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UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY, [Reports - Open file series]

Audio-magnetotelluric data log, apparent resistivity maps and station location map for the Darrough Known Geothermal Resource Area (KGRA), Nevada

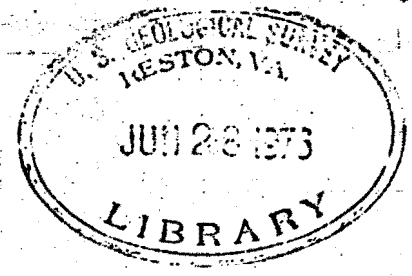
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U.S. Geological Survey

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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.

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

pa = observed apparent resistivity in ohm-metres
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"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
1N-S	pa	16.7	18.5	17.2	20.8	17.5	28.8	44.6	49.2	123.	130.	300.	1536.
	N	7	6	8	7	6	6	6	6	6	6	5	1
	Er	2.2	4.2	.7	2.2	1.1	2.8	2.0	2.3	20.6	15.	63.	-
1E-W	pa	17.4	11.4	12.0	15.6	23.0	37.2	88.1	60.8	123.	90.9	335.	514.
	N	7	8	7	9	6	7	8	6	7	8	6	1
	Er	1.3	1.3	.7	.9	.9	2.8	6.1	6.8	39.6	5.8	26.	-
2N-S	pa	11.2	25.1	19.7	33.5	41.4	92.3	183.	153.	242.	225.	273.	765
	N	7	9	8	9	10	9	8	5	6	9	3	1
	Er	2.66	5.54	1.71	2.42	1.47	8.95	27.1	32.4	43.2	48.5	36.2	-
2E-W	pa	66.3	69.9	54.6	66.2	99.2	209.	904.	502.	1656.	505.	1076.	352.
	N	7	10	10	9	10	9	12	9	8	11	1	1
	Er	11.1	8.93	2.61	3.66	6.19	22.9	108.	82.2	22.9	34.8	-	-
3N-S	pa	14.4	6.07	5.75	5.40	4.93	9.50	30.8	-	22.9	19.7	142.	31.0
	N	6	10	11	7	6	10	7	-	4	6	6	1
	Er	5.16	.73	.54	.92	1.08	1.59	6.49	-	4.22	5.01	31.7	-
3E-W	pa	39.2	34.0	38.9	45.1	50.3	30.0	66.4	-	46.5	109.	89.7	57.7
	N	8	8	10	7	11	8	8	-	8	6	5	1
	Er	8.77	4.69	2.83	5.81	2.59	2.33	18.7	-	5.05	16.2	10.6	-
4N-S	pa	13.6	10.6	22.9	21.2	7.79	28.5	40.9	-	-	47.1	73.7	328.
	N	11	9	9	11	8	12	1	-	-	9	5	1
	Er	2.3	1.85	7.75	1.7	.70	2.2	-	-	-	3.03	9.56	-
4E-W	pa	18.2	19.8	24.1	26.7	47.9	68.1	100.	-	-	101.6	179.	2917.
	N	11	11	9	8	10	12	3	-	-	11	6	1
	Er	1.9	2.44	1.44	1.11	3.05	4.22	26.3	-	-	11.7	3.44	-

