	-	6	-	-	-	-	-	-
	Er	1.30	.54	1.14	.72	-	4.7	-	-	-	-	-	-
8EW	pa	6.9	7.5	6.73	5.11	-	-	-	-	-	-	-	-
	N	6	7	7	7	-	-	-	-	-	-	1	-
	Er	2.7	2.6	.92	.82	-	-	-	-	-	-	-	-
9NS	pa	9.16	8.47	7.52	7.16	2.23	1.59	-	-	-	62.0	63.7	334
	N	9	7	8	13	7	13	-	-	-	10	7	1
	Er	.41	.74	.55	.46	.12	.09	-	-	-	1.9	2.6	-
9EW	pa	4.39	2.31	3.70	1.58	2.19	1.44	-	-	-	14.6	160	174
	N	7	6	7	11	10	10	-	-	-	13	6	7
	Er	.61	.26	.36	.12	.18	.14	-	-	-	.99	6.2	-

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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
10NS	pa	3.67	3.05	3.67	1.62	1.10	1.80	-	-	-	71.3	83.1	305
	N	9	10	7	8	7	8	-	-	-	8	1	1
	Er	.21	.18	.80	.17	.07	.16	-	-	-	1.8	-	-
10EW	pa	2.77	1.57	.66	.93	1.91	4.38	-	-	-	17.1	125	68.3
	N	7	8	8	8	8	7	-	-	-	8	1	1
	Er	.42	.21	.12	.07	.28	.66	-	-	-	1.3	-	-
11NS	pa	.46	.33	.53	.40	1.04	.13	-	-	-	31.6	33.3	178
	N	8	7	9	14	9	9	-	-	-	9	1	1
	Er	.10	.10	.11	.04	.06	.02	-	-	-	2.8	-	-
11EW	pa	1.37	.60	.32	.23	.22	.26	-	-	-	3.3	16.9	164
	N	11	7	8	13	7	13	-	-	-	12	1	1
	Er	.17	.07	.05	.03	.01	.01	-	-	-	.24	-	-
12NS	pa	.69	.63	.44	.45	.32	-	-	-	-	14.7	14.8	96
	N	6	9	6	6	8	-	-	-	-	3	1	1
	Er	.22	.14	.08	.08	.10	-	-	-	-	.68	-	-
12EW	pa	1.42	.44	.15	.18	.16	-	-	-	-	1.6	10.1	38.9
	N	6	8	8	8	11	-	-	-	-	6	1	1
	Er	.34	.06	.03	.02	.02	-	-	-	-	.17	-	-
13NS	pa	.32	.36	.55	.48	-	-	-	-	-	38.1	27.6	156
	N	15	8	9	9	-	-	-	-	-	8	1	1
	Er	.02	.06	.03	.04	-	-	-	-	-	3.5	-	-
13EW	pa	.27	.26	.23	.24	-	-	-	-	-	9.6	196	70
	N	15	7	9	12	-	-	-	-	-	9	1	1
	Er	.02	.06	.03	.04	-	-	-	-	-	.48	-	-

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		FREQUENCY											
Sta. No.		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
14 _{ES}	pa	2.3	3.63	2.87	1.29	.71	.85	-	-	-	208	176	1290
	N	8	7	6	13	7	7	-	-	-	3	1	1
	Er	.35	.42	.64	.18	.05	.13	-	-	-	32.7	-	-
14 _{EW}	pa	6.4	7.39	.61	.44	.44	.49	-	-	-	8.64	76.3	436
	N	6	5	6	7	6	8	-	-	-	6	1	1
	Er	.62	1.76	.11	.08	.02	.03	-	-	-	.45	-	-
15 _{NS}	pa	1.74	16.7	13.11	-	-	-	-	-	-	14.2	16.4	36.4
	N	10	3	3	-	-	-	-	-	-	12	1	1
	Er	.31	3.02	2.4	-	-	-	-	-	-	.87	-	-
15 _{EW}	pa	2.18	4.14	2.14	-	-	-	-	-	-	11.3	6.12	785
	N	9	3	3	-	-	-	-	-	-	6	1	1
	Er	.55	1.38	.53	-	-	-	-	-	-	1.04	-	-
16 _{NS}	pa	1.21	1.29	1.04	1.16	2.2	-	-	-	-	96.5	107	482
	N	6	12	8	8	5	-	-	-	-	2	6	1
	Er	.18	.11	.13	.12	.10	-	-	-	-	11.6	4.8	-
16 _{EW}	pa	1.98	.91	.44	.69	4.10	-	-	-	-	6.76	105	16.6
	N	7	8	6	6	3	-	-	-	-	6	6	1
	Er	.48	.18	.04	.06	.44	-	-	-	-	.60	1.9	-
17 _{NS}	pa	69.7	60.7	64.4	119.7	343	19.74	-	-	-	73.6	623	246
	N	7	8	5	7	6	10	-	-	-	7	1	1
	Er	6.12	2.7	13.5	8.0	23.7	.75	-	-	-	7.58	-	-
17 _{EW}	pa	61.0	140	48.6	43.9	155.2	14.25	-	-	-	41.5	1011	205
	N	7	6	8	7	7	8	-	-	-	7	1	1
	Er	8.3	31.5	1.66	12.9	96.5	1.14	-	-	-	2.5	-	-

