Energy Research and Development Division
FINAL PROJECT REPORT

MT SURVEY FOR RESOURCE ASSESSMENT AND ENVIRONMENTAL MITIGATION AT THE GLASS MOUNTAIN KGRA

APPENDICES S-U

Prepared for: California Energy Commission – Geothermal Resources Development Account
Prepared by: Cumming Geoscience
GSY-USA, Inc.

MARCH 2007
CEC-500-2013-063-APS-U

Prepared by:

Primary Author(s):
William Cumming

Cumming Geoscience
4728 Shade Tree Lane
Santa Rosa CA 95405-7841

Randall Mackie

GSY-USA, Inc.
2261 Market St.
San Francisco, CA 94114-1600

Contract Number: GEO-02-007

Prepared for:

California Energy Commission
Geothermal Resources Development Account

Gail Wiggett
Project Manager

Linda Spiegel
Office Manager
Energy Generation Research Office

Laurie ten Hope
Deputy Director
RESEARCH AND DEVELOPMENT DIVISION

Robert P. Oglesby
Executive Director

DISCLAIMER

This report was prepared as the result of work sponsored by the California Energy Commission. It does not necessarily represent the views of the Energy Commission, its employees or the State of California. The Energy Commission, the State of California, its employees, contractors and subcontractors make no warranty, express or implied, and assume no legal liability for the information in this report; nor does any party represent that the uses of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the California Energy Commission nor has the California Energy Commission passed upon the accuracy or adequacy of the information in this report.

ACKNOWLEDGEMENTS

The authors are especially grateful to the following individuals who contributed greatly to the success of this project:

Mr. Mitch Stark, Resource Manager of Calpine Corporation, who provided access to the existing data sets, obtained permission for their public release and supported the project both technically and administratively;

Ms. Charlene Wardlow who, as Calpine Corporation's Geothermal Government Affairs and Community Relations Manager, managed and negotiated the particularly complex permitting process for the field work conducted as part of this project;

Dr. Gail Wiggett of the California Energy Commission, who patiently provided valuable encouragement and coaching on the GRDA process;

Dr. Joseph Moore and his team at the Energy and Geoscience Institute at the University of Utah, especially Mr. Steven Clausen and Ms. Emily Jackson, who supported the petrography and geology components of this study;

Mr. Gregg Nordquist who, as Consulting Geophysicist at Unocal Corporation (now Chevron), supported the translation of the Glass Mountain legacy data used in this project from a digital format proprietary to Unocal. In the 1980's and 1990's, Mr. Nordquist, with Mr. Daniel Carrier and Mr. Randy Thompson of Unocal Corporation, completed the proprietary analyses and reports that became the foundation for the Glass Mountain geophysics and petrography interpretation of this study.

PREFACE

The California Legislature created the Geothermal Resources Development Account (GRDA) and the Geothermal Program in 1980. Funding comes from revenues paid to the United States government by geothermal developers for leases on federal land in California. Under the Geothermal Program, the California Energy Commission has assisted numerous eligible private entities and local jurisdictions in geothermal research, development, demonstration, commercialization, planning, mitigations, and environmental enhancement projects related to geothermal energy. The purpose of the program is to enhance and promote geothermal development in California. For more information on the Geothermal Program, please visit the California Energy Commission's Web site at. http://www.energy.ca.gov/geothermal/index.html

The California Energy Commission Energy Research and Development Division supports public interest energy research and development that will help improve the quality of life in California by bringing environmentally safe, affordable, and reliable energy services and products to the marketplace.

The Energy Research and Development Division conducts public interest research, development, and demonstration (RD&D) projects to benefit California.

The Energy Research and Development Division strives to conduct the most promising public interest energy research by partnering with RD&D entities, including individuals, businesses, utilities, and public or private research institutions.

Energy Research and Development Division funding efforts are focused on the following RD&D program areas:

- Buildings End-Use Energy Efficiency
- Energy Innovations Small Grants
- Energy-Related Environmental Research
- Energy Systems Integration
- Environmentally Preferred Advanced Generation
- Industrial/Agricultural/Water End-Use Energy Efficiency
- Renewable Energy TechnologiesTransportation

MT Survey for Resource Assessment and Environmental Mitigation in the Glass Mountain KGRA is the final report for the Geothermal Reserouces Development Account contract number GEO-02-007 conducted by GSY-USA, Inc. The information from this project contributes to Energy Research and Development Division's Renewable Program.

For more information about the Energy Research and Development Division, please visit the California Energy Commission's Web site at www.energy.ca.gov/research/ or contact the Energy Commission at 916-327-1549.

ABSTRACT

The objectives of this project were to use non-invasive methods to indirectly image the permeable geothermal reservoir geometry and mitigate the drilling costs and environmental impact of future geothermal development at Glass Mountain Known Geothermal Resource Area. This was done by more efficiently focusing exploration wells on the most promising target zones. Significant advances were achieved in three dimensional magnetotelluric imaging, allowing three dimensional imaging to be given greater weight than two dimensional imaging in interpreting the data. Magnetotellurics is a geophysical investigation technique that images the earth's subsurface by measuring natural variations of electric and magnetic fields at the surface. Magnetotelluric resistivity patterns were correlated with detailed data on subsurface temperatures, downhole resistivity logging, patterns of rock alteration zones and water entry zones from wells along geologic cross-sections. This confirmed that reservoir interpretation based on correlating magnetotelluric resistivity with temperature sensitive clay alteration was feasible. The magnetotelluric resistivity maps and cross-sections extended these correlations to undrilled areas, revealing the likely geometry of the geothermal system.

Conceptual models based on the resistivity images indicated that major northeast trending structures and the Medicine Lake Volcano rim structure form permeable zones and reservoir boundaries in the Glass Mountain Known Geothermal Resource Area. Several areas that appear to host a relatively shallow permeable reservoir were identified. The magnetotelluric interpretation also indicated that a significant part of the Medicine Lake Volcano was unlikely to host a developable geothermal resource. Depending on the resource development strategy and supporting studies, follow-up magnetotelluric surveys could be justified. The conceptual resource model derived from this study's integrated interpretation illustrates well-targeting strategies that can be reviewed with respect to engineering and environmental issues. By more efficiently directing well targeting, magnetotelluric resistivity imaging can reduce dry hole costs, as well as focus planning efforts and mitigate the environmental impacts of resource development.

Keywords: electromagnetic survey, geothermal exploration, geophysics resistivity, magnetotellurics, petrography, Medicine Lake, Glass Mountain Known Geothermal Resource Area

Please use the following citation for this report:

Cumming, William. (Cumming Geoscience). Mackie, Randall. (GSY-USA, Inc.) 2007. ***MT Survey for Resource Assessment and Environmental Mitigation at the Glass Mountain KGRA.*** California Energy Commission, GRDA Geothermal Resources Development Account. CEC-500-2013-063-APS-U.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ..... **i**

PREFACE ..... **ii**

ABSTRACT ..... **iv**

TABLE OF CONTENTS ..... **v**

APPENDIX S: MT Stations 01 to 49. Data report to Unocal **S-1**

APPENDIX T: Geophysical report on the transient electromagnetic (TEM) surveys conducted at the Fourmile Hill Project, Siskiyou County, California on behalf of Calpine Corporation **T-1**

APPENDIX U: Glass Mountain MT **U-1**

APPENDIX S:
MT Stations 01 to 49. Data report to Unocal

Attachment XVII

CEC-500-2007-XXX-ATXVII

MT Stations 01 to 49. Data report to Unocal

This document is an attachment to a report funded by the California Energy Commission's Geothermal Resource Development Account (GRDA) Program. The GRDA Program did not fund this document, but the authors of the GRDA funded report have attached it as a supporting document.

The California Energy Commission wishes to thank the copyright holder, Calpine Corporation, for permission to republish this document in electronic format on the Energy Commission's website.

Please contact this document's author/publisher for additional information about the document.

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P01s/P02s/

Operator:BURNS,VRAG
Date: 5 Oct 1986
Time: 16:09:08

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#507-30Aug86-05
SP--Stn02: B#221-30Aug86-05
Sens-Ch01: C#445-04Sep86-01
Sens-Ch02: C#306-04Sep86-01
Sens-Ch03: L#416-05Sep86-01
Sens-Ch06: C#452-04Sep86-01*
Sens-Ch07: C#239-04Sep86-01
Sens-Ch08: L#307-05Sep86-01

* = Changed During the Run

Station 1

Stn Number:LAKE86-P01s
Site Desc:T43N R03E Sec.28 SW1/4
41,37,24 N 121,38,07 W
Elevation:6700 FT
Reference:LAKE86-P02s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: B. STEWART
Sensor Processor: SE507
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL445	-10 DEG
Hy	2	COIL306	+80 DEG
Hz	3	LOOP416	
Ex	4	200 M	-10 DEG
Ey	5	200 M	+80 DEG
Rx	6	COIL452*	+35 DEG
Ry	7	COIL239	+125 DEG

Ex Pot Resist: 8.0 K Ohms
Ex Voltage: AC=19.5 mv, DC=42.4 mv
Ey Pot Resist: 9.0 K Ohms
Ey Voltage: AC=11.0 mv, DC=60.2 mv
* = Changed During the Run

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

OPERATOR LOG FOR MT SITES LAKE86-P01s/P02s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P01a/P02a/		
Run STARTED:	16:09:08	5 Oct 1986
Run QUIT:	09:47:56	6 Oct 1986
Run QUIT:	09:54:01	6 Oct 1986
Run Start and Stop Time for LAKE86-P01b/P02b/		
Run STARTED:	15:12:13	6 Oct 1986
Run QUIT:	09:43:19	7 Oct 1986
Run Start and Stop Time for LAKE86-P01c/P02c/		
Run STARTED:	10:31:14	7 Oct 1986
Run QUIT:	17:51:41	7 Oct 1986
Run Start and Stop Time for LAKE86-P01d/P02d/		
Run STARTED:	19:47:00	7 Oct 1986
Run QUIT:	04:58:22	8 Oct 1986

Operator:VAAG & OJALA

Cultural Factors:
LITTLE MT. HOFFMAN LOOKOUT AND MEDICINE LAKE RANGER STATION WITHIN 2 MILES OF SITE P02. NO OTHER CULTURE NEARBY.

Weather Conditions:
CLEAR AND WARM WITH LIGHT WINDS.

Other Factors:
UNEXPLAINED SIGNAL SOURCE AFFECTING ALL CHANNELS PERIODICALLY DURING RUN.

PHOENIX GEOPHYSICS

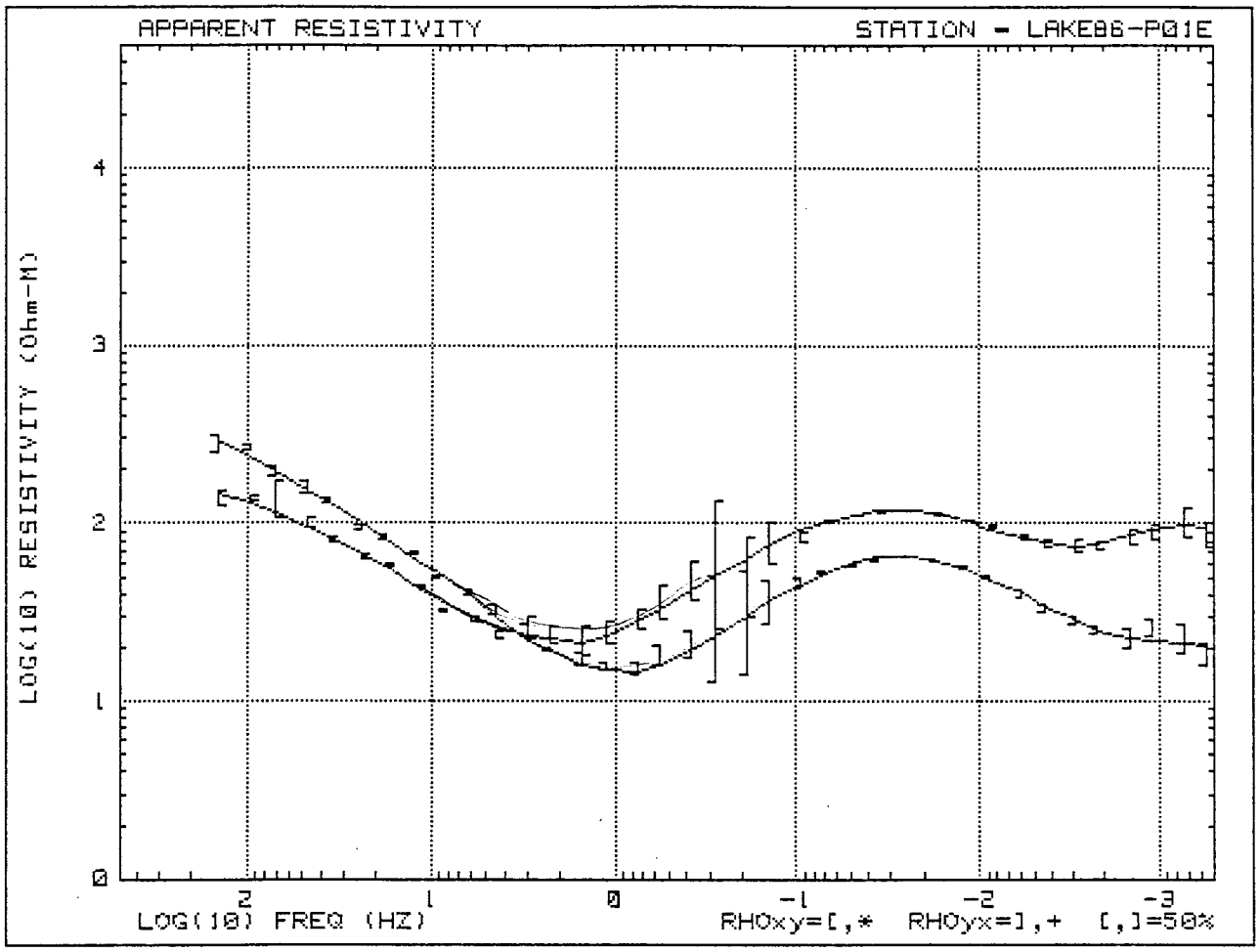
MT Site: LAKE86-P01E

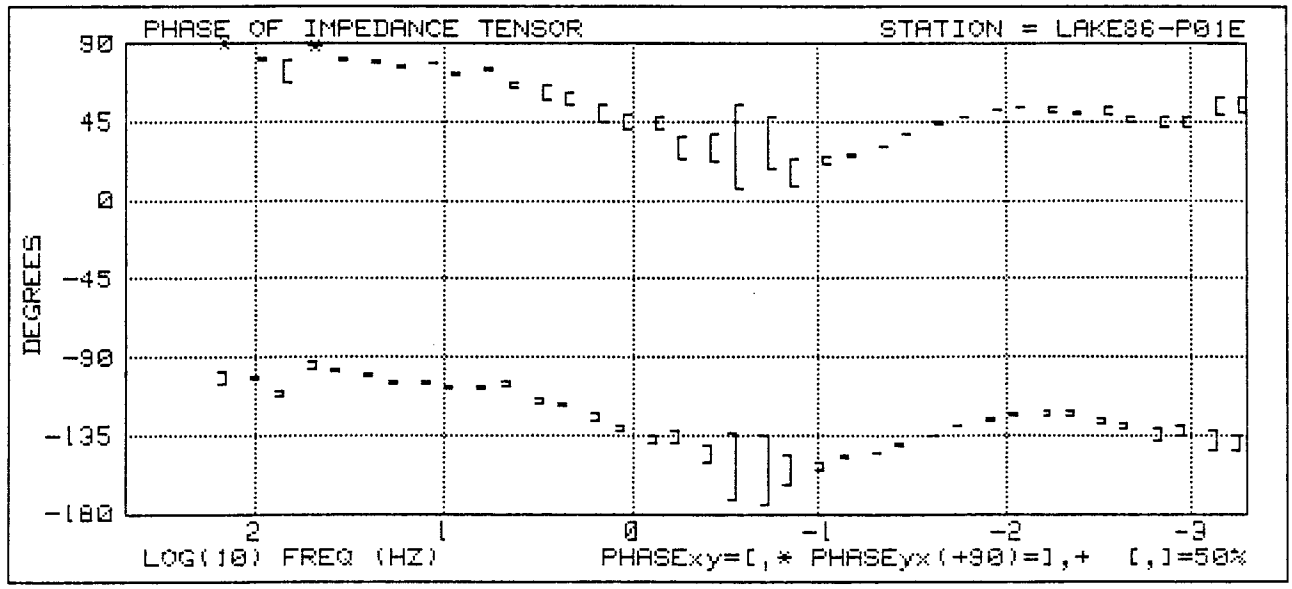
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

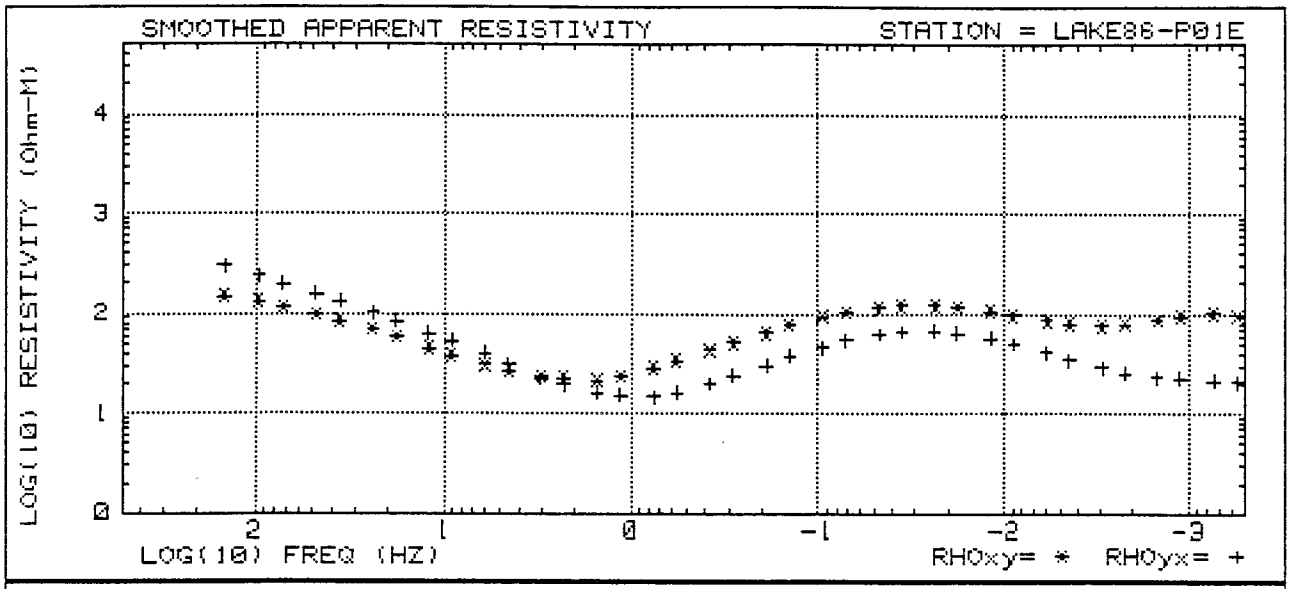
MT Site: LAKE86-P01E

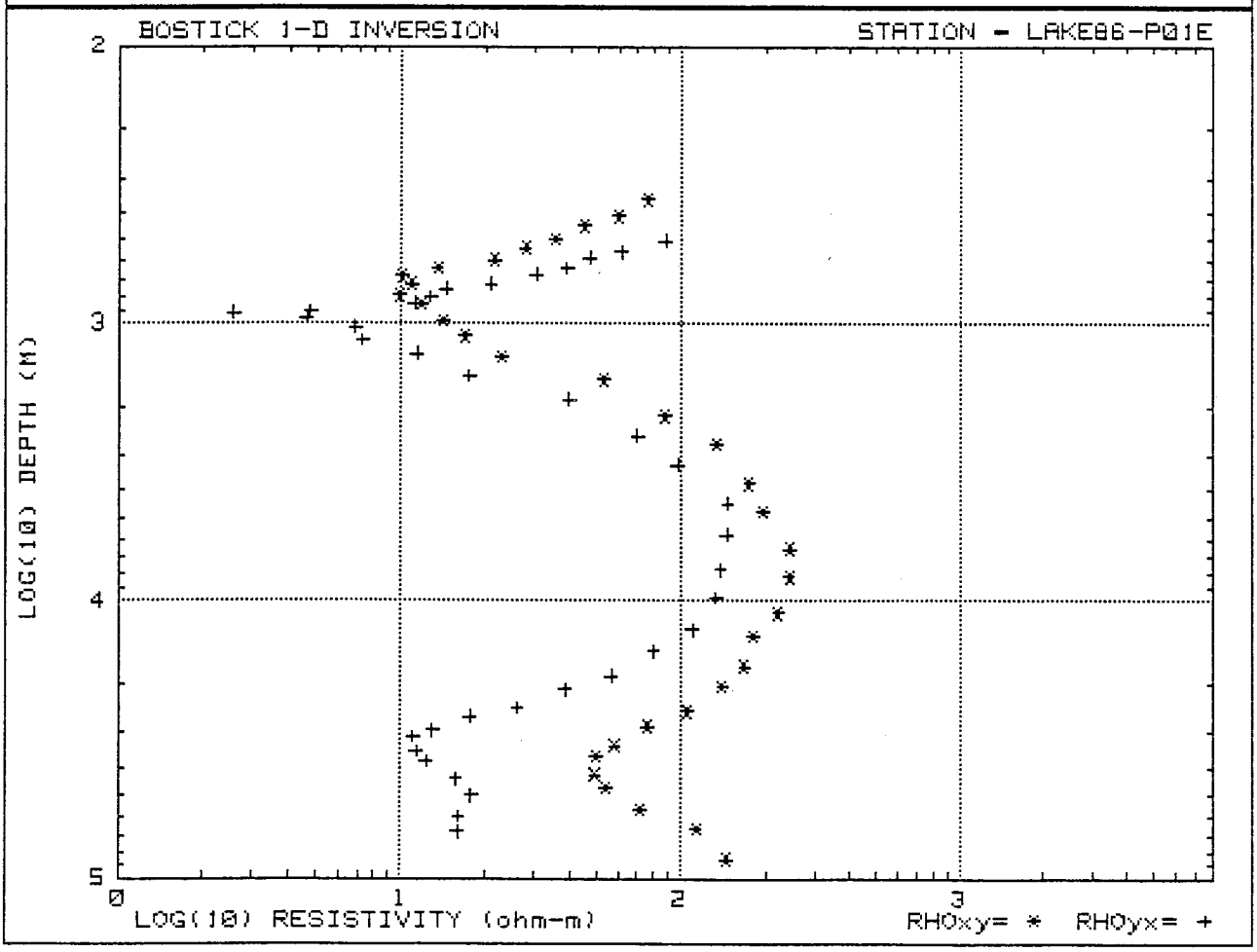




PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	256	138.9	13.7	282.1	18.1	89.8	3.7	-102.0	4.8
5	96.00 Hz	2003	138.5	4.0	265.0	4.4	80.7	1.1	-101.1	1.2
6	72.00 Hz	1333	135.1	41.2	197.0	9.5	73.5	9.9	-111.2	2.6
7	48.00 Hz	1813	101.1	11.1	157.5	11.9	88.5	3.0	-94.7	3.2
8	36.00 Hz	1492	81.1	5.5	136.0	4.8	80.8	1.5	-97.2	1.3
9	24.00 Hz	1620	65.5	4.2	96.4	4.8	79.3	1.2	-100.6	1.4
10	18.00 Hz	2580	59.0	3.4	84.4	3.4	76.3	.9	-105.0	1.0
11	12.00 Hz	2879	44.0	2.1	68.0	2.5	78.6	.6	-104.5	.7
12	9.00 Hz	672	32.8	2.1	50.6	2.3	72.5	.6	-107.6	.6
13	6.00 Hz	1818	29.4	4.3	41.0	4.6	75.6	1.2	-107.7	1.3
14	4.50 Hz	666	24.0	7.3	32.8	10.1	65.9	2.0	-105.4	2.7
15	3.00 Hz	9440	26.0	24.3	25.1	10.7	61.5	6.2	-115.1	2.9
16	2.25 Hz	32521	23.8	18.5	19.7	4.0	58.3	4.9	-117.6	1.1
17	1.50 Hz	7953	21.6	32.1	17.2	12.6	49.9	8.0	-124.6	3.4
18	1.13 Hz	14632	24.4	25.2	15.8	8.7	45.1	6.4	-131.2	2.4
19	1.33 Sec	4325	28.9	20.5	15.4	12.9	43.7	5.4	-136.8	3.5
20	1.78 Sec	1349	36.2	38.0	18.1	19.3	30.3	9.2	-136.0	5.0
21	2.67 Sec	2308	48.2	46.4	21.0	29.5	29.9	10.9	-145.2	7.4
22	3.56 Sec	2175	58.8	99.9	25.3	99.9	30.7	35.8	-152.7	29.2
23	5.33 Sec	792	50.3	99.9	27.5	99.9	33.2	22.3	-154.9	29.0
24	7.11 Sec	1289	78.5	48.7	36.3	52.1	15.6	11.4	-154.6	12.0
25	10.67 Sec	474	85.0	9.7	46.9	9.8	22.7	2.6	-152.3	2.7
26	14.22 Sec	522	102.1	2.5	53.3	2.3	26.1	.7	-146.8	.6
27	21.33 Sec	363	111.2	1.7	58.9	1.0	31.0	.5	-144.4	.3
28	28.44 Sec	546	117.3	1.1	62.4	.8	37.4	.3	-140.0	.2
29	42.67 Sec	585	118.1	1.0	65.7	.8	44.1	.3	-134.7	.2
30	56.89 Sec	456	113.5	1.2	63.5	.9	48.0	.3	-129.9	.3
31	85.33 Sec	231	104.8	1.7	56.4	1.1	52.1	.5	-125.9	.3
32	113.78 Sec	282	97.6	1.8	49.5	1.9	53.4	.5	-122.8	.6
33	170.67 Sec	114	83.1	4.8	40.9	7.0	52.1	1.3	-122.6	1.9
34	227.56 Sec	96	77.5	6.1	33.3	7.9	49.6	1.7	-122.5	2.2
35	341.33 Sec	12	75.5	10.8	28.5	8.2	51.0	2.9	-126.5	2.3
36	455.11 Sec	21	75.4	7.7	25.0	8.2	46.8	2.1	-129.5	2.3
37	682.67 Sec	15	84.1	14.3	22.7	19.0	45.0	3.8	-134.3	5.0
38	910.22 Sec	24	89.1	17.0	26.0	16.3	45.3	4.5	-131.7	4.3
39	1365.33 Sec	6	101.6	33.1	22.7	33.1	54.2	8.2	-138.1	8.2
40	1820.44 Sec	6	86.9	25.1	18.6	24.3	55.1	6.4	-139.2	6.2

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	256	146.3	291.9	76.8	359	88.5	507
5	96.00 Hz	2003	129.0	235.0	60.0	412	61.7	557
6	72.00 Hz	1333	113.7	194.7	45.2	447	47.4	585
7	48.00 Hz	1813	95.6	154.1	35.6	502	39.5	638
8	36.00 Hz	1492	82.7	129.1	27.9	540	30.5	674
9	24.00 Hz	1620	67.8	100.4	21.7	598	21.0	728
10	18.00 Hz	2580	57.9	82.0	13.5	638	14.5	760
11	12.00 Hz	2879	44.1	61.9	10.1	682	12.8	808
12	9.00 Hz	672	37.4	52.0	10.9	726	11.2	856
13	6.00 Hz	1818	30.2	39.5	9.9	798	4.8	913
14	4.50 Hz	666	26.4	30.2	11.9	862	2.6	922
15	3.00 Hz	9440	23.2	22.0	14.2	990	4.6	964
16	2.25 Hz	32521	22.4	19.2	17.0	1122	6.9	1041
17	1.50 Hz	7953	21.1	15.9	23.1	1335	7.3	1157
18	1.13 Hz	14632	23.1	14.9	53.2	1611	11.4	1295
19	1.33 Sec	4325	27.8	14.5	88.3	2166	17.7	1563
20	1.78 Sec	1349	33.1	16.0	135.0	2729	40.1	1895
21	2.67 Sec	2308	42.3	19.5	175.9	3779	70.2	2567
22	3.56 Sec	2175	50.6	23.6	196.6	4773	97.7	3260
23	5.33 Sec	792	63.7	29.8	245.7	6558	146.7	4487
24	7.11 Sec	1289	76.1	37.3	243.1	8277	146.3	5800
25	10.67 Sec	474	91.5	45.0	223.5	11119	138.0	7794
26	14.22 Sec	522	101.7	53.1	180.4	13534	133.9	9783
27	21.33 Sec	363	111.0	60.7	168.9	17321	110.3	12802
28	28.44 Sec	546	117.3	65.0	140.8	20561	80.5	15300
29	42.67 Sec	585	118.3	65.3	106.3	25280	56.7	18786
30	56.89 Sec	456	113.1	61.9	76.9	28545	38.8	21115
31	85.33 Sec	231	103.6	55.7	58.5	33468	26.1	24539
32	113.78 Sec	282	93.2	48.2	50.6	36651	17.8	26346
33	170.67 Sec	114	84.4	40.5	49.8	42707	13.0	29588
34	227.56 Sec	96	78.0	33.7	54.7	47398	11.2	31185
35	341.33 Sec	12	74.7	28.6	72.5	56844	11.4	35146
36	455.11 Sec	21	77.1	25.1	113.5	66680	12.4	38010
37	682.67 Sec	15	85.3	22.6	145.7	85888	15.8	44188
38	910.22 Sec	24	92.5	22.2	143.9	103243	18.0	50580
39	1365.33 Sec	6	99.2	21.0	103.5	130987	16.2	60244
40	1820.44 Sec	6	93.8	20.3	63.3	147087	16.1	68406

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	256	3.08	19.48	999.99	.98	316.20	823.66
5	96.00 Hz	2003	17.96	25.34	93.19	41.55	254.46	50.79
6	72.00 Hz	1333	1.75	5.70	246.03	62.64	211.47	999.99
7	48.00 Hz	1813	1.26	-3.72	127.24	4.21	155.74	135.13
8	36.00 Hz	1492	1.75	3.10	21.06	19.23	119.25	21.07
9	24.00 Hz	1620	-3.04	-.33	10.81	16.50	87.13	6.70
10	18.00 Hz	2580	.18	.23	5.91	17.28	70.80	2.89
11	12.00 Hz	2879	-2.04	1.17	1.11	10.15	50.36	.60
12	9.00 Hz	672	.88	.03	.53	11.58	36.65	.33
13	6.00 Hz	1818	1.67	-.73	1.32	7.41	28.75	.79
14	4.50 Hz	666	-1.39	.19	2.27	9.49	21.19	1.32
15	3.00 Hz	9440	.97	-.57	10.74	9.41	17.36	9.23
16	2.25 Hz	32521	.56	-.33	1.17	8.60	13.91	3.83
17	1.50 Hz	7953	.21	-.51	1.48	8.20	9.75	6.30
18	1.13 Hz	14632	-.11	-.23	.76	8.27	8.28	3.46
19	1.33 Sec	4325	.383	-.798	.517	7.527	7.204	1.893
20	1.78 Sec	1349	-.312	-1.060	2.045	8.719	5.088	5.294
21	2.67 Sec	2308	.341	-1.010	2.537	8.240	4.738	6.572
22	3.56 Sec	2175	.302	-.473	53.667	7.816	4.642	64.507
23	5.33 Sec	792	.315	-.175	16.717	5.745	3.767	14.316
24	7.11 Sec	1289	.229	-.683	4.216	7.159	1.993	4.350
25	10.67 Sec	474	.424	-.381	.110	5.823	2.433	.170
26	14.22 Sec	522	.446	-.191	.004	5.382	2.632	.011
27	21.33 Sec	363	.361	.045	.001	4.376	2.627	.004
28	28.44 Sec	546	.303	.158	.001	3.610	2.757	.001
29	42.67 Sec	585	.247	.175	.000	2.672	2.589	.001
30	56.89 Sec	456	.190	.188	.000	2.111	2.348	.001
31	85.33 Sec	231	.155	.166	.001	1.522	1.955	.001
32	113.78 Sec	282	.118	.160	.000	1.236	1.662	.001
33	170.67 Sec	114	.180	.118	.003	.959	1.231	.003
34	227.56 Sec	96	.153	.089	.003	.846	.994	.003
35	341.33 Sec	12	.162	.032	.003	.662	.818	.006
36	455.11 Sec	21	.109	.039	.001	.623	.663	.002
37	682.67 Sec	15	.155	-.043	.004	.555	.555	.006
38	910.22 Sec	24	.073	.038	.002	.492	.497	.006
39	1365.33 Sec	6	.058	.089	.008	.357	.495	.015
40	1820.44 Sec	6	.039	.042	.004	.280	.401	.006

PHOENIX GEOPHYSICS

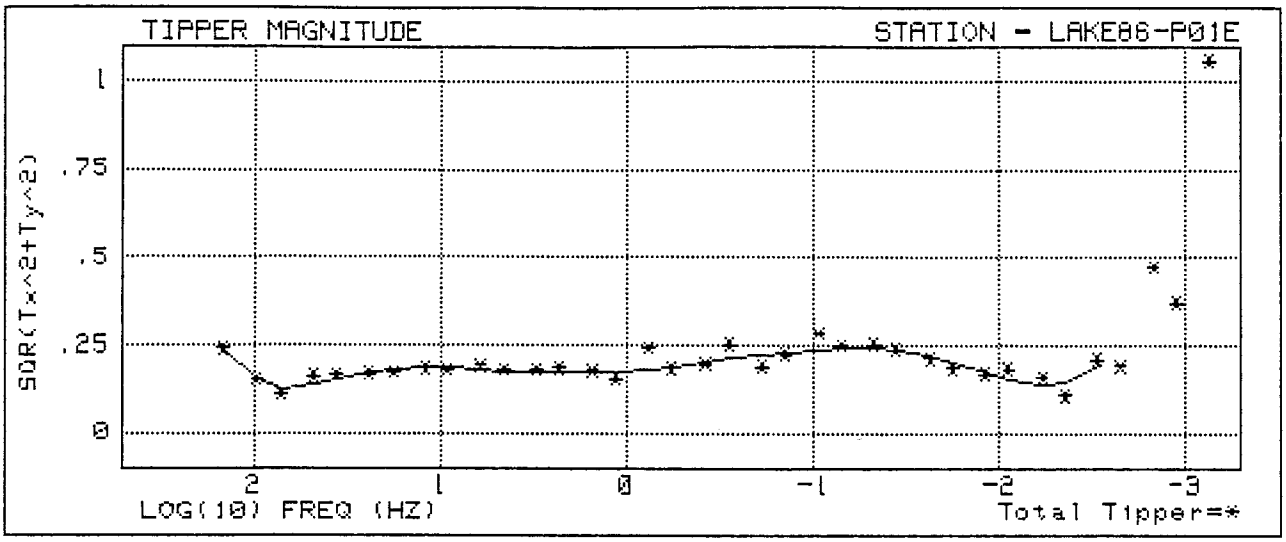
MT Site: LAKE86-P01E

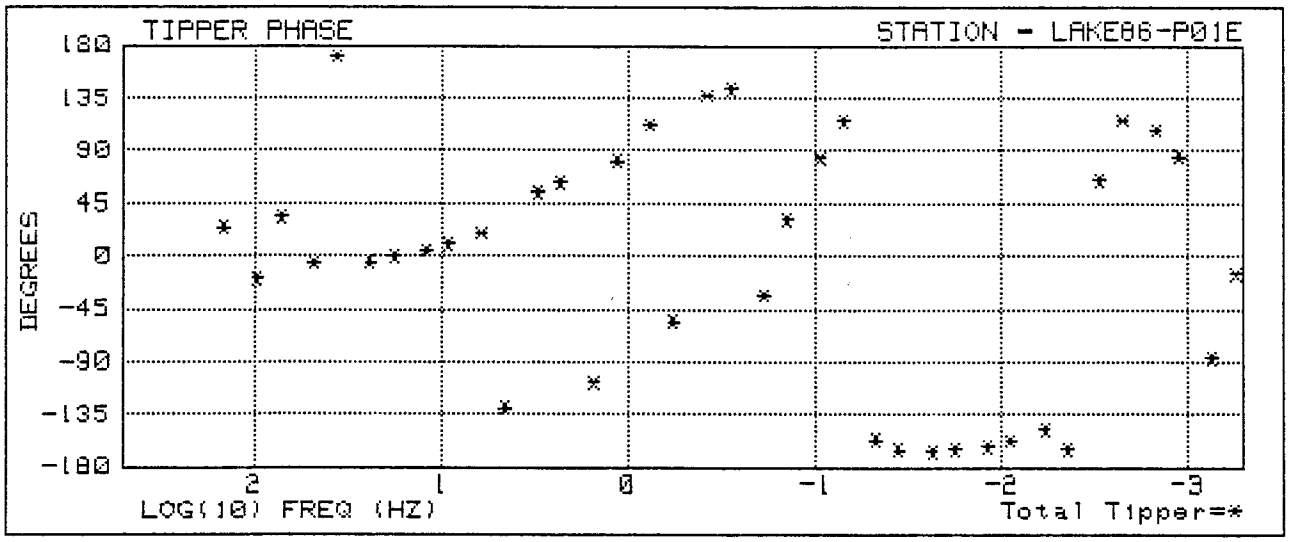
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

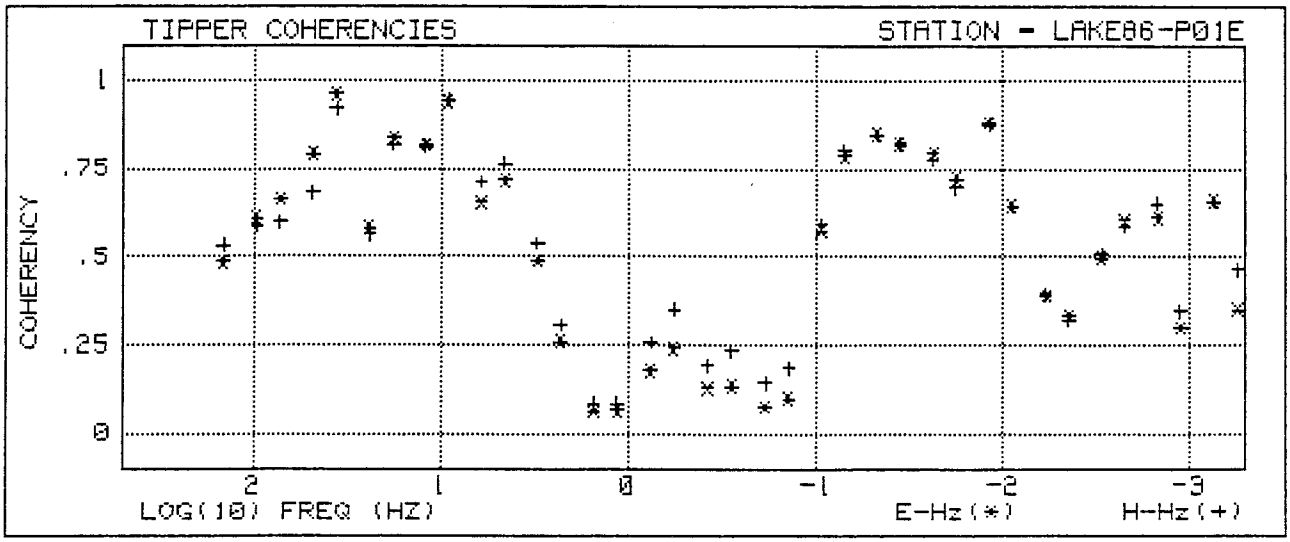
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	256	-93.47	-440.89	999.99	73.27	-32.59	999.99
5	96.00 Hz	2003	-68.96	-349.91	119.80	6.95	28.50	65.29
6	72.00 Hz	1333	-96.09	-248.35	292.58	1.71	5.74	999.99
7	48.00 Hz	1813	-15.81	-193.80	239.01	1.24	-3.72	253.84
8	36.00 Hz	1492	-19.66	-155.22	26.43	-5.76	3.19	26.45
9	24.00 Hz	1620	-19.69	-105.71	12.86	-2.33	-.46	7.97
10	18.00 Hz	2580	-22.51	-84.21	4.28	1.95	-.45	2.10
11	12.00 Hz	2879	-15.98	-61.86	1.26	.73	-.24	.67
12	9.00 Hz	672	-14.44	-45.48	.56	1.72	-.24	.36
13	6.00 Hz	1818	-10.64	-33.44	1.27	.47	.10	.76
14	4.50 Hz	666	-7.21	-26.19	3.40	-1.13	.31	1.97
15	3.00 Hz	9440	-8.22	-17.59	1.96	1.18	.57	1.69
16	2.25 Hz	32521	-6.90	-13.20	.17	.39	.09	.55
17	1.50 Hz	7953	-6.45	-9.35	.91	.29	-.85	3.90
18	1.13 Hz	14632	-6.21	-7.08	.31	.11	-.60	1.40
19	1.33 Sec	4325	-5.544	-5.209	.423	-.156	-.263	1.548
20	1.78 Sec	1349	-5.127	-4.948	.788	-.359	.154	2.041
21	2.67 Sec	2308	-5.157	-3.581	1.315	-.372	.892	3.407
22	3.56 Sec	2175	-5.305	-2.739	18.570	-.681	.823	22.321
23	5.33 Sec	792	-4.601	-2.156	13.265	-.150	.156	11.360
24	7.11 Sec	1289	-4.567	-2.166	2.248	.279	.062	2.320
25	10.67 Sec	474	-4.154	-2.177	.097	.368	-.016	.149
26	14.22 Sec	522	-3.621	-2.373	.005	.406	.086	.012
27	21.33 Sec	363	-3.022	-2.163	.001	.354	.065	.002
28	28.44 Sec	546	-2.538	-2.129	.000	.362	.059	.001
29	42.67 Sec	585	-1.950	-1.974	.000	.379	.021	.001
30	56.89 Sec	456	-1.514	-1.814	.000	.316	.047	.001
31	85.33 Sec	231	-1.067	-1.473	.000	.255	.072	.000
32	113.78 Sec	282	-.799	-1.240	.000	.211	.064	.001
33	170.67 Sec	114	-.589	-.922	.003	.187	.110	.003
34	227.56 Sec	96	-.460	-.722	.002	.140	.108	.002
35	341.33 Sec	12	-.384	-.519	.001	.118	.073	.002
36	455.11 Sec	21	-.334	-.405	.001	.069	.084	.002
37	682.67 Sec	15	-.284	-.292	.003	.029	.087	.004
38	910.22 Sec	24	-.251	-.282	.002	.077	.034	.005
39	1365.33 Sec	6	-.215	-.192	.003	.149	.047	.006
40	1820.44 Sec	6	-.171	-.148	.001	.053	.036	.002

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E







PHOENIX GEOPHYSICS

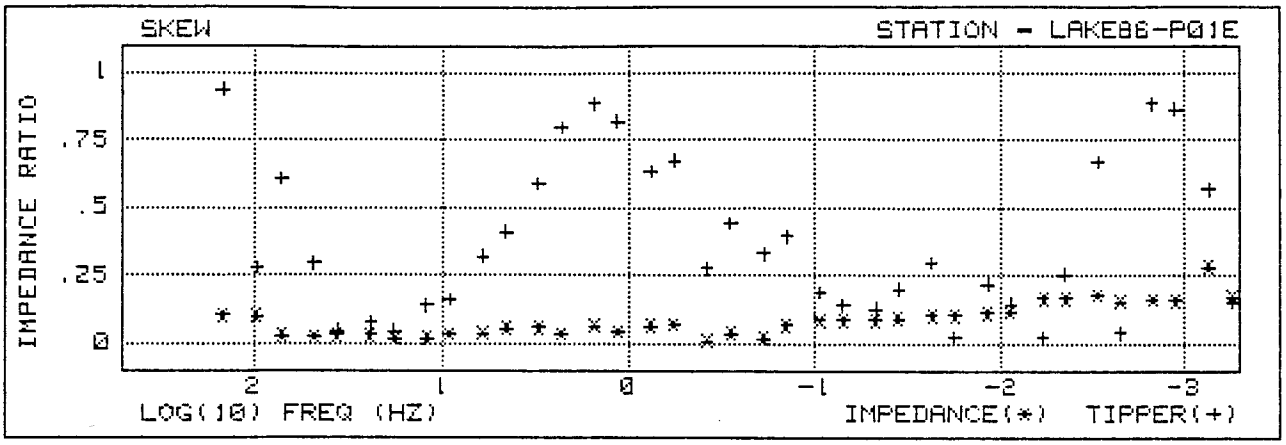
MT Site: LAKE86-P01E

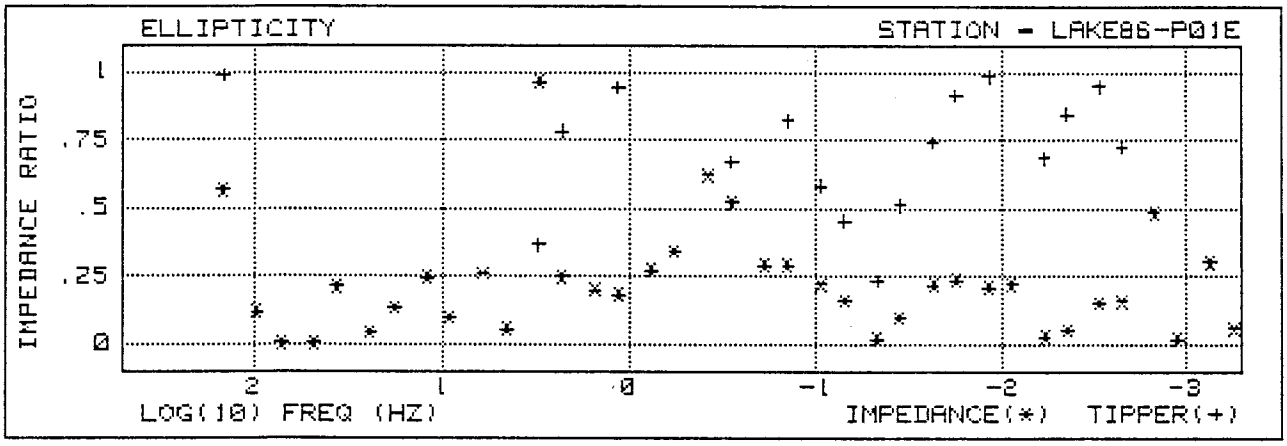
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

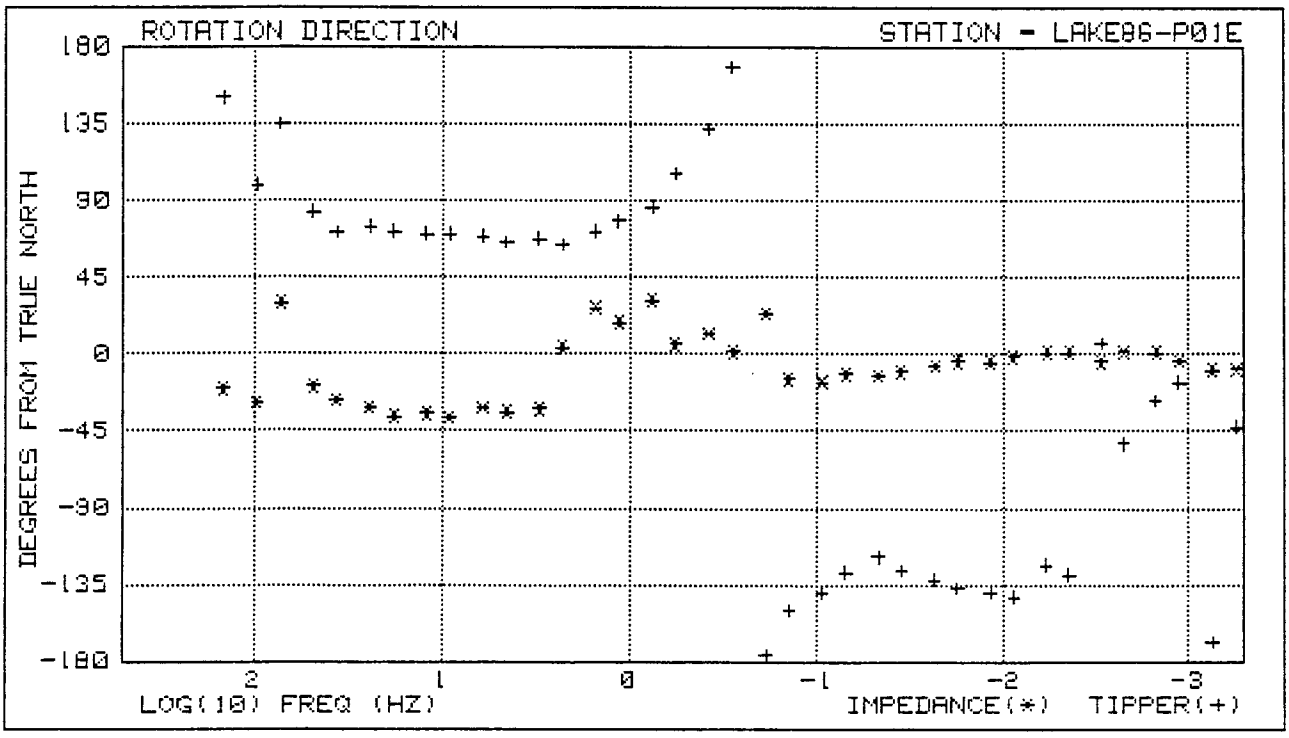
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	256	.24	23.34	.48	.53
5	96.00 Hz	2003	.15	-20.25	.60	.58
6	72.00 Hz	1333	.11	32.84	.66	.60
7	48.00 Hz	1813	.16	-6.78	.79	.68
8	36.00 Hz	1492	.16	169.92	.96	.92
9	24.00 Hz	1620	.16	-5.72	.58	.56
10	18.00 Hz	2580	.17	-1.02	.83	.81
11	12.00 Hz	2879	.18	3.72	.81	.81
12	9.00 Hz	672	.17	9.23	.94	.94
13	6.00 Hz	1818	.19	18.36	.65	.71
14	4.50 Hz	666	.18	-129.91	.71	.76
15	3.00 Hz	9440	.18	53.40	.49	.53
16	2.25 Hz	32521	.18	62.24	.26	.30
17	1.50 Hz	7953	.17	-108.60	.06	.08
18	1.13 Hz	14632	.15	79.93	.06	.08
19	1.33 Sec	4325	.24	111.01	.17	.25
20	1.78 Sec	1349	.18	-56.56	.24	.35
21	2.67 Sec	2308	.19	136.10	.12	.19
22	3.56 Sec	2175	.25	142.09	.13	.23
23	5.33 Sec	792	.19	-33.93	.07	.14
24	7.11 Sec	1289	.22	30.60	.09	.18
25	10.67 Sec	474	.28	83.14	.57	.59
26	14.22 Sec	522	.25	114.48	.78	.80
27	21.33 Sec	363	.25	-157.74	.84	.84
28	28.44 Sec	546	.23	-165.86	.82	.82
29	42.67 Sec	585	.21	-167.01	.79	.77
30	56.89 Sec	456	.18	-165.47	.72	.69
31	85.33 Sec	231	.16	-163.26	.88	.87
32	113.78 Sec	282	.18	-158.15	.64	.64
33	170.67 Sec	114	.15	-148.41	.39	.39
34	227.56 Sec	96	.10	-165.38	.33	.32
35	341.33 Sec	12	.21	63.97	.49	.50
36	455.11 Sec	21	.19	114.96	.60	.58
37	682.67 Sec	15	.47	106.62	.61	.65
38	910.22 Sec	24	.37	84.54	.29	.34
39	1365.33 Sec	6	1.06	-87.19	.66	.65
40	1820.44 Sec	6	1.27	-15.64	.35	.46

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E







PHOENIX GEOPHYSICS

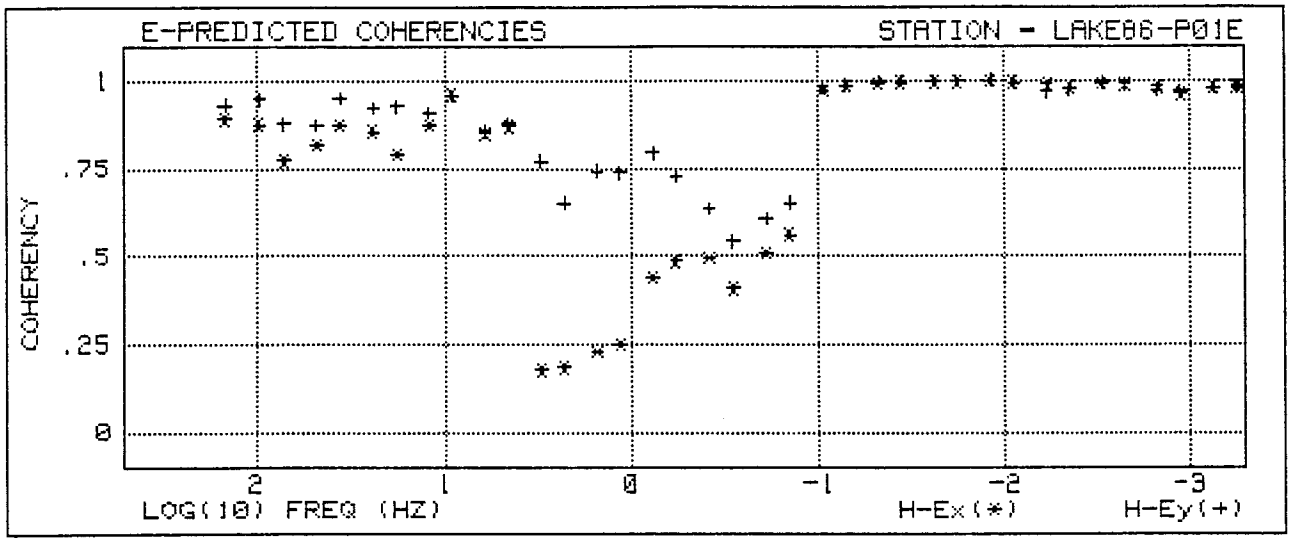
MT Site: LAKE86-P01E

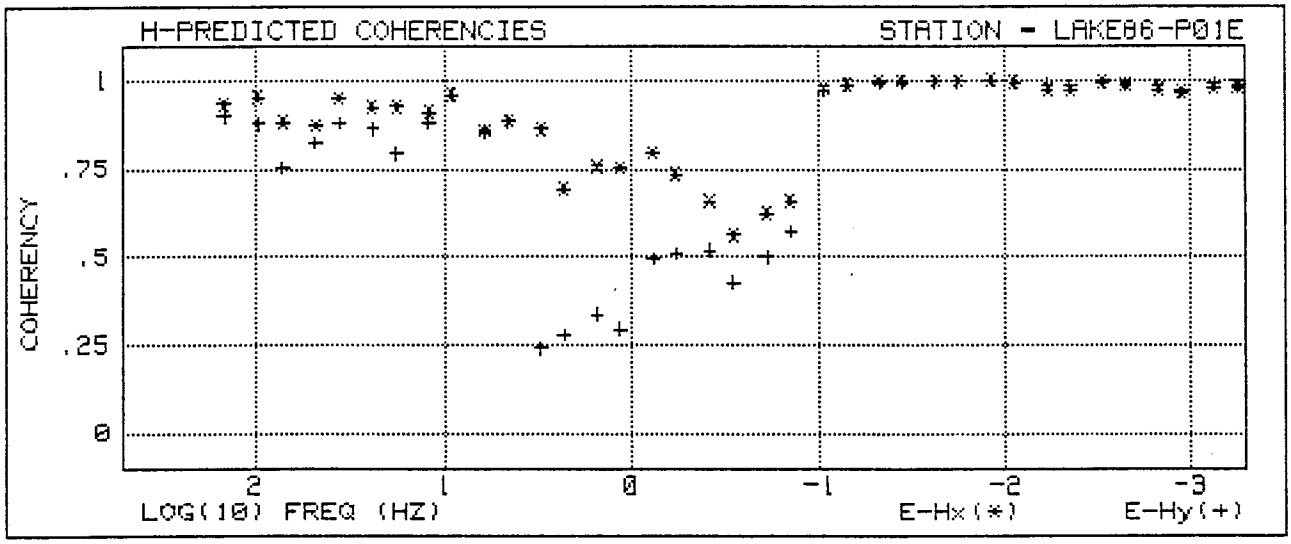
SKEW, ELLIPTICITY AND STRIKE

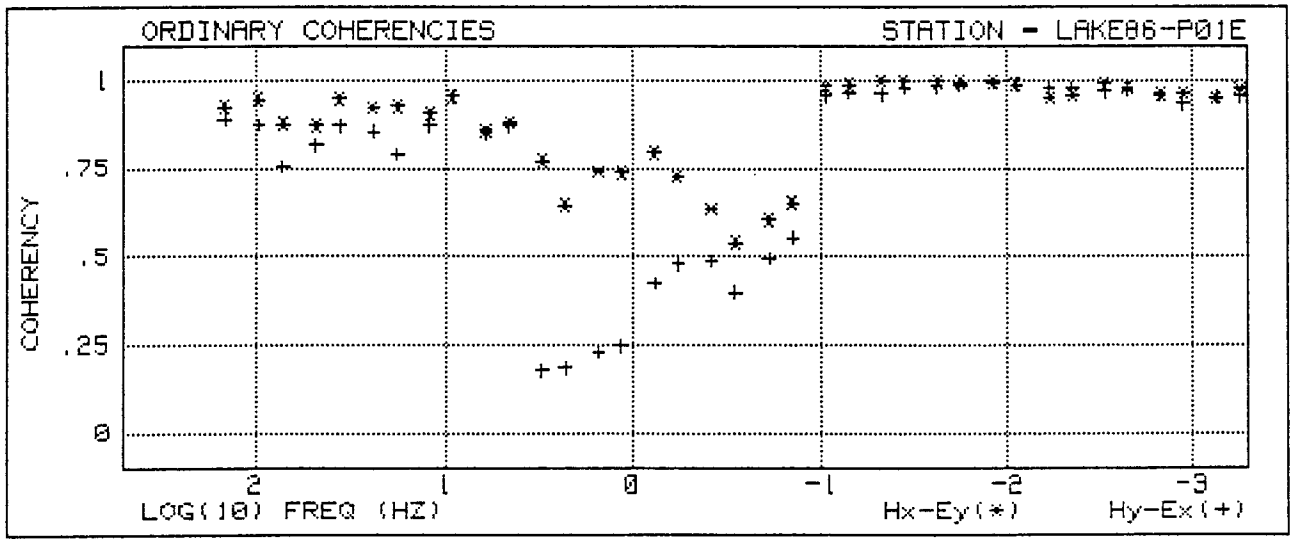
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	256	.10	.56	-20.88	.93	.98	149.82
5	96.00 Hz	2003	.10	.12	-28.95	.28	3.72	98.77
6	72.00 Hz	1333	.02	.00	29.45	.60	1.38	134.13
7	48.00 Hz	1813	.02	.00	-19.33	.29	5.49	82.88
8	36.00 Hz	1492	.03	.21	-27.53	.04	9.10	70.53
9	24.00 Hz	1620	.03	.04	-31.92	.07	3.96	74.12
10	18.00 Hz	2580	.01	.13	-37.03	.04	3.04	71.01
11	12.00 Hz	2879	.01	.24	-35.47	.14	3.51	69.85
12	9.00 Hz	672	.03	.10	-37.88	.16	3.01	69.91
13	6.00 Hz	1818	.03	.26	-31.81	.32	4.11	68.09
14	4.50 Hz	666	.05	.05	-34.12	.41	3.71	64.87
15	3.00 Hz	9440	.05	.96	-32.39	.58	.36	66.69
16	2.25 Hz	32521	.03	.25	3.19	.79	.78	63.67
17	1.50 Hz	7953	.06	.20	26.20	.88	1.26	71.00
18	1.13 Hz	14632	.04	.18	17.85	.81	.94	77.64
19	1.33 Sec	4325	.06	.27	30.67	.63	2.82	85.89
20	1.78 Sec	1349	.07	.34	4.97	.67	1.29	105.25
21	2.67 Sec	2308	.01	.62	11.18	.27	1.93	131.49
22	3.56 Sec	2175	.03	.52	.97	.44	.67	167.56
23	5.33 Sec	792	.01	.29	23.14	.33	1.25	-176.96
24	7.11 Sec	1289	.06	.29	-15.14	.39	.82	-150.44
25	10.67 Sec	474	.08	.22	-16.84	.18	.58	-140.30
26	14.22 Sec	522	.08	.16	-12.29	.14	.45	-128.15
27	21.33 Sec	363	.08	.01	-13.34	.12	.23	-119.05
28	28.44 Sec	546	.09	.09	-10.94	.20	.51	-127.29
29	42.67 Sec	585	.10	.21	-7.23	.29	.74	-132.74
30	56.89 Sec	456	.10	.23	-5.20	.02	.91	-137.52
31	85.33 Sec	231	.11	.21	-5.52	.22	.98	-140.06
32	113.78 Sec	282	.11	.22	-2.00	.14	1.23	-142.91
33	170.67 Sec	114	.16	.02	.22	.02	.68	-124.03
34	227.56 Sec	96	.16	.05	.23	.25	.84	-129.95
35	341.33 Sec	12	.18	.15	-4.73	.67	.94	5.86
36	455.11 Sec	21	.15	.16	.71	.04	.72	-52.79
37	682.67 Sec	15	.16	.48	.51	.88	1.34	-27.79
38	910.22 Sec	24	.15	.02	-4.29	.86	1.69	-16.94
39	1365.33 Sec	6	.28	.30	-9.98	.56	1.88	-169.15
40	1820.44 Sec	6	.17	.05	-9.40	.15	1.48	-43.27

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E







PHOENIX GEOPHYSICS

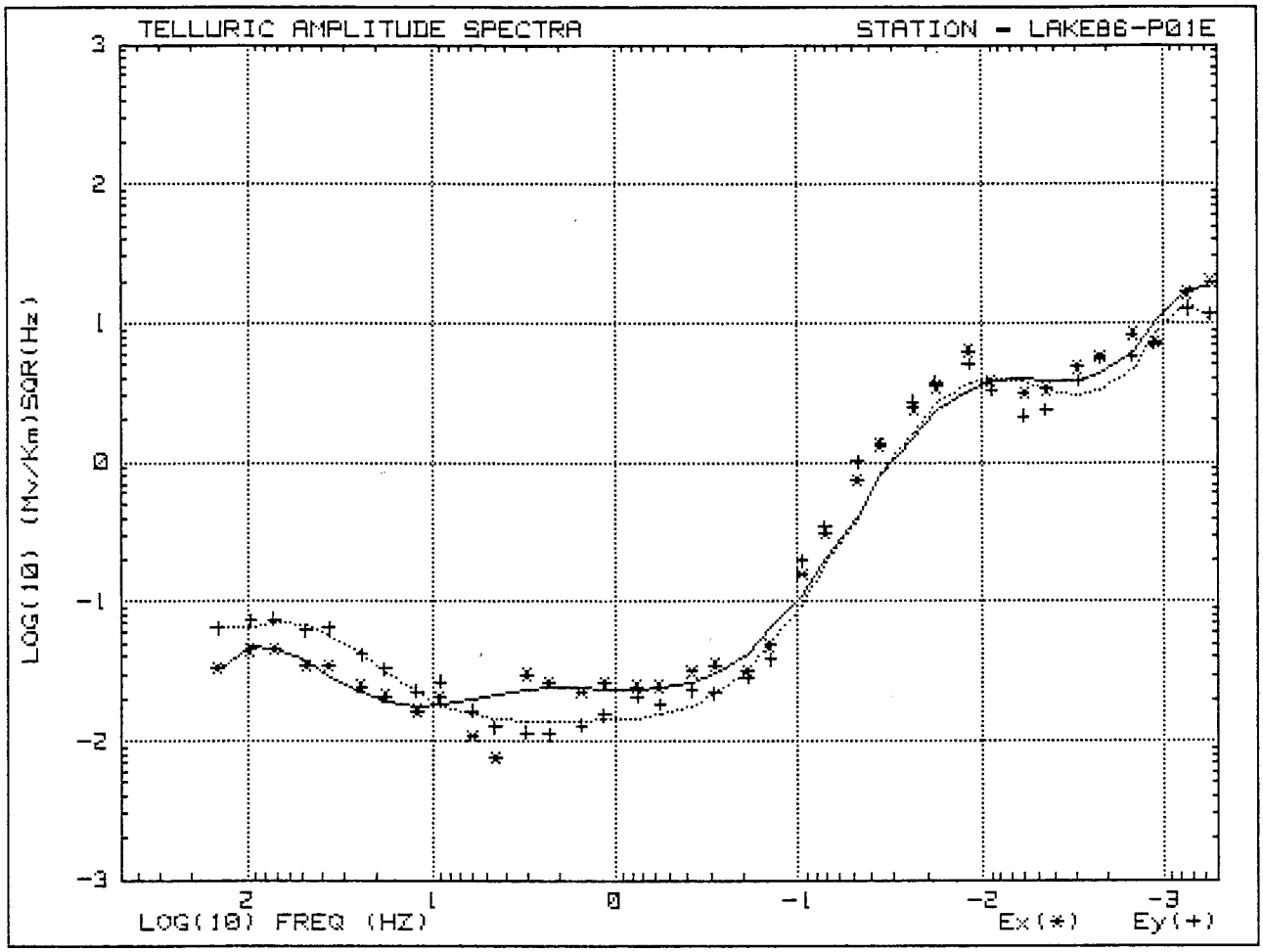
MT Site: LAKE86-P01E

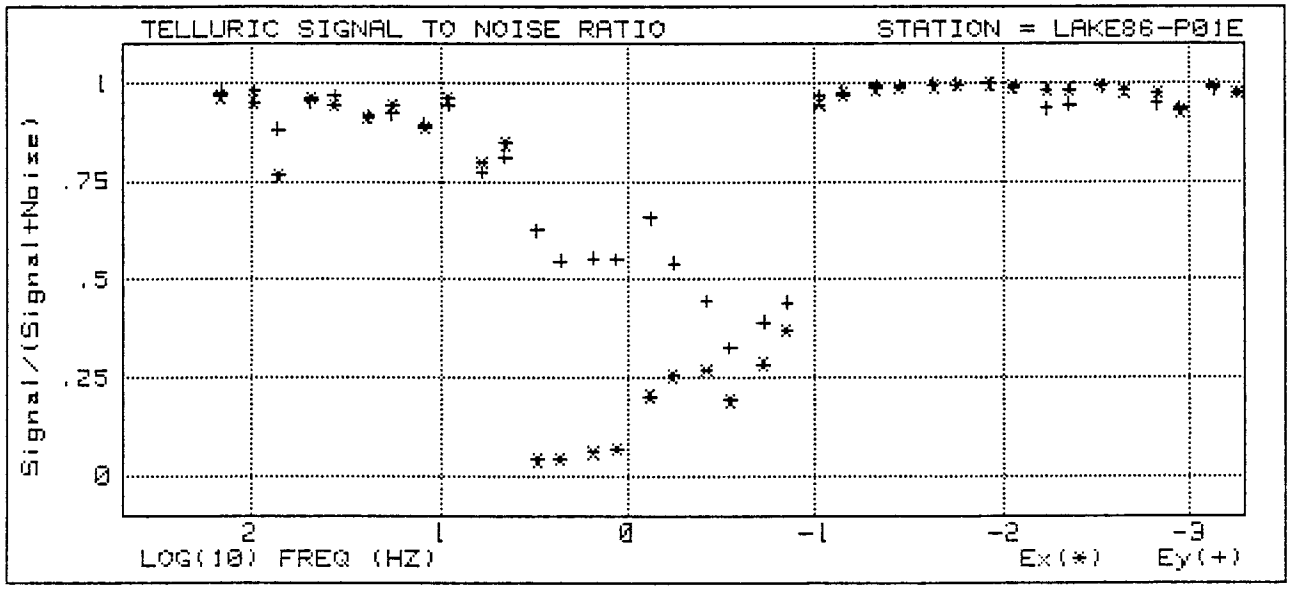
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	256	.89	.93	.93	.90	.92	.89
5	96.00 Hz	2003	.87	.94	.95	.88	.94	.87
6	72.00 Hz	1333	.77	.87	.88	.75	.87	.75
7	48.00 Hz	1813	.81	.87	.87	.82	.87	.81
8	36.00 Hz	1492	.87	.95	.95	.88	.95	.87
9	24.00 Hz	1620	.85	.92	.92	.86	.92	.85
10	18.00 Hz	2580	.79	.92	.92	.79	.92	.79
11	12.00 Hz	2879	.87	.90	.91	.88	.90	.87
12	9.00 Hz	672	.96	.96	.96	.96	.95	.95
13	6.00 Hz	1818	.85	.85	.86	.85	.85	.85
14	4.50 Hz	666	.87	.88	.89	.88	.88	.87
15	3.00 Hz	9440	.17	.77	.86	.24	.77	.17
16	2.25 Hz	32521	.18	.65	.69	.27	.64	.18
17	1.50 Hz	7953	.23	.74	.76	.33	.74	.22
18	1.13 Hz	14632	.25	.73	.75	.29	.73	.24
19	1.33 Sec	4325	.44	.79	.79	.49	.79	.42
20	1.78 Sec	1349	.48	.72	.73	.50	.72	.48
21	2.67 Sec	2308	.49	.63	.65	.51	.63	.48
22	3.56 Sec	2175	.40	.54	.56	.42	.54	.40
23	5.33 Sec	792	.51	.60	.62	.50	.60	.49
24	7.11 Sec	1289	.56	.65	.66	.57	.65	.55
25	10.67 Sec	474	.97	.98	.98	.97	.98	.95
26	14.22 Sec	522	.98	.99	.99	.98	.99	.96
27	21.33 Sec	363	.99	1.00	1.00	.99	1.00	.96
28	28.44 Sec	546	.99	1.00	1.00	.99	.99	.98
29	42.67 Sec	585	.99	1.00	1.00	.99	.99	.98
30	56.89 Sec	456	.99	1.00	1.00	.99	.99	.98
31	85.33 Sec	231	1.00	1.00	1.00	1.00	.99	.99
32	113.78 Sec	282	.99	.99	.99	.99	.99	.99
33	170.67 Sec	114	.99	.97	.97	.98	.95	.98
34	227.56 Sec	96	.98	.97	.97	.98	.95	.97
35	341.33 Sec	12	.99	.99	.99	.99	.99	.97
36	455.11 Sec	21	.99	.99	.99	.99	.98	.97
37	682.67 Sec	15	.98	.97	.97	.98	.96	.95
38	910.22 Sec	24	.96	.97	.97	.96	.96	.93
39	1365.33 Sec	6	.98	.98	.98	.99	.95	.95
40	1820.44 Sec	6	.98	.98	.98	.98	.98	.95

PHOENIX GEOPHYSICS

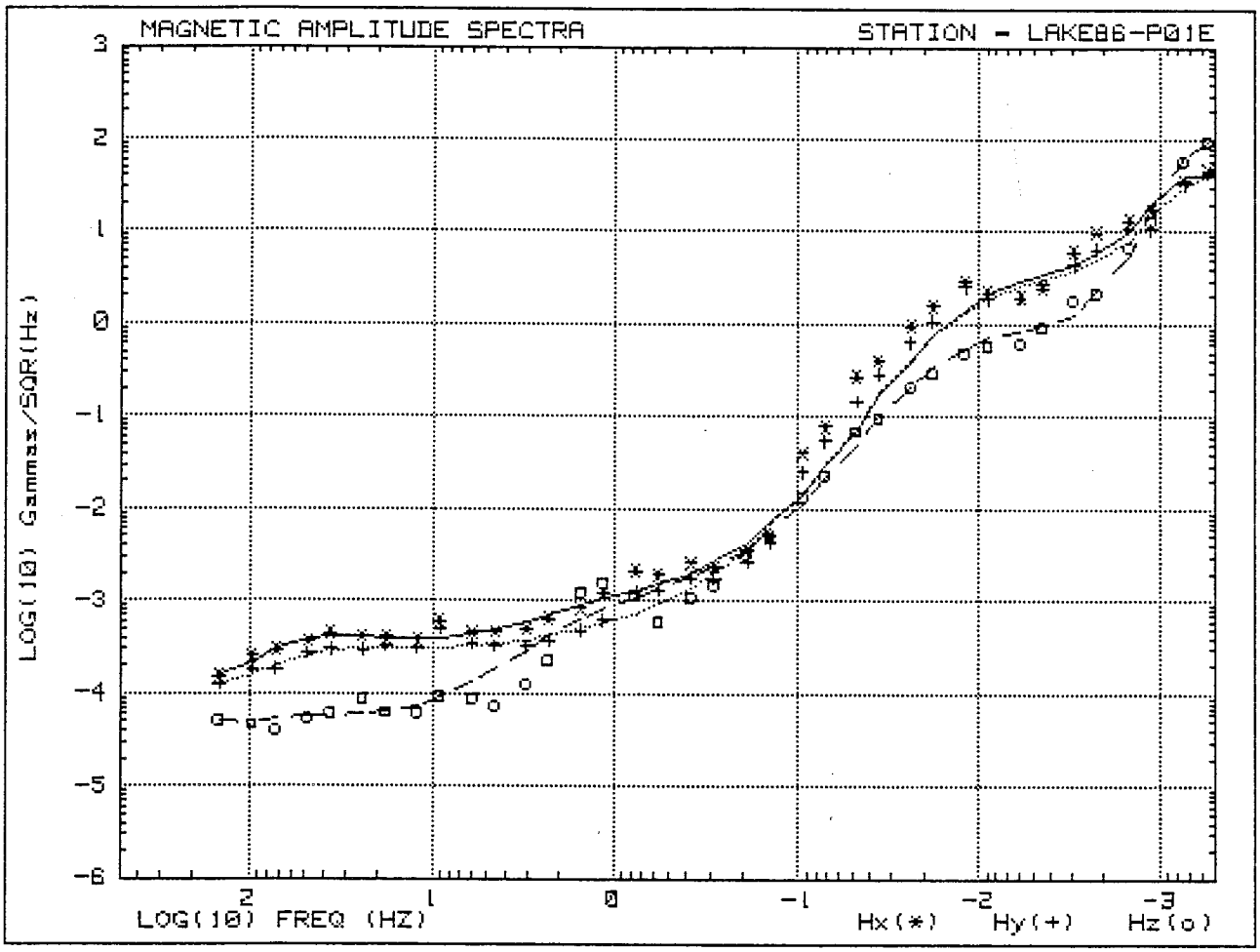
MT Site: LAKE86-P01E

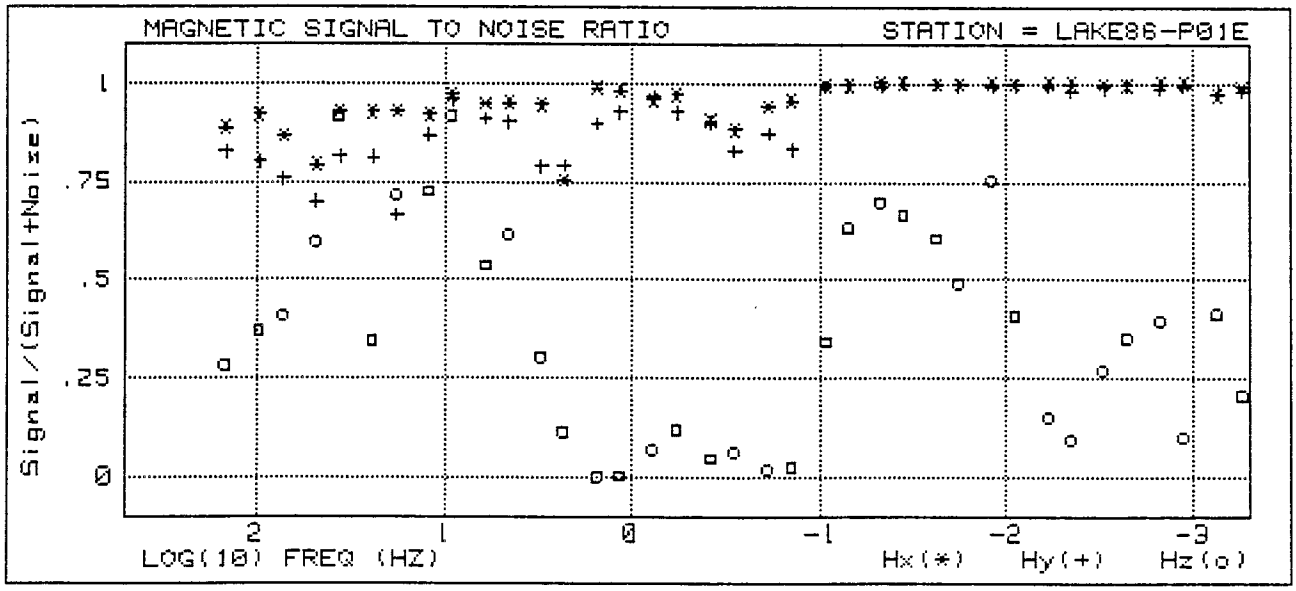




PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	256	1.52E-04	1.23E-04	5.38E-05	3.29E-02	6.34E-02
5	96.00 Hz	2003	2.47E-04	1.79E-04	4.91E-05	4.43E-02	7.30E-02
6	72.00 Hz	1333	2.87E-04	1.81E-04	4.20E-05	4.52E-02	7.34E-02
7	48.00 Hz	1813	3.57E-04	2.65E-04	5.78E-05	3.40E-02	6.11E-02
8	36.00 Hz	1492	4.42E-04	2.98E-04	6.39E-05	3.41E-02	6.33E-02
9	24.00 Hz	1620	4.07E-04	2.90E-04	9.45E-05	2.41E-02	4.09E-02
10	18.00 Hz	2580	4.02E-04	3.28E-04	6.64E-05	2.04E-02	3.23E-02
11	12.00 Hz	2879	3.76E-04	3.10E-04	6.58E-05	1.62E-02	2.22E-02
12	9.00 Hz	672	5.97E-04	4.91E-04	9.83E-05	1.99E-02	2.60E-02
13	6.00 Hz	1818	4.52E-04	3.38E-04	9.41E-05	1.07E-02	1.62E-02
14	4.50 Hz	666	4.56E-04	3.17E-04	7.78E-05	7.47E-03	1.24E-02
15	3.00 Hz	9440	4.88E-04	3.13E-04	1.29E-04	2.92E-02	1.13E-02
16	2.25 Hz	32521	6.30E-04	3.60E-04	2.35E-04	2.58E-02	1.10E-02
17	1.50 Hz	7953	8.17E-04	4.63E-04	1.31E-03	2.21E-02	1.26E-02
18	1.13 Hz	14632	1.18E-03	6.09E-04	1.67E-03	2.53E-02	1.51E-02
19	1.33 Sec	4325	2.07E-03	1.24E-03	1.17E-03	2.41E-02	2.03E-02
20	1.78 Sec	1349	1.87E-03	1.28E-03	6.26E-04	2.41E-02	1.80E-02
21	2.67 Sec	2308	2.55E-03	1.76E-03	1.14E-03	3.08E-02	2.24E-02
22	3.56 Sec	2175	2.30E-03	1.76E-03	1.57E-03	3.47E-02	2.17E-02
23	5.33 Sec	792	3.53E-03	2.65E-03	3.30E-03	3.16E-02	2.80E-02
24	7.11 Sec	1289	4.91E-03	4.28E-03	5.21E-03	4.81E-02	3.79E-02
25	10.67 Sec	474	4.00E-02	2.46E-02	1.39E-02	1.56E-01	1.95E-01
26	14.22 Sec	522	7.77E-02	5.44E-02	2.46E-02	3.08E-01	3.45E-01
27	21.33 Sec	363	2.64E-01	1.44E-01	7.30E-02	7.38E-01	1.00E+00
28	28.44 Sec	546	3.97E-01	2.86E-01	1.02E-01	1.30E+00	1.34E+00
29	42.67 Sec	585	9.43E-01	6.34E-01	2.17E-01	2.41E+00	2.67E+00
30	56.89 Sec	456	1.56E+00	1.06E+00	3.09E-01	3.45E+00	3.67E+00
31	85.33 Sec	231	2.84E+00	2.49E+00	5.24E-01	6.17E+00	4.99E+00
32	113.78 Sec	282	2.17E+00	1.85E+00	5.98E-01	3.77E+00	3.22E+00
33	170.67 Sec	114	1.94E+00	1.91E+00	6.57E-01	3.10E+00	2.10E+00
34	227.56 Sec	96	2.46E+00	2.63E+00	9.63E-01	3.29E+00	2.34E+00
35	341.33 Sec	12	5.97E+00	4.45E+00	1.91E+00	4.70E+00	3.76E+00
36	455.11 Sec	21	9.63E+00	6.35E+00	2.29E+00	5.59E+00	5.37E+00
37	682.67 Sec	15	1.29E+01	1.08E+01	7.10E+00	8.12E+00	5.59E+00
38	910.22 Sec	24	1.71E+01	1.05E+01	1.40E+01	7.18E+00	6.92E+00
39	1365.33 Sec	6	3.56E+01	3.26E+01	6.19E+01	1.63E+01	1.24E+01
40	1820.44 Sec	6	4.61E+01	4.25E+01	1.00E+02	1.97E+01	1.14E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	256	.887	.825	.287	.965	.976
5	96.00 Hz	2003	.920	.800	.376	.950	.976
6	72.00 Hz	1333	.867	.756	.415	.762	.880
7	48.00 Hz	1813	.792	.699	.603	.961	.953
8	36.00 Hz	1492	.930	.814	.920	.942	.967
9	24.00 Hz	1620	.926	.812	.349	.910	.914
10	18.00 Hz	2580	.929	.665	.723	.941	.920
11	12.00 Hz	2879	.920	.868	.731	.884	.893
12	9.00 Hz	672	.971	.959	.925	.958	.942
13	6.00 Hz	1818	.948	.910	.543	.797	.771
14	4.50 Hz	666	.950	.902	.621	.844	.812
15	3.00 Hz	9440	.945	.787	.309	.038	.625
16	2.25 Hz	32521	.751	.789	.120	.041	.546
17	1.50 Hz	7953	.988	.898	.007	.057	.553
18	1.13 Hz	14632	.981	.926	.007	.066	.551
19	1.33 Sec	4325	.958	.967	.071	.201	.655
20	1.78 Sec	1349	.970	.926	.125	.253	.541
21	2.67 Sec	2308	.905	.900	.051	.268	.444
22	3.56 Sec	2175	.882	.828	.067	.189	.323
23	5.33 Sec	792	.941	.872	.023	.283	.389
24	7.11 Sec	1289	.955	.833	.031	.369	.441
25	10.67 Sec	474	.997	.992	.347	.943	.964
26	14.22 Sec	522	.996	.996	.637	.969	.976
27	21.33 Sec	363	1.000	.994	.706	.984	.992
28	28.44 Sec	546	1.000	.999	.670	.985	.991
29	42.67 Sec	585	.997	.998	.612	.989	.994
30	56.89 Sec	456	.998	.995	.496	.991	.993
31	85.33 Sec	231	1.000	.995	.760	.996	.995
32	113.78 Sec	282	.998	.996	.413	.989	.985
33	170.67 Sec	114	1.000	.991	.153	.981	.933
34	227.56 Sec	96	1.000	.979	.099	.981	.944
35	341.33 Sec	12	.998	.989	.274	.992	.989
36	455.11 Sec	21	.995	.996	.356	.977	.978
37	682.67 Sec	15	.999	.987	.403	.972	.946
38	910.22 Sec	24	1.000	.991	.104	.926	.933
39	1365.33 Sec	6	.971	.974	.418	.992	.983
40	1820.44 Sec	6	.991	.978	.209	.973	.972

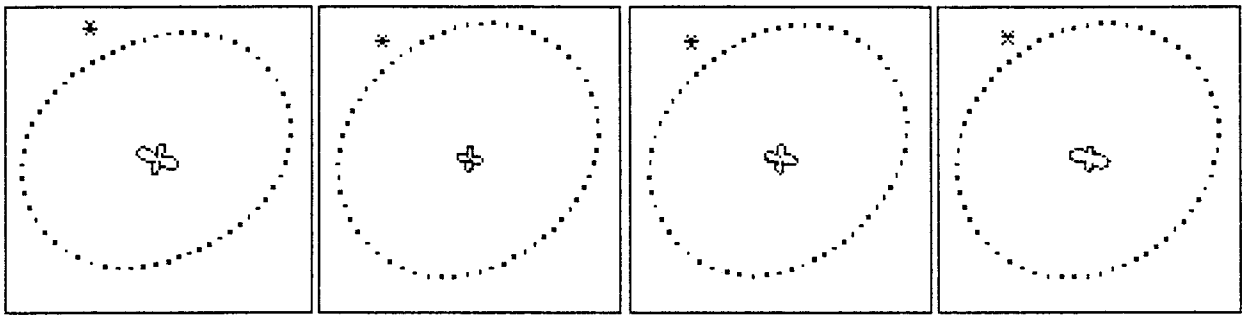
PHOENIX GEOPHYSICS

MT Site: LAKE86-P01E

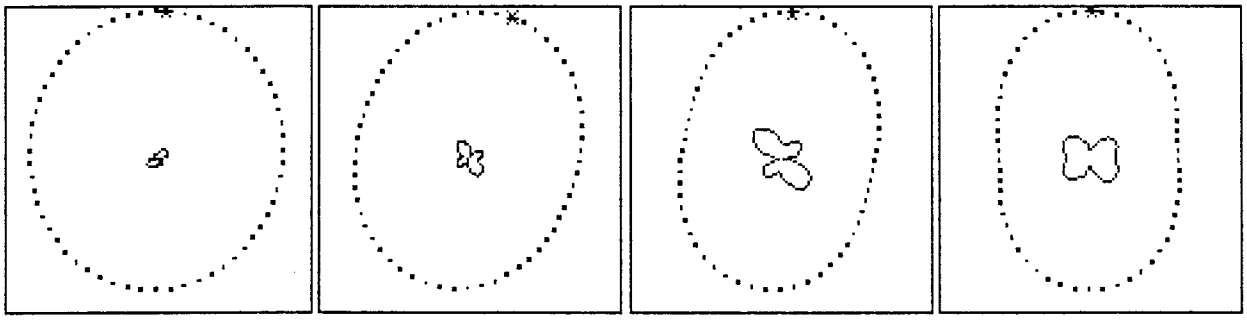
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ____

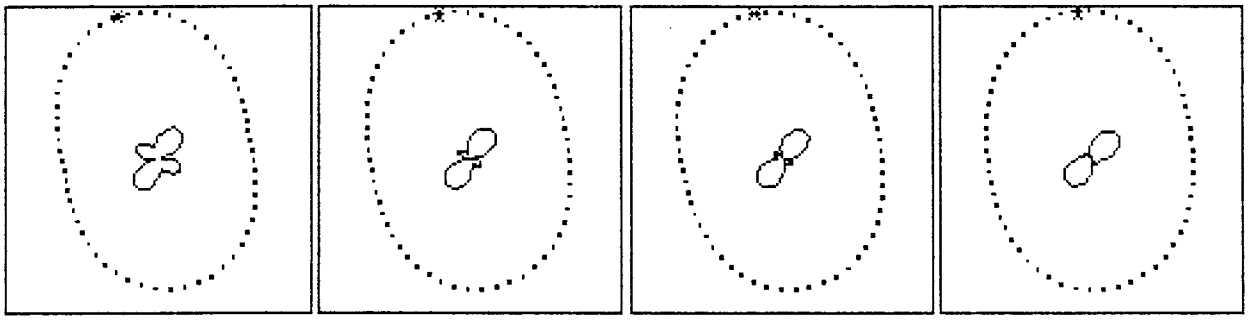
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



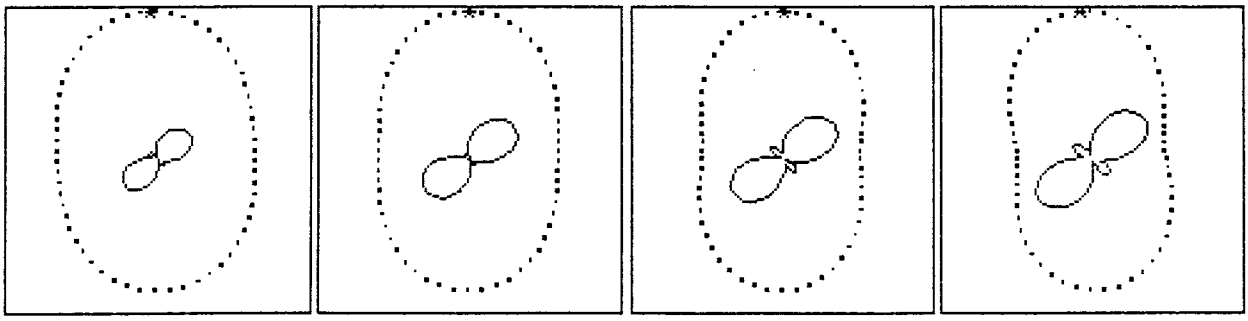
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P01s/P02s/

Operator:BURNS,VAAG
Date: 5 Oct 1986
Time: 16:09:08

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#507-30Aug86-05
SP--Stn02: B#221-30Aug86-05
Sens-Ch01: C#445-04Sep86-01
Sens-Ch02: C#306-04Sep86-01
Sens-Ch03: L#416-05Sep86-01
Sens-Ch06: C#452-04Sep86-01*
Sens-Ch07: C#239-04Sep86-01
Sens-Ch08: L#307-05Sep86-01

* = Changed During the Run

Station 2

Stn Number:LAKE86-P02s
Site Desc:T43N R03E Sec.32 SE1/4
41,36,18 N 121,38,51 W
Elevation:7000 FT.
Reference:LAKE86-P01s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: B. STEWART
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL452*	+35 DEG
Hy	7	COIL239	+125 DEG
Hz	8	LOOP307	
Ex	9	150 M	+35 DEG
Ey	10	145 M	+125 DEG
Rx	1	COIL445	-10 DEG
Ry	2	COIL306	+80 DEG

Ex Pot Resist: 9.0 K Ohms
Ex Voltage: AC=19.0 mv, DC=53.0 mv
Ey Pot Resist: 7.5 K Ohms
Ey Voltage: AC=20.0 mv, DC=230.0 mv
* = Changed During the Run

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

OPERATOR LOG FOR MT SITES LAKE86-P01s/P02s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P01a/P02a/		
Run STARTED:	16:09:08	5 Oct 1986
Run QUIT:	09:47:56	6 Oct 1986
Run QUIT:	09:54:01	6 Oct 1986
Run Start and Stop Time for LAKE86-P01b/P02b/		
Run STARTED:	15:12:13	6 Oct 1986
Run QUIT:	09:43:19	7 Oct 1986
Run Start and Stop Time for LAKE86-P01c/P02c/		
Run STARTED:	10:31:14	7 Oct 1986
Run QUIT:	17:51:41	7 Oct 1986
Run Start and Stop Time for LAKE86-P01d/P02d/		
Run STARTED:	19:47:00	7 Oct 1986
Run QUIT:	04:58:22	8 Oct 1986

Operator:VAAG & OJALA

Cultural Factors:
LITTLE MT. HOFFMAN LOOKOUT AND MEDICINE LAKE RANGER STATION WITHIN 2 MILES OF SITE P02. NO OTHER CULTURE NEARBY.

Weather Conditions:
CLEAR AND WARM WITH LIGHT WINDS.

Other Factors:
UNEXPLAINED SIGNAL SOURCE AFFECTING ALL CHANNELS PERIODICALLY DURING RUN.

PHOENIX GEOPHYSICS

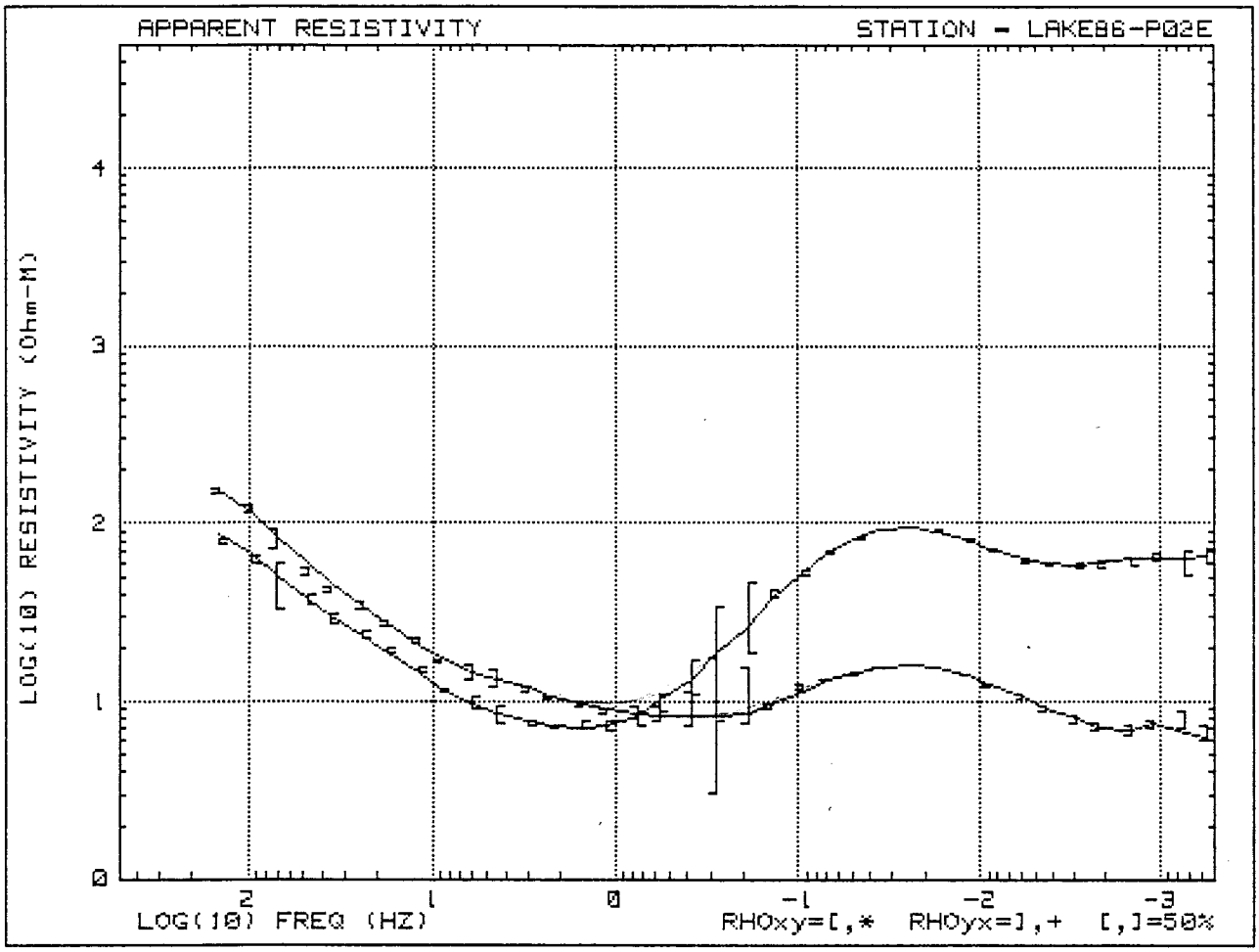
MT Site: LAKE86-P02E

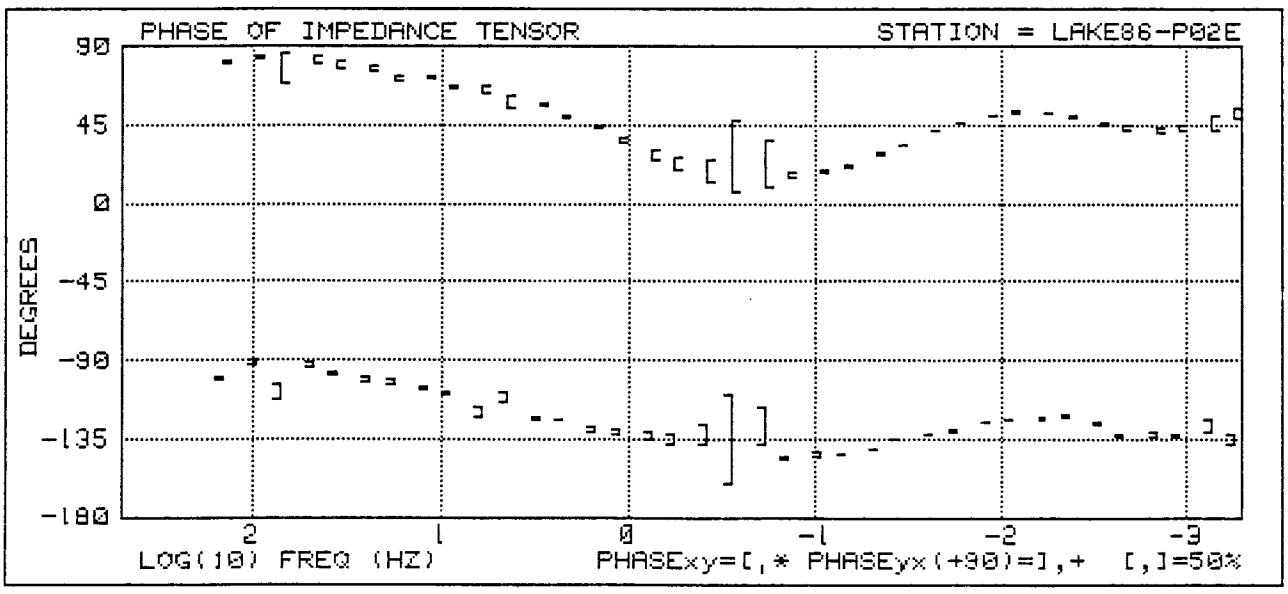
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

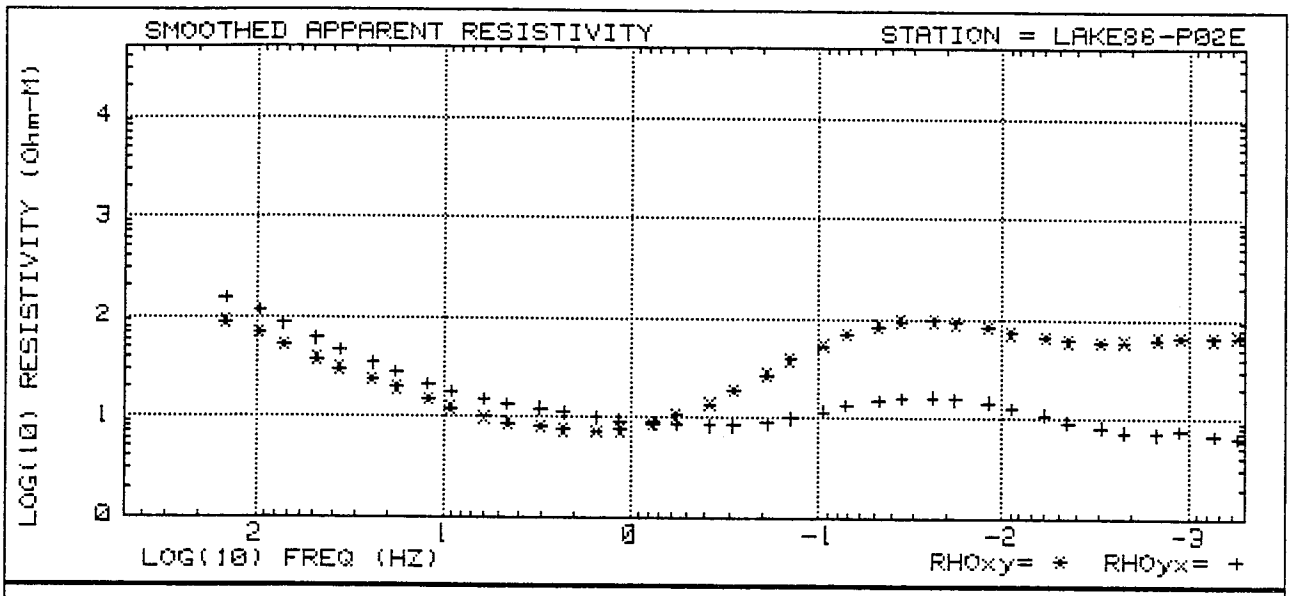
MT Site: LAKE86-P02E

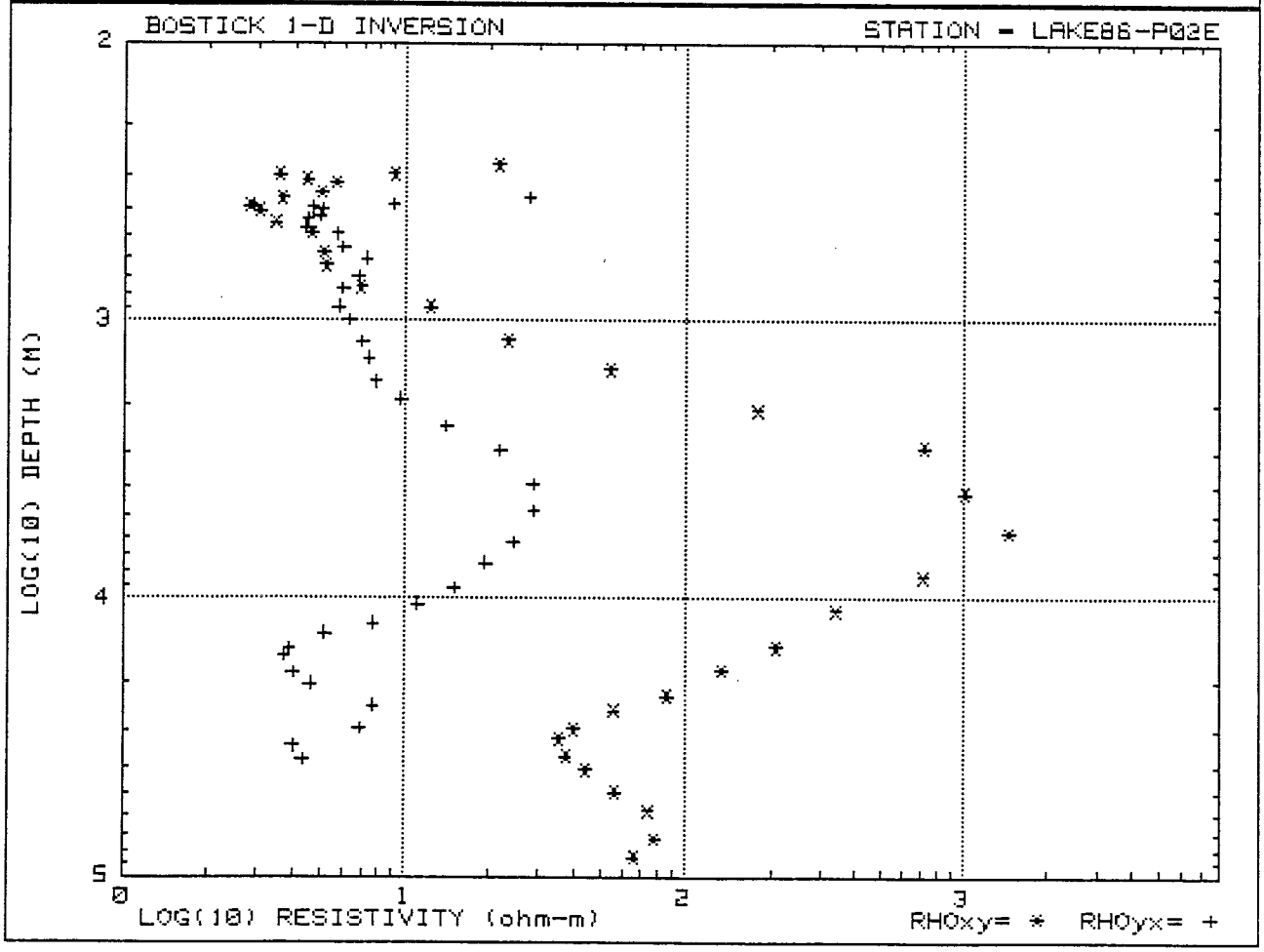




PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	1592	79.5	3.6	151.6	4.6	80.7	1.0	-99.8	1.3
5	96.00 Hz	571	62.6	5.6	120.8	7.5	83.9	1.6	-91.4	2.1
6	72.00 Hz	949	44.2	57.2	82.3	20.5	77.2	13.0	-108.1	5.3
7	48.00 Hz	2828	37.1	8.7	54.0	7.2	82.5	2.4	-92.7	2.0
8	36.00 Hz	984	28.9	9.2	42.1	5.0	79.4	2.5	-97.1	1.4
9	24.00 Hz	672	23.7	5.4	34.3	7.1	77.8	1.5	-100.8	2.0
10	18.00 Hz	1812	19.1	5.3	27.1	6.1	71.8	1.5	-102.7	1.7
11	12.00 Hz	1823	15.3	4.7	21.8	5.6	72.5	1.3	-105.8	1.6
12	9.00 Hz	2879	11.6	2.7	16.9	3.4	67.2	.8	-109.4	1.0
13	6.00 Hz	1338	9.9	12.5	14.7	14.3	65.7	3.4	-119.4	3.8
14	4.50 Hz	2106	8.4	16.6	13.5	18.7	58.5	4.4	-111.1	4.9
15	3.00 Hz	23095	7.6	5.0	11.9	4.8	56.8	1.4	-122.5	1.4
16	2.25 Hz	8247	7.2	4.1	10.5	2.9	50.3	1.1	-123.5	.8
17	1.50 Hz	3626	7.4	6.1	9.8	4.5	44.1	1.7	-129.2	1.3
18	1.13 Hz	4768	7.3	7.6	9.0	4.9	36.7	2.1	-130.9	1.4
19	1.33 Sec	3904	8.1	14.8	8.8	11.6	27.8	3.9	-132.2	3.1
20	1.78 Sec	2704	9.8	18.0	8.5	14.6	23.2	4.7	-135.2	3.9
21	2.67 Sec	3291	13.8	37.0	9.1	37.1	18.6	9.0	-132.1	9.0
22	3.56 Sec	2573	16.1	99.9	7.3	99.9	27.1	31.2	-134.9	38.0
23	5.33 Sec	2033	29.5	99.9	10.8	71.0	23.1	19.9	-127.2	15.4
24	7.11 Sec	768	40.4	5.8	9.4	6.8	16.9	1.6	-145.7	1.9
25	10.67 Sec	593	52.3	4.2	12.2	4.6	18.9	1.2	-143.5	1.3
26	14.22 Sec	701	68.1	2.1	13.2	1.7	21.6	.6	-143.2	.5
27	21.33 Sec	513	83.1	1.5	14.3	1.3	28.7	.4	-140.8	.4
28	28.44 Sec	174	92.3	1.3	15.5	1.4	33.9	.4	-135.4	.4
29	42.67 Sec	387	95.0	1.0	16.1	.7	42.2	.3	-132.3	.2
30	56.89 Sec	375	91.5	1.2	15.5	1.0	46.7	.3	-129.9	.3
31	85.33 Sec	261	80.6	1.0	14.1	1.0	50.8	.3	-125.4	.3
32	113.78 Sec	189	71.0	2.1	12.4	2.1	52.6	.6	-124.0	.6
33	170.67 Sec	93	61.0	2.4	10.8	4.3	51.9	.7	-123.2	1.2
34	227.56 Sec	24	58.6	3.3	9.1	3.9	50.2	.9	-121.8	1.1
35	341.33 Sec	57	57.6	5.1	8.0	6.8	45.6	1.4	-125.8	1.9
36	455.11 Sec	24	58.8	7.3	7.2	6.5	43.9	2.0	-132.8	1.8
37	682.67 Sec	21	60.9	7.4	6.9	9.9	41.9	2.0	-132.5	2.7
38	910.22 Sec	33	64.1	7.3	7.5	6.6	43.7	2.0	-132.7	1.8
39	1365.33 Sec	9	59.8	26.5	7.9	19.8	46.6	6.7	-126.7	5.2
40	1820.44 Sec	6	65.7	15.8	6.6	15.0	52.5	4.2	-135.0	4.0

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	1592	87.3	150.7	21.7	277	27.8	364
5	96.00 Hz	571	68.4	113.9	9.1	300	9.0	388
6	72.00 Hz	949	51.3	83.4	3.6	303	2.9	392
7	48.00 Hz	2828	37.4	59.7	4.5	314	4.7	397
8	36.00 Hz	984	29.8	46.1	5.7	324	5.0	403
9	24.00 Hz	672	23.3	34.2	5.0	351	4.9	425
10	18.00 Hz	1812	19.0	27.4	3.7	366	4.5	439
11	12.00 Hz	1823	14.6	20.8	2.8	392	4.4	468
12	9.00 Hz	2879	11.9	17.5	3.0	409	5.7	496
13	6.00 Hz	1338	9.7	14.6	3.5	452	6.0	555
14	4.50 Hz	2106	8.5	13.1	4.7	490	7.3	607
15	3.00 Hz	23095	7.9	12.0	5.1	577	6.8	710
16	2.25 Hz	8247	7.4	10.8	5.2	644	6.0	780
17	1.50 Hz	3626	7.0	9.8	6.9	769	5.8	909
18	1.13 Hz	4768	7.3	9.0	12.4	909	6.3	1009
19	1.33 Sec	3904	8.4	8.6	23.4	1189	7.0	1208
20	1.78 Sec	2704	10.2	8.4	54.2	1515	7.4	1376
21	2.67 Sec	3291	13.4	8.3	179.5	2130	7.9	1670
22	3.56 Sec	2573	18.5	8.3	721.6	2887	9.6	1929
23	5.33 Sec	2033	26.3	8.7	1026.3	4216	14.2	2425
24	7.11 Sec	768	37.7	9.8	1468.7	5824	22.0	2964
25	10.67 Sec	593	52.3	11.4	717.0	8408	28.7	3918
26	14.22 Sec	701	68.5	13.2	341.8	11111	28.9	4871
27	21.33 Sec	513	83.0	14.7	208.2	14978	24.6	6306
28	28.44 Sec	174	92.3	15.7	133.7	18237	19.6	7513
29	42.67 Sec	387	94.3	15.9	85.8	22571	15.1	9266
30	56.89 Sec	375	89.4	15.4	56.1	25375	11.1	10529
31	85.33 Sec	261	80.4	14.2	40.5	29484	7.7	12397
32	113.78 Sec	189	71.1	12.5	35.6	32009	5.2	13437
33	170.67 Sec	93	63.9	10.7	37.7	37157	3.9	15180
34	227.56 Sec	24	59.5	9.1	44.5	41396	3.7	16175
35	341.33 Sec	57	57.8	8.0	56.9	49991	4.0	18589
36	455.11 Sec	24	59.1	7.2	74.2	58384	4.6	20402
37	682.67 Sec	21	62.5	6.9	78.8	73527	7.7	24373
38	910.22 Sec	33	64.1	7.5	66.0	85932	6.9	29433
39	1365.33 Sec	9	63.2	6.7	69.5	104519	4.0	33960
40	1820.44 Sec	6	66.2	6.3	91.9	123546	4.4	38194