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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
5NS	pa	5.66	6.31	5.33	5.90	6.55	9.2	-	-	-	786.	826.	6990.
	N	11	6	10	13	10	12	-	-	-	11	5	†
	Er	0.7	2.13	0.40	0.4	0.4	0.4	-	-	-	60.7	41.3	-
5EW	pa	5.0	2.56	3.04	3.87	6.25	10.6	-	-	-	108.	309.	590.
	N	14	10	10	12	8	13	-	-	-	11	5	†
	Er	0.6	0.29	0.24	0.20	0.32	0.70	-	-	-	4.5	3.31	-
6NS	pa	6.0	9.78	8.02	9.4	11.4	25.6	-	-	-	2605.	1787.	8734.
	N	14	4	7	8	10	8	-	-	-	7	6	1
	Er	0.7	1.79	1.84	0.9	0.88	2.9	-	-	-	220.	208.	-
6EW	pa	5.2	7.06	4.32	5.20	12.6	20.0	-	-	-	220.	823.	1148
	N	7	7	10	8	10	10	-	-	-	11	8	1
	Er	0.9	0.82	0.72	1.2	3.14	6.0	-	-	-	5.82	55.7	-
7NS	pa	6.7	58.4	45.9	36.6	24.4	36.0	590.	836.	3647.	3600.	2583.	17650.
	N	7	4	4	8	7	11	10	8	7	9	7	1
	Er	1.8	17.8	9.37	13.3	3.19	5.8	95.1	141.	631.	225.	150.	-
7EW	pa	8.7	9.00	8.01	8.60	11.7	24.9	507.	104.	88.3	505.	2462.	2605.
	N	10	6	10	10	10	12	7	9	10	14	8	1
	Er	1.34	3.71	1.04	1.50	0.43	4.7	134.	13.5	10.1	36.2	69.19	-
8NS	pa	7.7	52.9	5.26	5.1	6.32	10.4	30.1	235.	136.	515.	777.	3868.
	N	7	5	8	11	10	8	5	7	4	6	5	1
	Er	1.1	13.3	0.58	0.60	0.56	1.30	3.0	51.3	39.2	69.	74.2	-
8EW	pa	24.1	18.9	3.12	3.9	7.06	9.1	24.4	28.6	41.9	1206	161.	577.
	N	6	2	10	15	10	15	10	10	10	13	5	1
	Er	4.8	1.40	0.26	0.20	.87	0.80	1.91	5.67	1.02	15.0	3.26	-

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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	11.3	34.2	26.9	24.4	26.3	168.	88.4	38.7	115.	104.	128.	486.
	N	5	5	6	7	6	8	9	6	6	6	8	1
	Er	1.35	2.75	3.74	5.5	5.26	33.1	11.9	12.5	16.2	10.8	26.2	-
9 _{EW}	pa	17.4	11.7	15.9	14.9	-	27.7	53.0	14.1	70.7	43.8	80.9	249.
	N	7	10	9	5	-	7	8	8	5	7	7	1
	Er	3.42	1.35	1.95	2.97	-	1.7	7.72	3.46	17.1	8.20	9.0	-
10 _{NS}	pa	97.6	150.	236.	164.	150.	190.	-	-	-	175.	150.	858.
	N	10	13	11	13	11	12	-	-	-	11	9	1
	Er	14.9	23.3	45.	11.8	9.7	9.3	-	-	-	7.3	9.1	-
10 _{EW}	pa	83.1	68.9	73.6	71.9	63.4	723	-	-	-	44.7	106.	170.
	N	12	12	13	12	10	10	-	-	-	8	13	1
	Er	8.1	7.2	15.	2.9	2.8	2.7	-	-	-	3.7	5.0	-
11 _{NS}	pa	36.1	12.3	82.7	52.1	34.1	27.7	-	-	-	179.	216.	817.
	N	5	2	8	13	10	12	-	-	-	11	3	1
	Er	5.9	2.17	14.0	5.2	2.07	1.5	-	-	-	11.3	34.5	-
11 _{EW}	pa	17.2	12.1	18.4	25.6	43.5	66.9	-	-	-	52.2	206.	114.
	N	10	6	6	10	10	12	-	-	-	17	1	1
	Er	2.95	4.13	2.60	2.80	1.65	3.5	-	-	-	1.8	-	-
12 _{NS}	pa	17.4	30.8	32.4	27.7	21.2	22.5	55.7	31.6	98.7	239.	247.	837.
	N	6	5	9	11	6	8	6	5	5	7	4	1
	Er	1.82	7.82	5.6	3.29	1.58	5.09	10.0	9.32	15.5	21.	43.8	
12 _{EW}	pa	20.4	22.1	18.9	24.4	28.9	9.28	131.	53.8	64.2	85.1	311.	70.2
	N	6	5	9	10	10	10	6	5	7	9	5	1
	Er	2.53	2.55	2.22	1.05	1.81	1.79	8.7	11.2	7.24	6.93	3.58	