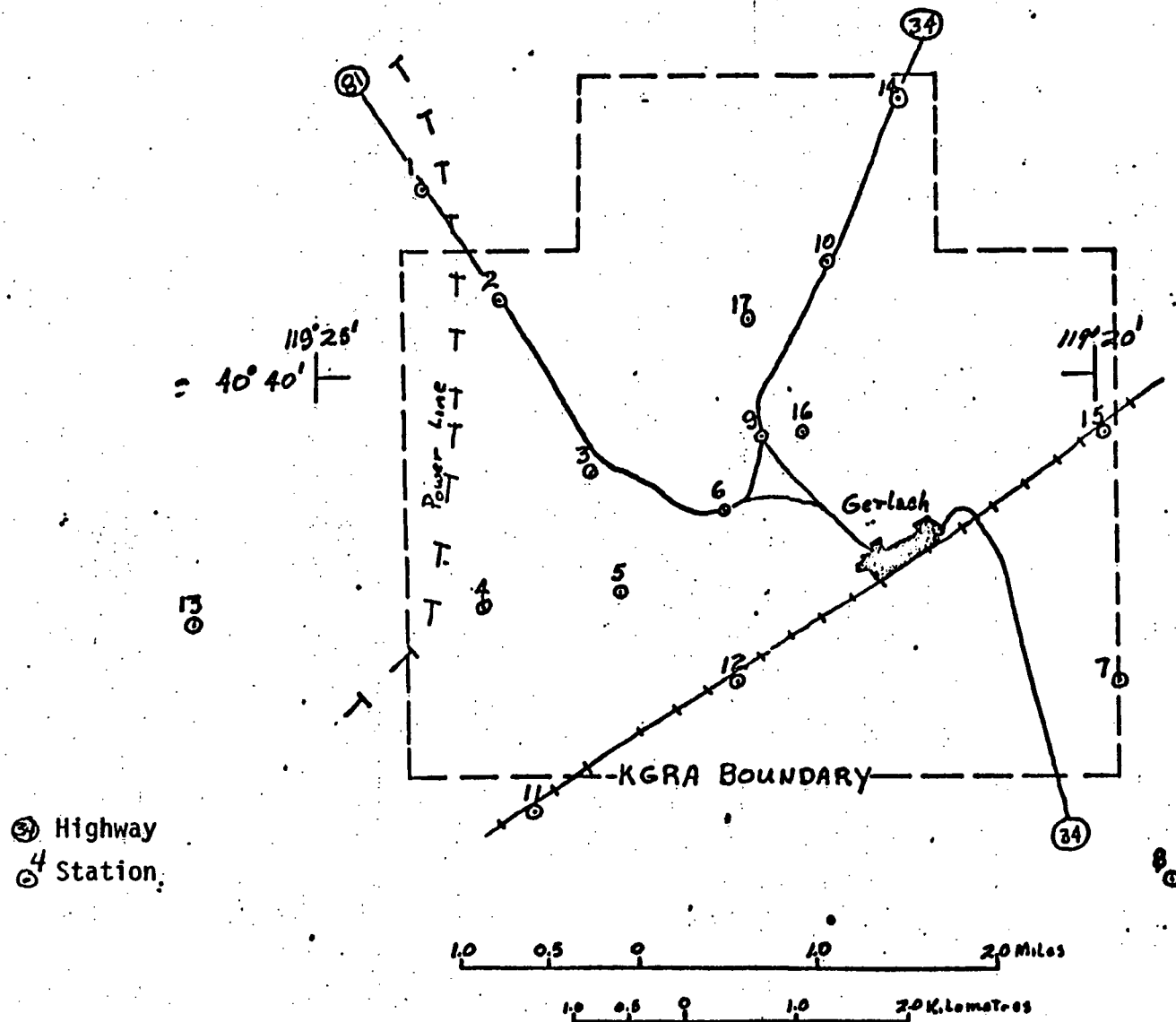


Figure 1. Audio-magnetotelluric station location map for the Gerlach KGRA (Known Geothermal Resource Area), Nevada.