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	1592	-.47	-41.88	73.09	38.78	236.01	35.60
5	96.00 Hz	571	2.66	-28.94	98.02	18.49	172.42	44.72
6	72.00 Hz	949	-8.17	-20.49	999.99	27.96	123.02	999.99
7	48.00 Hz	2828	4.94	-6.48	14.45	12.37	93.60	31.01
8	36.00 Hz	984	-.44	1.55	5.74	13.29	70.94	20.38
9	24.00 Hz	672	-1.43	-6.52	5.49	11.31	52.14	3.91
10	18.00 Hz	1812	2.34	-4.70	3.58	12.98	39.42	2.26
11	12.00 Hz	1823	.03	-2.48	1.91	9.09	28.87	.95
12	9.00 Hz	2879	1.59	-2.07	.32	8.86	21.02	.18
13	6.00 Hz	1338	-1.67	-1.22	5.46	7.07	15.68	2.04
14	4.50 Hz	2106	-1.24	-2.15	5.98	7.18	11.71	2.23
15	3.00 Hz	23095	-.61	-.89	.04	5.85	8.95	.14
16	2.25 Hz	8247	-.44	-.57	.01	5.75	6.94	.06
17	1.50 Hz	3626	-.19	-.46	.02	5.35	5.18	.10
18	1.13 Hz	4768	-.04	-.11	.03	5.15	3.85	.11
19	1.33 Sec	3904	-.169	.016	.270	4.888	2.576	.289
20	1.78 Sec	2704	-.006	.003	.409	4.831	2.069	.379
21	2.67 Sec	3291	-.304	.176	1.223	4.819	1.621	1.279
22	3.56 Sec	2573	-.042	-.451	15.779	4.235	2.170	13.443
23	5.33 Sec	2033	-.625	.174	1.962	4.837	2.067	6.649
24	7.11 Sec	768	-.022	-.402	.046	5.102	1.551	.045
25	10.67 Sec	593	.297	-.043	.037	4.683	1.606	.021
26	14.22 Sec	701	.253	-.121	.004	4.549	1.802	.005
27	21.33 Sec	513	.183	.004	.002	3.870	2.121	.002
28	28.44 Sec	174	.186	.075	.001	3.343	2.246	.001
29	42.67 Sec	387	.148	.047	.000	2.472	2.241	.001
30	56.89 Sec	375	.095	.062	.001	1.944	2.064	.001
31	85.33 Sec	261	.098	.084	.000	1.372	1.685	.000
32	113.78 Sec	189	.069	.089	.000	1.074	1.403	.001
33	170.67 Sec	93	.049	.089	.001	.824	1.052	.001
34	227.56 Sec	24	.068	.063	.000	.727	.872	.001
35	341.33 Sec	57	.031	.034	.001	.643	.656	.001
36	455.11 Sec	24	.057	.013	.000	.579	.557	.002
37	682.67 Sec	21	.067	.012	.001	.497	.446	.001
38	910.22 Sec	33	.054	.019	.000	.429	.410	.001
39	1365.33 Sec	9	.054	.057	.001	.321	.340	.006
40	1820.44 Sec	6	.058	-.008	.001	.258	.337	.002

PHOENIX GEOPHYSICS

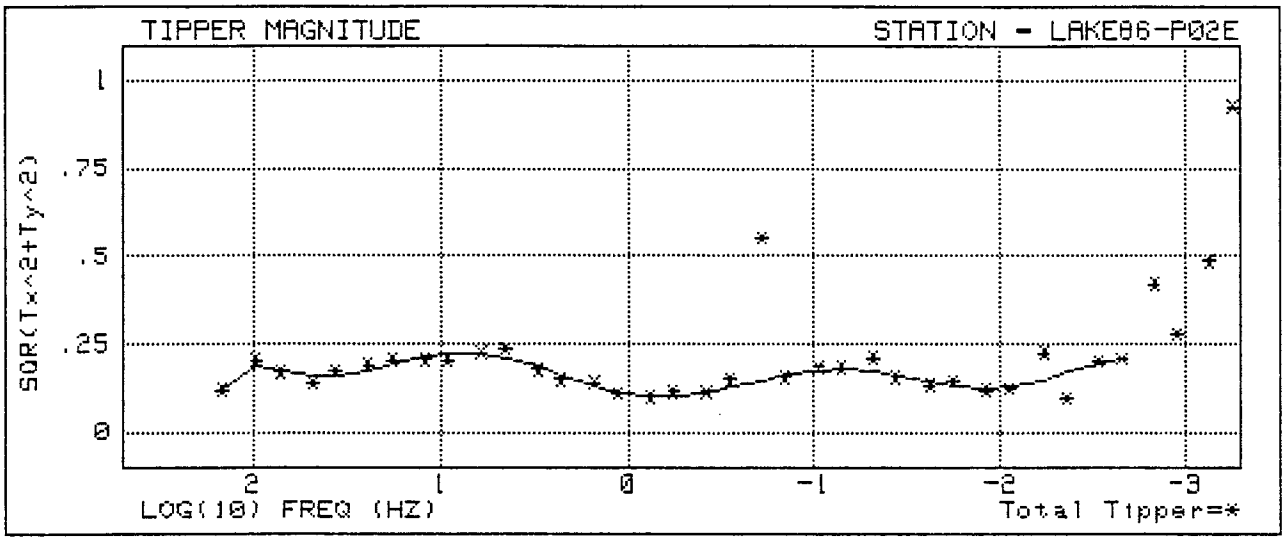
MT Site: LAKE86-P02E

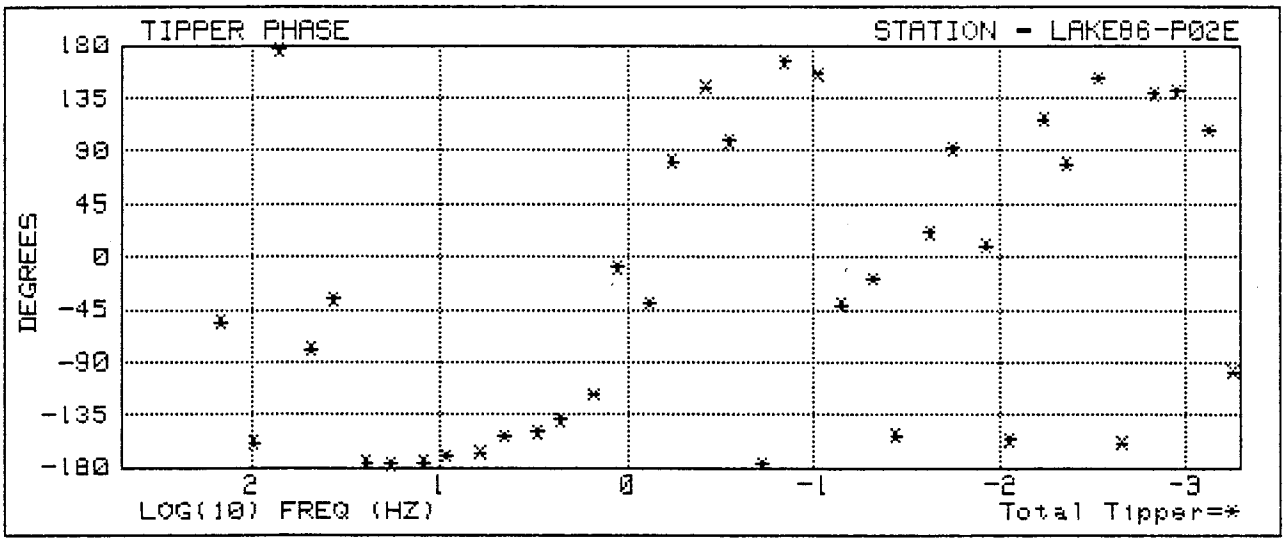
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

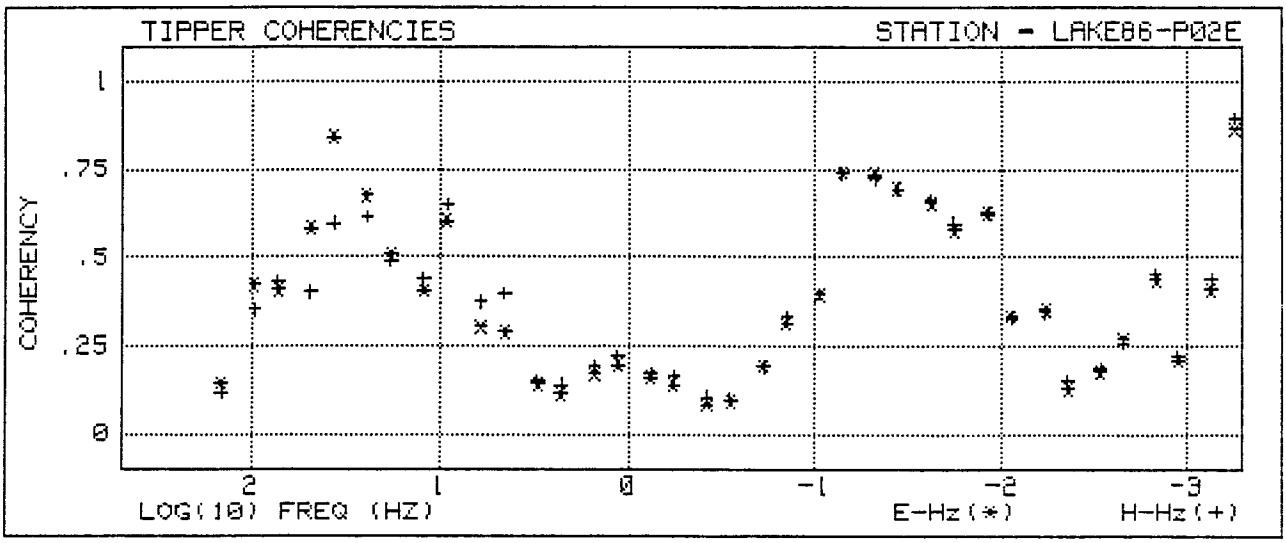
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	1592	-56.50	-325.50	108.77	-13.29	-39.34	52.98
5	96.00 Hz	571	-5.84	-240.71	151.66	-8.44	-30.99	69.19
6	72.00 Hz	949	-53.44	-163.66	515.44	-12.60	-17.71	468.27
7	48.00 Hz	2828	-5.44	-113.69	31.50	.65	-7.96	67.62
8	36.00 Hz	984	-10.72	-86.37	8.86	2.19	1.99	31.46
9	24.00 Hz	672	-11.99	-63.00	9.67	-.88	-6.56	6.89
10	18.00 Hz	1812	-10.83	-48.18	4.25	.50	-5.15	2.69
11	12.00 Hz	1823	-9.84	-34.81	1.97	-1.11	-2.33	.98
12	9.00 Hz	2879	-9.18	-26.04	.43	-.50	-1.94	.25
13	6.00 Hz	1338	-10.31	-18.31	3.95	-1.24	-1.74	1.48
14	4.50 Hz	2106	-6.26	-16.25	4.46	.18	-1.86	1.67
15	3.00 Hz	23095	-7.18	-11.25	.20	-1.30	-.50	.74
16	2.25 Hz	8247	-6.02	-9.07	.05	-1.45	-.45	.26
17	1.50 Hz	3626	-5.43	-6.65	.07	-.76	-.43	.37
18	1.13 Hz	4768	-4.65	-5.37	.06	-.72	-.33	.20
19	1.33 Sec	3904	-3.859	-4.249	.197	-.398	-.125	.211
20	1.78 Sec	2704	-3.475	-3.456	.222	-.325	-.309	.206
21	2.67 Sec	3291	-2.764	-3.061	.846	-.497	-.100	.885
22	3.56 Sec	2573	-2.269	-2.273	9.094	-.055	-.701	7.748
23	5.33 Sec	2033	-1.920	-2.534	1.454	-.600	.327	4.929
24	7.11 Sec	768	-2.123	-1.451	.014	-.027	-.251	.014
25	10.67 Sec	593	-1.924	-1.424	.006	.300	-.083	.003
26	14.22 Sec	701	-1.728	-1.292	.001	.243	-.065	.001
27	21.33 Sec	513	-1.420	-1.159	.000	.209	-.062	.000
28	28.44 Sec	174	-1.177	-1.160	.000	.211	.024	.000
29	42.67 Sec	387	-.924	-1.017	.000	.173	.016	.000
30	56.89 Sec	375	-.749	-.896	.000	.169	-.013	.000
31	85.33 Sec	261	-.527	-.742	.000	.149	.038	.000
32	113.78 Sec	189	-.412	-.611	.000	.132	.037	.000
33	170.67 Sec	93	-.308	-.470	.000	.107	.038	.000
34	227.56 Sec	24	-.236	-.380	.000	.110	.021	.001
35	341.33 Sec	57	-.200	-.277	.000	.036	.029	.000
36	455.11 Sec	24	-.191	-.206	.000	.041	.032	.001
37	682.67 Sec	21	-.152	-.166	.000	.044	.039	.000
38	910.22 Sec	33	-.138	-.149	.000	.030	.045	.000
39	1365.33 Sec	9	-.102	-.137	.000	.065	.044	.003
40	1820.44 Sec	6	-.095	-.095	.000	.028	.012	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E







PHOENIX GEOPHYSICS

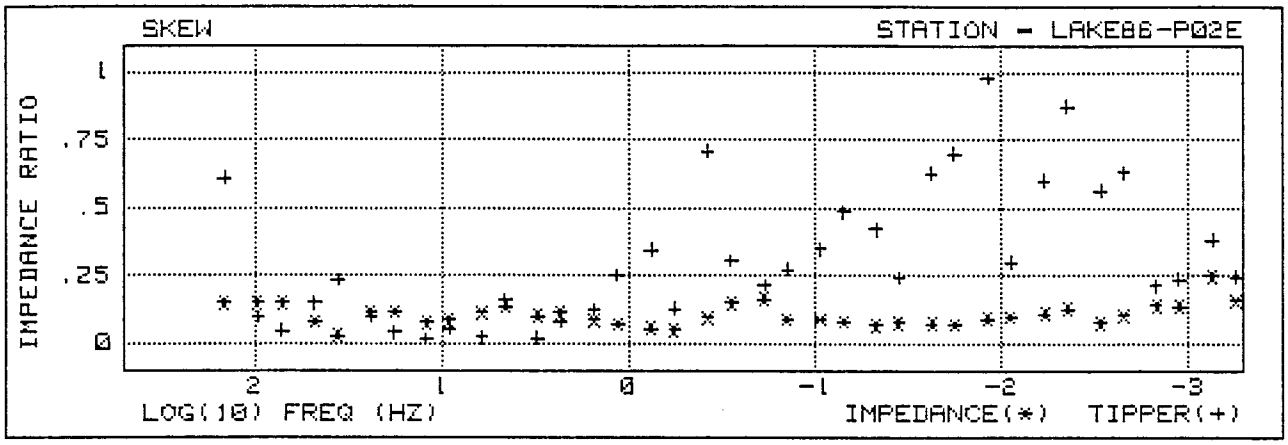
MT Site: LAKE86-P02E

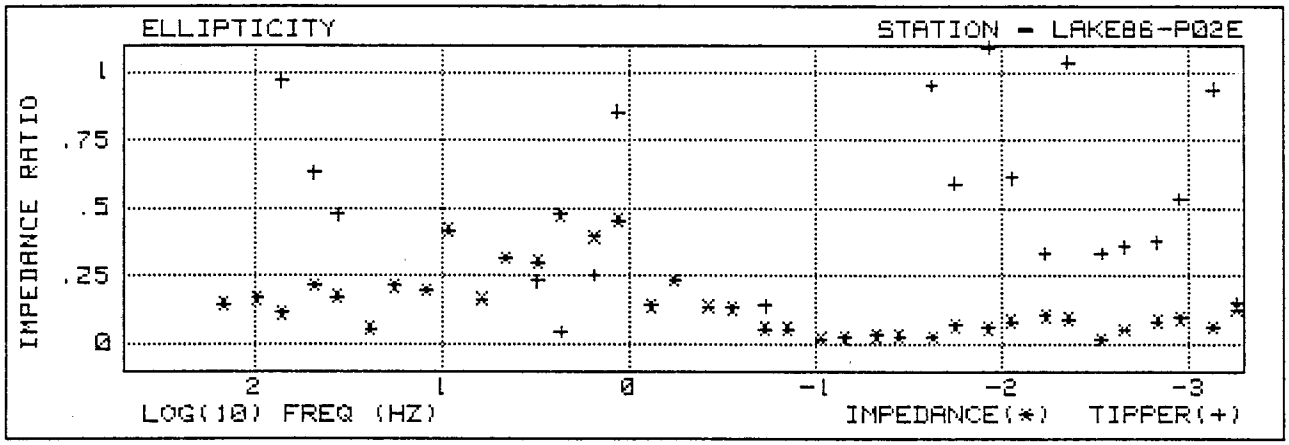
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

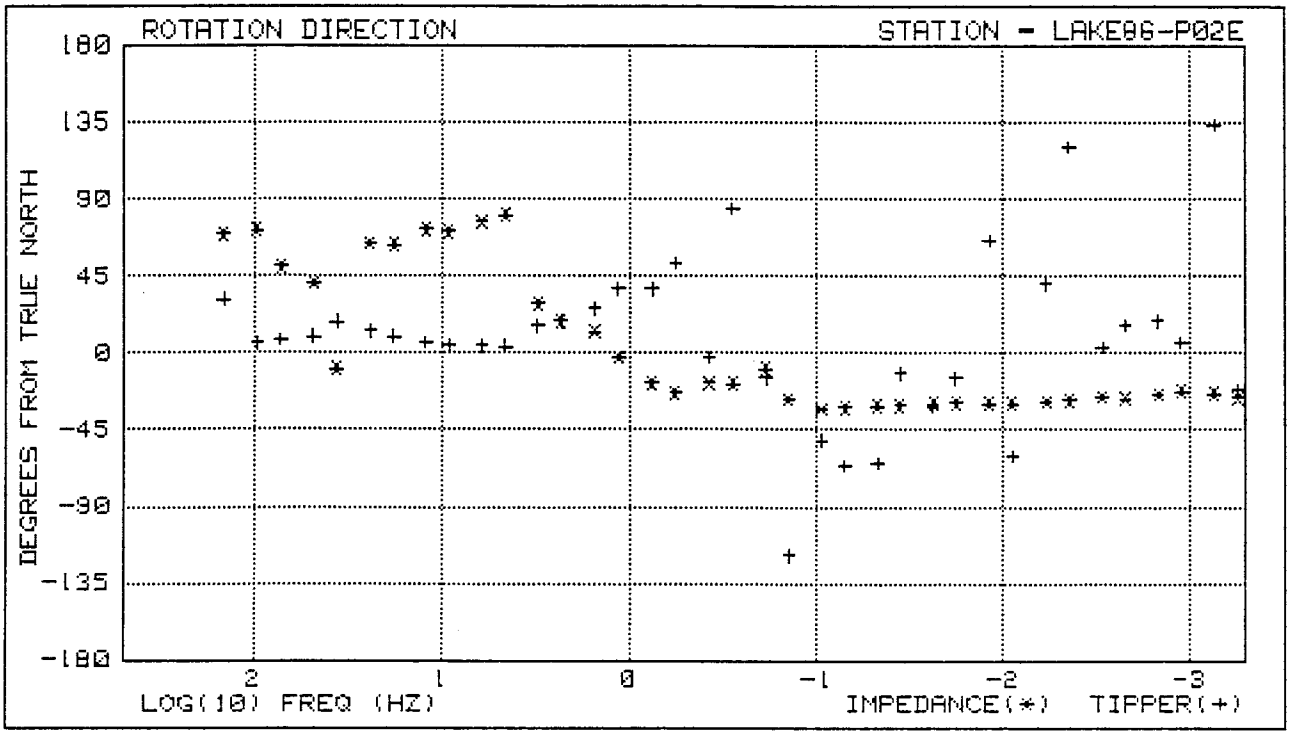
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	1592	.11	-56.21	.14	.12
5	96.00 Hz	571	.20	-159.67	.42	.35
6	72.00 Hz	949	.17	175.22	.41	.43
7	48.00 Hz	2828	.14	-79.83	.58	.40
8	36.00 Hz	984	.17	-36.83	.84	.59
9	24.00 Hz	672	.19	-176.25	.67	.61
10	18.00 Hz	1812	.20	-178.08	.50	.49
11	12.00 Hz	1823	.20	-176.17	.40	.43
12	9.00 Hz	2879	.20	-170.55	.60	.65
13	6.00 Hz	1338	.22	-167.72	.30	.37
14	4.50 Hz	2106	.23	-153.94	.29	.39
15	3.00 Hz	23095	.17	-150.11	.14	.15
16	2.25 Hz	8247	.15	-139.78	.11	.14
17	1.50 Hz	3626	.14	-118.37	.17	.19
18	1.13 Hz	4768	.11	-9.78	.19	.21
19	1.33 Sec	3904	.10	-40.56	.16	.17
20	1.78 Sec	2704	.11	79.97	.14	.16
21	2.67 Sec	3291	.11	143.02	.08	.10
22	3.56 Sec	2573	.15	97.71	.09	.09
23	5.33 Sec	2033	.55	-176.90	.19	.19
24	7.11 Sec	768	.15	164.74	.31	.33
25	10.67 Sec	593	.18	154.23	.39	.39
26	14.22 Sec	701	.18	-41.75	.74	.73
27	21.33 Sec	513	.21	-19.24	.73	.72
28	28.44 Sec	174	.15	-153.10	.69	.69
29	42.67 Sec	387	.13	19.71	.65	.66
30	56.89 Sec	375	.14	91.48	.57	.59
31	85.33 Sec	261	.11	8.93	.62	.62
32	113.78 Sec	189	.12	-156.48	.33	.33
33	170.67 Sec	93	.22	115.77	.35	.34
34	227.56 Sec	24	.09	78.41	.12	.15
35	341.33 Sec	57	.20	151.24	.17	.18
36	455.11 Sec	24	.20	-159.30	.27	.26
37	682.67 Sec	21	.42	137.52	.43	.45
38	910.22 Sec	33	.28	139.96	.20	.22
39	1365.33 Sec	9	.48	107.03	.41	.43
40	1820.44 Sec	6	.92	-98.91	.86	.89

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E







PHOENIX GEOPHYSICS

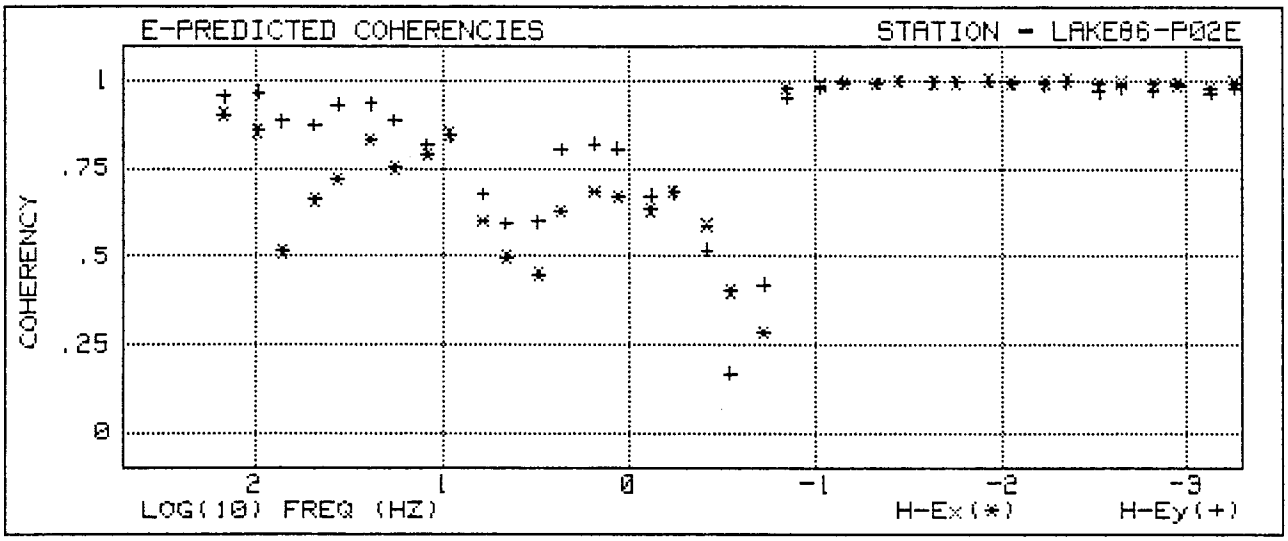
MT Site: LAKE86-P02E

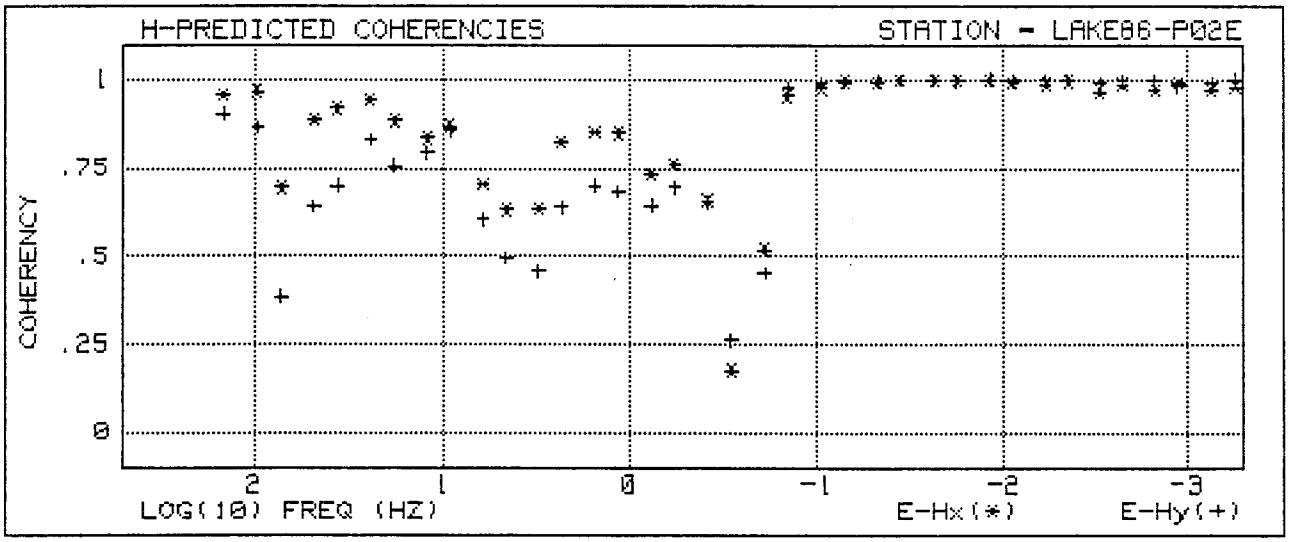
SKEW, ELLIPTICITY AND STRIKE

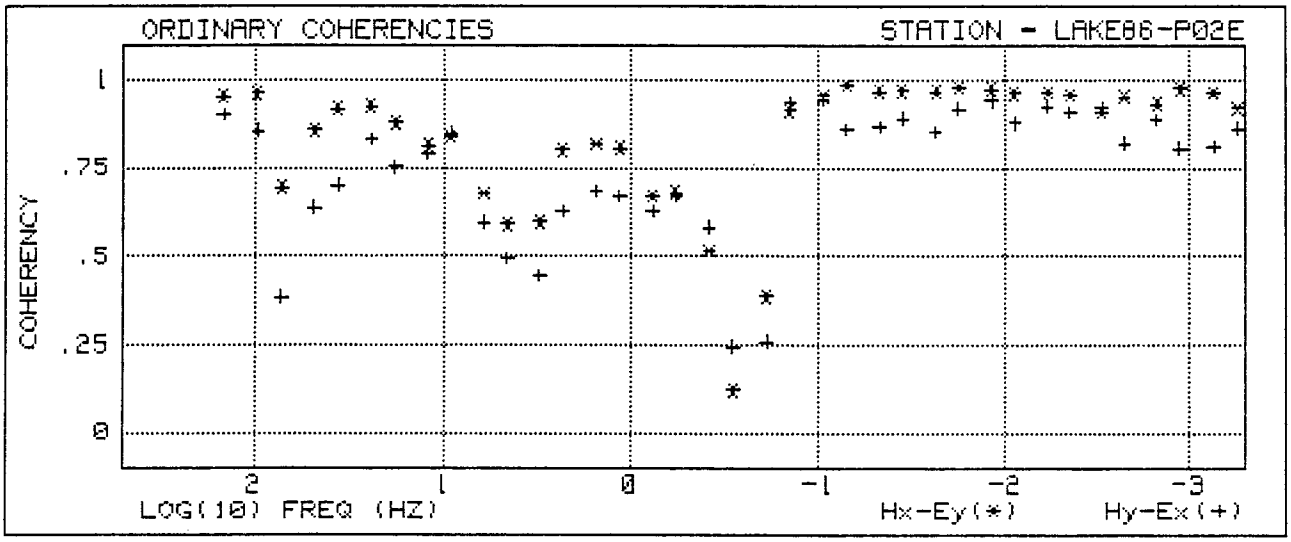
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	1592	.14	.14	68.86	.61	2.92	30.67
5	96.00 Hz	571	.15	.16	71.29	.10	2.22	5.39
6	72.00 Hz	949	.15	.11	49.82	.04	.96	7.23
7	48.00 Hz	2828	.07	.21	40.18	.15	.63	8.99
8	36.00 Hz	984	.02	.17	-9.63	.23	.47	17.71
9	24.00 Hz	672	.11	.05	63.58	.09	1.25	12.34
10	18.00 Hz	1812	.11	.21	62.50	.04	1.34	9.22
11	12.00 Hz	1823	.07	.19	71.49	.01	2.23	5.60
12	9.00 Hz	2879	.08	.42	70.33	.05	2.30	3.84
13	6.00 Hz	1338	.11	.16	76.21	.02	3.13	3.93
14	4.50 Hz	2106	.13	.31	80.07	.15	4.09	3.08
15	3.00 Hz	23095	.10	.30	28.11	.02	.23	15.38
16	2.25 Hz	8247	.11	.47	18.41	.08	.04	18.05
17	1.50 Hz	3626	.08	.39	11.96	.12	.25	25.53
18	1.13 Hz	4768	.07	.45	-3.25	.25	.85	36.82
19	1.33 Sec	3904	.05	.14	-18.03	.34	1.44	36.87
20	1.78 Sec	2704	.05	.23	-23.63	.12	3.13	52.13
21	2.67 Sec	3291	.09	.13	-17.99	.71	1.57	-3.13
22	3.56 Sec	2573	.15	.13	-18.57	.30	3.47	83.77
23	5.33 Sec	2033	.16	.05	-9.57	.21	.14	-14.96
24	7.11 Sec	768	.08	.05	-27.80	.27	3.74	-119.27
25	10.67 Sec	593	.08	.01	-33.58	.34	1.42	-51.62
26	14.22 Sec	701	.08	.02	-32.35	.48	1.21	-66.62
27	21.33 Sec	513	.06	.03	-31.34	.42	1.14	-65.03
28	28.44 Sec	174	.07	.02	-30.84	.24	1.60	-12.27
29	42.67 Sec	387	.07	.02	-29.93	.62	.95	-31.45
30	56.89 Sec	375	.07	.06	-29.53	.70	.59	-14.93
31	85.33 Sec	261	.09	.05	-30.04	.97	1.09	65.04
32	113.78 Sec	189	.09	.08	-29.93	.30	.61	-60.72
33	170.67 Sec	93	.11	.10	-28.87	.59	.33	40.01
34	227.56 Sec	24	.12	.09	-27.99	.87	1.03	119.96
35	341.33 Sec	57	.07	.01	-26.26	.56	.33	2.80
36	455.11 Sec	24	.10	.05	-27.36	.62	.35	15.82
37	682.67 Sec	21	.14	.08	-24.95	.21	.37	18.41
38	910.22 Sec	33	.13	.09	-22.88	.23	.53	5.89
39	1365.33 Sec	9	.24	.06	-24.28	.38	.93	133.06
40	1820.44 Sec	6	.15	.12	-26.73	.24	.15	-22.03

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

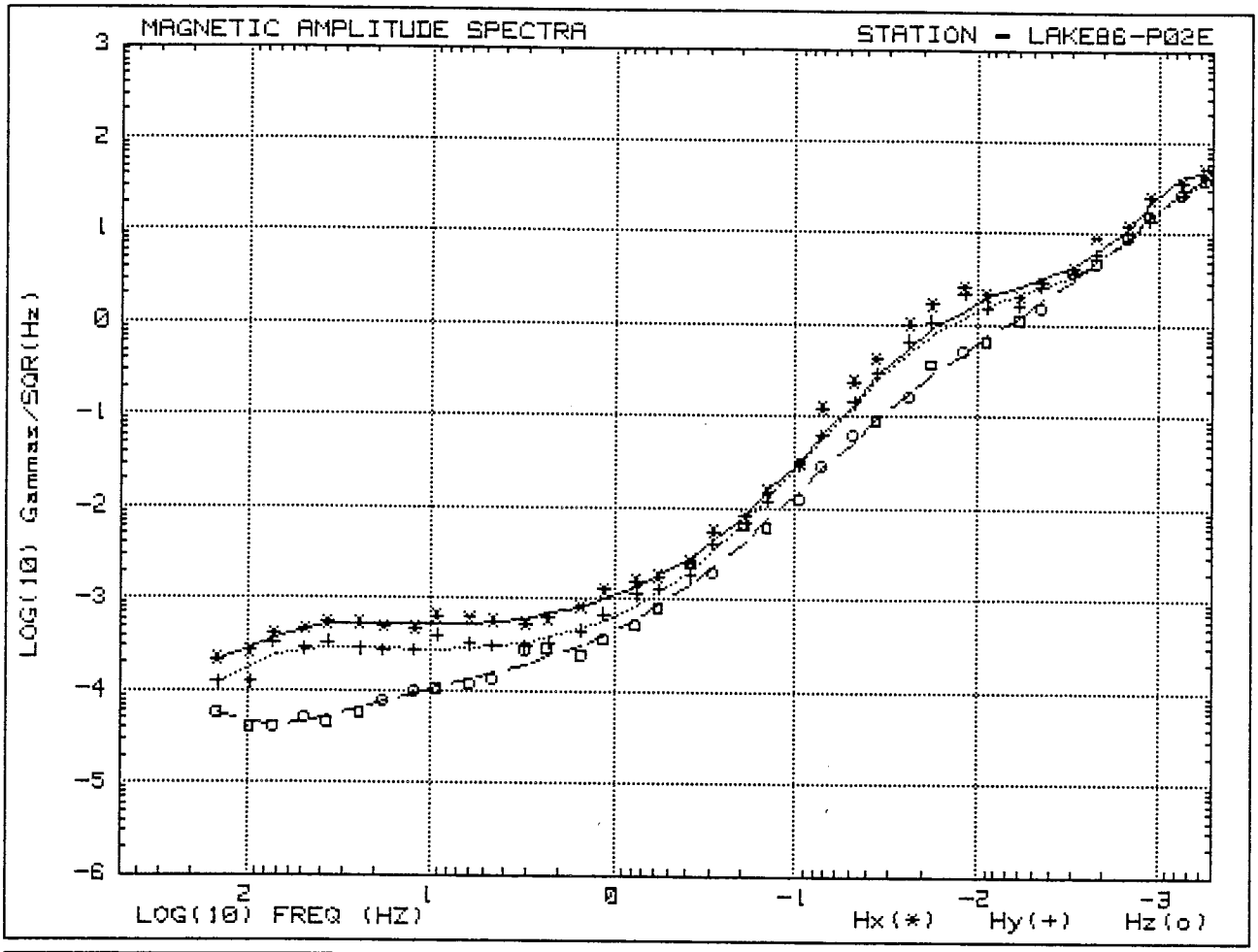


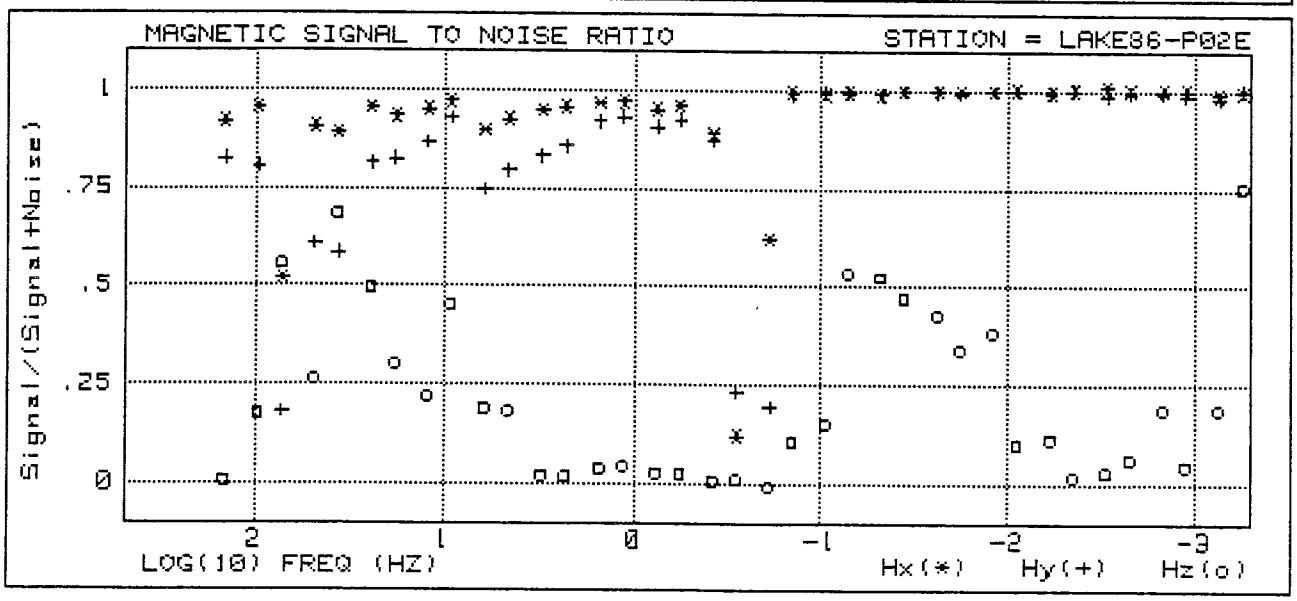




PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	1592	2.16E-04	1.20E-04	6.01E-05	3.46E-02	5.46E-02
5	96.00 Hz	571	2.62E-04	1.22E-04	4.31E-05	2.55E-02	4.91E-02
6	72.00 Hz	949	4.07E-04	3.23E-04	4.33E-05	2.33E-02	4.54E-02
7	48.00 Hz	2828	4.61E-04	2.77E-04	5.45E-05	2.79E-02	5.21E-02
8	36.00 Hz	984	5.39E-04	3.28E-04	4.85E-05	1.98E-02	4.51E-02
9	24.00 Hz	672	5.32E-04	2.78E-04	5.96E-05	1.64E-02	3.16E-02
10	18.00 Hz	1812	4.89E-04	2.66E-04	8.12E-05	1.38E-02	2.28E-02
11	12.00 Hz	1823	4.63E-04	2.68E-04	1.02E-04	1.04E-02	1.70E-02
12	9.00 Hz	2879	6.27E-04	3.93E-04	1.08E-04	1.17E-02	1.68E-02
13	6.00 Hz	1338	6.03E-04	3.13E-04	1.25E-04	7.91E-03	1.43E-02
14	4.50 Hz	2106	5.55E-04	2.99E-04	1.40E-04	7.88E-03	1.27E-02
15	3.00 Hz	23095	5.31E-04	2.94E-04	2.84E-04	6.22E-03	1.10E-02
16	2.25 Hz	8247	6.07E-04	3.30E-04	2.97E-04	4.13E-03	7.91E-03
17	1.50 Hz	3626	8.15E-04	4.45E-04	2.61E-04	4.44E-03	8.37E-03
18	1.13 Hz	4768	1.25E-03	6.66E-04	3.78E-04	5.91E-03	1.10E-02
19	1.33 Sec	3904	1.55E-03	1.11E-03	5.42E-04	8.76E-03	1.28E-02
20	1.78 Sec	2704	1.74E-03	1.26E-03	8.28E-04	9.38E-03	1.24E-02
21	2.67 Sec	3291	2.52E-03	1.79E-03	2.54E-03	1.40E-02	1.81E-02
22	3.56 Sec	2573	5.44E-03	3.98E-03	2.08E-03	1.83E-02	2.09E-02
23	5.33 Sec	2033	8.10E-03	6.63E-03	6.66E-03	2.67E-02	4.02E-02
24	7.11 Sec	768	1.50E-02	1.18E-02	6.44E-03	6.34E-02	5.34E-02
25	10.67 Sec	593	3.16E-02	2.98E-02	1.35E-02	1.40E-01	1.17E-01
26	14.22 Sec	701	1.21E-01	6.26E-02	3.07E-02	3.06E-01	3.74E-01
27	21.33 Sec	513	2.35E-01	1.41E-01	6.67E-02	6.32E-01	6.28E-01
28	28.44 Sec	174	4.20E-01	2.97E-01	9.55E-02	1.04E+00	9.75E-01
29	42.67 Sec	387	1.00E+00	6.54E-01	1.77E-01	1.84E+00	1.79E+00
30	56.89 Sec	375	1.64E+00	1.05E+00	3.90E-01	3.28E+00	2.88E+00
31	85.33 Sec	261	2.54E+00	2.10E+00	5.38E-01	4.21E+00	3.24E+00
32	113.78 Sec	189	2.07E+00	1.52E+00	6.89E-01	2.39E+00	2.05E+00
33	170.67 Sec	93	1.98E+00	1.60E+00	1.21E+00	2.17E+00	1.60E+00
34	227.56 Sec	24	2.85E+00	2.55E+00	1.62E+00	2.00E+00	1.45E+00
35	341.33 Sec	57	4.00E+00	3.67E+00	3.86E+00	3.06E+00	1.94E+00
36	455.11 Sec	24	8.95E+00	5.89E+00	4.94E+00	3.49E+00	3.19E+00
37	682.67 Sec	21	1.19E+01	9.86E+00	9.72E+00	5.67E+00	3.63E+00
38	910.22 Sec	33	2.44E+01	1.40E+01	1.65E+01	7.81E+00	6.33E+00
39	1365.33 Sec	9	3.47E+01	2.64E+01	2.79E+01	7.48E+00	7.21E+00
40	1820.44 Sec	6	5.05E+01	3.88E+01	4.08E+01	1.48E+01	1.01E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	1592	.918	.823	.013	.981	.993
5	96.00 Hz	571	.953	.806	.181	.917	.972
6	72.00 Hz	949	.520	.180	.562	.806	.924
7	48.00 Hz	2828	.905	.607	.269	.660	.814
8	36.00 Hz	984	.891	.584	.691	.831	.938
9	24.00 Hz	672	.954	.812	.502	.849	.899
10	18.00 Hz	1812	.933	.824	.308	.684	.831
11	12.00 Hz	1823	.948	.866	.224	.716	.694
12	9.00 Hz	2879	.971	.929	.459	.767	.728
13	6.00 Hz	1338	.897	.747	.195	.475	.508
14	4.50 Hz	2106	.923	.795	.188	.308	.380
15	3.00 Hz	23095	.947	.833	.025	.237	.374
16	2.25 Hz	8247	.957	.858	.021	.457	.667
17	1.50 Hz	3626	.966	.921	.040	.505	.691
18	1.13 Hz	4768	.971	.930	.047	.479	.664
19	1.33 Sec	3904	.949	.906	.032	.436	.470
20	1.78 Sec	2704	.959	.923	.028	.497	.481
21	2.67 Sec	3291	.888	.874	.011	.386	.301
22	3.56 Sec	2573	.118	.231	.014	.265	.111
23	5.33 Sec	2033	.621	.191	0.000	.321	.221
24	7.11 Sec	768	.993	.989	.109	.962	.911
25	10.67 Sec	593	.989	.994	.155	.978	.962
26	14.22 Sec	701	.996	.993	.539	.989	.992
27	21.33 Sec	513	.989	.990	.530	.990	.989
28	28.44 Sec	174	.997	.998	.476	.995	.993
29	42.67 Sec	387	.997	.995	.432	.994	.992
30	56.89 Sec	375	.999	.992	.346	.993	.993
31	85.33 Sec	261	.999	.998	.387	.998	.995
32	113.78 Sec	189	.999	.999	.106	.989	.979
33	170.67 Sec	93	.994	.997	.120	.995	.982
34	227.56 Sec	24	1.000	1.000	.022	.995	.988
35	341.33 Sec	57	1.000	.986	.033	.989	.930
36	455.11 Sec	24	.999	.994	.066	.990	.965
37	682.67 Sec	21	1.000	.992	.193	.988	.939
38	910.22 Sec	33	1.000	.984	.051	.978	.979
39	1365.33 Sec	9	.989	.979	.194	1.000	.941
40	1820.44 Sec	6	.995	1.000	.760	.992	.965

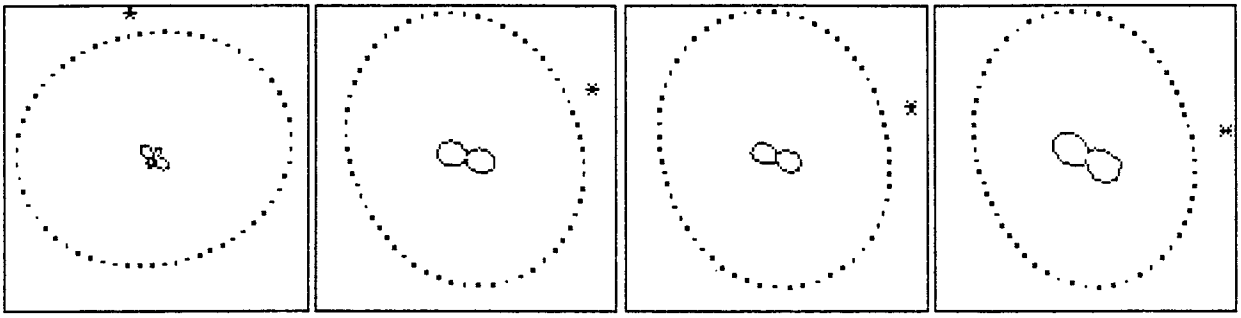
PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E

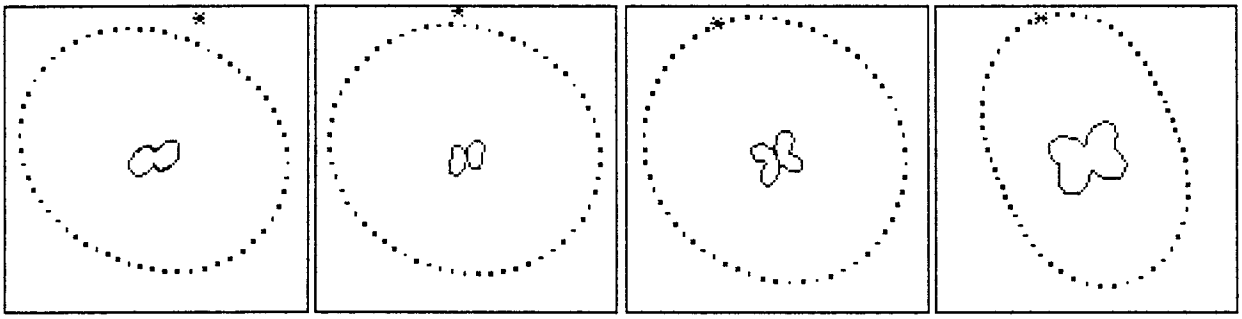
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

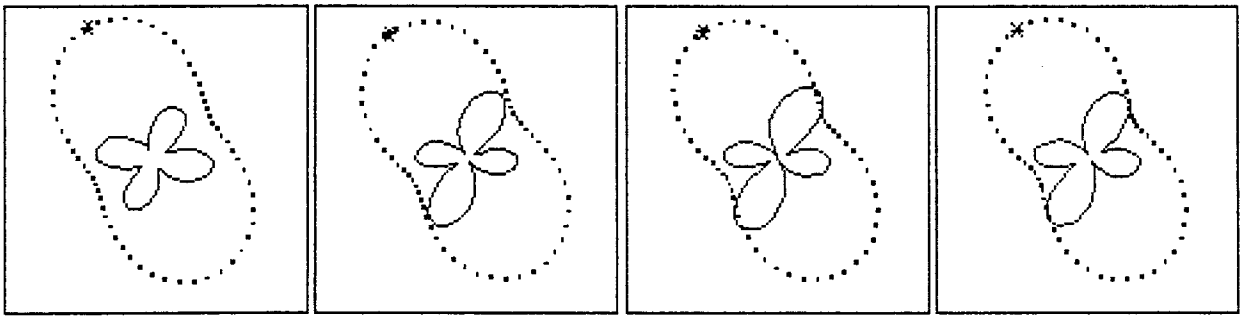
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



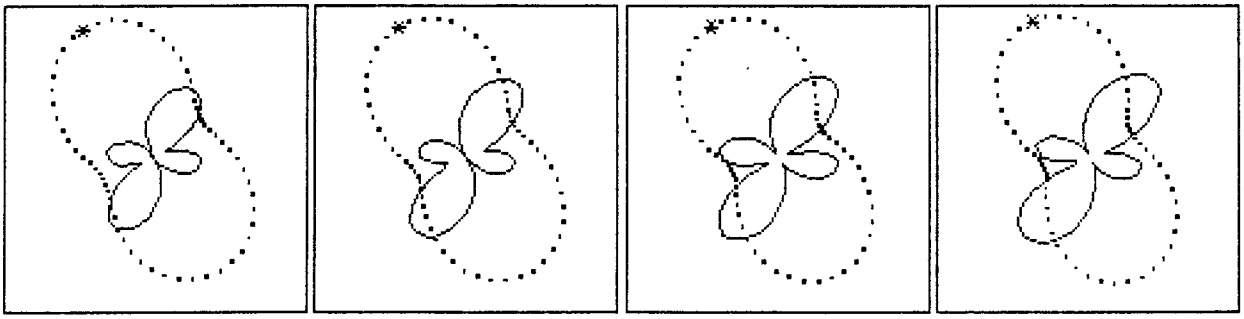
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

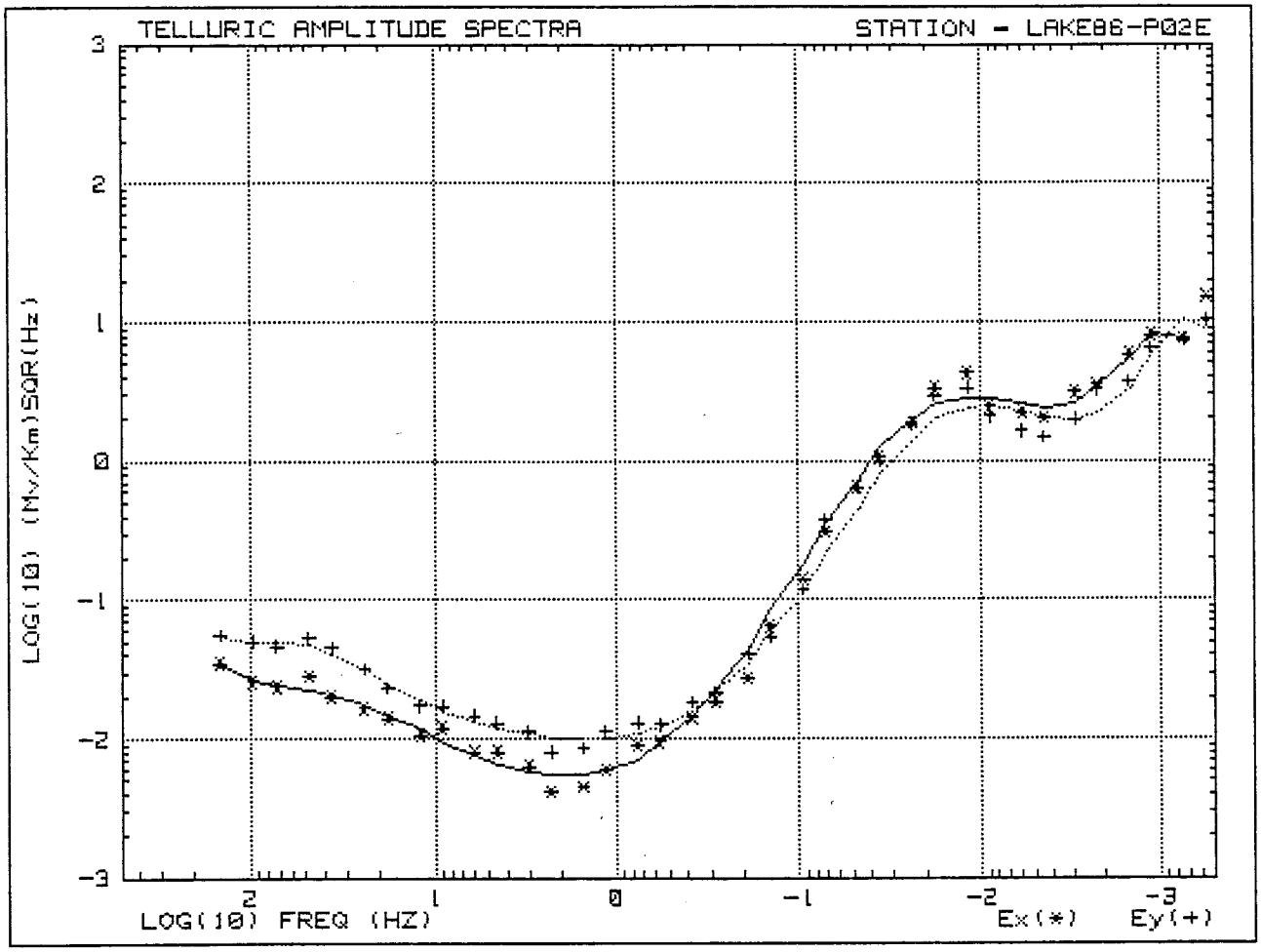
MT Site: LAKE86-P02E

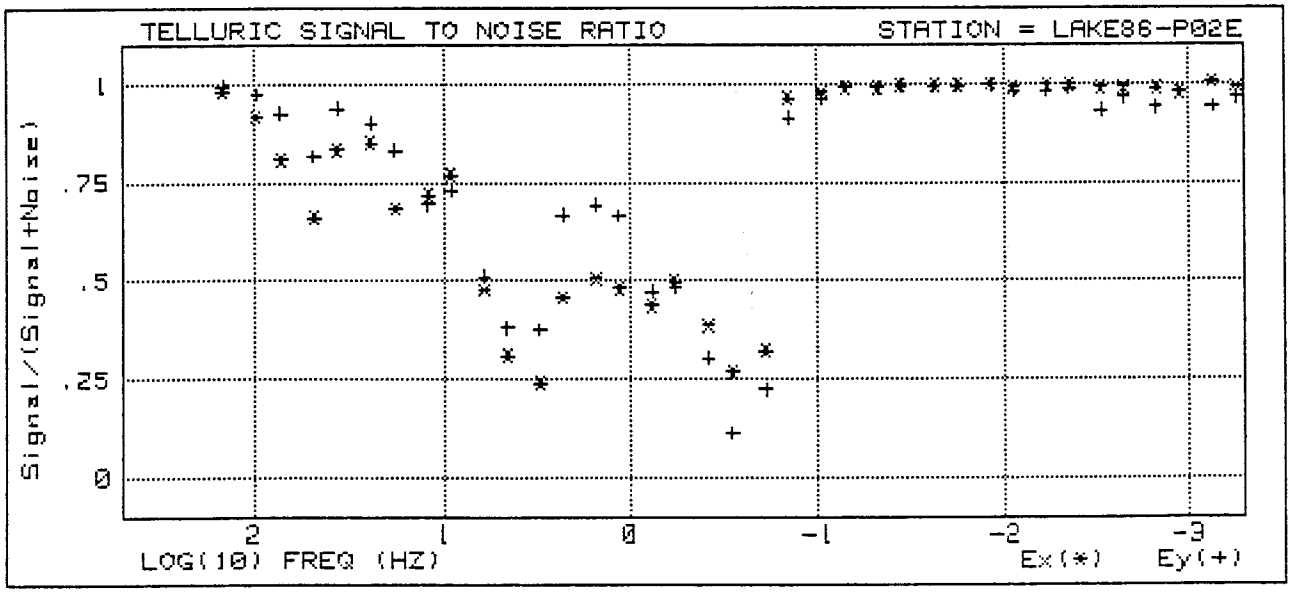
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	1592	.90	.95	.95	.90	.95	.90
5	96.00 Hz	571	.85	.96	.96	.86	.96	.85
6	72.00 Hz	949	.51	.88	.69	.38	.69	.38
7	48.00 Hz	2828	.66	.87	.88	.64	.85	.63
8	36.00 Hz	984	.72	.93	.92	.70	.91	.70
9	24.00 Hz	672	.83	.93	.94	.83	.92	.83
10	18.00 Hz	1812	.75	.88	.88	.75	.88	.75
11	12.00 Hz	1823	.79	.81	.83	.79	.81	.79
12	9.00 Hz	2879	.84	.84	.87	.85	.84	.84
13	6.00 Hz	1338	.60	.67	.70	.60	.67	.59
14	4.50 Hz	2106	.49	.59	.63	.49	.59	.49
15	3.00 Hz	23095	.45	.60	.63	.46	.59	.44
16	2.25 Hz	8247	.63	.80	.82	.64	.80	.62
17	1.50 Hz	3626	.68	.82	.85	.70	.82	.68
18	1.13 Hz	4768	.67	.80	.85	.68	.80	.67
19	1.33 Sec	3904	.63	.67	.73	.64	.67	.62
20	1.78 Sec	2704	.68	.68	.76	.69	.68	.67
21	2.67 Sec	3291	.59	.51	.66	.65	.51	.58
22	3.56 Sec	2573	.40	.16	.17	.26	.12	.24
23	5.33 Sec	2033	.28	.42	.52	.45	.39	.25
24	7.11 Sec	768	.97	.95	.95	.98	.91	.93
25	10.67 Sec	593	.98	.98	.97	.99	.95	.94
26	14.22 Sec	701	.99	.99	.99	.99	.98	.86
27	21.33 Sec	513	.99	.99	.99	.99	.96	.86
28	28.44 Sec	174	1.00	1.00	1.00	1.00	.97	.89
29	42.67 Sec	387	.99	.99	1.00	1.00	.96	.85
30	56.89 Sec	375	.99	1.00	1.00	.99	.97	.91
31	85.33 Sec	261	1.00	1.00	1.00	1.00	.97	.94
32	113.78 Sec	189	.99	.99	.99	1.00	.96	.88
33	170.67 Sec	93	1.00	.99	.98	.99	.96	.92
34	227.56 Sec	24	1.00	.99	.99	1.00	.96	.91
35	341.33 Sec	57	.99	.97	.96	.99	.91	.92
36	455.11 Sec	24	.99	.98	.98	1.00	.95	.82
37	682.67 Sec	21	.99	.97	.97	.99	.93	.88
38	910.22 Sec	33	.98	.99	.99	.98	.97	.80
39	1365.33 Sec	9	.97	.96	.97	.99	.96	.81
40	1820.44 Sec	6	.99	.98	.98	1.00	.92	.86

PHOENIX GEOPHYSICS

MT Site: LAKE86-P02E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P03s/P06s/

Operator:OJALA
Date: 2 Oct 1986
Time: 18:31:10

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#221-30Aug86-05
SP--Stn02: B#219-30Aug86-05
Sens-Ch01: C#201-04Sep86-01
Sens-Ch02: C#306-04Sep86-01
Sens-Ch03: L#419-05Sep86-01
Sens-Ch06: C#239-04Sep86-01
Sens-Ch07: C#445-04Sep86-01
Sens-Ch08: L#416-05Sep86-01

Station 1

Stn Number:LAKE86-P03s
Site Desc:T43N R3E SEC 6 SW1/4
41,35,50 N 121,39,51 W
Elevation:6680 FT
Reference:LAKE86-P06s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P. BURNS
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL201	+0 DEG
Hy	2	COIL306	+90 DEG
Hz	3	LOOP419	
Ex	4	150 M	+0 DEG
Ey	5	150 M	+90 DEG
Rx	6	COIL239	+30 DEG
Ry	7	COIL445	+120 DEG

Ex Pot Resist: 6.0 K Ohms
Ex Voltage: AC=16.0 mv, DC=95.0 mv
Ey Pot Resist: 6.0 K Ohms
Ey Voltage: AC=10.0 mv, DC=64.0 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

OPERATOR LOG FOR MT SITES LAKE86-P03s/P06s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P03b/P06b/		
Run STARTED:	05:39:29	1 Oct 1986
Run QUIT:	05:35:45	2 Oct 1986
Run Start and Stop Time for LAKE86-P03c/P06c/		
Run STARTED:	05:58:30	2 Oct 1986
Run QUIT:	17:48:50	2 Oct 1986
Run Start and Stop Time for LAKE86-P03d/P06d/		
Run STARTED:	18:31:10	2 Oct 1986
Run QUIT:	08:34:44	3 Oct 1986

Operator: DAVE OJALA (oplog by Vaag)

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST CAUSES POOR DATA ABOVE 60 HZ.
Weather Conditions:
COOL AND CLEAR, LIGHT WINDS.
Other Factors:
POOR ELECTRODE CONTACT CAUSES POOR DATA QUALITY BETWEEN 1 HZ AND 0.1 HZ. USED 1 MICROFARAD CAPACITORS AS TELLURIC FILTERS.
SITE P06 ONLY 20 METERS FROM ROAD. SOME TRAFFIC DURING RECORDING.

PHOENIX GEOPHYSICS

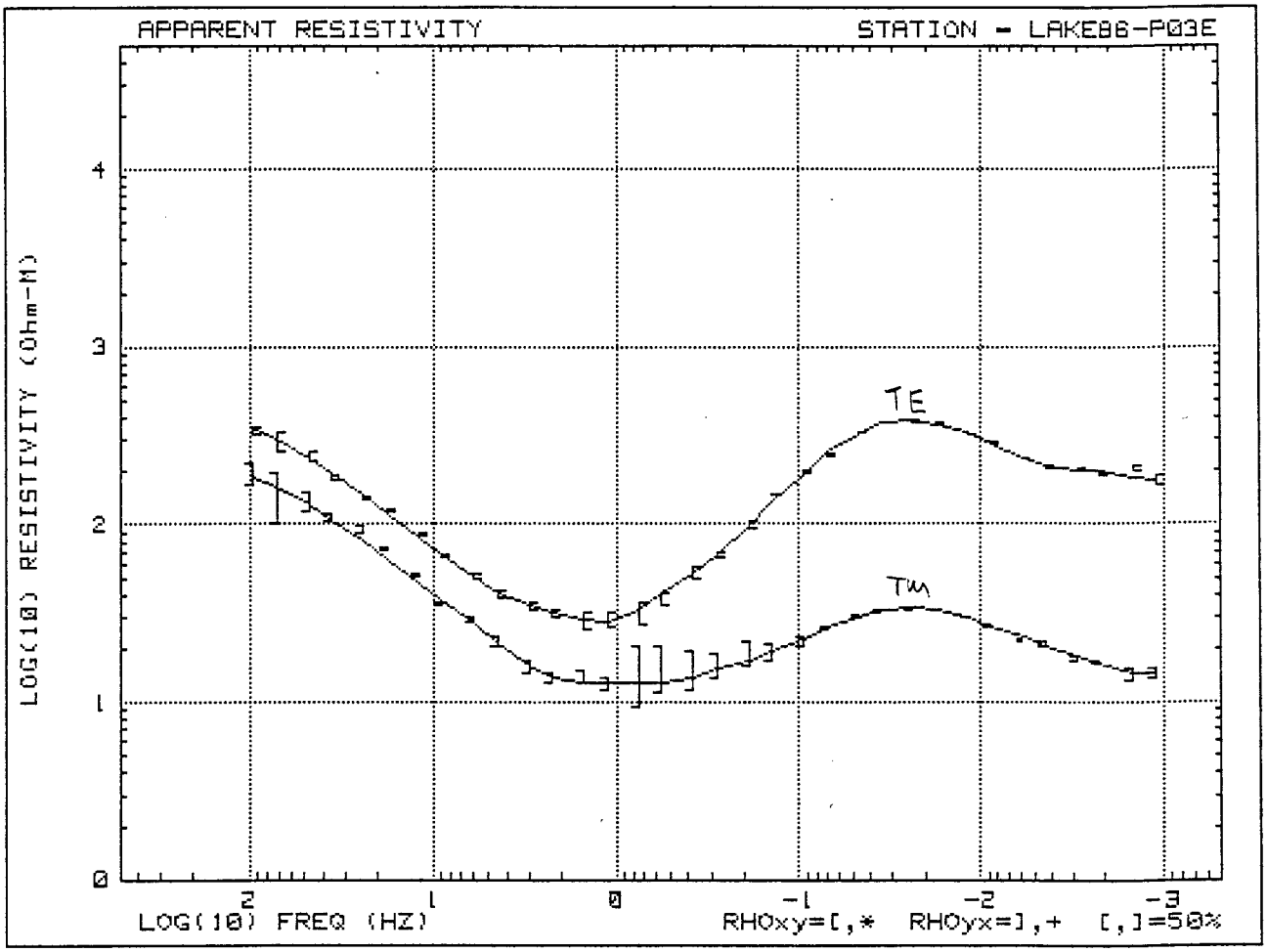
MT Site: LAKE86-P03E

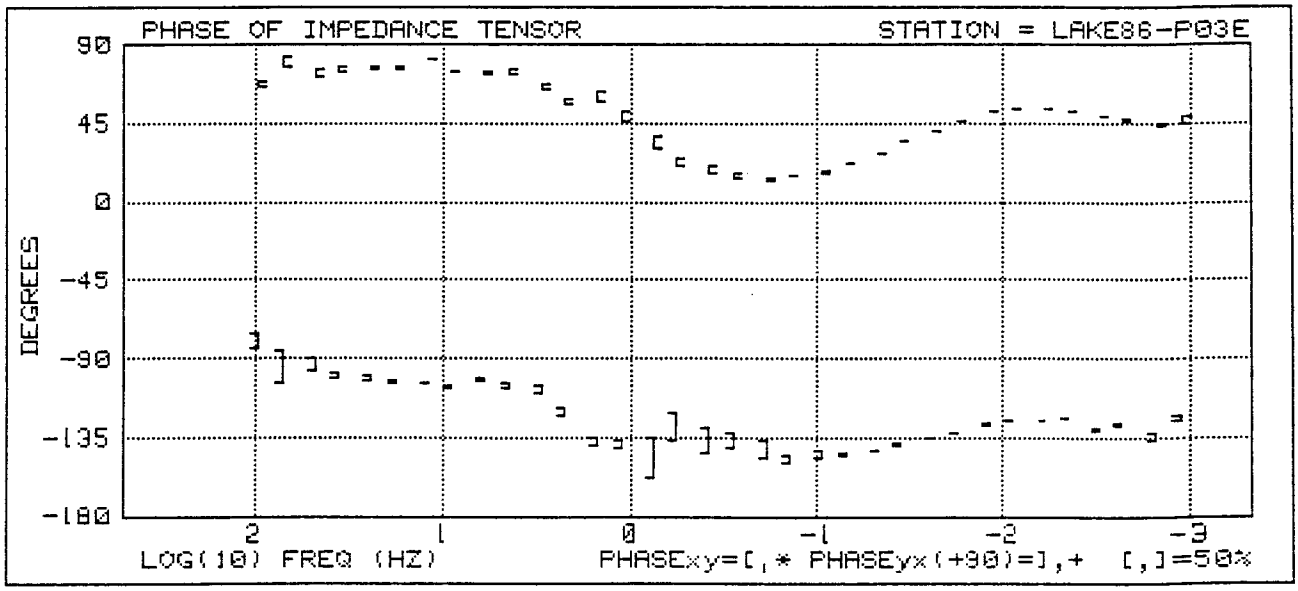
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

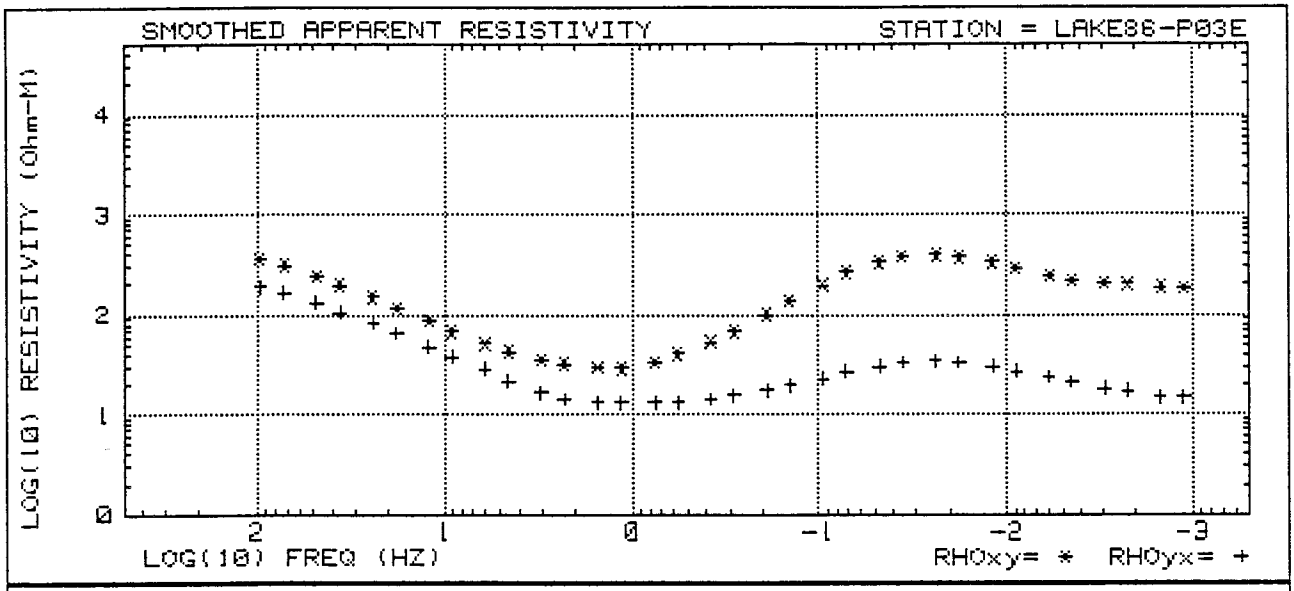
MT Site: LAKE86-P03E

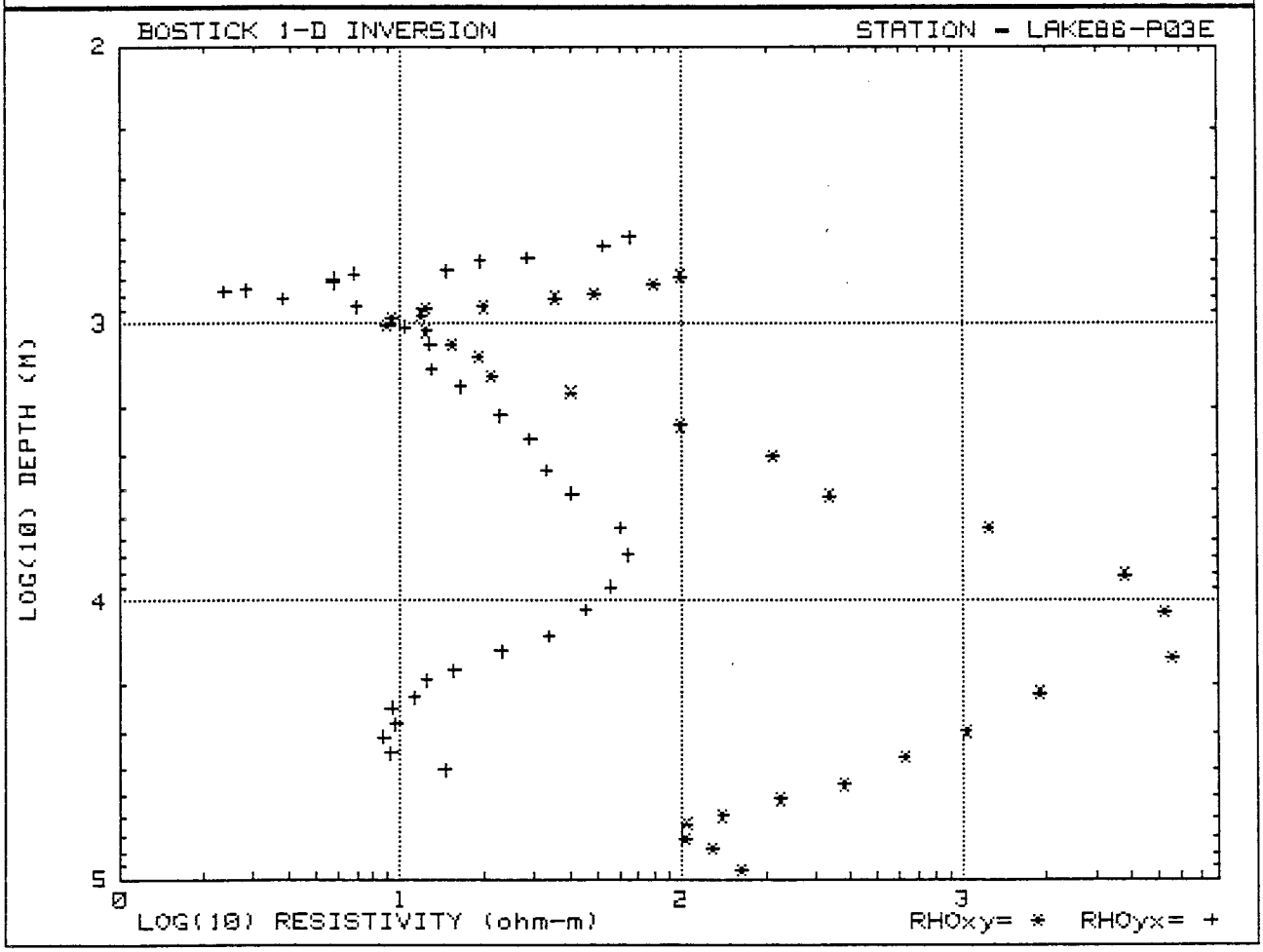




PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd		STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
5	96.00	Hz	478	336.8	8.7	193.2	22.6	67.2	2.4	-79.9	5.8
6	72.00	Hz	351	292.5	19.8	141.9	62.2	80.4	5.2	-95.1	13.8
7	48.00	Hz	376	242.9	10.5	135.6	21.4	74.3	2.9	-92.7	5.6
8	36.00	Hz	2037	184.6	4.7	109.5	8.7	76.2	1.3	-99.7	2.4
9	24.00	Hz	1248	141.7	3.1	93.5	6.2	77.2	.9	-101.1	1.7
10	18.00	Hz	2203	118.8	1.9	73.1	2.8	77.1	.5	-102.7	.8
11	12.00	Hz	2195	88.7	2.3	51.9	2.6	81.6	.7	-103.7	.7
12	9.00	Hz	2387	66.8	1.9	35.5	1.9	74.4	.5	-106.2	.5
13	6.00	Hz	1818	51.0	3.6	29.0	4.4	73.7	1.0	-101.8	1.2
14	4.50	Hz	954	39.8	7.6	22.0	8.6	74.7	2.1	-104.9	2.4
15	3.00	Hz	17808	34.5	8.3	15.6	11.7	65.7	2.3	-106.7	3.2
16	2.25	Hz	8196	31.2	8.8	13.7	11.5	57.6	2.4	-120.0	3.1
17	1.50	Hz	23809	28.7	18.6	13.7	12.5	60.4	4.9	-136.9	3.4
18	1.13	Hz	15097	28.8	13.7	12.8	12.2	48.9	3.7	-138.2	3.3
19	1.33	Sec	1488	31.2	22.6	14.1	78.2	34.0	5.8	-146.8	16.6
20	1.78	Sec	7344	37.7	11.1	15.4	54.0	22.9	3.0	-128.8	12.4
21	2.67	Sec	5705	54.1	12.8	15.1	46.3	19.0	3.4	-136.2	10.9
22	3.56	Sec	5133	67.0	4.8	15.9	26.4	15.3	1.3	-136.6	6.7
23	5.33	Sec	2559	99.7	5.6	18.6	27.1	13.3	1.6	-141.1	6.9
24	7.11	Sec	540	147.0	1.7	19.0	15.6	15.0	.5	-147.0	4.1
25	10.67	Sec	1593	197.4	1.1	21.9	10.7	17.2	.3	-144.7	2.9
26	14.22	Sec	1497	245.9	.8	25.8	3.1	22.1	.2	-144.7	.9
27	21.33	Sec	611	332.9	.6	30.6	1.2	27.8	.2	-141.8	.3
28	28.44	Sec	737	374.9	.5	32.4	1.3	34.5	.1	-138.6	.4
29	42.67	Sec	456	375.7	.7	33.4	1.3	40.6	.2	-134.9	.4
30	56.89	Sec	754	369.9	.4	32.5	.7	45.9	.1	-131.6	.2
31	85.33	Sec	258	323.7	.7	29.8	1.5	51.5	.2	-127.2	.4
32	113.78	Sec	351	287.3	.7	26.8	1.4	53.2	.2	-125.2	.4
33	170.67	Sec	153	235.7	1.2	22.5	2.9	53.6	.3	-125.0	.8
34	227.56	Sec	165	211.8	1.0	21.2	3.6	51.6	.3	-123.7	1.0
35	341.33	Sec	81	203.7	1.9	17.7	3.8	49.0	.5	-130.2	1.1
36	455.11	Sec	63	192.8	2.4	16.8	4.2	46.8	.7	-126.8	1.2
37	682.67	Sec	36	207.7	3.7	14.4	12.1	44.6	1.0	-134.4	3.3
38	910.22	Sec	12	178.4	8.4	14.4	9.1	46.9	2.3	-123.6	2.5

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
5	96.00 Hz	478	357.0	185.2	99.8	686	65.3	494
6	72.00 Hz	351	303.6	161.4	79.5	731	53.3	533
7	48.00 Hz	376	238.0	130.6	49.0	792	28.6	587
8	36.00 Hz	2037	192.4	103.5	35.9	823	19.4	603
9	24.00 Hz	1248	148.0	81.3	19.8	884	14.7	655
10	18.00 Hz	2203	113.3	64.0	12.4	893	6.8	671
11	12.00 Hz	2195	84.8	46.5	11.9	946	5.8	700
12	9.00 Hz	2387	67.2	37.3	9.3	973	5.8	724
13	6.00 Hz	1818	50.2	28.0	8.9	1029	2.8	768
14	4.50 Hz	954	41.4	21.2	12.4	1080	2.4	776
15	3.00 Hz	17808	34.5	16.1	15.3	1208	3.8	824
16	2.25 Hz	8196	31.7	13.8	19.0	1335	7.0	882
17	1.50 Hz	23809	29.1	12.8	21.3	1566	10.4	1040
18	1.13 Hz	15097	28.5	12.8	40.7	1791	12.8	1203
19	1.33 Sec	1488	32.8	12.8	99.0	2355	13.0	1469
20	1.78 Sec	7344	40.3	12.9	214.4	3014	16.5	1705
21	2.67 Sec	5705	52.7	13.9	336.7	4220	22.9	2168
22	3.56 Sec	5133	66.9	15.3	1236.8	5488	29.2	2624
23	5.33 Sec	2559	98.2	17.3	3830.2	8145	33.3	3417
24	7.11 Sec	540	135.8	19.0	5295.0	11058	41.0	4141
25	10.67 Sec	1593	191.8	22.3	5574.1	16098	60.8	5485
26	14.22 Sec	1497	259.3	26.3	1909.0	21612	64.6	6877
27	21.33 Sec	611	325.1	29.8	1031.9	29635	56.3	8979
28	28.44 Sec	737	372.1	32.5	624.5	36611	45.9	10817
29	42.67 Sec	456	387.5	33.6	379.5	45757	34.1	13473
30	56.89 Sec	754	369.4	32.6	226.6	51590	23.0	15336
31	85.33 Sec	258	328.2	29.8	140.8	59553	15.6	17948
32	113.78 Sec	351	280.1	26.3	104.6	63528	12.5	19459
33	170.67 Sec	153	239.2	23.3	103.4	71908	11.3	22434
34	227.56 Sec	165	212.8	20.7	128.6	78314	9.3	24399
35	341.33 Sec	81	201.6	17.9	164.4	93367	9.6	27838
36	455.11 Sec	63	198.3	16.8	150.1	106919	8.7	31089
37	682.67 Sec	36	183.2	14.4	133.8	125850	9.3	35298
38	910.22 Sec	12	178.0	14.4	145.8	143256	14.5	40779

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
5	96.00 Hz	478	5.27	-24.02	546.05	155.57	370.73	557.08
6	72.00 Hz	351	-26.08	-19.87	999.99	54.32	319.93	999.99
7	48.00 Hz	376	14.68	-24.89	999.99	65.14	232.51	292.45
8	36.00 Hz	2037	.95	-11.36	148.44	43.35	177.03	35.66
9	24.00 Hz	1248	-6.83	.11	38.48	28.87	127.17	7.83
10	18.00 Hz	2203	-4.07	-2.25	6.68	23.10	100.79	1.91
11	12.00 Hz	2195	-.92	-1.69	4.26	10.72	72.17	1.40
12	9.00 Hz	2387	2.34	-2.05	1.67	14.77	52.82	.55
13	6.00 Hz	1818	-5.13	-.87	4.35	11.01	37.53	.94
14	4.50 Hz	954	-2.92	-.09	16.95	7.91	28.85	2.42
15	3.00 Hz	17808	-3.92	.85	6.23	9.37	20.74	1.63
16	2.25 Hz	8196	-2.02	-.24	4.23	10.04	15.81	1.24
17	1.50 Hz	23809	-3.81	.39	3.13	7.25	12.76	3.15
18	1.13 Hz	15097	-3.37	.88	2.98	8.37	9.59	1.34
19	1.33 Sec	1488	-1.682	.481	11.876	8.970	6.055	2.441
20	1.78 Sec	7344	-1.626	.960	3.918	9.488	4.014	.586
21	2.67 Sec	5705	-1.445	.788	2.759	9.521	3.272	.731
22	3.56 Sec	5133	-1.456	.681	.759	9.364	2.559	.103
23	5.33 Sec	2559	-1.434	.366	.643	9.408	2.218	.141
24	7.11 Sec	540	-1.372	-.075	.249	9.821	2.624	.014
25	10.67 Sec	1593	-1.259	-.104	.015	9.188	2.850	.005
26	14.22 Sec	1497	-1.218	-.167	.003	8.616	3.494	.003
27	21.33 Sec	611	-1.068	-.389	.003	7.817	4.114	.001
28	28.44 Sec	737	-.954	-.503	.005	6.686	4.604	.001
29	42.67 Sec	456	-.589	-.658	.001	5.036	4.322	.001
30	56.89 Sec	754	-.436	-.627	.000	3.968	4.094	.000
31	85.33 Sec	258	-.299	-.400	.000	2.710	3.409	.000
32	113.78 Sec	351	-.265	-.315	.000	2.127	2.847	.000
33	170.67 Sec	153	-.172	-.246	.000	1.560	2.115	.000
34	227.56 Sec	165	-.170	-.150	.000	1.339	1.692	.000
35	341.33 Sec	81	-.121	-.155	.000	1.133	1.304	.001
36	455.11 Sec	63	-.088	-.139	.000	.996	1.061	.001
37	682.67 Sec	36	-.046	-.152	.000	.878	.866	.001
38	910.22 Sec	12	-.036	-.173	.001	.676	.723	.003

PHOENIX GEOPHYSICS

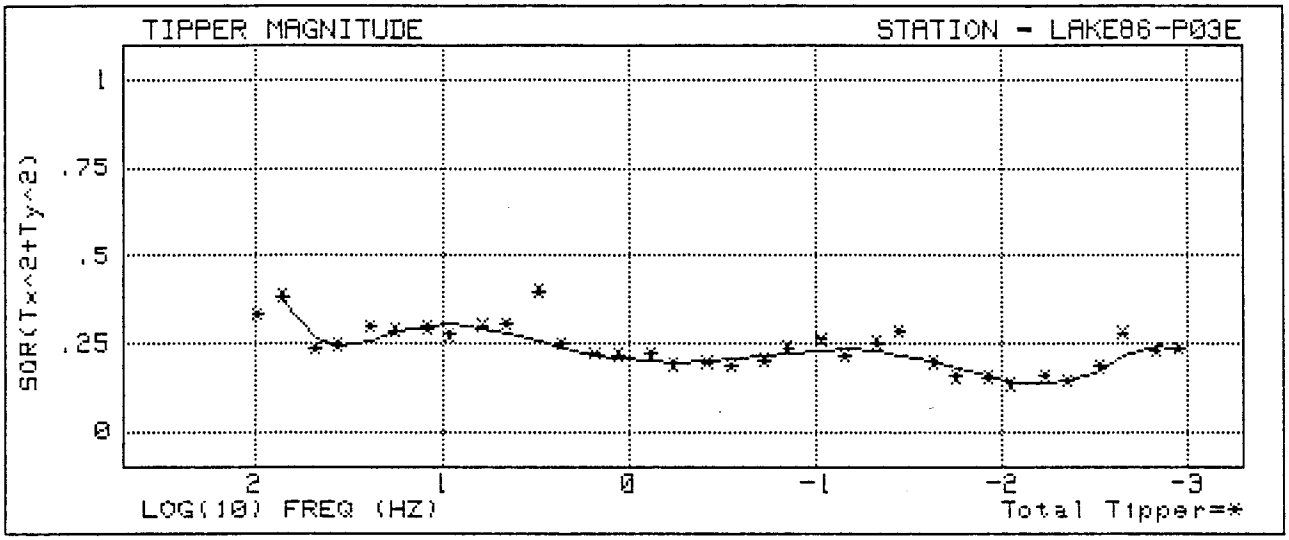
MT Site: LAKE86-P03E

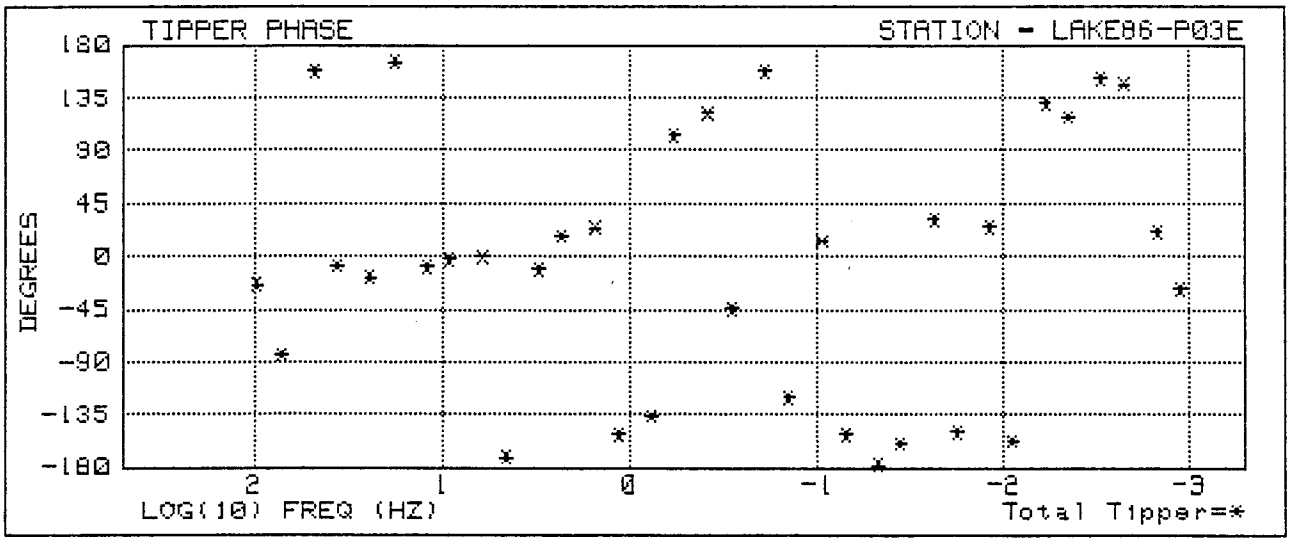
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

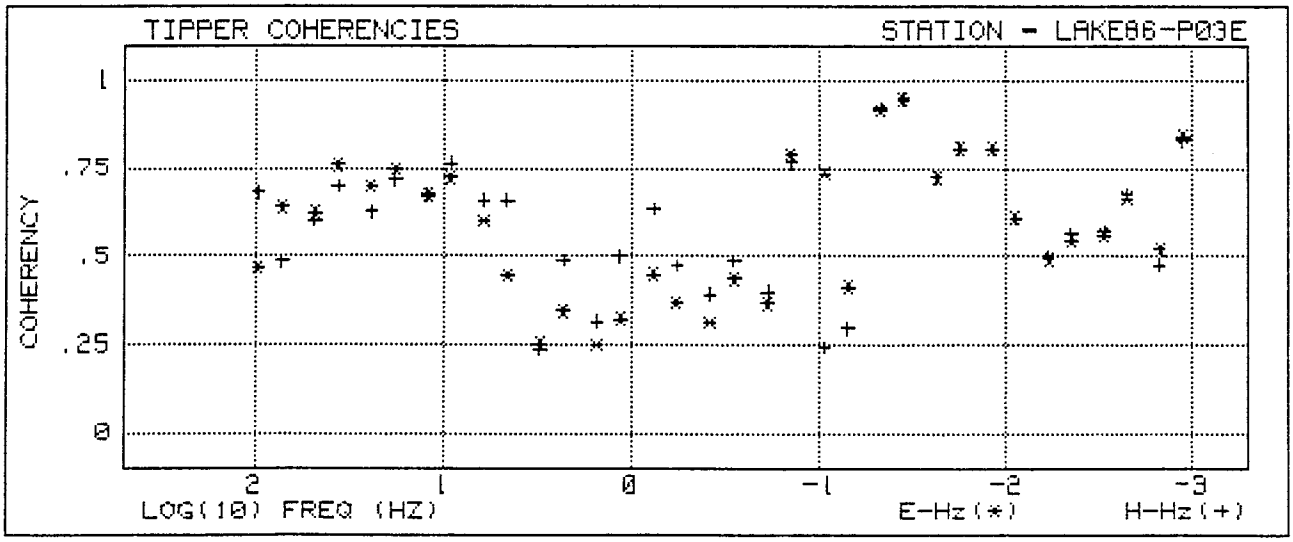
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
5	96.00 Hz	478	53.43	-299.82	999.99	16.44	-56.96	999.99
6	72.00 Hz	351	-20.10	-225.15	999.99	-73.72	-2.67	999.99
7	48.00 Hz	376	-8.52	-180.22	614.04	-8.21	-.11	114.64
8	36.00 Hz	2037	-23.70	-138.37	68.53	-7.12	-7.26	16.46
9	24.00 Hz	1248	-20.33	-103.98	20.39	-2.40	-1.52	4.15
10	18.00 Hz	2203	-17.89	-79.10	2.58	-1.02	-2.98	.74
11	12.00 Hz	2195	-13.21	-54.21	1.03	-1.44	-1.77	.34
12	9.00 Hz	2387	-11.11	-38.37	.27	-.91	-1.23	.09
13	6.00 Hz	1818	-6.05	-28.86	.79	-1.46	-2.96	.17
14	4.50 Hz	954	-5.74	-21.49	1.70	-.09	-.92	.24
15	3.00 Hz	17808	-4.39	-14.65	1.43	-.38	-2.04	.38
16	2.25 Hz	8196	-6.21	-10.75	.91	-.55	-1.36	.27
17	1.50 Hz	23809	-7.41	-6.93	.71	.20	.50	.72
18	1.13 Hz	15097	-6.32	-5.64	.48	.42	-1.09	.21
19	1.33 Sec	1488	-6.074	-3.982	8.811	-.177	-1.620	1.811
20	1.78 Sec	7344	-4.124	-5.128	4.038	-2.146	-1.544	.604
21	2.67 Sec	5705	-3.842	-3.688	2.056	-1.618	-1.570	.545
22	3.56 Sec	5133	-3.437	-3.253	.616	-1.657	-1.041	.084
23	5.33 Sec	2559	-3.245	-2.620	.500	-1.509	-.792	.109
24	7.11 Sec	540	-3.065	-1.988	.140	-1.310	-.727	.008
25	10.67 Sec	1593	-2.616	-1.851	.053	-1.206	-.453	.018
26	14.22 Sec	1497	-2.456	-1.741	.004	-1.104	-.568	.003
27	21.33 Sec	611	-2.104	-1.656	.000	-.933	-.702	.000
28	28.44 Sec	737	-1.789	-1.578	.000	-.799	-.754	.000
29	42.67 Sec	456	-1.398	-1.401	.000	-.600	-.645	.000
30	56.89 Sec	754	-1.123	-1.265	.000	-.432	-.631	.000
31	85.33 Sec	258	-.798	-1.053	.000	-.238	-.450	.000
32	113.78 Sec	351	-.626	-.887	.000	-.170	-.387	.000
33	170.67 Sec	153	-.466	-.665	.000	-.121	-.285	.000
34	227.56 Sec	165	-.378	-.568	.000	-.089	-.220	.000
35	341.33 Sec	81	-.329	-.389	.000	-.090	-.182	.000
36	455.11 Sec	63	-.257	-.344	.000	-.097	-.130	.001
37	682.67 Sec	36	-.227	-.232	.001	-.079	-.119	.002
38	910.22 Sec	12	-.156	-.234	.000	-.163	-.038	.002

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E







PHOENIX GEOPHYSICS

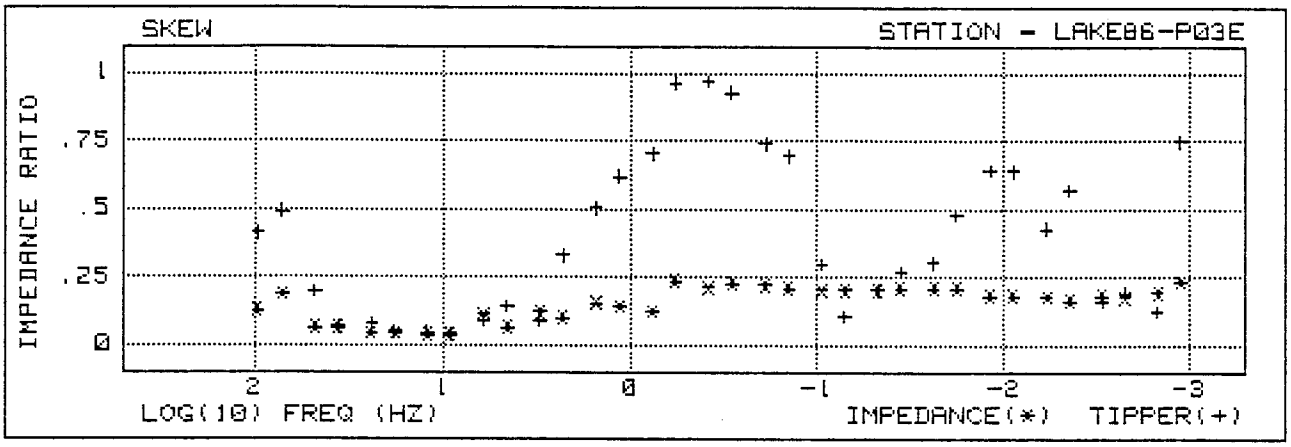
MT Site: LAKE86-P03E

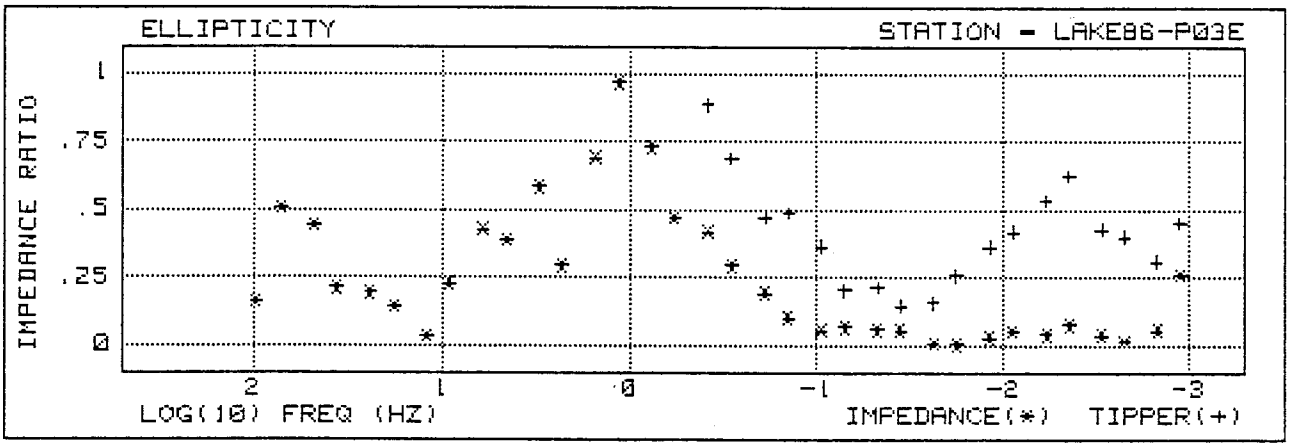
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

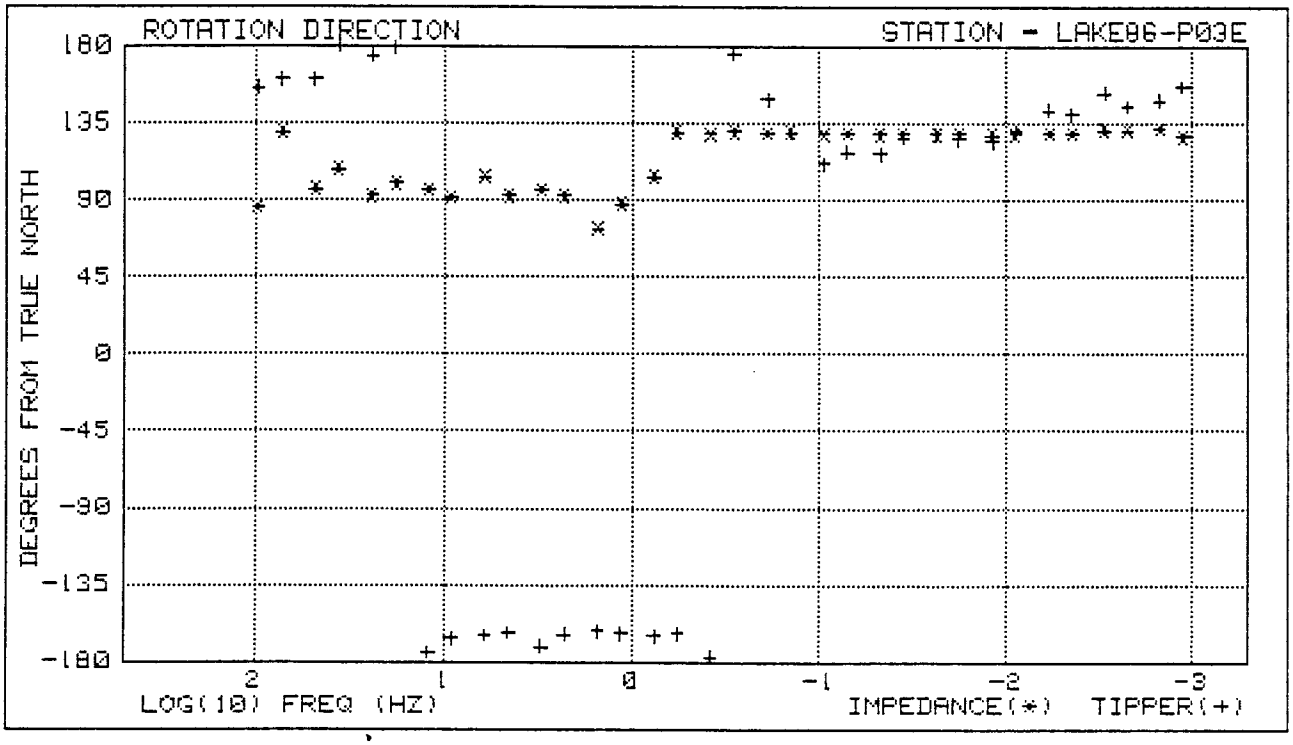
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
5	96.00 Hz	478	.33	-24.76	.46	.68
6	72.00 Hz	351	.38	-84.69	.64	.48
7	48.00 Hz	376	.23	156.41	.62	.60
8	36.00 Hz	2037	.24	-8.88	.76	.69
9	24.00 Hz	1248	.30	-18.94	.70	.62
10	18.00 Hz	2203	.28	164.00	.74	.71
11	12.00 Hz	2195	.29	-9.55	.67	.67
12	9.00 Hz	2387	.27	-3.06	.72	.76
13	6.00 Hz	1818	.30	-1.13	.60	.65
14	4.50 Hz	954	.30	-172.27	.44	.66
15	3.00 Hz	17808	.40	-11.30	.25	.23
16	2.25 Hz	8196	.25	16.25	.34	.49
17	1.50 Hz	23809	.22	23.66	.25	.31
18	1.13 Hz	15097	.21	-152.28	.32	.50
19	1.33 Sec	1488	.22	-137.48	.45	.63
20	1.78 Sec	7344	.19	101.91	.36	.47
21	2.67 Sec	5705	.19	121.16	.31	.39
22	3.56 Sec	5133	.18	-45.33	.43	.49
23	5.33 Sec	2559	.20	156.70	.36	.40
24	7.11 Sec	540	.23	-120.88	.79	.76
25	10.67 Sec	1593	.26	12.20	.73	.24
26	14.22 Sec	1497	.21	-152.64	.41	.29
27	21.33 Sec	611	.25	-178.61	.91	.92
28	28.44 Sec	737	.28	-160.21	.95	.94
29	42.67 Sec	456	.19	30.59	.72	.72
30	56.89 Sec	754	.15	-150.15	.80	.80
31	85.33 Sec	258	.15	24.30	.80	.80
32	113.78 Sec	351	.13	-157.96	.61	.60
33	170.67 Sec	153	.16	129.37	.49	.50
34	227.56 Sec	165	.14	117.72	.54	.56
35	341.33 Sec	81	.18	150.31	.56	.57
36	455.11 Sec	63	.28	145.17	.66	.67
37	682.67 Sec	36	.23	20.25	.52	.47
38	910.22 Sec	12	.23	-28.80	.84	.83

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E







PHOENIX GEOPHYSICS

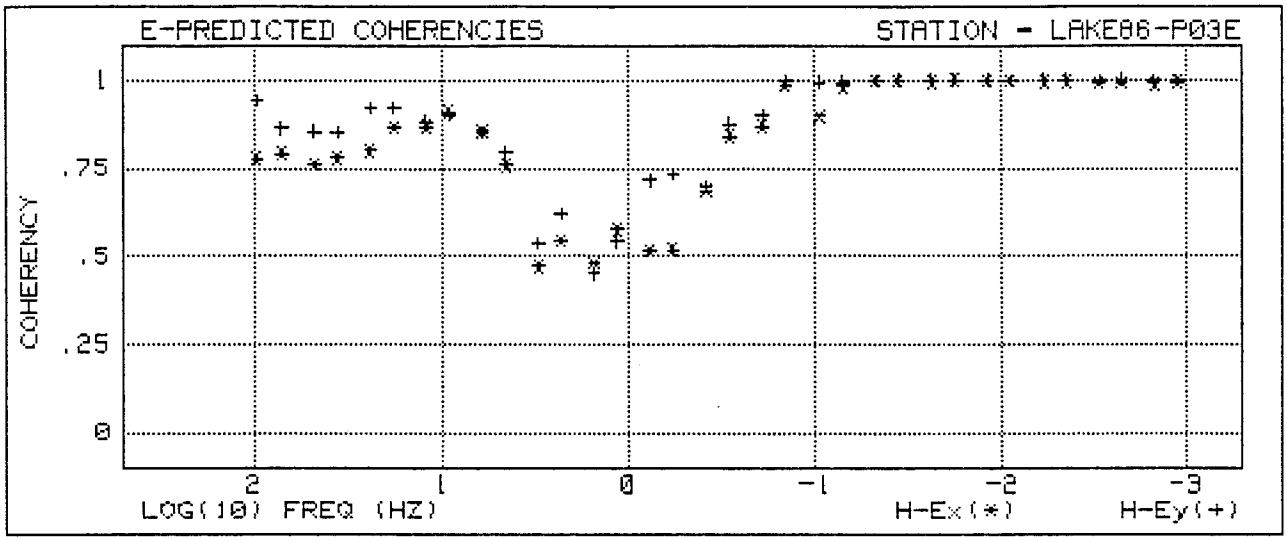
MT Site: LAKE86-P03E

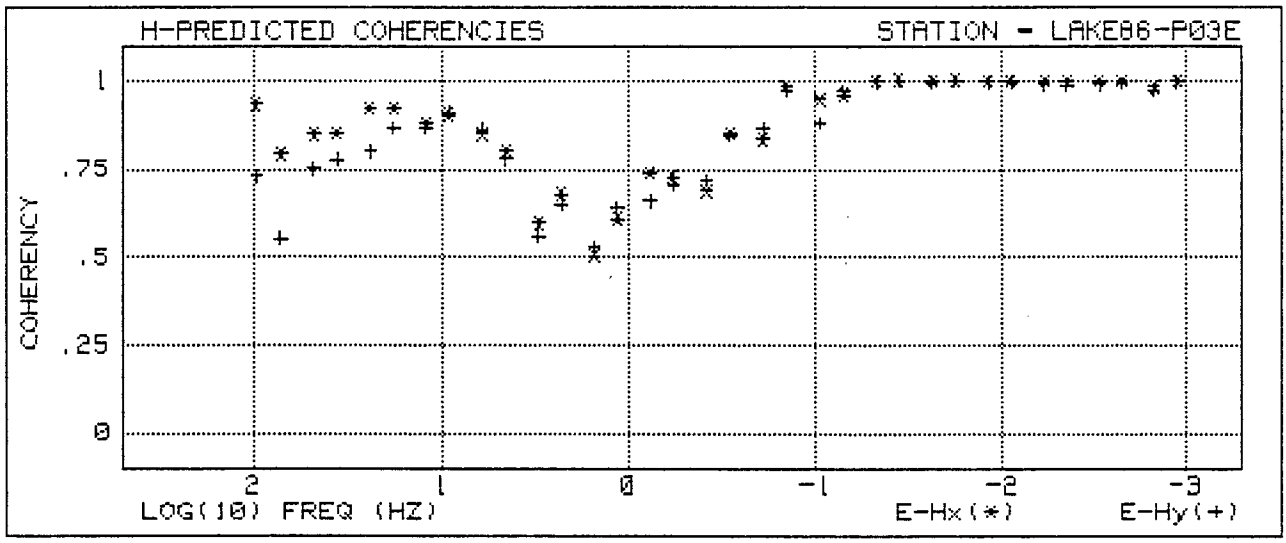
SKEW, ELLIPTICITY AND STRIKE

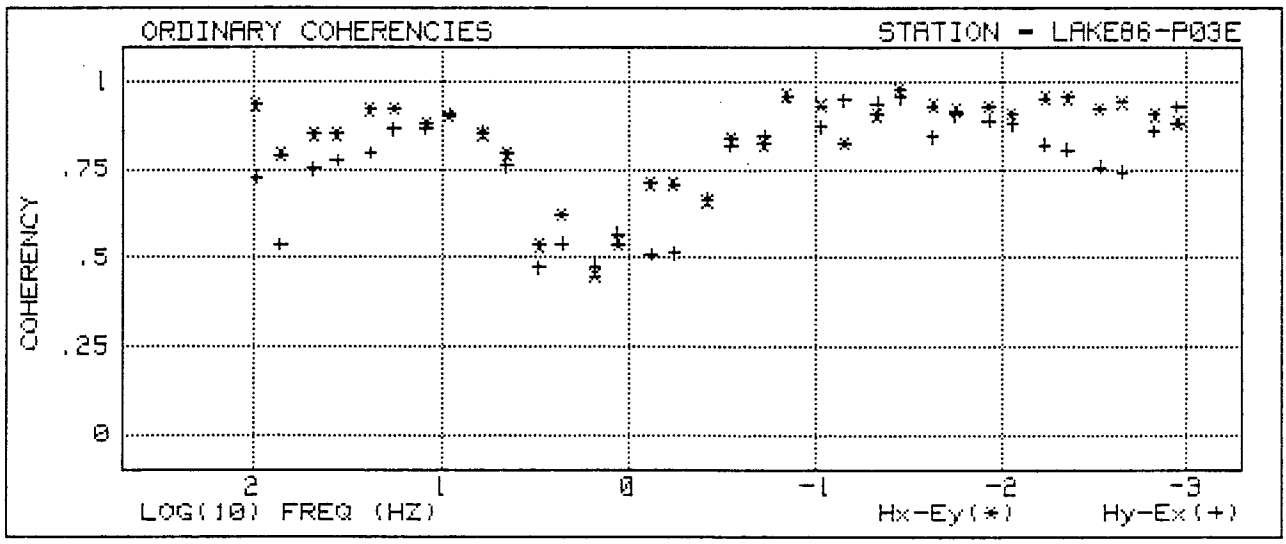
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
5	96.00 Hz	478	.12	.16	85.29	.41	3.16	155.11
6	72.00 Hz	351	.19	.50	128.94	.49	1.27	159.76
7	48.00 Hz	376	.06	.44	95.54	.19	8.88	159.86
8	36.00 Hz	2037	.06	.21	107.27	.06	6.41	179.09
9	24.00 Hz	1248	.04	.19	92.01	.08	4.95	174.02
10	18.00 Hz	2203	.04	.14	99.00	.05	21.82	178.70
11	12.00 Hz	2195	.03	.03	95.39	.04	12.47	-175.23
12	9.00 Hz	2387	.04	.22	90.78	.03	4.45	-167.15
13	6.00 Hz	1818	.11	.42	102.86	.08	15.86	-164.95
14	4.50 Hz	954	.06	.38	92.04	.14	3.82	-163.74
15	3.00 Hz	17808	.12	.58	95.32	.08	5.40	-171.69
16	2.25 Hz	8196	.10	.29	91.95	.33	3.48	-164.32
17	1.50 Hz	23809	.15	.69	72.56	.50	1.41	-162.41
18	1.13 Hz	15097	.14	.96	87.23	.62	2.22	-164.17
19	1.33 Sec	1488	.12	.73	102.84	.70	2.45	-165.57
20	1.78 Sec	7344	.23	.47	129.15	.96	1.15	-163.93
21	2.67 Sec	5705	.21	.42	127.98	.97	.88	-177.69
22	3.56 Sec	5133	.22	.29	129.63	.92	.68	174.82
23	5.33 Sec	2559	.22	.19	128.40	.74	.47	148.41
24	7.11 Sec	540	.20	.10	128.79	.69	.48	128.44
25	10.67 Sec	1593	.20	.05	128.23	.29	.36	110.53
26	14.22 Sec	1497	.20	.07	128.56	.10	.20	117.59
27	21.33 Sec	611	.20	.05	127.97	.20	.21	116.67
28	28.44 Sec	737	.21	.05	128.40	.27	.14	125.68
29	42.67 Sec	456	.20	.00	127.87	.30	.15	128.10
30	56.89 Sec	754	.21	.00	128.37	.47	.26	125.16
31	85.33 Sec	258	.18	.03	127.53	.64	.36	123.95
32	113.78 Sec	351	.18	.05	128.06	.64	.41	130.14
33	170.67 Sec	153	.18	.04	128.72	.42	.53	141.98
34	227.56 Sec	165	.16	.07	128.39	.57	.62	139.51
35	341.33 Sec	81	.18	.03	130.44	.16	.42	151.93
36	455.11 Sec	63	.17	.01	130.39	.19	.40	144.57
37	682.67 Sec	36	.19	.05	131.34	.12	.31	148.04
38	910.22 Sec	12	.23	.26	126.69	.74	.45	155.98