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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
13NS	pa	10.4	14.2	21.3	16.1	24.7	31.4	50.9	25.0	387.	451.	365.	1536.
	N	10	5	6	15	10	12	10	11	10	14	12	1
	Er	1.4	3.66	1.71	1.80	4.01	4.4	5.3	2.4	54.	36.8	41.2	-
13EW	pa	17.4	25.0	19.2	15.8	18.6	47.5	179.	72.1	216.	842.	2308.	1093.
	N	12	9	8	14	10	13	10	8	11	11	11	1
	Er	3.0	4.77	1.73	0.9	1.12	6.4	29.9	14.9	23.	49.6	169.	-
14NS	pa	16.5	110.	74.0	114.6	43.5	48.	263.	920.	517.	39.0	1104.	5235.
	N	7	4	2	6	5	12	6	11	9	12	5	1
	Er	2.6	52.4	52.1	20.1	7.97	10.2	48.1	142.	62.0	3.3	66.8	-
14EW	pa	15.3	18.3	16.1	17.5	30.3	71.8	300.	95.7	232.	763.	1387.	308
	N	10	5	10	13	9	15	6	9	10	13	5	1
	Er	1.3	4.33	1.85	1.1	3.41	9.8	92.7	15.8	17.2	39.8	36.7	-
15NS	pa	17.8	50.6	11.4	18.2	19.8	24.2	196.	-	91.7	217.	336.	1150.
	N	4	5	3	7	6	9	7	-	7	11	14	1
	Er	3.08	11.0	2.43	5.39	8.28	3.69	42.6	-	28.3	14.8	19.2	-
15EW	pa	24.1	71.7	23.7	25.6	48.8	124.	577.	-	269.6	1294.	2943.	1206.
	N	7	3	7	10	4	10	7	-	12	10	12	1
	Er	2.56	16.1	3.18	5.74	19.2	18.0	144.	-	26.9	99.3	238.	-
16NS	pa	8.22	11.2	24.4	9.9	10.4	15.3	79.8	41.1	98.4	132.	254.	-
	N	6	3	5	9	13	14	9	10	17	10	7	-
	Er	1.55	4.41	7.52	1.4	1.2	3.0	16.5	10.3	9.45	7.8	7.0	-
16EW	pa	47.7	29.3	25.5	19.4	31.7	64.5	213.	124.	243.	1123.	2022.	-
	N	7	5	20	11	11	11	10	11	23	8	8	-
	Er	10.9	8.42	6.81	2.4	3.4	7.6	42.	23.	10.0	87.8	97.0	-

