



Geophysics
International

ELECTROTELLURIC SURVEY REPORT

For

Geophysics International Case Study

“Utility District Example C”

Plumas Co., California

May 11, 2000

CALIBRATION

The electrotelluric signal characteristics for porous water productive zones were modeled at Well 1B (500 gpm), Well No. 2 (1200 gpm), Well No. 3 (500 gpm) and Church Well (30 gpm) as Grade 6.0 to Grade 11.7 fluid responses.

The term “net porosity” is used to describe zones with the greatest potential to produce water. For the purpose of this report, the electrotelluric signal response for “net porosity” is defined as follows:

“Net Porosity” \geq Grade 6.0

OBSERVATIONS

Table 1 shows net porosity data for the four calibration wells and eleven survey stations. Of the eleven survey stations, Station ETS-1 exhibits the highest Total Grade-Feet value (1367) for the 0-400 foot interval. Station ETS-15 exhibits the lowest Total Grade-Feet value (352) for the 50-350 foot interval.

The ET data indicate that survey station ETS-1 is the best location for optimum potential water production from the 0-400 foot interval.

TABLE 1

NET POROSITY DATA

“Utility District Example C”

(Net ≥ Grade 6.0)

	<u>Vertical Interval</u>	<u>Thickness</u>		<u>Grade-Feet</u>	
		<u>Total</u>	<u>Ratio</u>	<u>Total</u>	<u>Ratio</u>
Well 1B	0 – 375 (375)	149'	0.40	1115	2.97
Well No. 2	0 – 235 (235)	138'	0.59	1413	6.01
Well No. 3	0 – 385 (385)	157'	0.41	1228	3.19
Church Well	0 – 100 (100)	19'	0.19	133	1.33
ETS-1	0 – 400 (400)	151'	0.38	1367	3.42
ETS-3	0 – 400 (400)	66'	0.17	620	1.56
ETS-4	0 – 400 (400)	127'	0.32	1191	2.98
ETS-5	0 – 400 (400)	145'	0.36	1356	3.39
ETS-6	0 – 400 (400)	131'	0.33	1070	2.68
ETS-8	0 – 400 (400)	163'	0.41	1467	3.67
ETS-10	0 – 400 (400)	127'	0.32	1160	2.90
ETS-11	0 – 400 (400)	70'	0.18	527	1.32
ETS-12	0 – 400 (400)	118'	0.30	1107	2.77
ETS-14	50 – 750 (700)	124'	0.18	973	1.39
ETS-15	50 – 350 (300)	56'	0.19	352	1.17

Summary Sheet

GI Electrotelluric Survey Case Study

“Utility District Example C”

Location: Plumas Co., California

Survey Date: May 11, 2000

Geology: Sedimentary clastics (layered sand, gravel and clay) overlying a thick sequence of layered volcanic rock and clay.

Calibration Data: 1) Well 1B

TD = 375'; Production Reported @ 500 gpm

2) Well No. 2

TD = 233'; Production Reported @ 1200 gpm

3) Well No. 3

TD = 384; Production Reported @ 500 gpm

4) Chruch Well

TD = 100'; Production Reported @ 30 gpm

Drillsite Data: Survey Station ETS-14

Drilled August 26, 2002

TD = 730'; Production Tested @ 986 gpm