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E







PHOENIX GEOPHYSICS

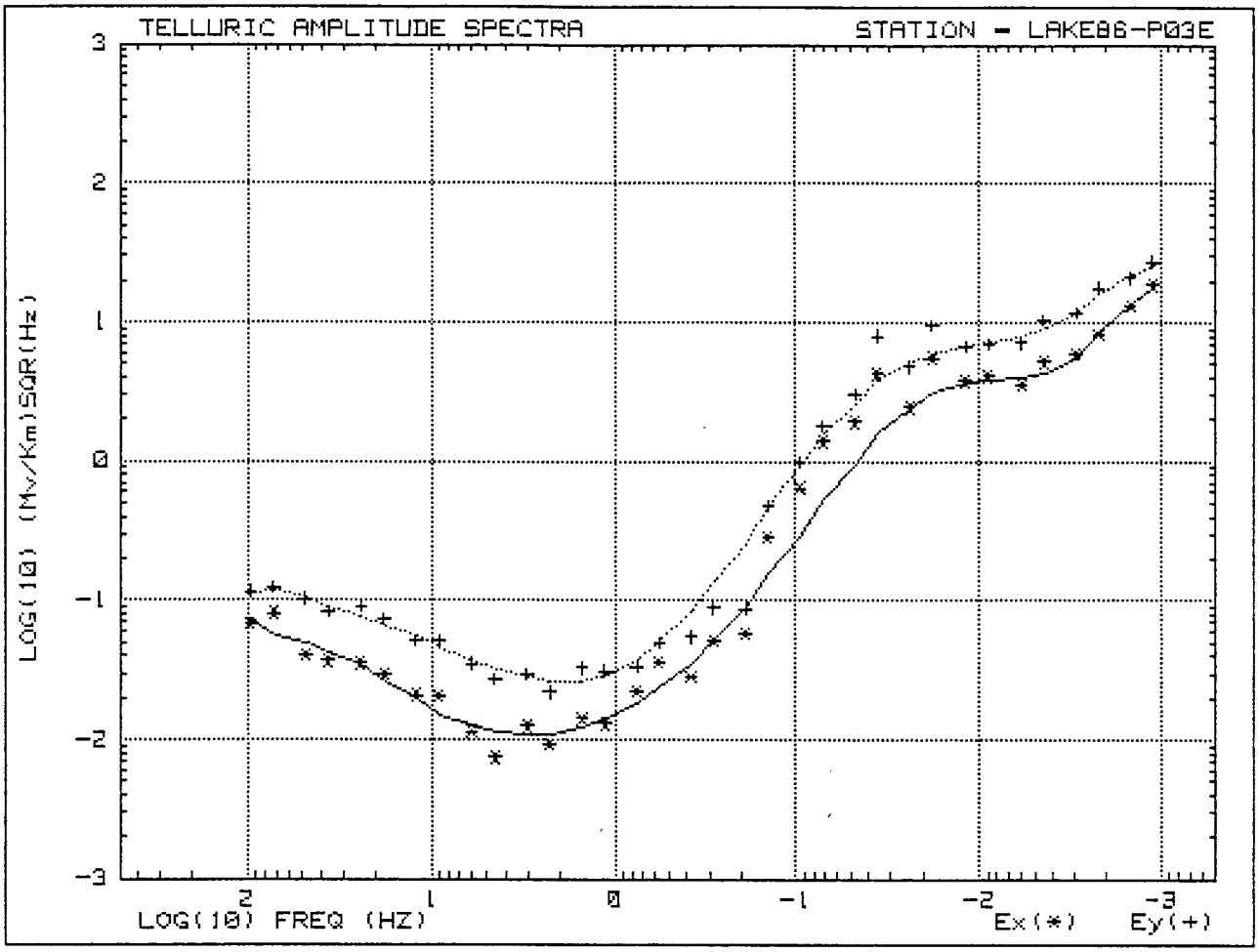
MT Site: LAKE86-P03E

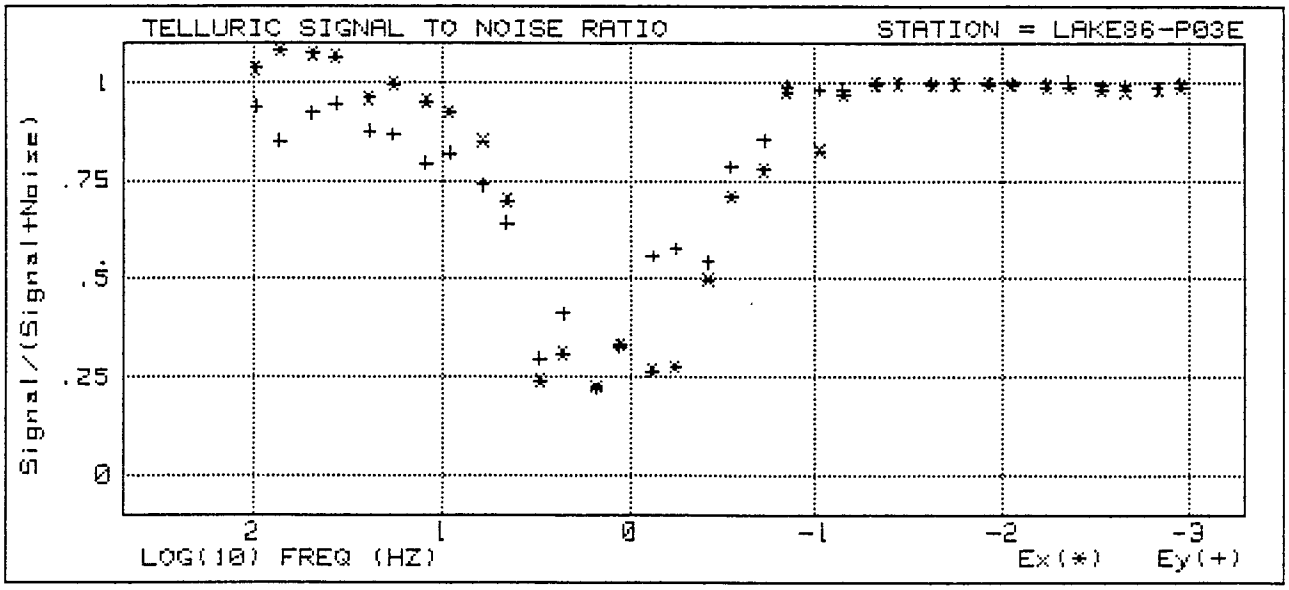
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
5	96.00 Hz	478	.77	.94	.93	.73	.93	.72
6	72.00 Hz	351	.79	.86	.79	.55	.79	.53
7	48.00 Hz	376	.76	.85	.85	.75	.85	.75
8	36.00 Hz	2037	.78	.85	.85	.77	.85	.77
9	24.00 Hz	1248	.80	.92	.92	.80	.92	.79
10	18.00 Hz	2203	.86	.92	.92	.86	.92	.86
11	12.00 Hz	2195	.86	.88	.88	.87	.88	.86
12	9.00 Hz	2387	.91	.90	.90	.91	.90	.91
13	6.00 Hz	1818	.85	.85	.85	.86	.85	.85
14	4.50 Hz	954	.76	.79	.80	.78	.79	.76
15	3.00 Hz	17808	.47	.53	.59	.56	.53	.47
16	2.25 Hz	8196	.54	.62	.68	.65	.62	.54
17	1.50 Hz	23809	.48	.45	.50	.53	.44	.47
18	1.13 Hz	15097	.57	.54	.61	.64	.54	.57
19	1.33 Sec	1488	.51	.71	.74	.66	.71	.51
20	1.78 Sec	7344	.52	.73	.73	.70	.70	.51
21	2.67 Sec	5705	.68	.69	.69	.72	.66	.66
22	3.56 Sec	5133	.84	.87	.85	.84	.83	.81
23	5.33 Sec	2559	.87	.90	.83	.86	.82	.84
24	7.11 Sec	540	.98	.99	.98	.97	.96	.95
25	10.67 Sec	1593	.90	.99	.95	.88	.93	.87
26	14.22 Sec	1497	.98	.99	.96	.97	.82	.95
27	21.33 Sec	611	1.00	1.00	1.00	.99	.90	.94
28	28.44 Sec	737	1.00	1.00	1.00	1.00	.97	.95
29	42.67 Sec	456	.99	1.00	1.00	.99	.93	.84
30	56.89 Sec	754	1.00	1.00	1.00	1.00	.92	.90
31	85.33 Sec	258	1.00	1.00	1.00	.99	.93	.89
32	113.78 Sec	351	1.00	1.00	1.00	.99	.91	.88
33	170.67 Sec	153	.99	1.00	1.00	.99	.95	.82
34	227.56 Sec	165	.99	1.00	1.00	.98	.95	.80
35	341.33 Sec	81	.99	1.00	1.00	.99	.92	.75
36	455.11 Sec	63	.99	1.00	1.00	.99	.94	.74
37	682.67 Sec	36	.99	.99	.98	.97	.90	.86
38	910.22 Sec	12	.99	1.00	1.00	.99	.88	.93

PHOENIX GEOPHYSICS

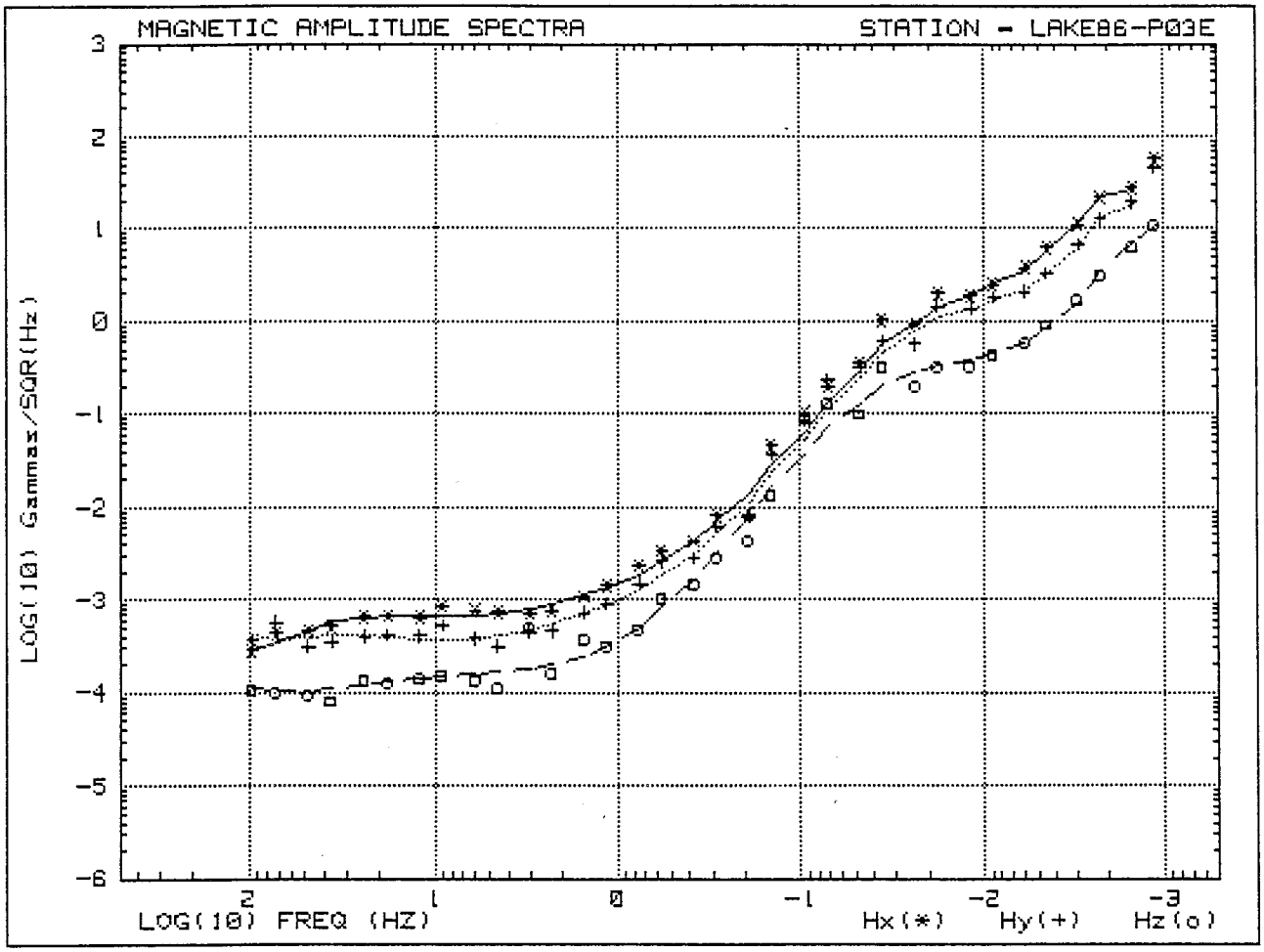
MT Site: LAKE86-P03E

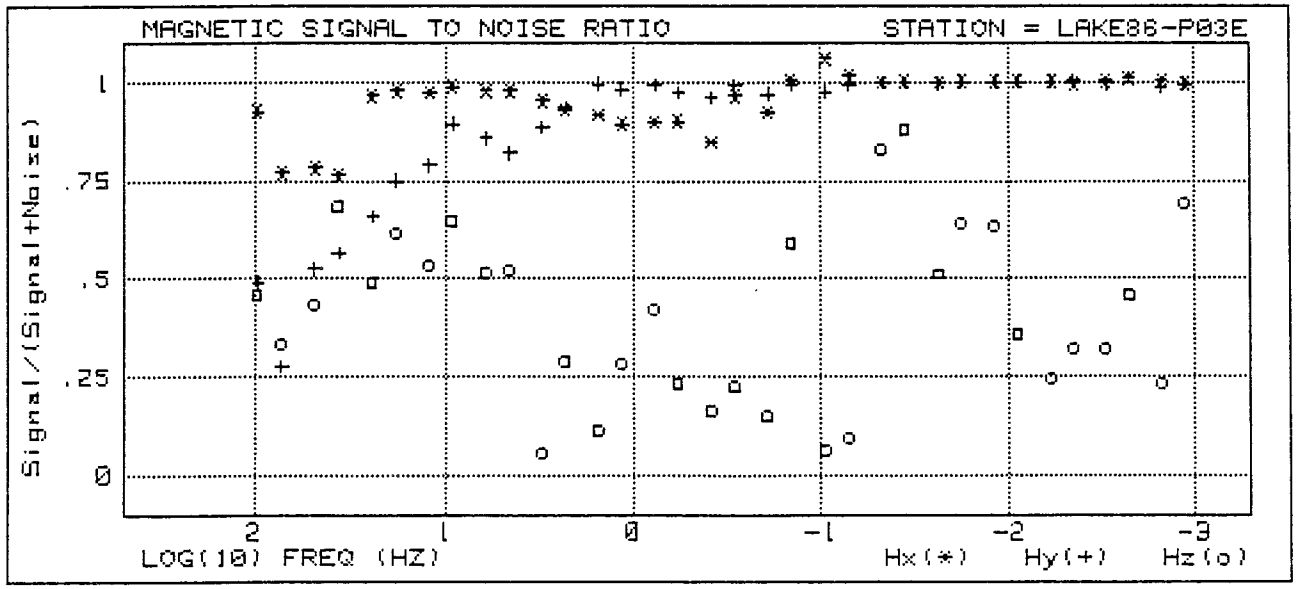




PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	478	2.79E-04	3.60E-04	1.11E-04	6.74E-02	1.14E-01
6	72.00 Hz	351	4.23E-04	5.60E-04	1.06E-04	7.99E-02	1.22E-01
7	48.00 Hz	376	4.56E-04	3.11E-04	9.65E-05	4.01E-02	1.02E-01
8	36.00 Hz	2037	5.10E-04	3.44E-04	8.39E-05	3.63E-02	8.20E-02
9	24.00 Hz	1248	6.47E-04	3.93E-04	1.40E-04	3.47E-02	8.91E-02
10	18.00 Hz	2203	6.63E-04	4.10E-04	1.33E-04	2.90E-02	7.25E-02
11	12.00 Hz	2195	6.25E-04	4.00E-04	1.45E-04	2.04E-02	5.04E-02
12	9.00 Hz	2387	8.36E-04	5.14E-04	1.61E-04	2.02E-02	5.02E-02
13	6.00 Hz	1818	7.51E-04	3.79E-04	1.44E-04	1.13E-02	3.44E-02
14	4.50 Hz	954	7.22E-04	3.11E-04	1.19E-04	7.37E-03	2.68E-02
15	3.00 Hz	17808	7.00E-04	4.41E-04	5.09E-04	1.23E-02	2.90E-02
16	2.25 Hz	8196	7.57E-04	4.49E-04	1.70E-04	9.14E-03	2.17E-02
17	1.50 Hz	23809	1.06E-03	7.14E-04	3.81E-04	1.40E-02	3.25E-02
18	1.13 Hz	15097	1.40E-03	8.89E-04	3.31E-04	1.28E-02	3.06E-02
19	1.33 Sec	1488	2.32E-03	1.45E-03	5.04E-04	2.20E-02	3.33E-02
20	1.78 Sec	7344	3.33E-03	2.58E-03	1.05E-03	3.52E-02	4.84E-02
21	2.67 Sec	5705	4.21E-03	2.78E-03	1.55E-03	2.77E-02	5.45E-02
22	3.56 Sec	5133	7.90E-03	6.03E-03	3.01E-03	5.10E-02	8.70E-02
23	5.33 Sec	2559	8.23E-03	7.80E-03	4.53E-03	5.74E-02	8.67E-02
24	7.11 Sec	540	4.50E-02	3.64E-02	1.42E-02	2.82E-01	4.77E-01
25	10.67 Sec	1593	1.03E-01	8.54E-02	9.31E-02	6.39E-01	9.72E-01
26	14.22 Sec	1497	1.94E-01	2.30E-01	1.34E-01	1.37E+00	1.77E+00
27	21.33 Sec	611	3.56E-01	3.16E-01	1.04E-01	1.88E+00	2.97E+00
28	28.44 Sec	737	1.02E+00	6.10E-01	3.29E-01	4.20E+00	7.87E+00
29	42.67 Sec	456	9.24E-01	5.58E-01	2.07E-01	2.40E+00	4.71E+00
30	56.89 Sec	754	1.96E+00	1.41E+00	3.39E-01	5.45E+00	9.41E+00
31	85.33 Sec	258	1.86E+00	1.33E+00	3.44E-01	3.71E+00	6.58E+00
32	113.78 Sec	351	2.43E+00	1.78E+00	4.42E-01	4.03E+00	6.87E+00
33	170.67 Sec	153	3.75E+00	2.05E+00	6.14E-01	3.49E+00	7.07E+00
34	227.56 Sec	165	6.10E+00	3.24E+00	9.59E-01	5.13E+00	1.02E+01
35	341.33 Sec	81	1.09E+01	6.65E+00	1.75E+00	5.85E+00	1.15E+01
36	455.11 Sec	63	2.17E+01	1.25E+01	3.29E+00	8.01E+00	1.74E+01
37	682.67 Sec	36	2.71E+01	1.89E+01	6.54E+00	1.30E+01	2.07E+01
38	910.22 Sec	12	5.60E+01	4.62E+01	1.13E+01	1.85E+01	2.72E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	478	.925	.490	.465	1.000	.937
6	72.00 Hz	351	.768	.273	.340	1.000	.849
7	48.00 Hz	376	.781	.523	.439	1.000	.921
8	36.00 Hz	2037	.763	.563	.688	1.000	.944
9	24.00 Hz	1248	.964	.658	.495	.958	.874
10	18.00 Hz	2203	.977	.747	.621	.994	.866
11	12.00 Hz	2195	.973	.787	.540	.950	.792
12	9.00 Hz	2387	.987	.893	.650	.922	.818
13	6.00 Hz	1818	.977	.857	.519	.849	.737
14	4.50 Hz	954	.977	.819	.529	.698	.642
15	3.00 Hz	17808	.951	.884	.060	.237	.294
16	2.25 Hz	8196	.928	.935	.292	.308	.410
17	1.50 Hz	23809	.916	.994	.117	.223	.217
18	1.13 Hz	15097	.893	.982	.289	.331	.326
19	1.33 Sec	1488	.898	.992	.427	.263	.558
20	1.78 Sec	7344	.898	.973	.238	.274	.577
21	2.67 Sec	5705	.847	.960	.168	.496	.543
22	3.56 Sec	5133	.964	.991	.228	.709	.785
23	5.33 Sec	2559	.923	.969	.153	.775	.852
24	7.11 Sec	540	1.000	.993	.598	.974	.987
25	10.67 Sec	1593	1.000	.974	.065	.825	.979
26	14.22 Sec	1497	1.000	.992	.097	.966	.982
27	21.33 Sec	611	.999	.998	.836	.994	.996
28	28.44 Sec	737	.999	.998	.888	.996	.997
29	42.67 Sec	456	.998	.997	.518	.991	.997
30	56.89 Sec	754	1.000	.999	.645	.996	.997
31	85.33 Sec	258	1.000	1.000	.639	.994	.998
32	113.78 Sec	351	1.000	1.000	.366	.992	.995
33	170.67 Sec	153	1.000	1.000	.248	.987	.996
34	227.56 Sec	165	.995	1.000	.324	.986	1.000
35	341.33 Sec	81	1.000	.996	.324	.981	.992
36	455.11 Sec	63	1.000	1.000	.461	.977	.992
37	682.67 Sec	36	1.000	.986	.237	.983	.984
38	910.22 Sec	12	.993	.993	.698	.988	.997

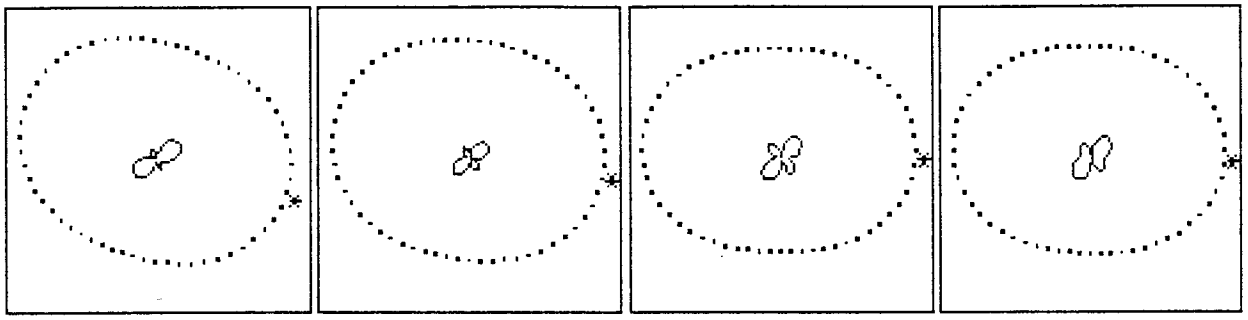
PHOENIX GEOPHYSICS

MT Site: LAKE86-P03E

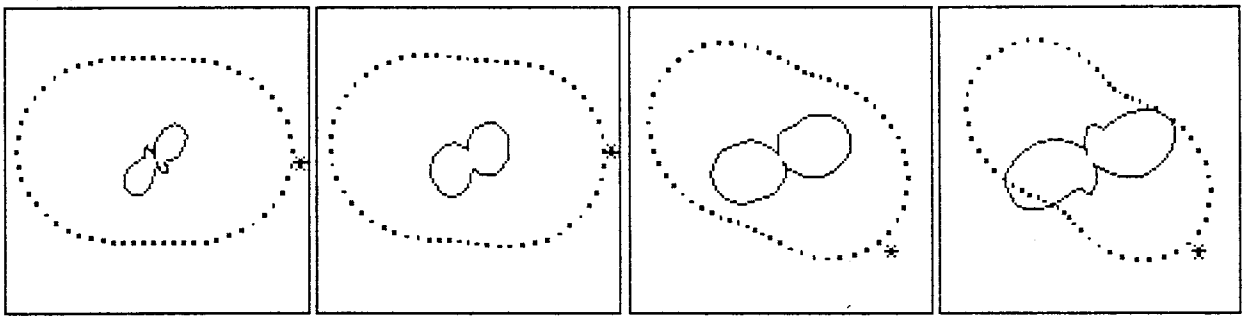
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

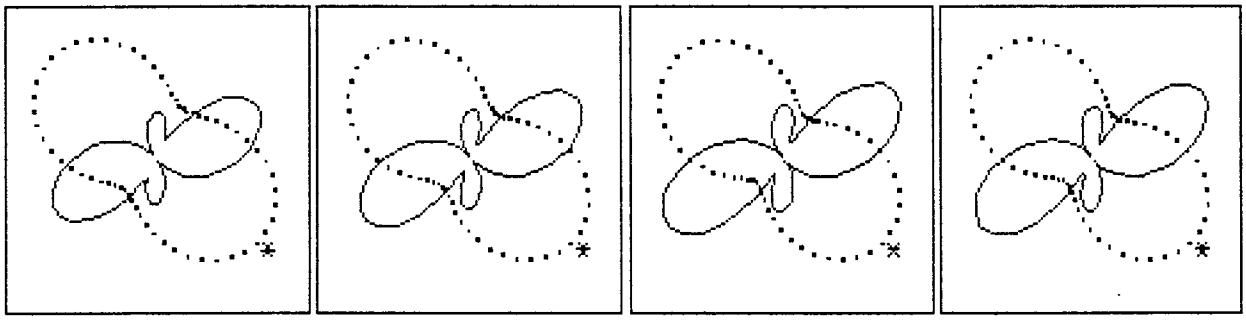
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



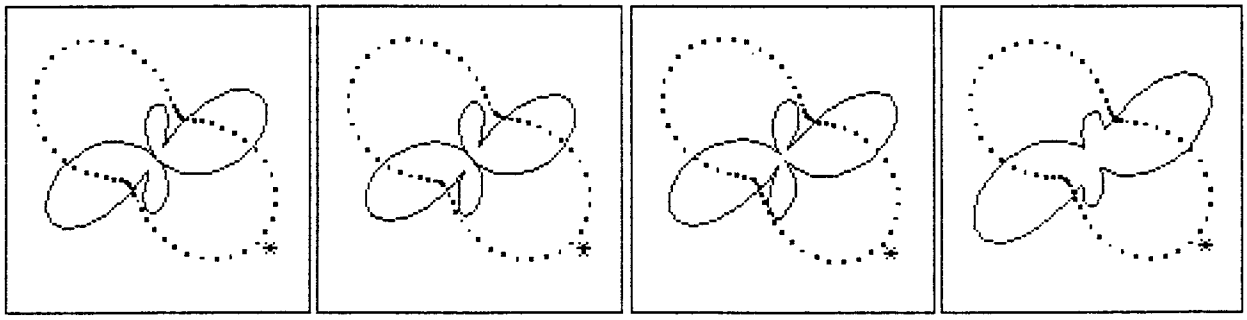
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P04s/P06g/

Operator:ERIK VAAG
Date: 9 Oct 1986
Time: 21:22:09

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#507-30Aug86-05
SP--Stn02: B#219-30Aug86-05
Sens-Ch01: C#445-04Sep86-01
Sens-Ch02: C#306-04Sep86-01
Sens-Ch03: L#416-05Sep86-01
Sens-Ch06: C#201-04Sep86-01
Sens-Ch07: C#452-04Sep86-01
Sens-Ch08: L#419-05Sep86-01

Station 1

Stn Number:LAKE86-P04s
Site Desc:T43N R03E Sec.13 NW1/4
41,34,36 N 121,41,29 W
Elevation:6400 FT
Reference:LAKE86-P06s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P BURNS
Sensor Processor: SE507
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL445	+0 DEG
Hy	2	COIL306	+90 DEG
Hz	3	LOOP416	
Ex	4	200 M	+0 DEG
Ey	5	200 M	+90 DEG
Rx	6	COIL201	+30 DEG
Ry	7	COIL452	+120 DEG

Ex Pot Resist: 8.5 K Ohms
Ex Voltage: AC=30.6 mv, DC=57.6 mv
Ey Pot Resist: 7.0 K Ohms
Ey Voltage: AC=10.6 mv, DC= 114 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

OPERATOR LOG FOR MT SITES LAKE86-P04s/P06s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P04a/P06a/			
Run STARTED:	15:42:53	8 Oct	1986
Run QUIT:	09:21:18	9 Oct	1986
Run Start and Stop Time for LAKE86-P04b/P06b/			
Run STARTED:	10:54:40	9 Oct	1986
Run QUIT:	20:44:36	9 Oct	1986
Run Start and Stop Time for LAKE86-P04c/P06c/			
Run STARTED:	21:22:09	9 Oct	1986
Run QUIT:	03:48:34	10 Oct	1986

Operator: ERIK VAAG

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST CAUSES POOR DATA ABOVE 60 HZ. SITE P06 IS NEXT TO MODERATELY TRAVELED ROAD, CAUSING POOR MAGNETICS BETWEEN 1.0 HZ AND 0.1 HZ ON THAT SITE. POOR ELECTRODE CONTACT AND LOW MT SIGNAL ALSO GIVES POOR DATA BETWEEN 1.0 HZ AND 0.1 HZ.

Weather Conditions:
WARM AND SUNNY DURING DAYTIME. COOL AND CLEAR OVERNIGHT.

Other Factors:
RUN 'b' CONTAINS THE BEST DATA FOR THESE SITES. HIGHEST SIGNAL LEVEL IS DURING DAYTIME HOURS.

PHOENIX GEOPHYSICS

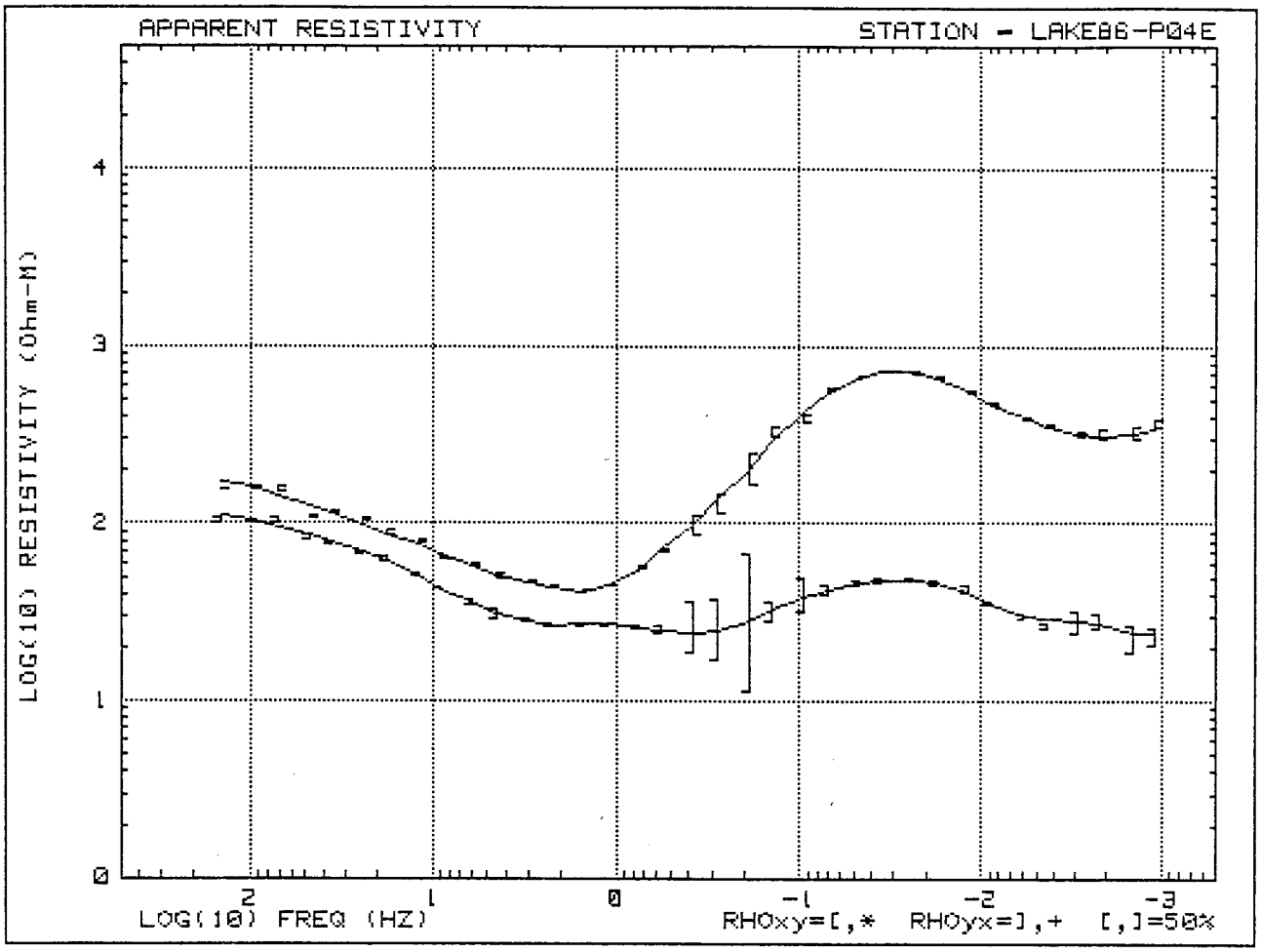
MT Site: LAKE86-P04E

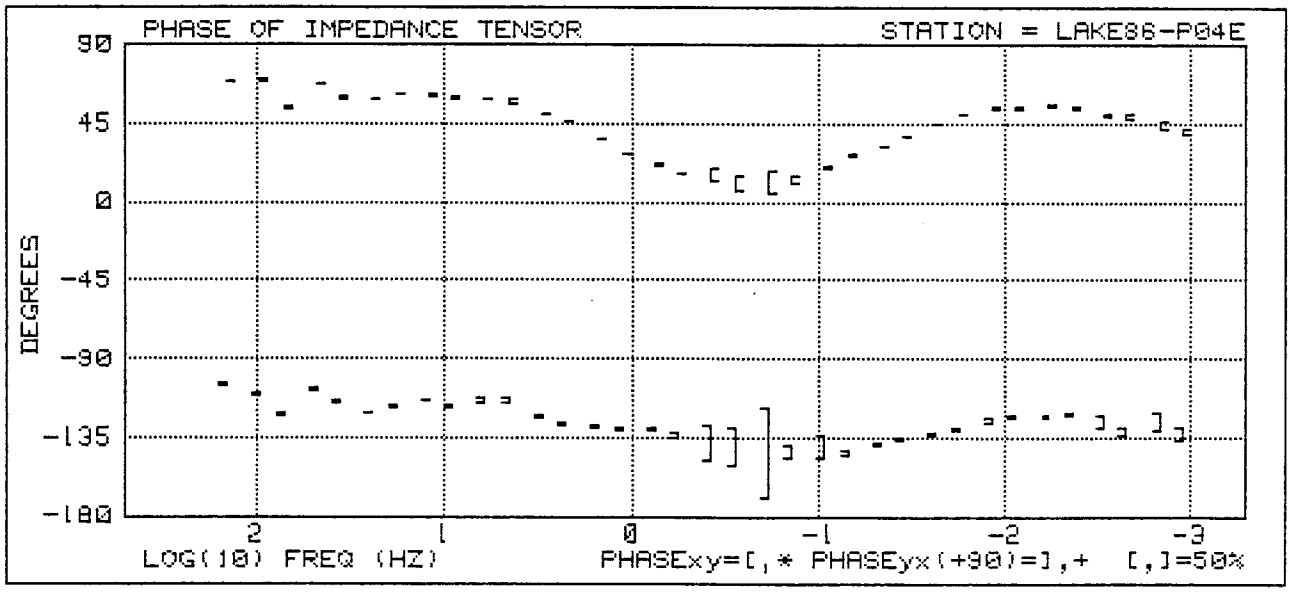
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

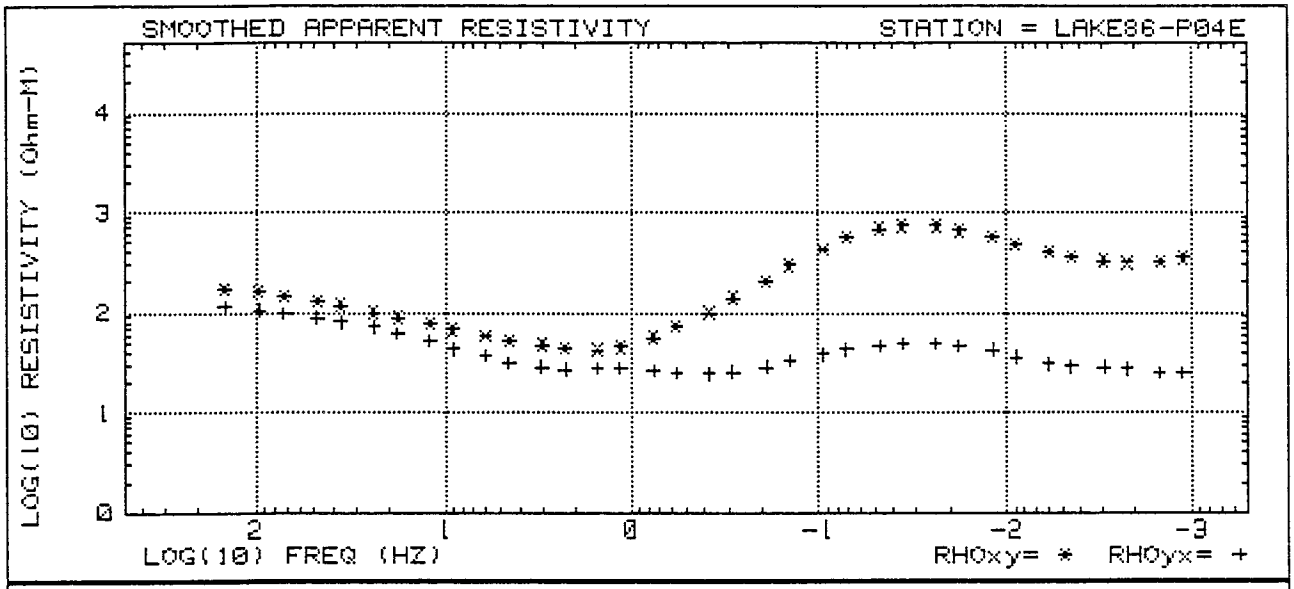
MT Site: LAKE86-P04E

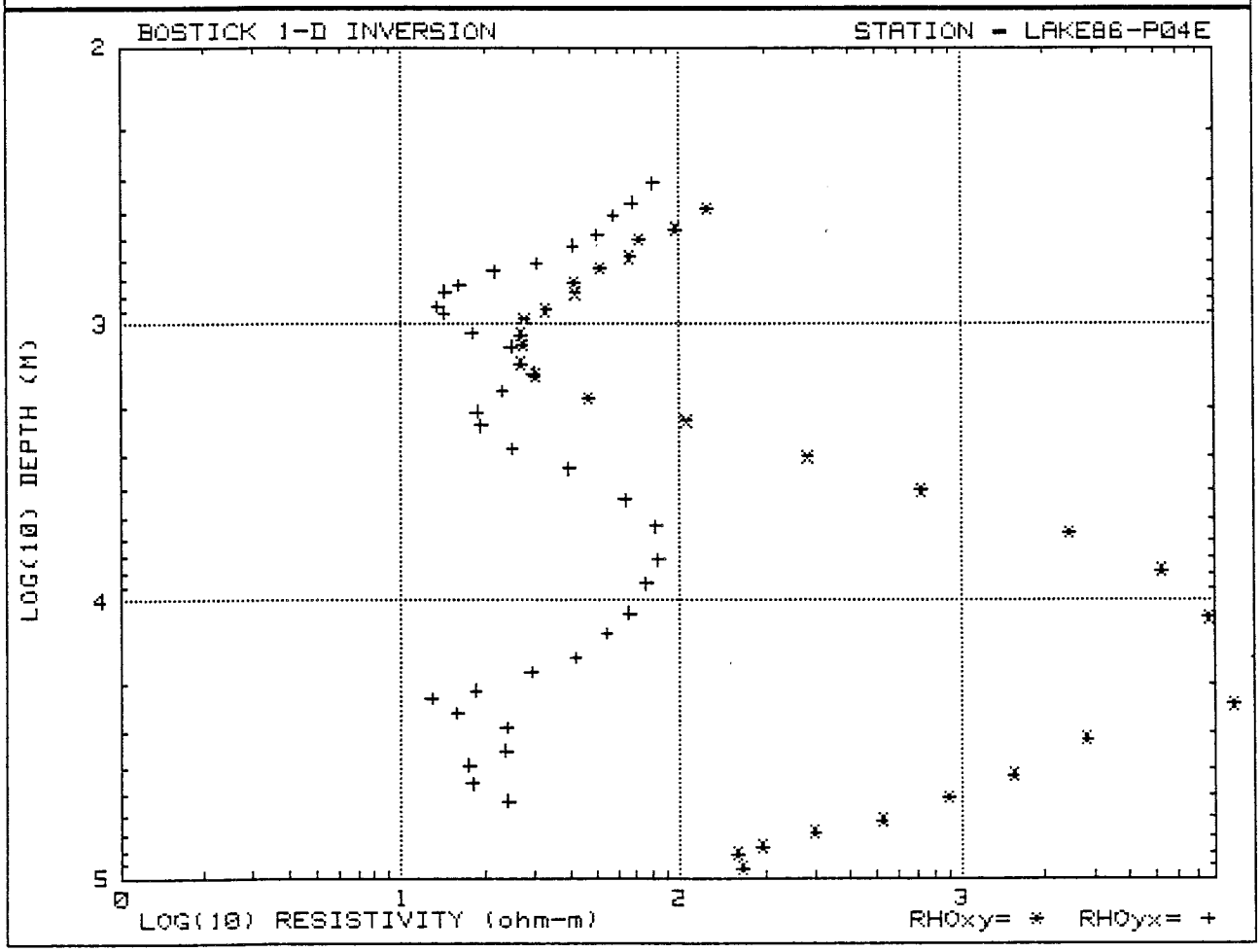




PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	1714	157.8	1.4	104.2	3.2	69.3	.4	-104.2	.9
5	96.00 Hz	1685	158.8	2.3	103.8	2.5	69.4	.6	-110.1	.7
6	72.00 Hz	1621	157.0	4.4	105.0	5.3	54.5	1.2	-121.4	1.5
7	48.00 Hz	1746	109.4	1.9	84.2	3.4	67.9	.5	-107.9	1.0
8	36.00 Hz	1779	115.9	2.1	77.7	2.1	59.9	.6	-114.7	.6
9	24.00 Hz	1984	105.6	2.3	68.8	2.6	58.9	.7	-121.0	.7
10	18.00 Hz	1720	89.2	2.9	63.7	3.4	61.8	.8	-117.2	.9
11	12.00 Hz	3899	79.8	2.6	52.5	2.3	61.5	.7	-113.9	.7
12	9.00 Hz	3099	64.4	2.1	43.5	1.7	59.7	.6	-117.4	.5
13	6.00 Hz	2676	59.3	2.8	35.7	4.3	58.9	.8	-113.7	1.2
14	4.50 Hz	3444	51.1	4.5	31.0	8.7	57.6	1.3	-114.1	2.4
15	3.00 Hz	17059	47.6	1.9	28.3	2.8	50.8	.5	-123.0	.8
16	2.25 Hz	20120	44.2	1.0	26.6	2.3	46.5	.3	-127.0	.6
17	1.50 Hz	9925	42.4	1.1	26.9	4.0	35.9	.3	-128.1	1.1
18	1.13 Hz	7237	45.3	1.1	26.9	2.7	28.3	.3	-129.7	.8
19	1.33 Sec	3360	56.2	1.7	26.0	4.2	21.5	.5	-130.5	1.2
20	1.78 Sec	2528	71.6	2.2	25.2	6.7	16.3	.6	-133.8	1.9
21	2.67 Sec	1823	98.0	18.6	25.7	62.6	15.6	4.9	-137.9	13.9
22	3.56 Sec	1151	131.5	20.7	25.2	77.3	10.9	5.4	-139.7	16.4
23	5.33 Sec	573	203.9	35.4	27.8	99.9	11.5	8.7	-143.5	38.0
24	7.11 Sec	345	330.4	11.2	32.1	19.2	13.3	3.0	-142.7	5.0
25	10.67 Sec	270	398.3	7.0	39.6	36.3	20.1	1.9	-139.9	8.9
26	14.22 Sec	516	571.3	3.2	42.1	9.1	27.4	.9	-143.3	2.5
27	21.33 Sec	394	678.5	1.4	46.0	4.8	32.0	.4	-138.7	1.3
28	28.44 Sec	478	723.9	1.2	48.0	3.3	38.1	.4	-136.0	.9
29	42.67 Sec	358	714.8	.7	48.7	1.8	45.4	.2	-133.1	.5
30	56.89 Sec	508	665.9	1.6	46.6	5.4	50.3	.5	-130.3	1.5
31	85.33 Sec	249	551.0	2.3	42.7	7.6	53.9	.7	-125.2	2.1
32	113.78 Sec	78	471.9	2.5	35.9	3.0	54.2	.7	-122.9	.9
33	170.67 Sec	60	394.7	2.4	29.9	5.1	55.1	.7	-122.6	1.4
34	227.56 Sec	48	356.9	2.9	26.3	5.8	54.0	.8	-121.5	1.6
35	341.33 Sec	24	320.6	6.5	27.5	22.4	49.7	1.8	-126.2	5.8
36	455.11 Sec	30	322.9	8.3	27.7	15.0	49.2	2.3	-131.6	4.0
37	682.67 Sec	15	325.2	13.6	22.3	30.1	44.5	3.6	-125.7	7.5
38	910.22 Sec	9	369.4	6.1	22.8	17.6	40.7	1.7	-133.0	4.6

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	1714	170.1	110.8	126.8	387	81.2	312
5	96.00 Hz	1685	160.4	104.0	97.1	460	68.1	370
6	72.00 Hz	1621	143.5	95.8	71.7	502	58.5	411
7	48.00 Hz	1746	127.3	88.0	67.1	579	51.1	482
8	36.00 Hz	1779	115.8	79.7	52.6	638	41.5	530
9	24.00 Hz	1984	98.1	70.7	41.9	720	30.7	611
10	18.00 Hz	1720	87.7	60.7	42.3	785	21.7	653
11	12.00 Hz	3899	77.0	51.0	33.2	902	16.2	733
12	9.00 Hz	3099	66.6	42.4	27.8	968	14.4	773
13	6.00 Hz	2676	58.0	36.2	27.0	1106	13.6	874
14	4.50 Hz	3444	51.7	31.0	27.3	1206	14.4	934
15	3.00 Hz	17059	46.8	28.1	27.0	1406	18.1	1089
16	2.25 Hz	20120	42.9	26.7	30.2	1554	25.0	1225
17	1.50 Hz	9925	41.5	27.5	47.5	1871	29.9	1523
18	1.13 Hz	7237	45.0	27.4	106.7	2250	23.2	1758
19	1.33 Sec	3360	55.0	25.9	284.7	3047	18.9	2093
20	1.78 Sec	2528	71.9	24.6	727.7	4023	19.6	2354
21	2.67 Sec	1823	97.1	24.0	2467.8	5726	25.2	2844
22	3.56 Sec	1151	136.4	25.0	5319.1	7837	40.2	3357
23	5.33 Sec	573	199.6	28.2	7783.1	11610	64.2	4361
24	7.11 Sec	345	294.9	32.8	11501.9	16298	82.5	5436
25	10.67 Sec	270	420.1	38.0	9490.6	23824	84.2	7162
26	14.22 Sec	516	556.2	42.6	2858.5	31652	76.5	8765
27	21.33 Sec	394	670.4	46.2	1539.8	42561	66.4	11175
28	28.44 Sec	478	730.5	48.3	902.2	51299	55.2	13188
29	42.67 Sec	358	721.2	48.4	521.8	62426	42.5	16173
30	56.89 Sec	508	653.6	46.2	301.8	68626	29.4	18236
31	85.33 Sec	249	558.7	41.5	195.4	77706	18.6	21181
32	113.78 Sec	78	468.1	35.5	161.9	82129	12.9	22602
33	170.67 Sec	60	398.9	30.0	167.2	92856	16.0	25483
34	227.56 Sec	48	352.4	28.7	188.7	100785	24.0	28745
35	341.33 Sec	24	323.4	28.2	216.7	118239	23.8	34941
36	455.11 Sec	30	307.3	27.0	292.8	133100	17.6	39473
37	682.67 Sec	15	318.0	24.4	444.1	165812	18.1	45940
38	910.22 Sec	9	344.7	24.4	613.4	199345	24.2	53024

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	1714	28.43	16.65	65.17	119.17	315.35	10.46
5	96.00 Hz	1685	20.66	4.19	24.63	97.09	258.43	19.10
6	72.00 Hz	1621	7.85	8.36	104.62	138.19	193.41	52.93
7	48.00 Hz	1746	11.41	11.78	28.10	61.10	150.10	4.52
8	36.00 Hz	1779	1.21	7.12	9.01	72.37	124.97	4.42
9	24.00 Hz	1984	1.61	7.44	6.62	58.11	96.42	3.31
10	18.00 Hz	1720	9.29	4.28	7.44	42.30	78.96	3.22
11	12.00 Hz	3899	6.05	4.95	4.46	33.00	60.80	1.59
12	9.00 Hz	3099	5.84	3.40	1.23	27.16	46.47	.61
13	6.00 Hz	2676	1.92	4.54	2.80	21.76	36.12	.66
14	4.50 Hz	3444	1.56	3.75	6.56	18.17	28.64	1.10
15	3.00 Hz	17059	2.75	4.31	.34	16.90	20.71	.13
16	2.25 Hz	20120	1.90	4.21	.11	15.35	16.19	.03
17	1.50 Hz	9925	2.53	3.68	.16	14.44	10.47	.02
18	1.13 Hz	7237	2.32	2.37	.06	14.06	7.55	.02
19	1.33 Sec	3360	1.947	2.150	.113	13.512	5.322	.030
20	1.78 Sec	2528	1.859	2.224	.213	13.625	3.976	.046
21	2.67 Sec	1823	1.733	.742	20.011	13.056	3.651	2.672
22	3.56 Sec	1151	1.842	2.337	15.549	13.353	2.580	3.284
23	5.33 Sec	573	1.363	.489	52.836	13.546	2.768	8.788
24	7.11 Sec	345	1.568	1.330	2.304	14.832	3.511	1.315
25	10.67 Sec	270	1.309	-.459	6.852	12.831	4.697	.427
26	14.22 Sec	516	1.306	.873	.149	12.580	6.525	.102
27	21.33 Sec	394	1.115	.769	.029	10.696	6.679	.015
28	28.44 Sec	478	.971	.803	.016	8.871	6.968	.010
29	42.67 Sec	358	.790	.585	.005	6.427	6.516	.002
30	56.89 Sec	508	.561	.523	.008	4.882	5.890	.008
31	85.33 Sec	249	.405	.516	.009	3.347	4.591	.008
32	113.78 Sec	78	.249	.430	.006	2.666	3.692	.007
33	170.67 Sec	60	.223	.338	.004	1.944	2.790	.003
34	227.56 Sec	48	.154	.255	.002	1.647	2.265	.003
35	341.33 Sec	24	.140	.196	.004	1.401	1.653	.009
36	455.11 Sec	30	.184	.128	.007	1.230	1.426	.011
37	682.67 Sec	15	.212	.092	.008	1.101	1.082	.019
38	910.22 Sec	9	.128	.080	.002	1.080	.929	.004

PHOENIX GEOPHYSICS

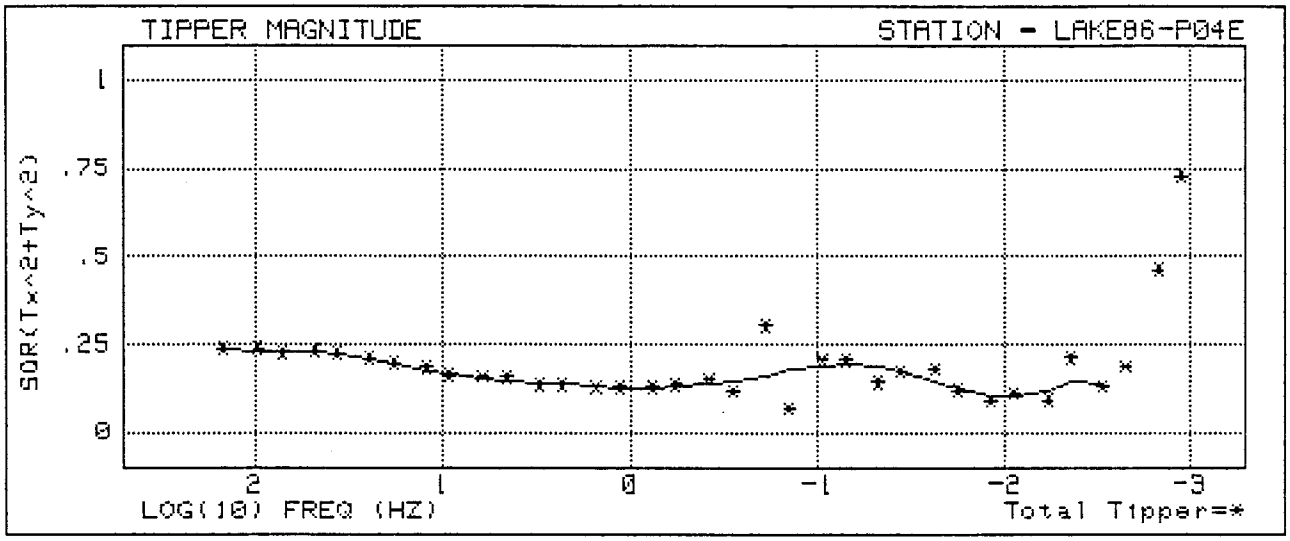
MT Site: LAKE86-P04E

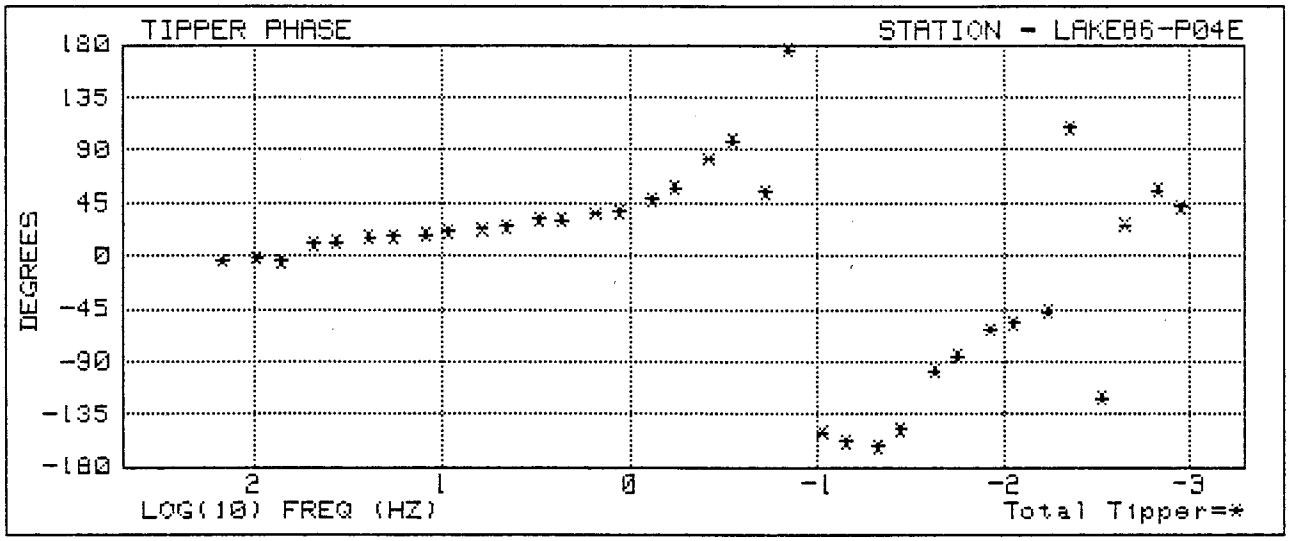
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

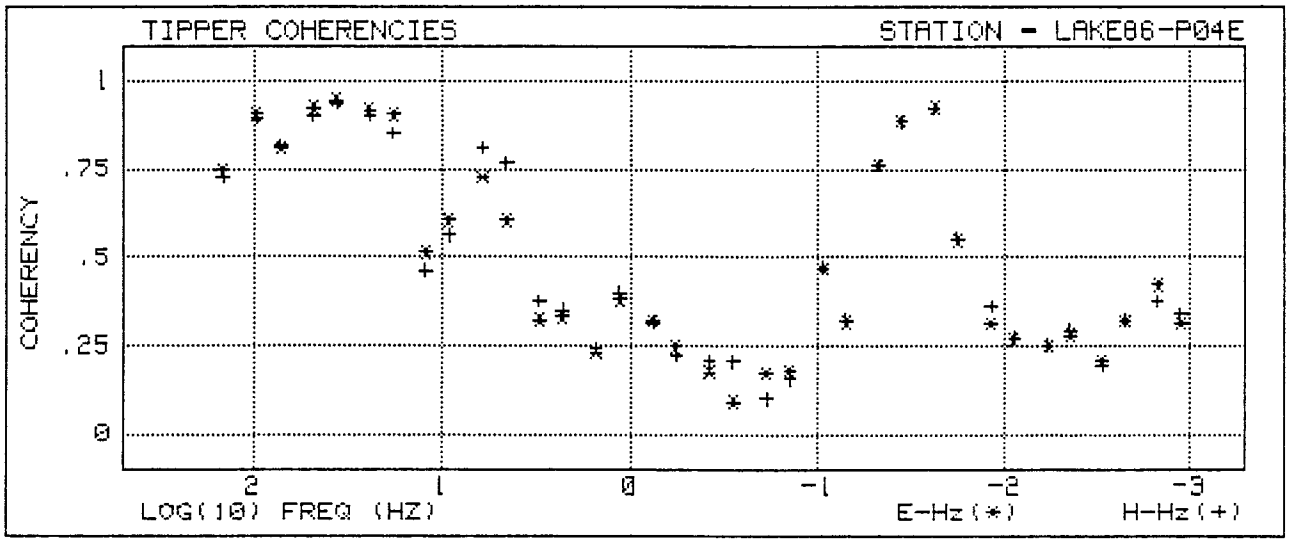
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	1714	-67.12	-265.61	37.38	13.72	32.03	6.00
5	96.00 Hz	1685	-76.70	-209.61	15.23	-2.14	13.72	11.81
6	72.00 Hz	1621	-101.23	-165.96	50.09	4.78	12.50	25.34
7	48.00 Hz	1746	-43.59	-135.35	11.21	8.07	15.75	1.80
8	36.00 Hz	1779	-49.43	-107.41	2.90	1.31	6.99	1.42
9	24.00 Hz	1984	-46.82	-77.84	2.80	9.16	2.86	1.40
10	18.00 Hz	1720	-34.55	-67.37	3.14	5.17	7.04	1.36
11	12.00 Hz	3899	-22.75	-51.31	.85	4.40	6.74	.30
12	9.00 Hz	3099	-20.33	-39.29	.28	4.19	4.96	.14
13	6.00 Hz	2676	-13.14	-29.99	.96	2.29	4.02	.23
14	4.50 Hz	3444	-10.78	-24.11	2.40	2.51	2.21	.40
15	3.00 Hz	17059	-11.22	-17.29	.16	4.23	1.85	.06
16	2.25 Hz	20120	-10.43	-13.82	.08	3.59	.72	.02
17	1.50 Hz	9925	-8.76	-11.19	.16	2.06	.04	.02
18	1.13 Hz	7237	-7.86	-9.46	.05	1.60	.03	.01
19	1.33 Sec	3360	-6.421	-7.511	.083	1.266	-.058	.022
20	1.78 Sec	2528	-5.821	-6.076	.148	1.236	-.092	.032
21	2.67 Sec	1823	-5.155	-4.655	5.696	1.601	-.295	.761
22	3.56 Sec	1151	-4.540	-3.846	5.799	1.492	-.100	1.225
23	5.33 Sec	573	-4.098	-3.037	22.840	1.343	-.206	3.799
24	7.11 Sec	345	-3.780	-2.878	.347	1.632	.221	.198
25	10.67 Sec	270	-3.298	-2.773	.888	1.143	.365	.055
26	14.22 Sec	516	-3.085	-2.297	.056	1.419	.618	.039
27	21.33 Sec	394	-2.470	-2.166	.012	1.202	.611	.006
28	28.44 Sec	478	-2.088	-2.020	.004	1.056	.687	.003
29	42.67 Sec	358	-1.633	-1.743	.001	.765	.610	.000
30	56.89 Sec	508	-1.309	-1.543	.006	.609	.484	.006
31	85.33 Sec	249	-.913	-1.293	.007	.481	.460	.006
32	113.78 Sec	78	-.682	-1.054	.001	.364	.344	.001
33	170.67 Sec	60	-.503	-.788	.001	.270	.304	.001
34	227.56 Sec	48	-.397	-.648	.001	.208	.213	.001
35	341.33 Sec	24	-.374	-.512	.008	.221	.123	.018
36	455.11 Sec	30	-.366	-.413	.003	.194	.120	.005
37	682.67 Sec	15	-.236	-.328	.006	.169	.141	.014
38	910.22 Sec	9	-.241	-.258	.002	.121	.089	.003

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E







PHOENIX GEOPHYSICS

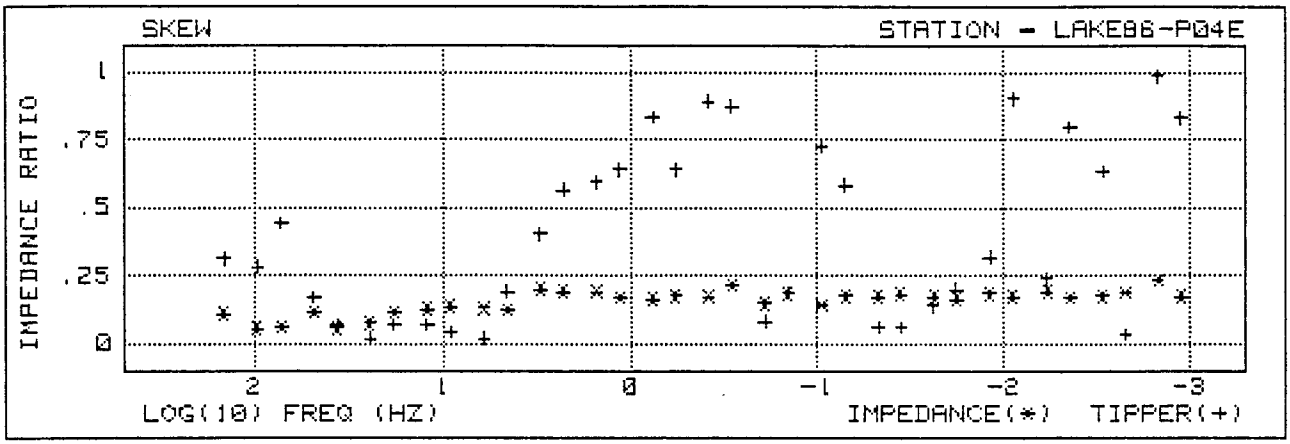
MT Site: LAKE86-P04E

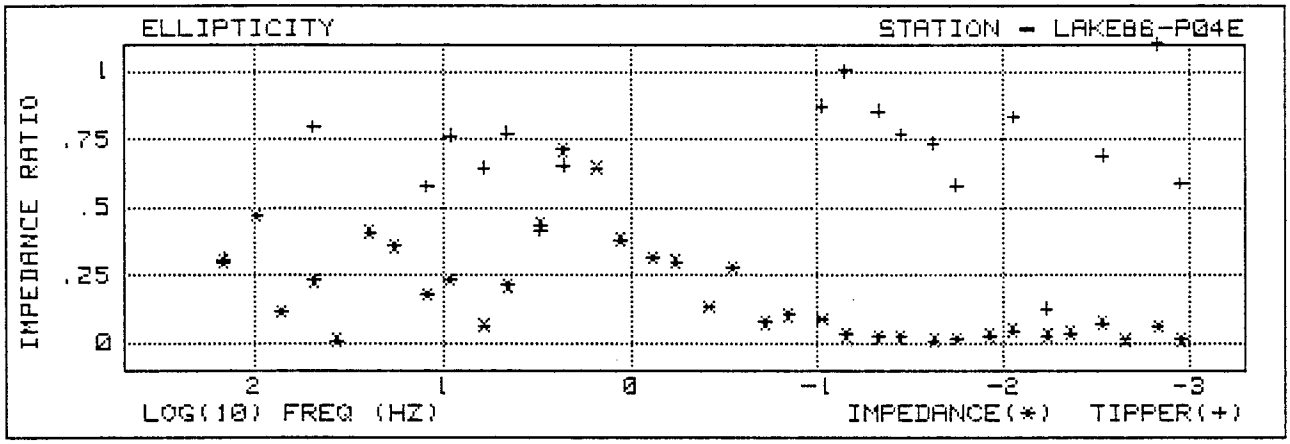
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

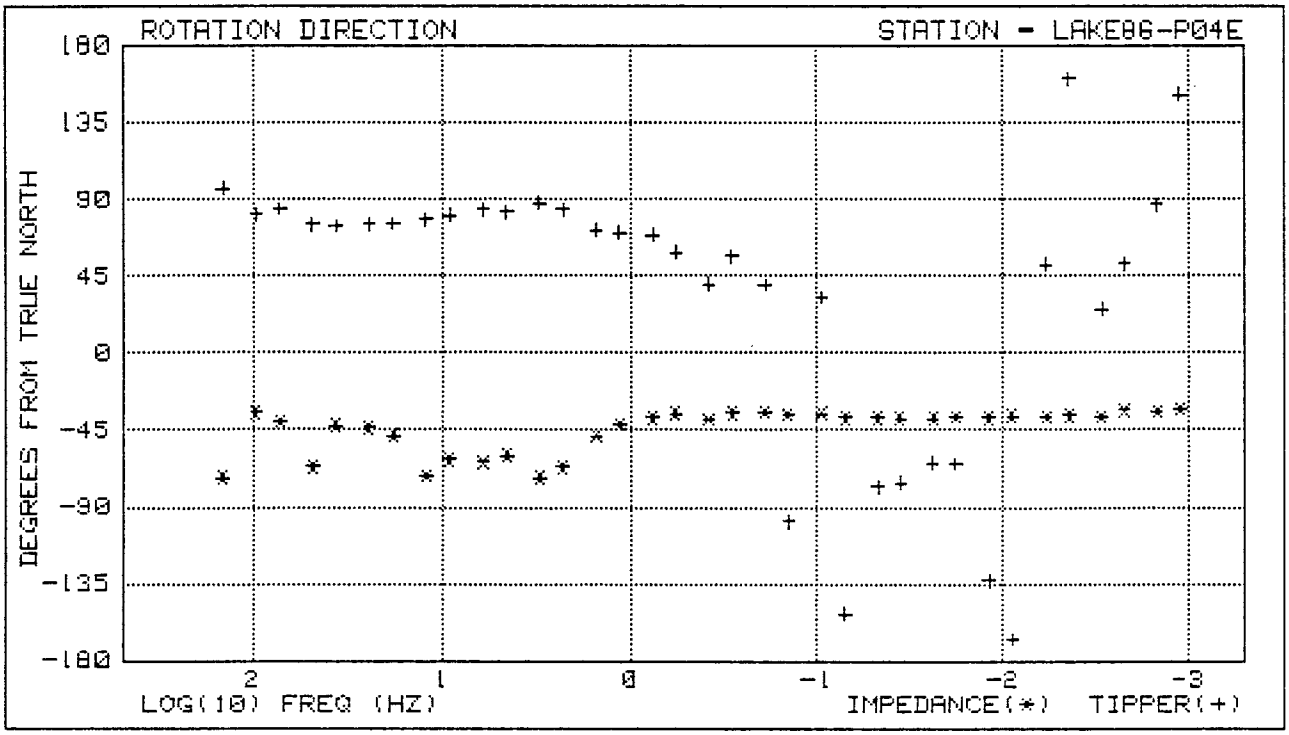
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	1714	.23	-4.42	.74	.72
5	96.00 Hz	1685	.23	-2.42	.90	.89
6	72.00 Hz	1621	.22	-5.09	.81	.81
7	48.00 Hz	1746	.23	9.34	.92	.90
8	36.00 Hz	1779	.22	10.78	.94	.93
9	24.00 Hz	1984	.21	15.06	.91	.90
10	18.00 Hz	1720	.19	15.91	.90	.85
11	12.00 Hz	3899	.18	17.30	.51	.46
12	9.00 Hz	3099	.16	19.74	.60	.56
13	6.00 Hz	2676	.16	22.16	.72	.81
14	4.50 Hz	3444	.15	24.21	.60	.77
15	3.00 Hz	17059	.13	30.48	.32	.37
16	2.25 Hz	20120	.13	29.56	.33	.35
17	1.50 Hz	9925	.12	35.62	.23	.24
18	1.13 Hz	7237	.12	37.04	.38	.40
19	1.33 Sec	3360	.12	47.47	.32	.31
20	1.78 Sec	2528	.13	56.96	.24	.22
21	2.67 Sec	1823	.15	81.49	.17	.20
22	3.56 Sec	1151	.11	96.97	.09	.20
23	5.33 Sec	573	.30	53.40	.17	.10
24	7.11 Sec	345	.06	174.53	.18	.15
25	10.67 Sec	270	.20	-151.20	.46	.47
26	14.22 Sec	516	.20	-158.70	.31	.32
27	21.33 Sec	394	.14	-163.41	.76	.76
28	28.44 Sec	478	.17	-148.07	.88	.88
29	42.67 Sec	358	.17	-98.72	.92	.92
30	56.89 Sec	508	.11	-85.74	.55	.55
31	85.33 Sec	249	.08	-63.86	.31	.36
32	113.78 Sec	78	.11	-57.65	.27	.27
33	170.67 Sec	60	.09	-47.86	.25	.25
34	227.56 Sec	48	.21	108.41	.28	.29
35	341.33 Sec	24	.13	-121.95	.20	.19
36	455.11 Sec	30	.18	25.76	.32	.32
37	682.67 Sec	15	.46	54.83	.42	.37
38	910.22 Sec	9	.73	40.62	.31	.34

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E







PHOENIX GEOPHYSICS

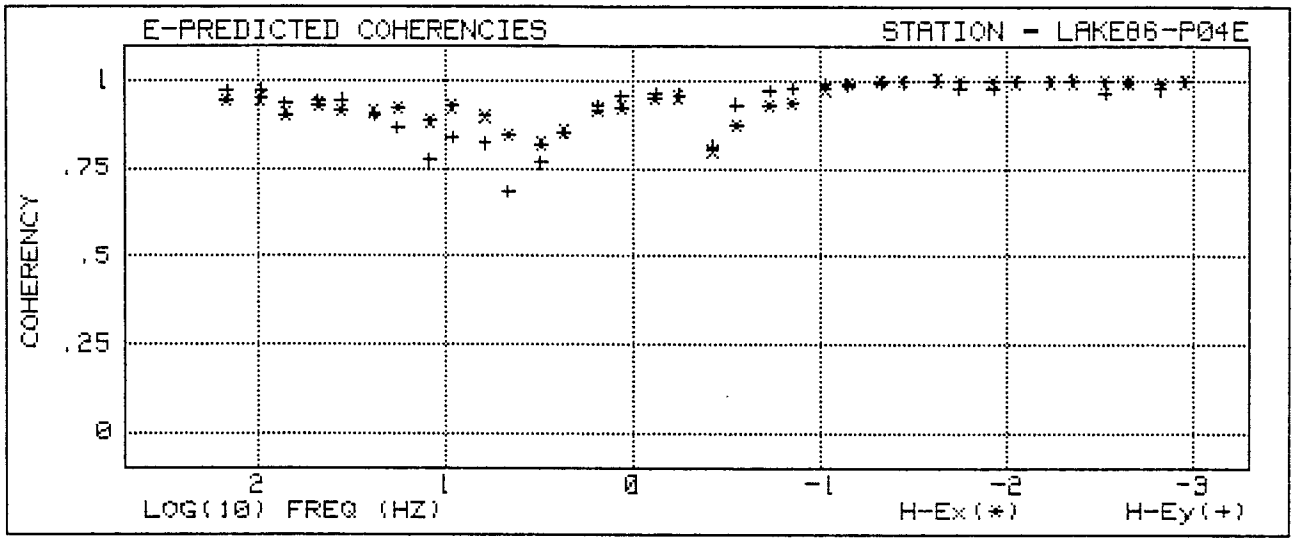
MT Site: LAKE86-P04E

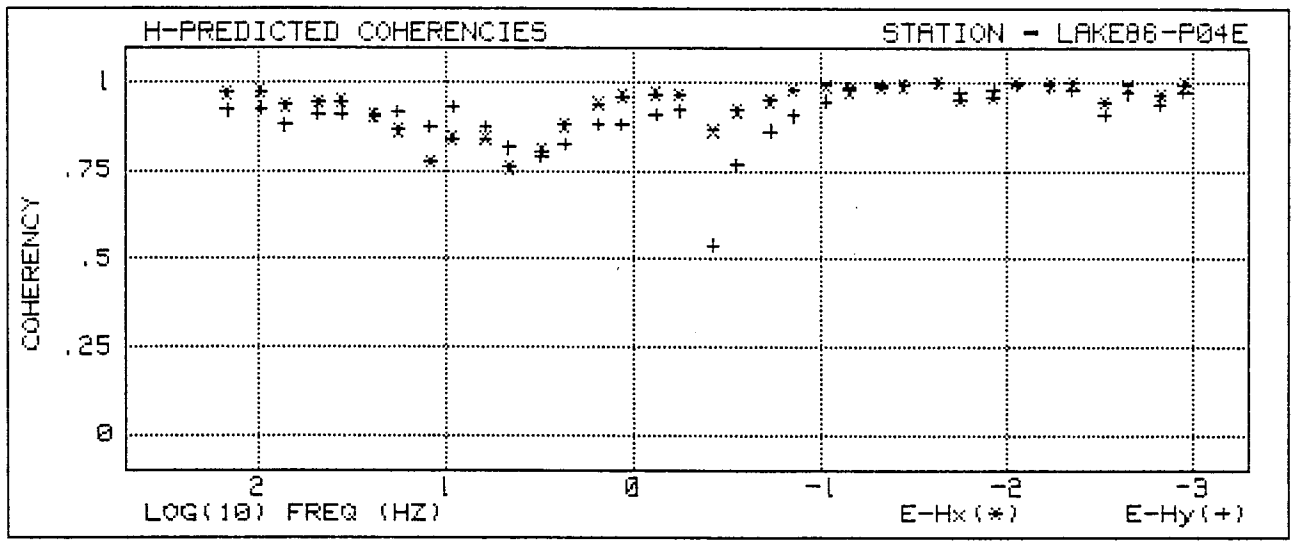
SKEW, ELLIPTICITY AND STRIKE

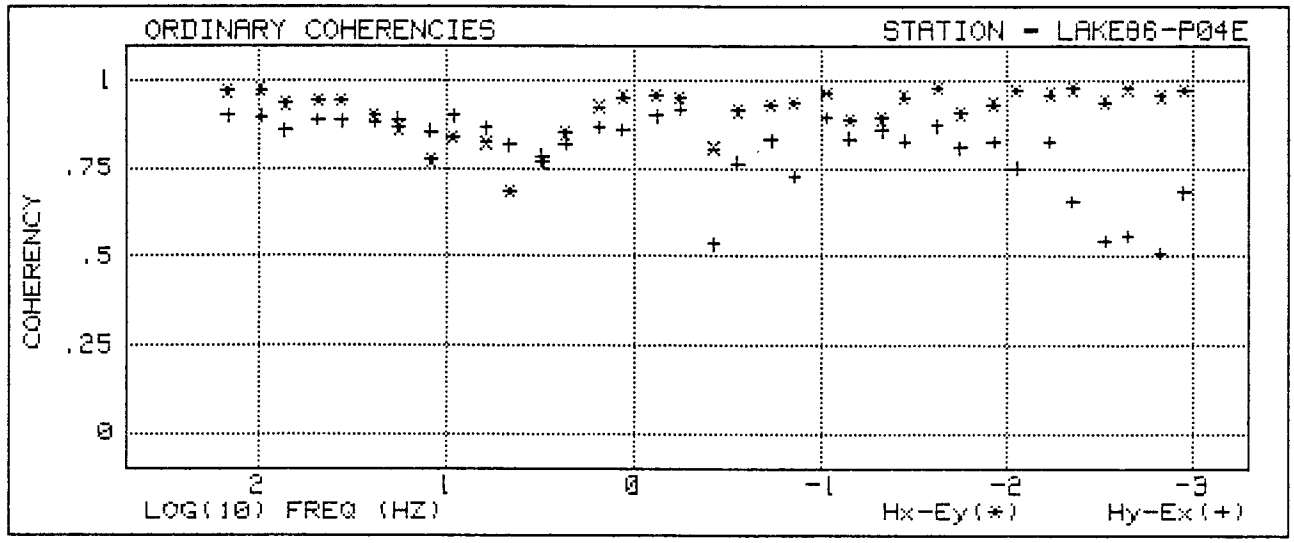
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	1714	.11	.30	-73.29	.31	.31	95.89
5	96.00 Hz	1685	.05	.47	-35.21	.28	2.23	80.54
6	72.00 Hz	1621	.06	.11	-40.69	.44	1.84	83.73
7	48.00 Hz	1746	.11	.23	-67.11	.17	.79	74.75
8	36.00 Hz	1779	.05	.01	-42.94	.06	2.00	73.62
9	24.00 Hz	1984	.07	.41	-43.92	.02	1.85	74.47
10	18.00 Hz	1720	.11	.36	-49.00	.07	1.47	75.21
11	12.00 Hz	3899	.13	.17	-72.59	.07	.58	77.51
12	9.00 Hz	3099	.13	.23	-62.73	.04	.76	80.07
13	6.00 Hz	2676	.13	.06	-64.04	.02	.64	83.28
14	4.50 Hz	3444	.12	.21	-60.61	.19	.77	82.00
15	3.00 Hz	17059	.20	.43	-73.64	.40	.42	86.88
16	2.25 Hz	20120	.19	.71	-67.37	.56	.65	83.36
17	1.50 Hz	9925	.19	.64	-48.88	.59	1.57	71.23
18	1.13 Hz	7237	.17	.38	-41.93	.64	1.94	69.83
19	1.33 Sec	3360	.16	.31	-38.29	.83	1.71	68.13
20	1.78 Sec	2528	.17	.30	-35.96	.63	2.73	58.25
21	2.67 Sec	1823	.17	.13	-39.02	.89	1.58	39.27
22	3.56 Sec	1151	.21	.28	-35.46	.87	1.44	55.89
23	5.33 Sec	573	.15	.07	-34.80	.08	3.36	38.75
24	7.11 Sec	345	.18	.10	-36.43	.18	1.68	-98.86
25	10.67 Sec	270	.14	.09	-35.86	.72	.87	31.75
26	14.22 Sec	516	.17	.03	-38.22	.58	1.00	-152.80
27	21.33 Sec	394	.17	.02	-38.27	.06	.85	-78.62
28	28.44 Sec	478	.18	.02	-38.81	.06	.77	-76.23
29	42.67 Sec	358	.17	.01	-38.50	.14	.73	-64.83
30	56.89 Sec	508	.16	.01	-37.78	.20	.58	-65.19
31	85.33 Sec	249	.18	.02	-38.32	.32	1.57	-133.63
32	113.78 Sec	78	.17	.04	-37.24	.90	.83	-167.70
33	170.67 Sec	60	.19	.02	-37.68	.24	.12	51.07
34	227.56 Sec	48	.17	.03	-36.62	.79	1.59	160.00
35	341.33 Sec	24	.17	.07	-37.73	.63	.69	24.84
36	455.11 Sec	30	.19	.01	-33.83	.03	12.26	51.59
37	682.67 Sec	15	.23	.06	-34.98	.98	1.10	86.06
38	910.22 Sec	9	.17	.01	-33.54	.83	.58	150.51

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E







PHOENIX GEOPHYSICS

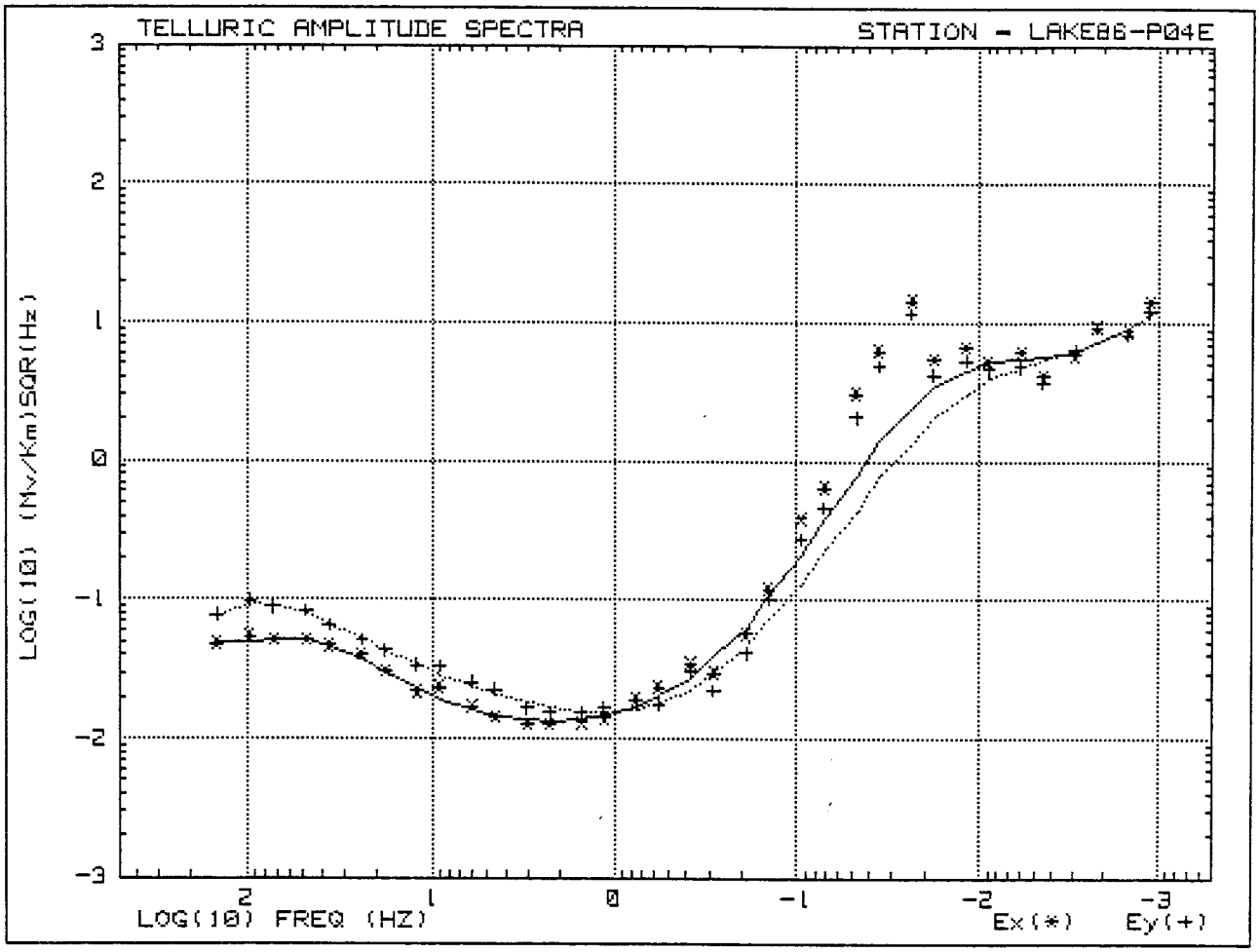
MT Site: LAKE86-P04E

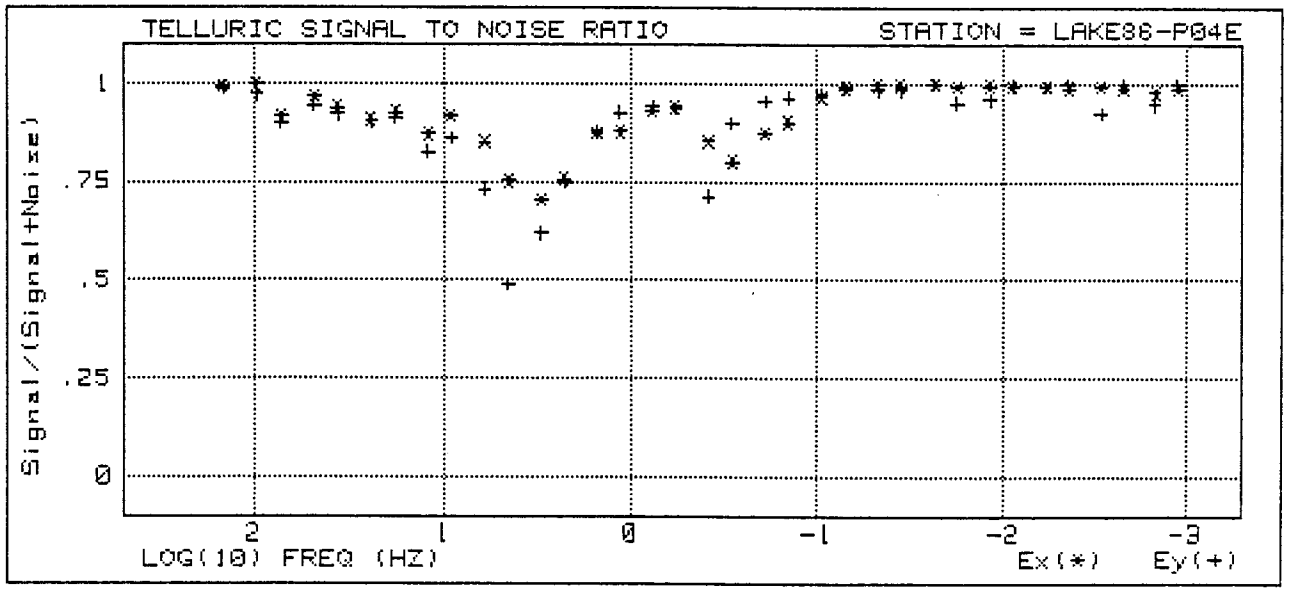
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	1714	.94	.97	.97	.92	.97	.90
5	96.00 Hz	1685	.94	.97	.97	.92	.97	.89
6	72.00 Hz	1621	.90	.93	.93	.87	.93	.85
7	48.00 Hz	1746	.93	.94	.94	.91	.94	.88
8	36.00 Hz	1779	.91	.94	.94	.91	.94	.88
9	24.00 Hz	1984	.91	.90	.90	.90	.90	.88
10	18.00 Hz	1720	.92	.86	.86	.91	.86	.89
11	12.00 Hz	3899	.88	.77	.77	.87	.77	.85
12	9.00 Hz	3099	.92	.83	.84	.93	.83	.90
13	6.00 Hz	2676	.90	.82	.84	.87	.82	.86
14	4.50 Hz	3444	.84	.68	.76	.81	.68	.81
15	3.00 Hz	17059	.82	.76	.80	.79	.76	.78
16	2.25 Hz	20120	.85	.85	.88	.82	.85	.82
17	1.50 Hz	9925	.91	.92	.94	.88	.92	.86
18	1.13 Hz	7237	.92	.95	.96	.88	.95	.86
19	1.33 Sec	3360	.95	.96	.96	.91	.95	.90
20	1.78 Sec	2528	.95	.96	.96	.92	.95	.92
21	2.67 Sec	1823	.80	.81	.86	.54	.80	.53
22	3.56 Sec	1151	.87	.93	.92	.77	.91	.76
23	5.33 Sec	573	.93	.97	.95	.86	.93	.83
24	7.11 Sec	345	.93	.98	.98	.90	.93	.72
25	10.67 Sec	270	.97	.99	.99	.94	.96	.89
26	14.22 Sec	516	.99	.98	.97	.98	.89	.83
27	21.33 Sec	394	1.00	.99	.98	.99	.89	.85
28	28.44 Sec	478	1.00	.99	.99	.99	.95	.82
29	42.67 Sec	358	1.00	1.00	1.00	1.00	.98	.87
30	56.89 Sec	508	.99	.97	.95	.97	.90	.80
31	85.33 Sec	249	1.00	.98	.96	.97	.93	.82
32	113.78 Sec	78	.99	1.00	1.00	.99	.97	.75
33	170.67 Sec	60	.99	1.00	.99	.99	.96	.82
34	227.56 Sec	48	.99	1.00	1.00	.97	.97	.65
35	341.33 Sec	24	.99	.96	.94	.90	.93	.54
36	455.11 Sec	30	1.00	.99	.99	.97	.97	.56
37	682.67 Sec	15	.99	.97	.96	.93	.95	.51
38	910.22 Sec	9	.99	1.00	.99	.97	.97	.68

PHOENIX GEOPHYSICS

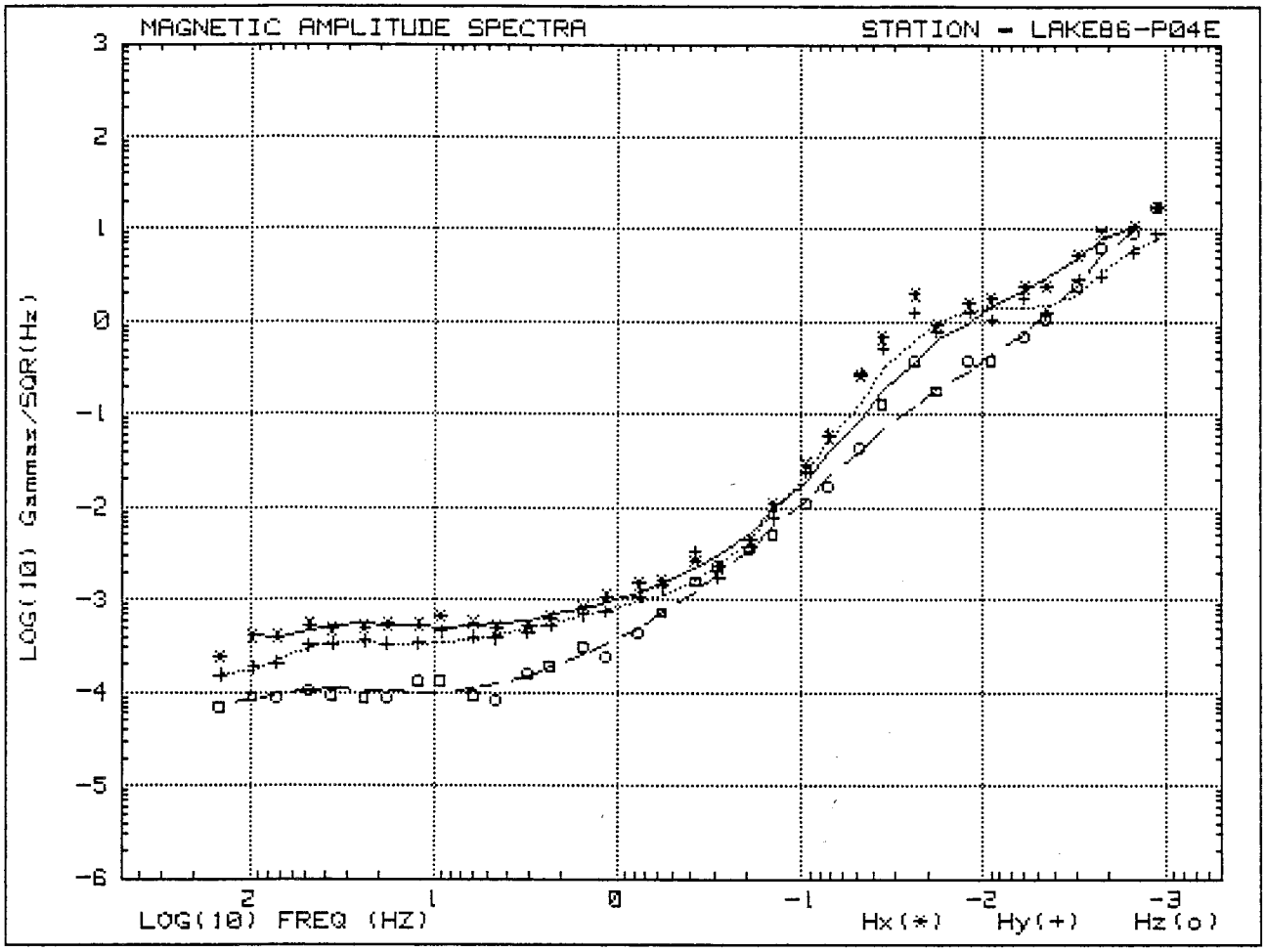
MT Site: LAKE86-P04E

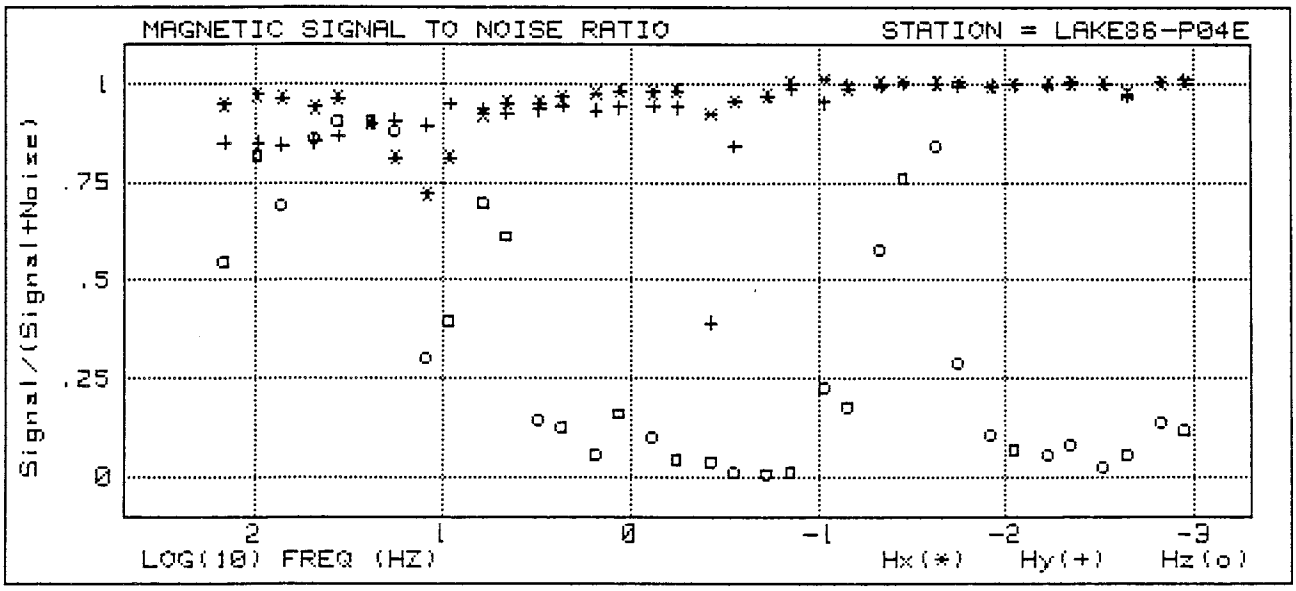




PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	1714	2.39E-04	1.51E-04	7.43E-05	4.76E-02	7.65E-02
5	96.00 Hz	1685	3.99E-04	1.84E-04	9.50E-05	5.33E-02	9.72E-02
6	72.00 Hz	1621	3.94E-04	2.02E-04	9.45E-05	5.10E-02	8.71E-02
7	48.00 Hz	1746	5.24E-04	3.12E-04	1.12E-04	5.06E-02	8.15E-02
8	36.00 Hz	1779	4.80E-04	3.28E-04	9.88E-05	4.63E-02	6.47E-02
9	24.00 Hz	1984	4.97E-04	3.54E-04	9.31E-05	3.98E-02	5.07E-02
10	18.00 Hz	1720	5.41E-04	3.27E-04	9.26E-05	3.01E-02	4.24E-02
11	12.00 Hz	3899	5.31E-04	3.32E-04	1.37E-04	2.16E-02	3.33E-02
12	9.00 Hz	3099	6.61E-04	4.52E-04	1.41E-04	2.32E-02	3.29E-02
13	6.00 Hz	2676	5.56E-04	3.88E-04	9.53E-05	1.69E-02	2.51E-02
14	4.50 Hz	3444	4.93E-04	3.74E-04	8.70E-05	1.41E-02	2.21E-02
15	3.00 Hz	17059	5.19E-04	4.36E-04	1.64E-04	1.25E-02	1.63E-02
16	2.25 Hz	20120	6.36E-04	5.16E-04	2.05E-04	1.26E-02	1.52E-02
17	1.50 Hz	9925	8.40E-04	6.78E-04	3.28E-04	1.29E-02	1.51E-02
18	1.13 Hz	7237	1.08E-03	7.45E-04	2.57E-04	1.39E-02	1.64E-02
19	1.33 Sec	3360	1.49E-03	1.08E-03	4.70E-04	1.90E-02	1.84E-02
20	1.78 Sec	2528	1.58E-03	1.40E-03	7.72E-04	2.31E-02	1.76E-02
21	2.67 Sec	1823	2.59E-03	3.23E-03	1.68E-03	3.43E-02	3.05E-02
22	3.56 Sec	1151	2.24E-03	1.71E-03	2.41E-03	2.94E-02	2.18E-02
23	5.33 Sec	573	4.45E-03	3.62E-03	3.76E-03	5.65E-02	4.07E-02
24	7.11 Sec	345	1.08E-02	7.69E-03	5.50E-03	1.20E-01	9.94E-02
25	10.67 Sec	270	2.91E-02	2.45E-02	1.19E-02	3.83E-01	2.71E-01
26	14.22 Sec	516	5.71E-02	6.00E-02	1.76E-02	6.36E-01	4.56E-01
27	21.33 Sec	394	2.59E-01	2.80E-01	4.73E-02	3.00E+00	2.04E+00
28	28.44 Sec	478	6.69E-01	5.18E-01	1.33E-01	6.17E+00	4.78E+00
29	42.67 Sec	358	1.95E+00	1.23E+00	3.92E-01	1.43E+01	1.16E+01
30	56.89 Sec	508	9.09E-01	7.87E-01	1.90E-01	5.39E+00	4.16E+00
31	85.33 Sec	249	1.55E+00	1.27E+00	3.95E-01	6.57E+00	5.23E+00
32	113.78 Sec	78	1.73E+00	1.03E+00	4.00E-01	5.21E+00	4.54E+00
33	170.67 Sec	60	2.34E+00	1.79E+00	7.36E-01	6.12E+00	4.75E+00
34	227.56 Sec	48	2.39E+00	1.21E+00	1.14E+00	4.01E+00	3.68E+00
35	341.33 Sec	24	5.17E+00	2.88E+00	2.58E+00	5.78E+00	6.26E+00
36	455.11 Sec	30	9.28E+00	3.13E+00	6.62E+00	9.20E+00	9.03E+00
37	682.67 Sec	15	1.06E+01	5.61E+00	9.52E+00	8.62E+00	8.10E+00
38	910.22 Sec	9	1.72E+01	8.78E+00	1.86E+01	1.41E+01	1.19E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	1714	.945	.850	.554	.991	.988
5	96.00 Hz	1685	.971	.849	.824	.996	.971
6	72.00 Hz	1621	.962	.843	.696	.913	.900
7	48.00 Hz	1746	.938	.850	.869	.966	.942
8	36.00 Hz	1779	.963	.866	.911	.937	.921
9	24.00 Hz	1984	.897	.897	.912	.906	.902
10	18.00 Hz	1720	.811	.905	.887	.925	.912
11	12.00 Hz	3899	.719	.892	.306	.870	.823
12	9.00 Hz	3099	.812	.948	.400	.917	.859
13	6.00 Hz	2676	.920	.932	.701	.849	.728
14	4.50 Hz	3444	.949	.925	.618	.750	.488
15	3.00 Hz	17059	.949	.932	.149	.702	.617
16	2.25 Hz	20120	.965	.944	.129	.754	.749
17	1.50 Hz	9925	.975	.931	.062	.871	.877
18	1.13 Hz	7237	.981	.939	.165	.877	.925
19	1.33 Sec	3360	.977	.941	.106	.929	.942
20	1.78 Sec	2528	.981	.939	.048	.939	.934
21	2.67 Sec	1823	.921	.390	.044	.852	.710
22	3.56 Sec	1151	.953	.841	.015	.798	.896
23	5.33 Sec	573	.969	.967	.013	.873	.954
24	7.11 Sec	345	1.000	.984	.018	.900	.962
25	10.67 Sec	270	1.000	.952	.230	.965	.973
26	14.22 Sec	516	.988	.996	.183	.989	.987
27	21.33 Sec	394	1.000	.994	.585	.996	.983
28	28.44 Sec	478	1.000	.997	.769	.994	.984
29	42.67 Sec	358	.999	.999	.849	.999	.998
30	56.89 Sec	508	1.000	.995	.296	.992	.950
31	85.33 Sec	249	.991	.994	.112	.993	.957
32	113.78 Sec	78	.999	.997	.076	.991	.994
33	170.67 Sec	60	1.000	.992	.059	.993	.992
34	227.56 Sec	48	.999	1.000	.086	.987	.997
35	341.33 Sec	24	1.000	.999	.031	.990	.923
36	455.11 Sec	30	.975	.969	.059	.984	.996
37	682.67 Sec	15	1.000	1.000	.141	.976	.946
38	910.22 Sec	9	.999	1.000	.121	.985	.995

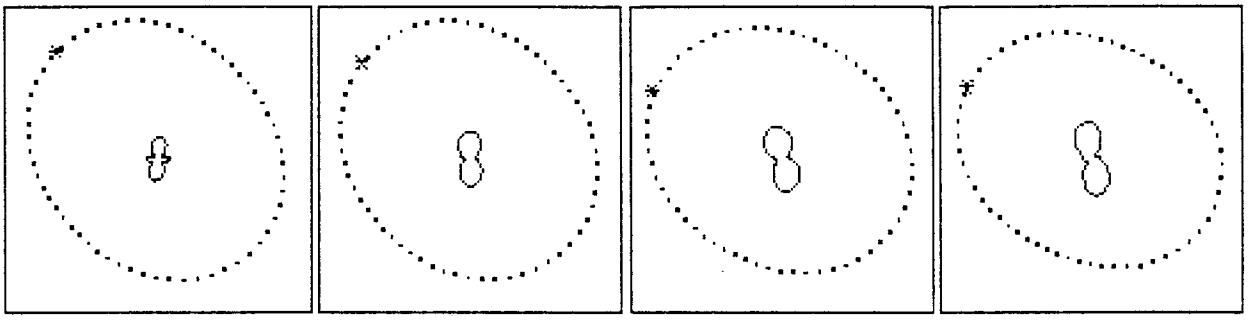
PHOENIX GEOPHYSICS

MT Site: LAKE86-P04E

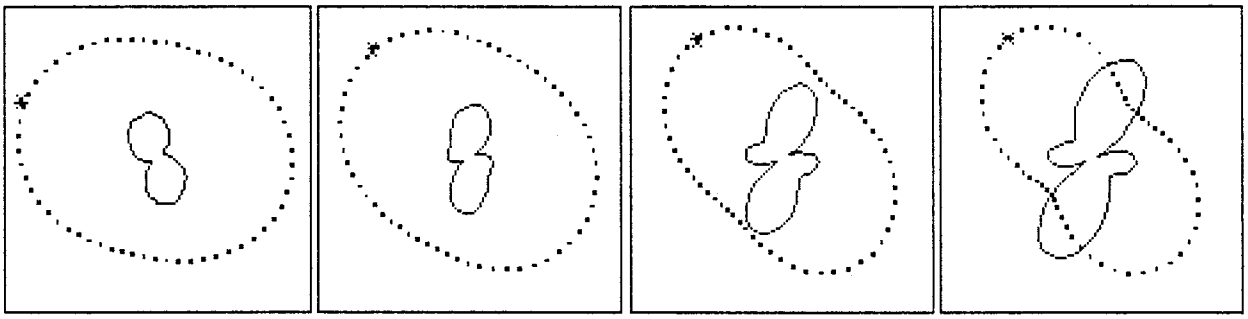
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

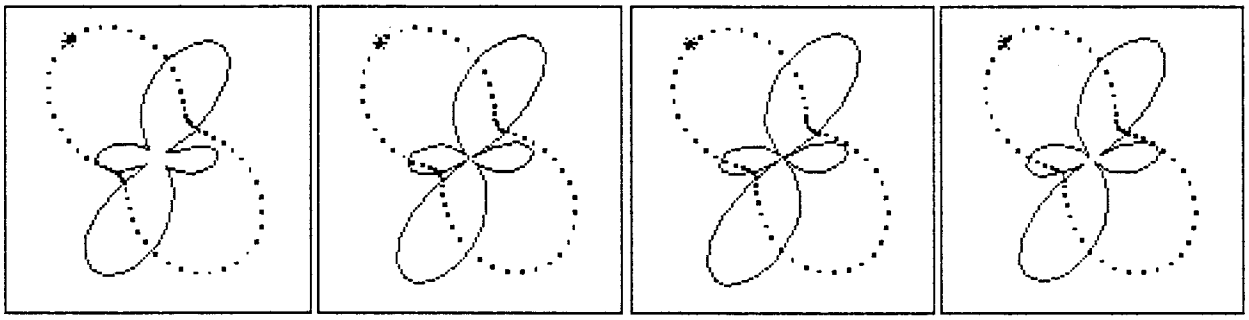
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



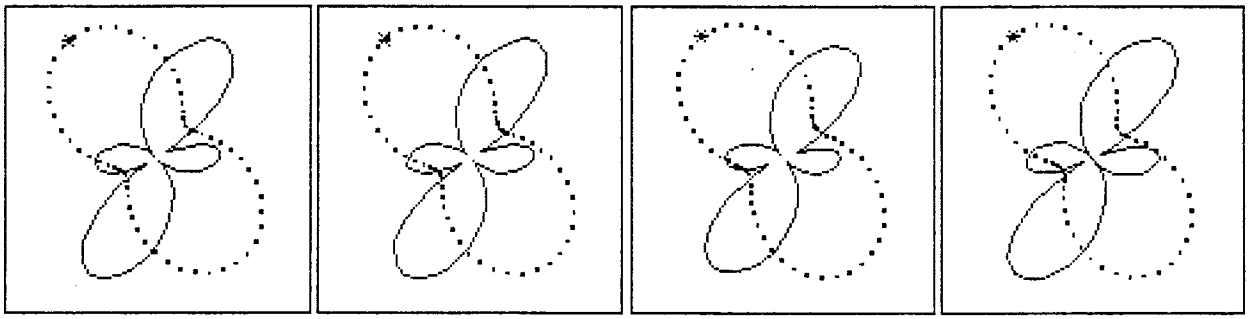
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P05s/P07s/P15s/

Operator:D. OJALA
Date: 12 Oct 1986
Time: 22:34:19

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#219-30Aug86-05
SP--Stn02: B#507-30Aug86-05
SP--Stn03: B#221-30Aug86-05
Sens-Ch01: C#239-04Sep86-01
Sens-Ch02: C#445-04Sep86-01
Sens-Ch03: L#307-05Sep86-01
Sens-Ch06: C#306-04Sep86-01
Sens-Ch07: C#452-04Sep86-01
Sens-Ch08: L#416-05Sep86-01
Sens-Ch11: C#436-04Sep86-01
Sens-Ch12: C#201-04Sep86-01
Sens-Ch13: L#419-05Sep86-01

Station 1

Stn Number:LAKE86-P05s
Site Desc:T43N RT4E Sec. 7 NE1/4
41,35,16 N 121,33,03 W
Elevation:6800 FT
Reference:LAKE86-P07s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P. MURPHY
Sensor Processor: SE219
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL239	+0 DEG
Hy	2	COIL445	+90 DEG
Hz	3	LOOP307	
Ex	4	220 M	+0 DEG
Ey	5	223 M	+90 DEG
Rx	6	COIL306	-20 DEG
Ry	7	COIL452	+70 DEG

Ex Pot Resist: 5.0 K Ohms
Ex Voltage: AC=12.0 mv, DC=79.0 mv
Ey Pot Resist: 5.0 K Ohms
Ey Voltage: AC=4.0 mv, DC=51.0 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

OPERATOR LOG FOR MT SITES LAKE86-P05s/P07s/P15s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P05b/P07b/P15b/			
Run STARTED:	06:19:47	11 Oct	1986
Run QUIT:	20:26:15	11 Oct	1986
Run Start and Stop Time for LAKE86-P05c/P07c/P15c/			
Run STARTED:	21:02:29	11 Oct	1986
Run QUIT:	10:53:09	12 Oct	1986
Run Start and Stop Time for LAKE86-P05d/P07d/P15d/			
Run STARTED:	11:58:30	12 Oct	1986
Run QUIT:	21:41:20	12 Oct	1986
Run Start and Stop Time for LAKE86-P05e/P07e/P15e/			
Run STARTED:	22:34:19	12 Oct	1986
Run QUIT:	09:33:55	13 Oct	1986
Run Start and Stop Time for LAKE86-P05f/P11f/P14f/			
Run STARTED:	17:22:06	13 Oct	1986
Run QUIT:	04:07:25	14 Oct	1986

Operator: DAVE OJALA (oplog by Vaag)

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST OF SITES CAUSES POOR DATA ABOVE 60 HZ. SOME TRAFFIC ON ROADS NEAR SITES.