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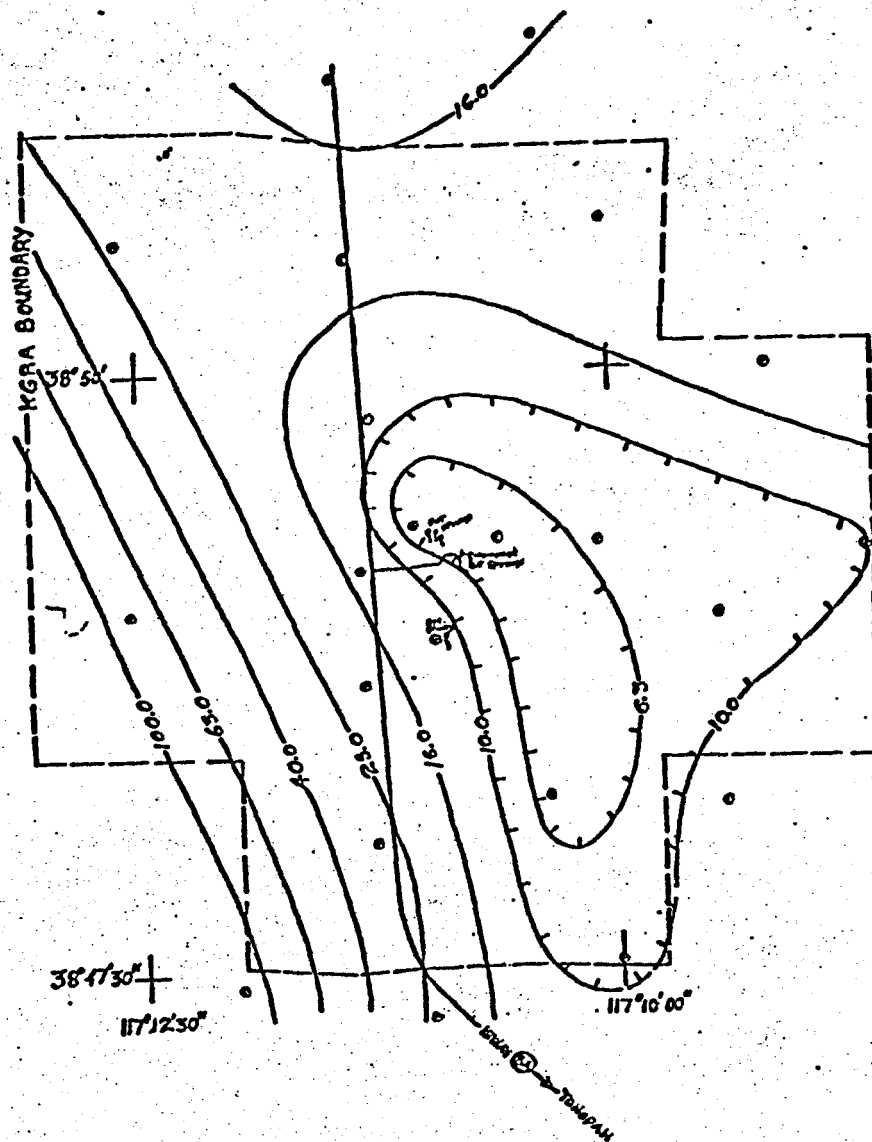
Sta. No.		FREQUENCY											
		7.5	10	14	27	76	285	685	1.2K	3.3K	6.7K	10.2K	18.6K
17NS	pa	7.6	11.5	5.48	4.8	4.47	6.90	108.	-	-	366.	366.	1435.
	N	8	7	13	11	17	10	3	-	-	9	8	1
	Er	.3	1.33	0.51	0.3	0.22	1.90	27.9	-	-	21.3	38.2	-
17EW	pa	12.0	11.3	13.2	18.1	23.9	39.4	618.	-	-	490.	1031.	4780.
	N	10	18	18	11	10	11	4	-	-	10	9	1
	Er	2.9	1.00	1.30	1.50	0.85	3.60	214.	-	-	21.8	98.2	-
18NS	pa	10.0	14.0	13.1	22.2	41.8	3.8	-	-	-	179.	510.	-
	N	5	4	12	10	12	7	-	-	-	7	11	-
	Er	1.57	3.42	0.82	1.79	4.95	0.88	-	-	-	7.0	12.1	-
18EW	pa	8.45	20.5	19.3	23.5	62.8	106	1853.	-	-	1017.	2537.	2826.
	N	6	7	10	7	6	8	6	-	-	7	9	1
	Er	1.91	2.87	1.99	3.99	10.1	23.2	368.	-	-	180.	190.	-
19NS	pa	8.9	11.5	17.4	28.2	22.1	140.	-	36.9	-	1665.	2001.	6144.
	N	9	12	13	10	7	10	-	2	-	13	11	1
	Er	1.8	2.33	1.88	3.3	1.63	32.9	-	5.2	-	115.	189.	-
19EW	pa	16.2	20.9	16.2	20.0	22.6	53.0	1615	243.	-	837	1514.	634
	N	10	8	19	10	10	11	4	2	-	12	21	1
	Er	2.2	4.02	1.18	1.40	1.60	7.3	83.9	40.1	-	112	73.7	-
20NS	pa	4.4	9.97	12.7	14.5	14.4	20.7	-	28.2	-	908.	975.	4193.
	N	5	6	12	6	13	7	-	1	-	9	8	1
	Er	0.8	2.11	1.22	1.3	0.64	1.6	-	-	-	52.2	104.2	-
20EW	pa	20.0	15.3	11.5	12.6	20.3	32.6	92.1	-	-	386.	82.1	1329.
	N	8	6	12	8	9	8	2	-	-	10	12	1
	Er	2.8	5.32	2.45	0.54	1.82	5.2	64.6	-	-	11.8	2.97	-