Weather Conditions:
WARM AND SUNNY DURING DAY; COOL AND CLEAR OVERNIGHT. LIGHT WINDS.

Other Factors:
MT SIGNAL STRENGTH FINALLY INCREASES DURING RUN 'd.'

PHOENIX GEOPHYSICS

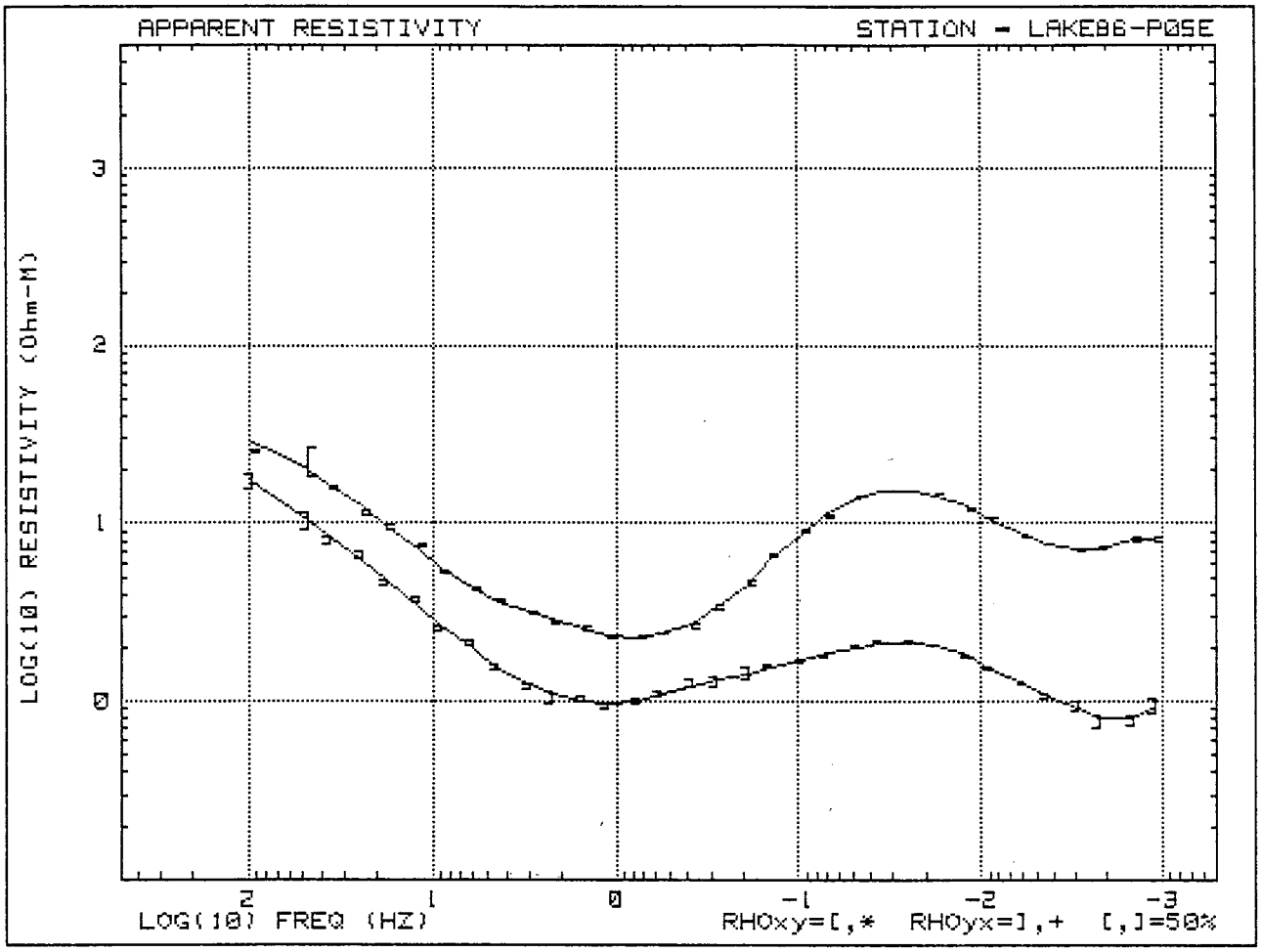
MT Site: LAKE86-P05E

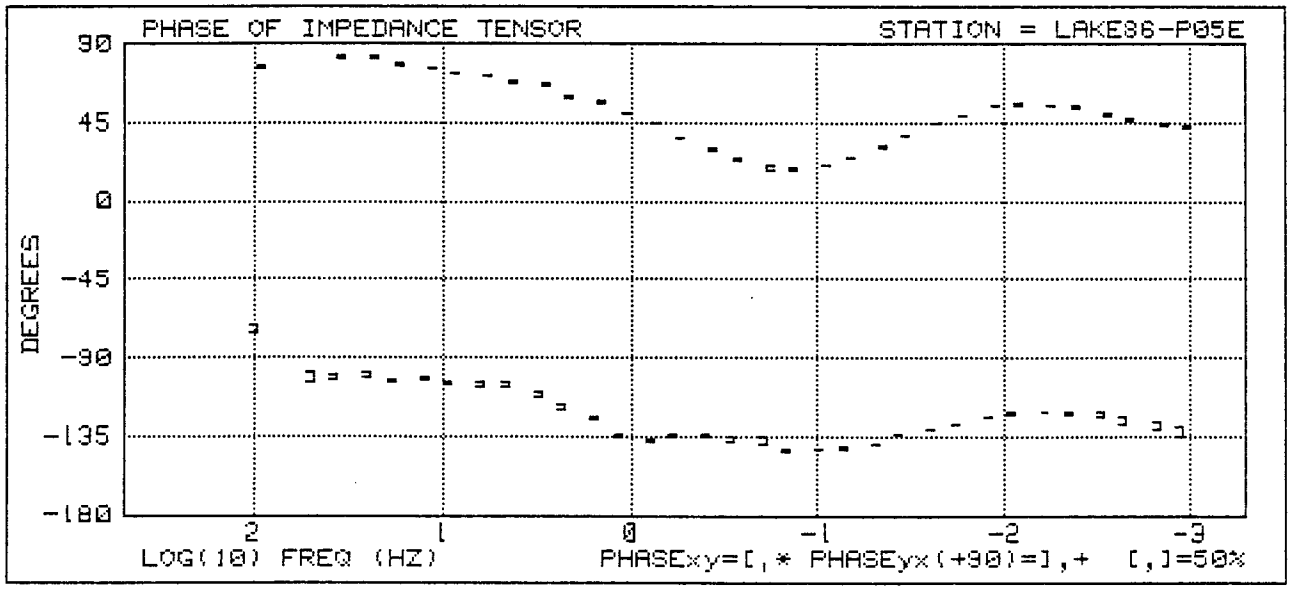
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

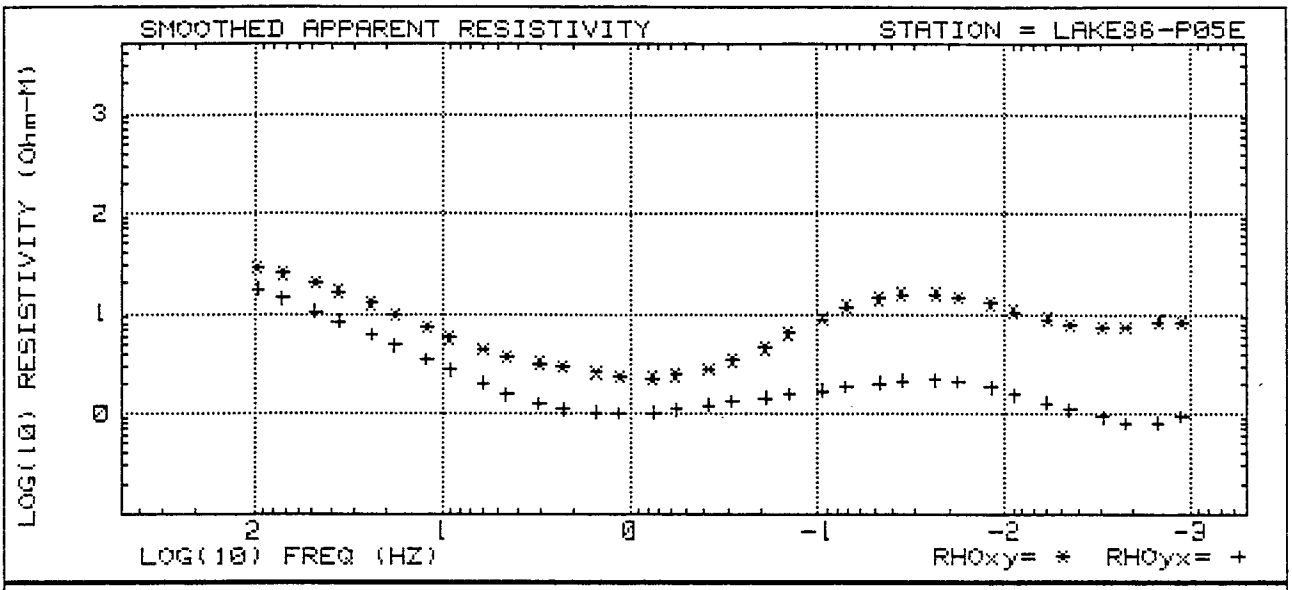
MT Site: LAKE86-P05E

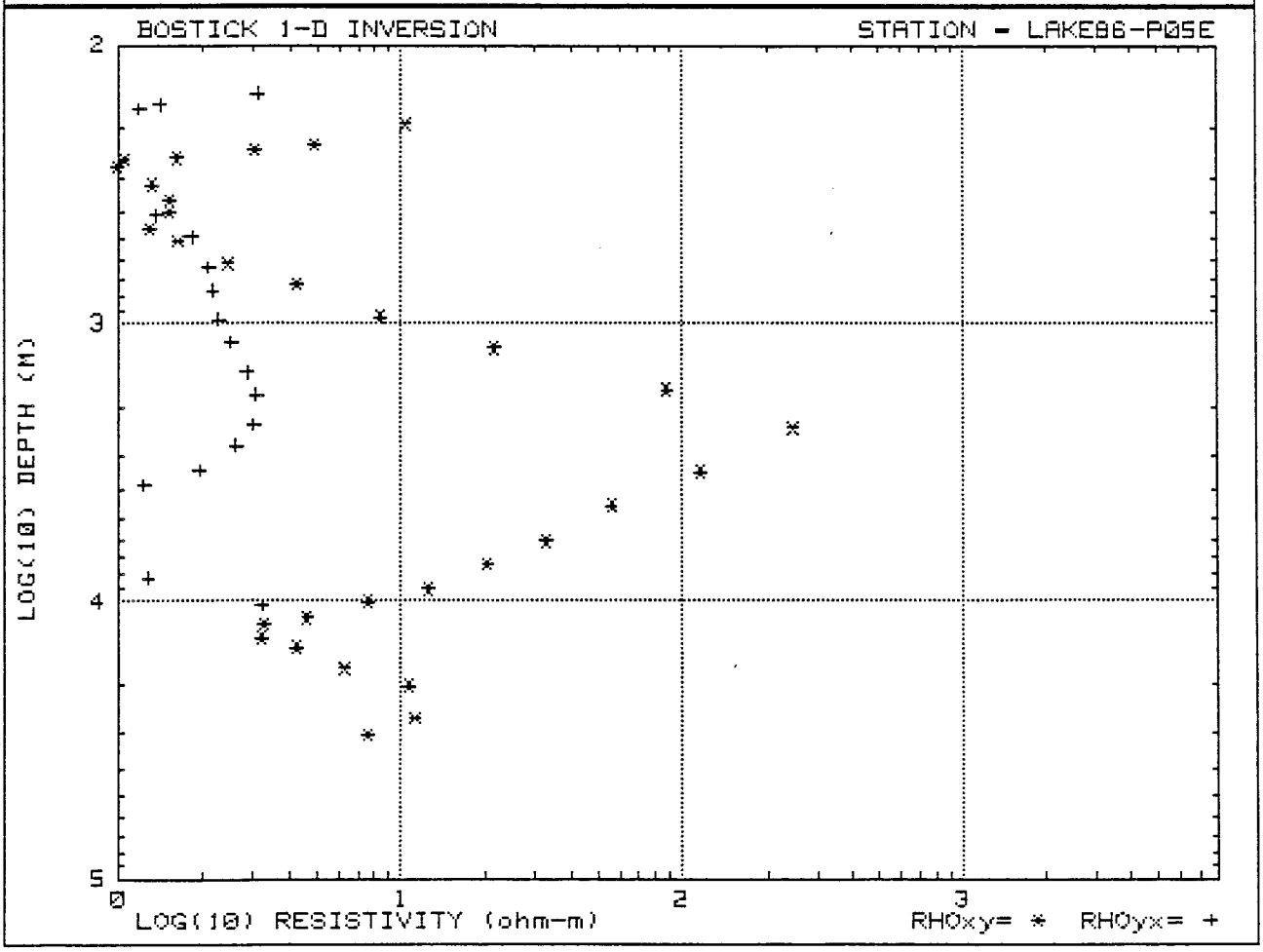




PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
5	96.00 Hz	1993	25.6	2.6	17.3	12.9	76.6	.7	-72.9	3.5
7	48.00 Hz	696	22.0	31.2	10.3	16.2	97.0	7.8	-100.4	4.3
8	36.00 Hz	1858	16.0	3.4	8.0	5.9	81.8	1.0	-101.0	1.6
9	24.00 Hz	2044	11.5	3.6	6.7	7.5	82.0	1.0	-99.3	2.1
10	18.00 Hz	1278	9.5	2.8	4.6	4.1	77.7	.8	-102.9	1.2
11	12.00 Hz	3392	7.5	2.2	3.8	3.8	76.1	.6	-102.1	1.1
12	9.00 Hz	1376	5.3	2.0	2.6	4.6	73.1	.6	-104.3	1.3
13	6.00 Hz	1728	4.3	2.7	2.1	6.0	71.9	.8	-105.0	1.7
14	4.50 Hz	3136	3.6	2.9	1.5	6.6	68.8	.8	-105.6	1.8
15	3.00 Hz	11430	3.2	3.5	1.2	5.5	66.4	1.0	-111.2	1.5
16	2.25 Hz	18310	2.8	4.3	1.1	10.5	59.9	1.2	-118.1	2.8
17	1.50 Hz	7760	2.6	3.5	1.0	3.4	56.4	1.0	-124.8	1.0
18	1.13 Hz	8144	2.3	2.9	.95	5.7	50.7	.8	-134.4	1.6
19	1.33 Sec	5124	2.3	1.7	1.0	3.3	45.2	.5	-137.7	.9
20	1.78 Sec	5860	2.4	1.2	1.1	3.5	36.5	.3	-134.9	1.0
21	2.67 Sec	2708	2.6	2.9	1.3	7.2	29.6	.8	-134.3	2.0
22	3.56 Sec	2063	3.4	5.1	1.3	8.3	24.7	1.4	-137.0	2.3
23	5.33 Sec	1149	4.6	6.3	1.4	11.9	19.1	1.8	-137.6	3.2
24	7.11 Sec	1077	6.7	1.8	1.6	3.6	18.6	.5	-142.3	1.0
25	10.67 Sec	719	9.0	1.2	1.7	2.0	21.0	.3	-141.9	.6
26	14.22 Sec	683	11.0	1.1	1.8	1.6	24.8	.3	-141.2	.5
27	21.33 Sec	324	14.4	.7	2.0	2.0	31.6	.2	-139.3	.6
28	28.44 Sec	342	15.1	1.0	2.1	2.3	38.1	.3	-133.6	.7
29	42.67 Sec	276	15.2	1.1	2.1	1.8	45.2	.3	-130.7	.5
30	56.89 Sec	414	14.7	.7	2.1	.8	49.4	.2	-127.5	.2
31	85.33 Sec	159	12.0	1.1	1.8	1.5	54.6	.3	-123.6	.4
32	113.78 Sec	141	10.8	1.8	1.5	3.0	55.3	.5	-121.3	.8
33	170.67 Sec	87	8.4	1.2	1.3	3.3	54.9	.4	-120.9	.9
34	227.56 Sec	84	7.7	1.2	1.1	4.0	54.1	.3	-121.7	1.1
35	341.33 Sec	39	7.1	2.6	.94	7.4	49.5	.7	-122.8	2.0
36	455.11 Sec	15	7.3	2.8	.77	12.2	47.2	.8	-125.3	3.3
37	682.67 Sec	24	8.2	4.0	.78	12.0	44.2	1.1	-128.1	3.2
38	910.22 Sec	27	8.1	4.2	.94	14.0	42.5	1.2	-131.9	3.7

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
5	96.00 Hz	1993	28.3	17.2	10.4	193	3.1	150
7	48.00 Hz	696	20.1	10.3	4.9	230	1.4	165
8	36.00 Hz	1858	16.3	8.3	3.0	239	1.2	171
9	24.00 Hz	2044	12.5	6.1	1.6	257	.66	180
10	18.00 Hz	1278	9.6	4.7	1.1	259	.42	183
11	12.00 Hz	3392	7.2	3.4	1.0	275	.33	190
12	9.00 Hz	1376	5.7	2.7	.91	282	.34	194
13	6.00 Hz	1728	4.3	2.0	.99	303	.20	206
14	4.50 Hz	3136	3.7	1.5	1.3	321	.27	208
15	3.00 Hz	11430	3.1	1.2	1.5	364	.43	229
16	2.25 Hz	18310	2.9	1.1	1.5	403	.60	248
17	1.50 Hz	7760	2.5	1.0	1.3	463	.75	292
18	1.13 Hz	8144	2.3	1.0	1.6	511	.98	332
19	1.33 Sec	5124	2.3	1.0	2.5	617	1.4	413
20	1.78 Sec	5860	2.4	1.1	4.3	733	1.8	496
21	2.67 Sec	2708	2.7	1.2	8.4	962	2.1	638
22	3.56 Sec	2063	3.4	1.3	21.6	1236	2.2	770
23	5.33 Sec	1149	4.5	1.4	88.8	1751	2.3	982
24	7.11 Sec	1077	6.3	1.5	247.4	2390	2.5	1179
25	10.67 Sec	719	8.8	1.7	117.2	3446	2.9	1509
26	14.22 Sec	683	11.5	1.8	56.3	4555	3.1	1825
27	21.33 Sec	324	13.9	2.0	33.1	6127	3.0	2329
28	28.44 Sec	342	15.3	2.1	20.5	7421	2.6	2767
29	42.67 Sec	276	15.4	2.2	12.6	9114	2.0	3414
30	56.89 Sec	414	14.3	2.1	7.6	10139	1.2	3848
31	85.33 Sec	159	12.4	1.8	4.7	11590	.71	4434
32	113.78 Sec	141	10.4	1.5	3.3	12246	.47	4679
33	170.67 Sec	87	8.7	1.3	3.2	13696	.44	5228
34	227.56 Sec	84	7.6	1.1	4.3	14773	.39	5590
35	341.33 Sec	39	7.2	.9	6.3	17584	.35	6281
36	455.11 Sec	15	7.2	.8	10.7	20438	.54	6770
37	682.67 Sec	24	8.2	.8	11.3	26572	1.3	8311
38	910.22 Sec	27	8.1	.9	7.6	30542	3.2	10388

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
5	96.00 Hz	1993	2.70	-5.64	21.45	25.66	107.84	3.93
7	48.00 Hz	696	3.34	-2.47	222.40	-8.80	72.16	195.21
8	36.00 Hz	1858	4.26	-1.60	4.18	7.65	53.07	1.60
9	24.00 Hz	2044	3.74	-.34	1.64	5.18	36.83	.88
10	18.00 Hz	1278	2.71	-.47	.57	6.22	28.60	.33
11	12.00 Hz	3392	.13	.27	.18	5.12	20.65	.10
12	9.00 Hz	1376	.79	-.16	.09	4.51	14.83	.05
13	6.00 Hz	1728	.03	.04	.09	3.53	10.80	.05
14	4.50 Hz	3136	-.06	-.16	.07	3.27	8.42	.03
15	3.00 Hz	11430	.09	-.03	.04	2.76	6.30	.03
16	2.25 Hz	18310	-.14	.08	.03	2.80	4.82	.03
17	1.50 Hz	7760	-.12	.07	.01	2.42	3.65	.01
18	1.13 Hz	8144	-.26	.11	.01	2.28	2.78	.01
19	1.33 Sec	5124	-.319	.155	.002	2.072	2.084	.001
20	1.78 Sec	5860	-.198	.276	.001	2.086	1.542	.000
21	2.67 Sec	2708	-.048	.195	.002	1.937	1.100	.002
22	3.56 Sec	2063	.003	.105	.005	1.994	.915	.006
23	5.33 Sec	1149	.013	.054	.006	1.966	.683	.008
24	7.11 Sec	1077	.065	.011	.001	2.052	.690	.001
25	10.67 Sec	719	.062	-.030	.000	1.922	.739	.000
26	14.22 Sec	683	.069	-.007	.000	1.787	.827	.000
27	21.33 Sec	324	.084	-.012	.000	1.566	.962	.000
28	28.44 Sec	342	.075	.037	.000	1.281	1.005	.000
29	42.67 Sec	276	.055	.038	.000	.940	.947	.000
30	56.89 Sec	414	.046	.036	.000	.738	.862	.000
31	85.33 Sec	159	.029	.044	.000	.485	.683	.000
32	113.78 Sec	141	.011	.043	.000	.392	.566	.000
33	170.67 Sec	87	.004	.042	.000	.286	.406	.000
34	227.56 Sec	84	.002	.031	.000	.241	.333	.000
35	341.33 Sec	39	.004	.020	.000	.209	.245	.000
36	455.11 Sec	15	.009	.023	.000	.192	.207	.000
37	682.67 Sec	24	.012	.006	.000	.175	.170	.000
38	910.22 Sec	27	.006	.009	.000	.156	.142	.000

PHOENIX GEOPHYSICS

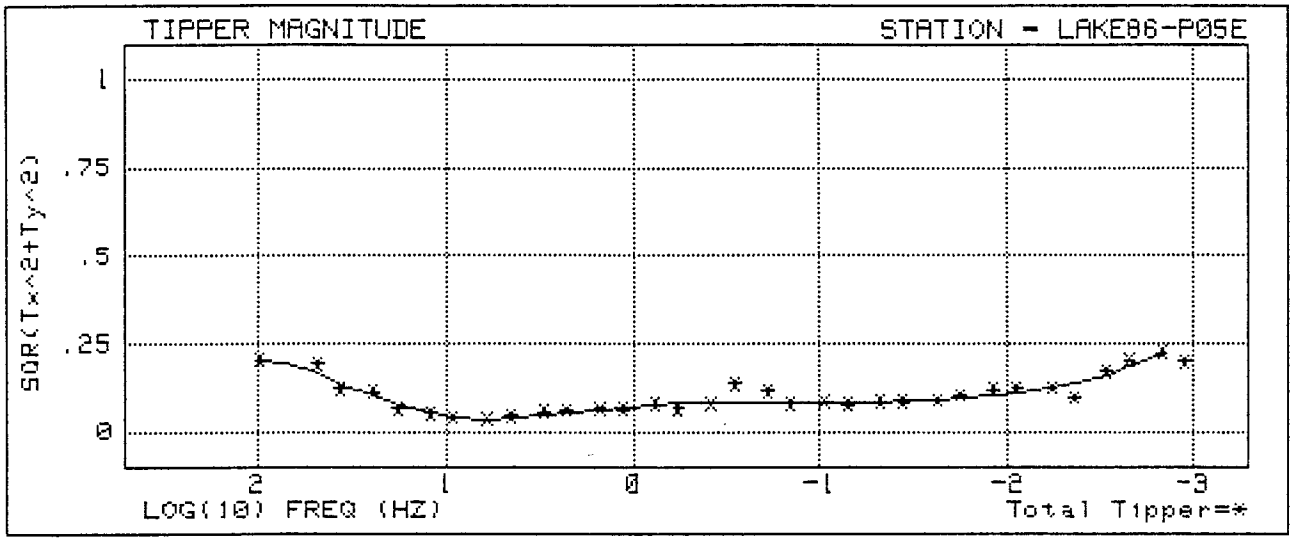
MT Site: LAKE86-P05E

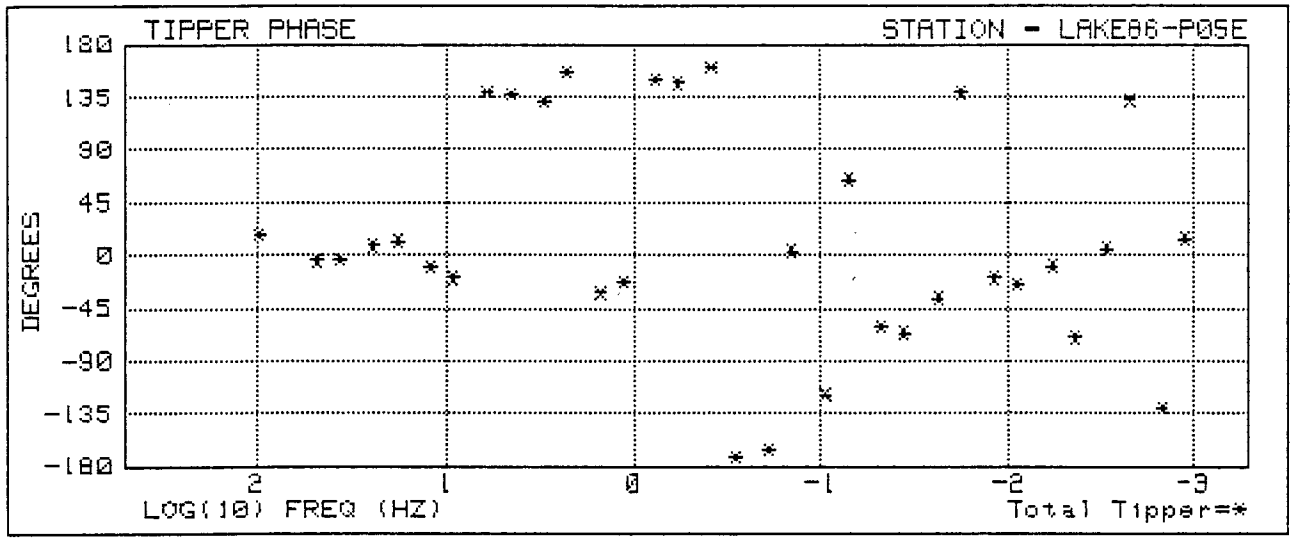
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

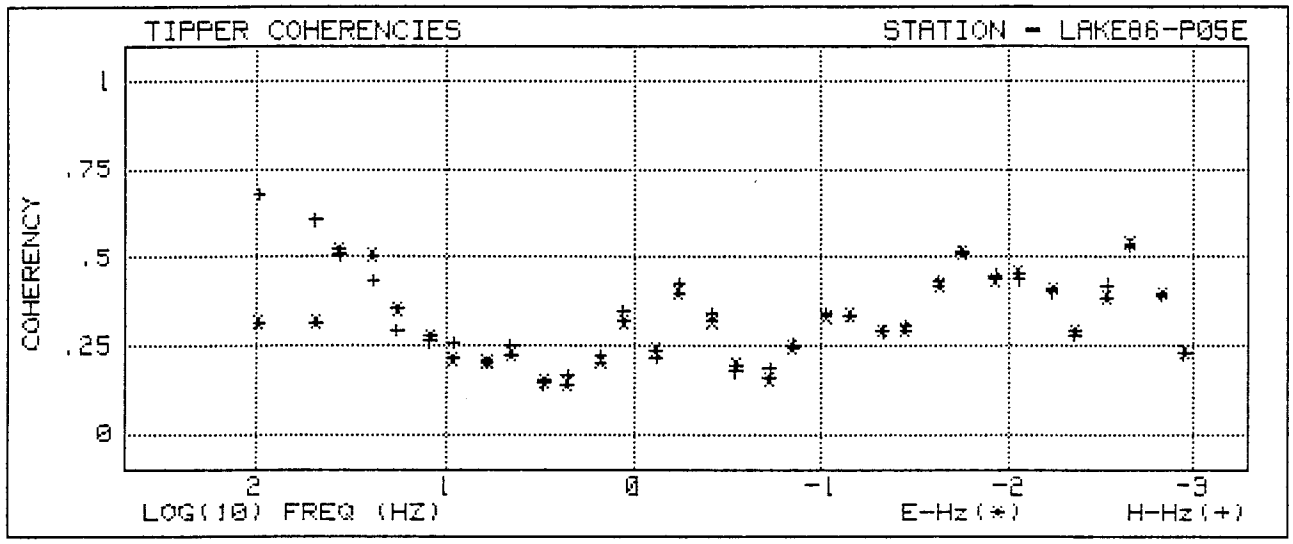
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
5	96.00 Hz	1993	26.81	-87.07	61.26	-4.33	12.14	11.23
7	48.00 Hz	696	-8.97	-48.91	28.01	-3.16	-7.43	24.58
8	36.00 Hz	1858	-7.22	-37.18	2.35	-4.32	-1.37	.90
9	24.00 Hz	2044	-4.58	-27.88	2.07	-1.06	-.02	1.11
10	18.00 Hz	1278	-4.55	-19.92	.34	-1.11	.26	.20
11	12.00 Hz	3392	-3.15	-14.68	.16	-.45	.46	.09
12	9.00 Hz	1376	-2.66	-10.48	.12	.06	.15	.06
13	6.00 Hz	1728	-2.07	-7.72	.11	.07	.02	.06
14	4.50 Hz	3136	-1.59	-5.68	.07	-.25	-.05	.04
15	3.00 Hz	11430	-1.55	-3.99	.03	.08	-.03	.02
16	2.25 Hz	18310	-1.62	-3.04	.06	-.06	.03	.05
17	1.50 Hz	7760	-1.59	-2.29	.00	.15	-.09	.01
18	1.13 Hz	8144	-1.61	-1.65	.01	.20	-.16	.01
19	1.33 Sec	5124	-1.433	-1.306	.002	.158	-.238	.001
20	1.78 Sec	5860	-1.239	-1.244	.002	.037	-.391	.001
21	2.67 Sec	2708	-1.069	-1.096	.006	-.046	-.300	.005
22	3.56 Sec	2063	-.987	-.921	.006	.001	-.216	.007
23	5.33 Sec	1149	-.852	-.777	.008	-.008	-.192	.012
24	7.11 Sec	1077	-.831	-.642	.001	.071	-.132	.001
25	10.67 Sec	719	-.702	-.551	.000	.070	-.079	.000
26	14.22 Sec	683	-.620	-.499	.000	.083	-.056	.000
27	21.33 Sec	324	-.524	-.450	.000	.094	-.033	.000
28	28.44 Sec	342	-.422	-.442	.000	.101	-.004	.000
29	42.67 Sec	276	-.327	-.381	.000	.087	.004	.000
30	56.89 Sec	414	-.259	-.339	.000	.077	.007	.000
31	85.33 Sec	159	-.180	-.270	.000	.063	.019	.000
32	113.78 Sec	141	-.135	-.222	.000	.050	.014	.000
33	170.67 Sec	87	-.099	-.165	.000	.040	.014	.000
34	227.56 Sec	84	-.081	-.131	.000	.031	.009	.000
35	341.33 Sec	39	-.064	-.099	.000	.020	.005	.000
36	455.11 Sec	15	-.053	-.075	.000	.020	.012	.000
37	682.67 Sec	24	-.047	-.059	.000	.014	.004	.000
38	910.22 Sec	27	-.048	-.053	.000	.010	.005	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E







PHOENIX GEOPHYSICS

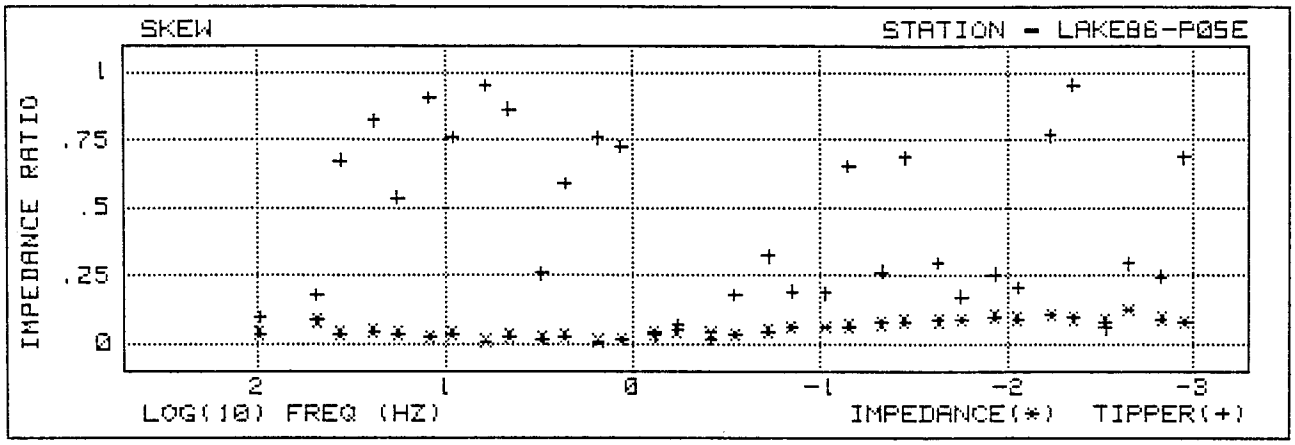
MT Site: LAKE86-P05E

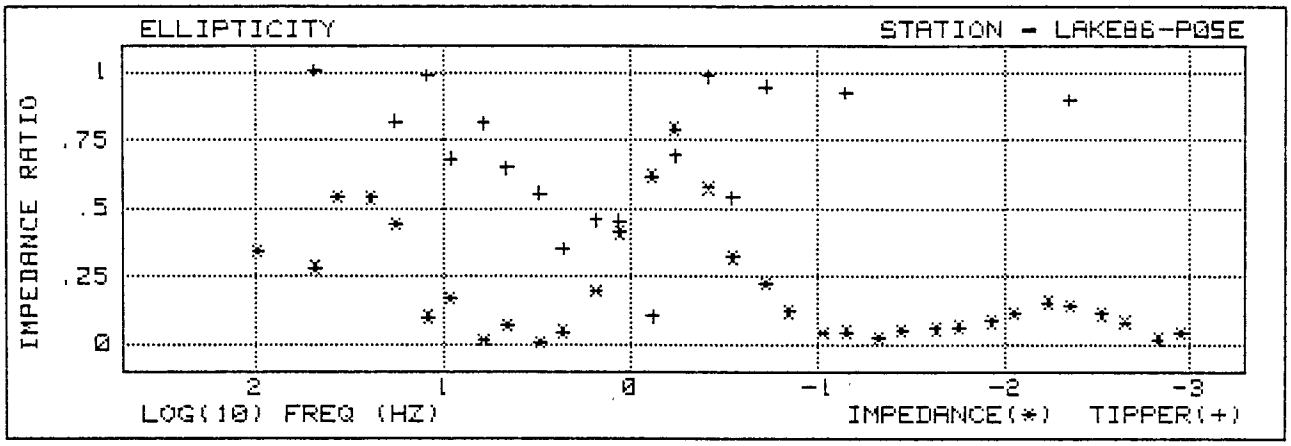
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

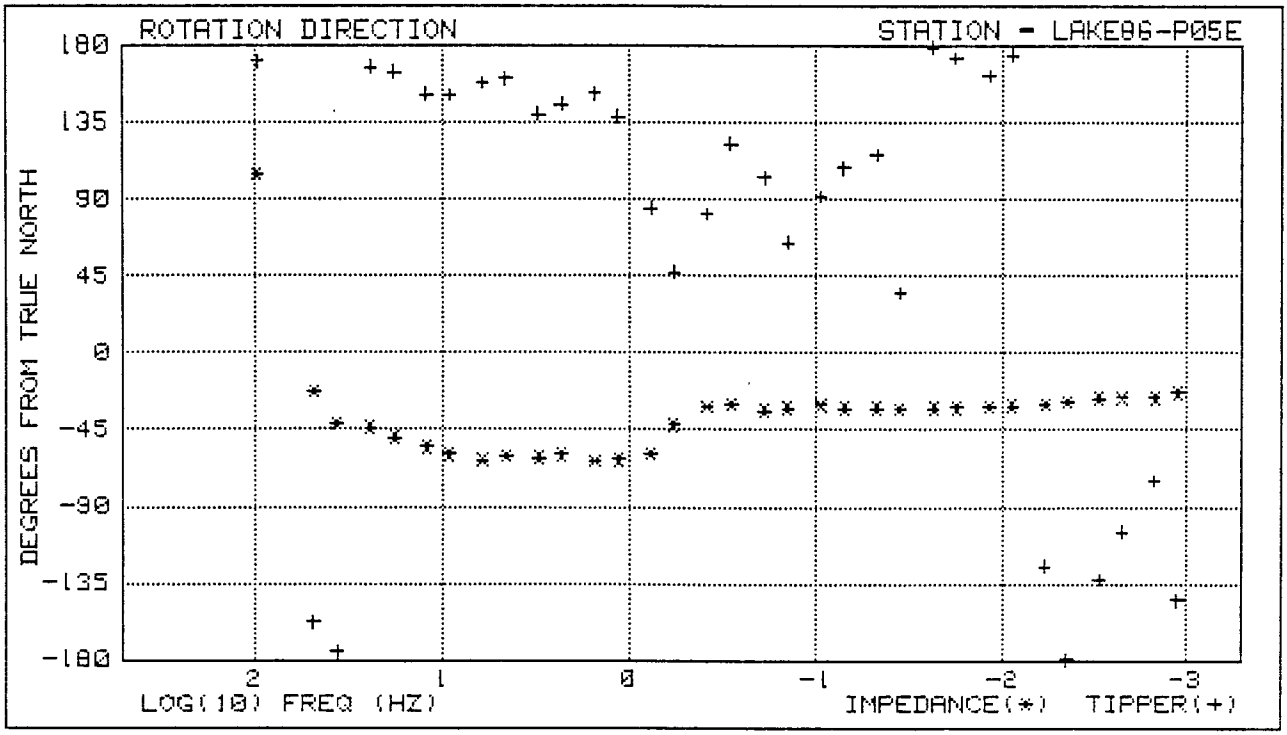
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
5	96.00 Hz	1993	.20	16.31	.31	.67
7	48.00 Hz	696	.19	-5.64	.31	.60
8	36.00 Hz	1858	.12	-4.40	.52	.50
9	24.00 Hz	2044	.11	7.57	.50	.43
10	18.00 Hz	1278	.06	11.05	.35	.29
11	12.00 Hz	3392	.05	-11.15	.27	.26
12	9.00 Hz	1376	.03	-20.00	.21	.25
13	6.00 Hz	1728	.03	138.27	.20	.20
14	4.50 Hz	3136	.04	136.61	.22	.25
15	3.00 Hz	11430	.05	129.77	.15	.14
16	2.25 Hz	18310	.06	155.10	.14	.16
17	1.50 Hz	7760	.06	-32.74	.20	.22
18	1.13 Hz	8144	.06	-23.59	.31	.34
19	1.33 Sec	5124	.07	149.20	.23	.21
20	1.78 Sec	5860	.06	145.95	.40	.42
21	2.67 Sec	2708	.08	159.18	.31	.33
22	3.56 Sec	2063	.13	-172.77	.19	.17
23	5.33 Sec	1149	.11	-166.32	.15	.18
24	7.11 Sec	1077	.08	2.66	.24	.25
25	10.67 Sec	719	.08	-119.72	.33	.34
26	14.22 Sec	683	.07	63.58	.33	.33
27	21.33 Sec	324	.08	-61.50	.29	.29
28	28.44 Sec	342	.08	-66.66	.29	.30
29	42.67 Sec	276	.09	-37.43	.42	.43
30	56.89 Sec	414	.10	137.91	.51	.51
31	85.33 Sec	159	.12	-20.01	.43	.45
32	113.78 Sec	141	.12	-25.92	.45	.43
33	170.67 Sec	87	.12	-10.54	.41	.40
34	227.56 Sec	84	.09	-70.48	.29	.28
35	341.33 Sec	39	.17	4.47	.38	.42
36	455.11 Sec	15	.20	131.31	.54	.53
37	682.67 Sec	24	.22	-130.86	.39	.39
38	910.22 Sec	27	.20	13.20	.23	.22

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E







PHOENIX GEOPHYSICS

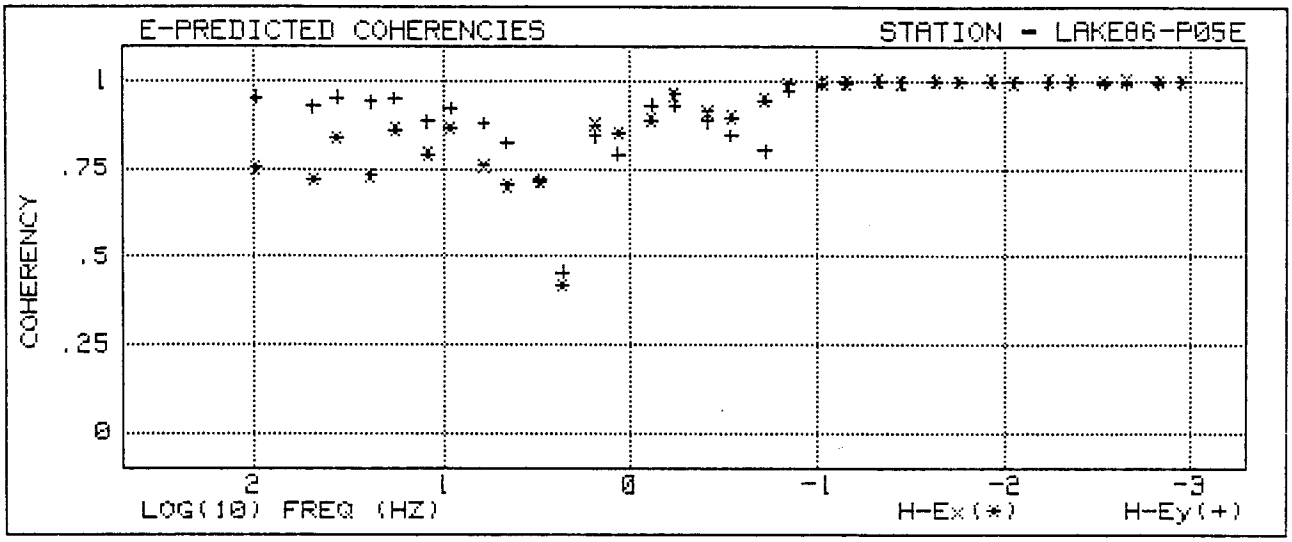
MT Site: LAKE86-P05E

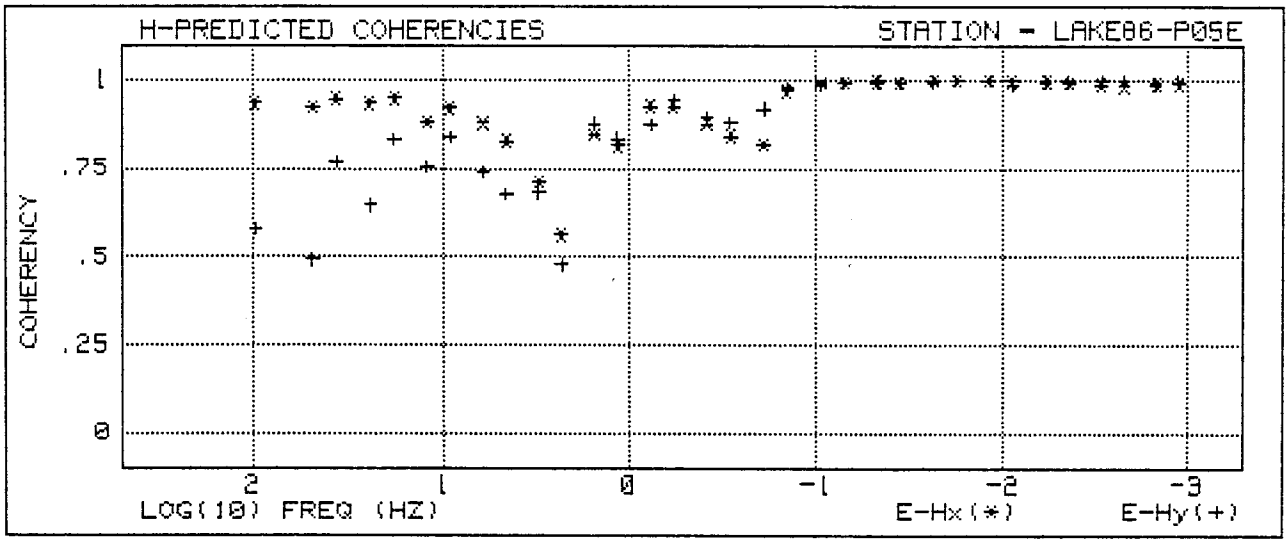
SKEW, ELLIPTICITY AND STRIKE

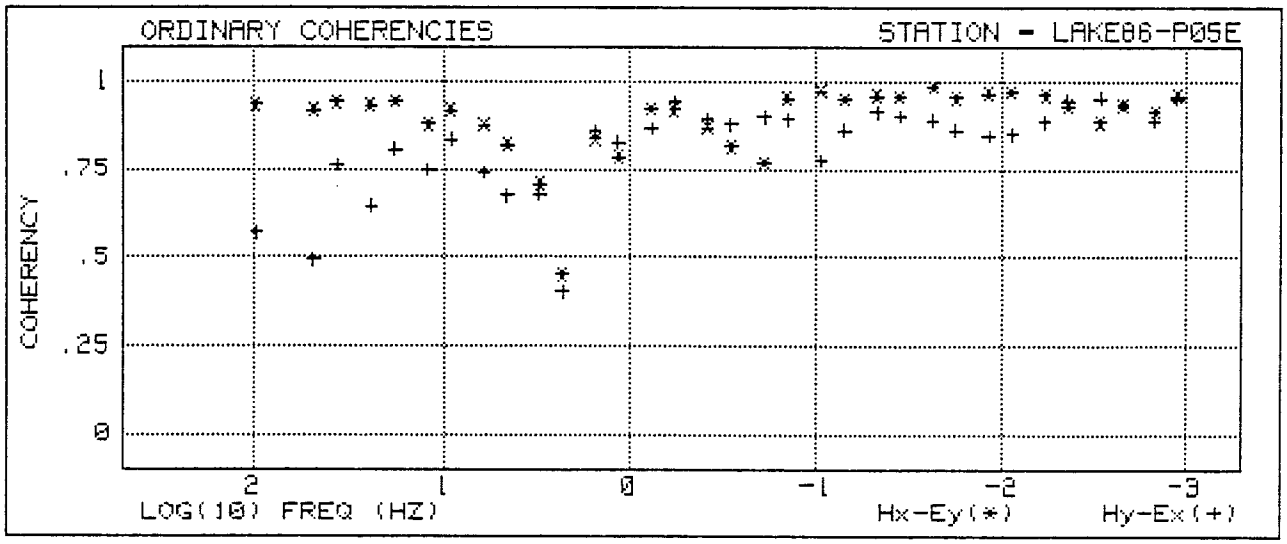
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
5	96.00 Hz	1993	.03	.34	103.74	.09	2.62	170.19
7	48.00 Hz	696	.08	.28	-23.05	.17	1.00	-158.24
8	36.00 Hz	1858	.03	.54	-42.22	.67	1.16	-175.82
9	24.00 Hz	2044	.04	.54	-44.32	.82	1.10	166.51
10	18.00 Hz	1278	.03	.44	-50.51	.53	.81	163.61
11	12.00 Hz	3392	.02	.10	-55.56	.90	.98	150.92
12	9.00 Hz	1376	.03	.17	-59.86	.75	.68	150.30
13	6.00 Hz	1728	.01	.01	-63.25	.95	.81	157.60
14	4.50 Hz	3136	.02	.07	-61.06	.86	.64	159.75
15	3.00 Hz	11430	.02	.00	-61.85	.26	.55	139.26
16	2.25 Hz	18310	.03	.04	-60.07	.58	.35	145.09
17	1.50 Hz	7760	.01	.19	-63.87	.75	.46	151.11
18	1.13 Hz	8144	.01	.41	-62.91	.72	.45	137.73
19	1.33 Sec	5124	.04	.61	-59.36	.03	.10	84.00
20	1.78 Sec	5860	.05	.79	-42.37	.06	.69	46.56
21	2.67 Sec	2708	.04	.57	-32.18	.01	.98	80.67
22	3.56 Sec	2063	.03	.32	-30.32	.18	.54	121.63
23	5.33 Sec	1149	.04	.22	-34.38	.32	.94	101.88
24	7.11 Sec	1077	.06	.12	-32.93	.19	6.32	63.89
25	10.67 Sec	719	.06	.04	-30.77	.18	1.61	90.75
26	14.22 Sec	683	.06	.04	-32.77	.65	.92	107.60
27	21.33 Sec	324	.07	.02	-32.86	.26	3.14	115.45
28	28.44 Sec	342	.08	.05	-33.40	.68	2.53	34.38
29	42.67 Sec	276	.08	.06	-32.87	.29	5.54	178.14
30	56.89 Sec	414	.08	.06	-32.42	.17	4.24	172.14
31	85.33 Sec	159	.10	.08	-31.97	.25	3.26	161.60
32	113.78 Sec	141	.09	.11	-31.67	.20	4.95	173.82
33	170.67 Sec	87	.10	.15	-30.29	.76	1.97	-125.25
34	227.56 Sec	84	.09	.14	-29.26	.95	.89	-179.98
35	341.33 Sec	39	.08	.11	-27.24	.05	3.54	-132.96
36	455.11 Sec	15	.12	.08	-26.51	.29	2.73	-104.99
37	682.67 Sec	24	.09	.02	-26.76	.24	1.13	-75.34
38	910.22 Sec	27	.07	.04	-23.89	.68	2.19	-145.26

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E







PHOENIX GEOPHYSICS

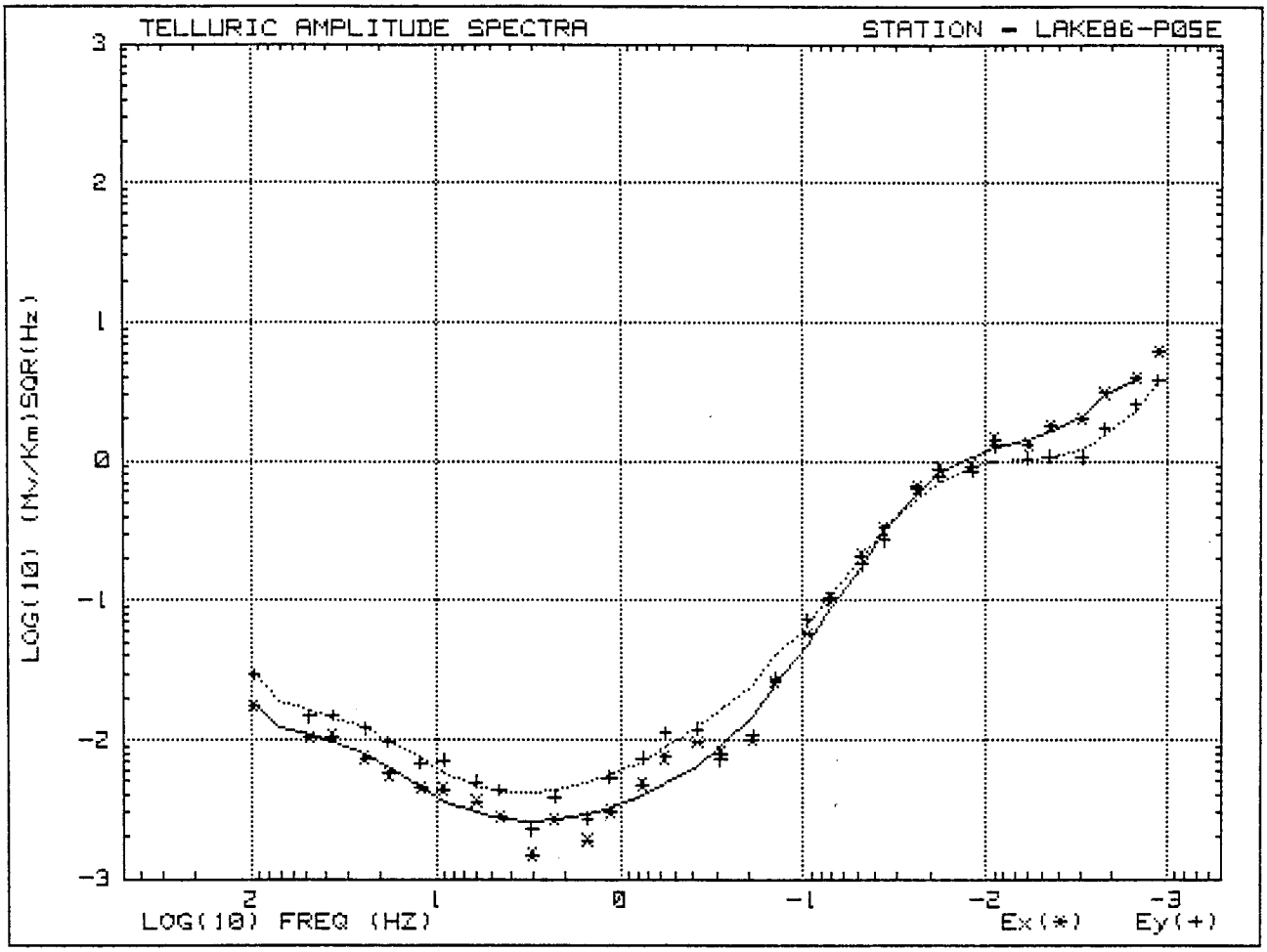
MT Site: LAKE86-P05E

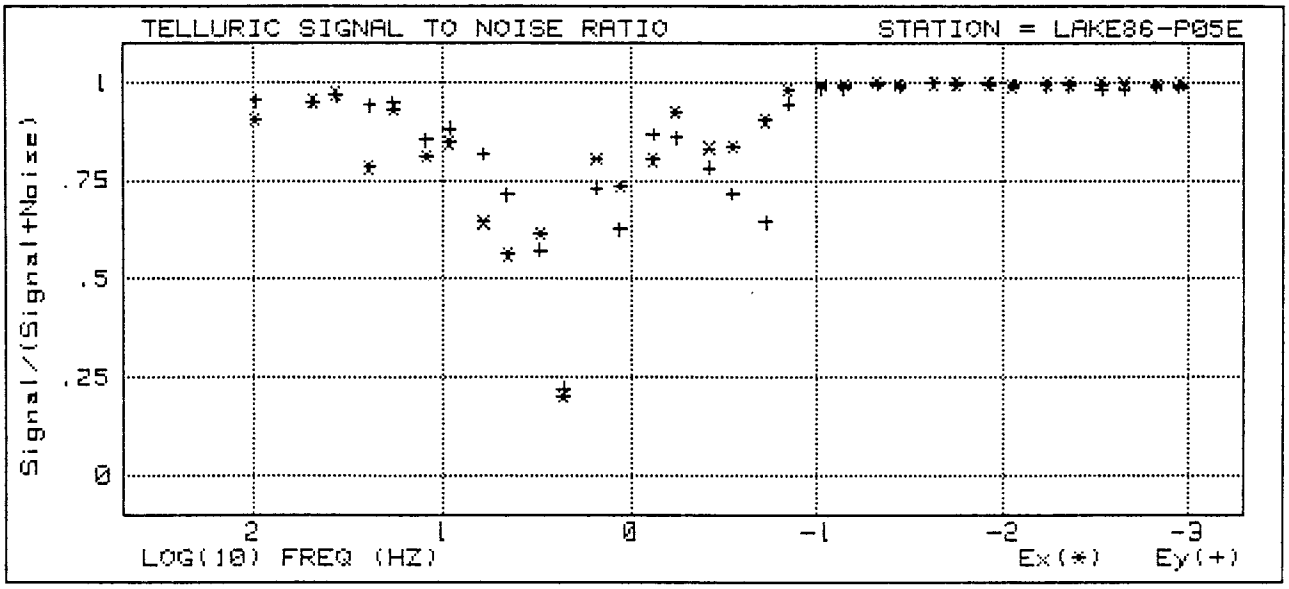
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
5	96.00 Hz	1993	.75	.95	.93	.58	.93	.57
7	48.00 Hz	696	.72	.92	.92	.49	.91	.49
8	36.00 Hz	1858	.83	.95	.94	.76	.94	.76
9	24.00 Hz	2044	.73	.94	.93	.64	.93	.64
10	18.00 Hz	1278	.86	.95	.94	.83	.94	.80
11	12.00 Hz	3392	.79	.88	.88	.75	.88	.74
12	9.00 Hz	1376	.86	.92	.92	.84	.92	.83
13	6.00 Hz	1728	.76	.88	.87	.74	.87	.74
14	4.50 Hz	3136	.70	.82	.82	.67	.82	.67
15	3.00 Hz	11430	.71	.71	.71	.68	.70	.68
16	2.25 Hz	18310	.42	.45	.56	.47	.45	.40
17	1.50 Hz	7760	.87	.84	.84	.87	.83	.86
18	1.13 Hz	8144	.85	.79	.81	.83	.78	.82
19	1.33 Sec	5124	.89	.93	.92	.87	.92	.86
20	1.78 Sec	5860	.96	.93	.92	.94	.92	.94
21	2.67 Sec	2708	.91	.88	.87	.89	.87	.89
22	3.56 Sec	2063	.89	.84	.84	.88	.81	.88
23	5.33 Sec	1149	.94	.80	.81	.92	.76	.90
24	7.11 Sec	1077	.99	.97	.97	.97	.95	.89
25	10.67 Sec	719	.99	.99	.99	.98	.97	.77
26	14.22 Sec	683	.99	.99	.99	.99	.95	.86
27	21.33 Sec	324	1.00	1.00	.99	.99	.96	.91
28	28.44 Sec	342	.99	.99	.99	.99	.96	.90
29	42.67 Sec	276	1.00	1.00	1.00	.99	.98	.89
30	56.89 Sec	414	1.00	1.00	1.00	1.00	.95	.86
31	85.33 Sec	159	1.00	1.00	1.00	1.00	.96	.84
32	113.78 Sec	141	.99	1.00	.99	.98	.97	.85
33	170.67 Sec	87	1.00	.99	.99	.99	.96	.88
34	227.56 Sec	84	1.00	.99	.99	.99	.93	.94
35	341.33 Sec	39	1.00	.99	.98	.99	.88	.95
36	455.11 Sec	15	1.00	.99	.98	.99	.93	.93
37	682.67 Sec	24	1.00	.99	.98	.99	.91	.89
38	910.22 Sec	27	1.00	.99	.99	.99	.96	.95

PHOENIX GEOPHYSICS

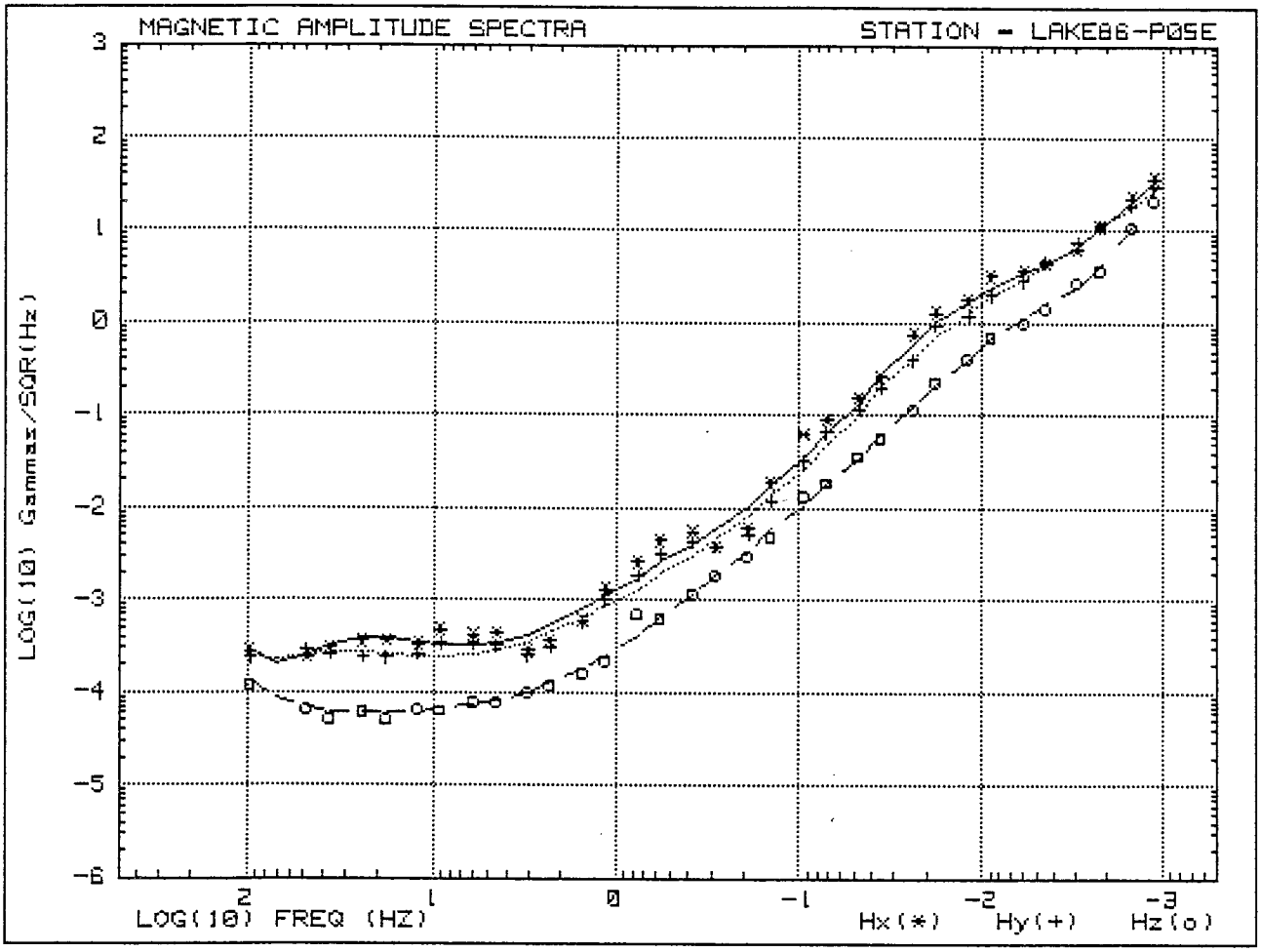
MT Site: LAKE86-P05E

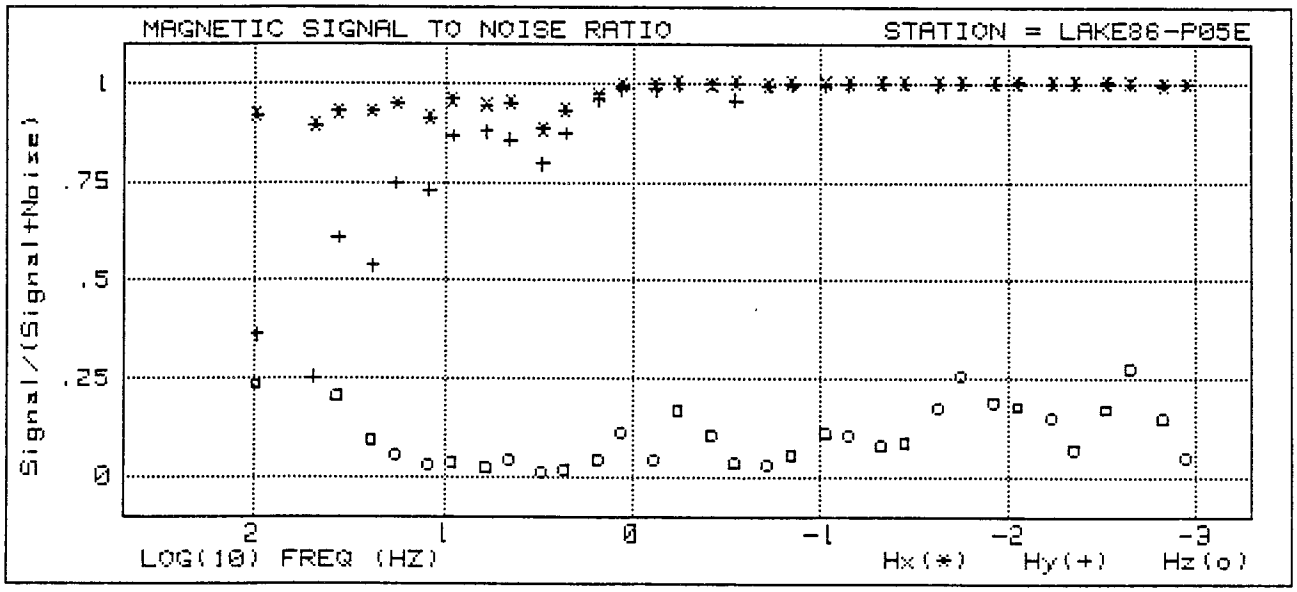




PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	1993	2.74E-04	2.30E-04	1.27E-04	1.72E-02	2.92E-02
7	48.00 Hz	696	2.42E-04	2.79E-04	6.92E-05	1.03E-02	1.44E-02
8	36.00 Hz	1858	3.03E-04	2.55E-04	5.42E-05	1.03E-02	1.46E-02
9	24.00 Hz	2044	3.54E-04	2.36E-04	6.58E-05	7.30E-03	1.19E-02
10	18.00 Hz	1278	3.58E-04	2.34E-04	5.26E-05	5.58E-03	9.47E-03
11	12.00 Hz	3392	3.27E-04	2.55E-04	6.88E-05	4.45E-03	6.64E-03
12	9.00 Hz	1376	4.66E-04	3.36E-04	6.63E-05	4.31E-03	7.03E-03
13	6.00 Hz	1728	4.18E-04	3.33E-04	8.05E-05	3.55E-03	4.90E-03
14	4.50 Hz	3136	4.35E-04	3.11E-04	8.04E-05	2.74E-03	4.25E-03
15	3.00 Hz	11430	2.78E-04	2.48E-04	1.04E-04	1.47E-03	2.23E-03
16	2.25 Hz	18310	3.64E-04	3.07E-04	1.22E-04	2.63E-03	3.79E-03
17	1.50 Hz	7760	5.97E-04	5.75E-04	1.65E-04	1.86E-03	2.68E-03
18	1.13 Hz	8144	1.29E-03	9.81E-04	2.32E-04	3.03E-03	5.32E-03
19	1.33 Sec	5124	2.55E-03	1.83E-03	7.32E-04	4.69E-03	7.32E-03
20	1.78 Sec	5860	4.39E-03	3.05E-03	6.78E-04	7.39E-03	1.12E-02
21	2.67 Sec	2708	5.40E-03	4.23E-03	1.22E-03	9.44E-03	1.17E-02
22	3.56 Sec	2063	3.71E-03	3.71E-03	1.98E-03	7.84E-03	7.11E-03
23	5.33 Sec	1149	5.94E-03	5.16E-03	3.20E-03	9.90E-03	1.06E-02
24	7.11 Sec	1077	1.83E-02	1.16E-02	5.09E-03	2.59E-02	2.72E-02
25	10.67 Sec	719	6.17E-02	3.13E-02	1.42E-02	5.72E-02	7.29E-02
26	14.22 Sec	683	8.93E-02	6.50E-02	1.95E-02	1.02E-01	1.01E-01
27	21.33 Sec	324	1.53E-01	1.14E-01	3.77E-02	2.07E-01	1.78E-01
28	28.44 Sec	342	2.58E-01	1.95E-01	5.95E-02	3.24E-01	2.68E-01
29	42.67 Sec	276	7.37E-01	3.92E-01	1.23E-01	6.39E-01	6.15E-01
30	56.89 Sec	414	1.26E+00	9.19E-01	2.40E-01	8.73E-01	7.74E-01
31	85.33 Sec	159	1.75E+00	1.19E+00	4.18E-01	9.10E-01	8.28E-01
32	113.78 Sec	141	3.17E+00	1.97E+00	7.38E-01	1.41E+00	1.28E+00
33	170.67 Sec	87	3.62E+00	2.78E+00	1.05E+00	1.30E+00	1.02E+00
34	227.56 Sec	84	4.31E+00	4.55E+00	1.52E+00	1.77E+00	1.06E+00
35	341.33 Sec	39	6.27E+00	7.26E+00	2.95E+00	1.98E+00	1.04E+00
36	455.11 Sec	15	1.12E+01	1.10E+01	3.95E+00	3.05E+00	1.68E+00
37	682.67 Sec	24	2.25E+01	1.82E+01	1.16E+01	3.90E+00	2.51E+00
38	910.22 Sec	27	3.58E+01	2.91E+01	2.25E+01	6.09E+00	3.78E+00

PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	1993	.919	.360	.240	.904	.951
7	48.00 Hz	696	.894	.252	0.000	.949	.947
8	36.00 Hz	1858	.926	.607	.209	.969	.964
9	24.00 Hz	2044	.928	.537	.096	.781	.939
10	18.00 Hz	1278	.947	.745	.061	.930	.946
11	12.00 Hz	3392	.911	.728	.034	.809	.851
12	9.00 Hz	1376	.959	.867	.043	.844	.881
13	6.00 Hz	1728	.944	.876	.027	.643	.815
14	4.50 Hz	3136	.949	.855	.048	.561	.712
15	3.00 Hz	11430	.882	.794	.016	.613	.573
16	2.25 Hz	18310	.931	.871	.024	.198	.219
17	1.50 Hz	7760	.971	.958	.048	.802	.730
18	1.13 Hz	8144	.995	.983	.116	.734	.625
19	1.33 Sec	5124	.997	.984	.048	.800	.865
20	1.78 Sec	5860	1.000	.996	.176	.922	.858
21	2.67 Sec	2708	.996	.997	.113	.830	.780
22	3.56 Sec	2063	.999	.956	.040	.834	.714
23	5.33 Sec	1149	.994	.991	.034	.902	.643
24	7.11 Sec	1077	.999	.994	.061	.979	.944
25	10.67 Sec	719	.999	.991	.115	.992	.983
26	14.22 Sec	683	1.000	.995	.109	.991	.982
27	21.33 Sec	324	1.000	.999	.083	.997	.992
28	28.44 Sec	342	1.000	.998	.092	.992	.988
29	42.67 Sec	276	.999	.996	.182	.996	.997
30	56.89 Sec	414	.999	.999	.261	.996	.994
31	85.33 Sec	159	1.000	.999	.195	.996	.995
32	113.78 Sec	141	1.000	.999	.183	.988	.991
33	170.67 Sec	87	.999	.999	.155	.996	.990
34	227.56 Sec	84	1.000	.999	.076	.997	.989
35	341.33 Sec	39	1.000	1.000	.177	.993	.979
36	455.11 Sec	15	1.000	.999	.282	.997	.979
37	682.67 Sec	24	.995	.997	.153	.992	.987
38	910.22 Sec	27	.999	.998	.055	.994	.986

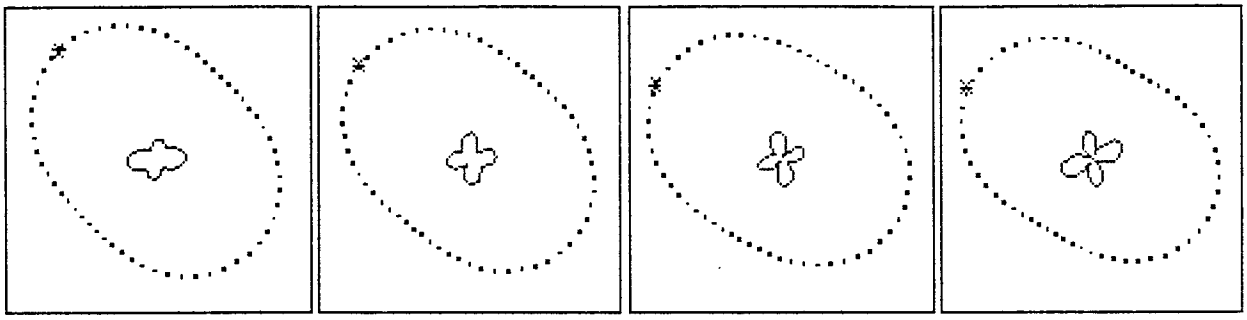
PHOENIX GEOPHYSICS

MT Site: LAKE86-P05E

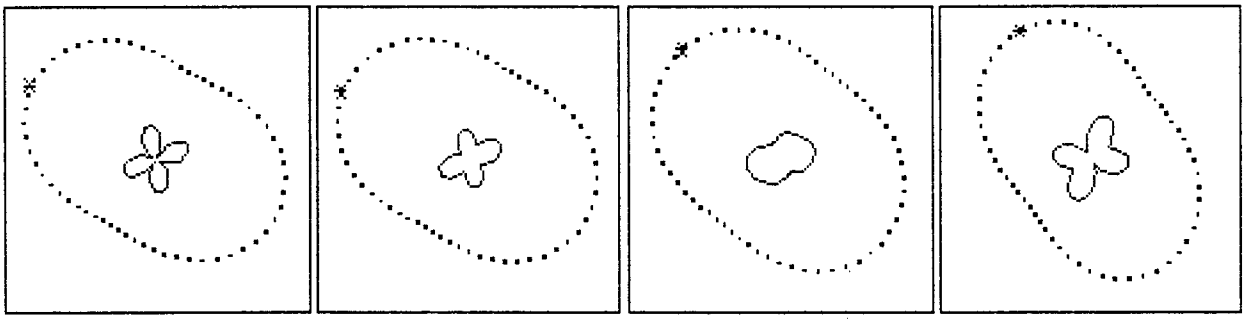
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction Zxy = ...
Zxx = ___

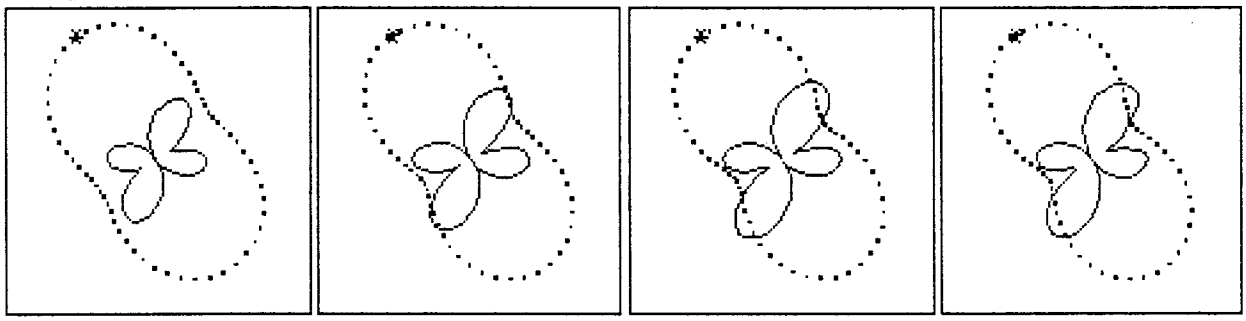
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



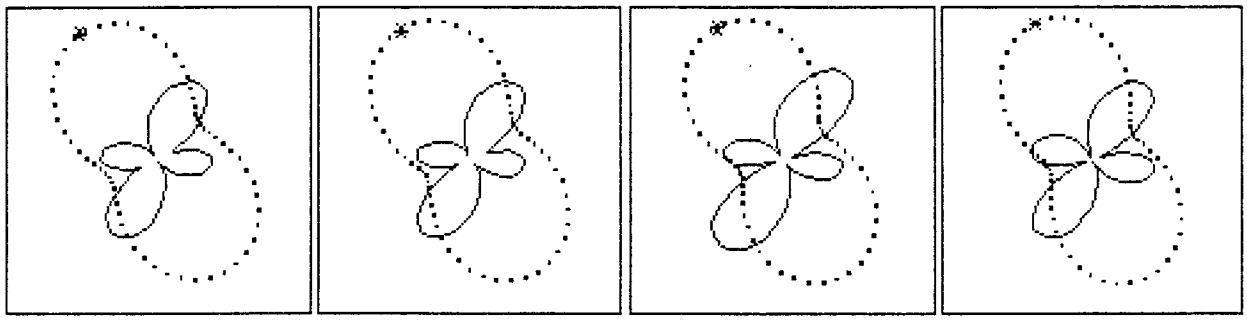
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P04c/P06s/

Operator:ERIK VAAG
Date: 9 Oct 1986
Time: 21:22:09

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#507-30Aug86-05
SP--Stn02: B#219-30Aug86-05
Sens-Ch01: C#445-04Sep86-01
Sens-Ch02: C#306-04Sep86-01
Sens-Ch03: L#416-05Sep86-01
Sens-Ch06: C#201-04Sep86-01
Sens-Ch07: C#452-04Sep86-01
Sens-Ch08: L#419-05Sep86-01

Station 2

Stn Number:LAKE86-P06s
Site Desc:T43N R03E Sec.01 SE1/4
41,36,00 N 121,41,27 W
Elevation:6120 FT
Reference:LAKE86-P04s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P BURNS
Sensor Processor: SE219
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL201	+30 DEG
Hy	7	COIL452	+120 DEG
Hz	8	LOOP419	
Ex	9	220 M	+30 DEG
Ey	10	221 M	+120 DEG
Rx	1	COIL445	+0 DEG
Ry	2	COIL306	+90 DEG

Ex Pot Resist: 7.5 K Ohms
Ex Voltage: AC=18.9 mv, DC=67.0 mv
Ey Pot Resist: 4.5 K Ohms
Ey Voltage: AC=17.3 mv, DC=33.0 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

OPERATOR LOG FOR MT SITES LAKE86-P04s/P06s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P03b/P06b/			
Run STARTED:	05:39:29	1 Oct	1986
Run QUIT:	05:35:45	2 Oct	1986
Run Start and Stop Time for LAKE86-P03c/P06c/			
Run STARTED:	05:58:30	2 Oct	1986
Run QUIT:	17:48:50	2 Oct	1986
Run Start and Stop Time for LAKE86-P04e/P06e/			
Run STARTED:	15:42:53	8 Oct	1986
Run QUIT:	09:21:18	9 Oct	1986
Run Start and Stop Time for LAKE86-P04f/P06f/			
Run STARTED:	10:54:40	9 Oct	1986
Run QUIT:	20:44:36	9 Oct	1986
Run Start and Stop Time for LAKE86-P04g/P06g/			
Run STARTED:	21:22:09	9 Oct	1986
Run QUIT:	03:48:34	10 Oct	1986

Operator: ERIK VAAG

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST CAUSES POOR DATA ABOVE 60 HZ. SITE P06 IS NEXT TO MODERATELY TRAVELED ROAD, CAUSING POOR MAGNETICS BETWEEN 1.0 HZ AND 0.1 HZ ON THAT SITE. POOR ELECTRODE CONTACT AND LOW MT SIGNAL ALSO GIVES POOR DATA BETWEEN 1.0 HZ AND 0.1 HZ.

Weather Conditions:
WARM AND SUNNY DURING DAYTIME. COOL AND CLEAR OVERNIGHT.

Other Factors:
RUN 'b' CONTAINS THE BEST DATA FOR THESE SITES. HIGHEST SIGNAL LEVEL IS DURING DAYTIME HOURS.

PHOENIX GEOPHYSICS

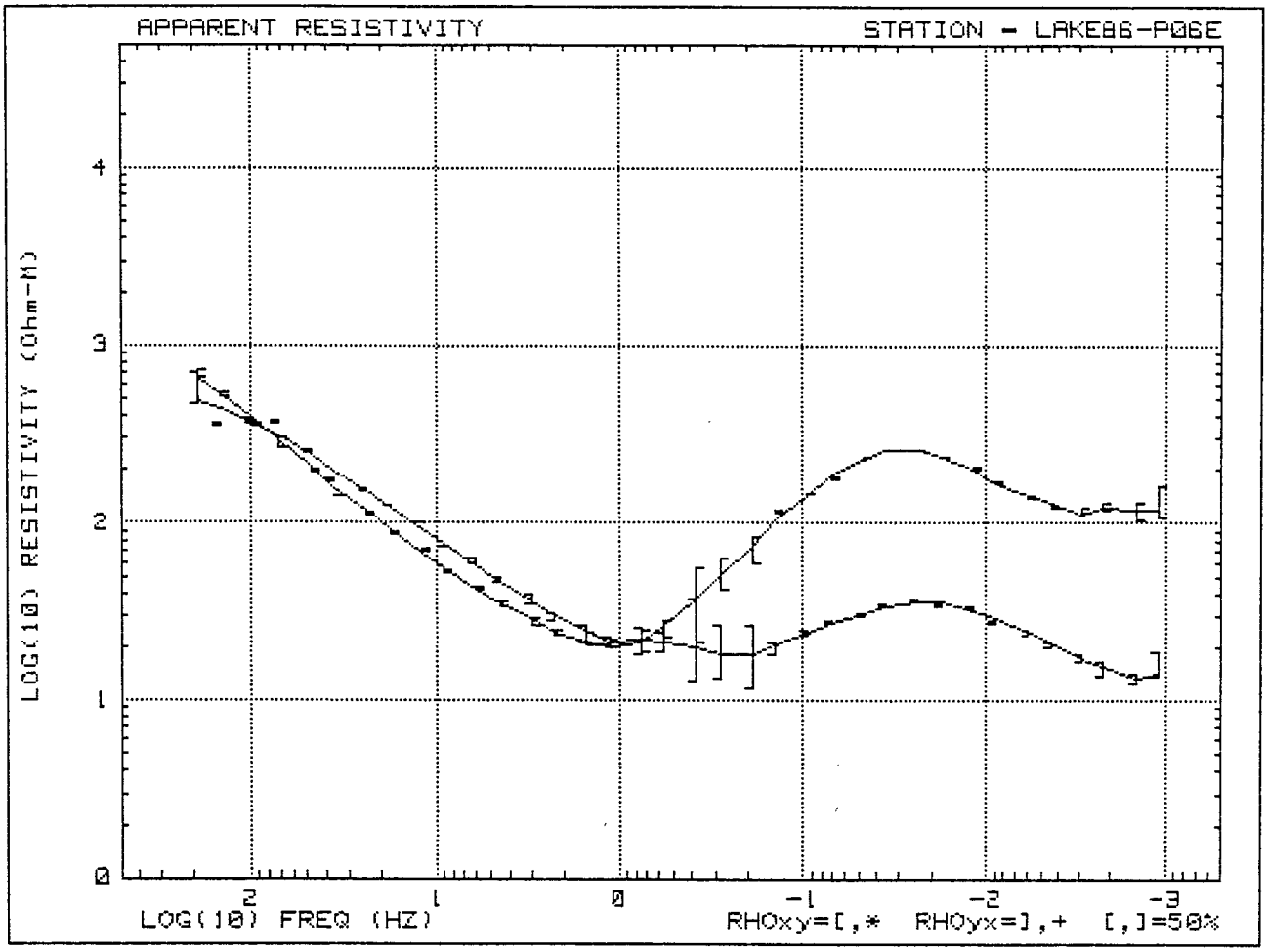
MT Site: LAKE86-P06E

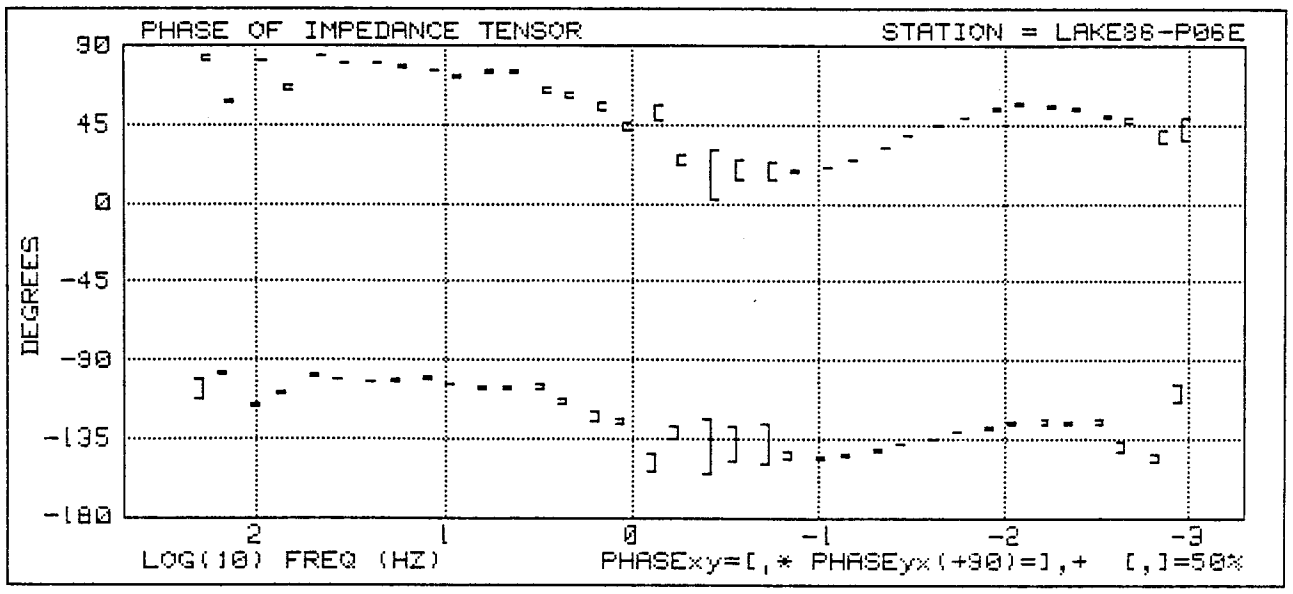
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

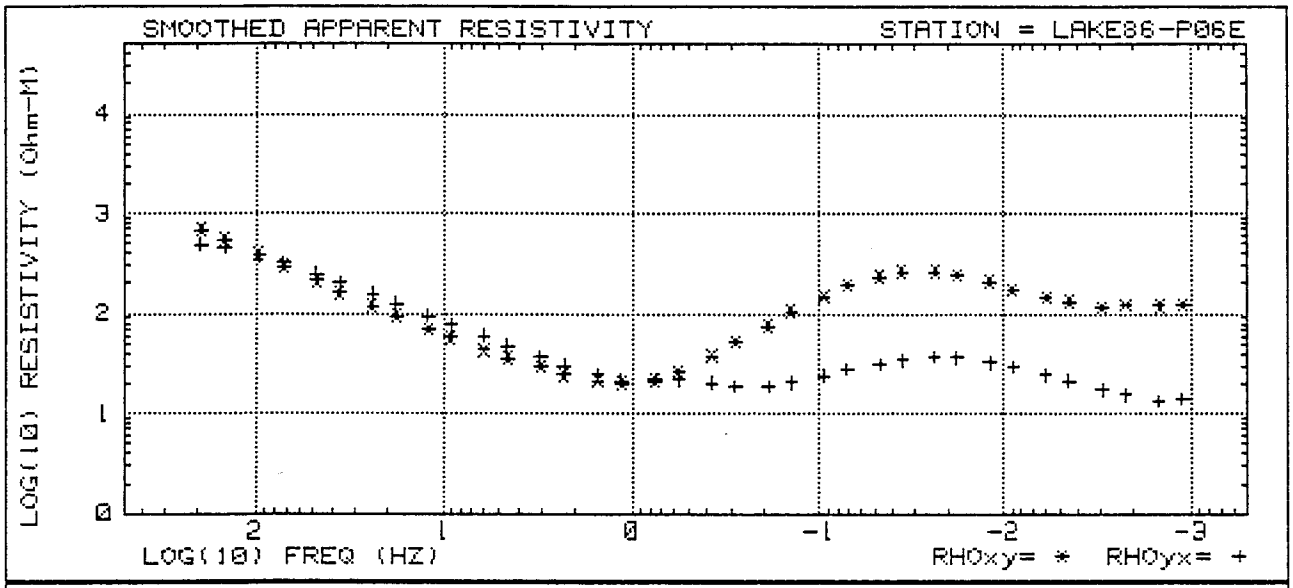
MT Site: LAKE86-P06E

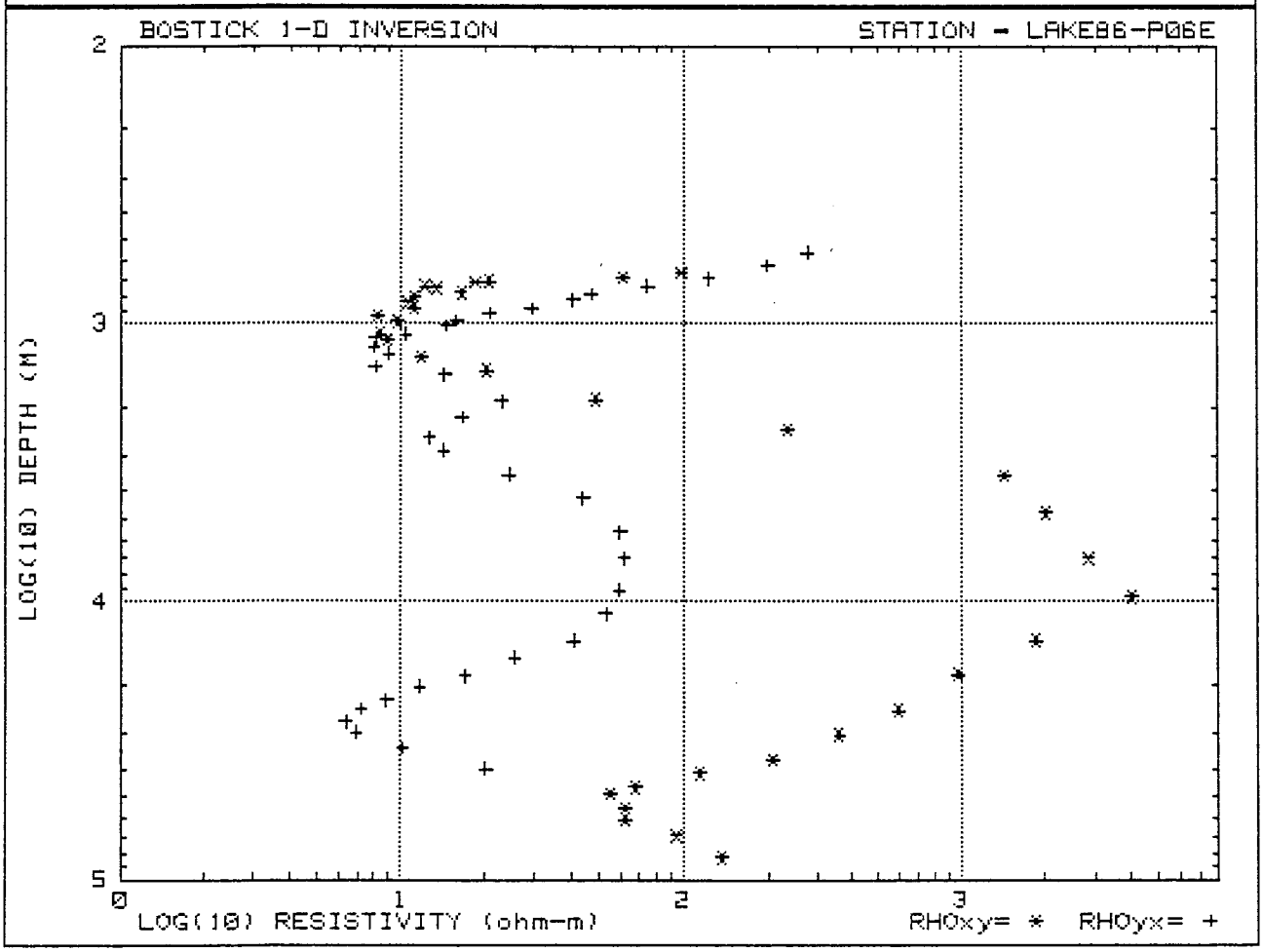




PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
3	192.00 Hz	1238	696.0	8.7	575.1	35.7	83.4	2.4	-107.0	8.7
4	144.00 Hz	3871	535.5	5.6	360.2	1.1	58.0	1.6	-97.5	.3
5	96.00 Hz	2638	358.6	1.2	375.2	4.2	81.8	.3	-115.4	1.2
6	72.00 Hz	757	285.0	9.0	370.8	3.9	66.0	2.5	-109.4	1.1
7	48.00 Hz	3879	200.5	2.3	254.0	3.1	84.7	.6	-99.0	.9
8	36.00 Hz	5823	142.9	2.0	177.3	2.1	80.0	.6	-101.2	.6
9	24.00 Hz	3099	112.1	1.6	155.0	1.9	79.9	.5	-102.7	.5
10	18.00 Hz	2488	89.0	2.1	126.1	2.2	78.2	.6	-101.9	.6
11	12.00 Hz	5334	70.4	1.5	101.2	1.6	75.6	.4	-100.3	.4
12	9.00 Hz	2011	53.8	1.4	74.4	1.5	72.5	.4	-103.8	.4
13	6.00 Hz	5074	43.2	2.9	61.2	3.2	75.8	.8	-105.4	.9
14	4.50 Hz	4110	35.1	5.6	47.4	5.5	75.3	1.6	-105.8	1.5
15	3.00 Hz	47059	27.7	7.1	37.1	7.9	65.2	2.0	-105.6	2.2
16	2.25 Hz	17123	24.2	5.8	29.3	5.5	61.8	1.6	-113.6	1.5
17	1.50 Hz	14421	22.1	12.2	24.0	17.3	55.0	3.3	-122.3	4.6
18	1.13 Hz	5493	20.8	8.2	21.5	7.9	44.1	2.3	-125.0	2.2
19	1.33 Sec	5632	21.6	23.7	21.7	30.5	51.8	6.1	-148.5	7.6
20	1.78 Sec	2224	25.3	15.5	21.4	18.9	25.4	4.1	-131.1	5.0
21	2.67 Sec	2863	34.5	99.9	22.0	99.9	17.1	21.3	-139.7	23.1
22	3.56 Sec	2145	51.8	34.3	18.7	68.7	19.1	8.4	-138.0	15.0
23	5.33 Sec	2620	69.8	29.1	17.6	82.3	18.4	7.3	-137.9	17.2
24	7.11 Sec	2658	115.7	1.9	19.5	12.1	19.0	.5	-144.0	3.3
25	10.67 Sec	1779	146.7	1.6	24.0	4.5	20.7	.5	-145.4	1.3
26	14.22 Sec	1821	179.3	1.1	27.3	2.2	25.6	.3	-144.1	.6
27	21.33 Sec	765	236.6	1.1	30.7	2.1	31.9	.3	-141.5	.6
28	28.44 Sec	819	257.9	.8	34.8	2.3	38.7	.2	-138.1	.7
29	42.67 Sec	576	256.5	.8	36.6	2.6	45.2	.2	-134.9	.7
30	56.89 Sec	794	236.0	.8	34.1	1.4	49.6	.2	-131.1	.4
31	85.33 Sec	453	203.9	1.7	33.3	2.7	54.4	.5	-128.4	.8
32	113.78 Sec	414	170.7	1.9	27.6	2.6	56.6	.5	-125.9	.7
33	170.67 Sec	72	141.0	2.7	24.1	6.6	55.4	.8	-125.6	1.8
34	227.56 Sec	75	123.0	2.7	20.6	4.9	54.4	.8	-125.8	1.4
35	341.33 Sec	48	119.0	5.7	17.2	6.6	49.9	1.6	-124.7	1.8
36	455.11 Sec	63	123.3	8.4	15.1	14.9	47.2	2.3	-139.5	4.0
37	682.67 Sec	21	117.7	16.7	13.3	12.1	38.5	4.4	-145.1	3.3
38	910.22 Sec	48	131.7	36.7	16.0	28.1	42.9	9.0	-108.6	7.1

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
3	192.00 Hz	1238	667.7	478.4	98.3	664	276.7	562
4	144.00 Hz	3871	539.2	443.0	61.4	689	199.6	624
5	96.00 Hz	2638	384.7	367.9	20.8	712	122.7	697
6	72.00 Hz	757	289.4	313.3	18.6	720	74.6	742
7	48.00 Hz	3879	209.1	240.1	12.2	743	47.3	796
8	36.00 Hz	5823	156.2	196.8	13.5	750	40.9	832
9	24.00 Hz	3099	116.8	152.4	16.5	785	29.4	897
10	18.00 Hz	2488	92.8	123.1	11.2	808	20.9	931
11	12.00 Hz	5334	67.8	93.2	10.6	846	15.9	992
12	9.00 Hz	2011	55.9	75.4	11.1	887	14.7	1030
13	6.00 Hz	5074	42.6	58.4	8.3	949	10.4	1110
14	4.50 Hz	4110	35.0	46.5	9.7	993	8.1	1144
15	3.00 Hz	47059	28.8	35.9	8.5	1103	8.0	1231
16	2.25 Hz	17123	24.0	29.9	8.9	1163	9.1	1298
17	1.50 Hz	14421	21.0	24.8	11.8	1332	8.1	1446
18	1.13 Hz	5493	19.8	21.1	20.4	1493	14.4	1540
19	1.33 Sec	5632	21.2	21.8	49.3	1894	23.0	1917
20	1.78 Sec	2224	26.1	21.5	236.3	2424	16.8	2199
21	2.67 Sec	2863	37.0	20.0	1442.9	3535	12.7	2598
22	3.56 Sec	2145	51.4	18.4	2006.2	4813	14.4	2880
23	5.33 Sec	2620	73.5	18.3	2867.0	7047	24.5	3520
24	7.11 Sec	2658	104.3	20.3	4067.7	9692	44.4	4280
25	10.67 Sec	1779	144.0	23.7	1855.2	13948	60.1	5662
26	14.22 Sec	1821	188.8	27.5	972.8	18440	62.0	7034
27	21.33 Sec	765	229.9	31.0	591.3	24924	59.4	9153
28	28.44 Sec	819	256.1	34.2	361.6	30375	53.7	11092
29	42.67 Sec	576	258.8	36.2	208.8	37397	41.2	13982
30	56.89 Sec	794	237.8	35.7	114.3	41393	25.6	16041
31	85.33 Sec	453	203.0	32.3	68.2	46834	17.2	18674
32	113.78 Sec	414	168.5	28.9	55.6	49276	11.7	20408
33	170.67 Sec	72	143.1	24.1	63.0	55616	8.9	22803
34	227.56 Sec	75	128.7	21.0	63.0	60899	7.3	24618
35	341.33 Sec	48	112.9	17.2	94.4	69851	6.4	27245
36	455.11 Sec	63	121.0	15.3	136.3	83513	7.0	29711
37	682.67 Sec	21	117.6	13.3	115.1	100845	10.2	33851
38	910.22 Sec	48	120.1	14.0	138.9	117669	20.3	40143

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
3	192.00 Hz	1238	25.81	8.93	999.99	94.16	811.94	999.99
4	144.00 Hz	3871	43.90	12.85	24.40	328.75	526.76	568.23
5	96.00 Hz	2638	-1.30	29.19	125.80	59.32	410.63	12.13
6	72.00 Hz	757	14.14	.71	74.35	130.30	292.61	381.71
7	48.00 Hz	3879	-.64	-4.61	25.03	20.32	218.44	12.13
8	36.00 Hz	5823	.16	-4.27	5.81	27.80	157.95	5.22
9	24.00 Hz	3099	4.14	-7.67	2.81	20.32	114.18	1.68
10	18.00 Hz	2488	3.92	-5.49	1.99	18.30	87.63	1.76
11	12.00 Hz	5334	3.20	-3.65	.41	16.11	62.95	.45
12	9.00 Hz	2011	2.69	-1.98	.18	14.79	46.95	.23
13	6.00 Hz	5074	-.21	-1.70	.71	8.84	34.91	.51
14	4.50 Hz	4110	-.34	-1.26	1.53	7.13	27.17	1.16
15	3.00 Hz	47059	1.44	-.88	.62	8.55	18.49	.99
16	2.25 Hz	17123	1.56	-.06	.67	7.80	14.54	.43
17	1.50 Hz	14421	1.03	-.09	4.06	7.38	10.54	1.10
18	1.13 Hz	5493	.26	-.83	2.20	7.76	7.53	.36
19	1.33 Sec	5632	.228	.263	.562	5.563	7.072	1.831
20	1.78 Sec	2224	.122	.045	3.540	7.611	3.621	.737
21	2.67 Sec	2863	.010	1.142	14.398	7.685	2.369	17.858
22	3.56 Sec	2145	-.437	-.501	6.196	8.070	2.787	3.163
23	5.33 Sec	2620	-.276	.490	4.532	7.674	2.550	2.138
24	7.11 Sec	2658	-.257	-.338	.145	8.532	2.931	.015
25	10.67 Sec	1779	-.189	-.091	.021	7.759	2.930	.009
26	14.22 Sec	1821	-.155	-.027	.005	7.163	3.426	.004
27	21.33 Sec	765	-.118	-.112	.005	6.325	3.932	.003
28	28.44 Sec	819	-.176	-.070	.006	5.256	4.209	.001
29	42.67 Sec	576	.004	-.095	.003	3.866	3.888	.001
30	56.89 Sec	794	.066	-.160	.001	2.949	3.470	.001
31	85.33 Sec	453	-.032	.004	.002	2.012	2.810	.002
32	113.78 Sec	414	.001	.006	.001	1.508	2.287	.001
33	170.67 Sec	72	-.025	.028	.001	1.155	1.673	.001
34	227.56 Sec	75	-.022	.023	.002	.958	1.336	.001
35	341.33 Sec	48	-.027	-.025	.002	.850	1.010	.003
36	455.11 Sec	63	.048	-.091	.003	.791	.854	.004
37	682.67 Sec	21	.049	-.119	.003	.727	.578	.010
38	910.22 Sec	48	-.053	.104	.012	.623	.579	.035

PHOENIX GEOPHYSICS

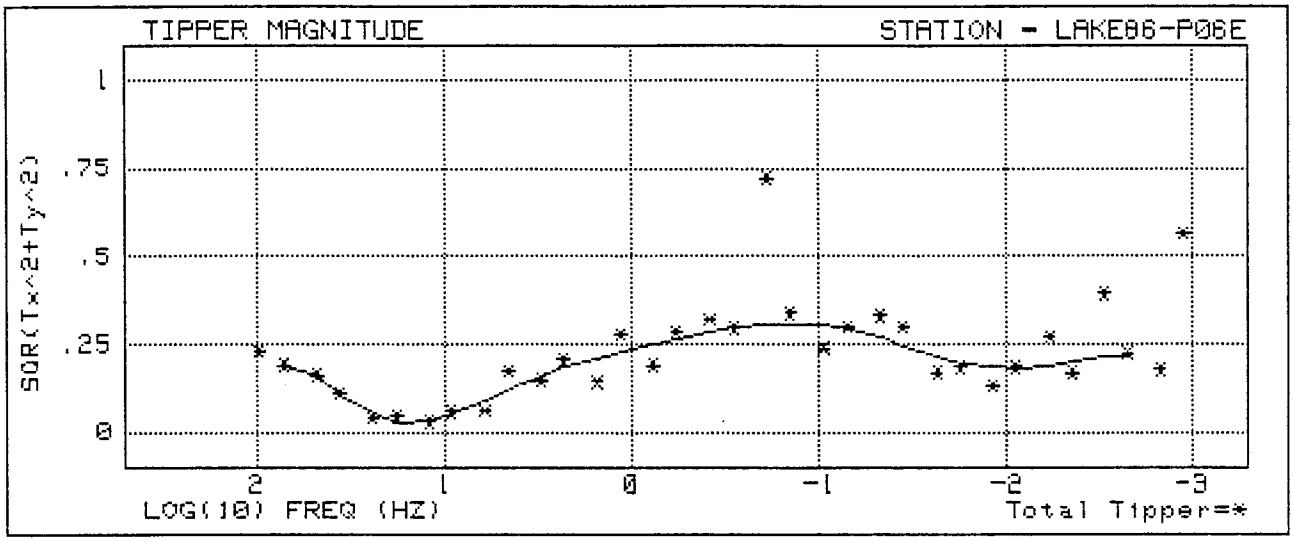
MT Site: LAKE86-P06E

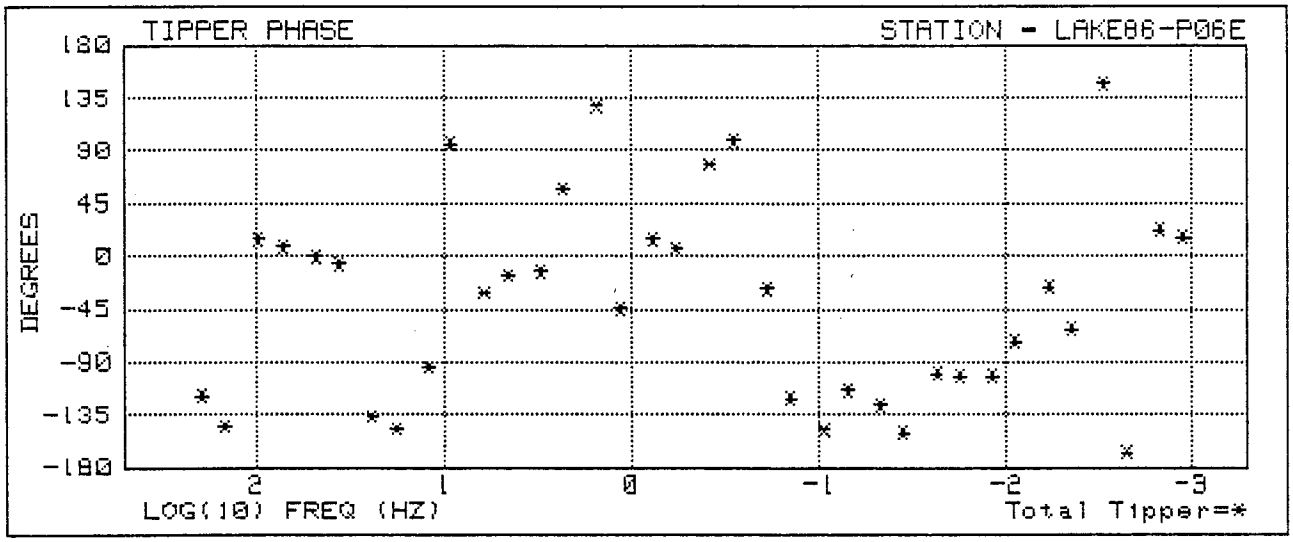
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

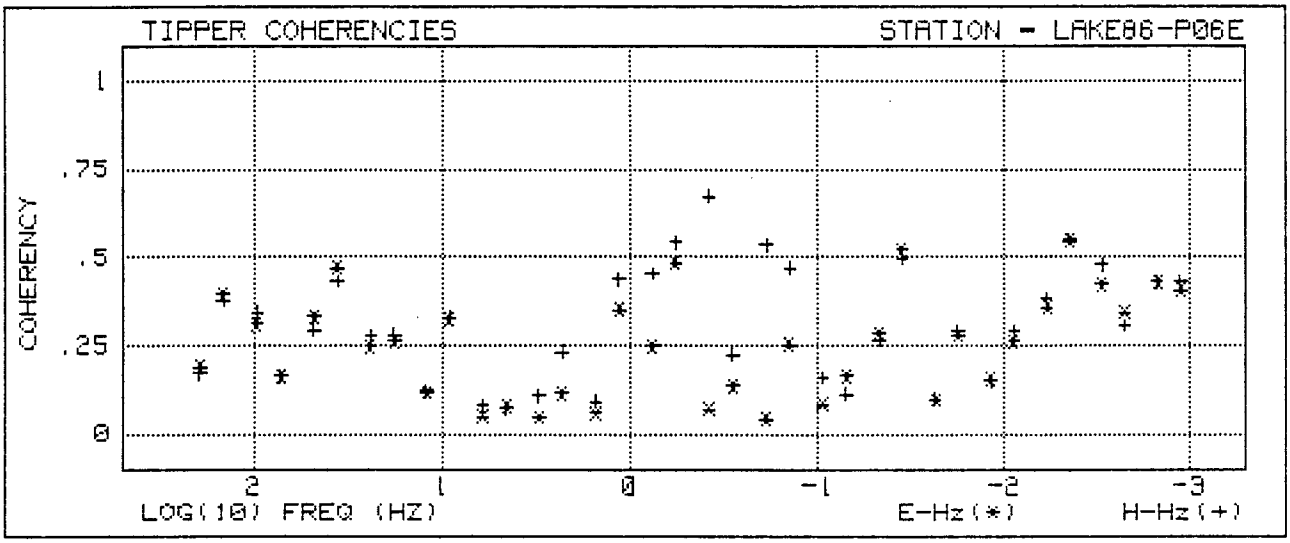
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
3	192.00 Hz	1238	-217.53	-710.47	999.99	17.48	-1.19	999.99
4	144.00 Hz	3871	-66.25	-504.96	15.09	39.28	68.47	351.36
5	96.00 Hz	2638	-182.27	-383.23	154.58	-5.10	12.16	14.90
6	72.00 Hz	757	-121.40	-344.57	95.93	-30.38	-6.91	492.48
7	48.00 Hz	3879	-38.56	-243.89	28.58	.66	-5.55	13.85
8	36.00 Hz	5823	-34.56	-175.28	6.65	.10	-4.24	5.97
9	24.00 Hz	3099	-30.09	-133.03	3.33	-5.76	-2.54	1.99
10	18.00 Hz	2488	-22.01	-104.23	2.71	-6.33	-3.20	2.40
11	12.00 Hz	5334	-13.95	-76.66	.75	-1.84	-4.45	.83
12	9.00 Hz	2011	-13.80	-56.18	.38	.43	-2.22	.47
13	6.00 Hz	5074	-11.41	-41.31	.92	-1.44	-1.20	.66
14	4.50 Hz	4110	-8.91	-31.42	1.54	-1.13	-.93	1.17
15	3.00 Hz	47059	-6.35	-22.72	1.61	.93	-1.15	2.55
16	2.25 Hz	17123	-7.27	-16.65	.48	.31	-.38	.31
17	1.50 Hz	14421	-7.17	-11.34	2.29	.60	-.21	.62
18	1.13 Hz	5493	-6.31	-9.01	.35	.95	-.16	.06
19	1.33 Sec	5632	-7.690	-4.716	2.878	.274	.304	9.379
20	1.78 Sec	2224	-5.094	-5.842	.904	.272	.216	.188
21	2.67 Sec	2863	-4.900	-4.162	13.423	.071	1.236	16.649
22	3.56 Sec	2145	-3.808	-3.428	3.592	-.459	-.650	1.834
23	5.33 Sec	2620	-3.014	-2.725	2.979	-.302	-.194	1.406
24	7.11 Sec	2658	-2.992	-2.176	.089	-.270	-.246	.009
25	10.67 Sec	1779	-2.759	-1.901	.011	-.176	-.156	.004
26	14.22 Sec	1821	-2.508	-1.819	.002	-.121	-.126	.002
27	21.33 Sec	765	-2.100	-1.671	.002	-.102	-.142	.001
28	28.44 Sec	819	-1.841	-1.654	.002	-.105	-.165	.000
29	42.67 Sec	576	-1.462	-1.468	.001	.001	-.093	.001
30	56.89 Sec	794	-1.138	-1.306	.000	.000	-.105	.000
31	85.33 Sec	453	-.866	-1.094	.001	.055	-.054	.001
32	113.78 Sec	414	-.645	-.893	.000	.068	-.036	.000
33	170.67 Sec	72	-.488	-.683	.001	.061	-.030	.001
34	227.56 Sec	75	-.394	-.546	.001	.050	-.028	.000
35	341.33 Sec	48	-.285	-.413	.001	-.026	-.026	.001
36	455.11 Sec	63	-.310	-.265	.002	-.021	-.035	.003
37	682.67 Sec	21	-.256	-.179	.001	-.084	.038	.002
38	910.22 Sec	48	-.095	-.281	.003	-.010	.027	.008

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E







PHOENIX GEOPHYSICS

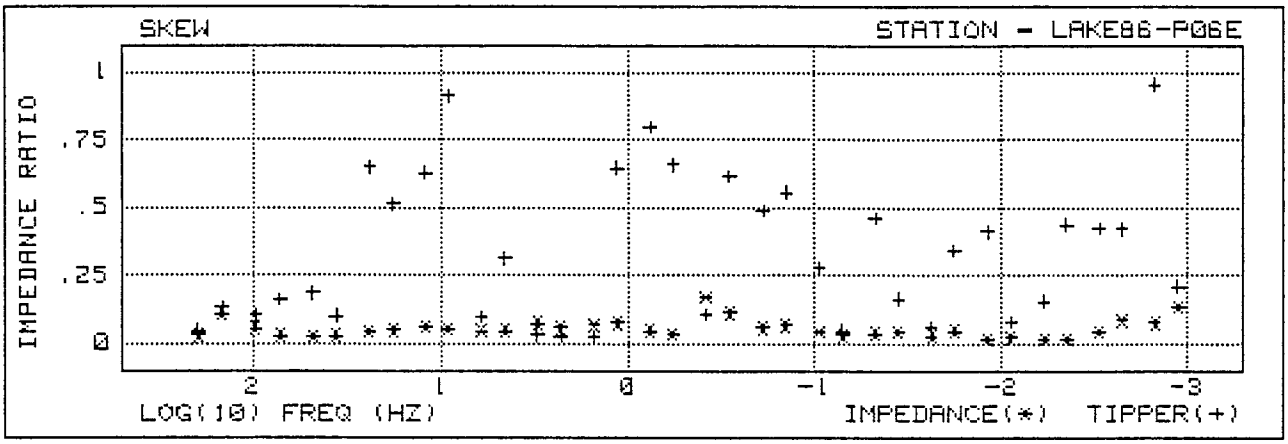
MT Site: LAKE86-P06E

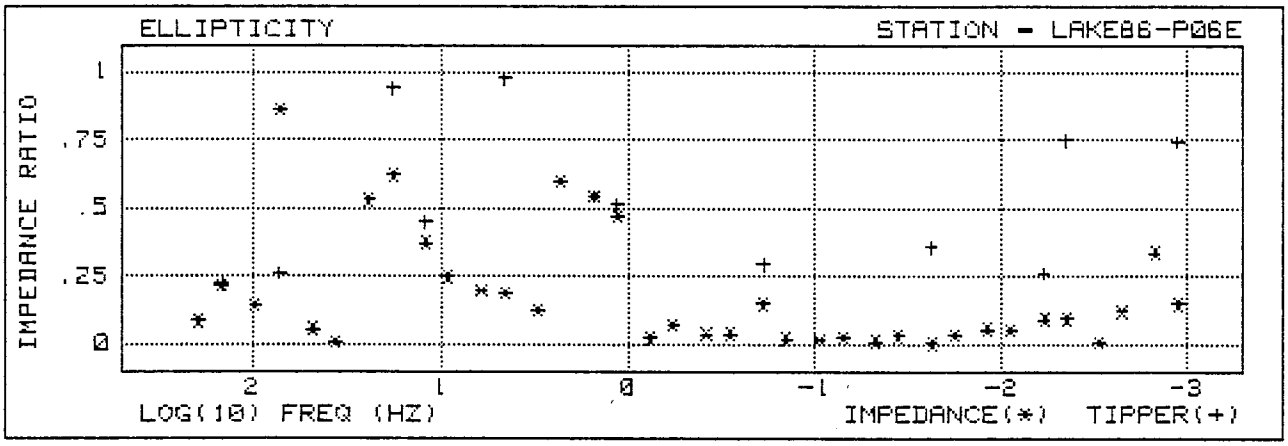
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

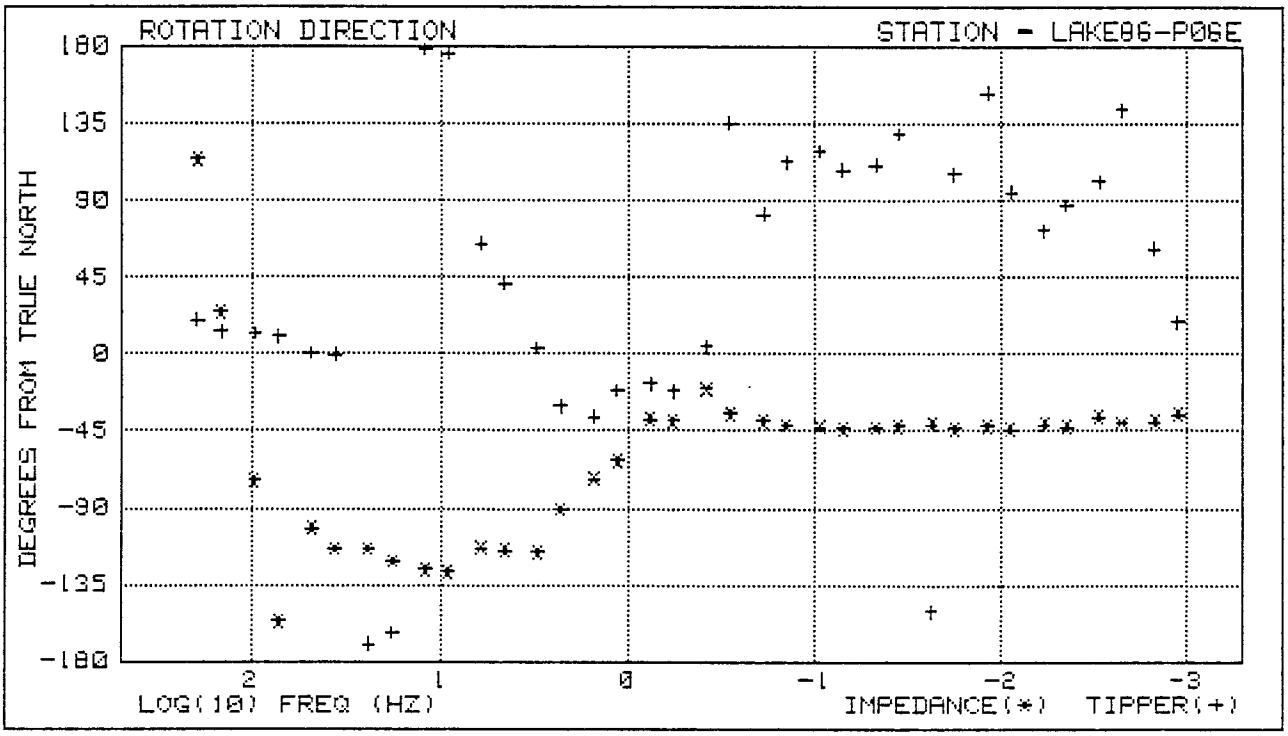
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
3	192.00 Hz	1238	4.97	-119.32	.18	.17
4	144.00 Hz	3871	1.17	-145.44	.39	.37
5	96.00 Hz	2638	.23	13.90	.31	.34
6	72.00 Hz	757	.18	7.31	.16	.16
7	48.00 Hz	3879	.16	-.85	.33	.29
8	36.00 Hz	5823	.11	-7.63	.47	.43
9	24.00 Hz	3099	.04	-137.48	.24	.27
10	18.00 Hz	2488	.04	-147.55	.26	.28
11	12.00 Hz	5334	.03	-94.97	.11	.12
12	9.00 Hz	2011	.05	94.68	.32	.33
13	6.00 Hz	5074	.06	-31.81	.05	.08
14	4.50 Hz	4110	.17	-17.56	.07	.07
15	3.00 Hz	47059	.14	-14.03	.04	.10
16	2.25 Hz	17123	.20	56.43	.11	.23
17	1.50 Hz	14421	.14	127.33	.05	.09
18	1.13 Hz	5493	.27	-45.03	.35	.43
19	1.33 Sec	5632	.18	13.88	.24	.45
20	1.78 Sec	2224	.28	5.97	.48	.54
21	2.67 Sec	2863	.32	77.33	.07	.67
22	3.56 Sec	2145	.29	97.55	.13	.22
23	5.33 Sec	2620	.72	-28.14	.04	.53
24	7.11 Sec	2658	.34	-121.46	.25	.46
25	10.67 Sec	1779	.23	-148.26	.08	.16
26	14.22 Sec	1821	.29	-114.62	.16	.11
27	21.33 Sec	765	.33	-127.46	.28	.26
28	28.44 Sec	819	.29	-151.48	.52	.49
29	42.67 Sec	576	.16	-100.57	.09	.10
30	56.89 Sec	794	.18	-102.72	.27	.29
31	85.33 Sec	453	.13	-102.68	.15	.15
32	113.78 Sec	414	.18	-73.12	.26	.29
33	170.67 Sec	72	.27	-26.96	.35	.38
34	227.56 Sec	75	.16	-62.53	.54	.55
35	341.33 Sec	48	.39	146.02	.42	.48
36	455.11 Sec	63	.22	-167.77	.34	.30
37	682.67 Sec	21	.17	21.20	.43	.43
38	910.22 Sec	48	.56	14.90	.40	.43

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E







PHOENIX GEOPHYSICS

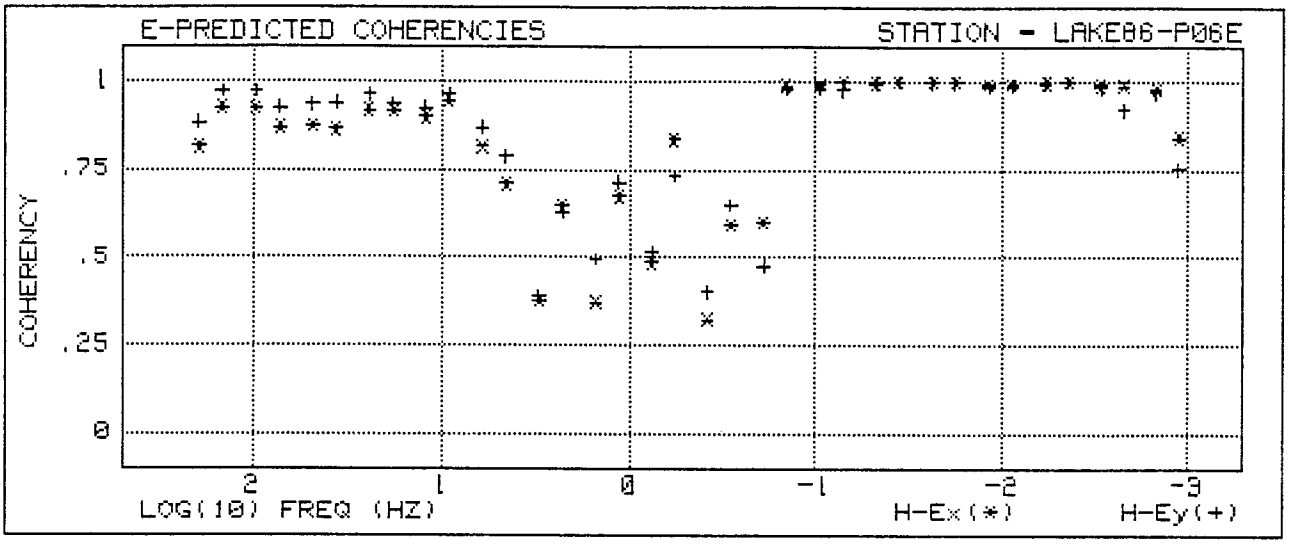
MT Site: LAKE86-P06E

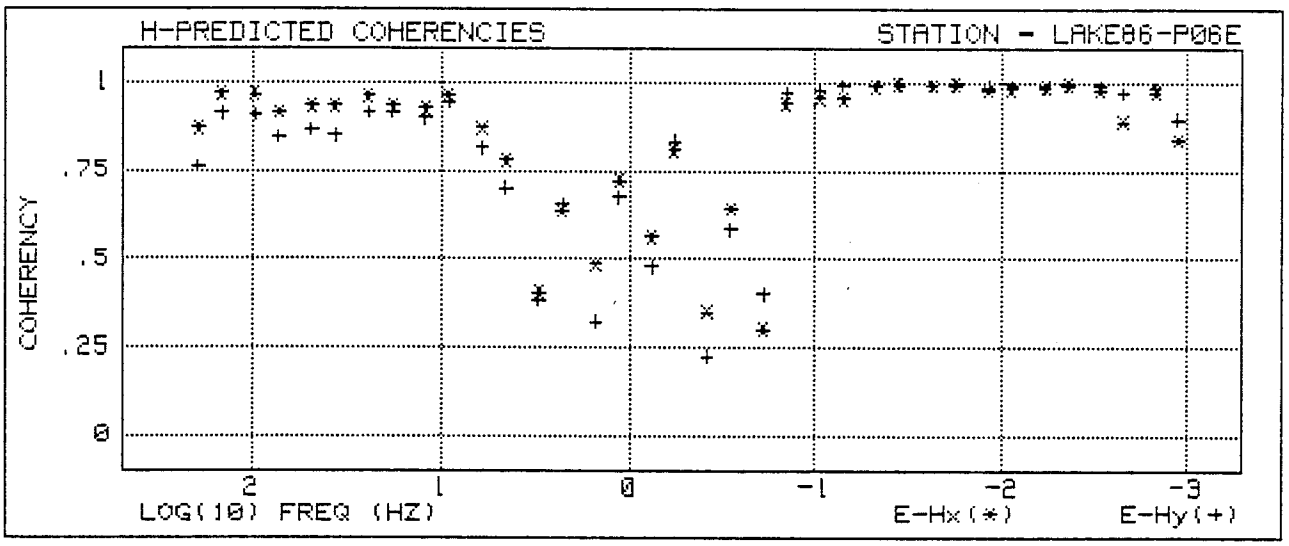
SKEW, ELLIPTICITY AND STRIKE

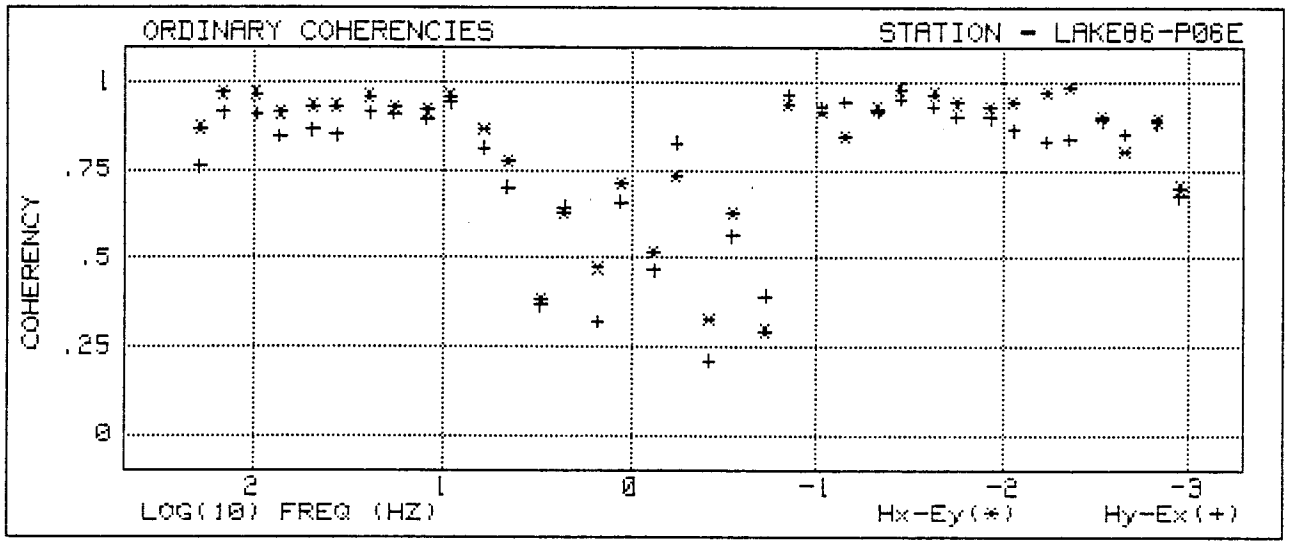
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
3	192.00 Hz	1238	.03	.08	113.57	.04	12.55	19.18
4	144.00 Hz	3871	.11	.21	24.04	.13	.22	12.27
5	96.00 Hz	2638	.05	.14	-74.28	.10	11.54	11.64
6	72.00 Hz	757	.03	.86	-156.81	.16	.26	9.51
7	48.00 Hz	3879	.02	.05	-102.29	.18	4.67	-.38
8	36.00 Hz	5823	.03	.00	-114.34	.10	2.76	-1.04
9	24.00 Hz	3099	.04	.53	-114.53	.64	1.34	-170.14
10	18.00 Hz	2488	.05	.62	-121.44	.51	.93	-163.55
11	12.00 Hz	5334	.06	.37	-126.42	.62	.45	177.77
12	9.00 Hz	2011	.05	.24	-128.04	.91	1.56	174.72
13	6.00 Hz	5074	.04	.19	-113.94	.09	1.28	64.18
14	4.50 Hz	4110	.04	.19	-115.51	.31	.97	40.71
15	3.00 Hz	47059	.07	.12	-116.14	.03	3.06	2.57
16	2.25 Hz	17123	.06	.59	-91.28	.02	1.27	-31.07
17	1.50 Hz	14421	.06	.54	-73.43	.02	.54	-37.08
18	1.13 Hz	5493	.07	.47	-62.57	.64	.51	-21.73
19	1.33 Sec	5632	.04	.02	-38.47	.79	2.04	-18.16
20	1.78 Sec	2224	.03	.07	-39.85	.65	2.61	-22.25
21	2.67 Sec	2863	.17	.03	-20.66	.10	2.19	3.69
22	3.56 Sec	2145	.11	.03	-35.32	.61	1.32	134.95
23	5.33 Sec	2620	.05	.15	-39.79	.48	.29	81.27
24	7.11 Sec	2658	.06	.02	-42.22	.55	1.51	112.00
25	10.67 Sec	1779	.04	.01	-43.01	.27	2.80	118.33
26	14.22 Sec	1821	.03	.02	-43.84	.04	1.80	107.11
27	21.33 Sec	765	.03	.01	-43.56	.46	1.52	110.23
28	28.44 Sec	819	.04	.03	-42.64	.16	5.69	128.46
29	42.67 Sec	576	.02	.00	-41.49	.05	.35	-150.93
30	56.89 Sec	794	.04	.03	-43.96	.34	1.59	104.96
31	85.33 Sec	453	.01	.05	-42.69	.41	2.79	152.22
32	113.78 Sec	414	.02	.05	-44.43	.08	1.15	94.55
33	170.67 Sec	72	.01	.09	-41.78	.15	.26	71.85
34	227.56 Sec	75	.01	.09	-43.01	.43	.75	86.58
35	341.33 Sec	48	.04	.00	-37.45	.42	3.08	100.47
36	455.11 Sec	63	.08	.12	-40.52	.42	4.56	142.68
37	682.67 Sec	21	.07	.33	-39.95	.95	1.34	60.83
38	910.22 Sec	48	.13	.14	-35.89	.21	.74	17.99

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E







PHOENIX GEOPHYSICS

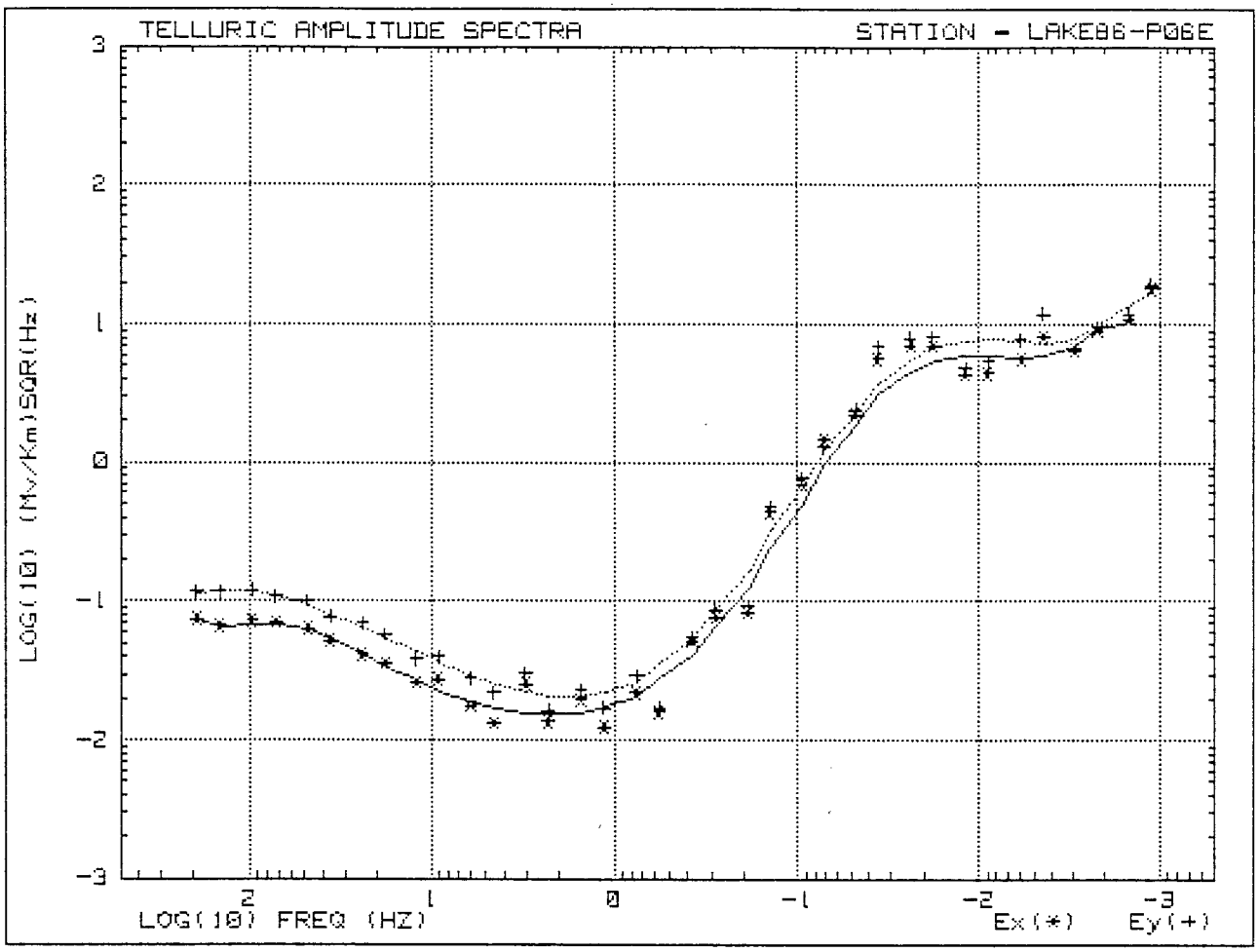
MT Site: LAKE86-P06E

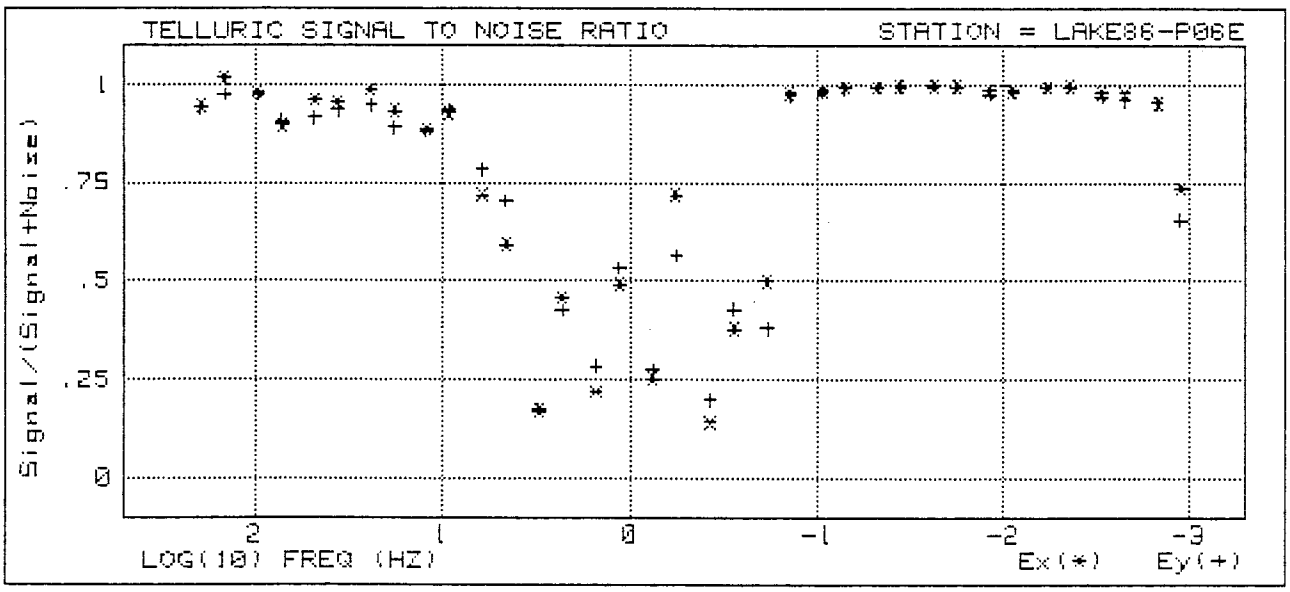
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
3	192.00 Hz	1238	.81	.88	.87	.76	.87	.76
4	144.00 Hz	3871	.92	.97	.97	.91	.97	.91
5	96.00 Hz	2638	.92	.97	.96	.91	.96	.90
6	72.00 Hz	757	.87	.92	.91	.84	.91	.84
7	48.00 Hz	3879	.87	.93	.93	.86	.93	.86
8	36.00 Hz	5823	.86	.93	.93	.85	.93	.85
9	24.00 Hz	3099	.91	.96	.96	.91	.96	.91
10	18.00 Hz	2488	.91	.93	.93	.91	.93	.91
11	12.00 Hz	5334	.90	.92	.92	.90	.92	.89
12	9.00 Hz	2011	.94	.96	.96	.94	.96	.94
13	6.00 Hz	5074	.81	.87	.87	.81	.86	.81
14	4.50 Hz	4110	.71	.78	.78	.70	.77	.70
15	3.00 Hz	47059	.37	.39	.40	.38	.38	.36
16	2.25 Hz	17123	.64	.63	.63	.65	.62	.64
17	1.50 Hz	14421	.37	.49	.48	.32	.47	.32
18	1.13 Hz	5493	.67	.71	.72	.67	.71	.65
19	1.33 Sec	5632	.48	.51	.56	.48	.51	.46
20	1.78 Sec	2224	.83	.73	.80	.83	.73	.82
21	2.67 Sec	2863	.32	.40	.35	.22	.32	.21
22	3.56 Sec	2145	.59	.65	.64	.58	.63	.56
23	5.33 Sec	2620	.60	.47	.30	.40	.29	.39
24	7.11 Sec	2658	.99	.98	.94	.97	.93	.96
25	10.67 Sec	1779	.99	.97	.95	.98	.92	.92
26	14.22 Sec	1821	.99	.97	.95	.99	.84	.94
27	21.33 Sec	765	.99	.99	.99	.99	.92	.91
28	28.44 Sec	819	1.00	1.00	.99	.99	.98	.95
29	42.67 Sec	576	1.00	.99	.99	.99	.96	.93
30	56.89 Sec	794	1.00	.99	.99	.99	.94	.90
31	85.33 Sec	453	.99	.98	.97	.99	.93	.90
32	113.78 Sec	414	.99	.98	.98	.99	.94	.86
33	170.67 Sec	72	.99	.99	.99	.98	.97	.83
34	227.56 Sec	75	1.00	1.00	.99	.99	.98	.84
35	341.33 Sec	48	.99	.98	.98	.99	.90	.89
36	455.11 Sec	63	.99	.92	.89	.97	.80	.85
37	682.67 Sec	21	.98	.96	.97	.98	.89	.88
38	910.22 Sec	48	.84	.75	.83	.89	.70	.67

PHOENIX GEOPHYSICS

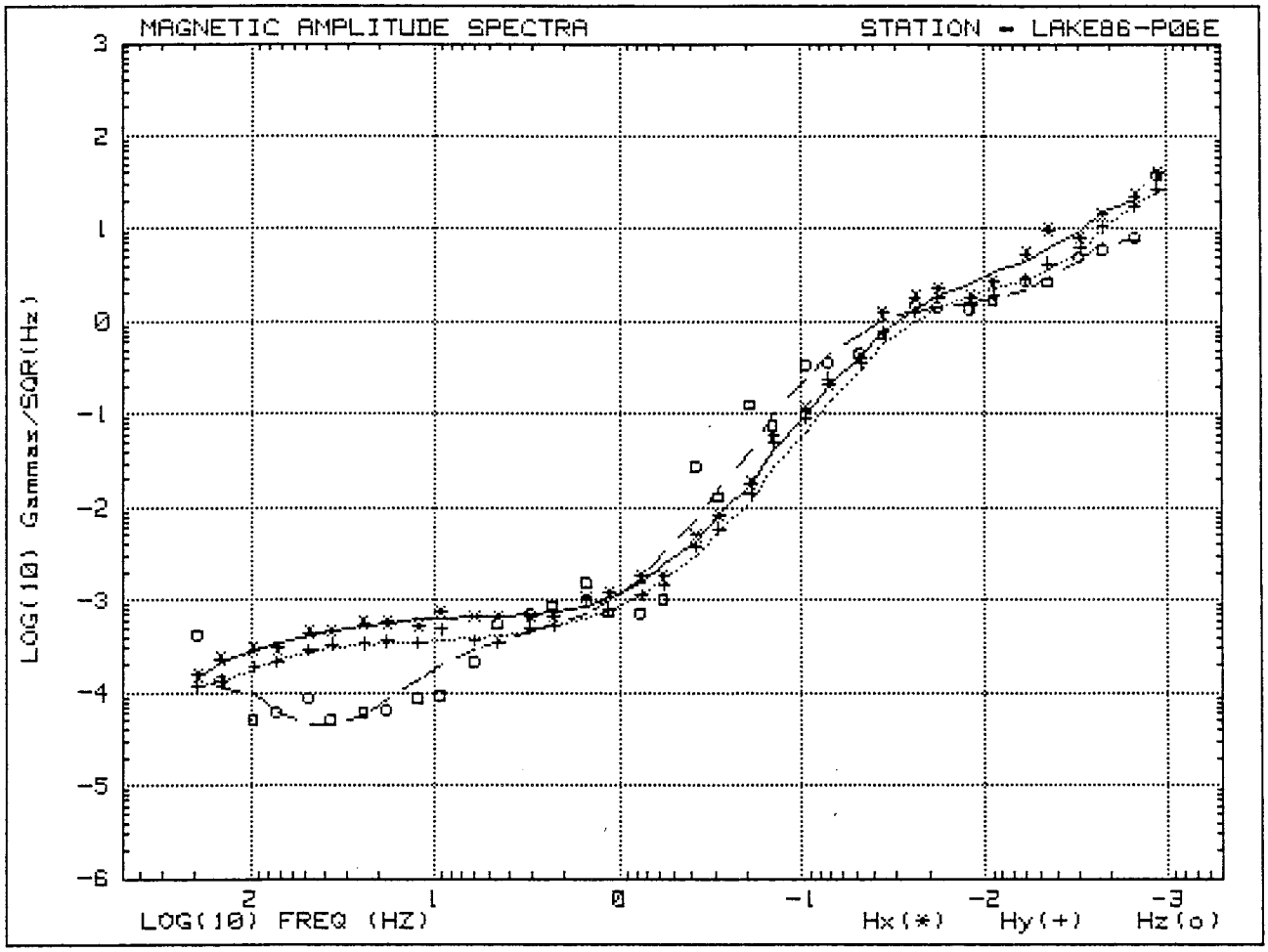
MT Site: LAKE86-P06E

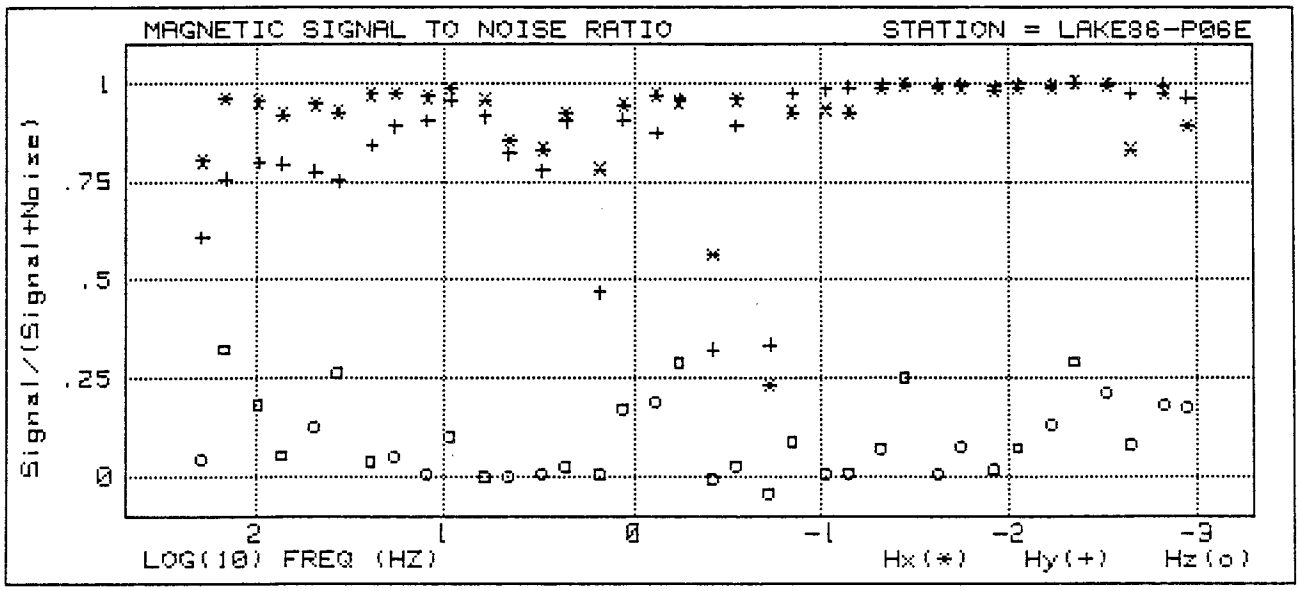




PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
3	192.00 Hz	1238	1.53E-04	1.17E-04	4.46E-04	7.34E-02	1.15E-01
4	144.00 Hz	3871	2.26E-04	1.33E-04	1.39E-04	6.60E-02	1.15E-01
5	96.00 Hz	2638	2.92E-04	1.87E-04	5.45E-05	7.17E-02	1.19E-01
6	72.00 Hz	757	2.94E-04	2.10E-04	6.36E-05	6.95E-02	1.07E-01
7	48.00 Hz	3879	4.43E-04	2.82E-04	9.21E-05	6.24E-02	1.01E-01
8	36.00 Hz	5823	4.62E-04	3.26E-04	5.46E-05	5.13E-02	7.65E-02
9	24.00 Hz	3099	5.57E-04	3.32E-04	6.58E-05	4.10E-02	6.92E-02
10	18.00 Hz	2488	5.68E-04	3.53E-04	6.73E-05	3.56E-02	5.69E-02
11	12.00 Hz	5334	5.15E-04	3.40E-04	9.02E-05	2.57E-02	3.76E-02
12	9.00 Hz	2011	7.44E-04	4.77E-04	9.59E-05	2.71E-02	4.01E-02
13	6.00 Hz	5074	6.56E-04	3.61E-04	2.28E-04	1.73E-02	2.77E-02
14	4.50 Hz	4110	6.60E-04	3.43E-04	5.76E-04	1.30E-02	2.16E-02
15	3.00 Hz	47059	6.51E-04	5.01E-04	7.35E-04	2.51E-02	3.03E-02
16	2.25 Hz	17123	6.76E-04	5.26E-04	9.21E-04	1.33E-02	1.61E-02
17	1.50 Hz	14421	1.07E-03	9.87E-04	1.59E-03	1.92E-02	2.27E-02
18	1.13 Hz	5493	1.20E-03	7.84E-04	7.70E-04	1.21E-02	1.69E-02
19	1.33 Sec	5632	1.80E-03	1.13E-03	7.66E-04	2.15E-02	2.91E-02
20	1.78 Sec	2224	1.77E-03	1.42E-03	1.05E-03	1.58E-02	1.69E-02
21	2.67 Sec	2863	4.93E-03	3.72E-03	2.94E-02	5.06E-02	5.42E-02
22	3.56 Sec	2145	8.15E-03	5.84E-03	1.36E-02	7.60E-02	8.67E-02
23	5.33 Sec	2620	1.80E-02	1.39E-02	1.32E-01	8.23E-02	9.28E-02
24	7.11 Sec	2658	5.75E-02	4.91E-02	7.84E-02	4.33E-01	4.75E-01
25	10.67 Sec	1779	1.15E-01	8.98E-02	3.59E-01	6.91E-01	7.68E-01
26	14.22 Sec	1821	2.04E-01	2.35E-01	3.85E-01	1.45E+00	1.29E+00
27	21.33 Sec	765	4.04E-01	3.46E-01	4.73E-01	2.20E+00	2.36E+00
28	28.44 Sec	819	1.23E+00	7.59E-01	7.53E-01	5.58E+00	6.78E+00
29	42.67 Sec	576	1.82E+00	1.25E+00	1.61E+00	6.98E+00	7.83E+00
30	56.89 Sec	794	2.28E+00	1.78E+00	1.53E+00	6.89E+00	7.91E+00
31	85.33 Sec	453	1.82E+00	1.45E+00	1.42E+00	4.31E+00	4.71E+00
32	113.78 Sec	414	2.64E+00	1.92E+00	1.79E+00	4.38E+00	5.34E+00
33	170.67 Sec	72	5.33E+00	2.89E+00	2.85E+00	5.53E+00	7.59E+00
34	227.56 Sec	75	9.63E+00	4.22E+00	2.81E+00	8.05E+00	1.17E+01
35	341.33 Sec	48	7.89E+00	6.10E+00	5.29E+00	6.46E+00	6.60E+00
36	455.11 Sec	63	1.41E+01	1.04E+01	6.18E+00	8.70E+00	9.39E+00
37	682.67 Sec	21	2.25E+01	1.73E+01	8.38E+00	1.07E+01	1.17E+01
38	910.22 Sec	48	3.94E+01	2.66E+01	4.06E+01	1.78E+01	1.89E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
3	192.00 Hz	1238	.800	.608	.048	.942	.940
4	144.00 Hz	3871	.960	.755	.328	1.000	.973
5	96.00 Hz	2638	.952	.797	.186	.980	.973
6	72.00 Hz	757	.917	.792	.057	.894	.906
7	48.00 Hz	3879	.945	.773	.130	.960	.914
8	36.00 Hz	5823	.925	.751	.268	.953	.932
9	24.00 Hz	3099	.970	.841	.043	.985	.946
10	18.00 Hz	2488	.973	.888	.056	.931	.888
11	12.00 Hz	5334	.965	.903	.011	.885	.879
12	9.00 Hz	2011	.985	.956	.107	.926	.935
13	6.00 Hz	5074	.956	.914	.002	.718	.781
14	4.50 Hz	4110	.852	.819	.005	.592	.701
15	3.00 Hz	47059	.830	.774	.010	.170	.174
16	2.25 Hz	17123	.923	.902	.031	.455	.425
17	1.50 Hz	14421	.780	.466	.008	.217	.281
18	1.13 Hz	5493	.944	.906	.176	.491	.531
19	1.33 Sec	5632	.969	.873	.195	.251	.272
20	1.78 Sec	2224	.951	.957	.295	.717	.564
21	2.67 Sec	2863	.564	.320	0.000	.140	.197
22	3.56 Sec	2145	.959	.891	.032	.376	.427
23	5.33 Sec	2620	.229	.332	0.000	.499	.380
24	7.11 Sec	2658	.923	.972	.090	.977	.971
25	10.67 Sec	1779	.932	.983	.010	.983	.981
26	14.22 Sec	1821	.924	.988	.013	.992	.989
27	21.33 Sec	765	.986	.995	.076	.991	.991
28	28.44 Sec	819	.993	.998	.255	.994	.996
29	42.67 Sec	576	.985	.995	.010	.994	.997
30	56.89 Sec	794	.990	.996	.079	.993	.995
31	85.33 Sec	453	.980	.992	.021	.983	.975
32	113.78 Sec	414	.987	.995	.077	.984	.979
33	170.67 Sec	72	.988	.993	.136	.991	.991
34	227.56 Sec	75	.999	.999	.297	.993	.992
35	341.33 Sec	48	.994	.997	.219	.977	.966
36	455.11 Sec	63	.829	.972	.088	.976	.958
37	682.67 Sec	21	.972	.993	.187	.952	.952
38	910.22 Sec	48	.891	.963	.182	.733	.655

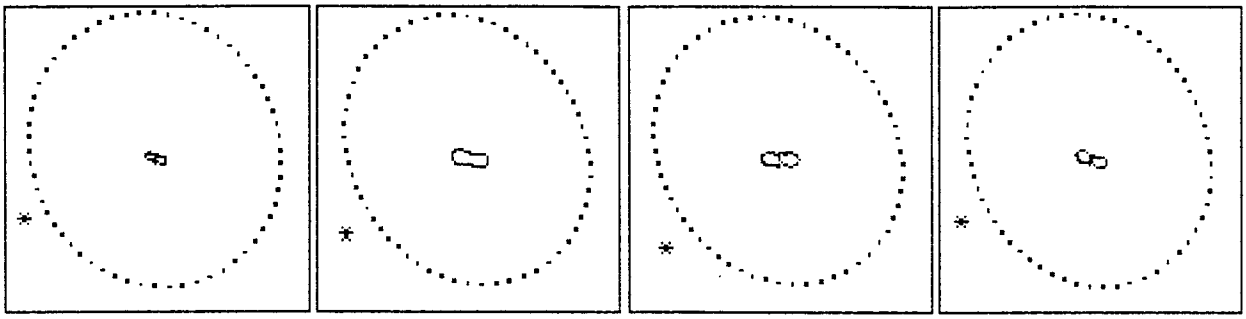
PHOENIX GEOPHYSICS

MT Site: LAKE86-P06E

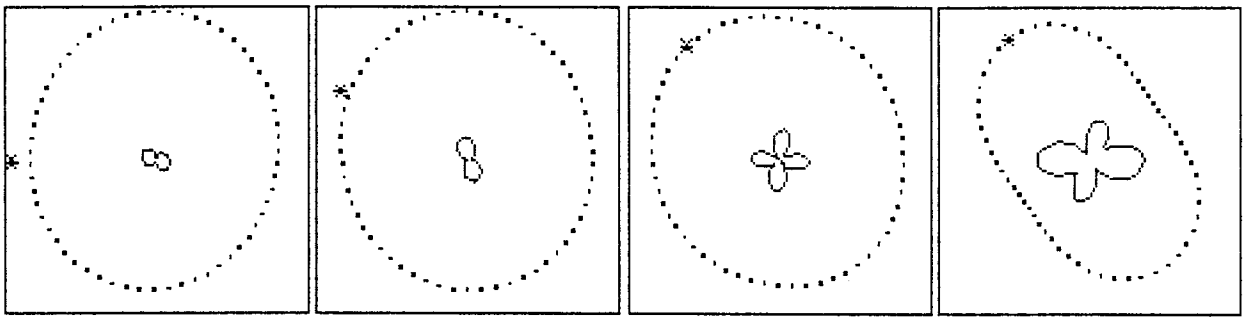
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

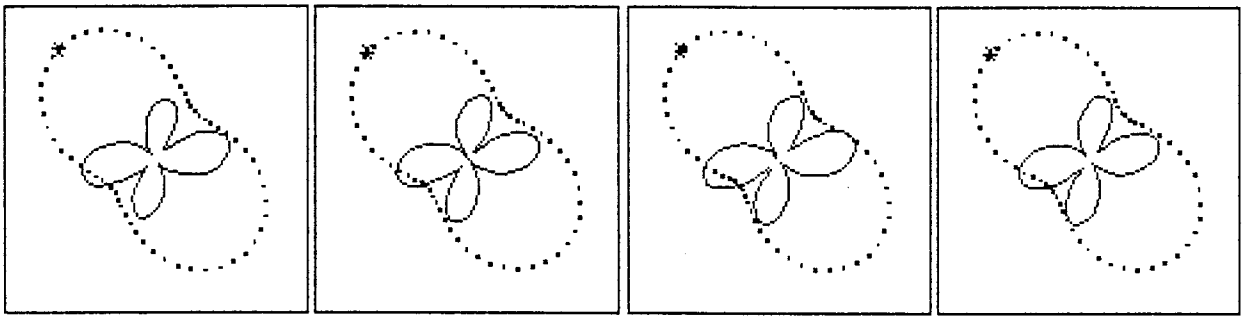
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



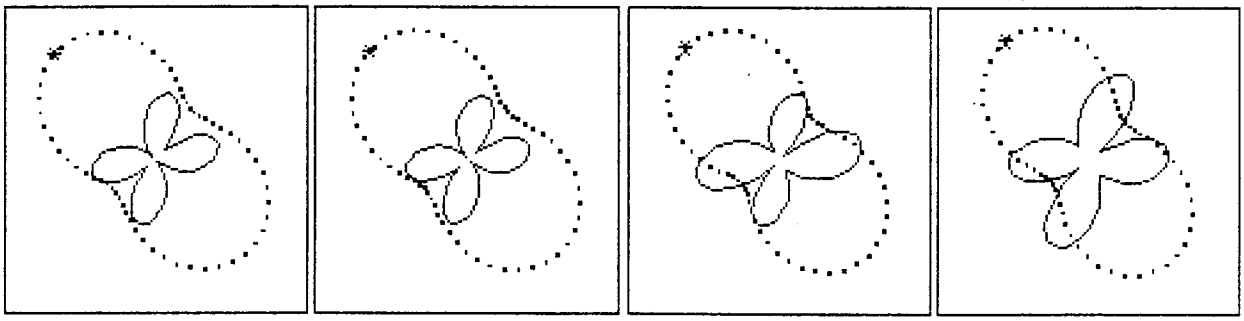
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P05s/P07s/P15s/

Operator:D. OJALA
Date: 12 Oct 1986
Time: 22:34:19

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#219-30Aug86-05
SP--Stn02: B#507-30Aug86-05
SP--Stn03: B#221-30Aug86-05
Sens-Ch01: C#239-04Sep86-01
Sens-Ch02: C#445-04Sep86-01
Sens-Ch03: L#307-05Sep86-01
Sens-Ch06: C#306-04Sep86-01
Sens-Ch07: C#452-04Sep86-01
Sens-Ch08: L#416-05Sep86-01
Sens-Ch11: C#436-04Sep86-01
Sens-Ch12: C#201-04Sep86-01
Sens-Ch13: L#419-05Sep86-01

Station 2

Stn Number:LAKE86-P07s
Site Desc:T43N R4E Sec.18 SW1/4
41,33,48 N 121,33,33 W
Elevation:6730 FT
Reference:LAKE86-P15s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P. MURPHY
Sensor Processor: SE507
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL306	-20 DEG
Hy	7	COIL452	+70 DEG
Hz	8	LOOP416	
Ex	9	203 M	-20 DEG
Ey	10	203 M	+70 DEG
Rx	11	COIL436	+45 DEG
Ry	12	COIL201	+135 DEG

Ex Pot Resist: 5.5 K Ohms
Ex Voltage: AC=7.3 mv, DC=31.0 mv
Ey Pot Resist: 5.0 K Ohms
Ey Voltage: AC=10.8 mv, DC=74.6 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

OPERATOR LOG FOR MT SITES LAKE86-P05s/P07s/P15s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P05a/P07a/P15a/
Run STARTED: 14:42:37 10 Oct 1986
Run QUIT: 05:48:19 11 Oct 1986
Run Start and Stop Time for LAKE86-P05b/P07b/P15b/
Run STARTED: 06:19:47 11 Oct 1986
Run QUIT: 20:26:15 11 Oct 1986
Run Start and Stop Time for LAKE86-P05c/P07c/P15c/
Run STARTED: 21:02:29 11 Oct 1986
Run QUIT: 10:53:09 12 Oct 1986
Run Start and Stop Time for LAKE86-P05d/P07d/P15d/
Run STARTED: 11:58:30 12 Oct 1986
Run QUIT: 21:41:20 12 Oct 1986
Run Start and Stop Time for LAKE86-P05e/P07e/P15e/
Run STARTED: 22:34:19 12 Oct 1986
Run QUIT: 09:33:55 13 Oct 1986

Operator: DAVE OJALA (oplog by Vaag)

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST OF SITES CAUSES POOR DATA ABOVE 60 HZ. SOME TRAFFIC ON ROADS NEAR SITES.
Weather Conditions:
WARM AND SUNNY DURING DAY; COOL AND CLEAR OVERNIGHT. LIGHT WINDS.
Other Factors:
MT SIGNAL STRENGTH FINALLY INCREASES DURING RUN 'd.'

PHOENIX GEOPHYSICS

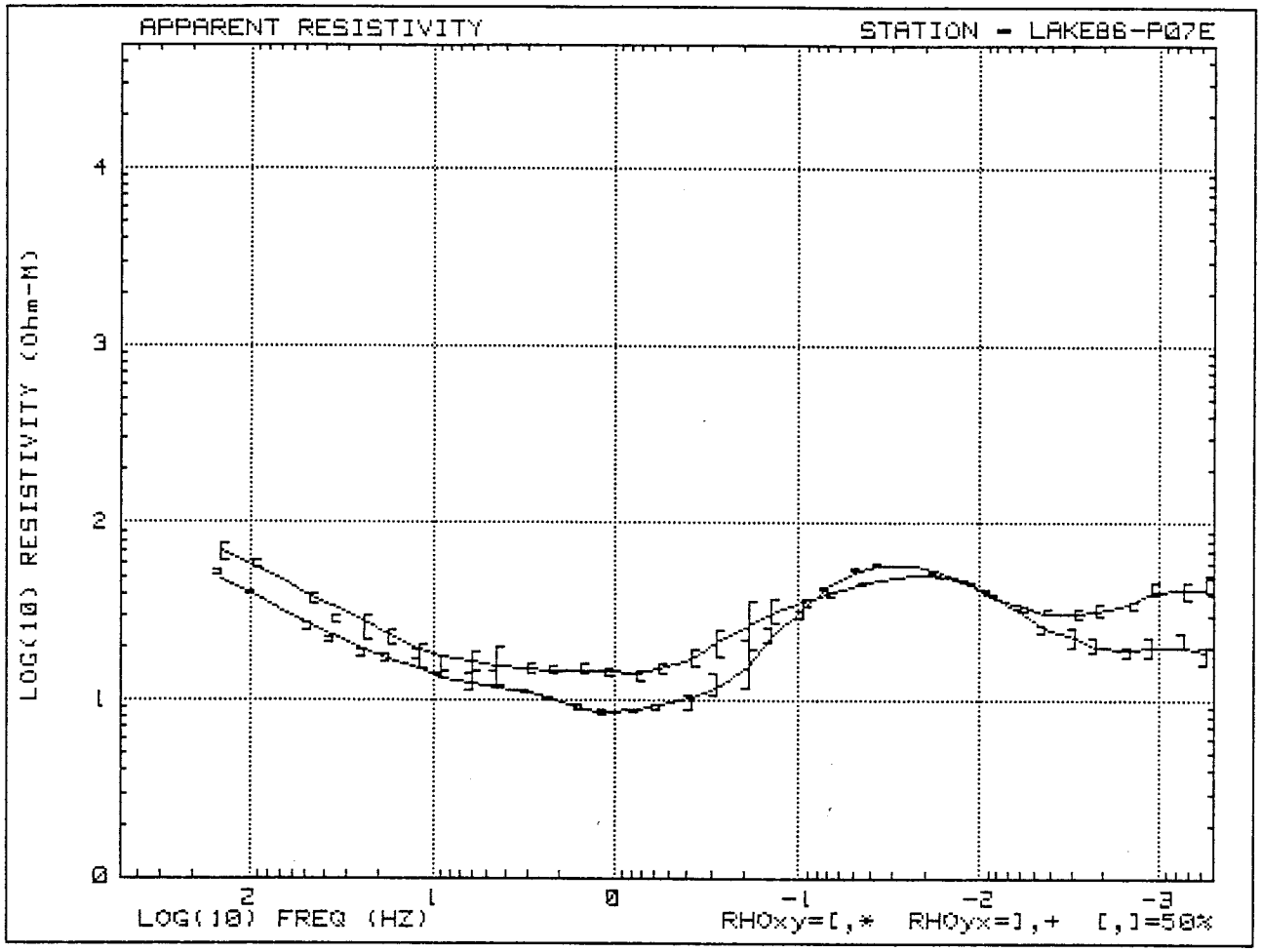
MT Site: LAKE86-P07E

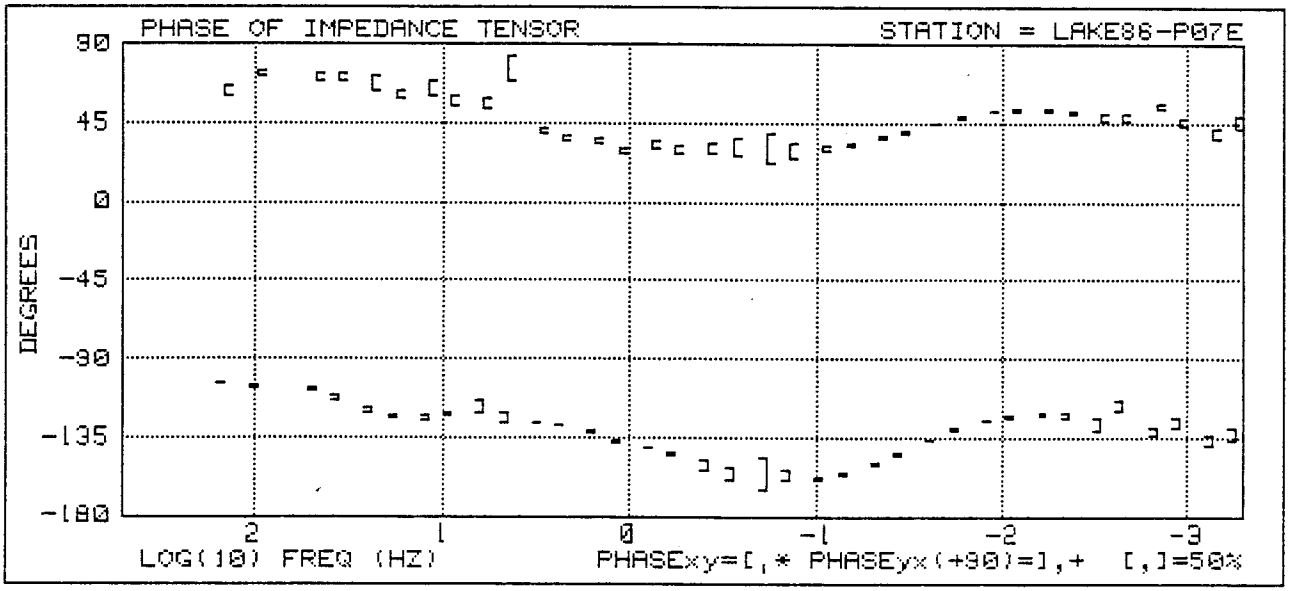
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

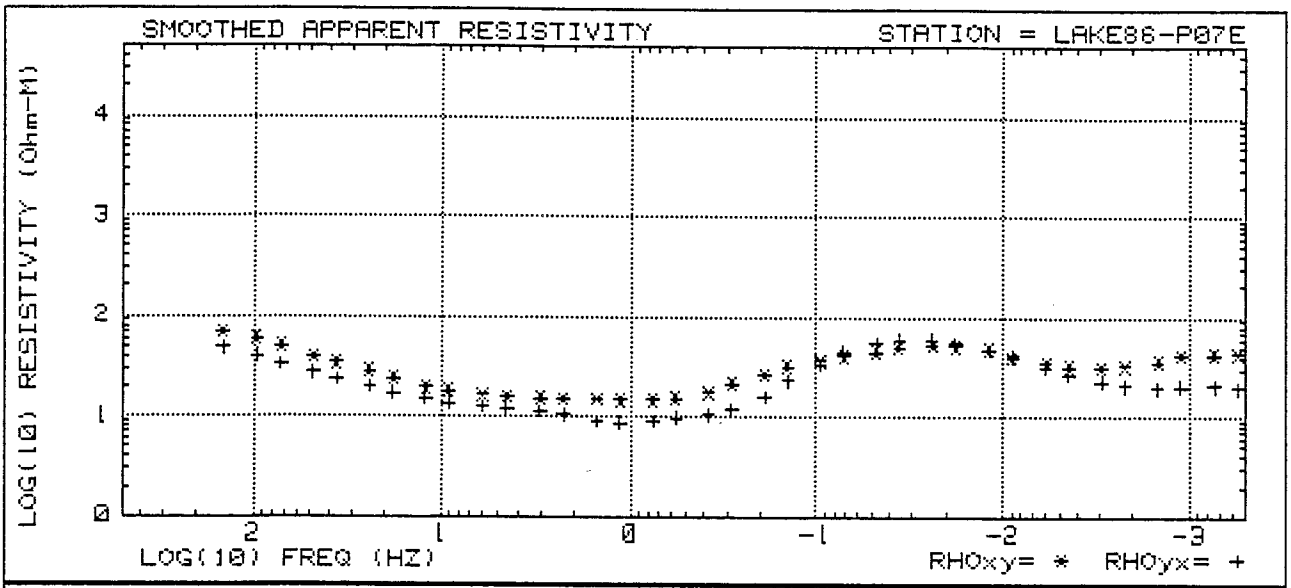
MT Site: LAKE86-P07E

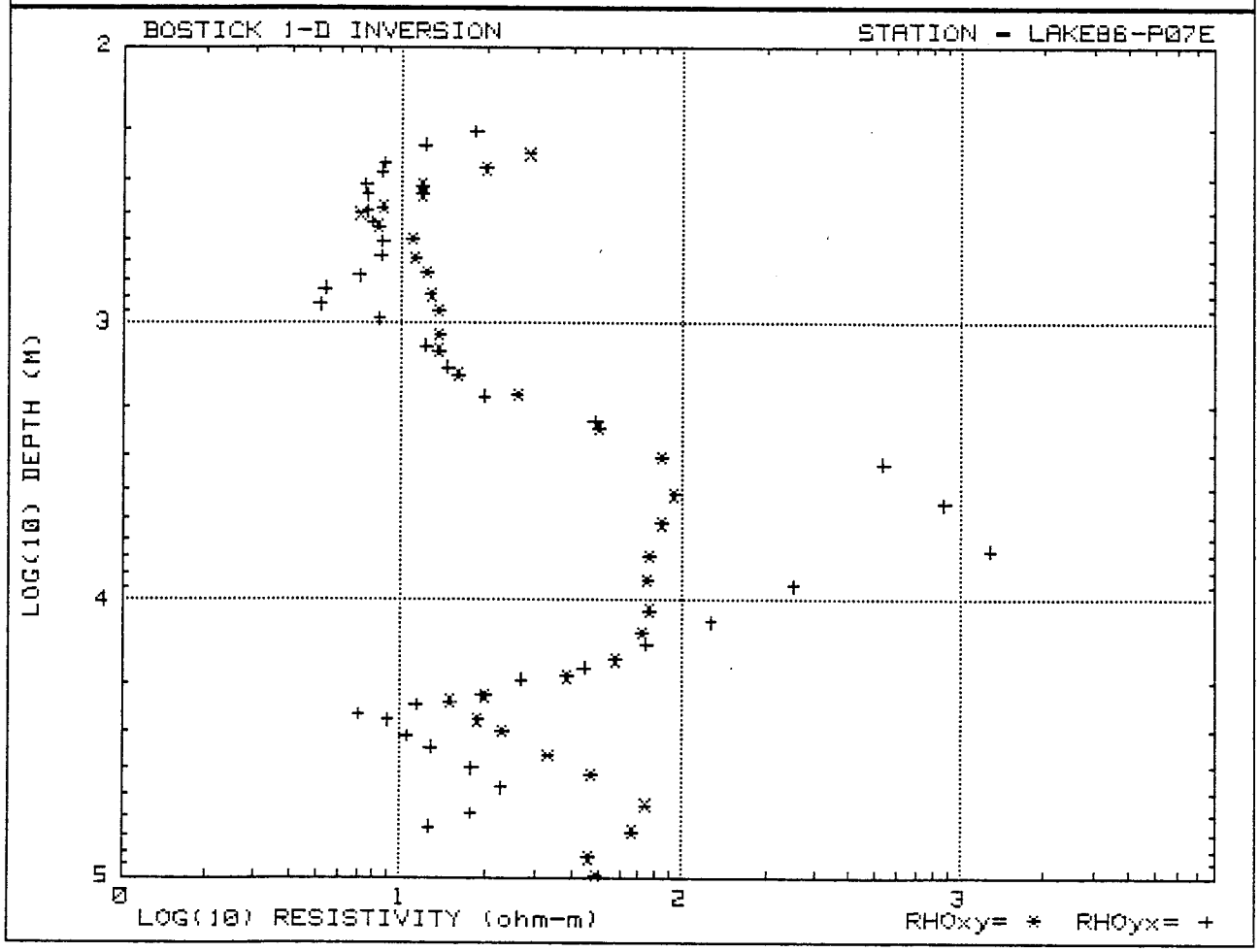




PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD	
4	144.00 Hz	505	68.4	17.5	52.4	3.1	63.5	4.6	-103.8	.9	69.8
5	96.00 Hz	1410	58.2	8.1	39.9	3.0	73.4	2.2	-105.9	.8	
7	48.00 Hz	1591	37.4	10.3	26.0	5.0	71.2	2.8	-107.2	1.4	
8	36.00 Hz	2092	28.6	9.0	21.9	5.8	71.3	2.5	-112.1	1.6	
9	24.00 Hz	1625	25.6	23.9	18.4	8.9	68.0	6.1	-119.2	2.4	
10	18.00 Hz	987	22.4	14.6	17.3	6.5	61.4	3.9	-122.8	1.8	
11	12.00 Hz	1952	17.7	25.8	18.3	10.0	64.3	6.6	-123.8	2.7	
12	9.00 Hz	1952	16.0	14.3	13.9	3.7	57.8	3.8	-121.1	1.0	
13	6.00 Hz	2528	16.5	19.2	12.7	18.5	56.2	5.0	-116.9	4.9	
14	4.50 Hz	2752	15.4	45.6	13.4	15.6	76.0	10.8	-123.7	4.2	
15	3.00 Hz	20198	15.0	8.7	11.3	2.9	40.5	2.4	-126.6	.8	
16	2.25 Hz	39351	14.9	7.6	10.2	2.2	36.1	2.1	-127.8	.6	
17	1.50 Hz	18511	14.9	10.1	9.2	5.0	35.0	2.7	-131.2	1.4	
18	1.13 Hz	11904	14.3	7.0	8.6	3.8	29.7	1.9	-137.0	1.1	
19	1.33 Sec	4464	13.7	8.9	8.8	2.5	32.7	2.5	-140.5	.7	
20	1.78 Sec	8884	14.9	9.5	9.2	4.5	30.2	2.6	-144.1	1.3	
21	2.67 Sec	3257	17.2	18.7	9.8	14.7	30.6	4.9	-150.3	3.9	
22	3.56 Sec	3965	21.0	29.3	12.3	22.3	30.9	7.4	-155.2	5.8	
23	5.33 Sec	1296	26.4	56.1	16.1	58.4	30.7	12.8	-155.5	13.2	
24	7.11 Sec	1572	31.6	27.5	23.3	16.2	29.4	7.0	-155.9	4.3	
25	10.67 Sec	935	35.2	7.8	30.6	6.1	31.0	2.2	-158.2	1.7	
26	14.22 Sec	977	39.9	4.1	42.6	3.5	32.3	1.1	-156.2	1.0	
27	21.33 Sec	570	45.6	1.3	54.9	2.1	37.2	.4	-149.7	.6	
28	28.44 Sec	552	47.7	1.2	58.2	1.1	40.1	.3	-144.0	.3	
29	42.67 Sec	588	51.4	.8	57.8	.9	45.4	.2	-136.5	.3	
30	56.89 Sec	516	49.7	.9	53.6	1.2	48.4	.3	-130.0	.4	
31	85.33 Sec	255	45.6	1.8	46.7	1.9	52.3	.5	-125.2	.5	
32	113.78 Sec	300	39.1	4.0	41.5	2.3	53.0	1.1	-122.5	.6	
33	170.67 Sec	144	32.9	3.9	33.9	3.4	52.4	1.1	-122.0	1.0	
34	227.56 Sec	129	32.1	3.8	25.0	7.4	51.8	1.1	-122.0	2.1	
35	341.33 Sec	15	30.7	9.0	22.8	20.3	48.7	2.5	-127.2	5.3	
36	455.11 Sec	54	32.2	11.8	20.5	15.7	48.1	3.2	-116.5	4.2	
37	682.67 Sec	27	34.5	8.3	18.8	11.4	54.6	2.3	-131.0	3.1	
38	910.22 Sec	6	43.1	13.7	20.0	19.1	45.6	3.7	-126.4	5.0	
39	1365.33 Sec	6	41.7	16.2	22.0	15.6	38.9	4.3	-136.2	4.1	
40	1820.44 Sec	9	45.6	19.8	17.8	16.8	46.1	5.2	-132.9	4.5	

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	505	68.8	47.5	28.4	246	18.3	204
5	96.00 Hz	1410	58.1	39.7	20.0	277	12.2	229
7	48.00 Hz	1591	39.0	26.7	11.9	321	8.7	266
8	36.00 Hz	2092	33.9	23.1	11.9	345	8.5	285
9	24.00 Hz	1625	27.9	19.4	8.5	384	7.4	320
10	18.00 Hz	987	23.4	16.9	7.1	406	7.5	345
11	12.00 Hz	1952	19.3	14.9	8.3	451	7.5	396
12	9.00 Hz	1952	17.8	13.5	11.0	501	7.9	436
13	6.00 Hz	2528	16.3	12.4	11.2	587	8.6	512
14	4.50 Hz	2752	15.7	11.9	12.4	664	8.5	579
15	3.00 Hz	20198	15.1	11.1	12.7	798	7.1	683
16	2.25 Hz	39351	14.8	10.2	13.6	912	5.3	758
17	1.50 Hz	18511	14.6	8.9	13.7	1112	5.1	866
18	1.13 Hz	11904	14.4	8.5	13.6	1275	8.3	976
19	1.33 Sec	4464	14.3	8.8	16.0	1556	12.3	1221
20	1.78 Sec	8884	15.0	9.5	25.7	1839	14.6	1461
21	2.67 Sec	3257	17.2	10.2	50.4	2411	19.7	1859
22	3.56 Sec	3965	21.1	11.8	84.6	3082	48.5	2306
23	5.33 Sec	1296	26.1	15.6	94.3	4198	533.2	3246
24	7.11 Sec	1572	31.2	22.7	84.8	5305	885.5	4522
25	10.67 Sec	935	35.9	32.8	77.0	6967	1281.0	6661
26	14.22 Sec	977	40.2	44.1	75.6	8510	252.8	8910
27	21.33 Sec	570	44.4	53.5	76.7	10954	127.4	12020
28	28.44 Sec	552	48.4	58.5	72.2	13200	74.9	14518
29	42.67 Sec	588	50.9	58.2	57.8	16589	44.8	17738
30	56.89 Sec	516	50.5	53.5	38.9	19080	26.6	19626
31	85.33 Sec	255	46.5	46.2	20.0	22424	19.3	22336
32	113.78 Sec	300	38.3	40.2	15.1	23499	11.4	24080
33	170.67 Sec	144	34.4	31.3	18.9	27283	7.1	26028
34	227.56 Sec	129	31.3	26.0	23.0	30050	9.0	27362
35	341.33 Sec	15	30.9	22.4	33.3	36575	10.5	31115
36	455.11 Sec	54	32.1	20.2	47.5	43043	12.9	34147
37	682.67 Sec	27	35.4	19.2	74.3	55306	18.1	40742
38	910.22 Sec	6	41.1	19.8	66.8	68837	22.7	47779
39	1365.33 Sec	6	41.7	20.1	46.1	84937	17.9	58996
40	1820.44 Sec	9	42.6	19.0	48.9	99066	12.7	66213

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	505	-10.89	4.15	61.73	98.88	198.70	640.79
5	96.00 Hz	1410	-2.30	4.66	17.45	47.82	160.11	84.18
7	48.00 Hz	1591	-5.28	4.71	15.14	30.44	89.67	42.83
8	36.00 Hz	2092	.91	-1.22	9.76	23.05	67.92	19.27
9	24.00 Hz	1625	-1.26	.54	14.79	20.80	51.42	70.74
10	18.00 Hz	987	-.60	-.43	4.54	21.49	39.39	18.74
11	12.00 Hz	1952	-3.77	-1.26	11.44	14.11	29.37	28.04
12	9.00 Hz	1952	-1.47	-.93	4.37	14.29	22.71	6.42
13	6.00 Hz	2528	-1.38	-1.78	8.63	12.38	18.49	7.65
14	4.50 Hz	2752	-2.81	-1.65	15.32	4.51	18.06	24.48
15	3.00 Hz	20198	-.69	-.72	.38	11.40	9.75	.79
16	2.25 Hz	39351	-.33	-.61	.13	10.46	7.64	.45
17	1.50 Hz	18511	-.16	-.74	.23	8.66	6.07	.51
18	1.13 Hz	11904	-.34	-.96	.09	7.79	4.44	.18
19	1.33 Sec	4464	-.246	-.831	.065	6.040	3.878	.189
20	1.78 Sec	8884	-.138	-.871	.054	5.604	3.258	.174
21	2.67 Sec	3257	.060	-.723	.374	4.883	2.888	.472
22	3.56 Sec	3965	.037	-.461	.720	4.665	2.787	.978
23	5.33 Sec	1296	-.297	-.246	2.235	4.277	2.544	2.459
24	7.11 Sec	1572	.206	-.461	.472	4.107	2.311	.654
25	10.67 Sec	935	.212	-.124	.049	3.481	2.089	.047
26	14.22 Sec	977	.194	-.124	.015	3.163	2.003	.011
27	21.33 Sec	570	.237	-.071	.002	2.604	1.978	.001
28	28.44 Sec	552	.222	-.045	.000	2.215	1.864	.001
29	42.67 Sec	588	.171	.026	.000	1.725	1.746	.000
30	56.89 Sec	516	.212	.023	.000	1.388	1.561	.000
31	85.33 Sec	255	.165	.062	.000	1.001	1.293	.000
32	113.78 Sec	300	.141	.054	.000	.788	1.046	.001
33	170.67 Sec	144	.103	.046	.001	.599	.778	.001
34	227.56 Sec	129	.077	.077	.001	.520	.660	.000
35	341.33 Sec	15	.069	.061	.003	.443	.504	.002
36	455.11 Sec	54	.086	-.025	.000	.397	.443	.002
37	682.67 Sec	27	.083	.043	.001	.291	.410	.001
38	910.22 Sec	6	.096	.039	.001	.340	.348	.002
39	1365.33 Sec	6	.063	.060	.000	.304	.245	.002
40	1820.44 Sec	9	.070	.066	.001	.245	.255	.002

PHOENIX GEOPHYSICS

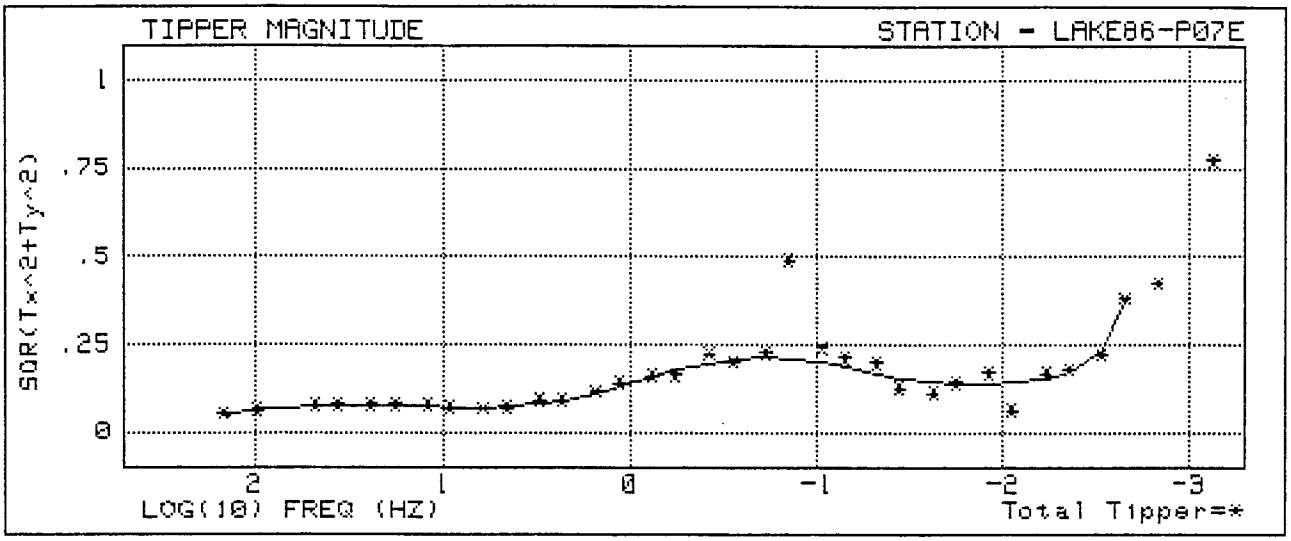
MT Site: LAKE86-P07E

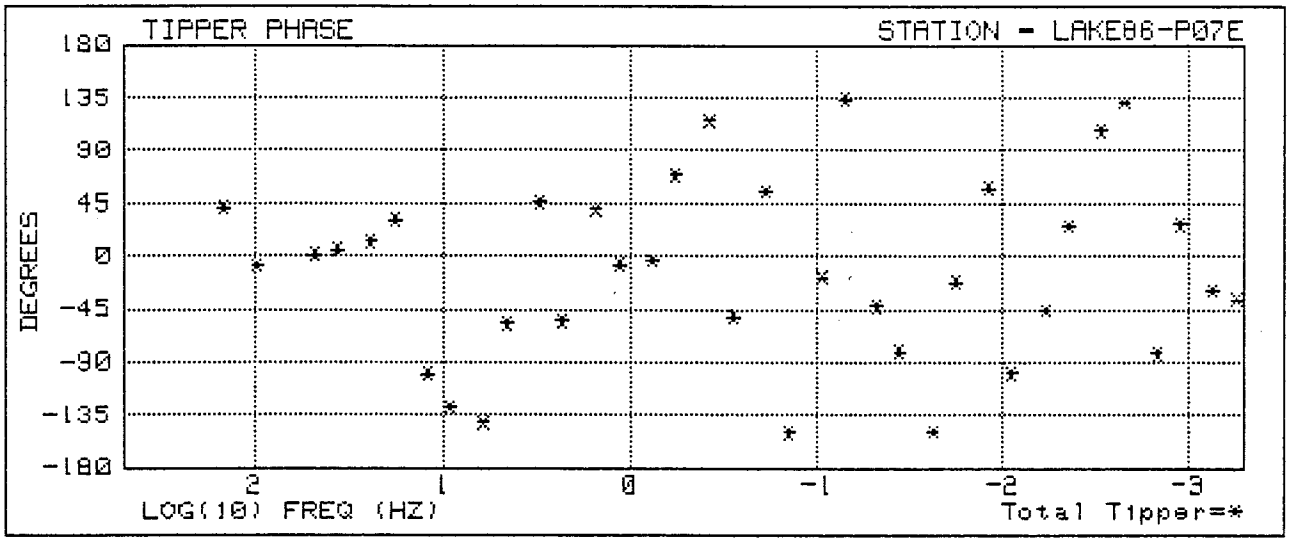
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

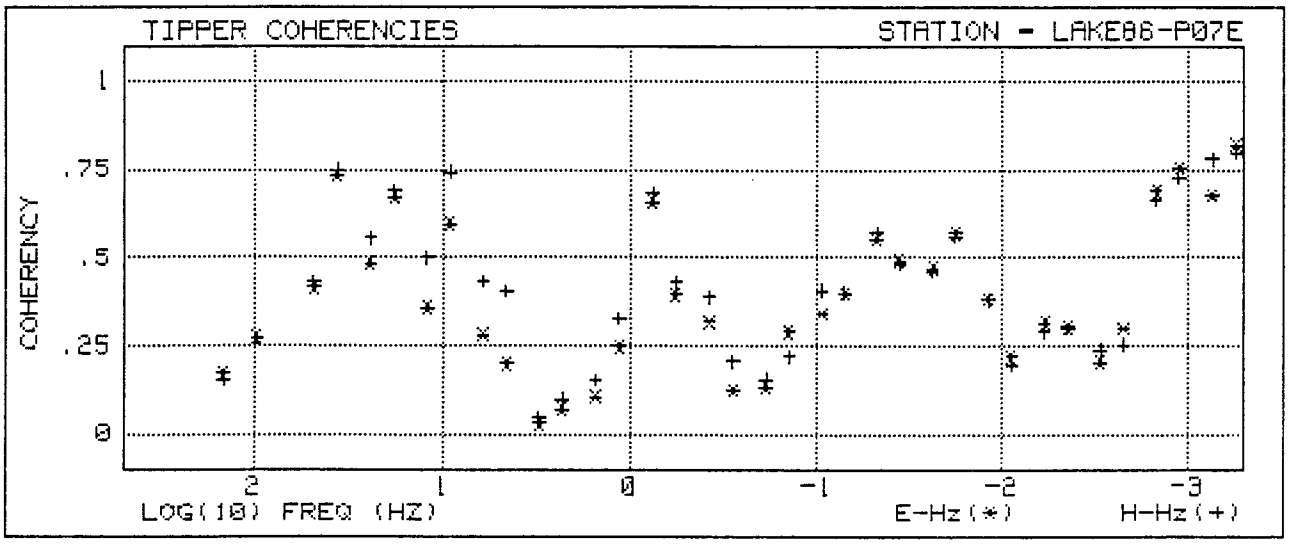
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	505	-46.46	-188.59	17.93	-8.54	-8.02	186.12
5	96.00 Hz	1410	-37.90	-133.15	8.16	3.89	2.38	39.34
7	48.00 Hz	1591	-23.41	-75.44	7.39	3.08	.59	20.91
8	36.00 Hz	2092	-23.64	-58.10	6.22	-2.87	-1.45	12.27
9	24.00 Hz	1625	-22.95	-41.03	8.01	-3.44	.09	38.29
10	18.00 Hz	987	-21.37	-33.17	3.08	.20	-.44	12.70
11	12.00 Hz	1952	-18.43	-27.50	5.00	-3.43	-.48	12.26
12	9.00 Hz	1952	-12.93	-21.42	.41	-.52	-1.94	.60
13	6.00 Hz	2528	-8.85	-17.43	5.50	-1.40	-1.73	4.87
14	4.50 Hz	2752	-9.62	-14.46	3.19	-1.10	.78	5.09
15	3.00 Hz	20198	-7.75	-10.46	.07	-.72	-.87	.15
16	2.25 Hz	39351	-6.57	-8.46	.03	-.28	-.39	.09
17	1.50 Hz	18511	-5.49	-6.26	.08	-.14	-.35	.18
18	1.13 Hz	11904	-5.08	-4.74	.03	-.26	-.28	.07
19	1.33 Sec	4464	-4.427	-3.645	.010	-.362	-.032	.029
20	1.78 Sec	8884	-4.130	-2.985	.025	-.299	-.002	.082
21	2.67 Sec	3257	-3.721	-2.119	.173	-.246	-.260	.218
22	3.56 Sec	3965	-3.774	-1.740	.351	-.424	-.069	.477
23	5.33 Sec	1296	-3.536	-1.608	1.598	-.082	-.417	1.758
24	7.11 Sec	1572	-3.692	-1.653	.184	.201	-.458	.255
25	10.67 Sec	935	-3.514	-1.406	.025	-.064	-.137	.024
26	14.22 Sec	977	-3.541	-1.562	.009	.099	-.206	.007
27	21.33 Sec	570	-3.097	-1.809	.003	.194	-.195	.001
28	28.44 Sec	552	-2.590	-1.879	.001	.222	-.056	.001
29	42.67 Sec	588	-1.889	-1.791	.000	.181	-.011	.000
30	56.89 Sec	516	-1.396	-1.662	.000	.173	.026	.000
31	85.33 Sec	255	-.954	-1.350	.000	.170	.067	.001
32	113.78 Sec	300	-.727	-1.139	.000	.139	.053	.001
33	170.67 Sec	144	-.527	-.845	.001	.092	.033	.001
34	227.56 Sec	129	-.393	-.629	.001	.075	.084	.001
35	341.33 Sec	15	-.349	-.460	.006	.068	.061	.003
36	455.11 Sec	54	-.212	-.425	.002	.074	.096	.011
37	682.67 Sec	27	-.243	-.280	.001	-.001	.074	.001
38	910.22 Sec	6	-.197	-.267	.002	.090	.050	.004
39	1365.33 Sec	6	-.205	-.197	.001	.095	-.003	.003
40	1820.44 Sec	9	-.150	-.162	.001	.093	.042	.001

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E







PHOENIX GEOPHYSICS

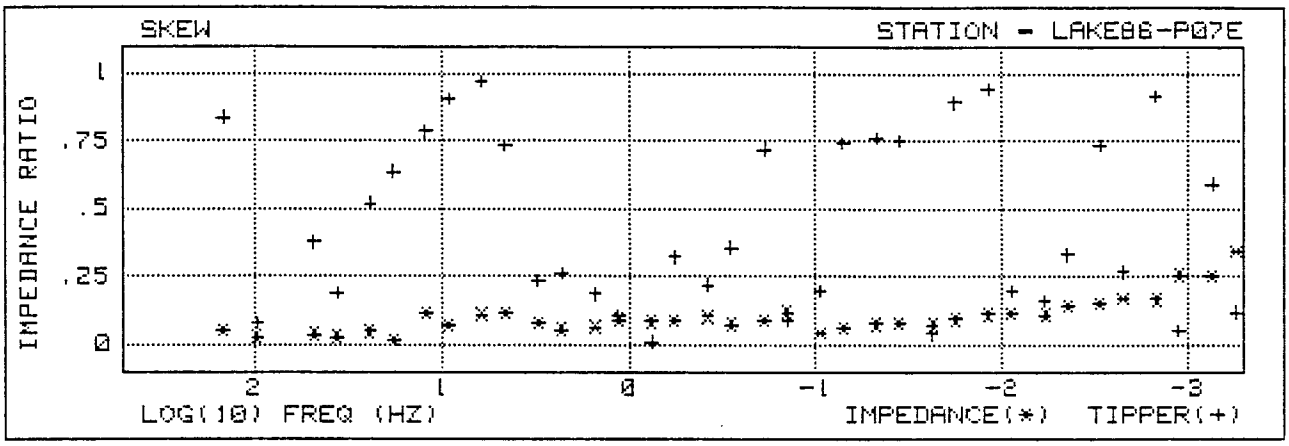
MT Site: LAKE86-P07E

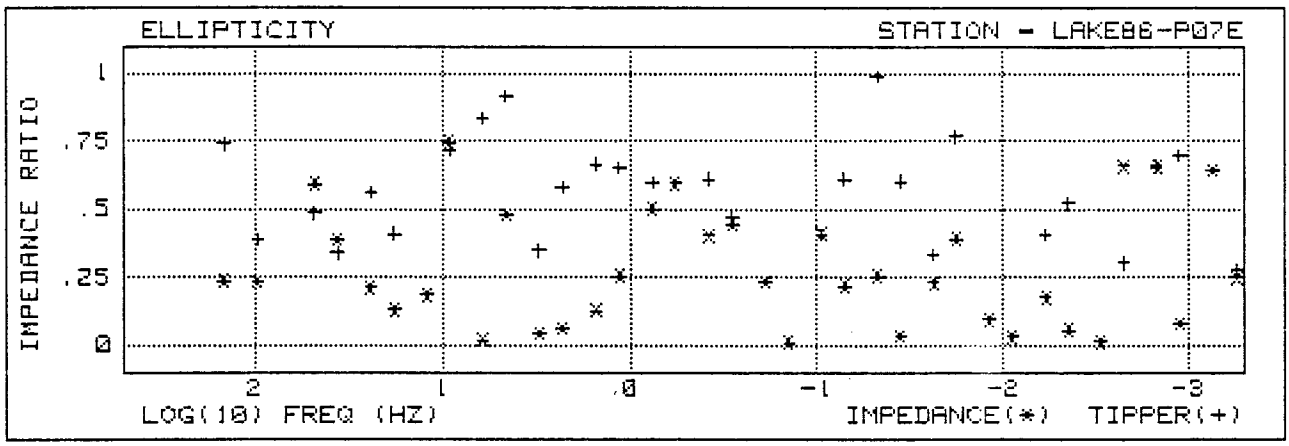
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

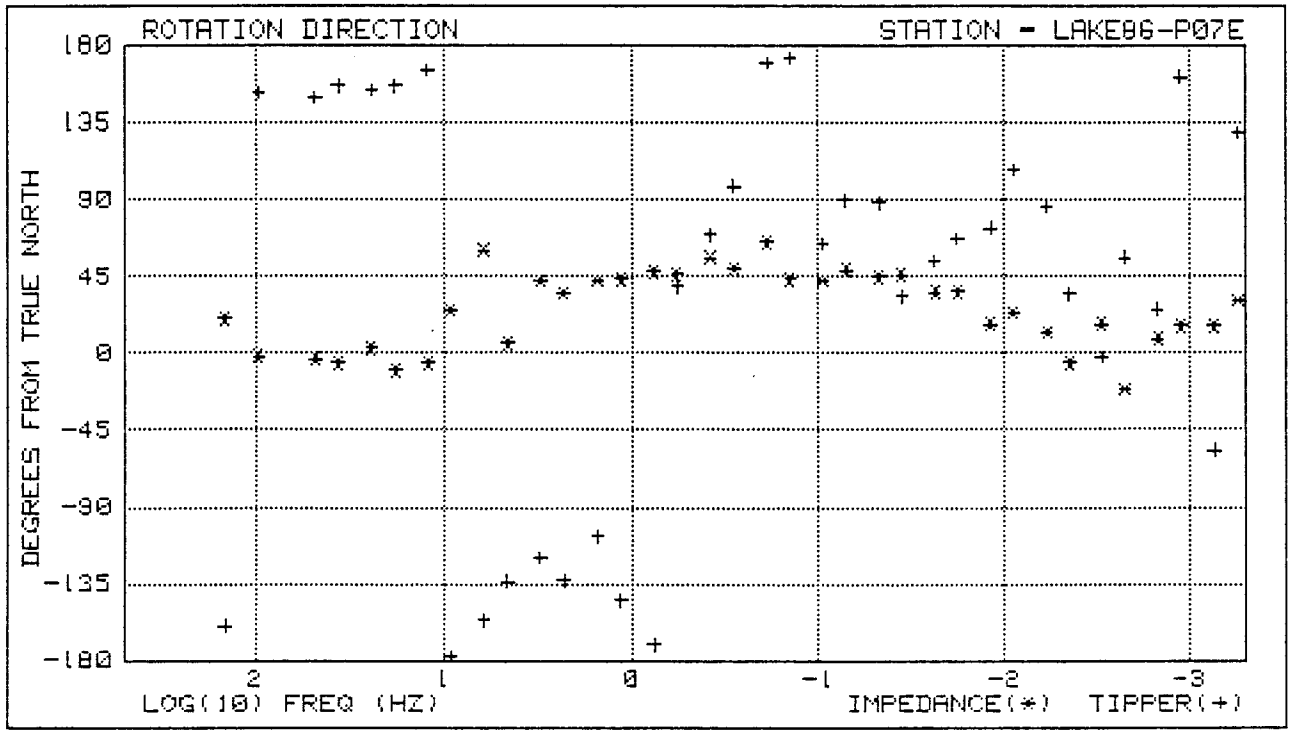
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	505	.05	40.18	.17	.15
5	96.00 Hz	1410	.06	-9.06	.27	.27
7	48.00 Hz	1591	.07	.00	.41	.43
8	36.00 Hz	2092	.07	4.79	.73	.75
9	24.00 Hz	1625	.08	11.27	.48	.55
10	18.00 Hz	987	.08	29.88	.67	.69
11	12.00 Hz	1952	.07	-100.44	.35	.50
12	9.00 Hz	1952	.07	-128.54	.59	.74
13	6.00 Hz	2528	.06	-142.10	.28	.43
14	4.50 Hz	2752	.07	-57.57	.20	.40
15	3.00 Hz	20198	.09	44.98	.03	.04
16	2.25 Hz	39351	.09	-55.78	.07	.09
17	1.50 Hz	18511	.11	38.77	.10	.15
18	1.13 Hz	11904	.14	-8.34	.24	.32
19	1.33 Sec	4464	.16	-4.87	.65	.68
20	1.78 Sec	8884	.16	68.05	.39	.43
21	2.67 Sec	3257	.22	114.62	.31	.38
22	3.56 Sec	3965	.20	-52.14	.12	.20
23	5.33 Sec	1296	.22	54.10	.13	.15
24	7.11 Sec	1572	.49	-150.33	.29	.22
25	10.67 Sec	935	.24	-18.57	.34	.40
26	14.22 Sec	977	.21	132.51	.39	.40
27	21.33 Sec	570	.19	-43.18	.55	.57
28	28.44 Sec	552	.12	-81.89	.49	.48
29	42.67 Sec	588	.11	-149.74	.47	.46
30	56.89 Sec	516	.14	-22.79	.57	.56
31	85.33 Sec	255	.17	57.36	.38	.38
32	113.78 Sec	300	.06	-100.18	.22	.19
33	170.67 Sec	144	.16	-46.76	.31	.29
34	227.56 Sec	129	.18	24.55	.30	.30
35	341.33 Sec	15	.22	105.88	.20	.24
36	455.11 Sec	54	.38	129.79	.30	.25
37	682.67 Sec	27	.42	-83.30	.69	.66
38	910.22 Sec	6	1.19	25.98	.75	.72
39	1365.33 Sec	6	.77	-29.65	.67	.78
40	1820.44 Sec	9	1.85	-37.51	.82	.80

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E







PHOENIX GEOPHYSICS

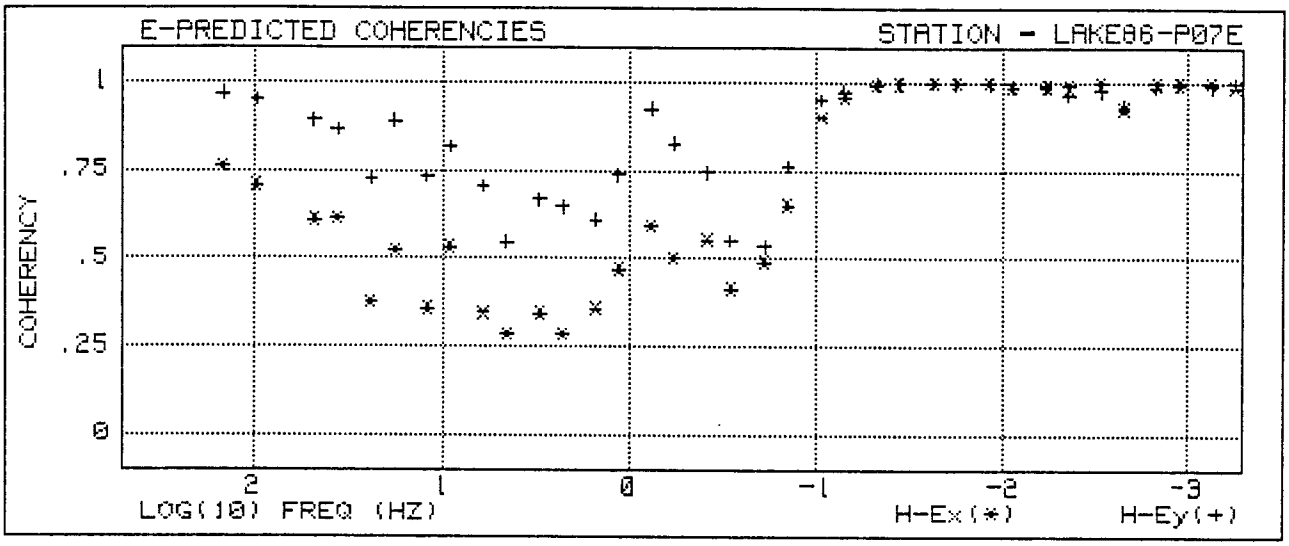
MT Site: LAKE86-P07E

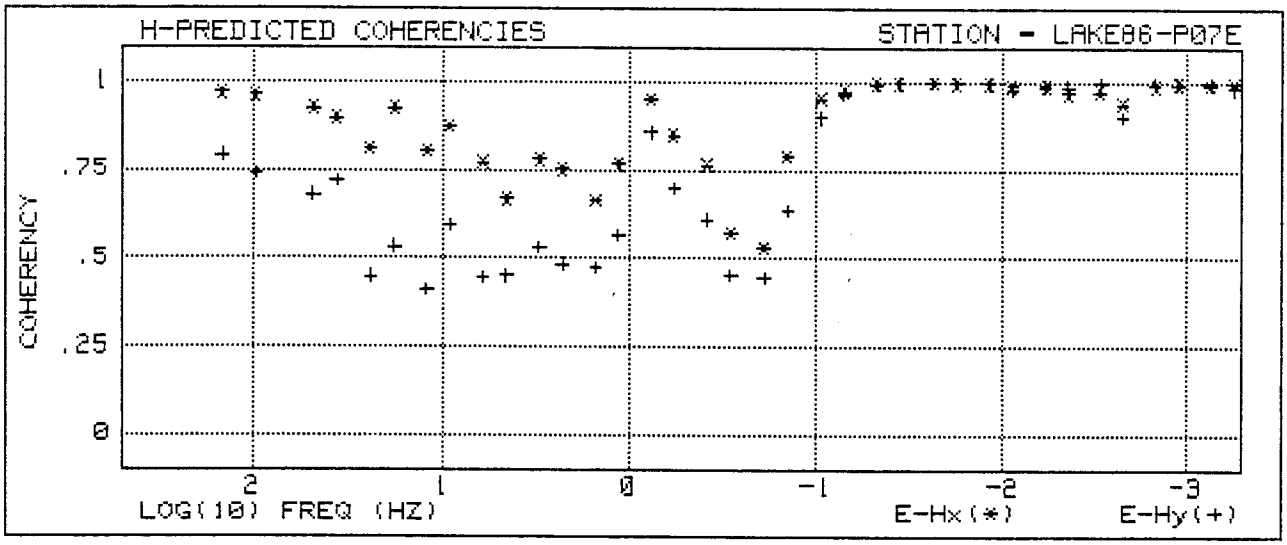
SKEW, ELLIPTICITY AND STRIKE

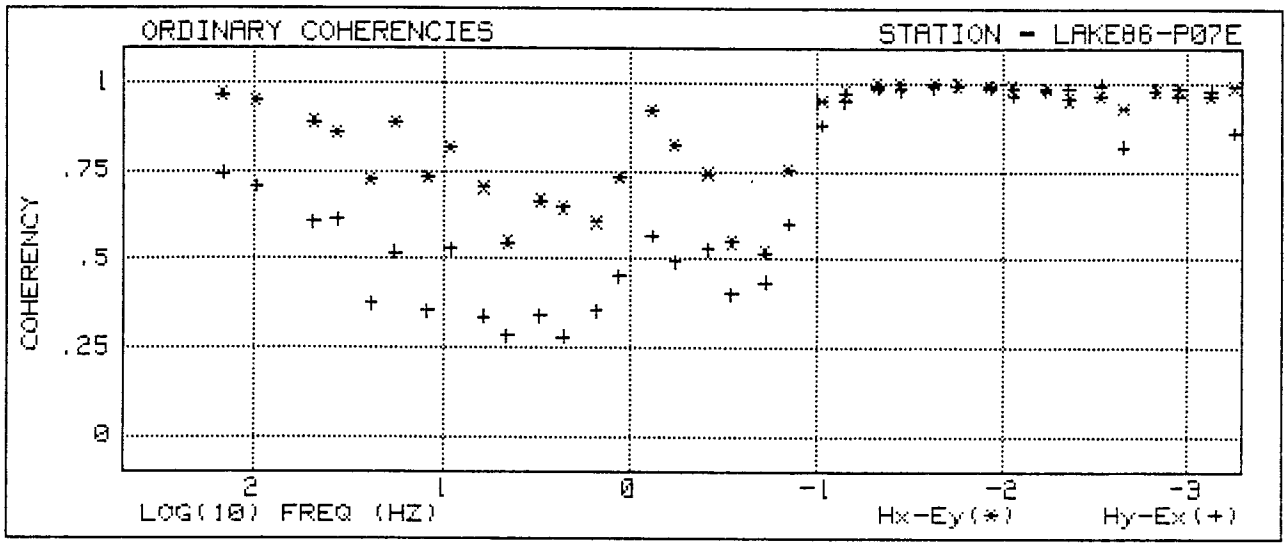
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	505	.05	.23	19.37	.83	.74	-160.00
5	96.00 Hz	1410	.02	.23	-2.49	.08	.38	151.91
7	48.00 Hz	1591	.03	.59	-3.87	.37	.48	148.88
8	36.00 Hz	2092	.02	.39	-6.40	.18	.34	155.39
9	24.00 Hz	1625	.05	.21	2.34	.51	.56	153.31
10	18.00 Hz	987	.01	.13	-10.95	.63	.40	155.77
11	12.00 Hz	1952	.11	.18	-6.34	.78	2.03	164.55
12	9.00 Hz	1952	.07	.74	24.33	.90	.71	-178.16
13	6.00 Hz	2528	.11	.01	59.82	.97	.83	-156.80
14	4.50 Hz	2752	.11	.48	5.26	.73	.91	-134.25
15	3.00 Hz	20198	.08	.04	41.62	.23	.35	-120.21
16	2.25 Hz	39351	.05	.06	34.46	.26	.58	-133.50
17	1.50 Hz	18511	.06	.13	41.83	.18	.66	-107.47
18	1.13 Hz	11904	.09	.25	42.92	.10	.65	-145.45
19	1.33 Sec	4464	.08	.50	47.02	.01	.59	-171.09
20	1.78 Sec	8884	.08	.59	45.62	.32	1.13	38.49
21	2.67 Sec	3257	.10	.40	55.40	.21	.60	68.81
22	3.56 Sec	3965	.07	.44	48.95	.35	.47	97.27
23	5.33 Sec	1296	.09	.23	64.22	.71	2.01	169.03
24	7.11 Sec	1572	.11	.01	42.73	.08	1.22	172.03
25	10.67 Sec	935	.04	.40	41.76	.19	.40	63.39
26	14.22 Sec	977	.06	.22	48.10	.74	.61	88.97
27	21.33 Sec	570	.07	.25	44.08	.76	.98	87.61
28	28.44 Sec	552	.07	.03	45.05	.75	.60	32.67
29	42.67 Sec	588	.07	.23	35.09	.04	.33	53.27
30	56.89 Sec	516	.09	.39	35.69	.89	.76	66.50
31	85.33 Sec	255	.11	.09	16.33	.94	1.22	72.54
32	113.78 Sec	300	.11	.03	22.98	.19	6.91	106.73
33	170.67 Sec	144	.11	.17	11.51	.16	.40	85.34
34	227.56 Sec	129	.14	.05	-6.18	.33	.52	34.31
35	341.33 Sec	15	.15	.01	16.28	.73	2.09	-3.09
36	455.11 Sec	54	.17	.65	-22.02	.26	.30	55.31
37	682.67 Sec	27	.16	.65	7.46	.91	.65	25.09
38	910.22 Sec	6	.25	.08	15.29	.05	.69	160.64
39	1365.33 Sec	6	.25	.64	15.42	.59	2.04	-57.70
40	1820.44 Sec	9	.34	.25	30.30	.12	.27	128.63

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E







PHOENIX GEOPHYSICS

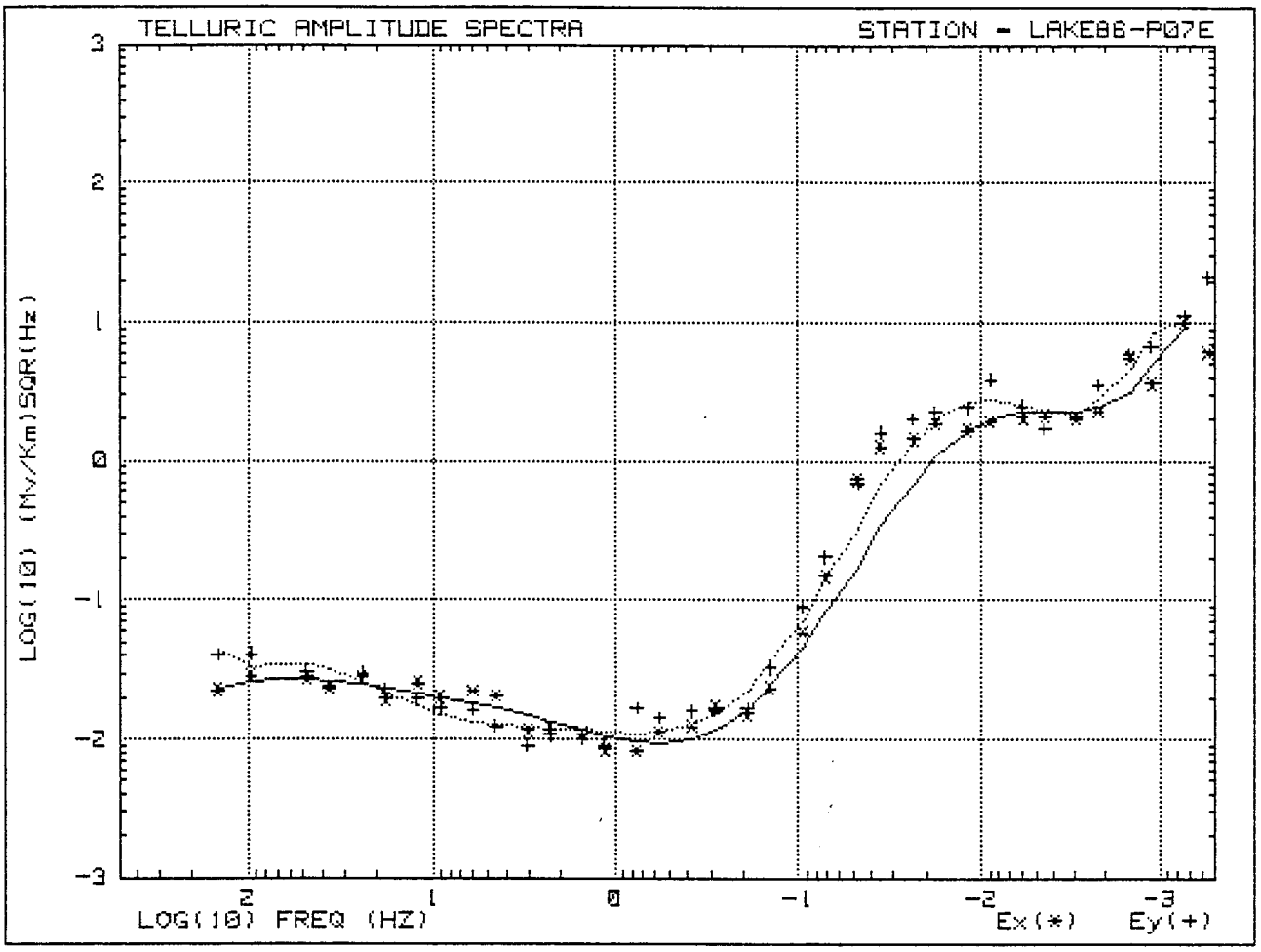
MT Site: LAKE86-P07E

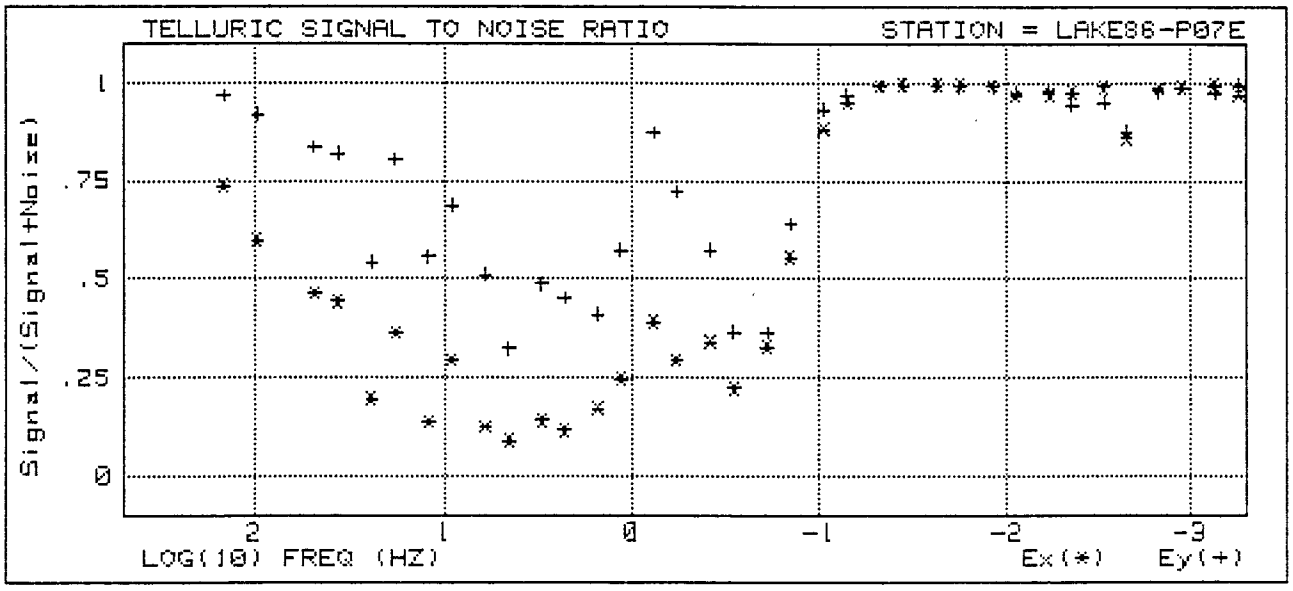
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	505	.76	.96	.97	.79	.96	.74
5	96.00 Hz	1410	.71	.95	.96	.74	.95	.70
7	48.00 Hz	1591	.61	.89	.92	.68	.89	.60
8	36.00 Hz	2092	.61	.86	.89	.72	.86	.61
9	24.00 Hz	1625	.37	.72	.81	.44	.72	.37
10	18.00 Hz	987	.52	.89	.92	.53	.88	.52
11	12.00 Hz	1952	.35	.73	.80	.41	.73	.35
12	9.00 Hz	1952	.53	.81	.87	.59	.81	.53
13	6.00 Hz	2528	.34	.70	.77	.44	.70	.33
14	4.50 Hz	2752	.28	.54	.67	.45	.54	.28
15	3.00 Hz	20198	.34	.66	.78	.53	.66	.34
16	2.25 Hz	39351	.28	.64	.75	.48	.64	.28
17	1.50 Hz	18511	.35	.61	.66	.47	.60	.35
18	1.13 Hz	11904	.47	.73	.76	.56	.73	.45
19	1.33 Sec	4464	.59	.92	.95	.85	.92	.56
20	1.78 Sec	8884	.50	.82	.84	.69	.82	.49
21	2.67 Sec	3257	.55	.74	.76	.61	.74	.53
22	3.56 Sec	3965	.41	.55	.57	.45	.55	.40
23	5.33 Sec	1296	.49	.53	.53	.44	.52	.43
24	7.11 Sec	1572	.65	.76	.79	.63	.75	.60
25	10.67 Sec	935	.90	.95	.95	.90	.95	.88
26	14.22 Sec	977	.96	.97	.97	.96	.97	.95
27	21.33 Sec	570	.99	.99	.99	.99	.99	.98
28	28.44 Sec	552	.99	.99	.99	.99	.99	.98
29	42.67 Sec	588	1.00	1.00	1.00	1.00	1.00	.99
30	56.89 Sec	516	1.00	.99	.99	1.00	.99	.99
31	85.33 Sec	255	1.00	.99	.99	.99	.99	.98
32	113.78 Sec	300	.98	.99	.99	.98	.98	.96
33	170.67 Sec	144	.99	.99	.99	.98	.98	.98
34	227.56 Sec	129	.99	.96	.97	.98	.95	.98
35	341.33 Sec	15	.99	.97	.97	.99	.96	.99
36	455.11 Sec	54	.92	.93	.93	.90	.93	.82
37	682.67 Sec	27	.99	.99	.99	.99	.98	.98
38	910.22 Sec	6	.99	.99	.99	.99	.98	.96
39	1365.33 Sec	6	1.00	.99	.99	.99	.96	.97
40	1820.44 Sec	9	.98	1.00	1.00	.98	.99	.86