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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
21NS	pa	175.	157.	259.	185.	181.	157.	88.8	30.9	260.	521.	1180.	2856.
	N	7	6	9	15	14	17	15	⁹ 15	5	10	8	1
21EW	Er	37.7	17.8	32.6	17.8	4.88	9.06	11.05	7.93	38.2	82.1	341.	-
21EW	pa	77.0	56.1	62.1	70.0	88.9	101.	121.	21.2	33.5	393.	604.	2295.
	N	9	14	23	18	26	21	20	8	5	20	27	1
	Er	11.6	13.8	5.27	4.95	3.55	4.89	24.7	3.18	4.53	43.5	37.8	-
22NS	pa	4.73	6.88	10.35	11.9	12.9	12.9	-	-	-	661.	685.	3992.
	N	10	15	12	36	33	15	-	-	-	17	1	1
	Er	.53	.90	.93	.67	.43	1.22	-	-	-	36.3	-	-
22EW	pa	5.64	7.30	8.22	10.6	24.2	27.5	302.	-	-	297.	1052.	1596.
	N	6	19	25	36	23	24	2	-	-	19	9	1
	Er	0.85	0.57	0.45	0.42	2.41	1.51	55.9	-	-	13.6	103.5	-
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	N												
	Er												
	pa												
	N												
	Er												
	pa												
	N												
	Er												



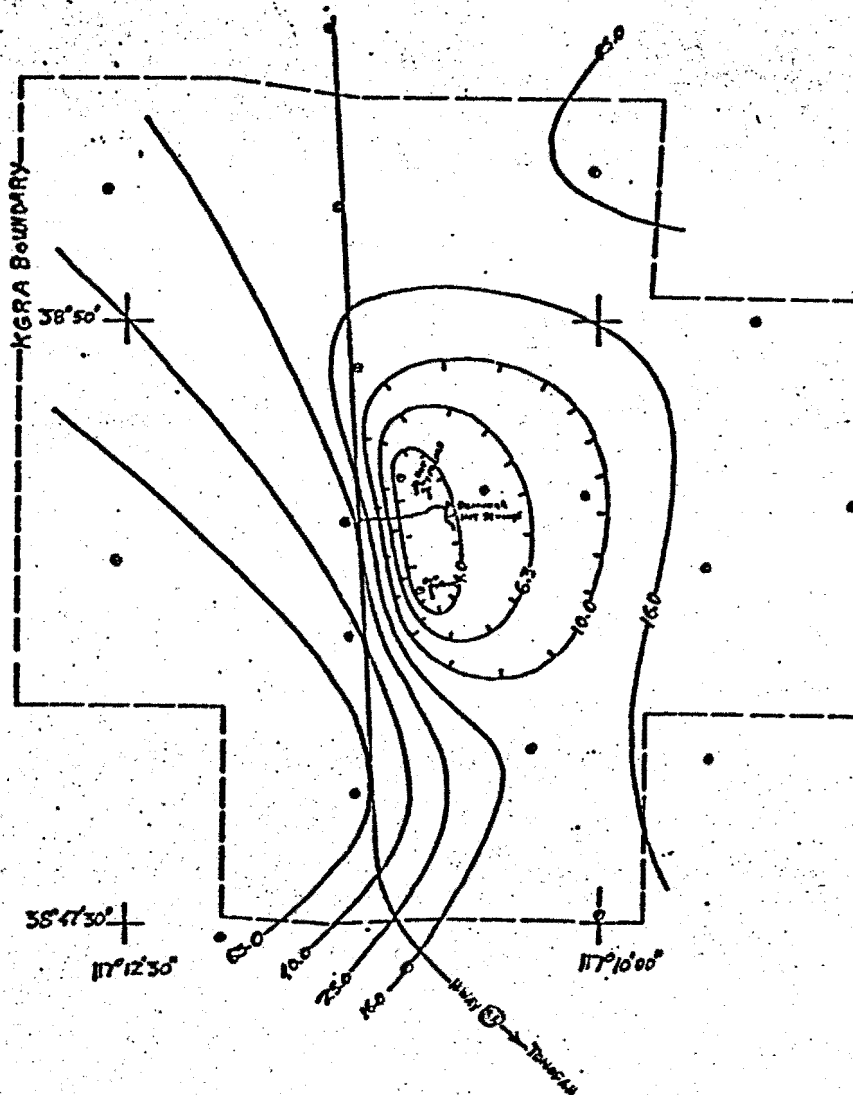
Explanation:

Scale: 1:62500

⊙ Station location

Resistivity contours shown are on a logarithmic interval in ohm-metres, computed from the average of the north-south and east-west scalar impedances.

Figure 1. Audio-magnetotelluric apparent resistivity map at 7.5 Hz. for the Darrough Hot Springs KGRA, Nevada.



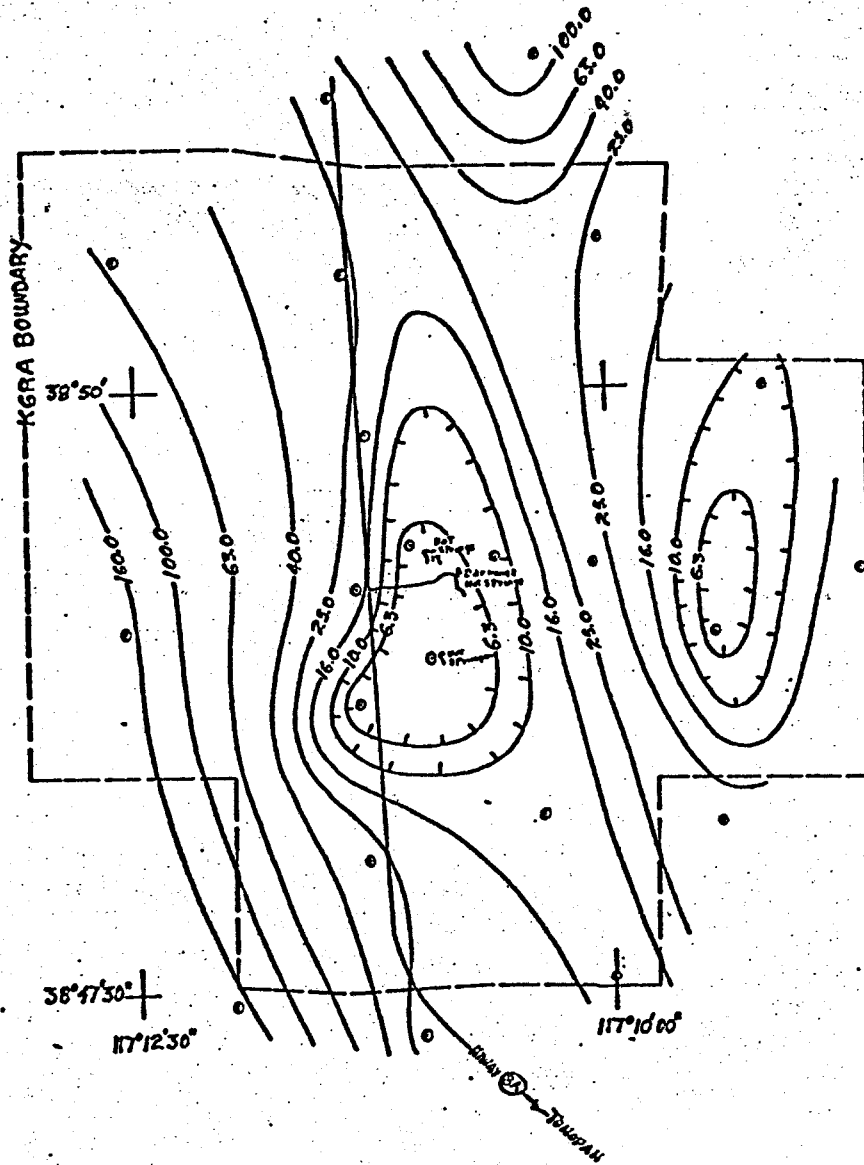
Scale: 1:62500

Explanation:

⊙ station location

Resistivity contours shown are on a logarithmic interval for ohm-metres.