PHOENIX GEOPHYSICS

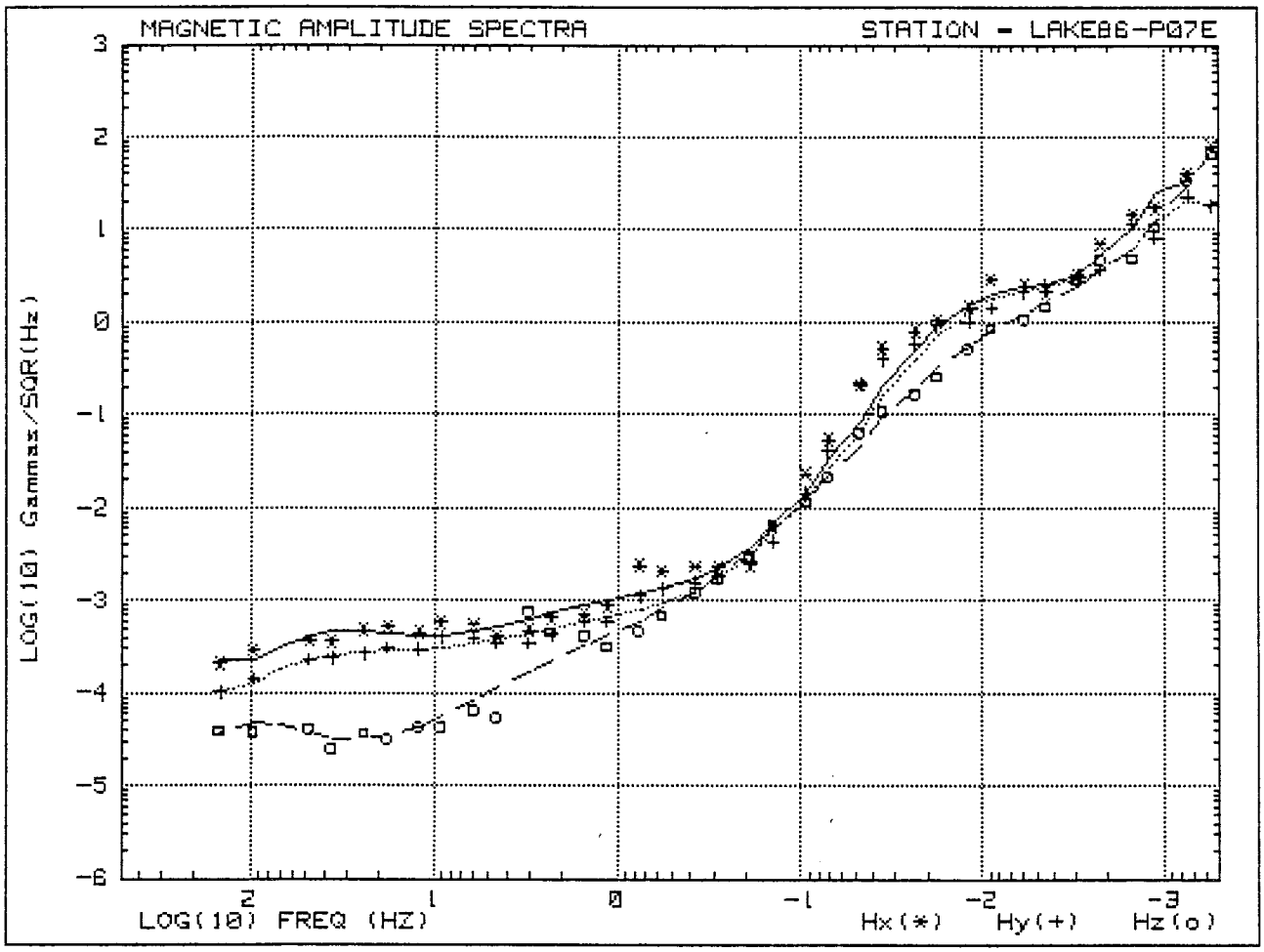
MT Site: LAKE86-P07E

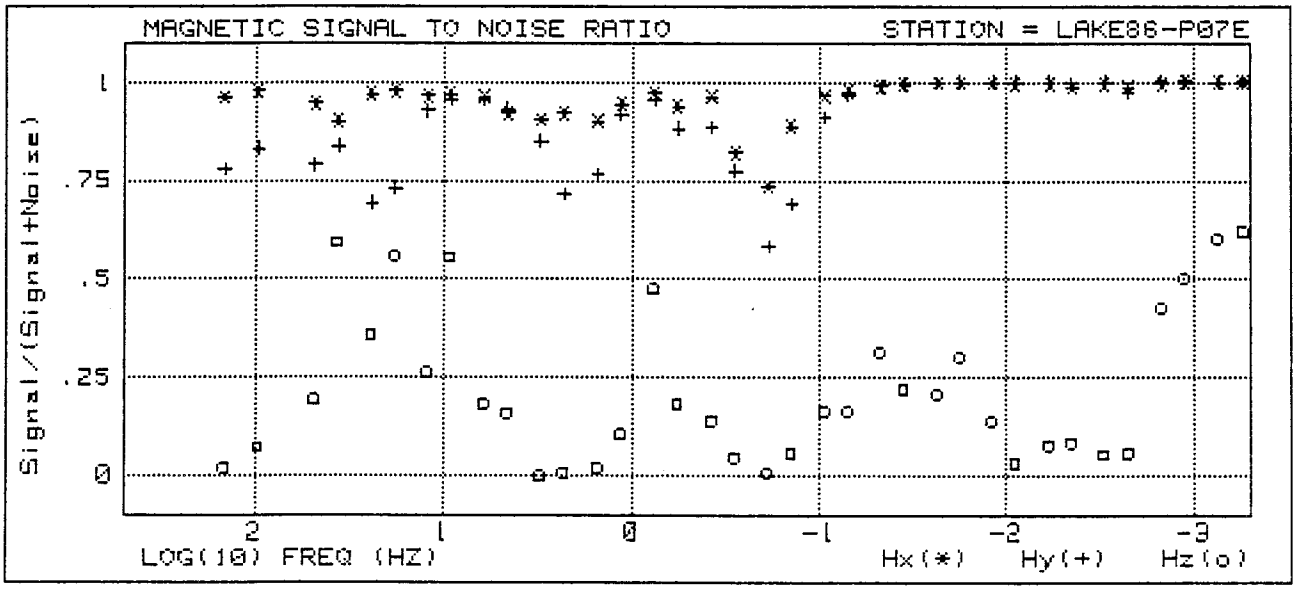




PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	505	2.06E-04	1.00E-04	4.11E-05	2.24E-02	3.97E-02
5	96.00 Hz	1410	2.85E-04	1.40E-04	4.05E-05	2.81E-02	4.06E-02
7	48.00 Hz	1591	3.57E-04	2.24E-04	4.32E-05	2.74E-02	3.02E-02
8	36.00 Hz	2092	3.56E-04	2.33E-04	2.65E-05	2.30E-02	2.38E-02
9	24.00 Hz	1625	4.66E-04	2.64E-04	3.86E-05	2.77E-02	2.94E-02
10	18.00 Hz	987	5.22E-04	3.00E-04	3.36E-05	1.91E-02	2.27E-02
11	12.00 Hz	1952	4.38E-04	2.87E-04	4.48E-05	2.52E-02	1.91E-02
12	9.00 Hz	1952	5.68E-04	3.99E-04	4.41E-05	1.97E-02	1.69E-02
13	6.00 Hz	2528	5.40E-04	3.84E-04	6.89E-05	2.19E-02	1.60E-02
14	4.50 Hz	2752	4.07E-04	3.47E-04	5.60E-05	2.02E-02	1.22E-02
15	3.00 Hz	20198	4.72E-04	3.41E-04	8.13E-04	1.15E-02	8.86E-03
16	2.25 Hz	39351	6.48E-04	4.22E-04	4.76E-04	1.18E-02	1.05E-02
17	1.50 Hz	18511	7.18E-04	5.79E-04	4.48E-04	1.09E-02	9.95E-03
18	1.13 Hz	11904	8.71E-04	5.78E-04	3.34E-04	8.35E-03	8.93E-03
19	1.33 Sec	4464	2.36E-03	1.10E-03	4.84E-04	8.07E-03	1.67E-02
20	1.78 Sec	8884	2.06E-03	1.33E-03	7.28E-04	1.11E-02	1.41E-02
21	2.67 Sec	3257	2.30E-03	1.56E-03	1.29E-03	1.22E-02	1.57E-02
22	3.56 Sec	3965	2.29E-03	1.83E-03	1.79E-03	1.68E-02	1.62E-02
23	5.33 Sec	1296	2.40E-03	2.65E-03	3.21E-03	1.52E-02	1.64E-02
24	7.11 Sec	1572	6.29E-03	4.31E-03	6.69E-03	2.30E-02	3.24E-02
25	10.67 Sec	935	2.28E-02	1.42E-02	1.21E-02	5.83E-02	8.81E-02
26	14.22 Sec	977	5.34E-02	4.00E-02	2.24E-02	1.47E-01	2.01E-01
27	21.33 Sec	570	2.05E-01	2.16E-01	6.82E-02	7.21E-01	6.85E-01
28	28.44 Sec	552	5.18E-01	3.90E-01	1.14E-01	1.26E+00	1.58E+00
29	42.67 Sec	588	7.79E-01	5.75E-01	1.78E-01	1.43E+00	1.99E+00
30	56.89 Sec	516	1.01E+00	8.94E-01	2.72E-01	1.84E+00	2.22E+00
31	85.33 Sec	255	1.43E+00	1.00E+00	5.45E-01	1.66E+00	2.41E+00
32	113.78 Sec	300	2.88E+00	1.39E+00	9.02E-01	1.92E+00	3.84E+00
33	170.67 Sec	144	2.46E+00	2.07E+00	1.14E+00	2.04E+00	2.46E+00
34	227.56 Sec	129	2.10E+00	2.54E+00	1.55E+00	2.11E+00	1.69E+00
35	341.33 Sec	15	3.10E+00	3.19E+00	2.97E+00	2.02E+00	2.07E+00
36	455.11 Sec	54	6.91E+00	3.60E+00	4.94E+00	2.25E+00	3.46E+00
37	682.67 Sec	27	1.43E+01	1.13E+01	5.12E+00	5.45E+00	5.77E+00
38	910.22 Sec	6	1.69E+01	7.90E+00	1.11E+01	3.56E+00	6.58E+00
39	1365.33 Sec	6	3.92E+01	2.25E+01	3.59E+01	9.84E+00	1.10E+01
40	1820.44 Sec	9	7.89E+01	1.81E+01	6.75E+01	6.04E+00	2.06E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	505	.959	.778	.024	.735	.966
5	96.00 Hz	1410	.977	.829	.077	.596	.918
7	48.00 Hz	1591	.944	.787	.197	.464	.834
8	36.00 Hz	2092	.900	.837	.599	.441	.818
9	24.00 Hz	1625	.969	.691	.361	.195	.541
10	18.00 Hz	987	.976	.730	.566	.363	.803
11	12.00 Hz	1952	.965	.927	.269	.135	.555
12	9.00 Hz	1952	.968	.955	.562	.293	.685
13	6.00 Hz	2528	.963	.954	.189	.124	.509
14	4.50 Hz	2752	.920	.930	.164	.086	.321
15	3.00 Hz	20198	.904	.849	.002	.139	.486
16	2.25 Hz	39351	.921	.716	.009	.114	.451
17	1.50 Hz	18511	.900	.764	.025	.169	.408
18	1.13 Hz	11904	.943	.916	.109	.244	.572
19	1.33 Sec	4464	.972	.953	.480	.389	.872
20	1.78 Sec	8884	.937	.881	.189	.292	.721
21	2.67 Sec	3257	.962	.885	.145	.338	.571
22	3.56 Sec	3965	.820	.772	.050	.221	.363
23	5.33 Sec	1296	.733	.582	.011	.326	.361
24	7.11 Sec	1572	.886	.690	.061	.552	.640
25	10.67 Sec	935	.965	.909	.166	.881	.931
26	14.22 Sec	977	.974	.969	.168	.951	.967
27	21.33 Sec	570	.990	.989	.319	.991	.992
28	28.44 Sec	552	.995	.996	.227	.993	.993
29	42.67 Sec	588	.998	.999	.212	.994	.995
30	56.89 Sec	516	.998	1.000	.308	.994	.990
31	85.33 Sec	255	.997	1.000	.142	.991	.990
32	113.78 Sec	300	.996	1.000	.033	.966	.976
33	170.67 Sec	144	.996	.999	.082	.971	.978
34	227.56 Sec	129	.985	.998	.088	.974	.943
35	341.33 Sec	15	.995	.999	.058	.989	.950
36	455.11 Sec	54	.986	.975	.063	.856	.875
37	682.67 Sec	27	.995	1.000	.430	.985	.976
38	910.22 Sec	6	1.000	1.000	.509	.986	.985
39	1365.33 Sec	6	1.000	1.000	.608	.993	.973
40	1820.44 Sec	9	.999	1.000	.625	.967	.993

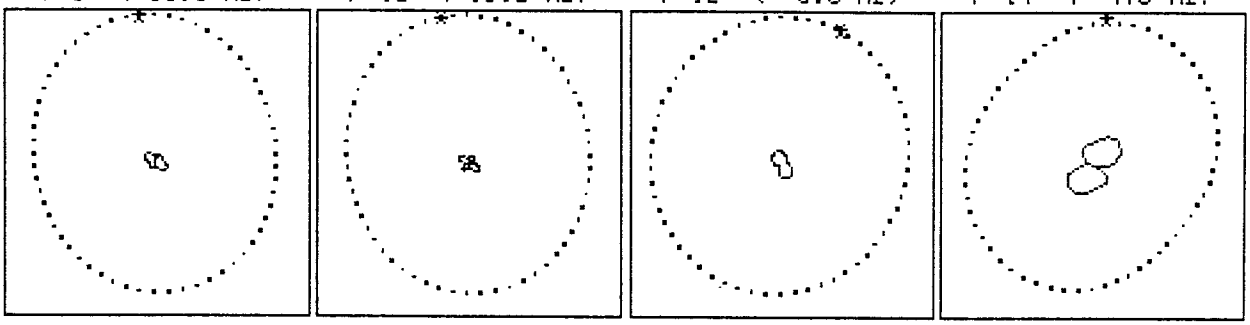
PHOENIX GEOPHYSICS

MT Site: LAKE86-P07E

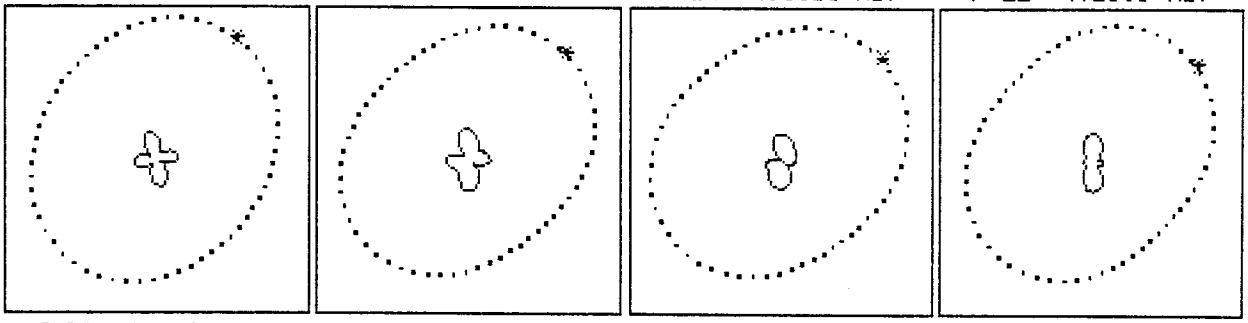
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

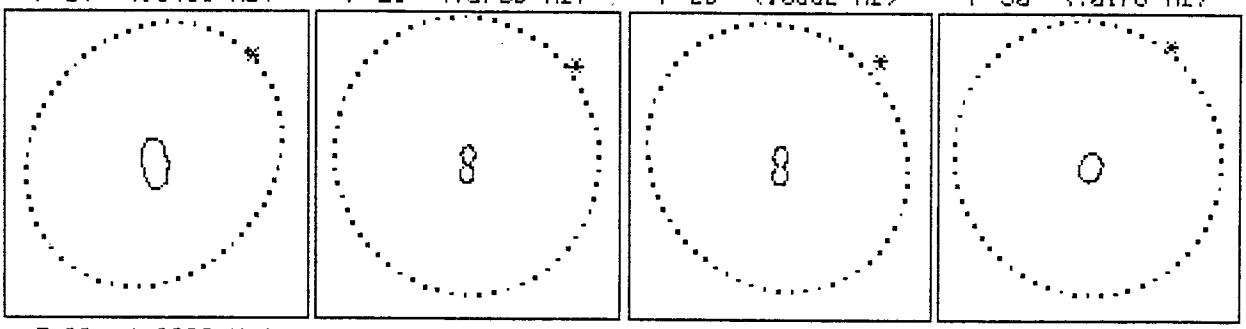
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



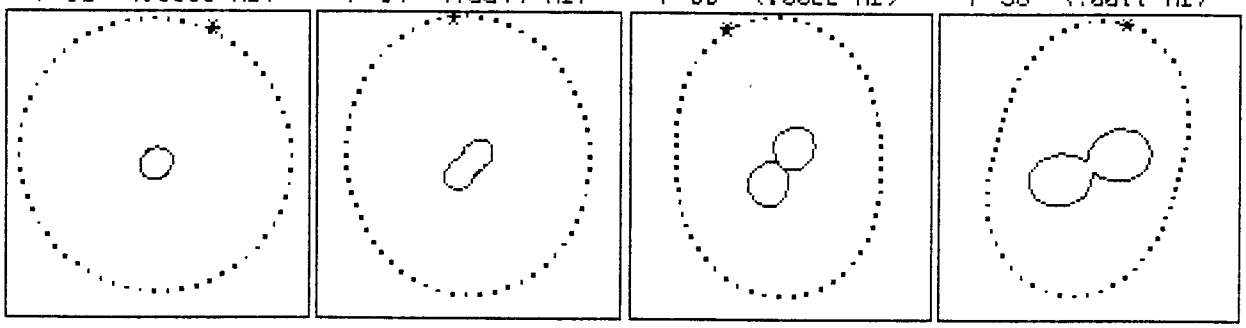
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P08s/P09s/

Operator: VAAG & OJALA
Date: 28 Sep 1986
Time: 08:07:17

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#221-30Aug86-05
SP--Stn02: B#219-30Aug86-05
Sens-Ch01: C#372-04Sep86-01
Sens-Ch02: C#445-04Sep86-01
Sens-Ch03: L#307-05Sep86-01
Sens-Ch06: C#452-04Sep86-01
Sens-Ch07: C#239-04Sep86-01
Sens-Ch08: L#419-05Sep86-01

Station 1

Stn Number:LAKE86-P08s
Site Desc:T43N R03E Sec.30 NW1/4
41,32,32 N 121,40,32 W
Elevation:5960 FT
Reference:LAKE86-P09s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: OJALA, ET AL.
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL372	+40 DEG
Hy	2	COIL445	+130 DEG
Hz	3	LOOP307	
Ex	4	200 M	+40 DEG
Ey	5	200 M	+130 DEG
Rx	6	COIL452	+40 DEG
Ry	7	COIL239	+130 DEG

Ex Pot Resist: 4.5 K Ohms
Ex Voltage: AC=23.7 mv, DC= 150 mv
Ey Pot Resist: 5.0 K Ohms
Ey Voltage: AC=28.3 mv, DC=33.9 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

OPERATOR LOG FOR MT SITES LAKE86-P08s/P09s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P08a/P09a/
Run STARTED: 17:12:41 27 Sep 1986
Run QUIT: 06:57:04 28 Sep 1986
Run Start and Stop Time for LAKE86-P08b/P09b/
Run STARTED: 08:07:17 28 Sep 1986
Run QUIT: 16:16:43 28 Sep 1986

Operator:E. VAAG,D. OJALA

Cultural Factors:
NONE APPARENT.
Weather Conditions:
CLEAR AND WARM DURING SOUNDING.
Other Factors:
NOISE ON TELLURICS AT BOTH SITES AFFECTING DATA QUALITY.

PHOENIX GEOPHYSICS

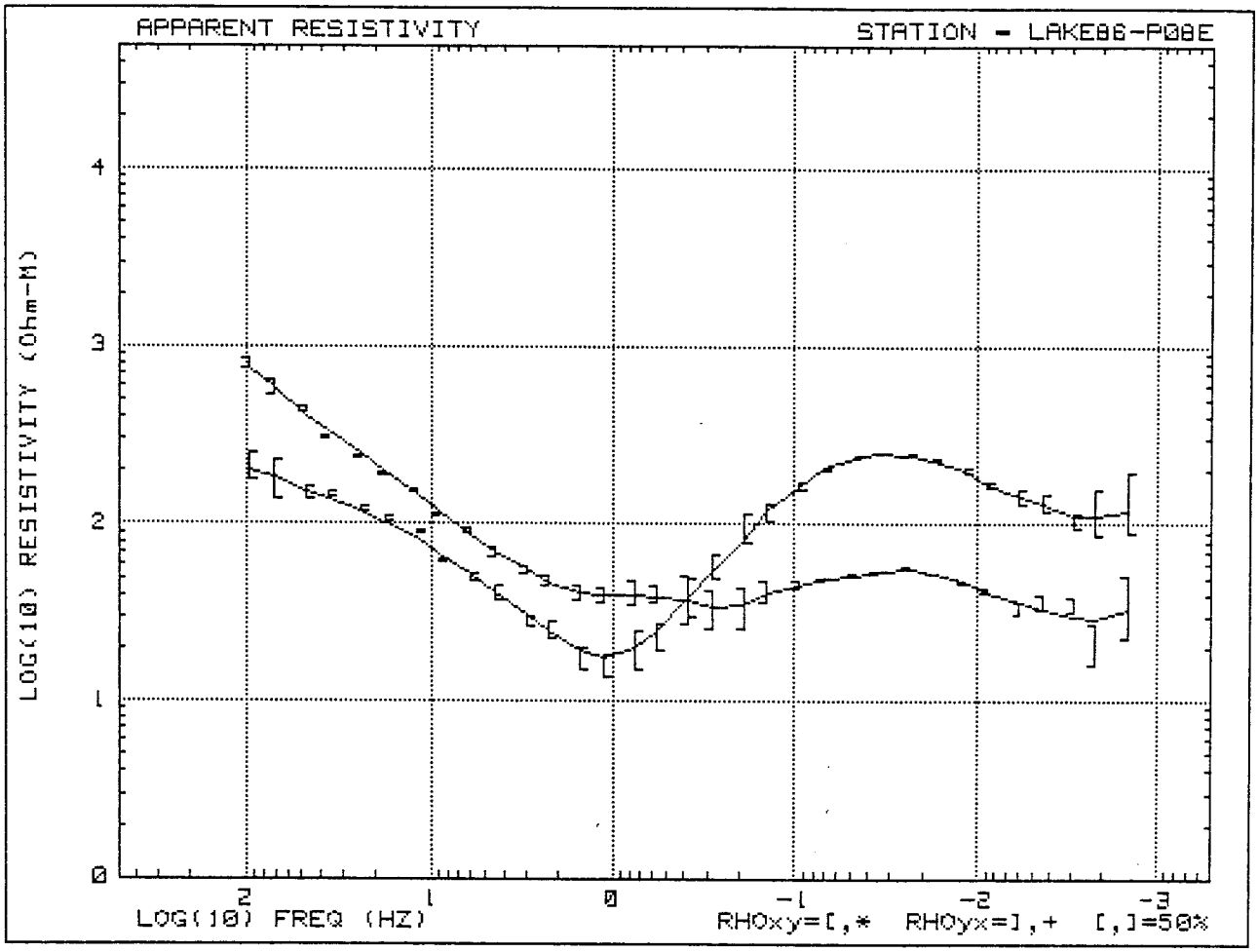
MT Site: LAKE86-P08E

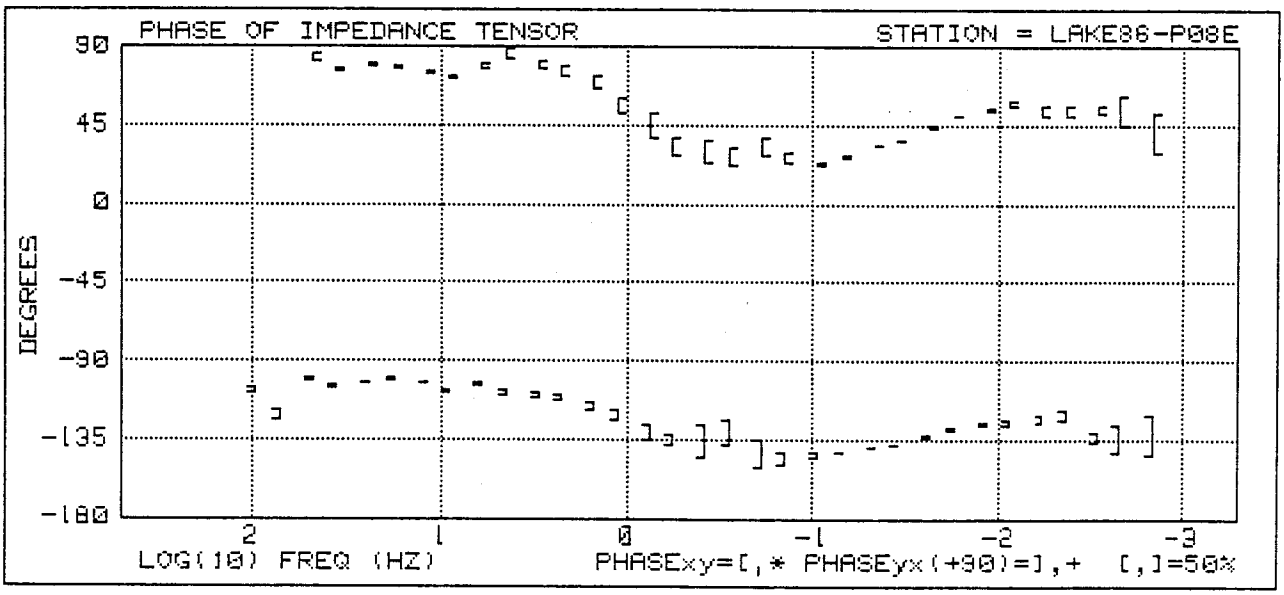
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

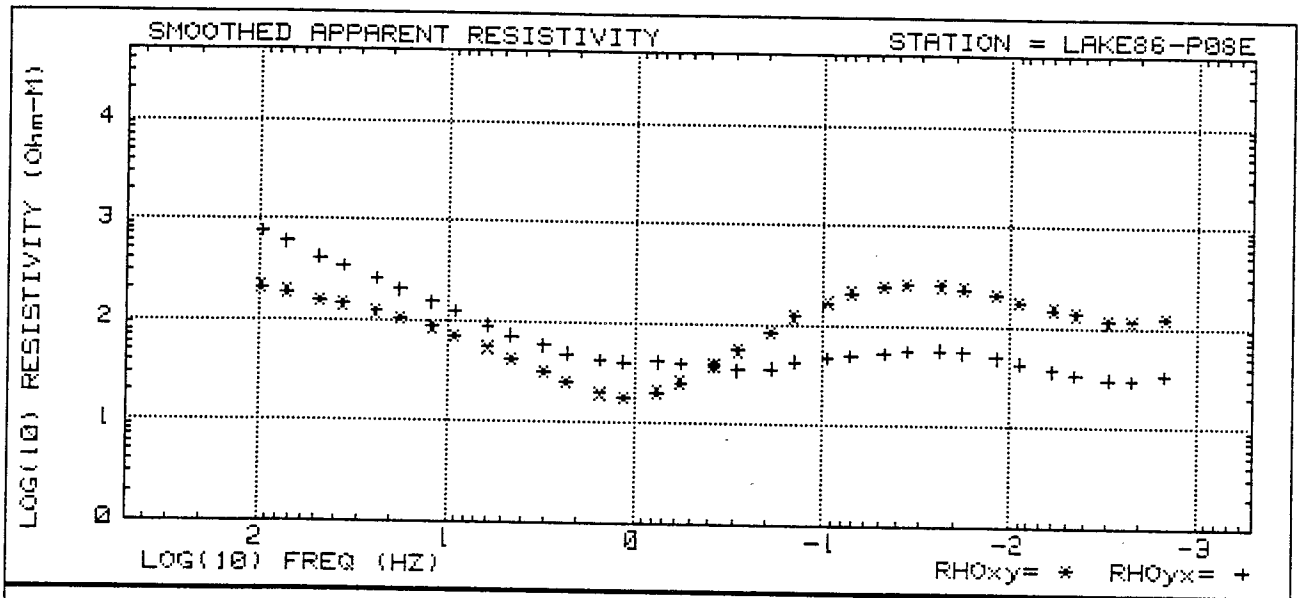
MT Site: LAKE86-P08E

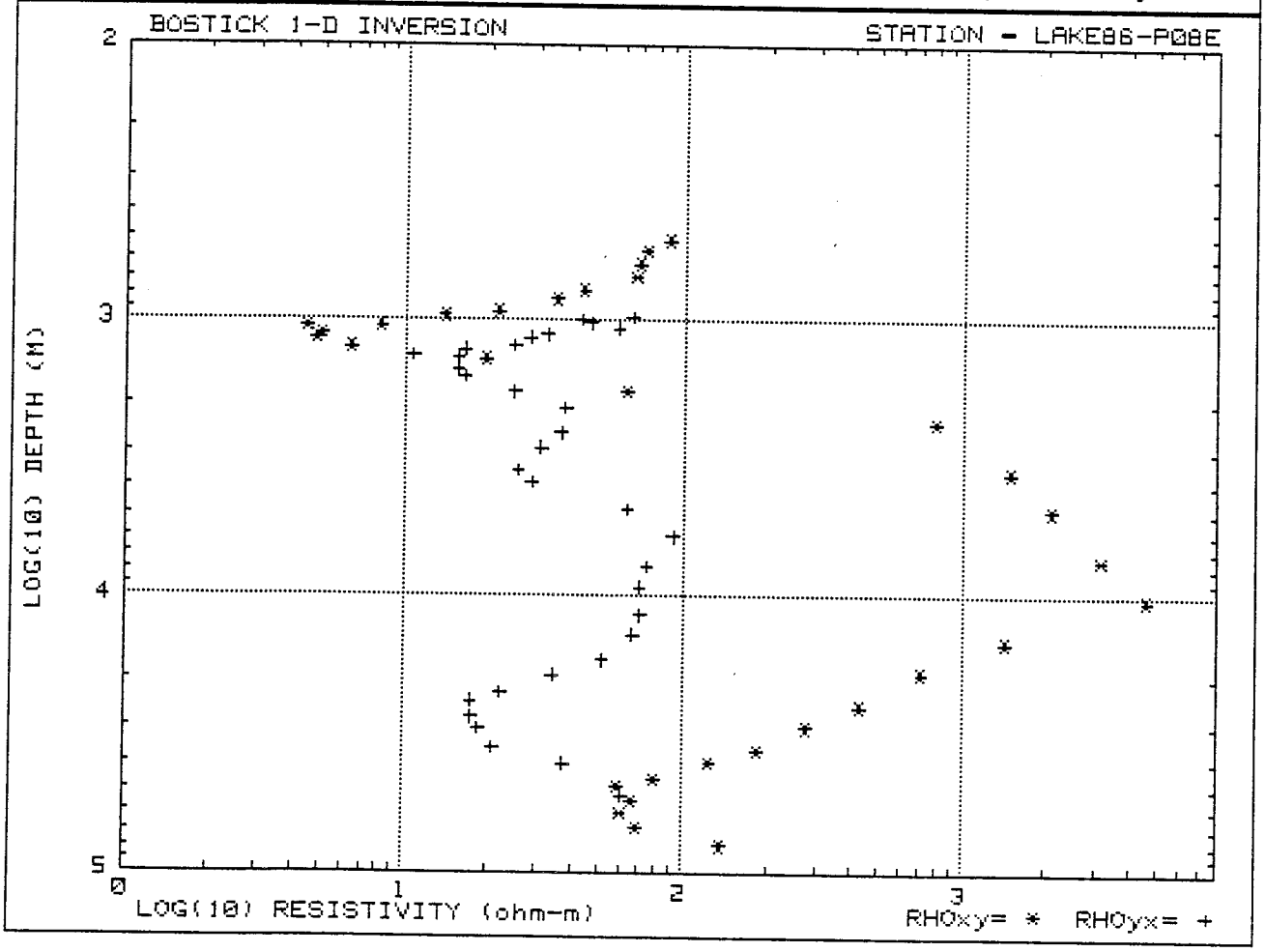




PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
5	96.00 Hz	1369	210.8	27.0	792.9	8.8	116.2	6.9	-106.9	2.4
6	72.00 Hz	1177	177.5	42.5	583.1	16.0	108.4	10.1	-121.4	4.2
7	48.00 Hz	1497	149.8	10.9	437.8	5.5	83.5	3.0	-100.1	1.5
8	36.00 Hz	2293	146.4	5.0	306.8	2.7	77.2	1.4	-104.1	.8
9	24.00 Hz	1088	123.1	5.5	237.2	3.3	80.0	1.5	-102.4	.9
10	18.00 Hz	1536	107.7	4.1	191.5	2.9	78.5	1.1	-100.2	.8
11	12.00 Hz	1536	91.2	4.0	154.6	3.0	76.0	1.1	-102.3	.9
12	9.00 Hz	1344	62.5	4.3	113.8	2.8	72.9	1.2	-106.9	.8
13	6.00 Hz	1792	50.5	8.0	91.1	4.7	79.1	2.2	-103.2	1.3
14	4.50 Hz	1472	40.9	16.3	69.5	7.9	85.8	4.3	-108.3	2.2
15	3.00 Hz	10720	28.1	12.0	54.8	7.5	79.1	3.2	-109.3	2.1
16	2.25 Hz	7552	25.2	15.1	47.6	9.0	75.7	4.0	-111.3	2.5
17	1.50 Hz	9840	17.3	21.5	40.9	14.5	69.3	5.6	-115.9	3.9
18	1.13 Hz	5936	15.8	23.5	39.5	14.7	55.8	6.1	-120.8	3.9
19	1.33 Sec	1760	19.5	43.7	41.0	24.1	44.4	10.4	-130.4	6.2
20	1.78 Sec	2048	22.9	27.3	40.0	17.0	32.5	6.9	-135.3	4.5
21	2.67 Sec	564	38.4	42.5	37.2	61.8	29.7	10.1	-135.5	13.8
22	3.56 Sec	1182	57.7	28.9	33.0	44.0	27.1	7.3	-130.5	10.4
23	5.33 Sec	1176	95.6	33.7	33.2	49.5	32.9	8.3	-142.7	11.5
24	7.11 Sec	756	116.1	17.0	42.1	23.0	26.6	4.5	-145.6	5.9
25	10.67 Sec	729	163.6	7.2	46.1	7.6	23.0	2.0	-143.9	2.1
26	14.22 Sec	558	203.9	2.0	49.0	1.3	26.9	.6	-142.4	.4
27	21.33 Sec	360	242.4	.9	51.8	.6	34.1	.2	-139.5	.2
28	28.44 Sec	348	248.4	.8	53.5	.6	36.4	.2	-137.7	.2
29	42.67 Sec	249	246.3	1.3	56.3	1.8	44.2	.4	-132.8	.5
30	56.89 Sec	267	230.0	1.7	52.7	1.9	50.4	.5	-128.9	.5
31	85.33 Sec	132	200.1	4.1	47.2	4.2	53.7	1.1	-125.2	1.2
32	113.78 Sec	99	166.2	5.8	42.5	5.0	57.4	1.6	-124.9	1.4
33	170.67 Sec	42	143.6	14.3	33.4	11.0	53.5	3.8	-122.9	3.0
34	227.56 Sec	33	131.4	17.0	36.4	15.0	53.7	4.5	-121.1	4.0
35	341.33 Sec	39	104.1	14.7	34.9	16.5	54.3	3.9	-134.1	4.4
36	455.11 Sec	27	116.6	54.1	21.0	49.9	53.6	12.4	-134.4	11.6
37	682.67 Sec	12	131.8	81.4	33.5	83.1	41.0	17.1	-132.2	17.3

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
5	96.00 Hz	1369	202.8	737.9	88.2	517	65.3	987
6	72.00 Hz	1177	181.1	579.9	72.9	564	43.6	1010
7	48.00 Hz	1497	151.0	406.5	69.2	631	46.6	1036
8	36.00 Hz	2293	140.0	334.4	67.3	702	58.3	1085
9	24.00 Hz	1088	118.4	249.6	44.0	790	32.3	1148
10	18.00 Hz	1536	101.9	196.0	34.8	847	28.2	1174
11	12.00 Hz	1536	84.3	148.6	21.5	943	24.8	1252
12	9.00 Hz	1344	67.6	119.6	13.8	975	16.4	1297
13	6.00 Hz	1792	53.3	87.9	8.2	1061	10.7	1362
14	4.50 Hz	1472	40.6	69.4	4.4	1071	15.5	1398
15	3.00 Hz	10720	30.5	56.6	5.0	1135	15.6	1545
16	2.25 Hz	7552	24.7	46.8	4.8	1179	16.5	1624
17	1.50 Hz	9840	19.1	40.6	6.4	1271	24.8	1852
18	1.13 Hz	5936	17.5	39.6	19.5	1402	37.8	2112
19	1.33 Sec	1760	19.9	40.0	63.1	1832	36.7	2597
20	1.78 Sec	2048	25.1	38.4	804.9	2375	31.0	2942
21	2.67 Sec	564	38.1	37.1	1486.8	3588	25.6	3539
22	3.56 Sec	1182	53.5	33.8	2088.2	4910	28.7	3904
23	5.33 Sec	1176	81.1	35.0	3164.7	7403	63.4	4864
24	7.11 Sec	756	118.5	41.3	4623.1	10333	92.3	6102
25	10.67 Sec	729	162.3	45.6	1428.7	14806	74.3	7850
26	14.22 Sec	558	205.8	48.8	715.1	19255	70.1	9375
27	21.33 Sec	360	238.1	51.7	431.8	25362	70.6	11814
28	28.44 Sec	348	251.5	54.3	278.2	30101	66.4	13988
29	42.67 Sec	249	246.5	55.4	186.3	36498	51.9	17296
30	56.89 Sec	267	228.4	53.1	125.0	40565	34.4	19564
31	85.33 Sec	132	201.3	47.7	80.2	46642	22.5	22716
32	113.78 Sec	99	169.5	41.4	59.0	49425	17.5	24428
33	170.67 Sec	42	144.0	36.1	66.2	55784	17.7	27917
34	227.56 Sec	33	131.2	32.7	60.8	61488	18.7	30679
35	341.33 Sec	39	111.7	29.9	68.9	69477	21.2	35943
36	455.11 Sec	27	111.3	29.0	137.9	80104	37.9	40895
37	682.67 Sec	12	120.2	32.8	176.6	101956	60.8	53225

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
5	96.00 Hz	1369	-77.27	-101.03	999.99	-140.30	285.50	999.99
6	72.00 Hz	1177	-83.69	-57.93	999.99	-79.68	239.93	999.99
7	48.00 Hz	1497	-29.36	-3.79	113.44	21.56	188.36	192.84
8	36.00 Hz	2293	-17.32	2.54	14.33	35.96	158.32	31.09
9	24.00 Hz	1088	-1.54	-1.88	9.02	21.14	119.70	21.18
10	18.00 Hz	1536	-1.00	-2.40	3.39	19.57	96.48	7.77
11	12.00 Hz	1536	-4.39	1.44	2.21	17.90	71.77	4.27
12	9.00 Hz	1344	-.07	1.96	.96	15.62	50.70	2.52
13	6.00 Hz	1792	-1.70	.95	1.45	7.39	38.23	4.53
14	4.50 Hz	1472	.68	3.82	3.37	2.25	30.25	10.46
15	3.00 Hz	10720	-1.13	.39	1.47	3.90	20.17	2.70
16	2.25 Hz	7552	-.70	.64	1.21	4.15	16.33	2.82
17	1.50 Hz	9840	-.18	-.22	1.62	4.03	10.64	2.46
18	1.13 Hz	5936	.03	-.31	1.25	5.30	7.80	1.98
19	1.33 Sec	1760	.128	-.348	2.542	6.102	5.981	4.794
20	1.78 Sec	2048	.653	.149	1.036	6.772	4.316	1.875
21	2.67 Sec	564	.328	.138	11.369	7.373	4.212	4.517
22	3.56 Sec	1182	-.693	.774	4.967	8.023	4.097	2.622
23	5.33 Sec	1176	.650	-1.635	6.048	7.948	5.147	3.776
24	7.11 Sec	756	-.117	1.138	2.302	8.079	4.042	1.010
25	10.67 Sec	729	.138	.219	.176	8.059	3.427	.184
26	14.22 Sec	558	.269	.117	.005	7.549	3.832	.014
27	21.33 Sec	360	.238	.170	.005	6.242	4.225	.002
28	28.44 Sec	348	.113	.017	.003	5.322	3.918	.001
29	42.67 Sec	249	.118	.107	.005	3.850	3.748	.002
30	56.89 Sec	267	.192	.041	.005	2.868	3.462	.003
31	85.33 Sec	132	.051	.180	.013	2.025	2.761	.009
32	113.78 Sec	99	-.001	.198	.010	1.455	2.278	.011
33	170.67 Sec	42	-.008	.196	.021	1.221	1.649	.038
34	227.56 Sec	33	-.017	.090	.025	1.006	1.369	.036
35	341.33 Sec	39	.052	.020	.020	.721	1.003	.014
36	455.11 Sec	27	.085	-.095	.105	.672	.911	.120
37	682.67 Sec	12	.002	.085	.123	.742	.644	.171

PHOENIX GEOPHYSICS

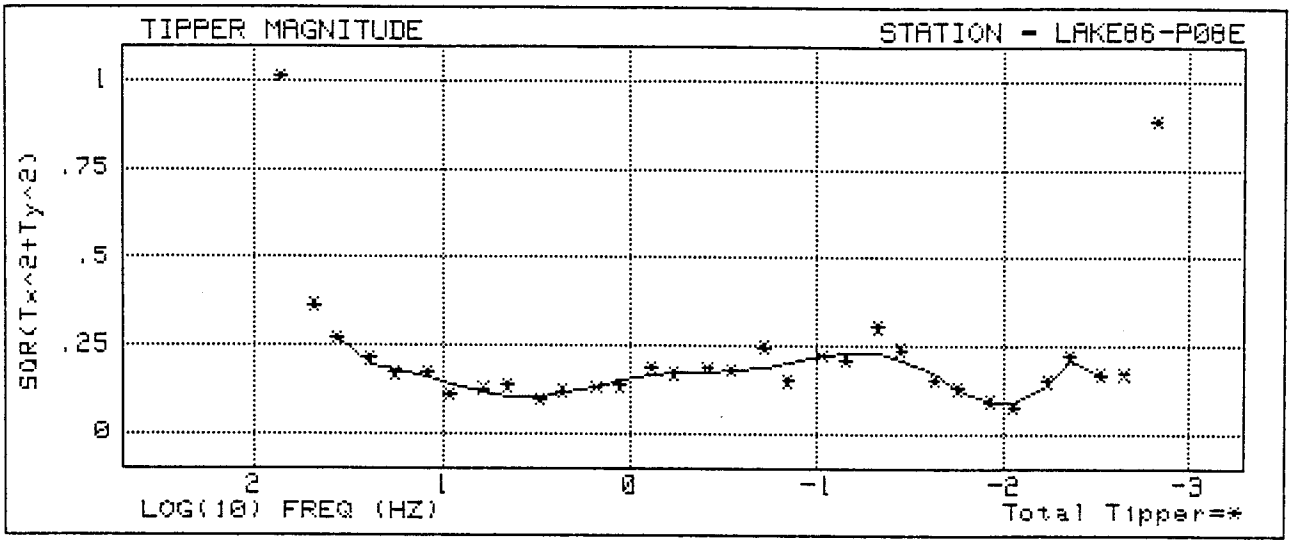
MT Site: LAKE86-P08E

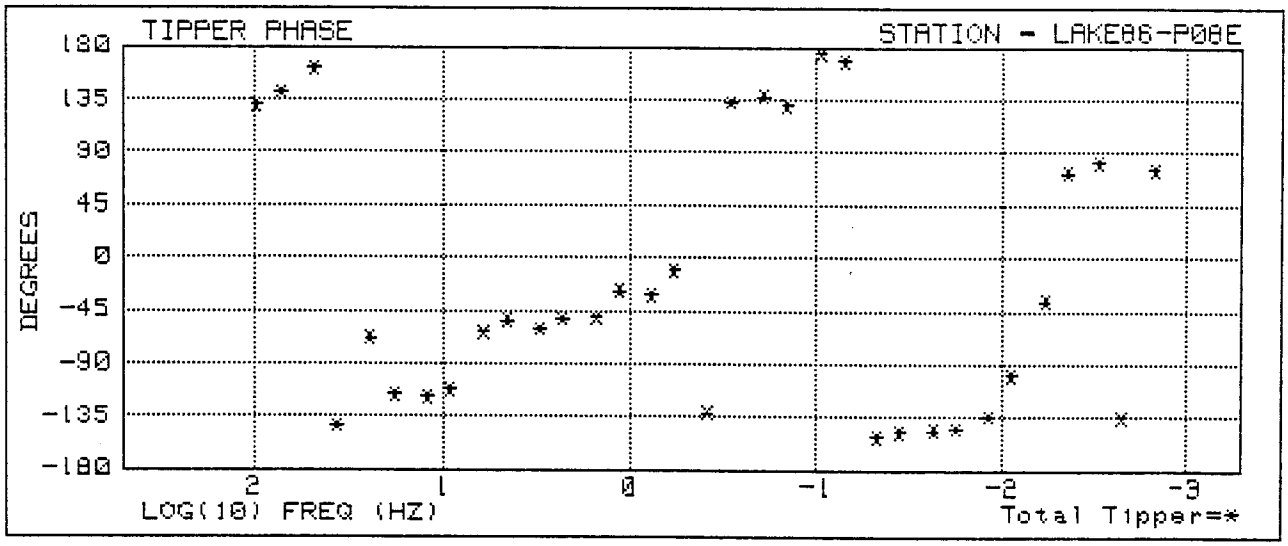
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

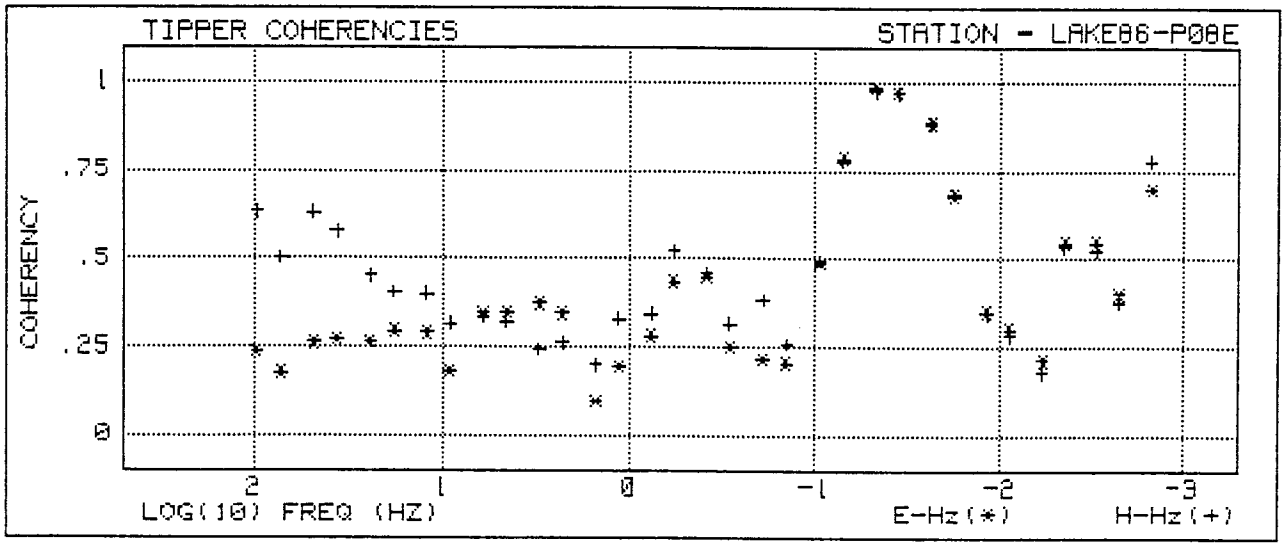
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
5	96.00 Hz	1369	-179.74	-590.17	999.99	-209.91	38.30	999.99
6	72.00 Hz	1177	-238.75	-391.03	999.99	-169.36	122.61	999.99
7	48.00 Hz	1497	-56.93	-319.10	148.62	-16.48	-7.27	252.64
8	36.00 Hz	2293	-57.20	-227.95	20.32	-2.22	-2.07	44.08
9	24.00 Hz	1088	-36.20	-164.78	15.24	-1.49	-1.90	35.79
10	18.00 Hz	1536	-23.14	-129.21	6.92	-1.41	-2.36	15.87
11	12.00 Hz	1536	-20.56	-94.09	4.14	2.84	.58	7.99
12	9.00 Hz	1344	-20.84	-68.47	1.96	3.52	.90	5.12
13	6.00 Hz	1792	-11.98	-50.88	2.90	3.63	-.98	9.08
14	4.50 Hz	1472	-12.38	-37.54	4.53	4.97	-2.13	14.05
15	3.00 Hz	10720	-9.47	-27.05	2.12	.44	-.88	3.90
16	2.25 Hz	7552	-8.41	-21.55	1.98	1.09	-.82	4.62
17	1.50 Hz	9840	-7.66	-15.76	2.83	.10	-.43	4.30
18	1.13 Hz	5936	-7.64	-12.80	2.10	-.33	-.15	3.34
19	1.33 Sec	1760	-8.032	-9.453	3.591	-.719	.123	6.773
20	1.78 Sec	2048	-7.538	-7.458	1.386	-.518	.435	2.509
21	2.67 Sec	564	-5.960	-5.856	8.083	-.704	-.749	3.212
22	3.56 Sec	1182	-4.428	-5.177	3.088	-1.074	-.492	1.630
23	5.33 Sec	1176	-4.435	-3.378	2.513	-.117	-.115	1.569
24	7.11 Sec	756	-4.489	-3.075	.633	.302	-.418	.278
25	10.67 Sec	729	-3.760	-2.737	.058	.235	-.383	.061
26	14.22 Sec	558	-3.285	-2.534	.001	.368	-.207	.004
27	21.33 Sec	360	-2.650	-2.261	.000	.357	-.048	.000
28	28.44 Sec	348	-2.268	-2.066	.000	.146	-.037	.000
29	42.67 Sec	249	-1.745	-1.885	.001	.190	.025	.001
30	56.89 Sec	267	-1.353	-1.674	.001	.156	.072	.000
31	85.33 Sec	132	-.960	-1.359	.002	.174	.087	.002
32	113.78 Sec	99	-.782	-1.121	.002	.211	.075	.003
33	170.67 Sec	42	-.537	-.831	.005	.114	.094	.009
34	227.56 Sec	33	-.463	-.766	.008	.029	.049	.011
35	341.33 Sec	39	-.498	-.513	.006	.111	-.007	.004
36	455.11 Sec	27	-.336	-.344	.019	.014	-.053	.022
37	682.67 Sec	12	-.333	-.367	.045	.067	-.010	.063

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E







PHOENIX GEOPHYSICS

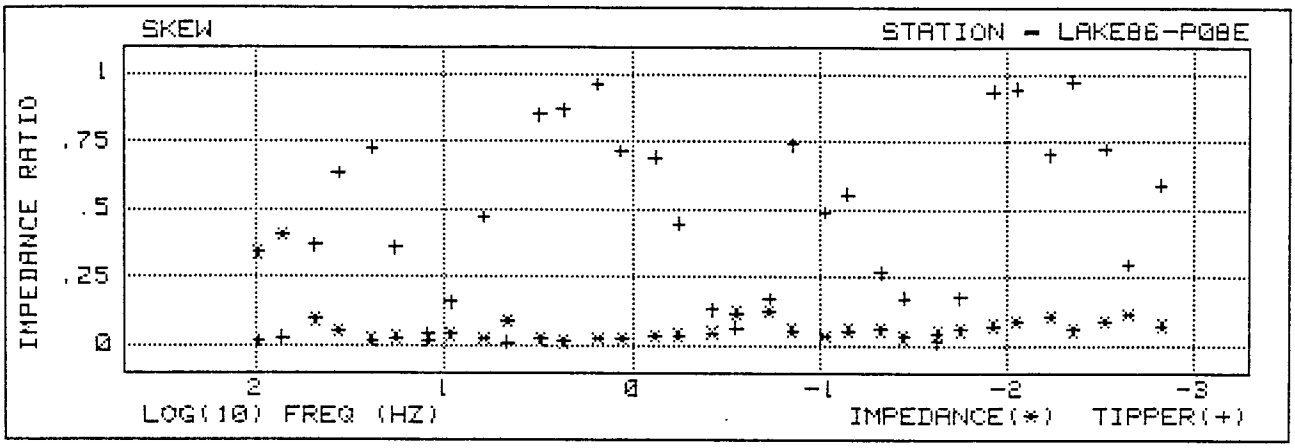
MT Site: LAKE86-P08E

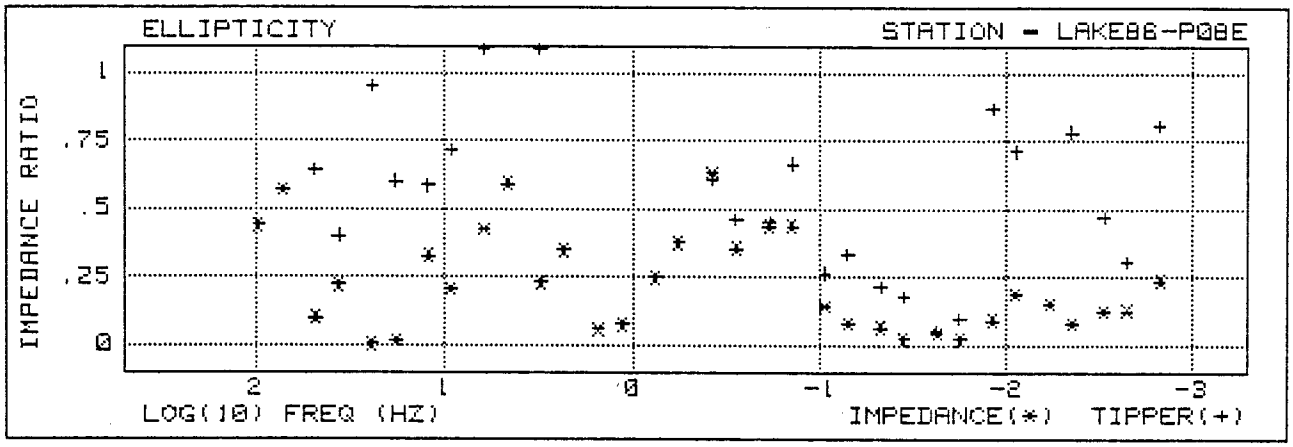
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

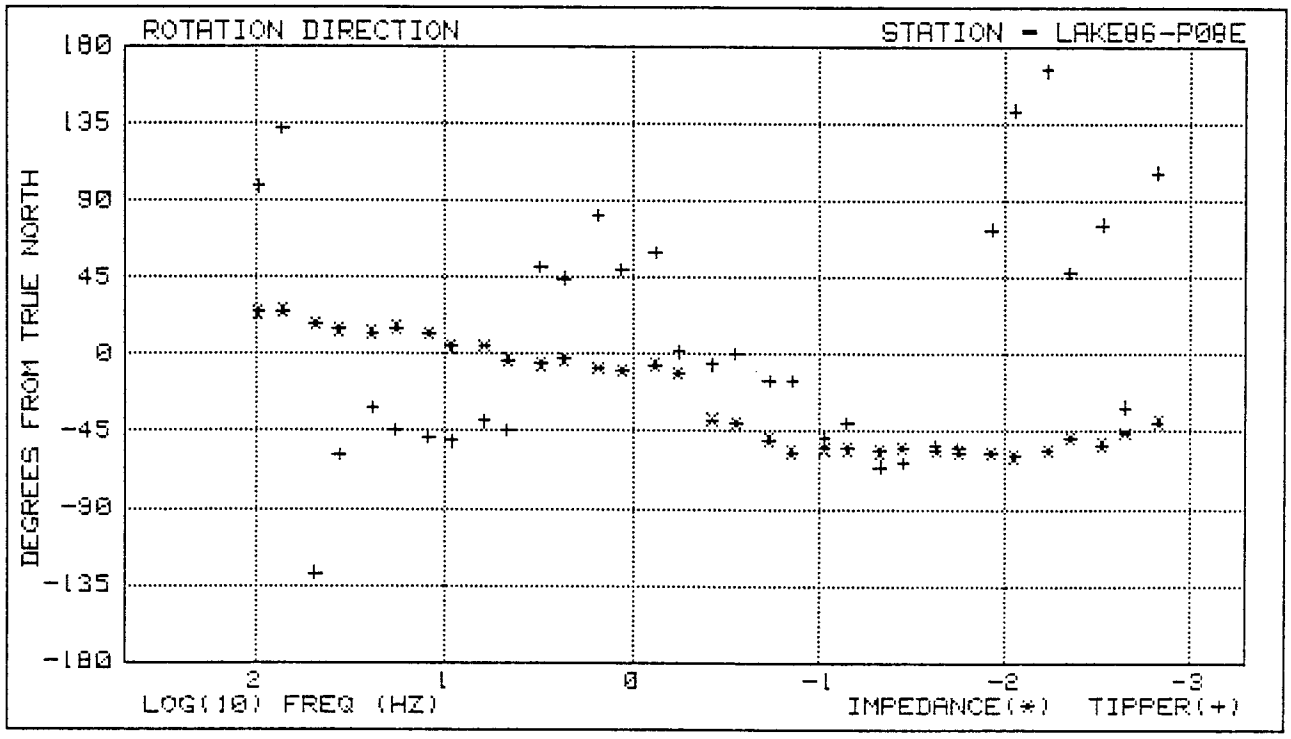
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
5	96.00 Hz	1369	1.45	129.37	.23	.63
6	72.00 Hz	1177	1.01	140.60	.17	.50
7	48.00 Hz	1497	.36	160.96	.26	.63
8	36.00 Hz	2293	.27	-143.45	.27	.57
9	24.00 Hz	1088	.21	-69.19	.26	.45
10	18.00 Hz	1536	.17	-117.12	.29	.40
11	12.00 Hz	1536	.17	-118.66	.29	.40
12	9.00 Hz	1344	.11	-112.75	.18	.31
13	6.00 Hz	1792	.12	-64.49	.34	.33
14	4.50 Hz	1472	.13	-54.20	.34	.32
15	3.00 Hz	10720	.09	-61.54	.37	.24
16	2.25 Hz	7552	.12	-52.75	.34	.26
17	1.50 Hz	9840	.13	-51.68	.09	.19
18	1.13 Hz	5936	.13	-28.90	.19	.33
19	1.33 Sec	1760	.18	-32.68	.28	.34
20	1.78 Sec	2048	.17	-11.92	.43	.52
21	2.67 Sec	564	.18	-132.12	.44	.46
22	3.56 Sec	1182	.18	131.83	.25	.31
23	5.33 Sec	1176	.24	136.87	.21	.38
24	7.11 Sec	756	.15	129.48	.20	.25
25	10.67 Sec	729	.22	173.59	.48	.49
26	14.22 Sec	558	.21	166.85	.78	.77
27	21.33 Sec	360	.30	-152.89	.98	.97
28	28.44 Sec	348	.24	-148.07	.97	.97
29	42.67 Sec	249	.15	-147.01	.88	.88
30	56.89 Sec	267	.12	-145.76	.68	.68
31	85.33 Sec	132	.09	-134.79	.35	.34
32	113.78 Sec	99	.07	-99.74	.30	.28
33	170.67 Sec	42	.15	-37.52	.21	.17
34	227.56 Sec	33	.22	71.83	.54	.53
35	341.33 Sec	39	.17	80.63	.54	.52
36	455.11 Sec	27	.17	-135.84	.40	.37
37	682.67 Sec	12	.88	74.36	.69	.78

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E







PHOENIX GEOPHYSICS

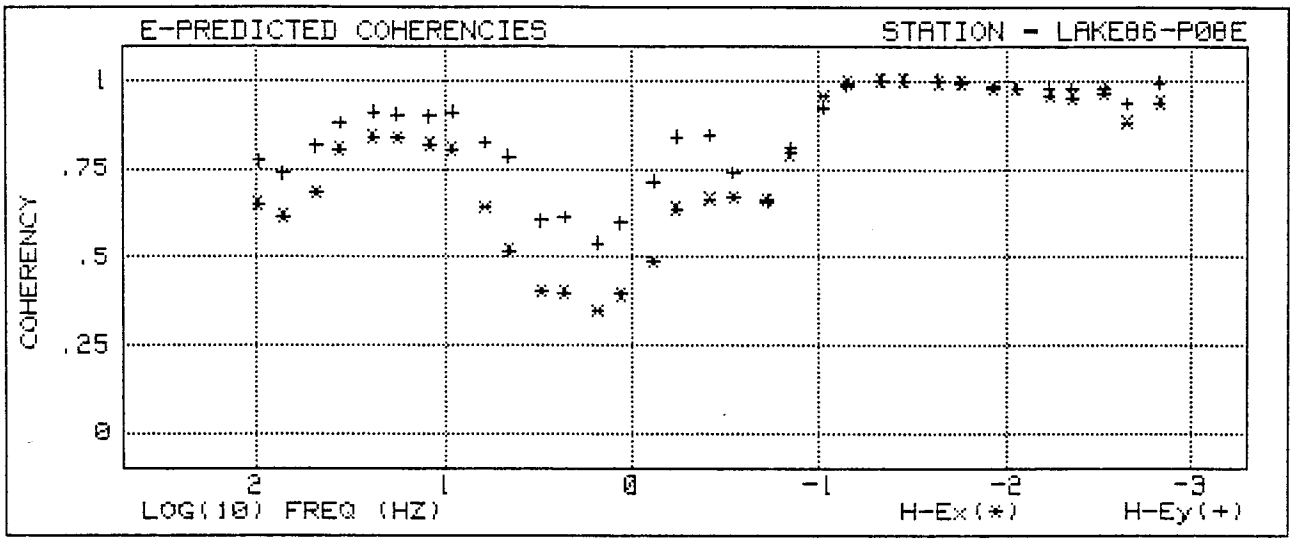
MT Site: LAKE86-P08E

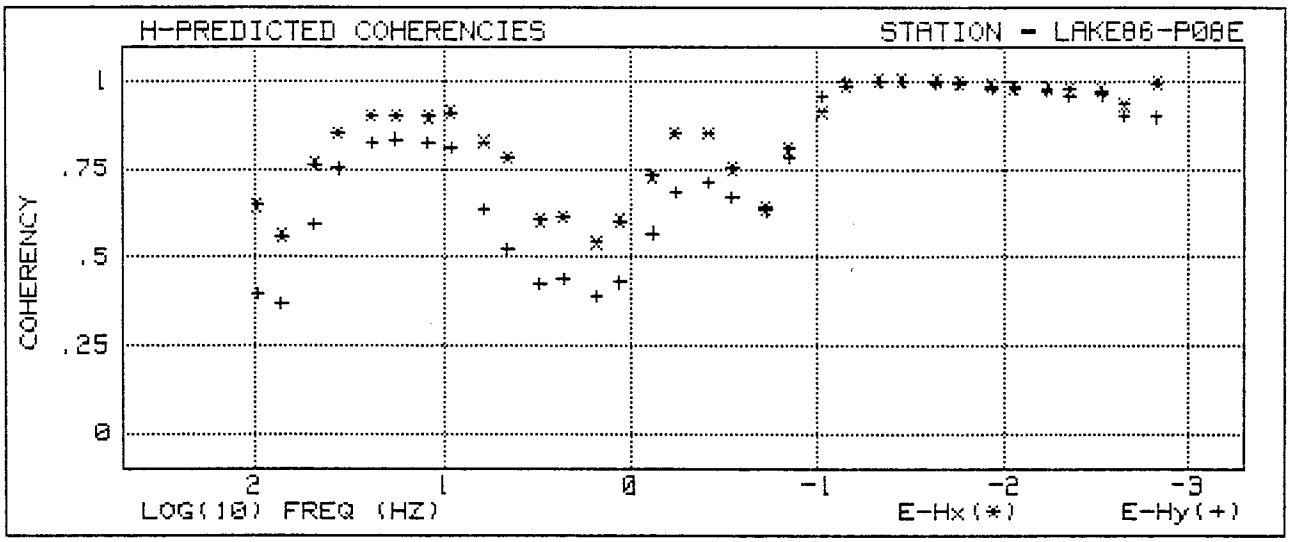
SKEW, ELLIPTICITY AND STRIKE

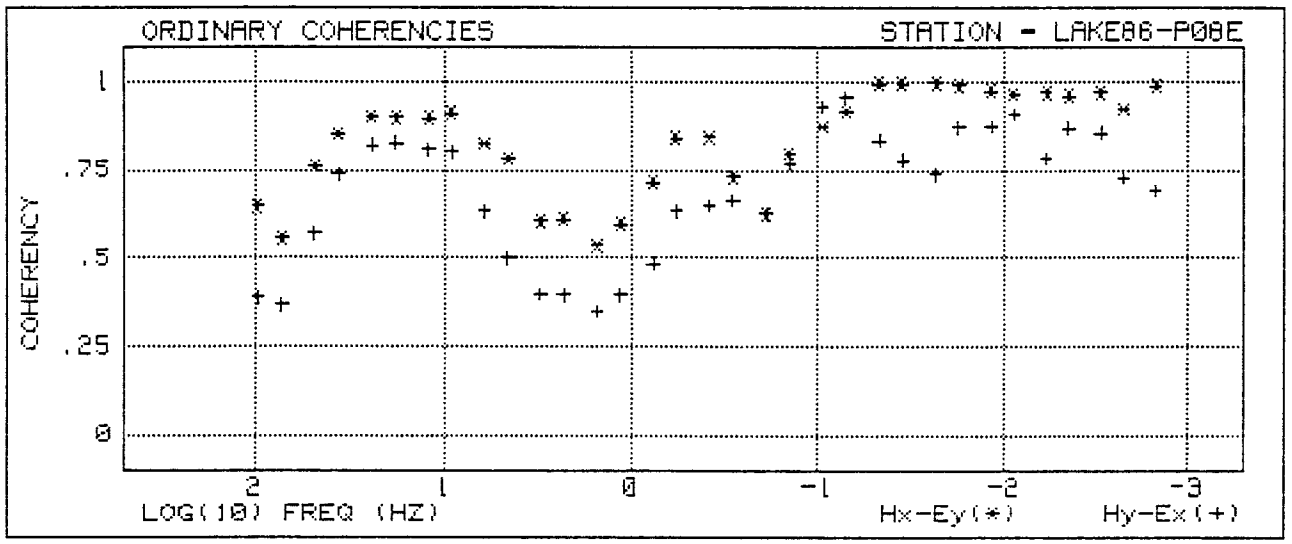
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
5	96.00 Hz	1369	.34	.44	23.75	.01	41.48	97.52
6	72.00 Hz	1177	.40	.57	24.90	.02	50.94	131.68
7	48.00 Hz	1497	.09	.10	17.29	.36	.64	-128.47
8	36.00 Hz	2293	.05	.22	13.74	.63	.40	-59.61
9	24.00 Hz	1088	.02	.00	11.82	.72	.95	-31.95
10	18.00 Hz	1536	.02	.01	14.72	.35	.59	-44.94
11	12.00 Hz	1536	.01	.32	11.28	.04	.58	-48.64
12	9.00 Hz	1344	.04	.20	3.54	.16	.71	-51.03
13	6.00 Hz	1792	.02	.42	4.21	.46	1.08	-39.56
14	4.50 Hz	1472	.09	.59	-4.14	.01	1.15	-45.13
15	3.00 Hz	10720	.02	.23	-6.41	.84	1.08	50.43
16	2.25 Hz	7552	.01	.34	-3.75	.86	1.30	43.62
17	1.50 Hz	9840	.02	.06	-8.97	.95	1.35	80.83
18	1.13 Hz	5936	.02	.07	-10.48	.71	2.16	49.22
19	1.33 Sec	1760	.03	.24	-6.83	.69	2.20	59.33
20	1.78 Sec	2048	.03	.37	-11.72	.44	4.29	1.01
21	2.67 Sec	564	.04	.63	-38.53	.13	.61	-6.40
22	3.56 Sec	1182	.12	.35	-40.53	.06	.46	-.28
23	5.33 Sec	1176	.12	.43	-50.08	.17	.45	-16.11
24	7.11 Sec	756	.05	.43	-57.28	.74	.66	-15.99
25	10.67 Sec	729	.03	.14	-55.65	.49	.26	-49.96
26	14.22 Sec	558	.05	.08	-55.51	.55	.33	-40.42
27	21.33 Sec	360	.06	.06	-57.16	.26	.21	-66.03
28	28.44 Sec	348	.03	.02	-55.13	.17	.17	-63.76
29	42.67 Sec	249	.04	.04	-56.65	.01	.05	-53.85
30	56.89 Sec	267	.05	.02	-57.32	.17	.10	-55.07
31	85.33 Sec	132	.07	.09	-58.22	.93	.86	72.80
32	113.78 Sec	99	.08	.18	-59.83	.94	.71	141.85
33	170.67 Sec	42	.10	.15	-56.58	.70	2.36	165.67
34	227.56 Sec	33	.05	.08	-49.50	.97	.78	47.81
35	341.33 Sec	39	.08	.12	-53.30	.72	.46	75.47
36	455.11 Sec	27	.11	.13	-46.49	.29	.30	-31.55
37	682.67 Sec	12	.07	.23	-39.96	.59	.80	105.91

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E







PHOENIX GEOPHYSICS

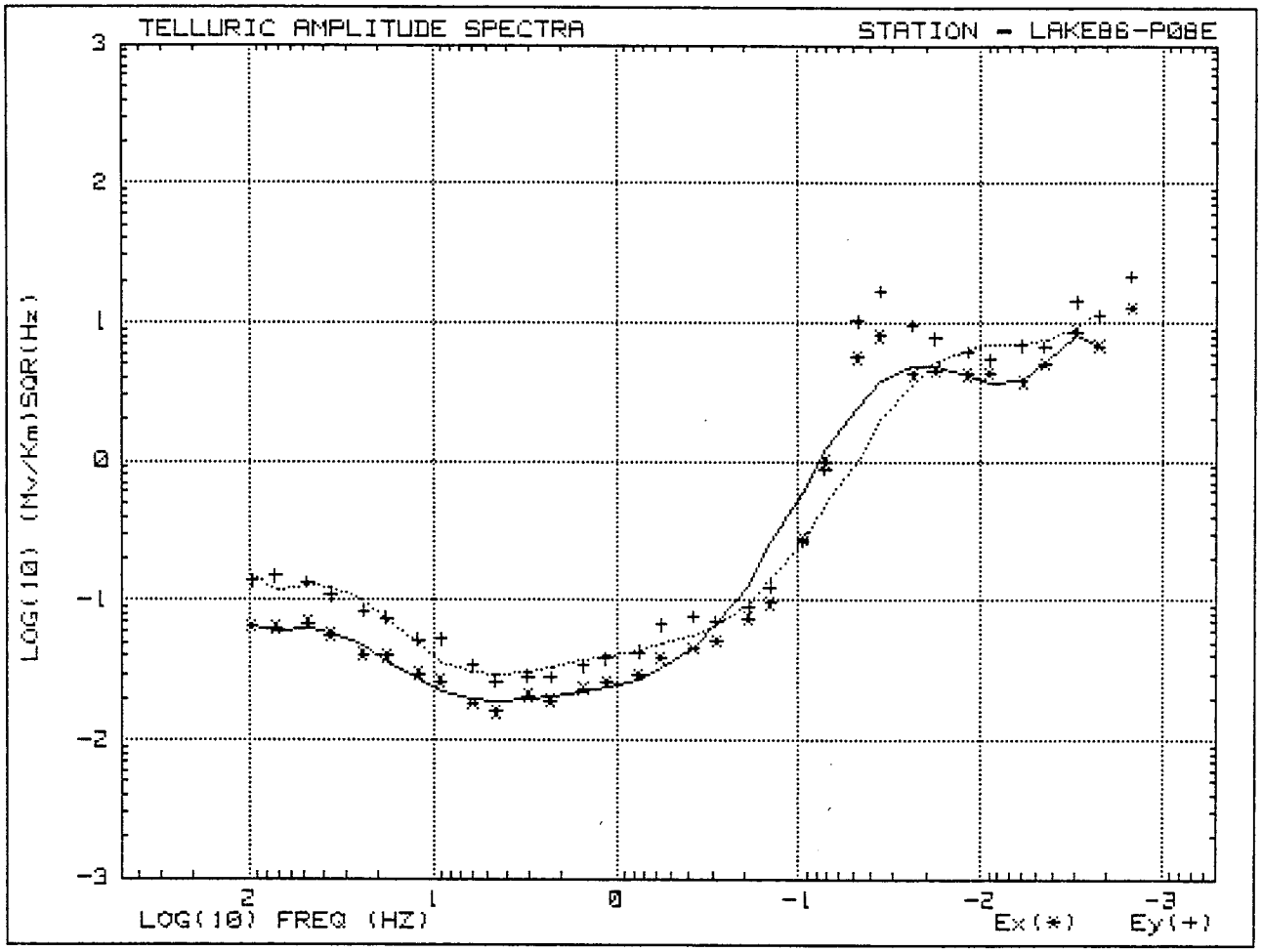
MT Site: LAKE86-P08E

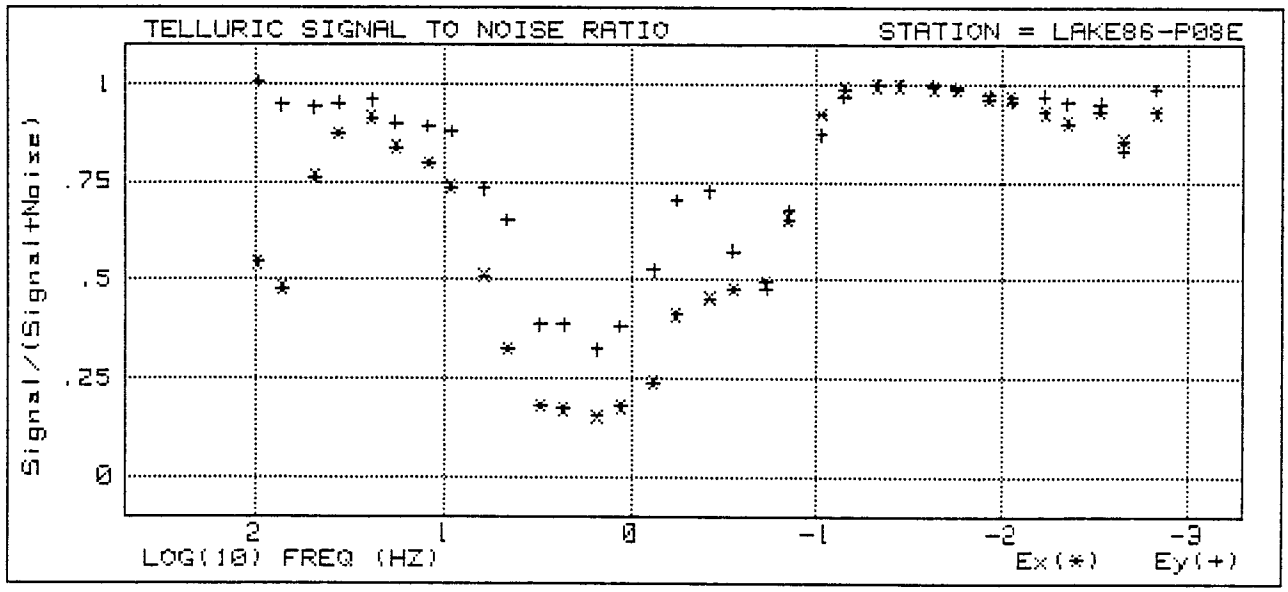
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
5	96.00 Hz	1369	.65	.77	.64	.39	.64	.39
6	72.00 Hz	1177	.61	.73	.56	.37	.55	.36
7	48.00 Hz	1497	.68	.81	.76	.59	.76	.57
8	36.00 Hz	2293	.80	.88	.85	.75	.85	.74
9	24.00 Hz	1088	.84	.91	.90	.82	.90	.82
10	18.00 Hz	1536	.84	.90	.90	.83	.90	.82
11	12.00 Hz	1536	.82	.90	.90	.82	.89	.81
12	9.00 Hz	1344	.80	.91	.91	.81	.91	.80
13	6.00 Hz	1792	.64	.82	.82	.63	.82	.63
14	4.50 Hz	1472	.51	.78	.78	.52	.78	.50
15	3.00 Hz	10720	.40	.60	.60	.42	.60	.39
16	2.25 Hz	7552	.40	.61	.61	.44	.61	.39
17	1.50 Hz	9840	.34	.54	.54	.39	.53	.34
18	1.13 Hz	5936	.39	.59	.60	.43	.59	.39
19	1.33 Sec	1760	.48	.71	.73	.57	.71	.48
20	1.78 Sec	2048	.63	.84	.85	.68	.84	.63
21	2.67 Sec	564	.66	.84	.85	.71	.84	.65
22	3.56 Sec	1182	.67	.74	.75	.67	.73	.66
23	5.33 Sec	1176	.66	.66	.64	.63	.62	.62
24	7.11 Sec	756	.79	.80	.80	.78	.79	.76
25	10.67 Sec	729	.95	.92	.91	.95	.87	.93
26	14.22 Sec	558	.99	.98	.98	.99	.91	.95
27	21.33 Sec	360	1.00	1.00	1.00	1.00	.99	.83
28	28.44 Sec	348	1.00	1.00	1.00	1.00	.99	.77
29	42.67 Sec	249	.99	1.00	1.00	.99	.99	.74
30	56.89 Sec	267	.99	.99	.99	.99	.99	.87
31	85.33 Sec	132	.98	.98	.98	.98	.97	.87
32	113.78 Sec	99	.98	.98	.98	.98	.96	.90
33	170.67 Sec	42	.96	.97	.98	.97	.97	.78
34	227.56 Sec	33	.95	.97	.98	.96	.96	.86
35	341.33 Sec	39	.96	.97	.97	.96	.96	.85
36	455.11 Sec	27	.88	.93	.93	.90	.92	.73
37	682.67 Sec	12	.94	.99	.99	.90	.99	.69

PHOENIX GEOPHYSICS

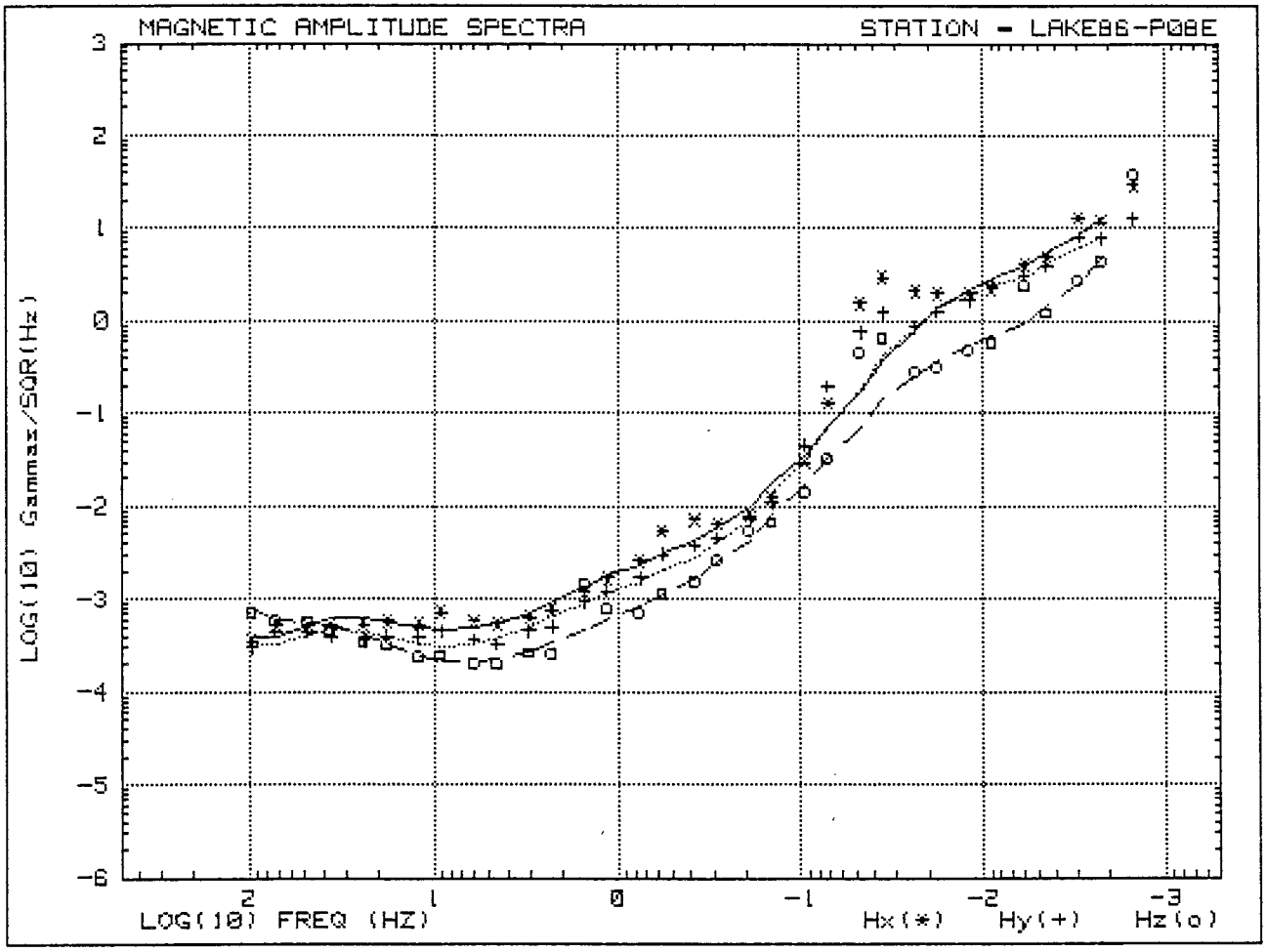
MT Site: LAKE86-P08E

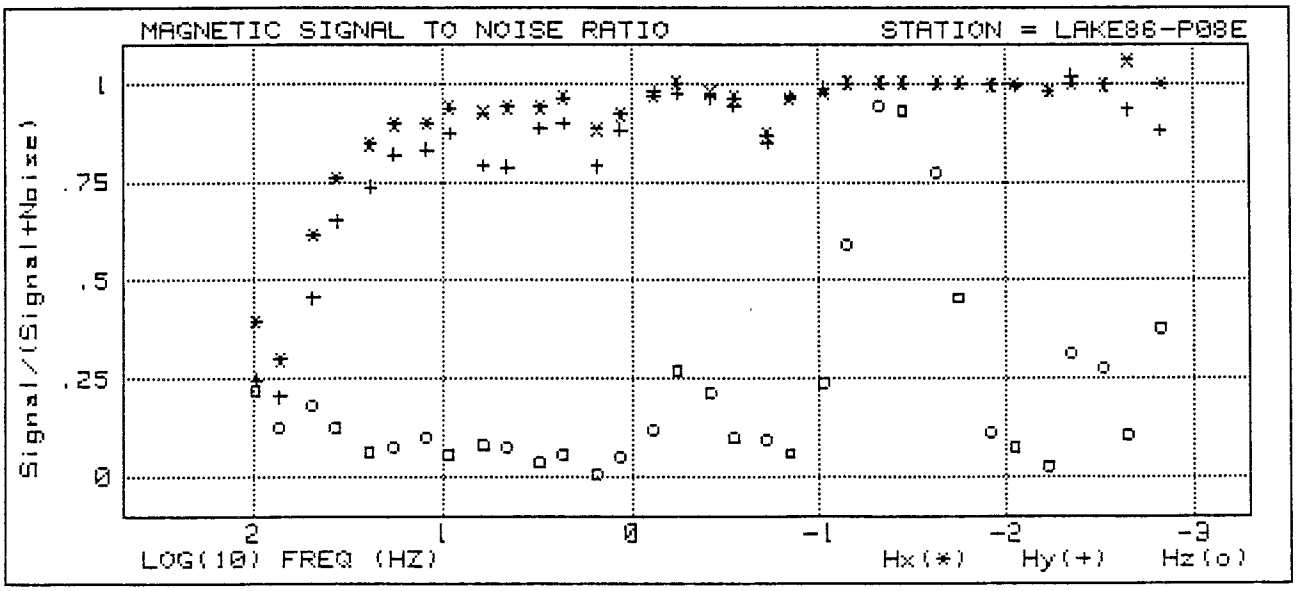




PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	1369	3.44E-04	2.94E-04	7.64E-04	6.42E-02	1.36E-01
6	72.00 Hz	1177	5.24E-04	4.29E-04	6.18E-04	6.27E-02	1.47E-01
7	48.00 Hz	1497	5.21E-04	4.29E-04	6.05E-04	6.76E-02	1.32E-01
8	36.00 Hz	2293	5.15E-04	3.82E-04	4.78E-04	5.58E-02	1.07E-01
9	24.00 Hz	1088	5.32E-04	3.61E-04	3.67E-04	4.04E-02	8.34E-02
10	18.00 Hz	1536	5.69E-04	3.93E-04	3.36E-04	3.95E-02	7.39E-02
11	12.00 Hz	1536	5.32E-04	3.87E-04	2.48E-04	2.93E-02	5.12E-02
12	9.00 Hz	1344	7.09E-04	4.52E-04	2.62E-04	2.62E-02	5.23E-02
13	6.00 Hz	1792	5.76E-04	3.61E-04	2.13E-04	1.80E-02	3.38E-02
14	4.50 Hz	1472	5.38E-04	3.21E-04	2.07E-04	1.57E-02	2.60E-02
15	3.00 Hz	10720	6.26E-04	4.53E-04	2.79E-04	2.04E-02	2.81E-02
16	2.25 Hz	7552	7.51E-04	4.99E-04	2.70E-04	1.88E-02	2.78E-02
17	1.50 Hz	9840	1.16E-03	9.16E-04	1.51E-03	2.32E-02	3.34E-02
18	1.13 Hz	5936	1.67E-03	1.23E-03	8.25E-04	2.57E-02	3.79E-02
19	1.33 Sec	1760	2.54E-03	1.68E-03	7.33E-04	2.91E-02	4.21E-02
20	1.78 Sec	2048	5.35E-03	2.99E-03	1.18E-03	3.81E-02	6.66E-02
21	2.67 Sec	564	7.10E-03	3.76E-03	1.66E-03	4.48E-02	7.53E-02
22	3.56 Sec	1182	6.43E-03	4.47E-03	2.77E-03	5.10E-02	6.94E-02
23	5.33 Sec	1176	7.77E-03	7.00E-03	5.84E-03	7.39E-02	8.81E-02
24	7.11 Sec	756	1.20E-02	1.08E-02	7.04E-03	9.43E-02	1.23E-01
25	10.67 Sec	729	2.93E-02	4.45E-02	1.51E-02	2.75E-01	2.61E-01
26	14.22 Sec	558	1.26E-01	1.94E-01	3.44E-02	9.88E-01	8.63E-01
27	21.33 Sec	360	1.54E+00	7.51E-01	4.74E-01	5.54E+00	1.01E+01
28	28.44 Sec	348	2.92E+00	1.22E+00	6.73E-01	7.98E+00	1.65E+01
29	42.67 Sec	249	2.07E+00	8.51E-01	2.97E-01	4.17E+00	9.46E+00
30	56.89 Sec	267	1.94E+00	1.23E+00	3.29E-01	4.49E+00	7.65E+00
31	85.33 Sec	132	1.99E+00	1.63E+00	5.19E-01	4.20E+00	6.12E+00
32	113.78 Sec	99	2.19E+00	2.33E+00	6.14E-01	4.24E+00	5.32E+00
33	170.67 Sec	42	4.05E+00	3.10E+00	2.51E+00	3.74E+00	6.79E+00
34	227.56 Sec	33	4.96E+00	3.89E+00	1.29E+00	5.00E+00	6.56E+00
35	341.33 Sec	39	1.27E+01	7.87E+00	2.88E+00	8.48E+00	1.40E+01
36	455.11 Sec	27	1.17E+01	7.77E+00	4.71E+00	6.72E+00	1.10E+01
37	682.67 Sec	12	2.92E+01	1.26E+01	4.04E+01	1.25E+01	2.10E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P08E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	1369	.394	.244	.224	.543	1.000
6	72.00 Hz	1177	.296	.201	.131	.477	.946
7	48.00 Hz	1497	.614	.455	.188	.762	.938
8	36.00 Hz	2293	.759	.649	.131	.871	.950
9	24.00 Hz	1088	.844	.737	.067	.911	.957
10	18.00 Hz	1536	.895	.818	.079	.837	.899
11	12.00 Hz	1536	.898	.830	.106	.797	.891
12	9.00 Hz	1344	.938	.872	.061	.735	.877
13	6.00 Hz	1792	.925	.789	.083	.508	.731
14	4.50 Hz	1472	.939	.787	.081	.324	.652
15	3.00 Hz	10720	.938	.885	.040	.179	.384
16	2.25 Hz	7552	.962	.898	.060	.172	.385
17	1.50 Hz	9840	.882	.788	.011	.152	.322
18	1.13 Hz	5936	.920	.881	.055	.178	.381
19	1.33 Sec	1760	.965	.980	.122	.237	.523
20	1.78 Sec	2048	1.000	.975	.274	.411	.702
21	2.67 Sec	564	.975	.964	.220	.453	.726
22	3.56 Sec	1182	.963	.940	.103	.475	.572
23	5.33 Sec	1176	.867	.846	.097	.492	.476
24	7.11 Sec	756	.961	.966	.064	.654	.675
25	10.67 Sec	729	.972	.987	.244	.922	.871
26	14.22 Sec	558	.999	.999	.595	.987	.968
27	21.33 Sec	360	1.000	.999	.947	.996	.997
28	28.44 Sec	348	1.000	.999	.935	.996	.998
29	42.67 Sec	249	.999	.998	.779	.990	.996
30	56.89 Sec	267	1.000	.998	.461	.986	.990
31	85.33 Sec	132	.996	.995	.117	.963	.972
32	113.78 Sec	99	.998	.991	.080	.963	.954
33	170.67 Sec	42	.979	.980	.032	.928	.969
34	227.56 Sec	33	1.000	1.000	.317	.899	.952
35	341.33 Sec	39	.996	.996	.280	.930	.948
36	455.11 Sec	27	1.000	.932	.111	.856	.831
37	682.67 Sec	12	.997	.879	.384	.927	.986

PHOENIX GEOPHYSICS

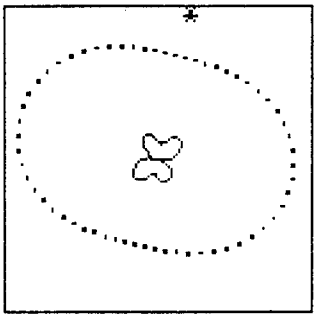
MT Site: LAKE86-P08E

IMPEDANCE POLAR DIAGRAMS

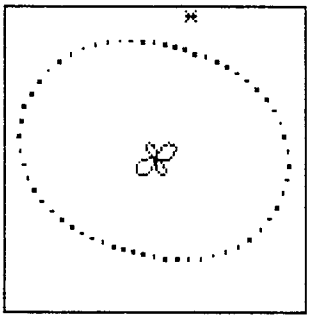
XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction

Zxy = ...
Zxx = ___

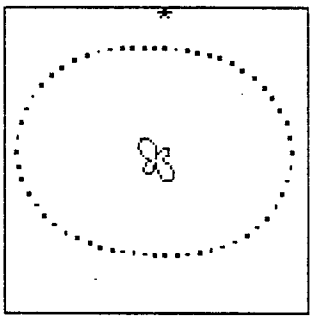
F=8 (36.0 Hz)



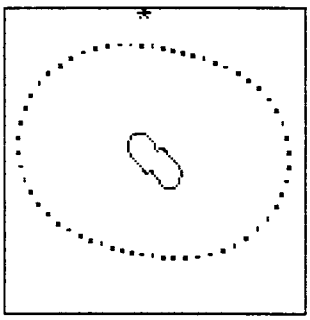
F=10 (18.0 Hz)



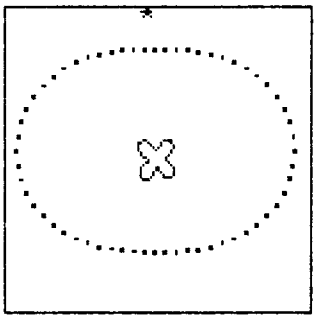
F=12 (9.0 Hz)



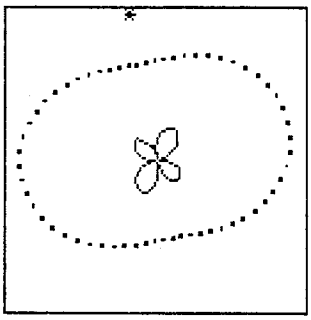
F=14 (4.5 Hz)



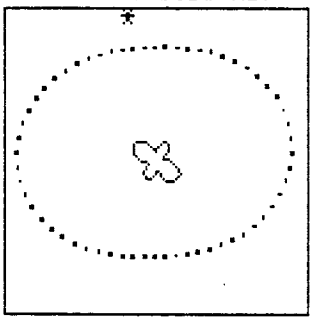
F=16 (2.3 Hz)



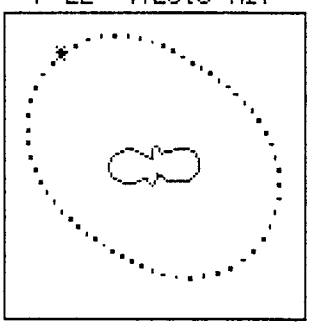
F=18 (1.1 Hz)



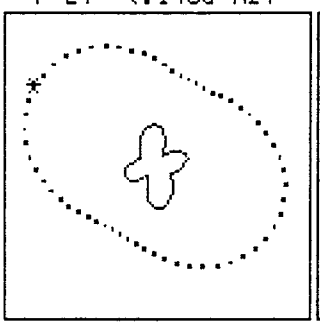
F=20 (.5625 Hz)



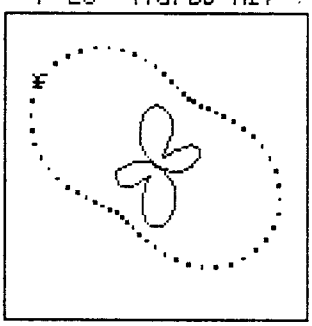
F=22 (.2813 Hz)



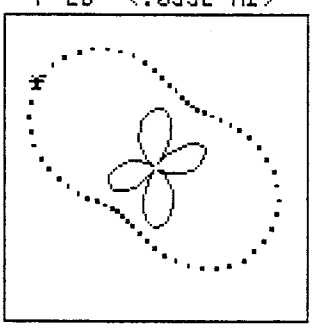
F=24 (.1406 Hz)



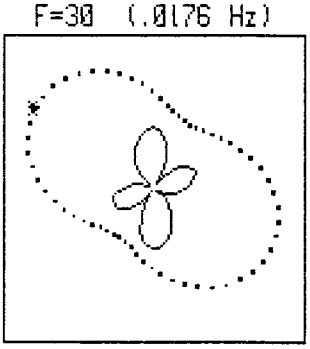
F=26 (.0703 Hz)



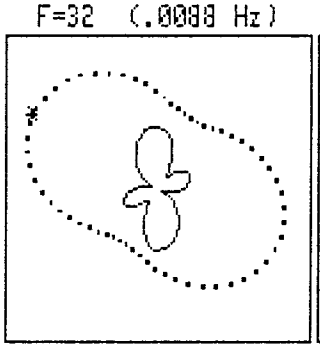
F=28 (.0352 Hz)



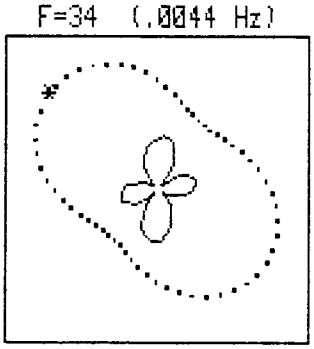
F=30 (.0176 Hz)



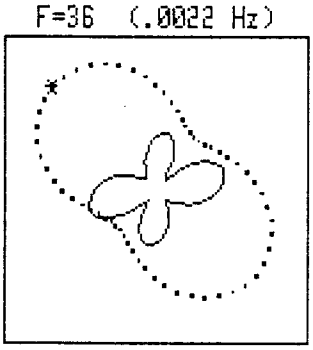
F=32 (.0088 Hz)



F=34 (.0044 Hz)



F=36 (.0022 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P08s/P09s/

Operator: VAAG & OJALA
Date: 28 Sep 1986
Time: 08:07:17

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#221-30Aug86-05
SP--Stn02: B#219-30Aug86-05
Sens-Ch01: C#372-04Sep86-01
Sens-Ch02: C#445-04Sep86-01
Sens-Ch03: L#307-05Sep86-01
Sens-Ch06: C#452-04Sep86-01
Sens-Ch07: C#239-04Sep86-01
Sens-Ch08: L#419-05Sep86-01

Station 2

Stn Number:LAKE86-P09s
Site Desc:T43N R03E Sec.20 NW1/4
41,33,25 N 121,39,20 W
Elevation:6480 FT
Reference:LAKE86-P08s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: OJALA, ET AL.
Sensor Processor: SE219
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL452	+40 DEG
Hy	7	COIL239	+130 DEG
Hz	8	LOOP419	
Ex	9	150 M	+40 DEG
Ey	10	164 M	+130 DEG
Rx	1	COIL372	+40 DEG
Ry	2	COIL445	+130 DEG

Ex Pot Resist: 4.5 K Ohms
Ex Voltage: AC=15.4 mv, DC=40.4 mv
Ey Pot Resist: 4.5 K Ohms
Ey Voltage: AC=16.5 mv, DC=81.1 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

OPERATOR LOG FOR MT SITES LAKE86-P08s/P09s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P08a/P09a/
Run STARTED: 17:12:41 27 Sep 1986
Run QUIT: 06:57:04 28 Sep 1986
Run Start and Stop Time for LAKE86-P08b/P09b/
Run STARTED: 08:07:17 28 Sep 1986
Run QUIT: 16:16:43 28 Sep 1986

Operator:E. VAAG,D. OJALA

Cultural Factors:
NONE APPARENT.
Weather Conditions:
CLEAR AND WARM DURING SOUNDING.
Other Factors:
NOISE ON TELLURICS AT BOTH SITES AFFECTING DATA QUALITY.

PHOENIX GEOPHYSICS

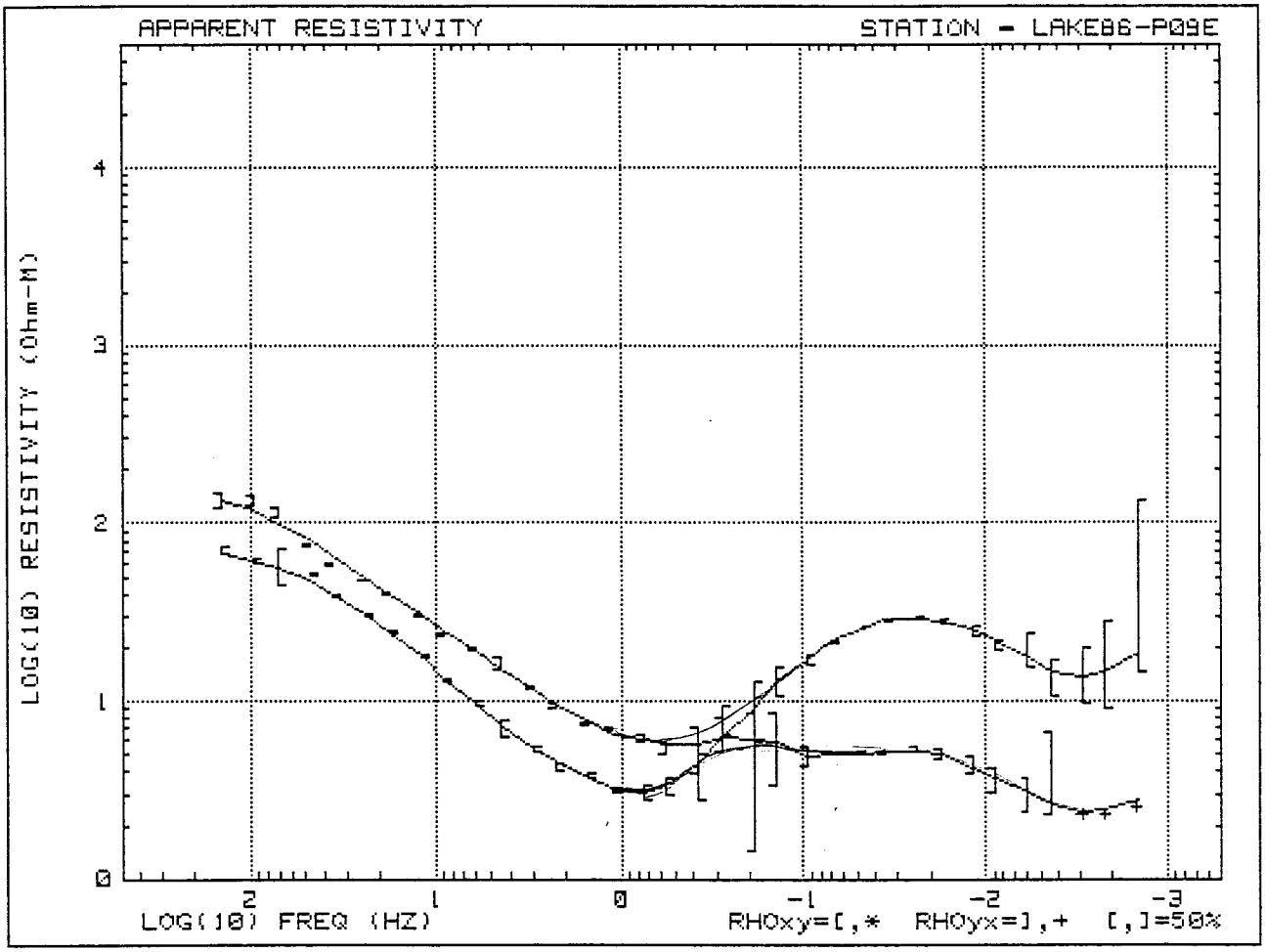
MT Site: LAKE86-P09E

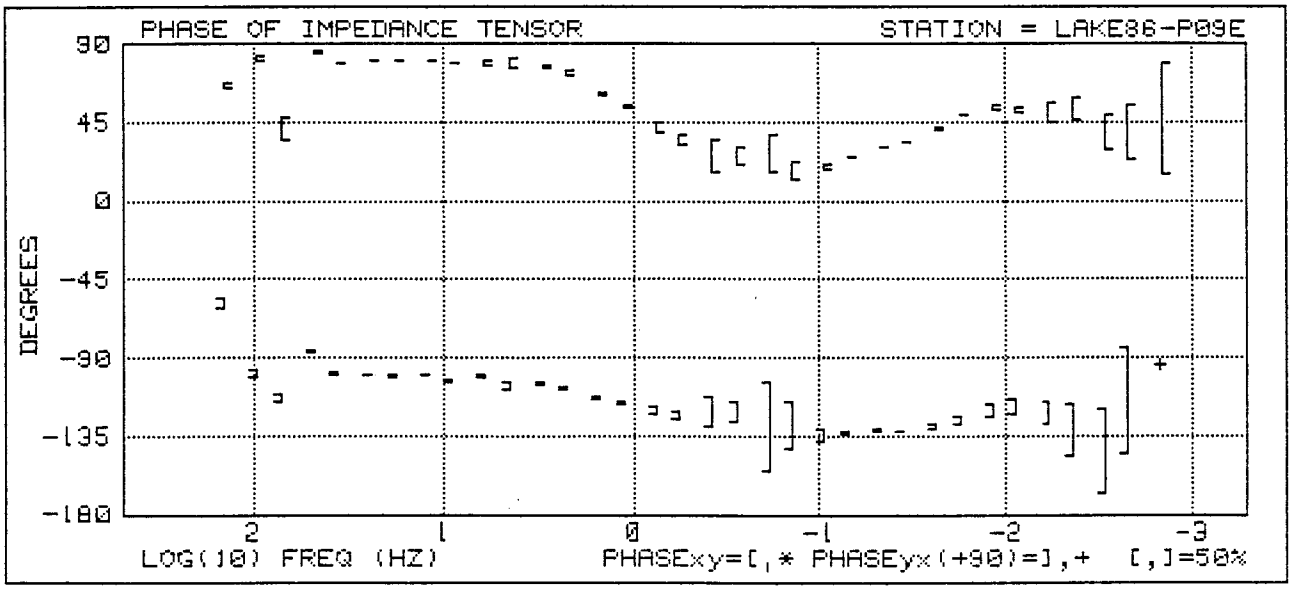
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

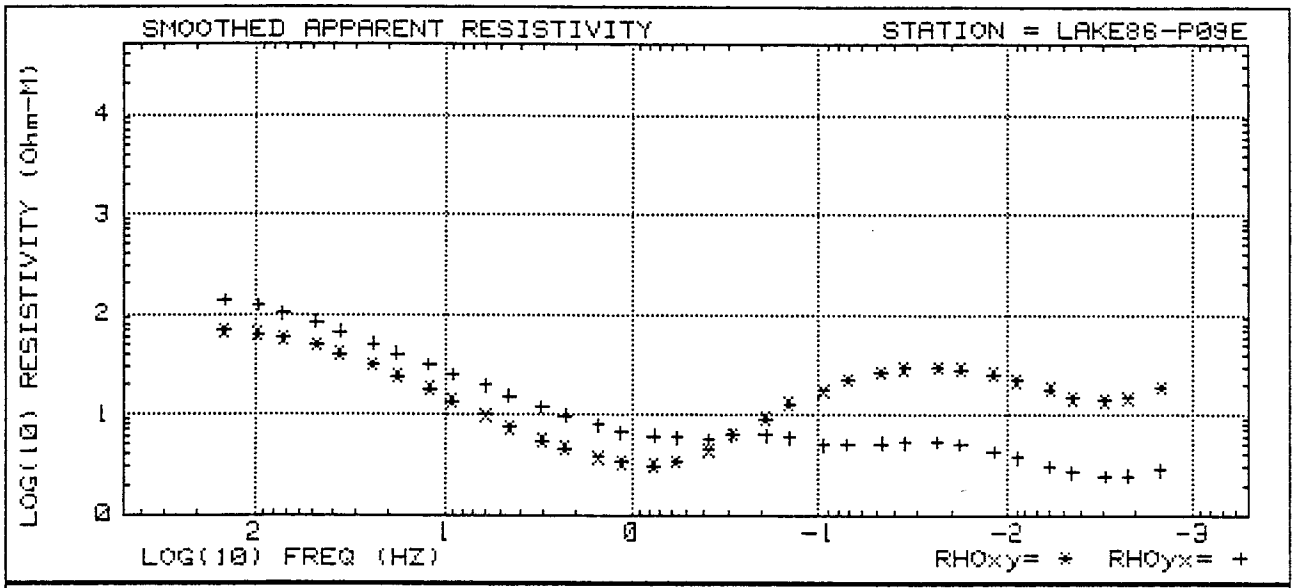
MT Site: LAKE86-P09E

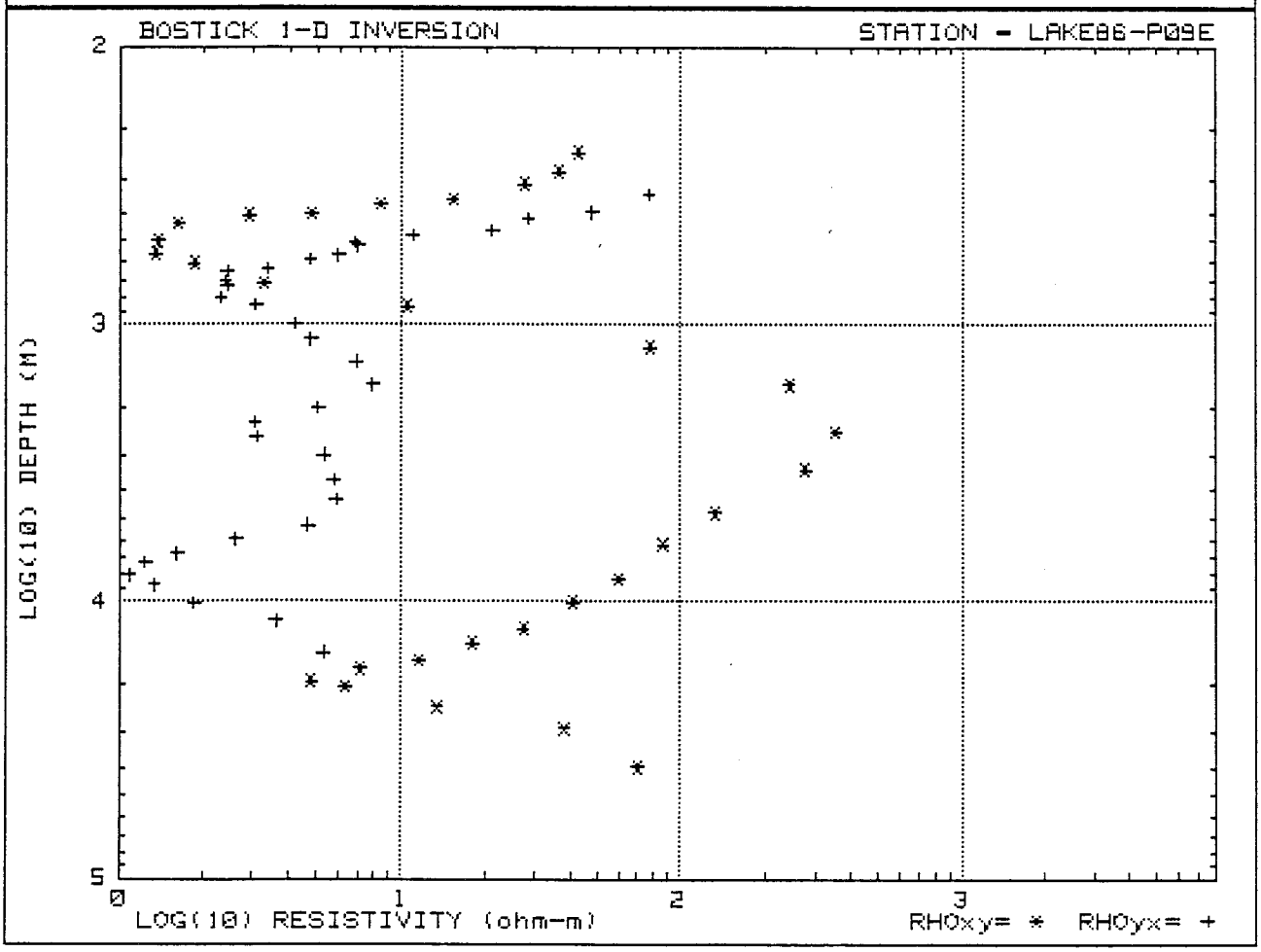




PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	845	70.5	8.2	134.0	16.5	66.4	2.3	-58.2	4.4
5	96.00 Hz	192	61.5	7.2	134.9	8.5	81.1	2.0	-98.9	2.3
6	72.00 Hz	256	56.4	41.0	114.6	10.6	41.0	9.8	-112.8	2.9
7	48.00 Hz	2167	51.8	3.5	75.7	3.8	84.6	1.0	-86.1	1.1
8	36.00 Hz	1432	39.5	2.3	59.0	2.4	78.8	.6	-98.5	.7
9	24.00 Hz	1312	30.4	2.3	48.0	1.9	80.2	.7	-99.7	.5
10	18.00 Hz	1559	24.3	2.9	40.4	1.5	80.4	.8	-100.4	.4
11	12.00 Hz	1248	18.0	2.4	30.7	1.7	80.3	.7	-99.4	.5
12	9.00 Hz	1184	13.1	2.3	24.0	2.1	78.9	.7	-102.9	.6
13	6.00 Hz	1856	9.6	4.6	19.6	3.1	78.9	1.3	-100.3	.9
14	4.50 Hz	192	7.0	17.3	16.2	11.6	79.0	4.6	-105.5	3.2
15	3.00 Hz	16672	5.4	6.0	12.0	3.4	77.0	1.7	-105.1	1.0
16	2.25 Hz	13792	4.2	7.0	9.4	4.1	72.7	1.9	-107.0	1.1
17	1.50 Hz	11744	3.8	5.4	7.4	4.1	60.8	1.5	-112.7	1.2
18	1.13 Hz	8480	3.1	2.7	7.0	2.2	54.5	.8	-115.6	.6
19	1.33 Sec	2400	3.1	15.0	6.2	8.6	42.2	4.0	-120.1	2.4
20	1.78 Sec	4341	3.3	17.4	5.4	13.9	34.9	4.6	-122.9	3.7
21	2.67 Sec	2142	3.8	57.0	5.3	54.2	25.7	12.9	-121.1	12.4
22	3.56 Sec	666	7.8	32.4	6.4	38.3	25.5	8.0	-120.7	9.3
23	5.33 Sec	1164	8.7	79.7	3.5	99.9	27.2	16.8	-128.9	38.2
24	7.11 Sec	1128	12.8	30.0	5.4	99.9	17.1	7.5	-129.0	20.6
25	10.67 Sec	600	16.9	10.2	4.9	22.1	19.2	2.8	-134.4	5.7
26	14.22 Sec	318	21.6	3.0	5.1	4.1	25.0	.8	-133.3	1.1
27	21.33 Sec	330	26.3	1.2	5.1	2.0	31.2	.3	-131.6	.6
28	28.44 Sec	348	28.6	1.0	5.2	1.3	33.7	.3	-132.0	.4
29	42.67 Sec	333	29.1	2.4	5.4	5.7	41.3	.7	-129.6	1.6
30	56.89 Sec	264	28.2	2.8	5.0	9.4	49.1	.8	-125.6	2.6
31	85.33 Sec	171	25.1	9.1	4.4	20.0	53.6	2.5	-120.2	5.2
32	113.78 Sec	171	20.8	9.9	3.6	25.8	51.9	2.7	-118.3	6.6
33	170.67 Sec	69	19.3	36.8	3.0	37.7	50.7	9.0	-121.5	9.2
34	227.56 Sec	30	13.7	42.3	3.9	99.9	52.6	10.1	-132.0	22.3
35	341.33 Sec	33	14.0	68.0	2.3	99.9	38.8	14.9	-143.4	35.4
36	455.11 Sec	36	16.0	99.9	2.3	99.9	39.3	23.7	-114.5	46.2
37	682.67 Sec	3	44.3	99.9	2.5	99.9	47.1	47.2	-94.7	76.5

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	845	67.3	134.0	42.7	243	77.5	343
5	96.00 Hz	192	61.4	120.2	36.6	285	48.3	398
6	72.00 Hz	256	56.4	99.6	27.4	315	28.4	419
7	48.00 Hz	2167	48.3	81.8	15.3	357	21.1	464
8	36.00 Hz	1432	39.3	66.2	8.4	372	11.0	483
9	24.00 Hz	1312	30.9	49.8	4.8	404	6.8	513
10	18.00 Hz	1559	23.7	39.1	2.9	408	7.0	525
11	12.00 Hz	1248	18.0	30.7	1.6	435	6.0	570
12	9.00 Hz	1184	13.3	24.5	.70	440	4.7	587
13	6.00 Hz	1856	9.6	19.3	.78	451	3.4	637
14	4.50 Hz	192	7.4	15.1	.65	456	2.4	651
15	3.00 Hz	16672	5.4	11.7	.94	477	2.4	702
16	2.25 Hz	13792	4.5	9.5	1.4	505	2.4	733
17	1.50 Hz	11744	3.7	7.7	1.4	561	2.3	808
18	1.13 Hz	8480	3.3	6.6	1.9	608	3.1	860
19	1.33 Sec	2400	3.1	6.0	3.3	720	4.2	1008
20	1.78 Sec	4341	3.4	5.8	10.6	869	4.8	1143
21	2.67 Sec	2142	4.4	5.6	77.8	1219	6.9	1379
22	3.56 Sec	666	6.2	6.2	243.1	1675	7.9	1674
23	5.33 Sec	1164	9.1	6.1	354.4	2477	5.1	2033
24	7.11 Sec	1128	12.7	5.8	278.8	3387	3.1	2291
25	10.67 Sec	600	17.1	4.9	133.9	4807	3.1	2582
26	14.22 Sec	318	21.8	5.0	87.3	6262	5.3	2994
27	21.33 Sec	330	25.9	5.1	60.0	8372	5.8	3696
28	28.44 Sec	348	28.7	5.2	40.9	10161	5.9	4331
29	42.67 Sec	333	29.3	5.3	27.3	12586	4.7	5339
30	56.89 Sec	264	28.0	5.0	18.0	14196	2.6	6003
31	85.33 Sec	171	25.2	4.2	11.6	16509	1.6	6774
32	113.78 Sec	171	21.7	3.7	7.1	17666	1.2	7268
33	170.67 Sec	69	17.8	3.0	4.8	19602	1.1	8078
34	227.56 Sec	30	14.6	2.7	6.3	20491	1.3	8742
35	341.33 Sec	33	13.5	2.4	13.5	24190	1.9	10203
36	455.11 Sec	36	14.6	2.4	38.3	28970	3.6	11832
37	682.67 Sec	3	18.5	2.8	71.1	39969	5.3	15456

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	845	-76.68	80.54	339.72	90.15	206.41	156.91
5	96.00 Hz	192	-11.05	2.16	103.90	26.43	169.70	71.31
6	72.00 Hz	256	-17.29	-20.39	164.04	107.63	93.44	999.99
7	48.00 Hz	2167	1.34	2.13	14.97	10.42	110.97	7.41
8	36.00 Hz	1432	4.03	.99	1.79	16.38	82.74	1.83
9	24.00 Hz	1312	3.78	1.74	.67	10.26	59.56	.96
10	18.00 Hz	1559	3.46	3.94	.47	7.80	46.08	.87
11	12.00 Hz	1248	2.24	3.87	.17	5.55	32.36	.30
12	9.00 Hz	1184	2.68	2.70	.09	4.68	23.81	.16
13	6.00 Hz	1856	.68	2.78	.18	3.26	16.68	.30
14	4.50 Hz	192	1.08	2.86	1.07	2.41	12.35	2.01
15	3.00 Hz	16672	.65	1.81	.09	2.02	8.73	.14
16	2.25 Hz	13792	.59	1.17	.07	2.05	6.58	.11
17	1.50 Hz	11744	.27	.69	.04	2.61	4.66	.04
18	1.13 Hz	8480	.55	.53	.01	2.43	3.41	.01
19	1.33 Sec	2400	.308	.288	.115	2.505	2.273	.112
20	1.78 Sec	4341	.566	.246	.133	2.505	1.744	.120
21	2.67 Sec	2142	.489	.268	1.034	2.401	1.155	.722
22	3.56 Sec	666	.419	.301	.711	2.993	1.428	.434
23	5.33 Sec	1164	.281	-.057	3.210	2.539	1.307	1.402
24	7.11 Sec	1128	.509	.622	.984	2.873	.884	.311
25	10.67 Sec	600	.554	.307	.064	2.658	.927	.038
26	14.22 Sec	318	.660	.225	.003	2.499	1.164	.003
27	21.33 Sec	330	.575	.331	.001	2.123	1.285	.000
28	28.44 Sec	348	.452	.259	.000	1.866	1.243	.000
29	42.67 Sec	333	.348	.307	.001	1.387	1.220	.001
30	56.89 Sec	264	.279	.251	.001	1.030	1.190	.001
31	85.33 Sec	171	.176	.317	.006	.719	.975	.006
32	113.78 Sec	171	.145	.217	.004	.591	.753	.004
33	170.67 Sec	69	.096	.181	.007	.477	.582	.028
34	227.56 Sec	30	.133	.123	.012	.333	.435	.019
35	341.33 Sec	33	.136	.024	.043	.353	.283	.028
36	455.11 Sec	36	.099	.102	.031	.324	.265	.060
37	682.67 Sec	3	.266	.075	.080	.388	.418	.441

PHOENIX GEOPHYSICS

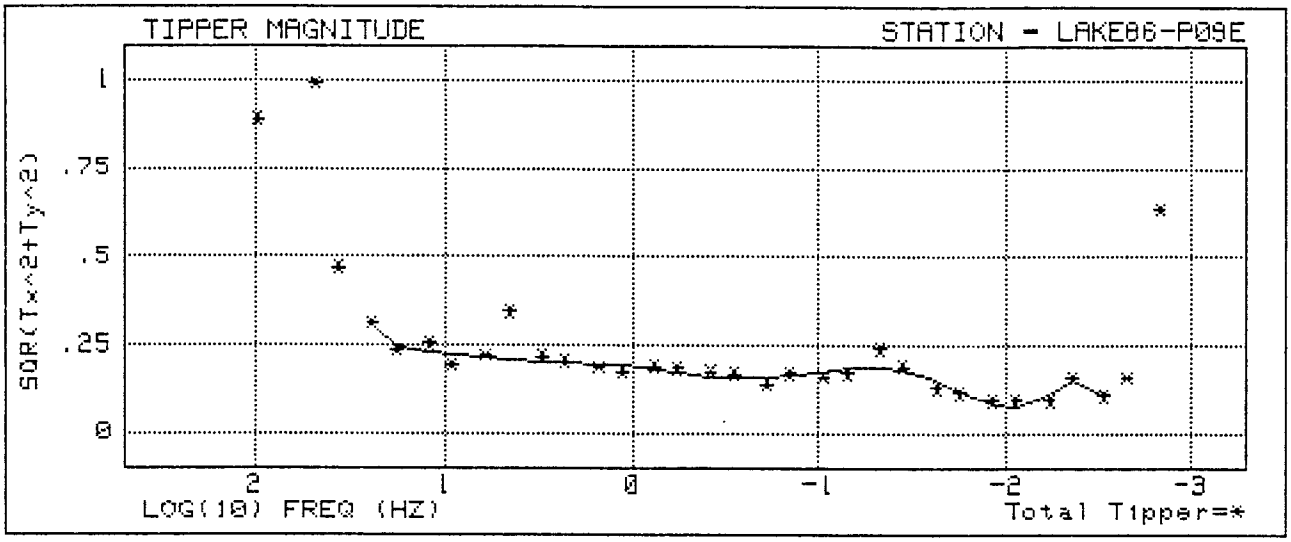
MT Site: LAKE86-P09E

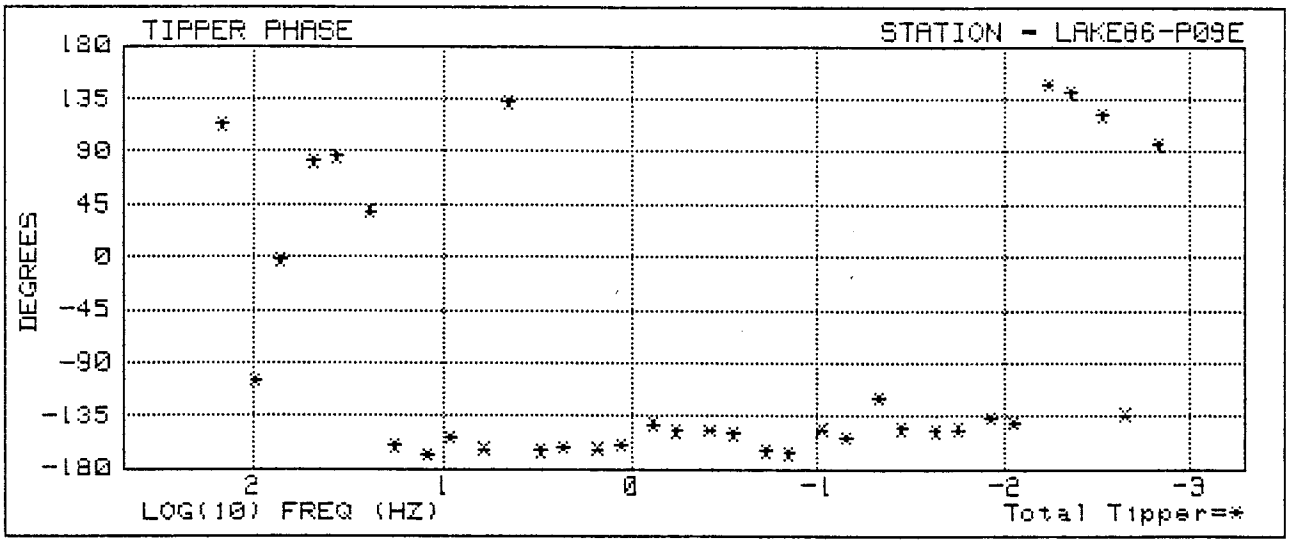
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

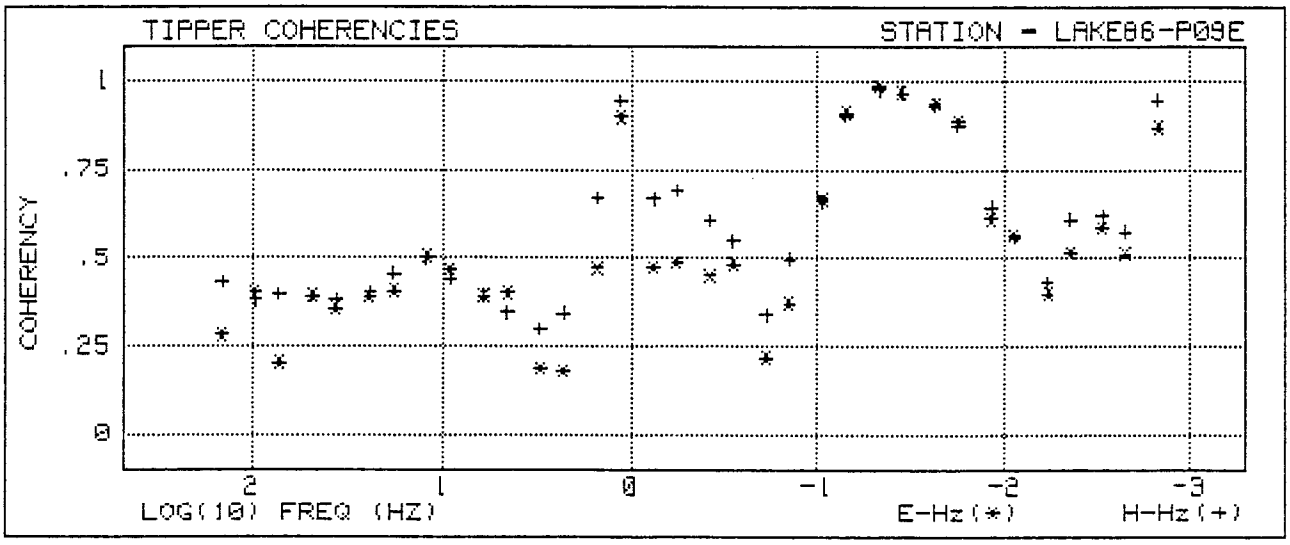
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	845	163.59	-264.01	999.99	-114.31	-85.27	520.91
5	96.00 Hz	192	-39.30	-251.38	216.92	-16.82	3.07	148.88
6	72.00 Hz	256	-78.66	-187.26	208.68	20.44	-8.74	999.99
7	48.00 Hz	2167	9.24	-134.45	12.51	-3.99	-2.33	6.19
8	36.00 Hz	1432	-15.23	-101.93	2.90	1.91	.86	2.97
9	24.00 Hz	1312	-12.74	-74.78	1.00	5.59	1.44	1.44
10	18.00 Hz	1559	-10.86	-59.33	.43	5.05	3.57	.80
11	12.00 Hz	1248	-6.99	-42.33	.27	2.91	3.78	.47
12	9.00 Hz	1184	-7.34	-32.05	.24	3.06	2.58	.41
13	6.00 Hz	1856	-4.33	-23.88	.27	1.41	2.68	.45
14	4.50 Hz	192	-5.09	-18.37	2.20	2.51	2.22	4.15
15	3.00 Hz	16672	-3.49	-12.94	.10	1.15	1.63	.15
16	2.25 Hz	13792	-3.02	-9.86	.08	.61	1.16	.13
17	1.50 Hz	11744	-2.89	-6.89	.05	.31	.68	.05
18	1.13 Hz	8480	-2.71	-5.65	.01	.33	.56	.01
19	1.33 Sec	2400	-2.414	-4.160	.079	.318	.288	.077
20	1.78 Sec	4341	-2.123	-3.287	.129	.469	.222	.116
21	2.67 Sec	2142	-1.622	-2.694	.929	.424	.235	.649
22	3.56 Sec	666	-1.536	-2.585	.475	.226	.058	.290
23	5.33 Sec	1164	-1.145	-1.419	2.949	.285	-.015	1.288
24	7.11 Sec	1128	-1.222	-1.511	.976	.367	.250	.309
25	10.67 Sec	600	-1.062	-1.085	.046	.534	.108	.027
26	14.22 Sec	318	-.922	-.978	.001	.666	.175	.002
27	21.33 Sec	330	-.728	-.819	.000	.603	.249	.000
28	28.44 Sec	348	-.638	-.708	.000	.464	.232	.000
29	42.67 Sec	333	-.506	-.612	.001	.411	.216	.001
30	56.89 Sec	264	-.387	-.541	.002	.327	.203	.002
31	85.33 Sec	171	-.255	-.437	.004	.266	.239	.004
32	113.78 Sec	171	-.188	-.349	.004	.176	.186	.004
33	170.67 Sec	69	-.154	-.251	.004	.126	.152	.017
34	227.56 Sec	30	-.196	-.218	.026	.101	.143	.040
35	341.33 Sec	33	-.147	-.109	.025	.041	.137	.016
36	455.11 Sec	36	-.066	-.144	.033	.106	.088	.062
37	682.67 Sec	3	-.011	-.135	.066	.205	.157	.361

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E







PHOENIX GEOPHYSICS

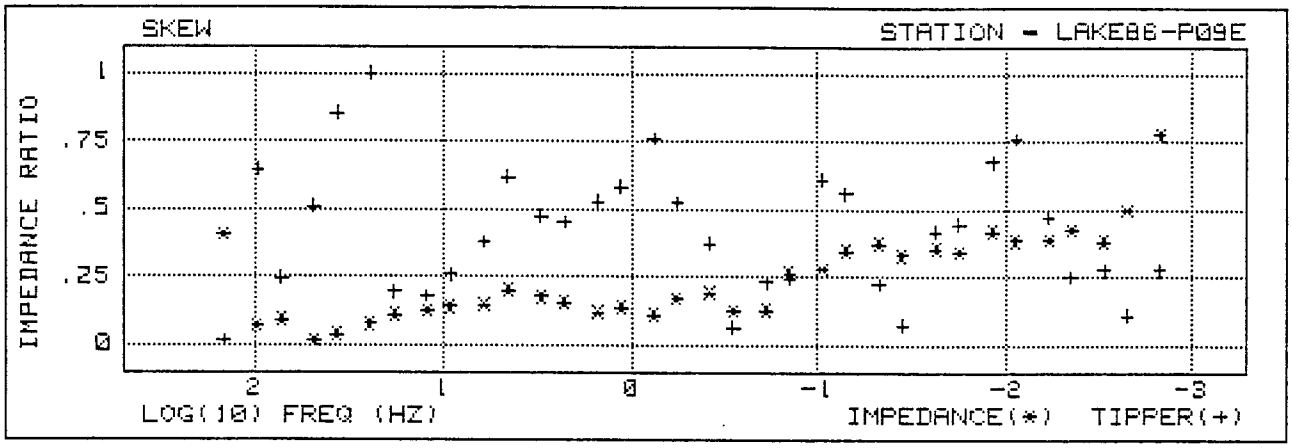
MT Site: LAKE86-P09E

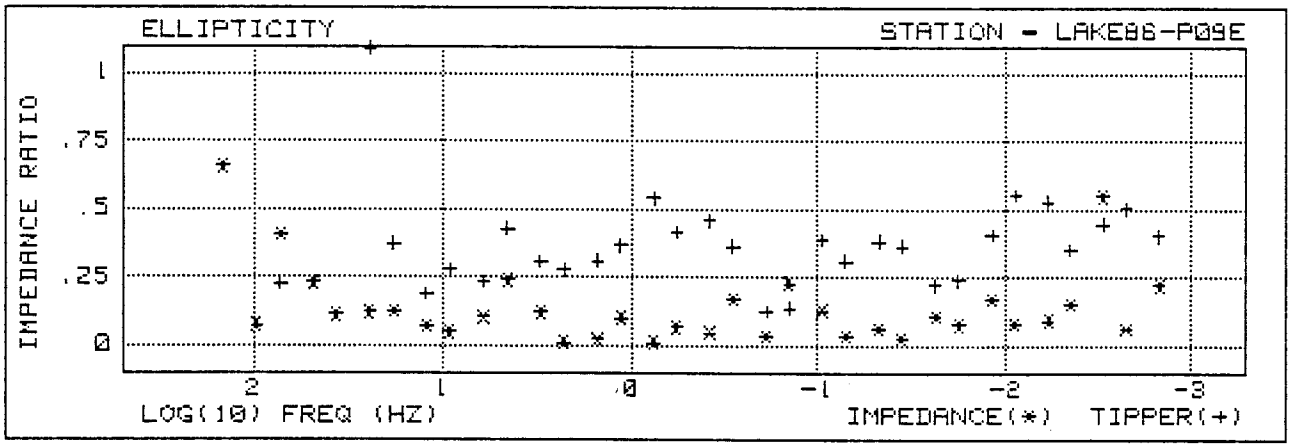
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

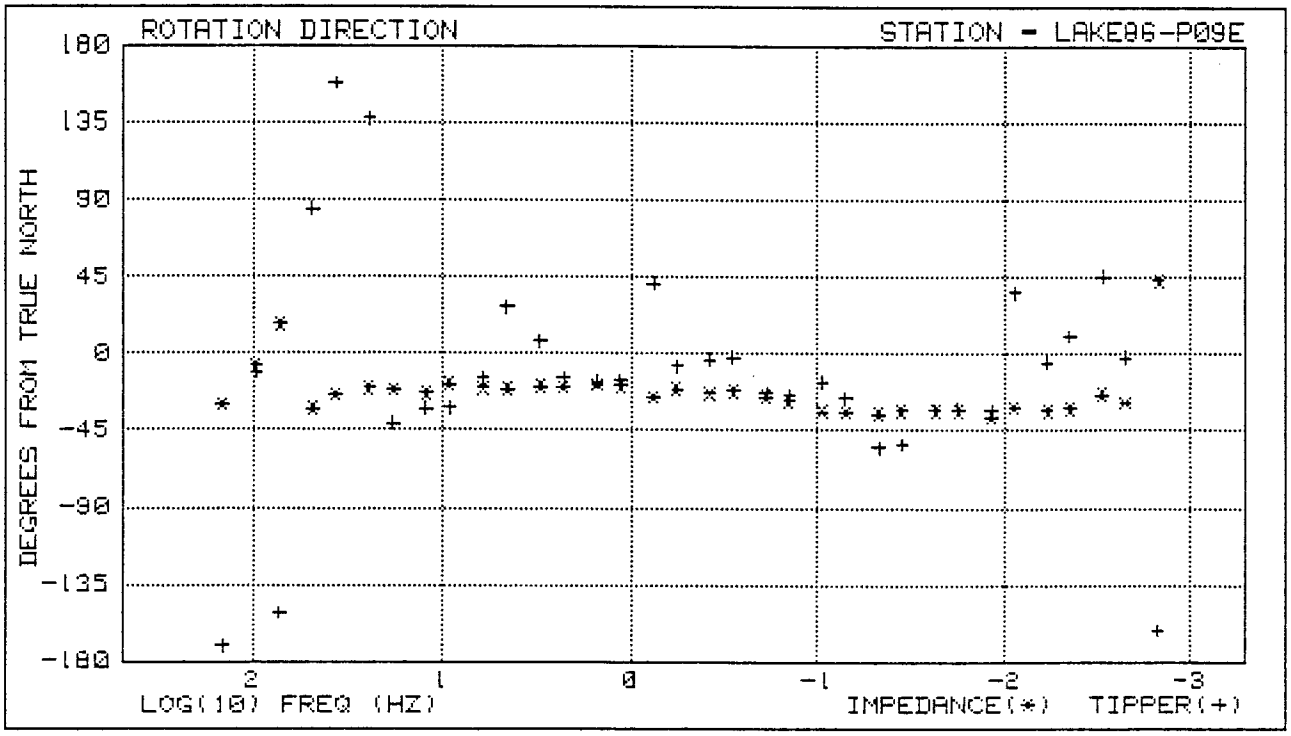
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	845	5.14	112.37	.28	.43
5	96.00 Hz	192	.89	-105.82	.40	.38
6	72.00 Hz	256	1.36	-3.54	.20	.39
7	48.00 Hz	2167	.99	80.79	.39	.39
8	36.00 Hz	1432	.47	84.89	.35	.38
9	24.00 Hz	1312	.31	38.14	.39	.40
10	18.00 Hz	1559	.23	-161.21	.40	.45
11	12.00 Hz	1248	.25	-168.89	.50	.50
12	9.00 Hz	1184	.19	-154.09	.46	.44
13	6.00 Hz	1856	.22	-164.12	.39	.39
14	4.50 Hz	192	.34	131.70	.40	.34
15	3.00 Hz	16672	.21	-165.41	.18	.30
16	2.25 Hz	13792	.20	-162.01	.18	.34
17	1.50 Hz	11744	.18	-163.71	.47	.67
18	1.13 Hz	8480	.17	-160.08	.90	.94
19	1.33 Sec	2400	.19	-143.01	.47	.67
20	1.78 Sec	4341	.18	-148.16	.49	.69
21	2.67 Sec	2142	.17	-147.96	.45	.60
22	3.56 Sec	666	.16	-150.26	.48	.54
23	5.33 Sec	1164	.14	-164.94	.21	.33
24	7.11 Sec	1128	.17	-167.11	.37	.49
25	10.67 Sec	600	.16	-146.99	.66	.66
26	14.22 Sec	318	.17	-154.30	.91	.90
27	21.33 Sec	330	.24	-120.39	.98	.97
28	28.44 Sec	348	.18	-146.15	.96	.96
29	42.67 Sec	333	.13	-148.48	.93	.93
30	56.89 Sec	264	.11	-146.96	.88	.87
31	85.33 Sec	171	.09	-136.82	.61	.64
32	113.78 Sec	171	.09	-141.65	.56	.55
33	170.67 Sec	69	.09	146.68	.40	.43
34	227.56 Sec	30	.16	139.86	.51	.61
35	341.33 Sec	33	.10	120.62	.58	.62
36	455.11 Sec	36	.16	-134.32	.51	.57
37	682.67 Sec	3	.63	95.55	.86	.94

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E







PHOENIX GEOPHYSICS

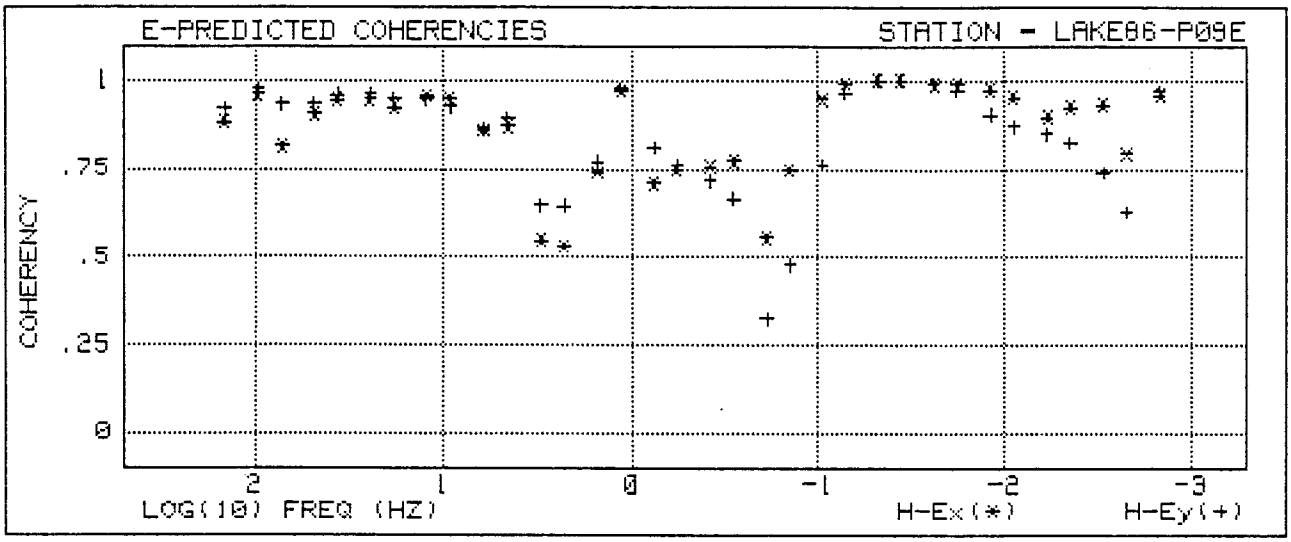
MT Site: LAKE86-P09E

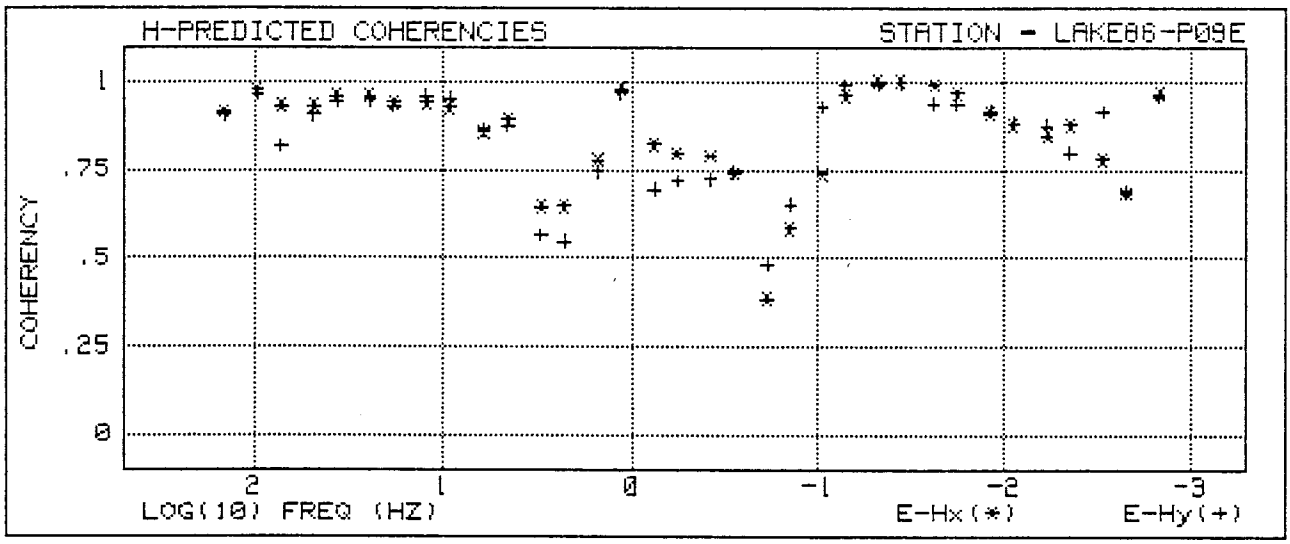
SKEW, ELLIPTICITY AND STRIKE

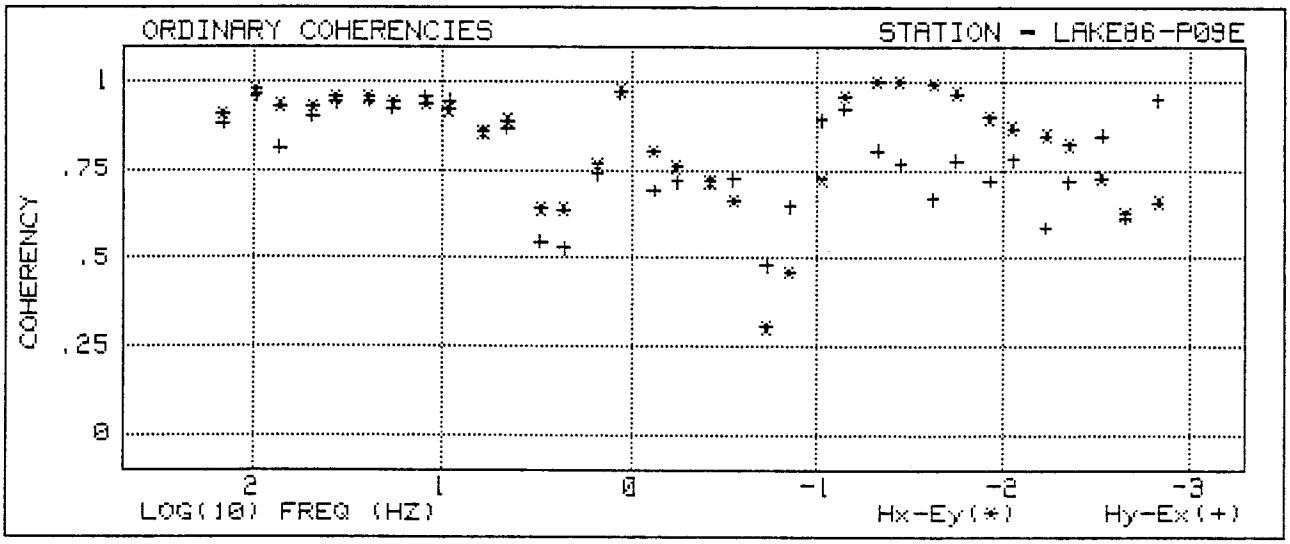
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	845	.40	.65	-30.38	.01	1.65	-171.09
5	96.00 Hz	192	.07	.07	-7.80	.64	2.34	-11.64
6	72.00 Hz	256	.09	.40	16.76	.24	.22	-152.08
7	48.00 Hz	2167	.01	.23	-32.80	.51	1.95	84.45
8	36.00 Hz	1432	.03	.11	-24.55	.85	1.71	157.68
9	24.00 Hz	1312	.07	.12	-20.88	1.00	1.09	136.95
10	18.00 Hz	1559	.11	.12	-21.99	.19	.37	-41.51
11	12.00 Hz	1248	.12	.07	-23.80	.18	.18	-33.07
12	9.00 Hz	1184	.14	.05	-18.36	.25	.28	-32.20
13	6.00 Hz	1856	.14	.10	-20.69	.37	.23	-14.98
14	4.50 Hz	192	.20	.24	-21.47	.62	.42	27.00
15	3.00 Hz	16672	.17	.12	-19.93	.47	.30	6.77
16	2.25 Hz	13792	.15	.01	-20.21	.45	.27	-14.77
17	1.50 Hz	11744	.12	.02	-19.19	.52	.31	-16.96
18	1.13 Hz	8480	.13	.10	-19.25	.58	.36	-15.97
19	1.33 Sec	2400	.11	.01	-26.04	.76	.53	40.75
20	1.78 Sec	4341	.17	.06	-21.13	.52	.41	-7.87
21	2.67 Sec	2142	.19	.04	-23.84	.37	.45	-4.06
22	3.56 Sec	666	.12	.17	-22.27	.06	.36	-2.46
23	5.33 Sec	1164	.12	.03	-25.87	.23	.12	-23.24
24	7.11 Sec	1128	.26	.23	-28.28	.24	.13	-24.95
25	10.67 Sec	600	.28	.13	-34.45	.61	.39	-17.14
26	14.22 Sec	318	.34	.03	-34.93	.56	.31	-26.42
27	21.33 Sec	330	.37	.06	-35.80	.22	.38	-55.53
28	28.44 Sec	348	.33	.02	-33.82	.07	.36	-53.52
29	42.67 Sec	333	.35	.10	-34.06	.41	.22	-33.27
30	56.89 Sec	264	.34	.07	-34.05	.44	.24	-32.78
31	85.33 Sec	171	.41	.17	-37.18	.67	.40	-33.36
32	113.78 Sec	171	.38	.08	-31.82	.76	.55	35.40
33	170.67 Sec	69	.38	.09	-34.06	.47	.52	-5.57
34	227.56 Sec	30	.42	.15	-32.22	.25	.35	10.05
35	341.33 Sec	33	.38	.55	-24.17	.27	.44	45.00
36	455.11 Sec	36	.49	.06	-28.98	.11	.50	-2.65
37	682.67 Sec	3	.77	.22	42.97	.27	.40	-161.99

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E







PHOENIX GEOPHYSICS

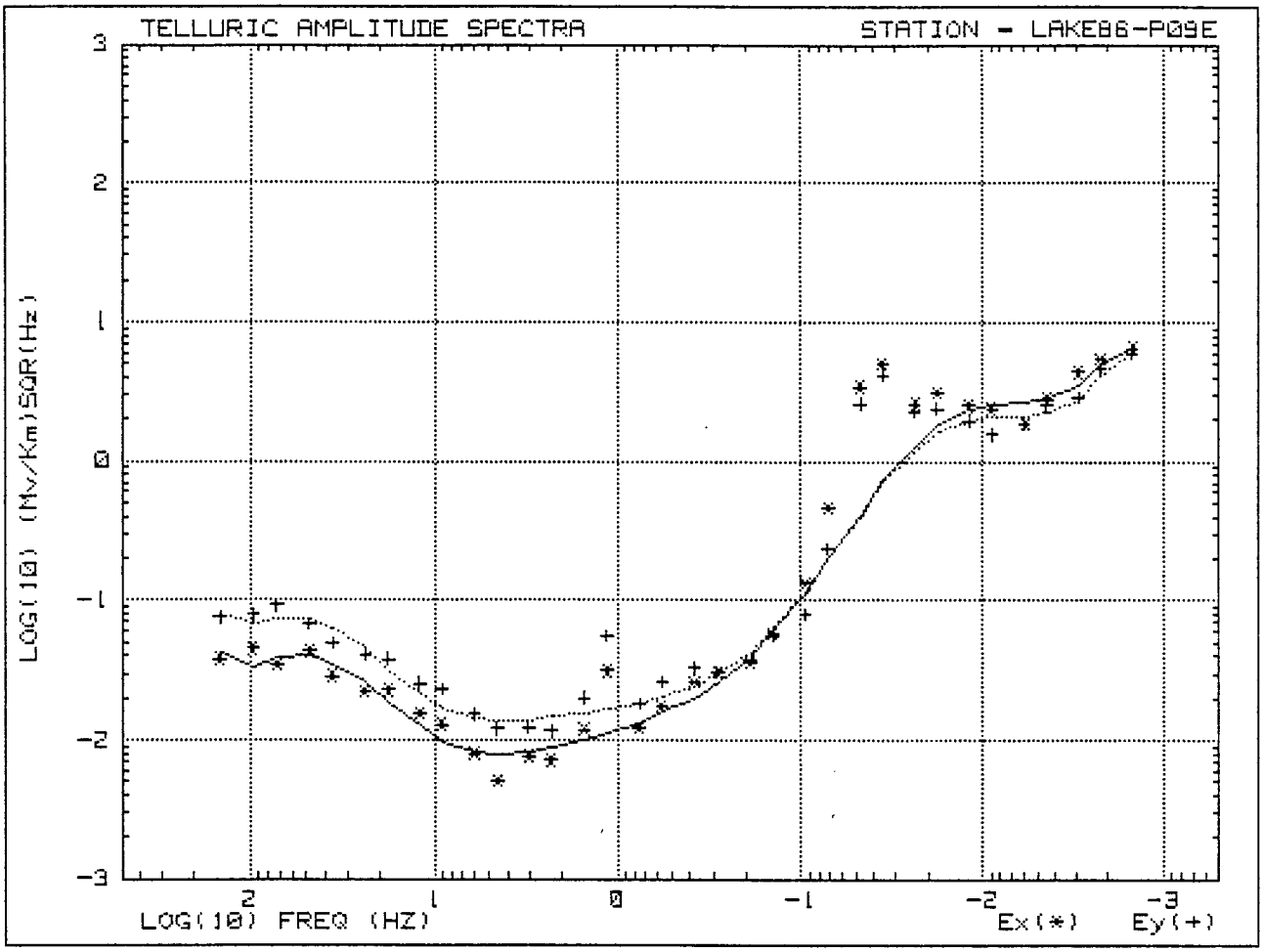
MT Site: LAKE86-P09E

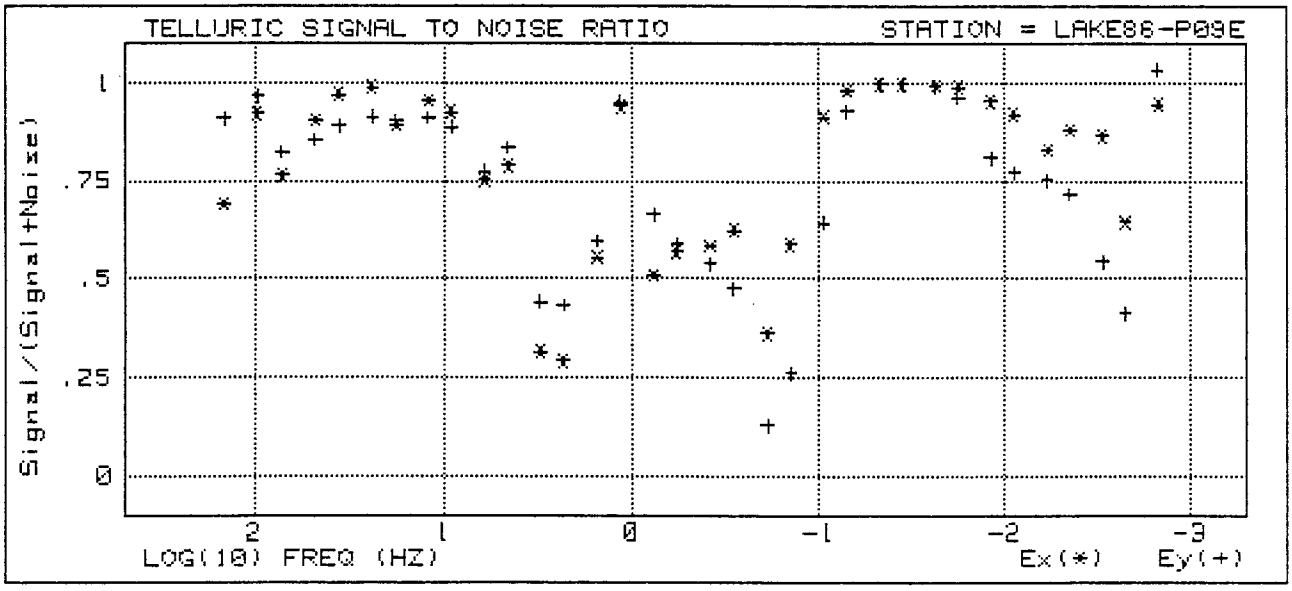
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	845	.88	.92	.91	.90	.91	.88
5	96.00 Hz	192	.96	.97	.98	.96	.97	.96
6	72.00 Hz	256	.81	.93	.93	.81	.93	.81
7	48.00 Hz	2167	.90	.93	.93	.90	.93	.90
8	36.00 Hz	1432	.94	.96	.96	.94	.95	.94
9	24.00 Hz	1312	.94	.96	.96	.94	.95	.94
10	18.00 Hz	1559	.92	.94	.94	.93	.94	.92
11	12.00 Hz	1248	.96	.94	.94	.96	.93	.95
12	9.00 Hz	1184	.95	.92	.92	.95	.92	.94
13	6.00 Hz	1856	.86	.86	.85	.86	.85	.85
14	4.50 Hz	192	.87	.89	.89	.87	.89	.86
15	3.00 Hz	16672	.54	.64	.64	.56	.64	.54
16	2.25 Hz	13792	.53	.64	.64	.54	.63	.53
17	1.50 Hz	11744	.74	.77	.77	.74	.76	.74
18	1.13 Hz	8480	.97	.97	.98	.97	.97	.97
19	1.33 Sec	2400	.71	.81	.82	.69	.80	.69
20	1.78 Sec	4341	.74	.76	.79	.72	.76	.71
21	2.67 Sec	2142	.75	.71	.79	.72	.71	.71
22	3.56 Sec	666	.77	.66	.74	.74	.66	.72
23	5.33 Sec	1164	.55	.32	.38	.48	.30	.47
24	7.11 Sec	1128	.74	.48	.58	.65	.46	.64
25	10.67 Sec	600	.95	.76	.73	.93	.72	.89
26	14.22 Sec	318	.99	.96	.96	.99	.95	.92
27	21.33 Sec	330	1.00	1.00	1.00	.99	1.00	.80
28	28.44 Sec	348	1.00	1.00	1.00	.99	1.00	.76
29	42.67 Sec	333	.99	.99	.99	.94	.99	.66
30	56.89 Sec	264	.99	.97	.97	.93	.96	.77
31	85.33 Sec	171	.97	.90	.91	.92	.90	.72
32	113.78 Sec	171	.95	.87	.88	.88	.87	.78
33	170.67 Sec	69	.89	.85	.85	.87	.84	.58
34	227.56 Sec	30	.92	.82	.87	.80	.82	.71
35	341.33 Sec	33	.93	.74	.78	.91	.72	.84
36	455.11 Sec	36	.79	.63	.68	.69	.62	.61
37	682.67 Sec	3	.96	.97	.96	.96	.66	.95

PHOENIX GEOPHYSICS

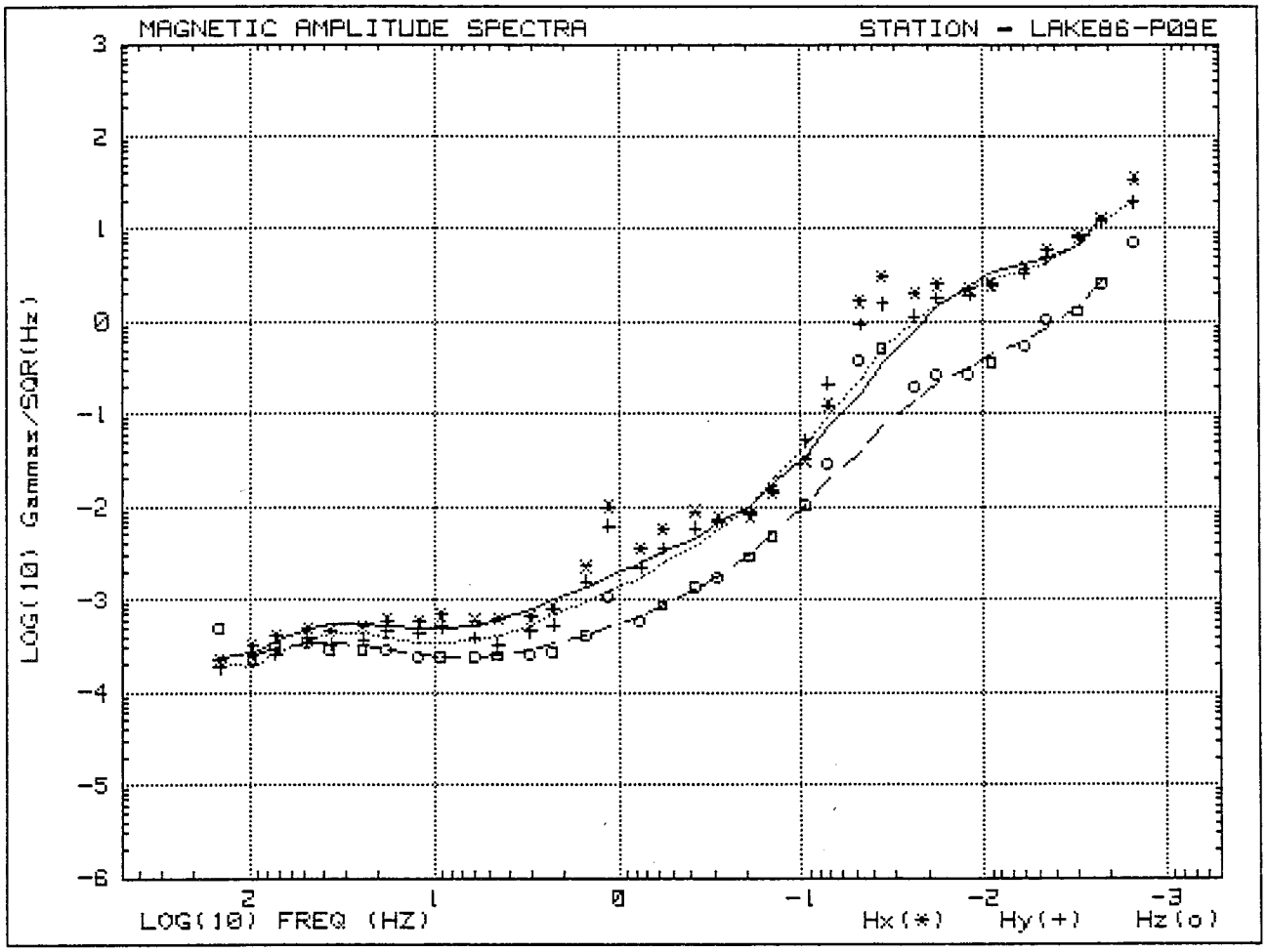
MT Site: LAKE86-P09E

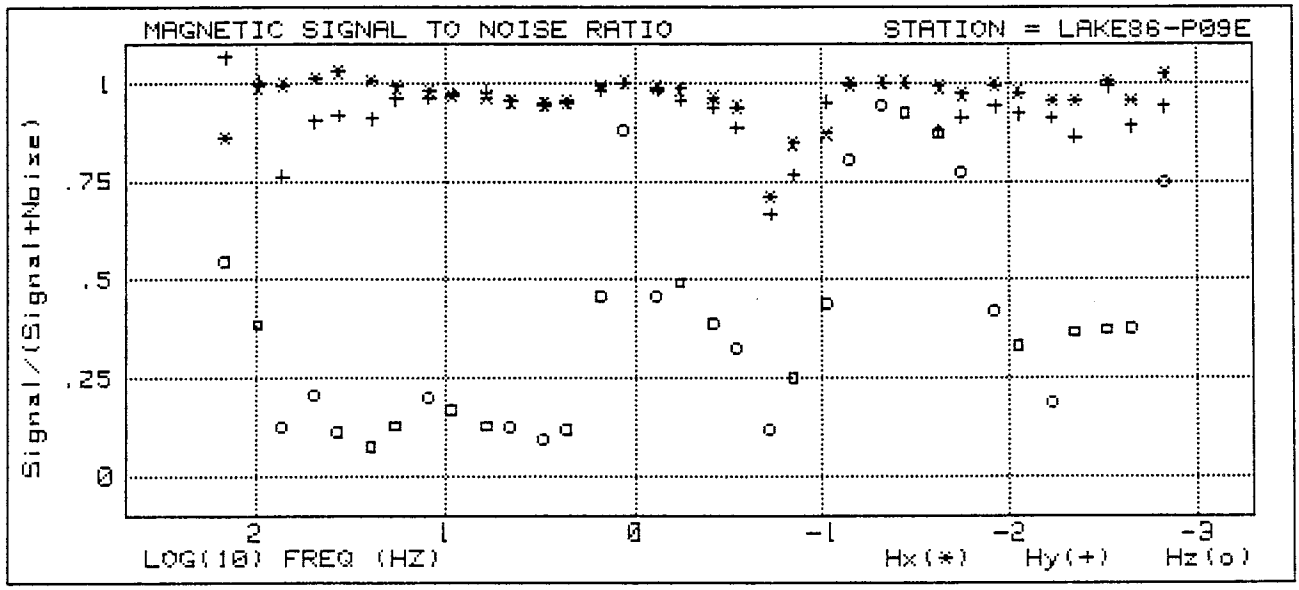




PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	845	2.24E-04	1.84E-04	5.23E-04	3.72E-02	7.43E-02
5	96.00 Hz	192	3.12E-04	2.57E-04	2.42E-04	4.43E-02	7.77E-02
6	72.00 Hz	256	3.97E-04	2.50E-04	3.32E-04	3.42E-02	9.13E-02
7	48.00 Hz	2167	4.86E-04	3.77E-04	3.62E-04	4.29E-02	6.74E-02
8	36.00 Hz	1432	4.57E-04	3.30E-04	3.05E-04	2.81E-02	4.89E-02
9	24.00 Hz	1312	5.13E-04	3.67E-04	3.08E-04	2.19E-02	3.97E-02
10	18.00 Hz	1559	5.96E-04	4.46E-04	3.03E-04	2.26E-02	3.74E-02
11	12.00 Hz	1248	5.69E-04	4.39E-04	2.55E-04	1.53E-02	2.51E-02
12	9.00 Hz	1184	6.82E-04	5.02E-04	2.57E-04	1.27E-02	2.28E-02
13	6.00 Hz	1856	5.89E-04	3.86E-04	2.52E-04	7.92E-03	1.51E-02
14	4.50 Hz	192	6.17E-04	3.26E-04	2.62E-04	4.99E-03	1.19E-02
15	3.00 Hz	16672	6.46E-04	4.49E-04	2.76E-04	7.52E-03	1.20E-02
16	2.25 Hz	13792	7.95E-04	5.28E-04	2.86E-04	7.10E-03	1.15E-02
17	1.50 Hz	11744	2.24E-03	1.54E-03	4.39E-04	1.17E-02	1.97E-02
18	1.13 Hz	8480	9.84E-03	6.16E-03	1.13E-03	3.10E-02	5.49E-02
19	1.33 Sec	2400	3.48E-03	2.20E-03	6.20E-04	1.20E-02	1.80E-02
20	1.78 Sec	4341	5.68E-03	3.49E-03	9.20E-04	1.72E-02	2.57E-02
21	2.67 Sec	2142	8.85E-03	5.75E-03	1.45E-03	2.58E-02	3.21E-02
22	3.56 Sec	666	7.34E-03	6.77E-03	1.86E-03	3.00E-02	3.03E-02
23	5.33 Sec	1164	7.94E-03	8.71E-03	3.05E-03	3.56E-02	3.74E-02
24	7.11 Sec	1128	1.43E-02	1.48E-02	5.01E-03	5.68E-02	5.57E-02
25	10.67 Sec	600	3.16E-02	5.23E-02	1.08E-02	1.31E-01	7.87E-02
26	14.22 Sec	318	1.22E-01	2.09E-01	3.07E-02	4.57E-01	2.31E-01
27	21.33 Sec	330	1.65E+00	9.19E-01	3.98E-01	3.41E+00	2.58E+00
28	28.44 Sec	348	3.04E+00	1.54E+00	5.51E-01	5.01E+00	4.17E+00
29	42.67 Sec	333	2.00E+00	1.12E+00	2.10E-01	2.56E+00	2.27E+00
30	56.89 Sec	264	2.48E+00	1.76E+00	2.75E-01	3.11E+00	2.36E+00
31	85.33 Sec	171	2.28E+00	1.89E+00	2.76E-01	2.49E+00	1.95E+00
32	113.78 Sec	171	2.45E+00	2.48E+00	3.86E-01	2.36E+00	1.54E+00
33	170.67 Sec	69	3.70E+00	3.30E+00	5.67E-01	1.85E+00	1.84E+00
34	227.56 Sec	30	5.71E+00	4.79E+00	1.10E+00	2.76E+00	2.50E+00
35	341.33 Sec	33	8.24E+00	7.73E+00	1.37E+00	4.35E+00	2.87E+00
36	455.11 Sec	36	1.27E+01	1.19E+01	2.80E+00	5.38E+00	4.60E+00
37	682.67 Sec	3	3.37E+01	1.91E+01	7.39E+00	6.39E+00	5.84E+00

PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	845	.860	1.000	.552	.690	.908
5	96.00 Hz	192	.989	1.000	.392	.921	.965
6	72.00 Hz	256	.994	.762	.131	.763	.822
7	48.00 Hz	2167	1.000	.901	.212	.904	.854
8	36.00 Hz	1432	1.000	.917	.116	.968	.889
9	24.00 Hz	1312	1.000	.907	.082	.986	.913
10	18.00 Hz	1559	.989	.957	.133	.891	.903
11	12.00 Hz	1248	.980	.959	.204	.954	.909
12	9.00 Hz	1184	.967	.972	.172	.925	.886
13	6.00 Hz	1856	.962	.975	.134	.750	.772
14	4.50 Hz	192	.952	.951	.128	.787	.834
15	3.00 Hz	16672	.945	.943	.101	.313	.439
16	2.25 Hz	13792	.952	.948	.125	.291	.431
17	1.50 Hz	11744	.990	.980	.462	.553	.594
18	1.13 Hz	8480	.999	.998	.888	.940	.951
19	1.33 Sec	2400	.988	.979	.462	.506	.663
20	1.78 Sec	4341	.983	.954	.498	.568	.589
21	2.67 Sec	2142	.963	.937	.395	.581	.537
22	3.56 Sec	666	.937	.884	.330	.623	.473
23	5.33 Sec	1164	.709	.664	.123	.361	.127
24	7.11 Sec	1128	.844	.765	.258	.587	.260
25	10.67 Sec	600	.869	.950	.445	.913	.641
26	14.22 Sec	318	.995	.997	.808	.980	.927
27	21.33 Sec	330	1.000	.998	.949	.995	.995
28	28.44 Sec	348	1.000	.997	.928	.995	.996
29	42.67 Sec	333	.989	.878	.877	.991	.989
30	56.89 Sec	264	.971	.911	.779	.987	.962
31	85.33 Sec	171	.995	.939	.427	.951	.806
32	113.78 Sec	171	.975	.921	.338	.917	.770
33	170.67 Sec	69	.955	.910	.194	.828	.750
34	227.56 Sec	30	.953	.862	.373	.879	.714
35	341.33 Sec	33	1.000	.989	.379	.863	.542
36	455.11 Sec	36	.955	.888	.381	.644	.410
37	682.67 Sec	3	1.000	.940	.754	.944	1.000

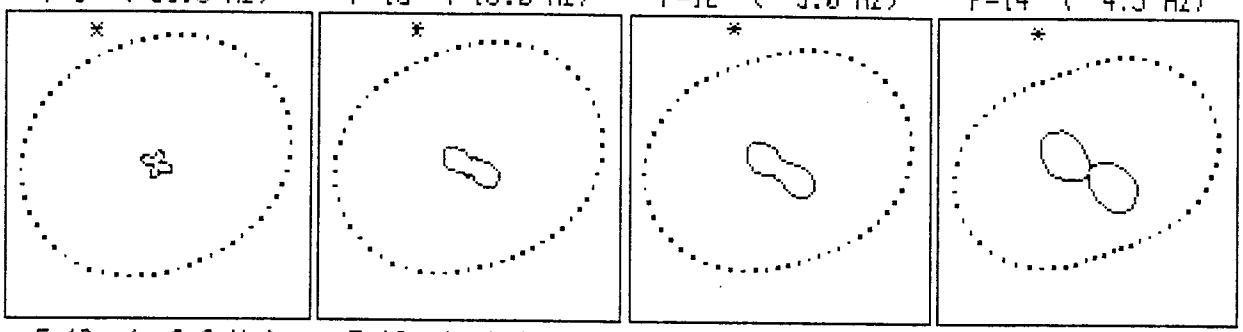
PHOENIX GEOPHYSICS

MT Site: LAKE86-P09E

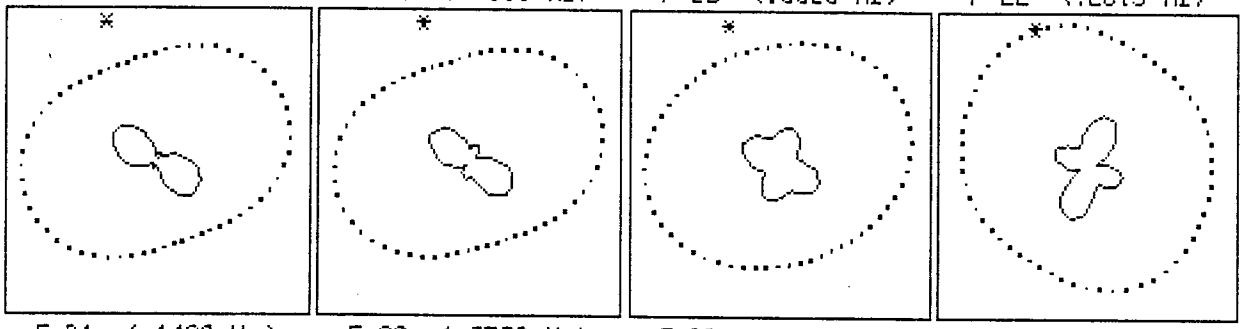
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

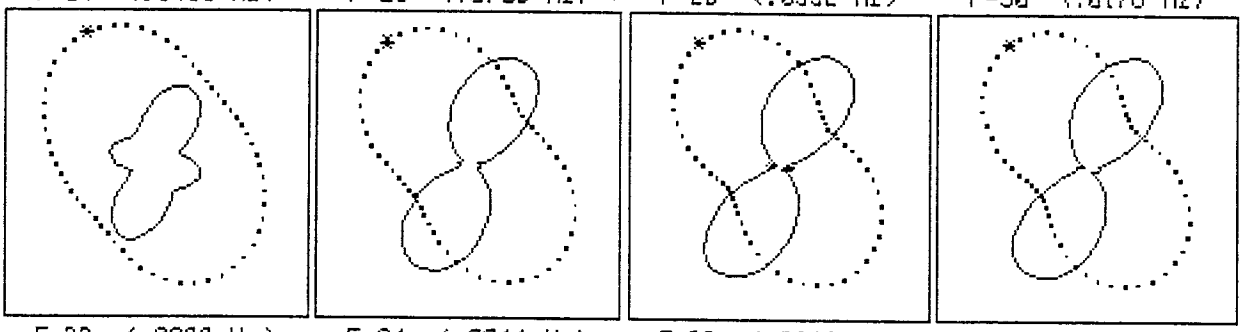
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



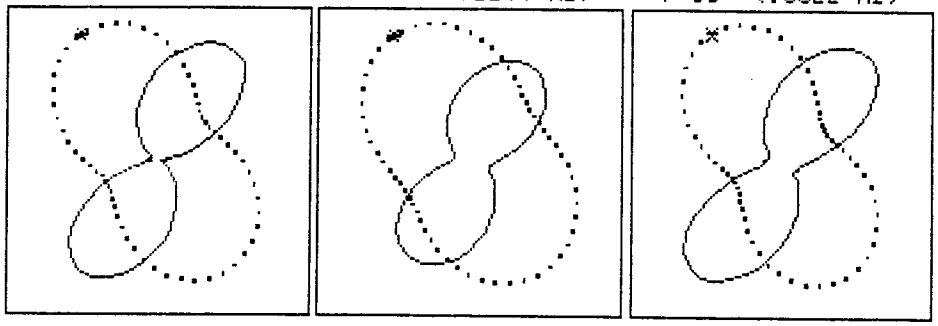
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P10s/P17s/

Operator:OJALA
Date: 4 Oct 1986
Time: 16:40:27

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#507-30Aug86-05
SP--Stn02: B#221-30Aug86-05
Sens-Ch01: C#445-04Sep86-01
Sens-Ch02: C#239-04Sep86-01
Sens-Ch03: L#416-05Sep86-01
Sens-Ch06: C#201-04Sep86-01
Sens-Ch07: C#306-04Sep86-01
Sens-Ch08: L#419-05Sep86-01

Station 1

Stn Number:LAKE86-P10s
Site Desc:T43N R3E Sec.21 NW1/4
41,33,40 N 121,38,16 W
Elevation:6600 FT
Reference:LAKE86-P17s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: B. STEWART
Sensor Processor: SE507
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL445	+0 DEG
Hy	2	COIL239	+90 DEG
Hz	3	LOOP416	
Ex	4	150 M	+0 DEG
Ey	5	150 M	+90 DEG
Rx	6	COIL201	+0 DEG
Ry	7	COIL306	+90 DEG

Ex Pot Resist: 3.5 K Ohms
Ex Voltage: AC=37.7 mv, DC=66.5 mv
Ey Pot Resist: 3.5 K Ohms
Ey Voltage: AC=8.5 mv, DC=10.3 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

OPERATOR LOG FOR MT SITES LAKE86-P10s/P17s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P10a/P17a/		
Run STARTED:	13:02:49	3 Oct 1986
Run QUIT:	19:30:02	3 Oct 1986
Run Start and Stop Time for LAKE86-P10b/P17b/		
Run STARTED:	19:57:52	3 Oct 1986
Run QUIT:	04:58:17	4 Oct 1986
Run Start and Stop Time for LAKE86-P10c/P17c/		
Run STARTED:	05:55:08	4 Oct 1986
Run QUIT:	15:25:42	4 Oct 1986
Run Start and Stop Time for LAKE86-P10d/P17d/		
Run STARTED:	16:40:27	4 Oct 1986
Run QUIT:	09:00:46	5 Oct 1986

AND POSSIBLY DANGEROUS.

PHOENIX GEOPHYSICS

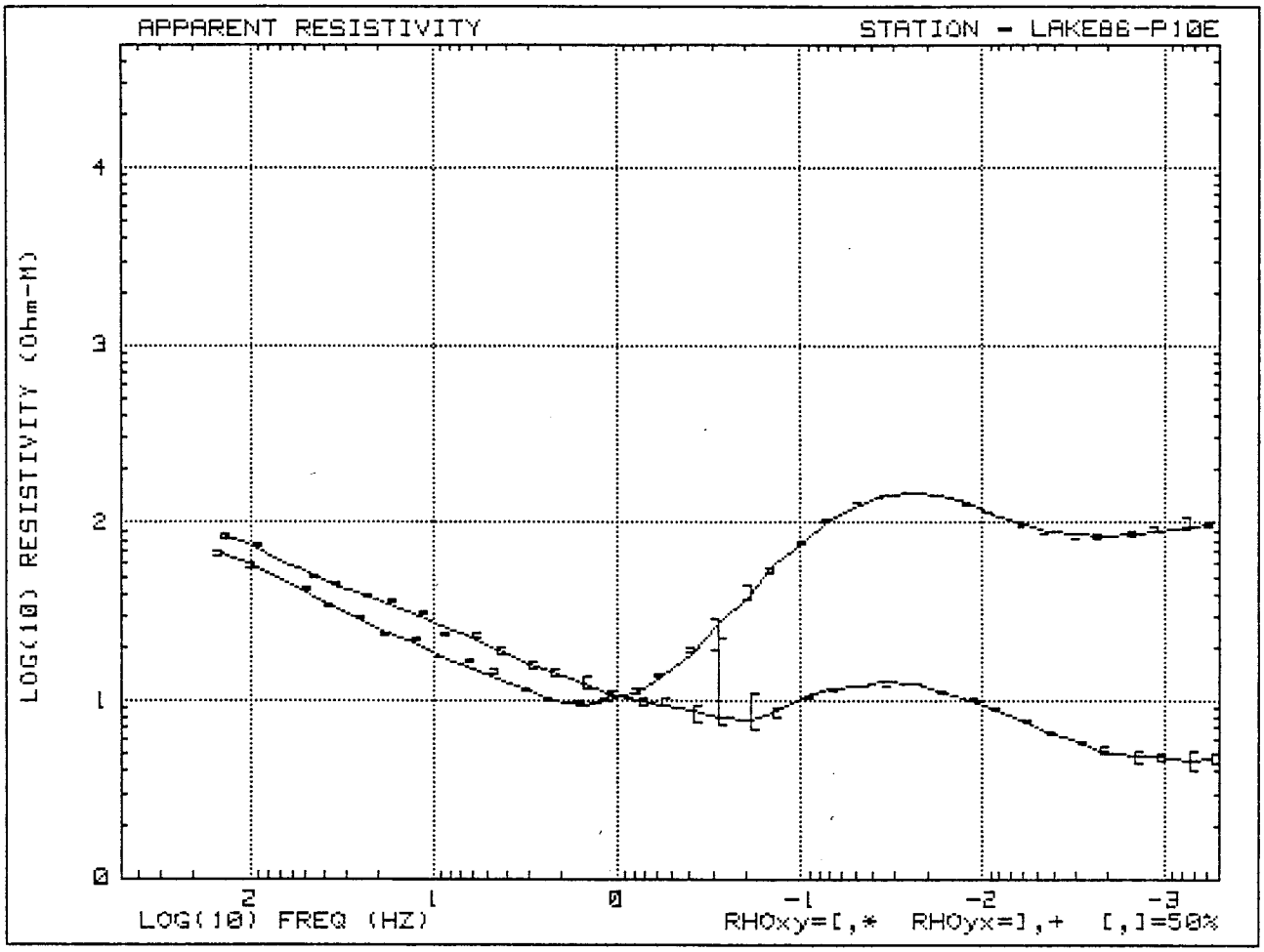
MT Site: LAKE86-P10E

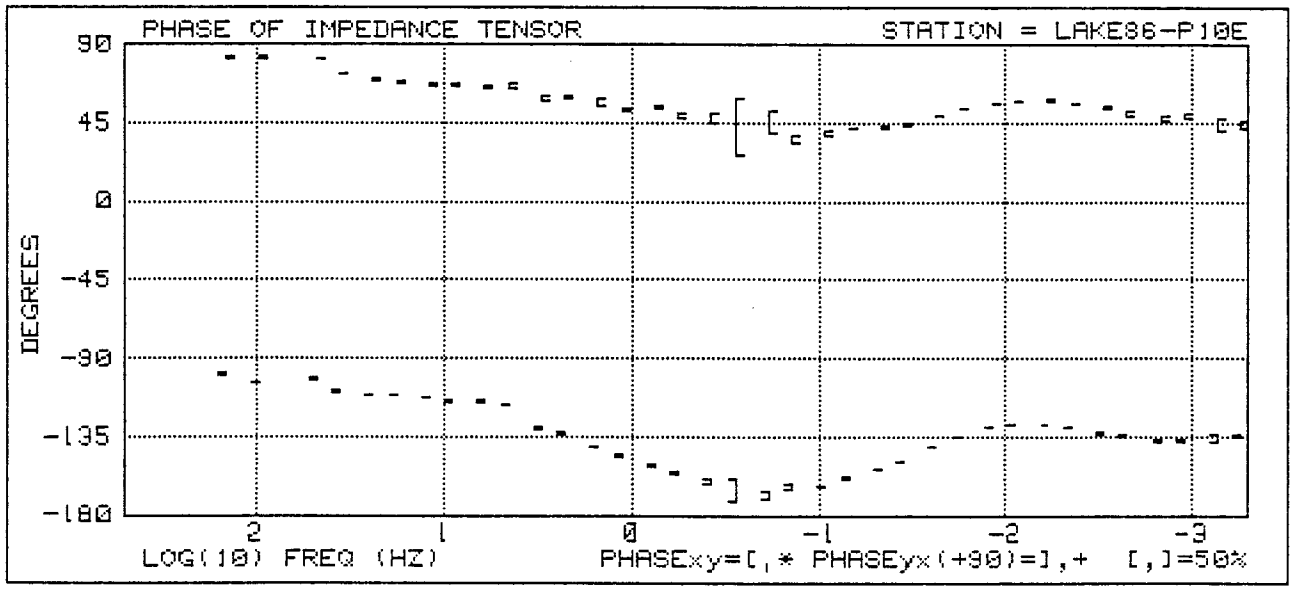
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

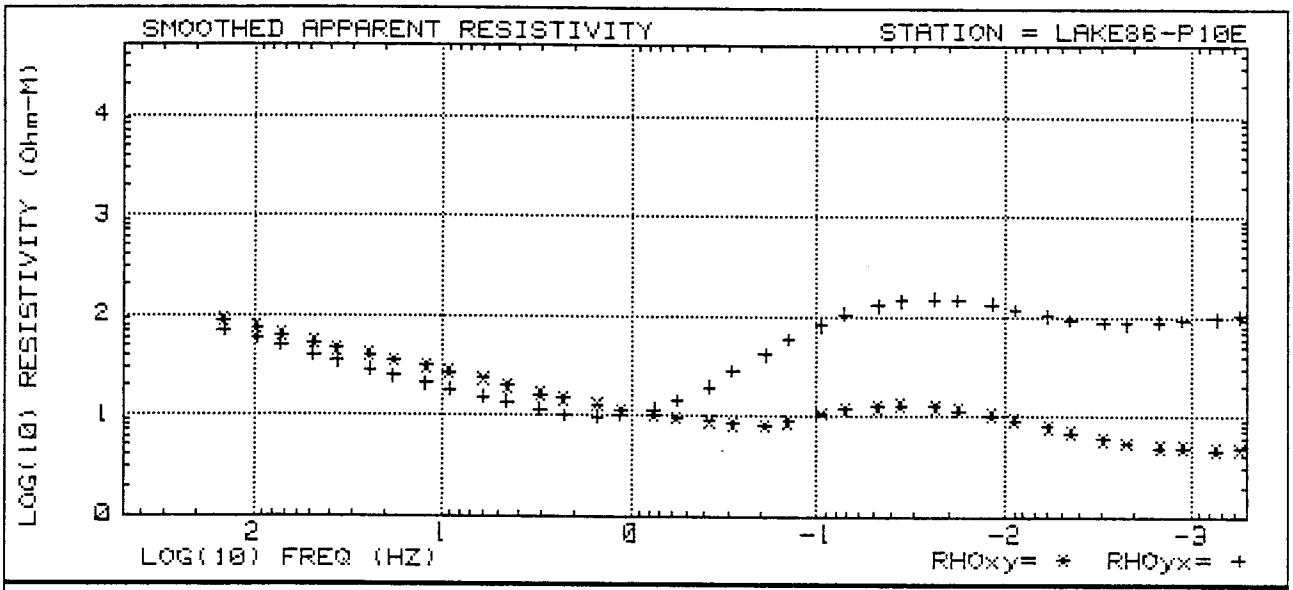
MT Site: LAKE86-P10E

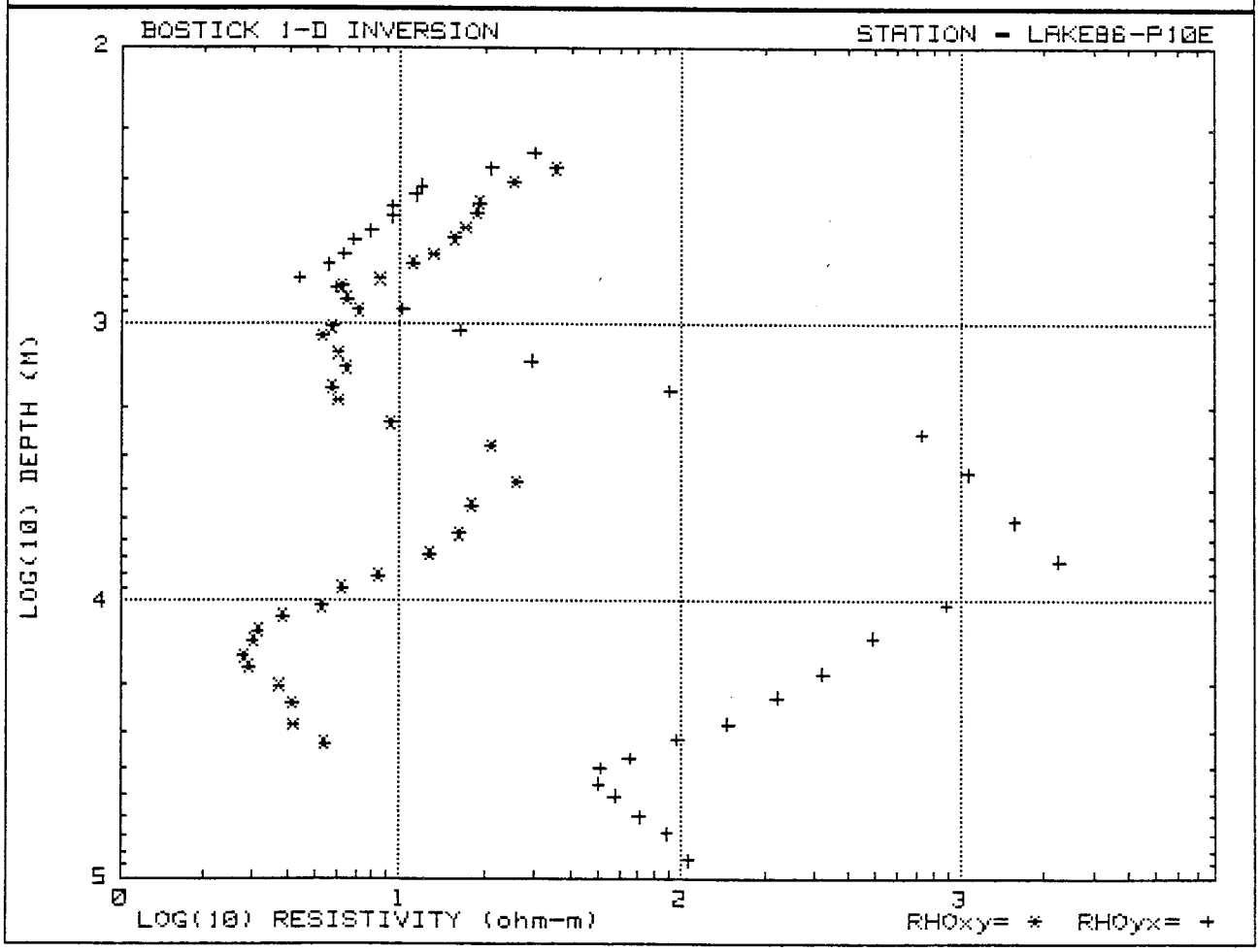




PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	960	84.4	5.6	67.6	6.1	82.5	1.5	-98.6	1.7
5	96.00 Hz	797	74.8	3.3	57.8	2.7	82.8	.9	-103.7	.8
7	48.00 Hz	1534	50.8	2.5	42.7	2.1	81.6	.7	-101.7	.6
8	36.00 Hz	1312	45.3	1.8	34.6	1.8	73.4	.5	-108.9	.5
9	24.00 Hz	1536	39.5	1.8	29.4	1.3	69.8	.5	-110.5	.4
10	18.00 Hz	1536	37.0	2.0	23.9	1.5	68.2	.6	-111.3	.4
11	12.00 Hz	1344	31.6	2.4	22.2	1.9	66.8	.7	-112.2	.5
12	9.00 Hz	768	23.8	3.3	17.6	2.3	66.9	.9	-114.1	.6
13	6.00 Hz	1248	23.1	4.8	16.6	2.3	65.6	1.3	-114.5	.7
14	4.50 Hz	1536	19.3	7.2	14.6	2.8	66.4	2.0	-116.7	.8
15	3.00 Hz	21807	16.0	6.8	11.5	2.8	58.8	1.9	-129.7	.8
16	2.25 Hz	17778	14.4	7.3	10.1	1.8	59.8	2.0	-133.0	.5
17	1.50 Hz	6464	12.6	11.2	9.8	1.9	56.5	3.1	-140.5	.5
18	1.13 Hz	20597	11.1	6.2	10.2	1.5	52.7	1.7	-145.6	.4
19	1.33 Sec	9422	9.9	5.6	11.4	2.6	53.9	1.6	-151.3	.7
20	1.78 Sec	8942	9.8	7.5	13.9	3.4	49.2	2.1	-155.1	1.0
21	2.67 Sec	4622	8.5	17.1	19.3	5.6	47.3	4.5	-160.6	1.6
22	3.56 Sec	2266	12.9	99.9	23.7	37.2	42.9	23.7	-165.1	9.1
23	5.33 Sec	1420	8.7	40.7	40.7	14.9	45.3	9.8	-168.4	4.0
24	7.11 Sec	1912	8.6	10.5	54.6	4.4	35.4	2.9	-163.2	1.2
25	10.67 Sec	1222	10.5	4.4	76.7	1.9	39.2	1.2	-163.6	.5
26	14.22 Sec	773	11.6	.7	103.4	.8	42.0	.2	-158.3	.2
27	21.33 Sec	694	12.0	.6	129.1	.6	42.9	.2	-153.1	.2
28	28.44 Sec	622	12.2	.7	138.5	.7	44.2	.2	-149.7	.2
29	42.67 Sec	502	12.6	.7	148.2	.5	49.7	.2	-140.8	.1
30	56.89 Sec	322	11.2	1.5	141.9	.6	53.1	.4	-135.1	.2
31	85.33 Sec	249	10.1	1.1	127.6	.6	56.1	.3	-129.8	.2
32	113.78 Sec	255	9.0	1.5	114.4	.8	57.7	.4	-127.7	.2
33	170.67 Sec	69	7.7	1.8	96.6	1.5	58.0	.5	-128.2	.4
34	227.56 Sec	141	6.6	2.1	86.2	1.3	56.4	.6	-129.5	.4
35	341.33 Sec	54	5.9	2.5	81.6	1.0	54.1	.7	-132.7	.3
36	455.11 Sec	12	5.3	6.8	84.6	3.6	50.8	1.9	-134.5	1.0
37	682.67 Sec	9	4.8	11.1	86.6	3.3	47.6	3.0	-136.9	.9
38	910.22 Sec	12	4.8	7.3	91.7	4.0	49.7	2.0	-137.1	1.1
39	1365.33 Sec	9	4.6	21.0	99.6	10.5	44.4	5.5	-135.8	2.9
40	1820.44 Sec	6	4.7	10.3	97.5	3.7	44.1	2.8	-134.3	1.0

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	960	87.3	68.1	35.7	277	29.9	245
5	96.00 Hz	797	73.6	58.2	25.5	312	21.1	277
7	48.00 Hz	1534	52.0	39.2	19.1	370	11.9	322
8	36.00 Hz	1312	45.3	34.0	18.8	399	11.4	346
9	24.00 Hz	1536	39.1	27.8	17.2	454	9.5	383
10	18.00 Hz	1536	34.6	24.2	15.7	493	9.4	413
11	12.00 Hz	1344	30.1	20.5	13.2	564	7.9	465
12	9.00 Hz	768	26.4	17.8	11.2	610	6.9	501
13	6.00 Hz	1248	22.7	15.1	8.5	693	6.3	564
14	4.50 Hz	1536	19.3	13.4	6.2	736	5.6	615
15	3.00 Hz	21807	16.0	11.3	6.5	821	4.4	691
16	2.25 Hz	17778	14.4	9.9	7.1	900	6.0	746
17	1.50 Hz	6464	12.6	9.5	5.7	1033	10.3	898
18	1.13 Hz	20597	11.1	10.1	5.3	1117	16.4	1068
19	1.33 Sec	9422	9.9	11.2	6.0	1294	29.3	1378
20	1.78 Sec	8942	9.4	13.8	6.4	1453	91.6	1762
21	2.67 Sec	4622	8.7	18.8	5.7	1715	731.8	2517
22	3.56 Sec	2266	8.1	27.3	6.0	1913	1063.5	3504
23	5.33 Sec	1420	7.9	40.2	9.3	2306	1569.1	5213
24	7.11 Sec	1912	8.6	58.0	21.0	2786	2262.8	7229
25	10.67 Sec	1222	10.5	79.9	26.1	3771	897.2	10389
26	14.22 Sec	773	11.6	103.6	18.1	4567	488.5	13661
27	21.33 Sec	694	12.3	125.4	16.3	5754	324.4	18405
28	28.44 Sec	622	12.8	140.8	12.9	6781	221.9	22521
29	42.67 Sec	502	12.3	146.4	8.4	8150	148.4	28127
30	56.89 Sec	322	11.2	141.5	6.3	8980	96.9	31924
31	85.33 Sec	249	10.1	128.6	5.3	10455	65.6	37285
32	113.78 Sec	255	9.0	112.9	3.9	11410	51.5	40344
33	170.67 Sec	69	7.7	99.3	3.1	12872	50.6	46329
34	227.56 Sec	141	6.7	90.2	3.0	13947	58.2	50980
35	341.33 Sec	54	5.9	85.5	2.8	15934	71.1	60805
36	455.11 Sec	12	5.3	84.6	2.9	17416	88.9	69829
37	682.67 Sec	9	4.8	87.0	3.7	20403	106.9	86741
38	910.22 Sec	12	4.8	90.8	4.2	23578	114.6	102317
39	1365.33 Sec	9	4.6	94.3	4.2	28148	122.8	127699
40	1820.44 Sec	6	4.7	99.5	5.5	32863	144.6	151431

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	960	-6.38	2.43	69.15	32.06	244.43	88.83
5	96.00 Hz	797	-1.51	9.97	6.09	23.71	187.94	18.54
7	48.00 Hz	1534	1.05	5.31	1.32	16.11	109.26	3.72
8	36.00 Hz	1312	.55	3.72	.75	25.75	86.50	1.36
9	24.00 Hz	1536	1.06	3.01	.25	23.74	64.59	.76
10	18.00 Hz	1536	1.03	1.55	.24	21.45	53.57	.67
11	12.00 Hz	1344	1.06	1.94	.19	17.19	40.04	.54
12	9.00 Hz	768	1.19	1.26	.17	12.85	30.13	.55
13	6.00 Hz	1248	.78	.59	.15	10.86	23.98	.76
14	4.50 Hz	1536	1.12	.97	.19	8.34	19.07	1.04
15	3.00 Hz	21807	.50	.98	.14	8.02	13.23	.52
16	2.25 Hz	17778	.80	1.01	.10	6.41	10.99	.40
17	1.50 Hz	6464	.57	.61	.11	5.37	8.12	.54
18	1.13 Hz	20597	.42	.65	.03	4.78	6.28	.11
19	1.33 Sec	9422	.279	.393	.030	3.590	4.926	.056
20	1.78 Sec	8942	.166	.376	.035	3.434	3.977	.072
21	2.67 Sec	4622	.265	.221	.061	2.712	2.934	.199
22	3.56 Sec	2266	.491	.062	1.355	3.115	2.899	6.201
23	5.33 Sec	1420	.659	.050	.261	2.013	2.033	.477
24	7.11 Sec	1912	.470	.021	.012	2.007	1.426	.030
25	10.67 Sec	1222	.528	.110	.004	1.721	1.404	.005
26	14.22 Sec	773	.556	.159	.000	1.499	1.350	.000
27	21.33 Sec	694	.487	.187	.000	1.228	1.140	.000
28	28.44 Sec	622	.380	.188	.000	1.049	1.021	.000
29	42.67 Sec	502	.364	.245	.000	.786	.925	.000
30	56.89 Sec	322	.285	.209	.000	.596	.793	.000
31	85.33 Sec	249	.230	.207	.000	.430	.639	.000
32	113.78 Sec	255	.190	.175	.000	.337	.532	.000
33	170.67 Sec	69	.153	.126	.000	.251	.402	.000
34	227.56 Sec	141	.114	.094	.000	.211	.317	.000
35	341.33 Sec	54	.093	.065	.000	.172	.238	.000
36	455.11 Sec	12	.071	.050	.000	.152	.186	.000
37	682.67 Sec	9	.066	.047	.000	.127	.139	.000
38	910.22 Sec	12	.048	.053	.000	.105	.124	.000
39	1365.33 Sec	9	.032	.018	.000	.093	.091	.000
40	1820.44 Sec	6	.039	.050	.000	.081	.079	.000

PHOENIX GEOPHYSICS

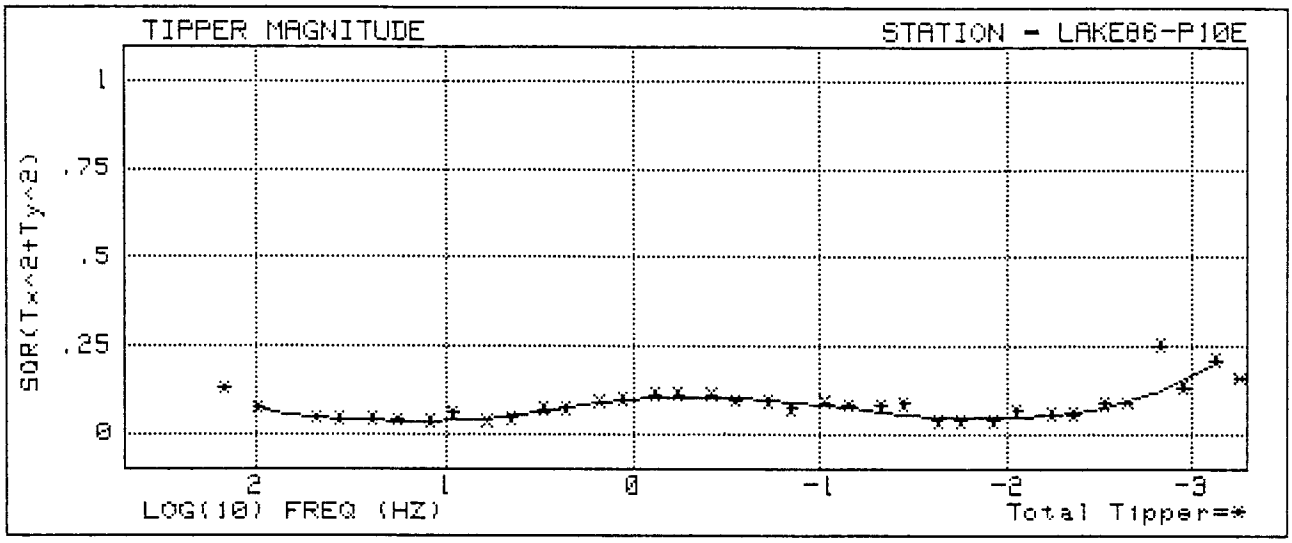
MT Site: LAKE86-P10E

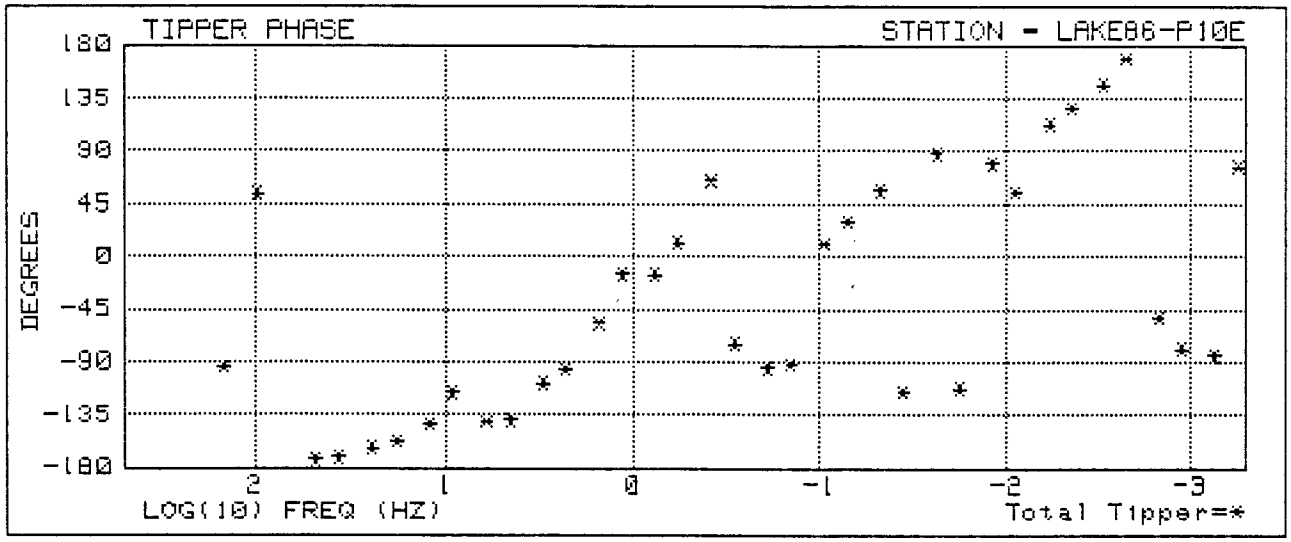
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

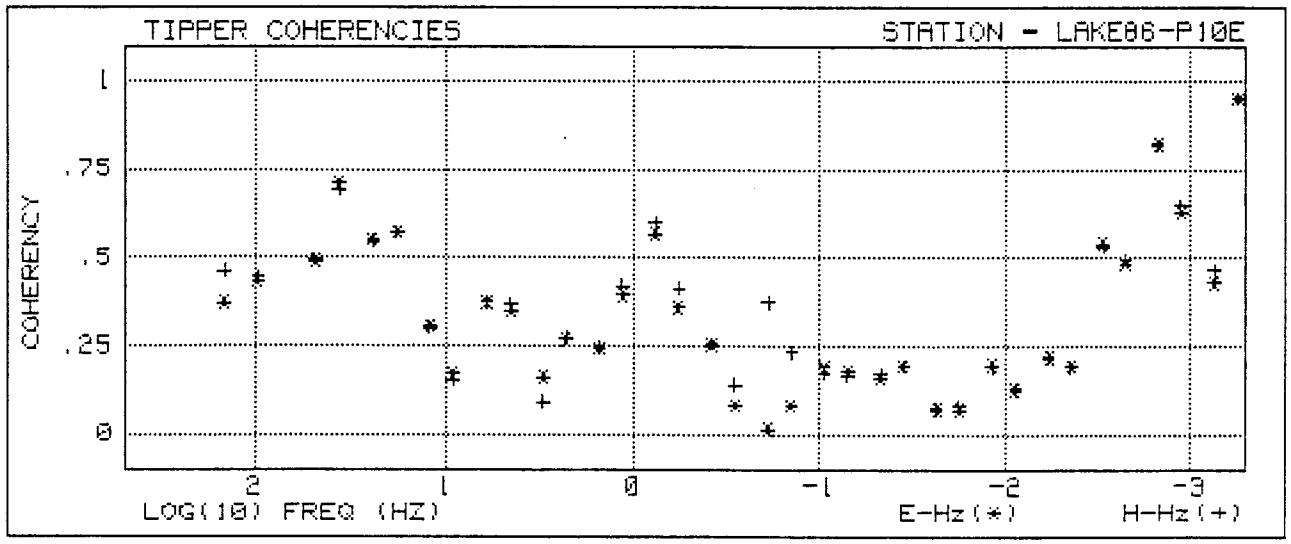
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	960	-33.14	-218.08	85.95	-6.45	2.43	110.42
5	96.00 Hz	797	-39.43	-161.87	10.19	-1.42	10.03	30.99
7	48.00 Hz	1534	-20.52	-99.11	2.23	-2.28	3.87	6.30
8	36.00 Hz	1312	-25.53	-74.73	1.02	.09	3.73	1.84
9	24.00 Hz	1536	-20.80	-55.61	.28	-.14	3.40	.85
10	18.00 Hz	1536	-16.84	-43.20	.23	-.10	2.05	.64
11	12.00 Hz	1344	-13.81	-33.81	.24	1.22	1.85	.69
12	9.00 Hz	768	-11.47	-25.69	.20	1.37	1.20	.66
13	6.00 Hz	1248	-9.25	-20.33	.13	-.41	1.12	.69
14	4.50 Hz	1536	-8.16	-16.19	.13	.30	1.03	.70
15	3.00 Hz	21807	-8.41	-10.12	.06	-.18	.90	.23
16	2.25 Hz	17778	-7.29	-7.81	.02	-.31	.70	.07
17	1.50 Hz	6464	-6.63	-5.46	.01	-.10	.30	.07
18	1.13 Hz	20597	-6.26	-4.28	.01	-.14	.24	.02
19	1.33 Sec	9422	-5.721	-3.137	.014	.170	.264	.026
20	1.78 Sec	8942	-5.668	-2.631	.022	-.036	.041	.045
21	2.67 Sec	4622	-5.676	-2.004	.055	.180	-.051	.178
22	3.56 Sec	2266	-5.579	-1.484	1.666	.076	-.660	7.625
23	5.33 Sec	1420	-6.048	-1.244	.367	.629	-.105	.672
24	7.11 Sec	1912	-5.931	-1.787	.035	.478	-.069	.087
25	10.67 Sec	1222	-5.752	-1.697	.006	.571	-.476	.007
26	14.22 Sec	773	-5.602	-2.225	.001	.612	-.105	.001
27	21.33 Sec	694	-4.907	-2.488	.001	.577	-.056	.001
28	28.44 Sec	622	-4.259	-2.491	.001	.449	.038	.001
29	42.67 Sec	502	-3.230	-2.634	.000	.415	.173	.000
30	56.89 Sec	322	-2.502	-2.493	.000	.303	.188	.000
31	85.33 Sec	249	-1.751	-2.100	.000	.203	.231	.000
32	113.78 Sec	255	-1.372	-1.773	.000	.140	.216	.000
33	170.67 Sec	69	-1.041	-1.321	.000	.106	.167	.000
34	227.56 Sec	141	-.876	-1.061	.000	.070	.133	.000
35	341.33 Sec	54	-.742	-.804	.000	.072	.087	.000
36	455.11 Sec	12	-.676	-.687	.001	.086	.034	.001
37	682.67 Sec	9	-.581	-.544	.000	.053	.062	.001
38	910.22 Sec	12	-.520	-.483	.000	.068	.029	.001
39	1365.33 Sec	9	-.433	-.421	.002	.076	-.027	.001
40	1820.44 Sec	6	-.361	-.370	.000	.086	.005	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E







PHOENIX GEOPHYSICS

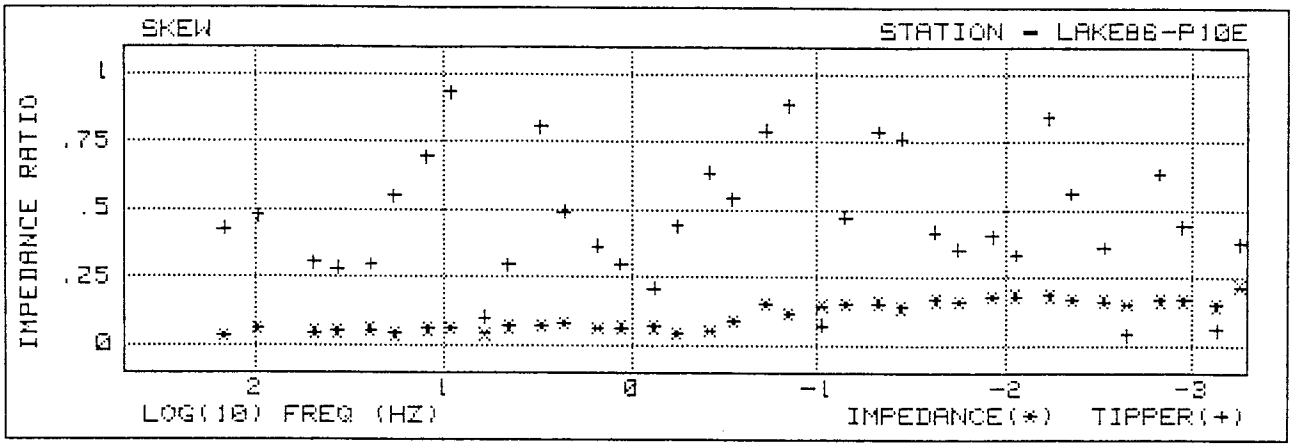
MT Site: LAKE86-P10E

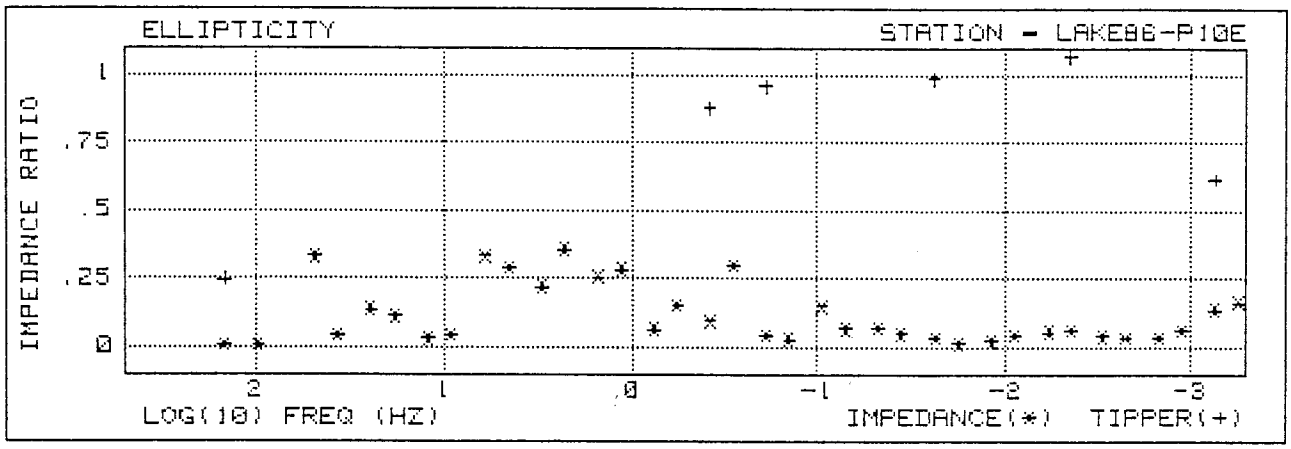
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

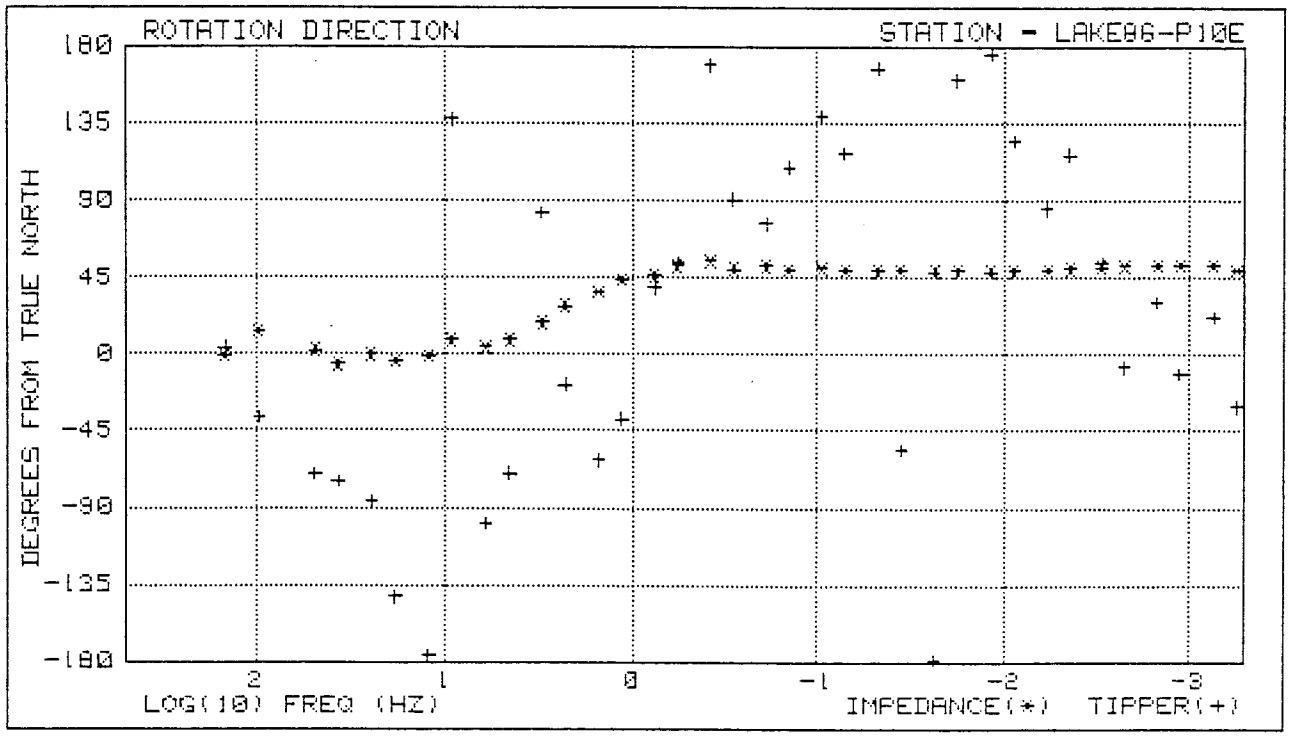
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	960	.13	-95.34	.37	.46
5	96.00 Hz	797	.07	52.86	.43	.44
7	48.00 Hz	1534	.04	-173.34	.49	.49
8	36.00 Hz	1312	.04	-171.62	.71	.69
9	24.00 Hz	1536	.04	-163.80	.55	.54
10	18.00 Hz	1536	.04	-157.94	.57	.57
11	12.00 Hz	1344	.03	-143.10	.30	.30
12	9.00 Hz	768	.06	-117.00	.17	.15
13	6.00 Hz	1248	.03	-141.02	.37	.37
14	4.50 Hz	1536	.04	-139.81	.35	.36
15	3.00 Hz	21807	.07	-108.90	.16	.09
16	2.25 Hz	17778	.07	-97.31	.27	.27
17	1.50 Hz	6464	.09	-57.64	.24	.24
18	1.13 Hz	20597	.09	-16.10	.39	.42
19	1.33 Sec	9422	.11	-16.27	.57	.60
20	1.78 Sec	8942	.11	10.90	.36	.41
21	2.67 Sec	4622	.11	64.01	.25	.25
22	3.56 Sec	2266	.09	-75.53	.08	.14
23	5.33 Sec	1420	.09	-95.71	.01	.37
24	7.11 Sec	1912	.07	-92.73	.08	.23
25	10.67 Sec	1222	.09	10.24	.19	.17
26	14.22 Sec	773	.08	29.20	.18	.16
27	21.33 Sec	694	.07	55.91	.15	.17
28	28.44 Sec	622	.08	-116.15	.19	.19
29	42.67 Sec	502	.03	87.37	.07	.07
30	56.89 Sec	322	.03	-112.98	.07	.07
31	85.33 Sec	249	.03	78.59	.19	.19
32	113.78 Sec	255	.06	54.51	.12	.12
33	170.67 Sec	69	.05	111.75	.21	.22
34	227.56 Sec	141	.05	125.51	.19	.19
35	341.33 Sec	54	.08	145.14	.54	.53
36	455.11 Sec	12	.09	167.88	.48	.49
37	682.67 Sec	9	.25	-52.80	.82	.81
38	910.22 Sec	12	.13	-79.73	.63	.64
39	1365.33 Sec	9	.21	-85.50	.42	.46
40	1820.44 Sec	6	.16	75.94	.95	.95