Figure 2. Audio-magnetotelluric apparent resistivity map at 27 Hz. telluric line east-west, Darrough Hot Springs KGRA, Nevada.



Scale: 1:62500

Explanation:

⊙ Station location

Resistivity contours shown are on a logarithmic interval in ohm-metres.

Figure 3. Audio-magnetotelluric apparent resistivity map at 27 Hz., telluric line north-south, Darrough Hot Springs KGRA, Nevada.

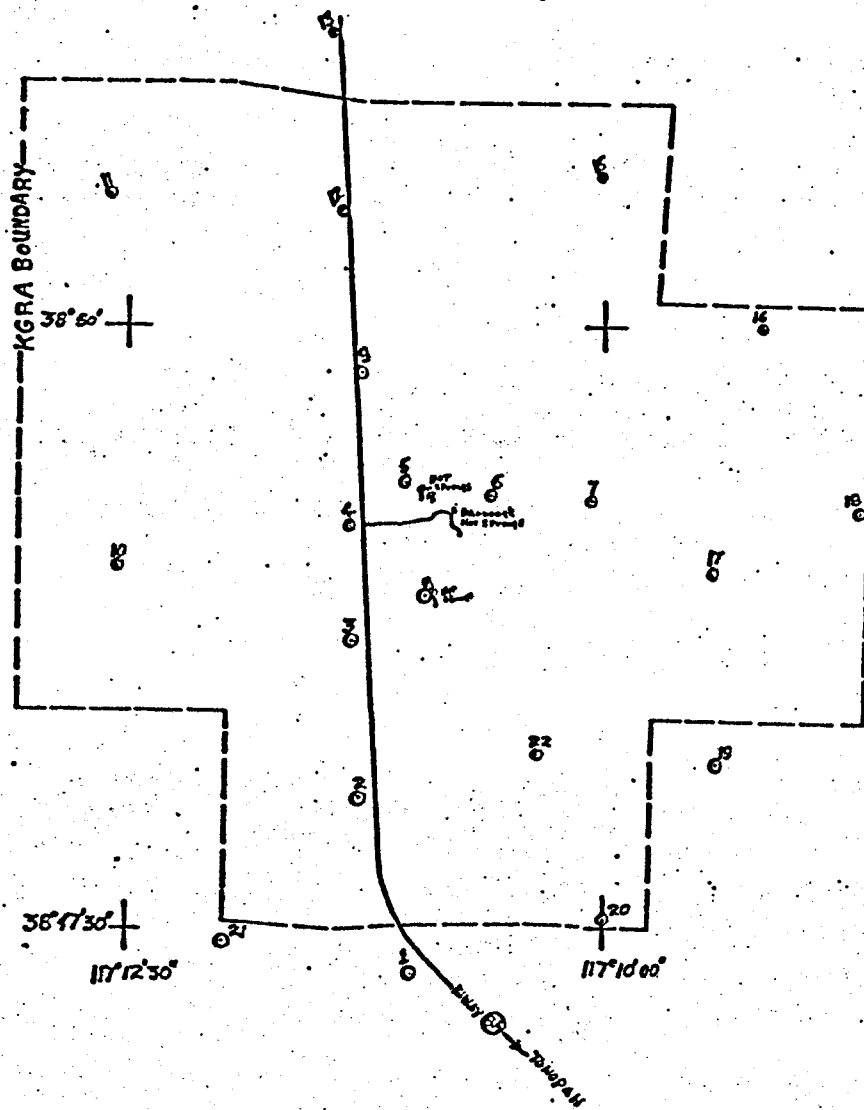


Figure 4. Audio-magnetotelluric station location map for Darrough Hot Springs KGRA, Nevada.