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E







PHOENIX GEOPHYSICS

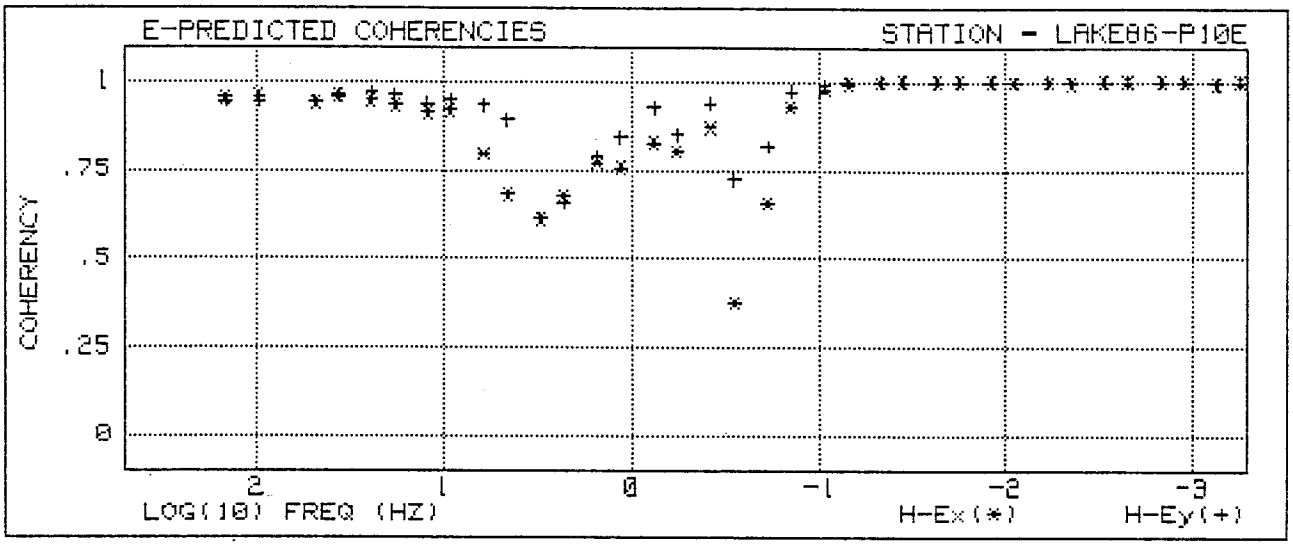
MT Site: LAKE86-P10E

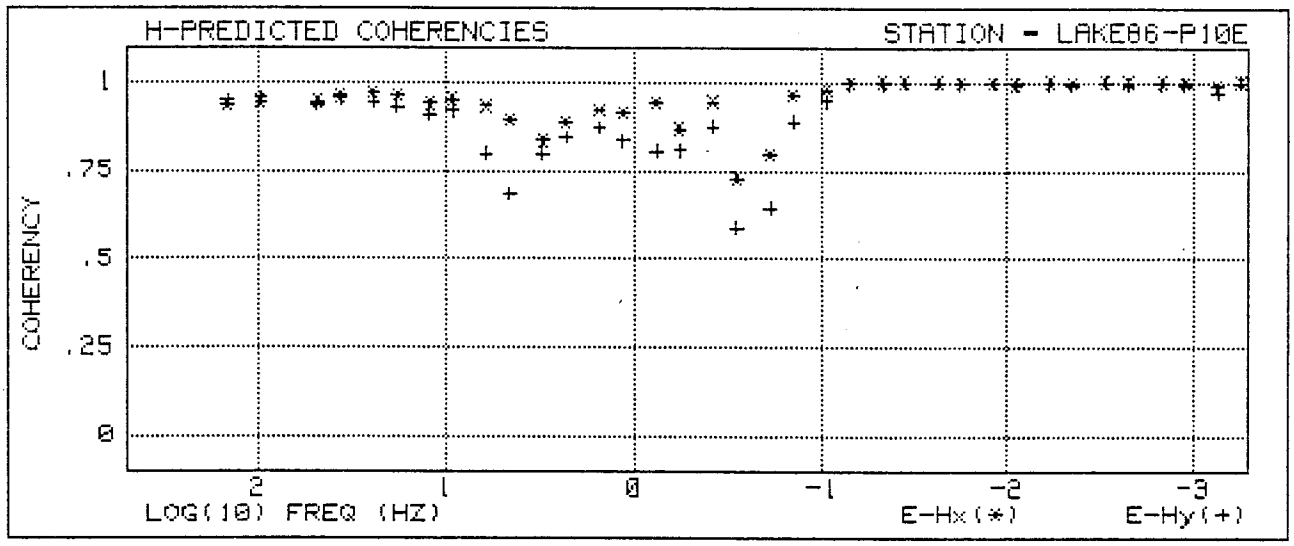
SKEW, ELLIPTICITY AND STRIKE

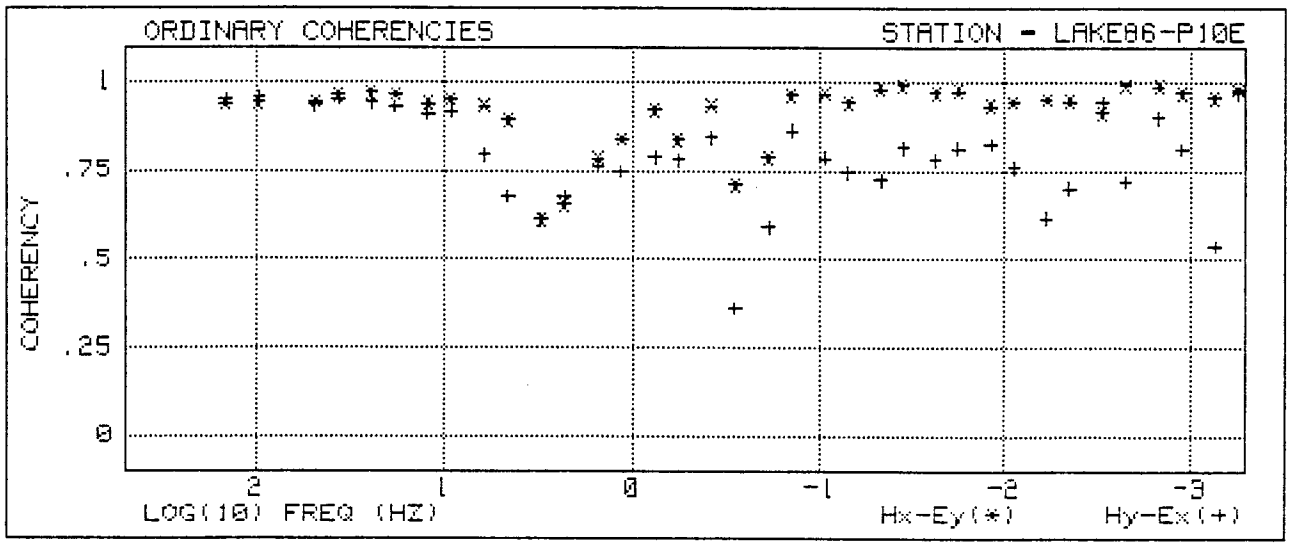
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	960	.03	.00	-1.46	.42	.24	3.00
5	96.00 Hz	797	.06	.00	12.82	.47	1.29	-37.53
7	48.00 Hz	1534	.04	.33	1.95	.30	3.09	-71.19
8	36.00 Hz	1312	.04	.04	-6.61	.28	2.47	-75.23
9	24.00 Hz	1536	.05	.13	-.61	.29	6.31	-87.21
10	18.00 Hz	1536	.04	.11	-4.65	.55	3.16	-142.27
11	12.00 Hz	1344	.06	.03	-1.69	.69	2.48	-177.12
12	9.00 Hz	768	.06	.04	7.95	.93	1.47	136.65
13	6.00 Hz	1248	.04	.33	3.60	.10	4.02	-100.11
14	4.50 Hz	1536	.06	.28	8.17	.29	4.04	-70.54
15	3.00 Hz	21807	.07	.22	18.04	.80	1.99	82.36
16	2.25 Hz	17778	.08	.35	27.88	.49	3.47	-18.40
17	1.50 Hz	6464	.06	.25	36.00	.36	2.49	-62.92
18	1.13 Hz	20597	.06	.28	43.26	.29	1.67	-38.48
19	1.33 Sec	9422	.06	.06	45.76	.21	2.53	38.36
20	1.78 Sec	8942	.04	.15	51.60	.44	1.72	53.57
21	2.67 Sec	4622	.05	.09	54.30	.63	.87	168.52
22	3.56 Sec	2266	.08	.29	49.36	.54	1.28	89.93
23	5.33 Sec	1420	.15	.04	51.23	.79	.95	76.08
24	7.11 Sec	1912	.11	.02	49.12	.88	1.46	108.64
25	10.67 Sec	1222	.14	.15	50.04	.07	23.48	138.63
26	14.22 Sec	773	.15	.06	48.96	.47	2.05	116.79
27	21.33 Sec	694	.15	.07	48.60	.78	1.28	166.86
28	28.44 Sec	622	.14	.05	49.16	.76	1.72	-56.39
29	42.67 Sec	502	.16	.03	48.07	.41	.98	-179.43
30	56.89 Sec	322	.16	.01	48.69	.35	2.38	159.95
31	85.33 Sec	249	.18	.02	47.85	.40	1.24	174.94
32	113.78 Sec	255	.18	.04	48.44	.33	3.22	124.23
33	170.67 Sec	69	.18	.05	48.86	.84	1.63	84.58
34	227.56 Sec	141	.17	.06	49.75	.56	1.06	116.07
35	341.33 Sec	54	.16	.04	51.01	.36	1.58	52.77
36	455.11 Sec	12	.15	.03	51.46	.04	2.41	-8.01
37	682.67 Sec	9	.16	.03	51.79	.63	1.25	30.09
38	910.22 Sec	12	.16	.06	51.82	.44	1.65	-11.73
39	1365.33 Sec	9	.15	.13	51.69	.05	.61	21.56
40	1820.44 Sec	6	.22	.16	49.24	.37	4.06	-31.12

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E







PHOENIX GEOPHYSICS

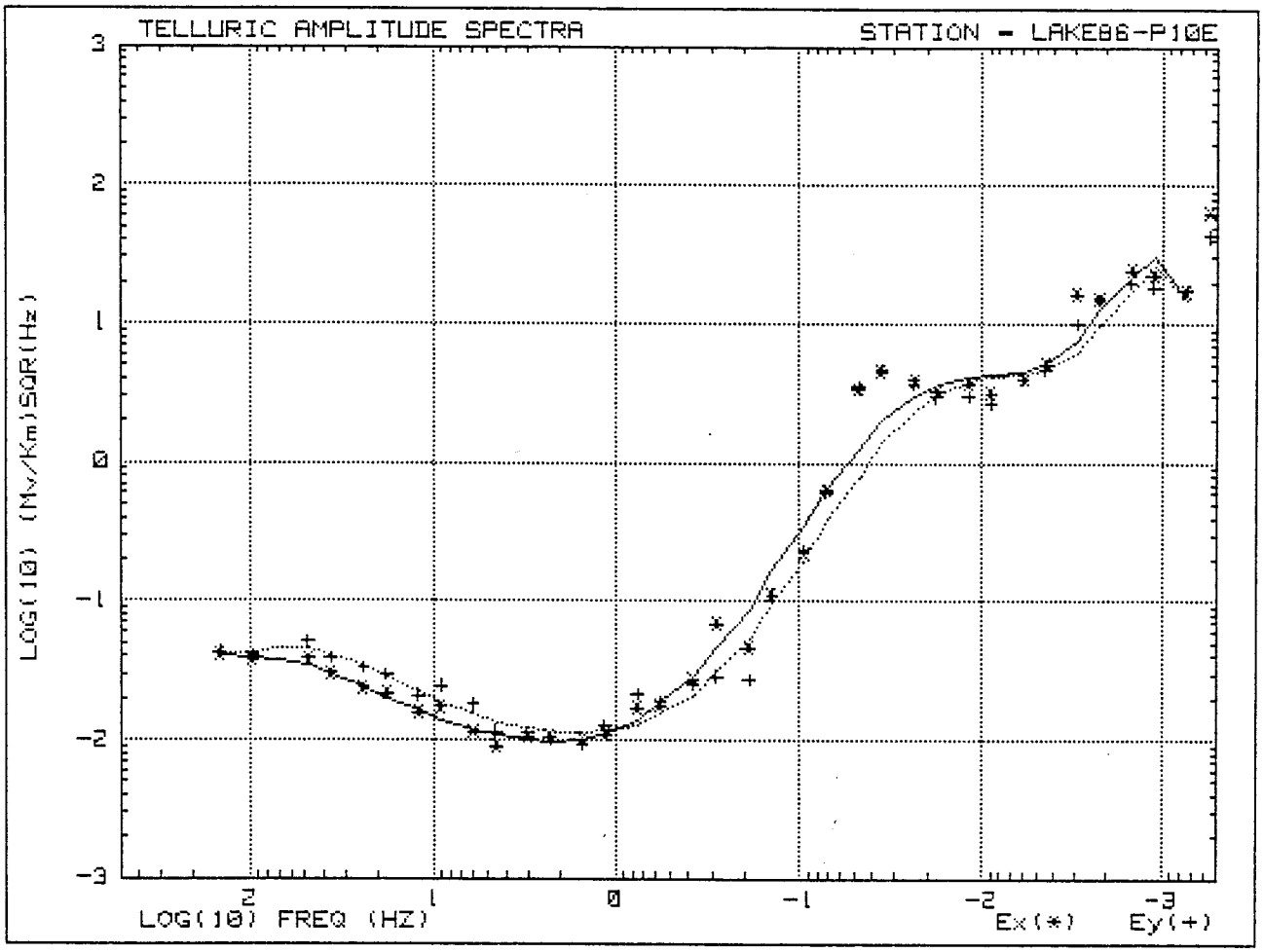
MT Site: LAKE86-P10E

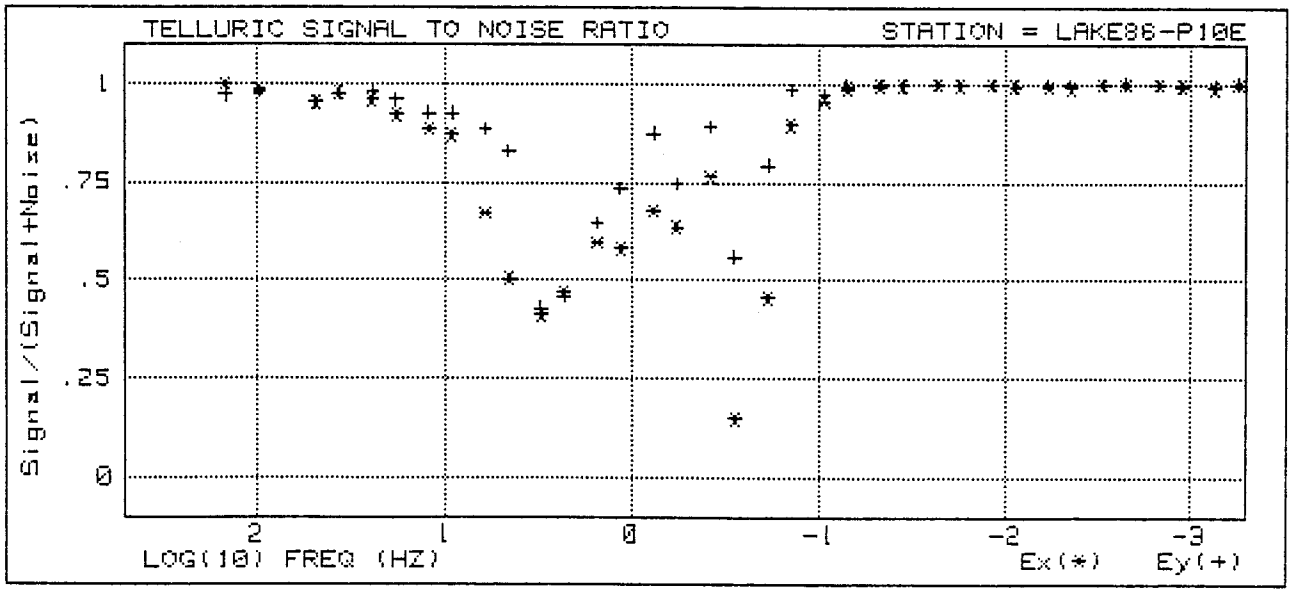
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	960	.95	.94	.93	.94	.93	.94
5	96.00 Hz	797	.96	.94	.94	.95	.94	.95
7	48.00 Hz	1534	.94	.94	.94	.93	.94	.93
8	36.00 Hz	1312	.96	.96	.96	.95	.96	.95
9	24.00 Hz	1536	.94	.97	.97	.94	.97	.94
10	18.00 Hz	1536	.93	.96	.96	.93	.96	.93
11	12.00 Hz	1344	.91	.94	.94	.90	.94	.90
12	9.00 Hz	768	.92	.95	.95	.92	.95	.92
13	6.00 Hz	1248	.79	.93	.93	.80	.93	.79
14	4.50 Hz	1536	.68	.89	.89	.68	.89	.67
15	3.00 Hz	21807	.61	.61	.83	.80	.61	.61
16	2.25 Hz	17778	.67	.65	.88	.84	.65	.67
17	1.50 Hz	6464	.76	.79	.92	.87	.78	.76
18	1.13 Hz	20597	.75	.84	.91	.83	.83	.74
19	1.33 Sec	9422	.82	.92	.94	.80	.92	.78
20	1.78 Sec	8942	.80	.85	.86	.81	.83	.78
21	2.67 Sec	4622	.87	.94	.94	.87	.93	.84
22	3.56 Sec	2266	.37	.72	.72	.59	.71	.36
23	5.33 Sec	1420	.65	.81	.79	.64	.78	.59
24	7.11 Sec	1912	.93	.97	.96	.89	.96	.86
25	10.67 Sec	1222	.98	.99	.98	.94	.96	.78
26	14.22 Sec	773	.99	1.00	1.00	.99	.94	.74
27	21.33 Sec	694	1.00	1.00	1.00	1.00	.98	.72
28	28.44 Sec	622	1.00	1.00	1.00	1.00	.99	.81
29	42.67 Sec	502	1.00	1.00	1.00	1.00	.97	.78
30	56.89 Sec	322	1.00	1.00	1.00	.99	.97	.81
31	85.33 Sec	249	1.00	1.00	1.00	1.00	.93	.82
32	113.78 Sec	255	1.00	1.00	.99	.99	.94	.76
33	170.67 Sec	69	1.00	1.00	1.00	.99	.95	.61
34	227.56 Sec	141	.99	1.00	1.00	.99	.94	.70
35	341.33 Sec	54	1.00	1.00	1.00	1.00	.91	.94
36	455.11 Sec	12	1.00	1.00	1.00	.99	.99	.72
37	682.67 Sec	9	1.00	1.00	1.00	.99	.98	.90
38	910.22 Sec	12	1.00	1.00	1.00	.99	.97	.81
39	1365.33 Sec	9	.99	.99	.99	.97	.95	.53
40	1820.44 Sec	6	1.00	1.00	1.00	1.00	.98	.97

PHOENIX GEOPHYSICS

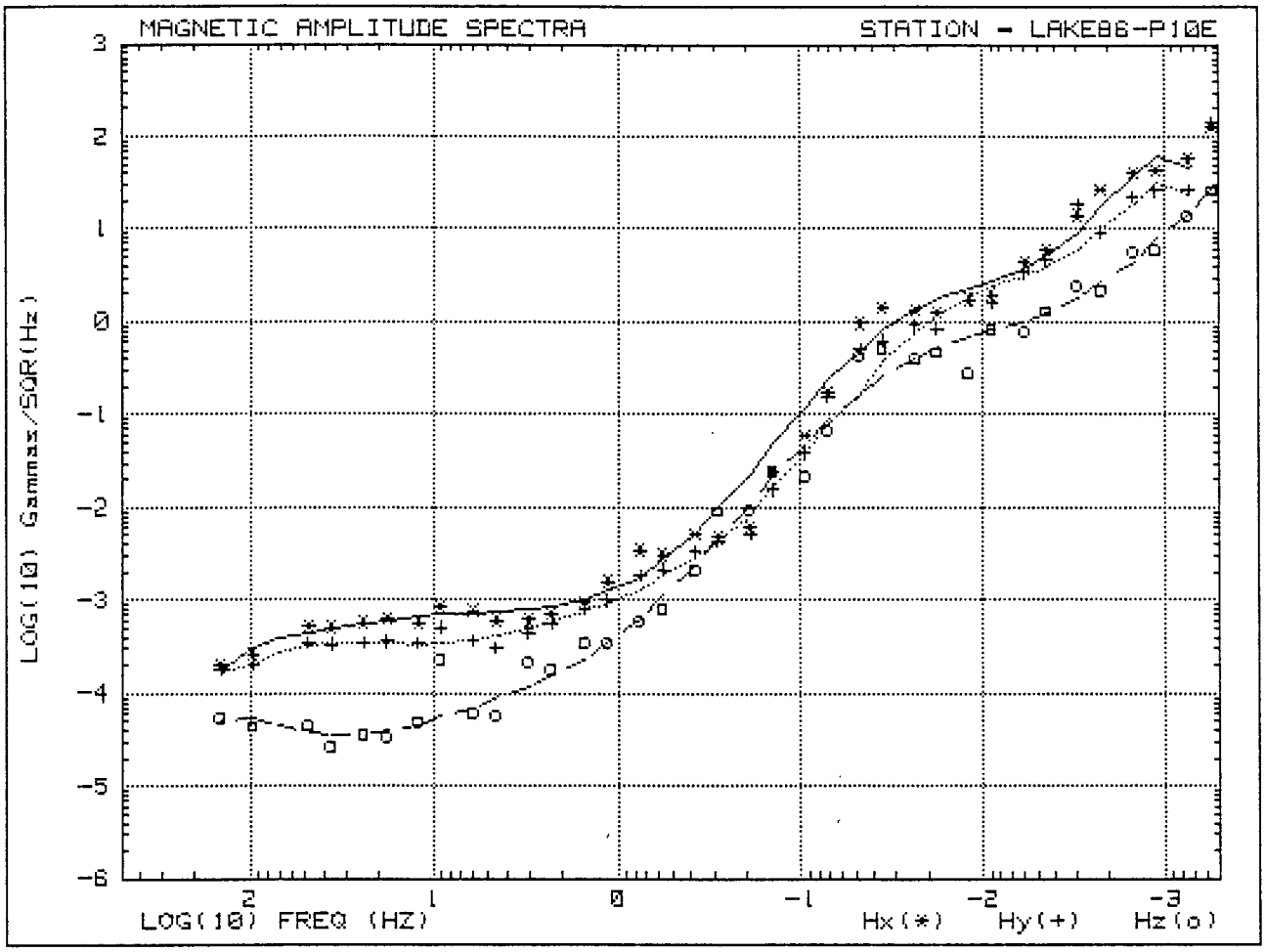
MT Site: LAKE86-P10E

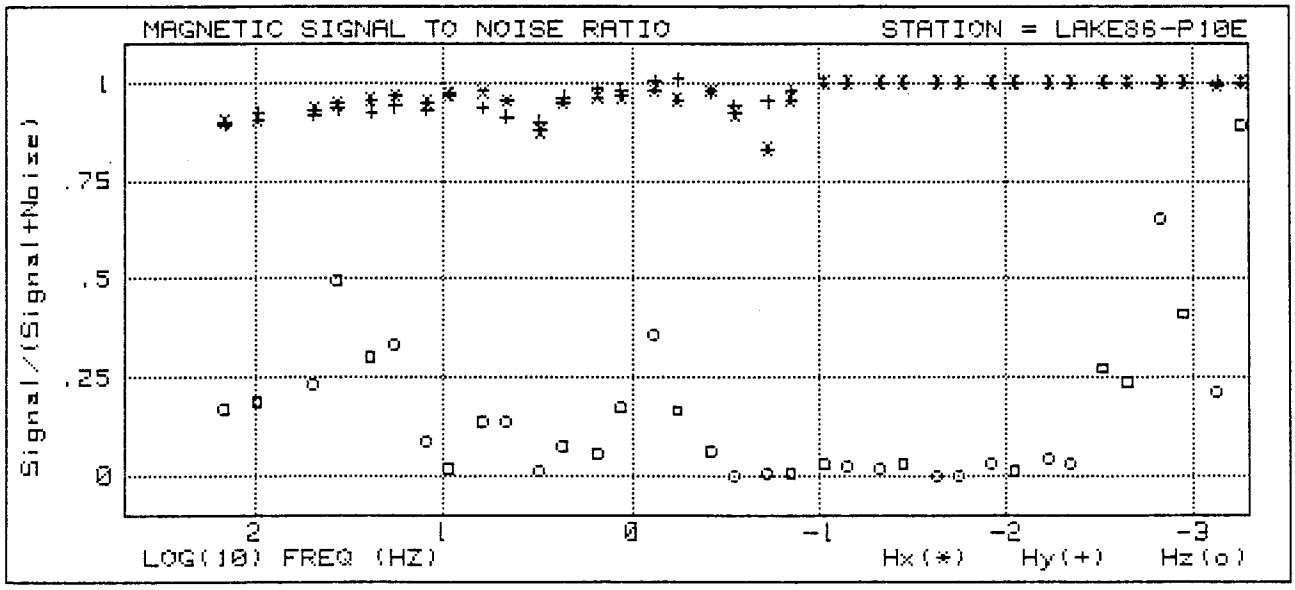




PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	960	2.00E-04	1.75E-04	5.60E-05	4.12E-02	4.23E-02
5	96.00 Hz	797	2.59E-04	2.00E-04	4.62E-05	3.71E-02	4.01E-02
7	48.00 Hz	1534	5.17E-04	3.38E-04	4.65E-05	3.80E-02	5.10E-02
8	36.00 Hz	1312	4.96E-04	3.26E-04	2.79E-05	2.99E-02	3.83E-02
9	24.00 Hz	1536	5.64E-04	3.38E-04	3.71E-05	2.36E-02	3.28E-02
10	18.00 Hz	1536	6.24E-04	3.55E-04	3.54E-05	2.14E-02	2.90E-02
11	12.00 Hz	1344	5.57E-04	3.38E-04	5.19E-05	1.55E-02	2.05E-02
12	9.00 Hz	768	8.42E-04	4.92E-04	2.37E-04	1.70E-02	2.40E-02
13	6.00 Hz	1248	7.59E-04	3.61E-04	6.51E-05	1.13E-02	1.78E-02
14	4.50 Hz	1536	5.89E-04	3.04E-04	6.10E-05	8.84E-03	1.13E-02
15	3.00 Hz	21807	6.11E-04	4.39E-04	2.28E-04	1.02E-02	1.10E-02
16	2.25 Hz	17778	7.03E-04	5.63E-04	1.89E-04	1.04E-02	1.01E-02
17	1.50 Hz	6464	9.37E-04	7.90E-04	3.61E-04	9.94E-03	9.24E-03
18	1.13 Hz	20597	1.53E-03	9.81E-04	3.62E-04	1.09E-02	1.24E-02
19	1.33 Sec	9422	3.39E-03	1.83E-03	6.22E-04	1.68E-02	2.12E-02
20	1.78 Sec	8942	3.01E-03	2.08E-03	8.23E-04	1.74E-02	1.85E-02
21	2.67 Sec	4622	5.04E-03	3.27E-03	2.17E-03	2.70E-02	2.47E-02
22	3.56 Sec	2266	4.66E-03	4.19E-03	9.54E-03	6.84E-02	2.84E-02
23	5.33 Sec	1420	6.02E-03	5.01E-03	9.82E-03	4.56E-02	2.70E-02
24	7.11 Sec	1912	2.37E-02	1.53E-02	2.53E-02	1.10E-01	1.09E-01
25	10.67 Sec	1222	5.81E-02	3.77E-02	2.24E-02	2.18E-01	2.32E-01
26	14.22 Sec	773	1.73E-01	1.52E-01	7.07E-02	6.22E-01	6.09E-01
27	21.33 Sec	694	9.64E-01	5.01E-01	4.50E-01	3.36E+00	3.42E+00
28	28.44 Sec	622	1.40E+00	6.22E-01	5.52E-01	4.50E+00	4.58E+00
29	42.67 Sec	502	1.31E+00	8.94E-01	4.16E-01	3.87E+00	3.62E+00
30	56.89 Sec	322	1.24E+00	8.09E-01	4.93E-01	3.22E+00	2.93E+00
31	85.33 Sec	249	1.71E+00	1.72E+00	2.90E-01	3.69E+00	2.99E+00
32	113.78 Sec	255	1.92E+00	1.62E+00	8.78E-01	3.12E+00	2.67E+00
33	170.67 Sec	69	4.30E+00	3.35E+00	8.08E-01	3.95E+00	3.93E+00
34	227.56 Sec	141	5.85E+00	4.53E+00	1.37E+00	5.06E+00	4.61E+00
35	341.33 Sec	54	1.40E+01	1.84E+01	2.60E+00	1.62E+01	9.80E+00
36	455.11 Sec	12	2.61E+01	9.20E+00	2.34E+00	1.51E+01	1.47E+01
37	682.67 Sec	9	3.97E+01	2.20E+01	5.82E+00	2.39E+01	1.95E+01
38	910.22 Sec	12	4.23E+01	2.55E+01	6.14E+00	2.22E+01	1.81E+01
39	1365.33 Sec	9	5.57E+01	2.62E+01	1.44E+01	1.70E+01	1.72E+01
40	1820.44 Sec	6	1.24E+02	1.36E+02	2.73E+01	6.27E+01	4.25E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	960	.899	.894	.175	.999	.971
5	96.00 Hz	797	.905	.923	.193	.985	.980
7	48.00 Hz	1534	.931	.916	.239	.951	.952
8	36.00 Hz	1312	.945	.932	.501	.974	.974
9	24.00 Hz	1536	.957	.925	.305	.959	.979
10	18.00 Hz	1536	.967	.938	.336	.920	.958
11	12.00 Hz	1344	.949	.931	.092	.885	.924
12	9.00 Hz	768	.970	.968	.024	.869	.925
13	6.00 Hz	1248	.978	.935	.142	.671	.885
14	4.50 Hz	1536	.954	.911	.142	.502	.829
15	3.00 Hz	21807	.875	.900	.015	.411	.426
16	2.25 Hz	17778	.948	.963	.078	.470	.455
17	1.50 Hz	6464	.961	.982	.061	.596	.646
18	1.13 Hz	20597	.964	.981	.178	.579	.732
19	1.33 Sec	9422	.979	1.000	.362	.677	.874
20	1.78 Sec	8942	.957	1.000	.171	.635	.747
21	2.67 Sec	4622	.979	.978	.066	.762	.891
22	3.56 Sec	2266	.920	.942	.002	.145	.559
23	5.33 Sec	1420	.830	.952	.012	.454	.793
24	7.11 Sec	1912	.955	.977	.009	.894	.984
25	10.67 Sec	1222	1.000	1.000	.033	.955	.971
26	14.22 Sec	773	.999	1.000	.028	.987	.993
27	21.33 Sec	694	1.000	1.000	.025	.995	.997
28	28.44 Sec	622	1.000	1.000	.036	.996	.997
29	42.67 Sec	502	1.000	1.000	.005	.997	.997
30	56.89 Sec	322	1.000	1.000	.005	.997	.997
31	85.33 Sec	249	1.000	1.000	.036	.997	.997
32	113.78 Sec	255	.999	1.000	.015	.993	.994
33	170.67 Sec	69	1.000	1.000	.047	.992	.997
34	227.56 Sec	141	1.000	1.000	.036	.990	.995
35	341.33 Sec	54	1.000	1.000	.278	.998	.998
36	455.11 Sec	12	1.000	1.000	.241	.998	.999
37	682.67 Sec	9	1.000	1.000	.660	.998	.998
38	910.22 Sec	12	1.000	1.000	.417	.995	.995
39	1365.33 Sec	9	.991	.999	.219	.990	.993
40	1820.44 Sec	6	1.000	1.000	.897	.999	.999

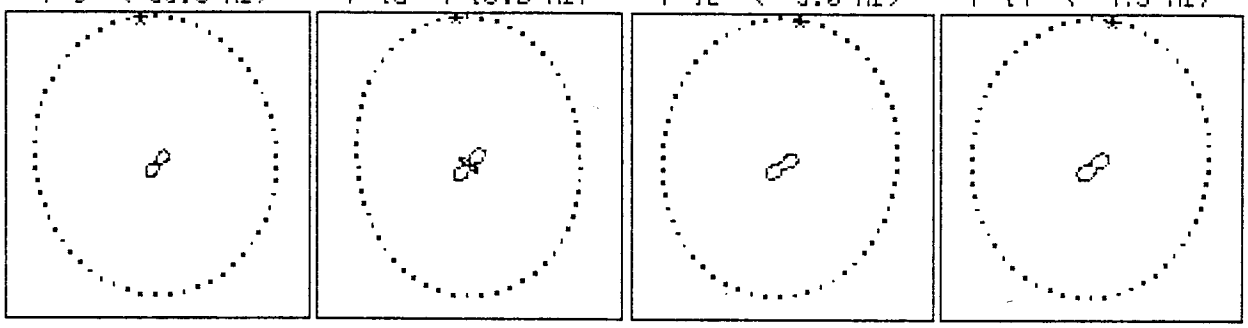
PHOENIX GEOPHYSICS

MT Site: LAKE86-P10E

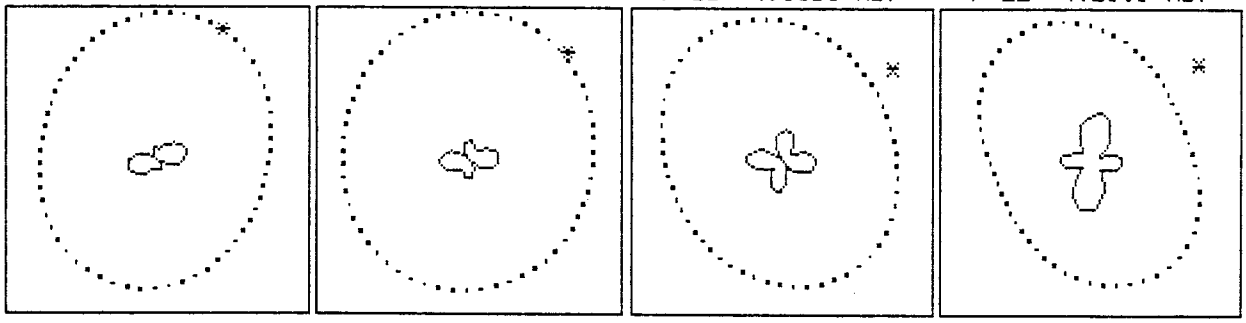
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ____

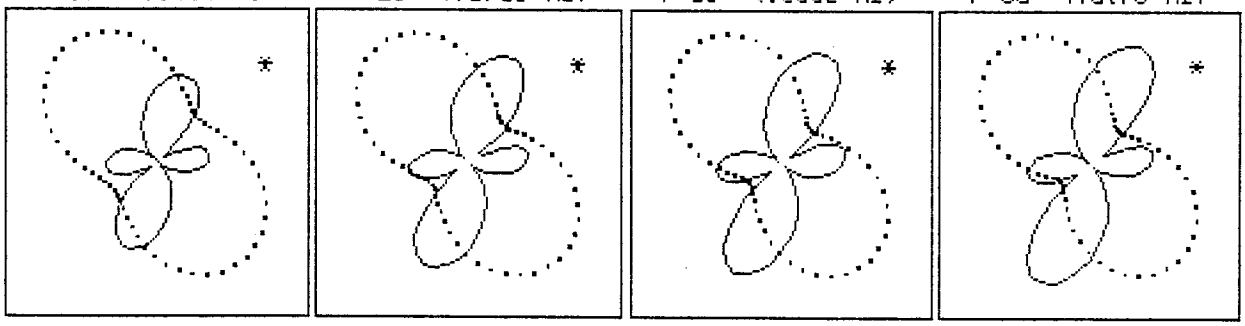
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



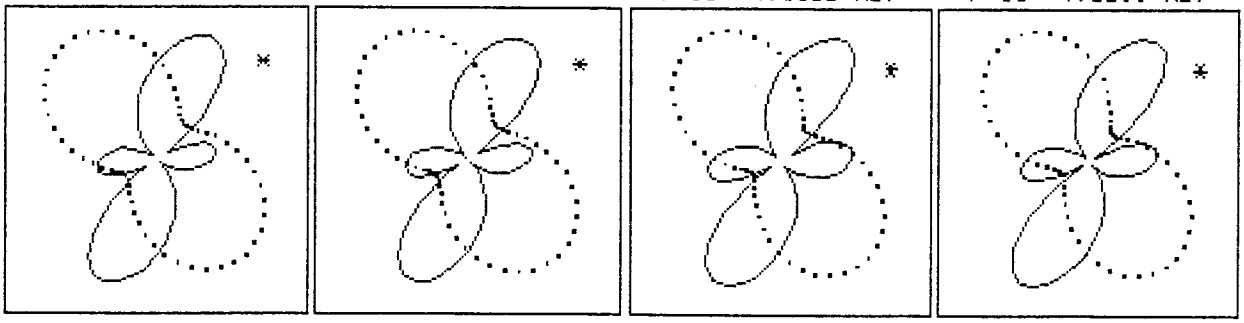
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P05f/P11a/P14a/

Operator:ERIK VAAG
Date: 13 Oct 1986
Time: 17:22:06

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#219-30Aug86-05
SP--Stn02: B#507-30Aug86-05
SP--Stn03: B#221-30Aug86-05
Sens-Ch01: C#239-04Sep86-01
Sens-Ch02: C#445-04Sep86-01
Sens-Ch03: L#307-05Sep86-01
Sens-Ch06: C#452-04Sep86-01
Sens-Ch07: C#306-04Sep86-01
Sens-Ch08: L#416-05Sep86-01
Sens-Ch11: C#201-04Sep86-01
Sens-Ch12: C#436-04Sep86-01
Sens-Ch13: L#419-05Sep86-01

Station 2

Stn Number:LAKE86-P11a
Site Desc:T43N R03E Sec.24 SE1/4
41,33,03 N 121,34,07 W
Elevation:6600 FT
Reference:LAKE86-P14a
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P MURPHY
Sensor Processor: SE507
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL452	+0 DEG
Hy	7	COIL306	+90 DEG
Hz	8	LOOP416	
Ex	9	200 M	+0 DEG
Ey	10	200 M	+90 DEG
Rx	11	COIL201	+0 DEG
Ry	12	COIL436	+90 DEG

Ex Pot Resist: 4.5 K Ohms
Ex Voltage: AC=16.0 mv, DC=14.7 mv
Ey Pot Resist: 7.0 K Ohms
Ey Voltage: AC= 6.0 mv, DC=27.9 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

OPERATOR LOG FOR MT SITES LAKE86-P05f/P11a/P14a/
Run Chronology

Run STARTED:	17:22:06	13 Oct	1986
Data Acquisition Begun:	17:34:54	13 Oct	1986
Entered HI Range:	17:35:08	13 Oct	1986
Run Re-started:	17:36:00	13 Oct	1986
Entered HI Range:	17:36:05	13 Oct	1986
Began HI X#2:	17:56:15	13 Oct	1986
Exited HI Range:	17:56:45	13 Oct	1986
Entered LO Range:	17:56:48	13 Oct	1986
Began LO X#2:	18:52:26	13 Oct	1986
Began LO X#3:	19:48:08	13 Oct	1986
Began LO X#4:	20:43:56	13 Oct	1986
Began LO X#5:	21:05:43	13 Oct	1986
Exited LO Range:	21:06:30	13 Oct	1986
Entered HI Range:	21:06:33	13 Oct	1986
Began HI X#3:	21:24:01	13 Oct	1986
Run Re-started:	21:48:04	13 Oct	1986
Entered HI Range:	21:48:14	13 Oct	1986
Began HI X#5:	22:09:44	13 Oct	1986
Began HI X#6:	22:31:22	13 Oct	1986
Began HI X#7:	22:40:14	13 Oct	1986
Began HI X#8:	22:50:58	13 Oct	1986
Began HI X#9:	22:59:59	13 Oct	1986
Began HI X#10:	23:10:39	13 Oct	1986
Exited HI Range:	23:11:19	13 Oct	1986
Entered LO Range:	23:11:22	13 Oct	1986
Began LO X#6:	00:07:01	14 Oct	1986
Began LO X#7:	01:02:37	14 Oct	1986
Began LO X#8:	01:58:10	14 Oct	1986
Began LO X#9:	02:53:43	14 Oct	1986
Began LO X#10:	03:49:18	14 Oct	1986
Exited LO Range:	03:54:32	14 Oct	1986
Entered HI Range:	03:54:36	14 Oct	1986
Exited HI Range:	04:07:24	14 Oct	1986
Run QUIT:	04:07:25	14 Oct	1986

Operator: ERIK VAAG

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST OF SITES CAUSES POOR DATA ABOVE 60 HZ. SOME TRAFFIC ON ROADS NEAR SITES.

Weather Conditions:
WARM AND SUNNY DURING DAY. COOL AND CLEAR OVERNIGHT.

Other Factors:
MT SIGNAL INCREASES. THIS IS FIRST SETUP WITH EXCELLENT DATA AFTER ONLY ONE NIGHT OF RECORDING.

PHOENIX GEOPHYSICS

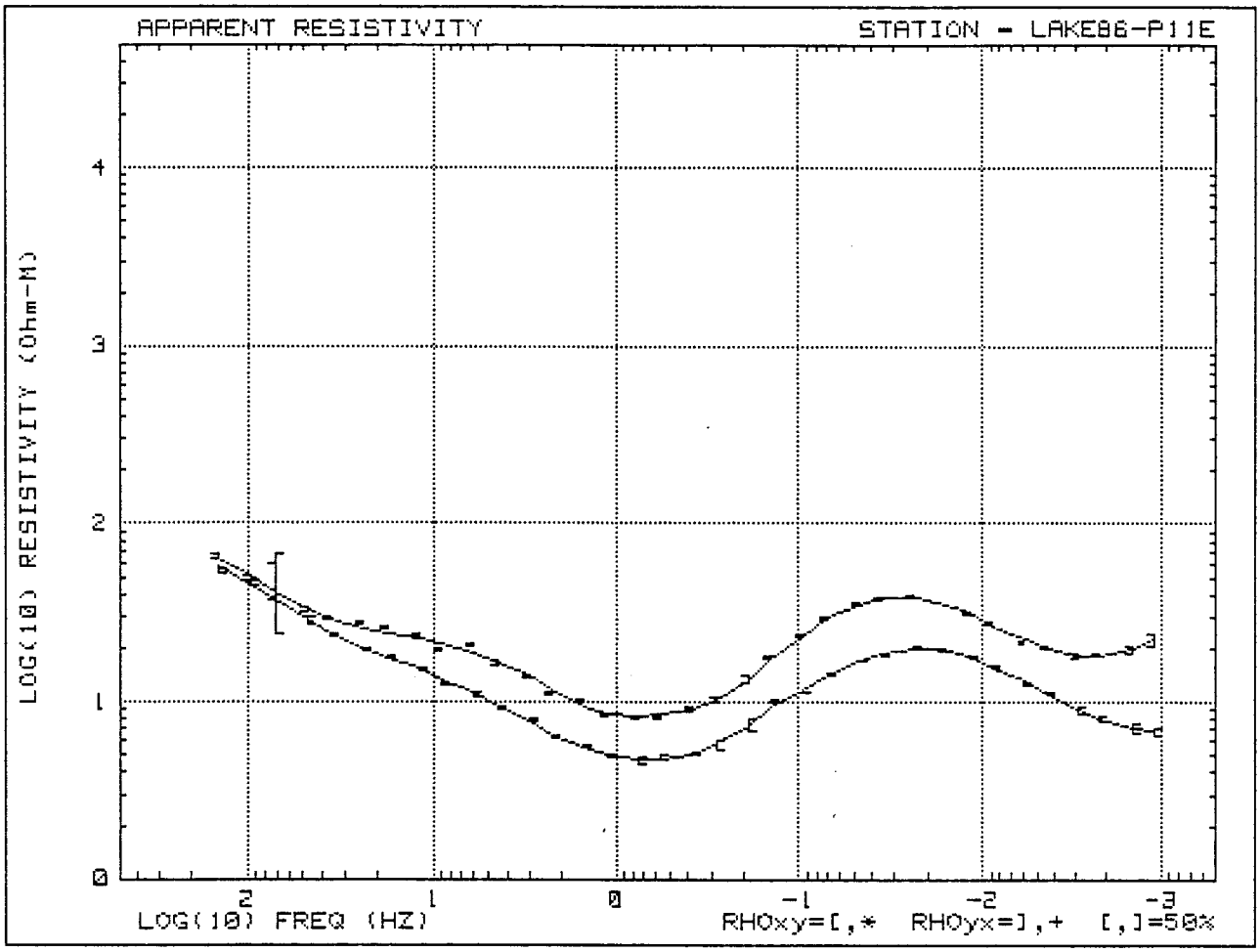
MT Site: LAKE86-P11E

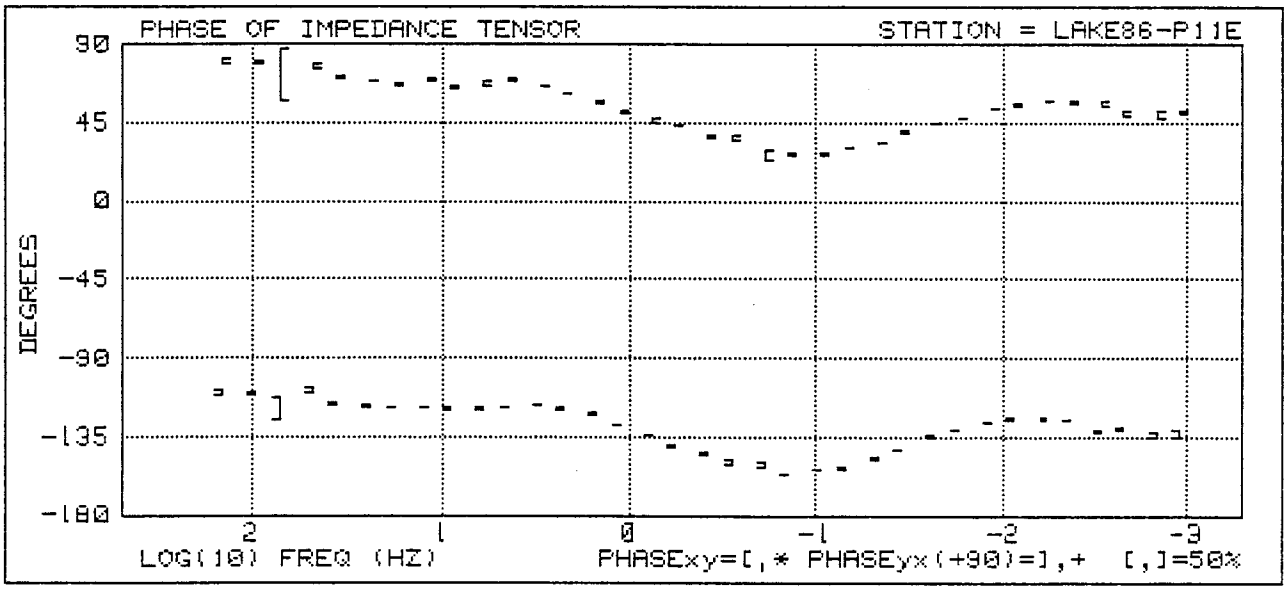
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

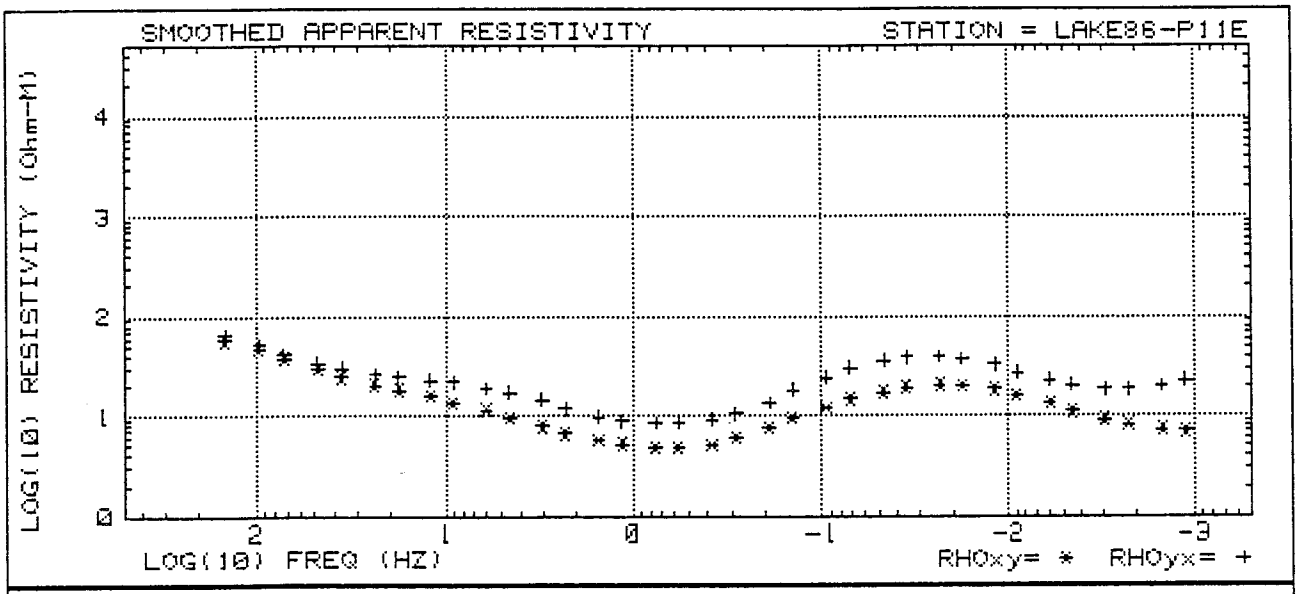
MT Site: LAKE86-P11E

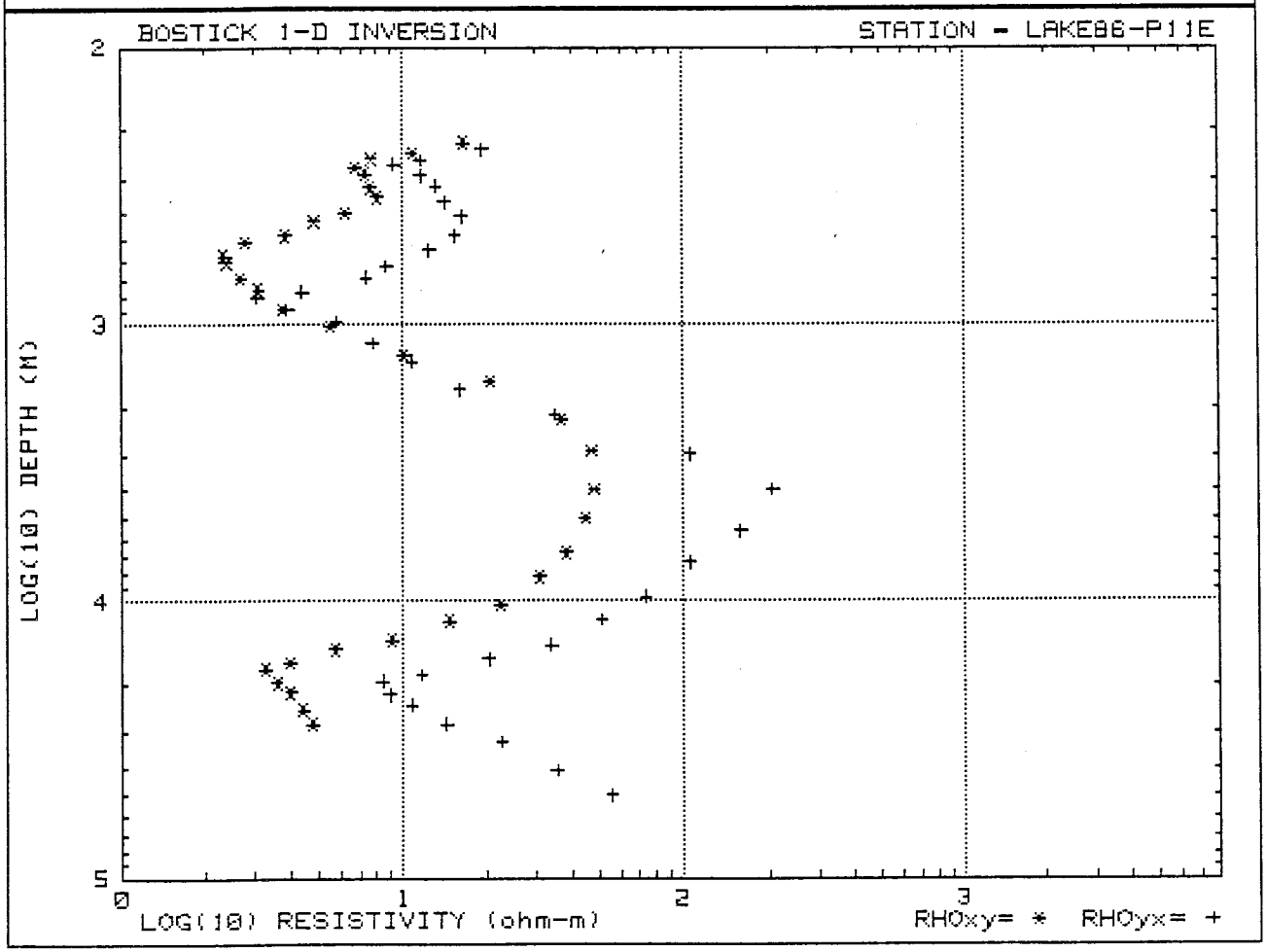




PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	1184	54.3	5.2	64.9	5.3	80.3	1.5	-109.7	1.5
5	96.00 Hz	992	46.6	3.7	49.7	3.5	79.0	1.0	-109.6	1.0
6	72.00 Hz	320	40.0	99.9	46.7	40.5	72.1	22.1	-119.1	9.7
7	48.00 Hz	573	28.2	6.9	32.8	5.7	77.6	1.9	-108.2	1.6
8	36.00 Hz	798	23.7	3.1	29.2	2.9	70.7	.9	-116.1	.8
9	24.00 Hz	1056	19.4	2.5	27.7	2.5	68.9	.7	-117.3	.7
10	18.00 Hz	1216	17.8	2.0	25.8	2.1	67.1	.6	-118.0	.6
11	12.00 Hz	896	15.3	3.2	24.0	2.6	69.8	.9	-118.2	.7
12	9.00 Hz	480	12.8	1.8	19.9	1.9	65.7	.5	-118.8	.5
13	6.00 Hz	640	11.1	5.0	20.9	3.0	67.7	1.4	-119.0	.8
14	4.50 Hz	1344	9.2	2.6	16.6	3.4	69.3	.7	-118.1	.9
15	3.00 Hz	10131	7.9	1.7	13.9	1.5	66.5	.5	-116.3	.4
16	2.25 Hz	7648	6.3	1.6	11.3	1.5	62.0	.5	-118.9	.4
17	1.50 Hz	5080	5.6	3.2	10.1	3.0	57.3	.9	-121.4	.8
18	1.13 Hz	5024	4.9	1.8	8.4	2.0	51.6	.5	-127.8	.6
19	1.33 Sec	2564	4.7	6.7	8.3	2.8	46.1	1.9	-133.7	.8
20	1.78 Sec	2564	4.9	2.9	8.1	2.3	43.5	.8	-139.5	.7
21	2.67 Sec	1131	5.1	3.4	9.2	3.2	37.0	1.0	-143.7	.9
22	3.56 Sec	1272	5.7	9.4	10.3	6.9	36.7	2.6	-149.0	1.9
23	5.33 Sec	492	7.4	12.9	13.5	7.5	26.5	3.5	-151.0	2.1
24	7.11 Sec	621	10.3	2.8	17.7	2.5	27.5	.8	-156.0	.7
25	10.67 Sec	323	11.3	1.3	23.5	1.7	27.3	.4	-153.5	.5
26	14.22 Sec	155	14.4	2.9	29.4	2.7	30.7	.8	-152.3	.8
27	21.33 Sec	102	17.0	1.4	35.6	1.3	33.2	.4	-147.0	.4
28	28.44 Sec	114	18.4	1.5	37.7	1.7	40.0	.4	-142.0	.5
29	42.67 Sec	150	20.4	1.0	39.2	1.1	44.4	.3	-134.1	.3
30	56.89 Sec	102	19.6	1.0	36.3	1.5	48.0	.3	-130.9	.4
31	85.33 Sec	78	17.9	1.3	31.6	1.7	53.1	.4	-126.2	.5
32	113.78 Sec	42	16.0	2.5	27.4	1.9	55.4	.7	-124.4	.5
33	170.67 Sec	33	12.8	2.0	21.5	2.4	57.5	.6	-124.2	.7
34	227.56 Sec	33	11.1	3.1	20.1	1.8	56.4	.9	-125.3	.5
35	341.33 Sec	6	8.9	8.0	18.2	6.7	56.4	2.2	-131.4	1.8
36	455.11 Sec	6	8.1	5.7	18.2	2.8	50.6	1.6	-130.4	.8
37	682.67 Sec	3	7.2	9.4	19.7	7.6	49.9	2.6	-133.9	2.1
38	910.22 Sec	3	6.8	7.3	22.3	14.7	51.3	2.0	-132.9	3.9

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	1184	56.9	63.4	16.6	224	19.5	236
5	96.00 Hz	992	45.6	51.1	10.8	245	11.7	260
6	72.00 Hz	320	37.1	41.0	7.7	256	9.3	268
7	48.00 Hz	573	28.9	33.0	6.7	276	11.6	295
8	36.00 Hz	798	24.1	29.4	7.3	291	13.3	322
9	24.00 Hz	1056	20.0	25.4	7.6	325	14.2	366
10	18.00 Hz	1216	17.7	24.2	8.1	353	16.4	412
11	12.00 Hz	896	15.5	22.3	6.2	404	15.5	485
12	9.00 Hz	480	13.2	21.4	4.9	430	12.5	548
13	6.00 Hz	640	11.2	18.6	3.8	487	8.8	626
14	4.50 Hz	1344	9.4	16.7	2.8	513	7.4	685
15	3.00 Hz	10131	7.7	14.2	2.4	571	4.4	775
16	2.25 Hz	7648	6.5	11.6	2.4	604	3.1	807
17	1.50 Hz	5080	5.6	9.5	2.7	689	3.9	896
18	1.13 Hz	5024	5.1	8.7	3.1	756	5.8	988
19	1.33 Sec	2564	4.8	8.3	3.8	897	7.8	1183
20	1.78 Sec	2564	4.7	8.5	5.5	1029	10.9	1383
21	2.67 Sec	1131	5.0	9.0	10.1	1305	16.2	1745
22	3.56 Sec	1272	5.9	10.3	20.6	1633	35.4	2158
23	5.33 Sec	492	7.4	13.2	37.0	2235	106.5	2983
24	7.11 Sec	621	9.4	17.8	47.8	2910	208.8	4000
25	10.67 Sec	323	11.8	23.6	48.8	3990	160.5	5650
26	14.22 Sec	155	14.4	29.7	45.1	5085	106.3	7319
27	21.33 Sec	102	16.9	34.9	39.0	6749	74.2	9712
28	28.44 Sec	114	18.9	38.2	31.1	8250	51.9	11726
29	42.67 Sec	150	20.0	38.8	22.5	10386	34.2	14480
30	56.89 Sec	102	19.7	36.5	14.8	11909	20.4	16223
31	85.33 Sec	78	18.1	31.9	9.1	13981	11.8	18568
32	113.78 Sec	42	15.7	26.5	5.8	15030	8.5	19554
33	170.67 Sec	33	13.1	22.3	4.0	16846	9.0	21955
34	227.56 Sec	33	10.9	19.8	3.3	17689	10.9	23866
35	341.33 Sec	6	9.1	18.2	3.6	19789	14.4	28073
36	455.11 Sec	6	8.1	18.2	4.0	21545	22.8	32413
37	682.67 Sec	3	7.2	19.7	4.5	24949	35.8	41254
38	910.22 Sec	3	6.8	22.3	4.8	28097	56.1	50685

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	1184	-14.81	4.57	48.88	33.39	194.95	50.48
5	96.00 Hz	992	-5.49	3.41	11.82	28.62	146.85	14.89
6	72.00 Hz	320	-18.43	17.25	638.35	36.96	114.15	999.99
7	48.00 Hz	573	1.05	-.21	8.13	17.63	80.42	15.04
8	36.00 Hz	798	.68	-.18	1.54	21.60	61.62	2.00
9	24.00 Hz	1056	1.30	-.54	.73	17.38	45.04	.69
10	18.00 Hz	1216	.78	.37	.36	15.59	36.83	.32
11	12.00 Hz	896	.17	-.19	.36	10.48	28.46	.45
12	9.00 Hz	480	1.17	.25	.09	9.86	21.88	.09
13	6.00 Hz	640	.04	.35	.53	6.95	16.91	.40
14	4.50 Hz	1344	.37	-.23	.14	5.06	13.44	.07
15	3.00 Hz	10131	.17	.02	.02	4.33	9.96	.02
16	2.25 Hz	7648	.28	-.19	.01	3.96	7.44	.01
17	1.50 Hz	5080	.38	-.15	.04	3.51	5.46	.02
18	1.13 Hz	5024	.25	-.20	.01	3.26	4.11	.00
19	1.33 Sec	2564	.089	-.041	.094	2.903	3.014	.037
20	1.78 Sec	2564	.112	-.163	.021	2.687	2.550	.006
21	2.67 Sec	1131	.104	-.003	.017	2.471	1.862	.005
22	3.56 Sec	1272	.220	-.069	.052	2.265	1.689	.032
23	5.33 Sec	492	.142	.083	.106	2.359	1.175	.051
24	7.11 Sec	621	.204	.181	.009	2.384	1.241	.003
25	10.67 Sec	323	.198	.196	.003	2.049	1.056	.000
26	14.22 Sec	155	.247	.184	.006	1.931	1.148	.002
27	21.33 Sec	102	.188	.135	.001	1.671	1.095	.000
28	28.44 Sec	114	.219	.141	.001	1.378	1.156	.000
29	42.67 Sec	150	.164	.140	.000	1.104	1.082	.000
30	56.89 Sec	102	.190	.097	.000	.878	.976	.000
31	85.33 Sec	78	.154	.116	.000	.615	.819	.000
32	113.78 Sec	42	.133	.102	.000	.475	.690	.000
33	170.67 Sec	33	.097	.078	.000	.329	.517	.000
34	227.56 Sec	33	.084	.053	.000	.273	.412	.000
35	341.33 Sec	6	.041	.076	.000	.200	.301	.000
36	455.11 Sec	6	.055	.046	.000	.189	.231	.000
37	682.67 Sec	3	.043	.040	.000	.148	.175	.000
38	910.22 Sec	3	.053	.024	.001	.121	.151	.000

PHOENIX GEOPHYSICS

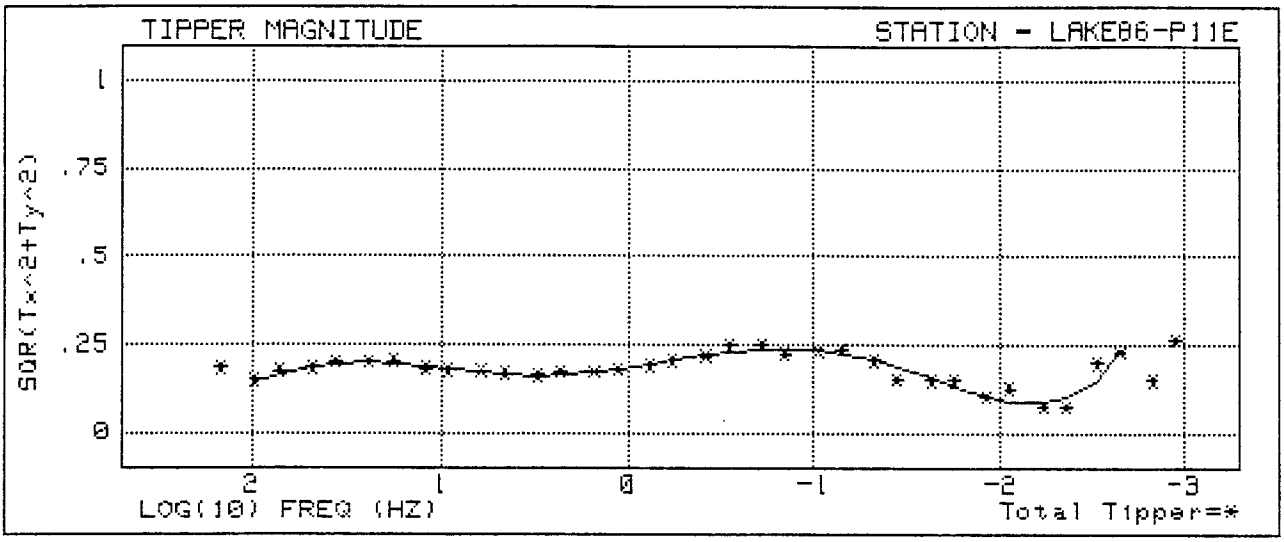
MT Site: LAKE86-P11E

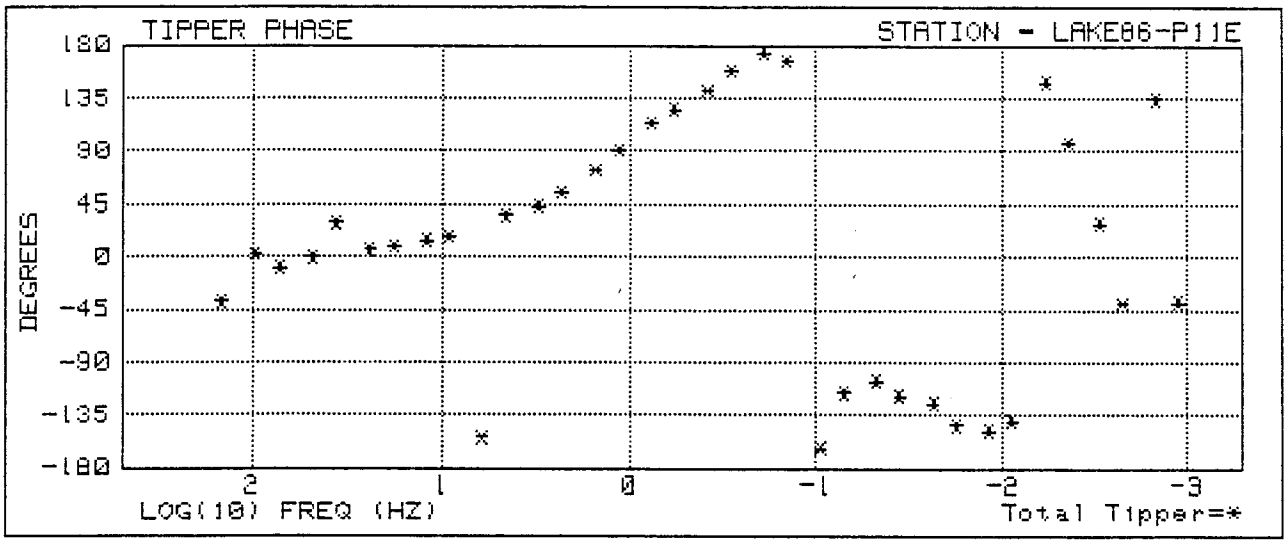
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

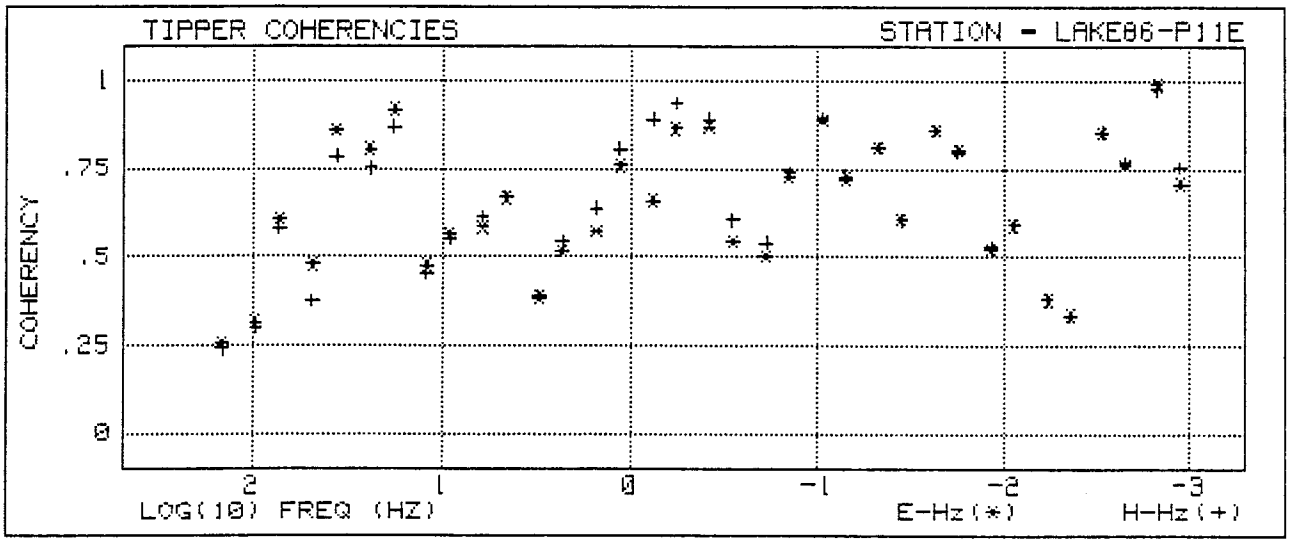
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	1184	-72.82	-203.50	62.54	-15.64	8.39	64.57
5	96.00 Hz	992	-51.91	-145.40	13.97	-5.41	4.69	17.59
6	72.00 Hz	320	-63.12	-113.24	971.46	-18.83	5.84	999.99
7	48.00 Hz	573	-27.67	-84.23	12.09	-.21	3.11	22.36
8	36.00 Hz	798	-31.85	-65.07	2.20	-.15	2.29	2.86
9	24.00 Hz	1056	-26.39	-51.21	1.04	-.18	1.62	.97
10	18.00 Hz	1216	-22.62	-42.57	.51	-.64	2.11	.45
11	12.00 Hz	896	-17.90	-33.44	.49	-1.78	2.71	.61
12	9.00 Hz	480	-14.38	-26.21	.16	-.01	1.49	.15
13	6.00 Hz	640	-12.14	-21.93	.27	-.84	1.26	.20
14	4.50 Hz	1344	-9.09	-17.05	.21	-.68	.94	.10
15	3.00 Hz	10131	-6.40	-12.92	.02	-.52	.50	.02
16	2.25 Hz	7648	-5.45	-9.87	.01	-.65	.38	.01
17	1.50 Hz	5080	-4.54	-7.45	.03	-.42	.27	.01
18	1.13 Hz	5024	-4.22	-5.44	.01	-.28	.18	.00
19	1.33 Sec	2564	-3.852	-4.025	.012	-.091	.127	.005
20	1.78 Sec	2564	-3.633	-3.097	.006	.012	.011	.002
21	2.67 Sec	1131	-3.341	-2.455	.009	.168	-.097	.003
22	3.56 Sec	1272	-3.269	-1.965	.032	.253	-.187	.020
23	5.33 Sec	492	-3.107	-1.724	.033	.344	-.192	.016
24	7.11 Sec	621	-3.219	-1.431	.004	.320	-.332	.001
25	10.67 Sec	323	-2.971	-1.482	.002	.397	-.235	.000
26	14.22 Sec	155	-2.845	-1.495	.004	.375	-.154	.001
27	21.33 Sec	102	-2.422	-1.574	.001	.354	-.125	.000
28	28.44 Sec	114	-2.029	-1.584	.001	.324	-.019	.001
29	42.67 Sec	150	-1.491	-1.538	.000	.272	.048	.000
30	56.89 Sec	102	-1.168	-1.350	.000	.206	.085	.000
31	85.33 Sec	78	-.803	-1.098	.000	.150	.119	.000
32	113.78 Sec	42	-.620	-.906	.000	.121	.110	.000
33	170.67 Sec	33	-.446	-.656	.000	.076	.096	.000
34	227.56 Sec	33	-.384	-.543	.000	.051	.081	.000
35	341.33 Sec	6	-.341	-.387	.001	.054	.054	.001
36	455.11 Sec	6	-.290	-.341	.000	.058	.044	.000
37	682.67 Sec	3	-.264	-.273	.000	.067	.012	.000
38	910.22 Sec	3	-.238	-.256	.001	.034	.045	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E







PHOENIX GEOPHYSICS

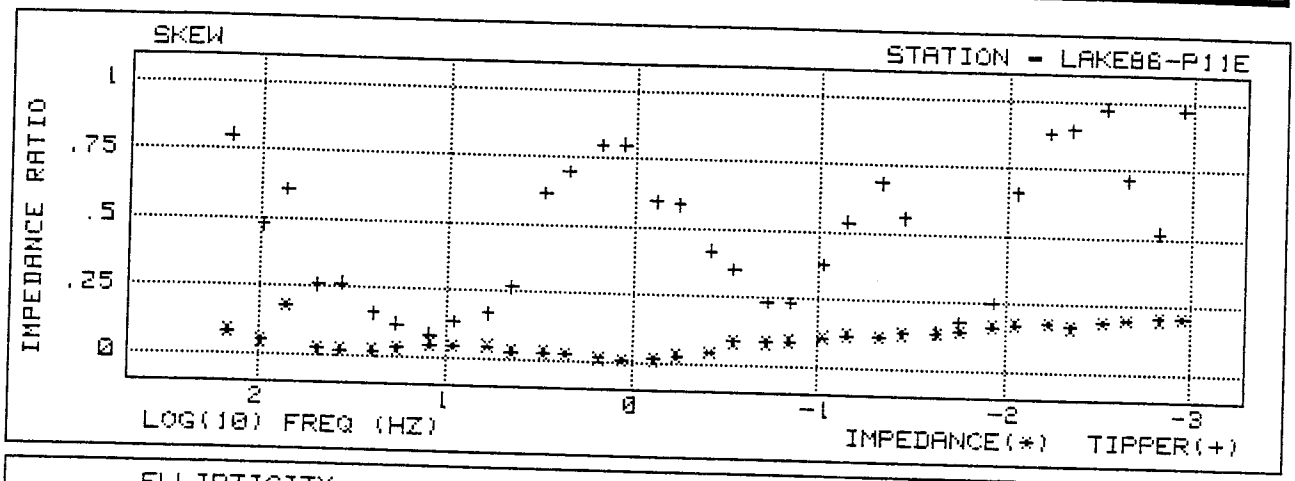
MT Site: LAKE86-P11E

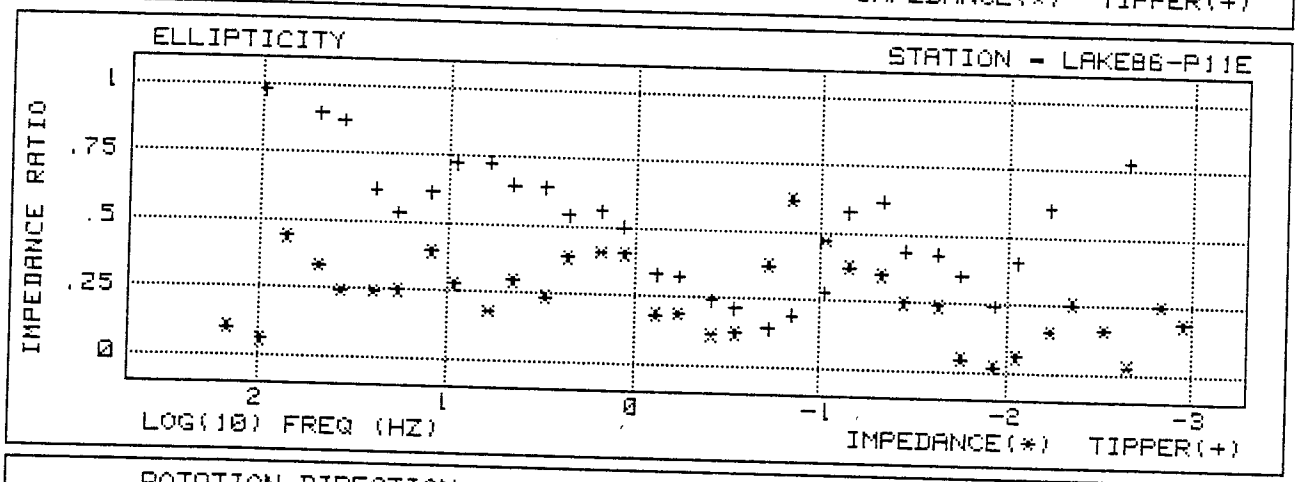
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

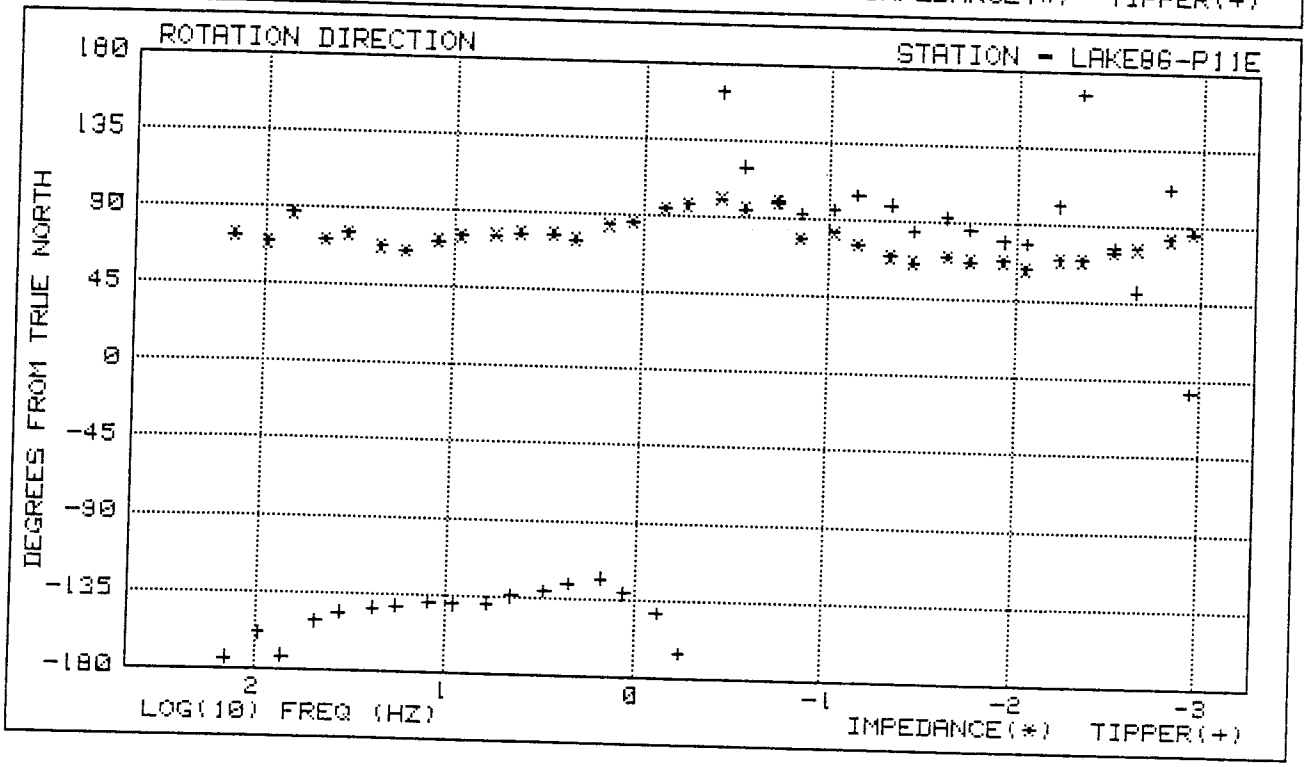
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	1184	.18	-39.14	.25	.24
5	96.00 Hz	992	.15	1.92	.31	.30
6	72.00 Hz	320	.17	-10.26	.60	.57
7	48.00 Hz	573	.18	-1.31	.47	.37
8	36.00 Hz	798	.20	28.03	.86	.78
9	24.00 Hz	1056	.20	5.29	.80	.75
10	18.00 Hz	1216	.20	8.25	.91	.87
11	12.00 Hz	896	.18	12.55	.47	.45
12	9.00 Hz	480	.17	16.58	.56	.55
13	6.00 Hz	640	.17	-154.62	.58	.61
14	4.50 Hz	1344	.16	34.62	.66	.67
15	3.00 Hz	10131	.16	42.31	.38	.39
16	2.25 Hz	7648	.17	54.11	.51	.54
17	1.50 Hz	5080	.17	73.46	.57	.63
18	1.13 Hz	5024	.18	90.03	.76	.80
19	1.33 Sec	2564	.19	113.30	.66	.89
20	1.78 Sec	2564	.20	124.16	.86	.93
21	2.67 Sec	1131	.21	140.38	.87	.89
22	3.56 Sec	1272	.24	157.44	.54	.60
23	5.33 Sec	492	.25	172.41	.50	.54
24	7.11 Sec	621	.22	165.53	.73	.74
25	10.67 Sec	323	.23	-163.76	.88	.89
26	14.22 Sec	155	.23	-116.96	.72	.73
27	21.33 Sec	102	.20	-106.85	.81	.81
28	28.44 Sec	114	.15	-119.40	.60	.60
29	42.67 Sec	150	.15	-125.64	.86	.86
30	56.89 Sec	102	.15	-143.99	.80	.80
31	85.33 Sec	78	.10	-149.05	.52	.52
32	113.78 Sec	42	.12	-140.36	.59	.59
33	170.67 Sec	33	.07	147.83	.38	.38
34	227.56 Sec	33	.07	96.44	.33	.33
35	341.33 Sec	6	.19	27.74	.85	.85
36	455.11 Sec	6	.23	-40.17	.76	.76
37	682.67 Sec	3	.15	133.62	.99	.97
38	910.22 Sec	3	.26	-39.78	.70	.75

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E







PHOENIX GEOPHYSICS

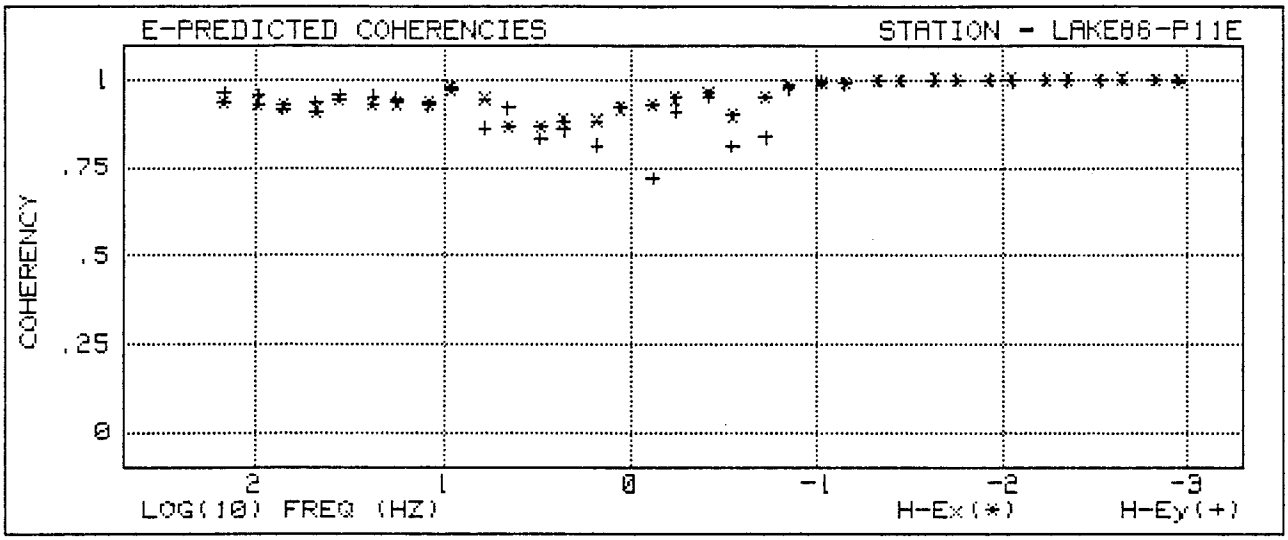
MT Site: LAKE86-P11E

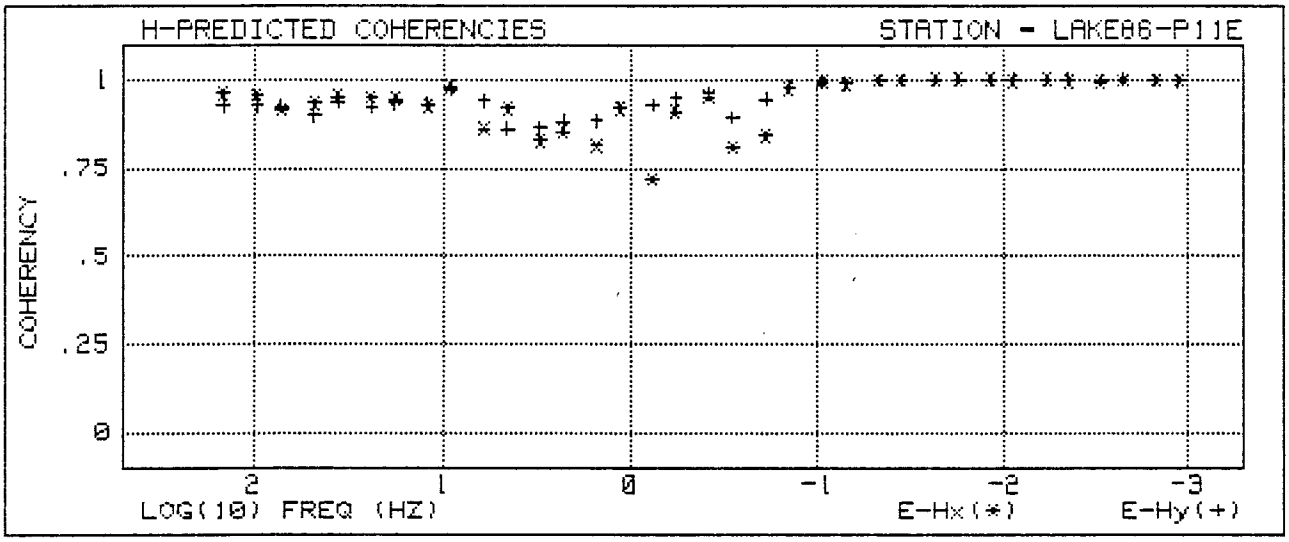
SKEW, ELLIPTICITY AND STRIKE

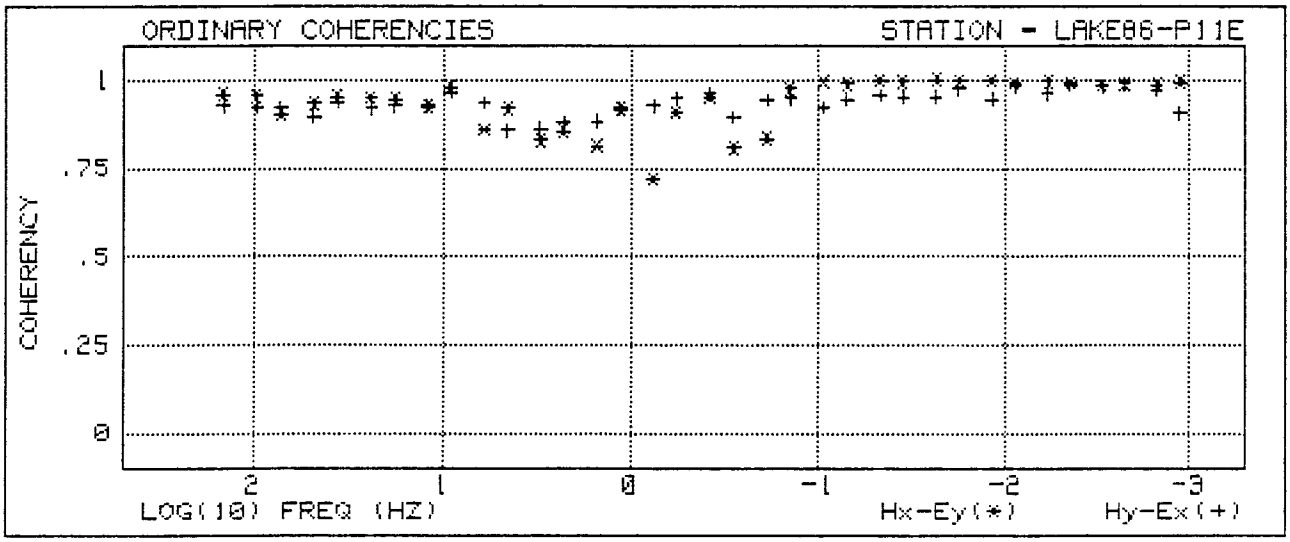
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	1184	.08	.10	72.64	.80	1.37	-174.55
5	96.00 Hz	992	.04	.05	68.76	.47	.97	-159.86
6	72.00 Hz	320	.18	.44	86.15	.60	1.68	-173.23
7	48.00 Hz	573	.02	.33	70.94	.25	.89	-152.46
8	36.00 Hz	798	.02	.24	74.56	.26	.86	-147.27
9	24.00 Hz	1056	.01	.24	67.36	.15	.61	-144.15
10	18.00 Hz	1216	.03	.25	64.91	.11	.53	-142.87
11	12.00 Hz	896	.04	.39	71.14	.08	.61	-140.10
12	9.00 Hz	480	.04	.27	74.60	.13	.72	-140.88
13	6.00 Hz	640	.04	.18	75.76	.16	.72	-139.92
14	4.50 Hz	1344	.02	.29	76.95	.26	.64	-135.13
15	3.00 Hz	10131	.02	.23	77.10	.61	.64	-131.65
16	2.25 Hz	7648	.02	.38	74.27	.69	.53	-127.55
17	1.50 Hz	5080	.01	.40	83.19	.79	.55	-123.99
18	1.13 Hz	5024	.00	.40	85.26	.79	.50	-132.31
19	1.33 Sec	2564	.01	.18	94.07	.59	.33	-143.40
20	1.78 Sec	2564	.02	.18	96.38	.58	.32	-166.42
21	2.67 Sec	1131	.04	.11	100.32	.42	.24	162.71
22	3.56 Sec	1272	.08	.12	94.40	.35	.21	119.06
23	5.33 Sec	492	.08	.37	98.68	.23	.14	99.25
24	7.11 Sec	621	.09	.61	78.05	.23	.19	92.51
25	10.67 Sec	323	.11	.47	81.92	.37	.27	95.13
26	14.22 Sec	155	.11	.37	75.07	.53	.57	103.79
27	21.33 Sec	102	.11	.35	69.02	.68	.61	98.68
28	28.44 Sec	114	.13	.25	65.23	.55	.43	83.53
29	42.67 Sec	150	.13	.24	69.31	.13	.42	91.98
30	56.89 Sec	102	.14	.04	66.92	.17	.35	85.40
31	85.33 Sec	78	.16	.02	67.39	.25	.24	78.77
32	113.78 Sec	42	.17	.06	62.85	.65	.40	78.04
33	170.67 Sec	33	.17	.15	68.63	.88	.60	100.78
34	227.56 Sec	33	.16	.25	68.77	.89	1.20	166.10
35	341.33 Sec	6	.18	.16	73.48	.97	1.28	76.19
36	455.11 Sec	6	.19	.02	76.17	.71	.77	50.90
37	682.67 Sec	3	.20	.25	81.73	.52	1.68	111.01
38	910.22 Sec	3	.20	.18	85.83	.97	1.29	-7.49

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E







PHOENIX GEOPHYSICS

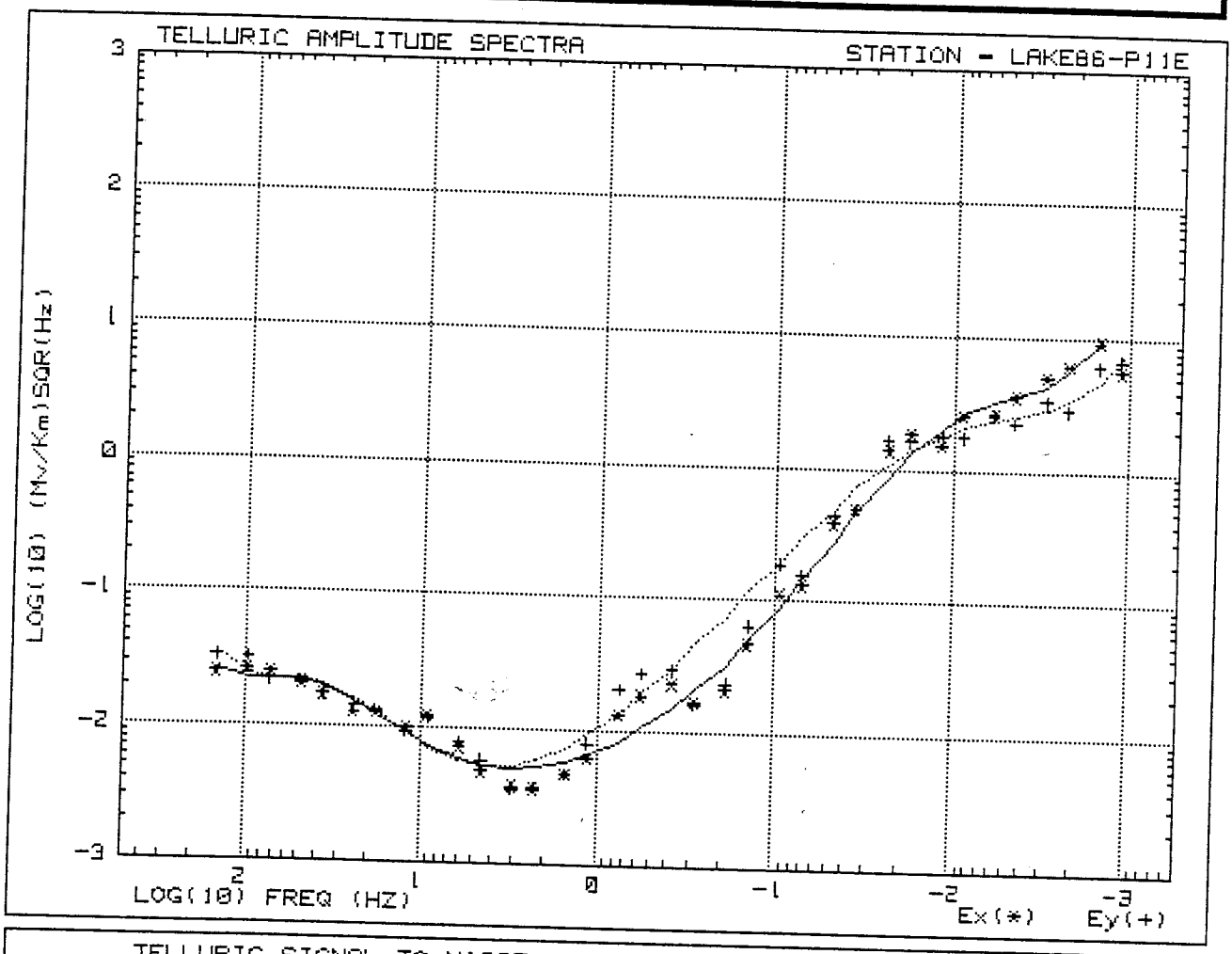
MT Site: LAKE86-P11E

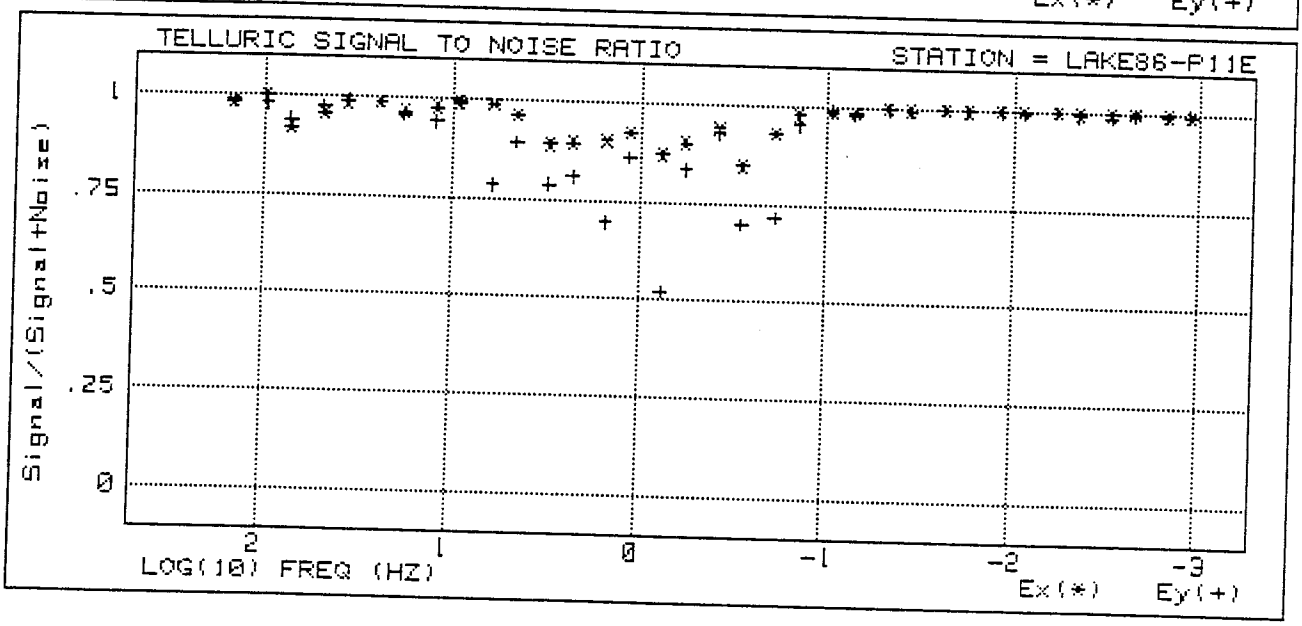
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	1184	.93	.96	.96	.92	.96	.92
5	96.00 Hz	992	.93	.95	.95	.92	.95	.92
6	72.00 Hz	320	.92	.91	.91	.92	.90	.92
7	48.00 Hz	573	.91	.93	.93	.90	.93	.89
8	36.00 Hz	798	.94	.95	.95	.94	.95	.93
9	24.00 Hz	1056	.93	.95	.95	.92	.95	.92
10	18.00 Hz	1216	.93	.94	.94	.93	.94	.92
11	12.00 Hz	896	.93	.92	.92	.93	.92	.92
12	9.00 Hz	480	.97	.98	.98	.97	.98	.96
13	6.00 Hz	640	.94	.86	.86	.94	.86	.93
14	4.50 Hz	1344	.86	.92	.92	.86	.92	.85
15	3.00 Hz	10131	.86	.83	.83	.86	.83	.86
16	2.25 Hz	7648	.88	.85	.85	.88	.85	.87
17	1.50 Hz	5080	.88	.81	.81	.88	.81	.88
18	1.13 Hz	5024	.92	.92	.92	.92	.92	.91
19	1.33 Sec	2564	.93	.72	.72	.93	.72	.92
20	1.78 Sec	2564	.94	.91	.91	.95	.91	.94
21	2.67 Sec	1131	.96	.95	.95	.96	.95	.96
22	3.56 Sec	1272	.90	.81	.81	.89	.80	.89
23	5.33 Sec	492	.95	.83	.84	.94	.83	.94
24	7.11 Sec	621	.98	.97	.97	.98	.97	.95
25	10.67 Sec	323	.99	.99	.99	.99	.99	.92
26	14.22 Sec	155	.99	.99	.99	.99	.99	.94
27	21.33 Sec	102	1.00	1.00	1.00	1.00	1.00	.96
28	28.44 Sec	114	1.00	1.00	1.00	1.00	1.00	.95
29	42.67 Sec	150	1.00	1.00	1.00	1.00	1.00	.95
30	56.89 Sec	102	1.00	1.00	1.00	1.00	1.00	.97
31	85.33 Sec	78	1.00	1.00	1.00	1.00	1.00	.94
32	113.78 Sec	42	1.00	.99	.99	1.00	.99	.98
33	170.67 Sec	33	1.00	1.00	1.00	1.00	1.00	.96
34	227.56 Sec	33	1.00	.99	.99	1.00	.99	.98
35	341.33 Sec	6	1.00	.99	.99	1.00	.98	.98
36	455.11 Sec	6	1.00	1.00	1.00	1.00	.99	.99
37	682.67 Sec	3	1.00	1.00	1.00	1.00	.99	.97
38	910.22 Sec	3	.99	1.00	1.00	1.00	.99	.90

PHOENIX GEOPHYSICS

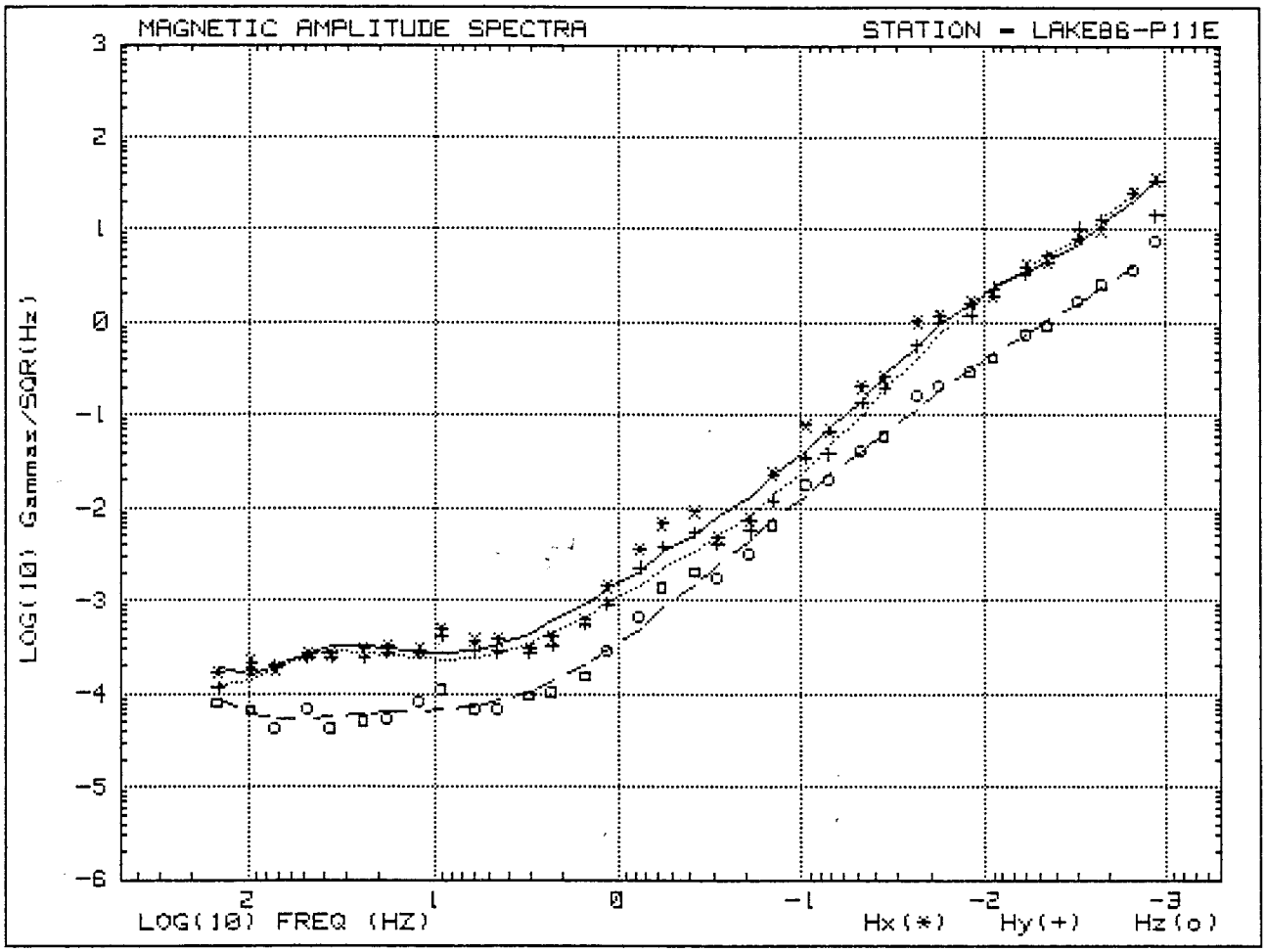
MT Site: LAKE86-P11E

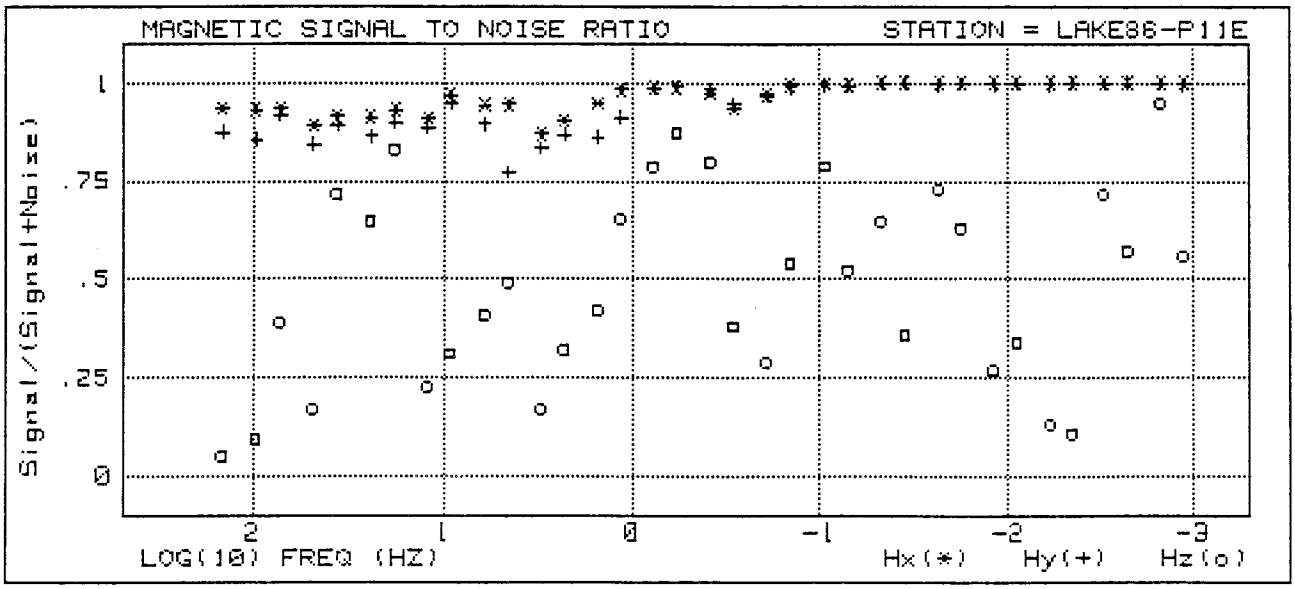




PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	1184	1.66E-04	1.17E-04	8.42E-05	2.43E-02	3.24E-02
5	96.00 Hz	992	2.16E-04	1.79E-04	7.02E-05	2.57E-02	3.16E-02
6	72.00 Hz	320	1.83E-04	1.94E-04	4.51E-05	2.47E-02	2.15E-02
7	48.00 Hz	573	2.62E-04	2.42E-04	7.32E-05	2.05E-02	2.12E-02
8	36.00 Hz	798	2.64E-04	2.43E-04	4.41E-05	1.70E-02	1.70E-02
9	24.00 Hz	1056	2.95E-04	2.37E-04	5.27E-05	1.27E-02	1.44E-02
10	18.00 Hz	1216	3.16E-04	2.74E-04	5.76E-05	1.25E-02	1.31E-02
11	12.00 Hz	896	2.92E-04	2.74E-04	8.70E-05	9.87E-03	9.27E-03
12	9.00 Hz	480	4.75E-04	4.09E-04	1.17E-04	1.21E-02	1.16E-02
13	6.00 Hz	640	3.69E-04	2.93E-04	7.37E-05	7.09E-03	7.75E-03
14	4.50 Hz	1344	3.74E-04	2.77E-04	7.24E-05	4.74E-03	5.70E-03
15	3.00 Hz	10131	3.03E-04	2.66E-04	1.01E-04	3.69E-03	3.55E-03
16	2.25 Hz	7648	3.95E-04	3.25E-04	1.08E-04	3.53E-03	3.64E-03
17	1.50 Hz	5080	6.03E-04	5.52E-04	1.62E-04	4.61E-03	4.64E-03
18	1.13 Hz	5024	1.39E-03	9.11E-04	3.04E-04	6.11E-03	7.91E-03
19	1.33 Sec	2564	3.48E-03	2.20E-03	7.13E-04	1.30E-02	2.01E-02
20	1.78 Sec	2564	6.60E-03	3.70E-03	1.45E-03	1.83E-02	2.69E-02
21	2.67 Sec	1131	8.96E-03	5.29E-03	2.13E-03	2.24E-02	2.85E-02
22	3.56 Sec	1272	4.76E-03	4.01E-03	1.84E-03	1.65E-02	1.60E-02
23	5.33 Sec	492	7.39E-03	5.56E-03	3.36E-03	2.09E-02	2.31E-02
24	7.11 Sec	621	2.28E-02	1.19E-02	6.84E-03	4.64E-02	6.25E-02
25	10.67 Sec	323	7.78E-02	3.47E-02	1.93E-02	1.09E-01	1.83E-01
26	14.22 Sec	155	6.74E-02	3.78E-02	2.13E-02	1.31E-01	1.56E-01
27	21.33 Sec	102	2.03E-01	1.34E-01	4.46E-02	3.85E-01	4.30E-01
28	28.44 Sec	114	2.55E-01	1.96E-01	6.25E-02	4.96E-01	4.93E-01
29	42.67 Sec	150	1.01E+00	5.58E-01	1.74E-01	1.37E+00	1.64E+00
30	56.89 Sec	102	1.15E+00	1.16E+00	2.17E-01	1.84E+00	1.62E+00
31	85.33 Sec	78	1.62E+00	1.15E+00	3.08E-01	1.50E+00	1.77E+00
32	113.78 Sec	42	1.91E+00	2.31E+00	4.39E-01	2.54E+00	1.73E+00
33	170.67 Sec	33	3.95E+00	3.25E+00	7.92E-01	2.61E+00	2.55E+00
34	227.56 Sec	33	4.39E+00	5.24E+00	9.60E-01	3.60E+00	2.24E+00
35	341.33 Sec	6	8.12E+00	1.03E+01	1.78E+00	5.00E+00	3.28E+00
36	455.11 Sec	6	9.78E+00	1.26E+01	2.66E+00	6.07E+00	2.82E+00
37	682.67 Sec	3	2.46E+01	2.49E+01	3.90E+00	9.24E+00	6.02E+00
38	910.22 Sec	3	3.42E+01	1.42E+01	7.95E+00	5.55E+00	6.73E+00

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

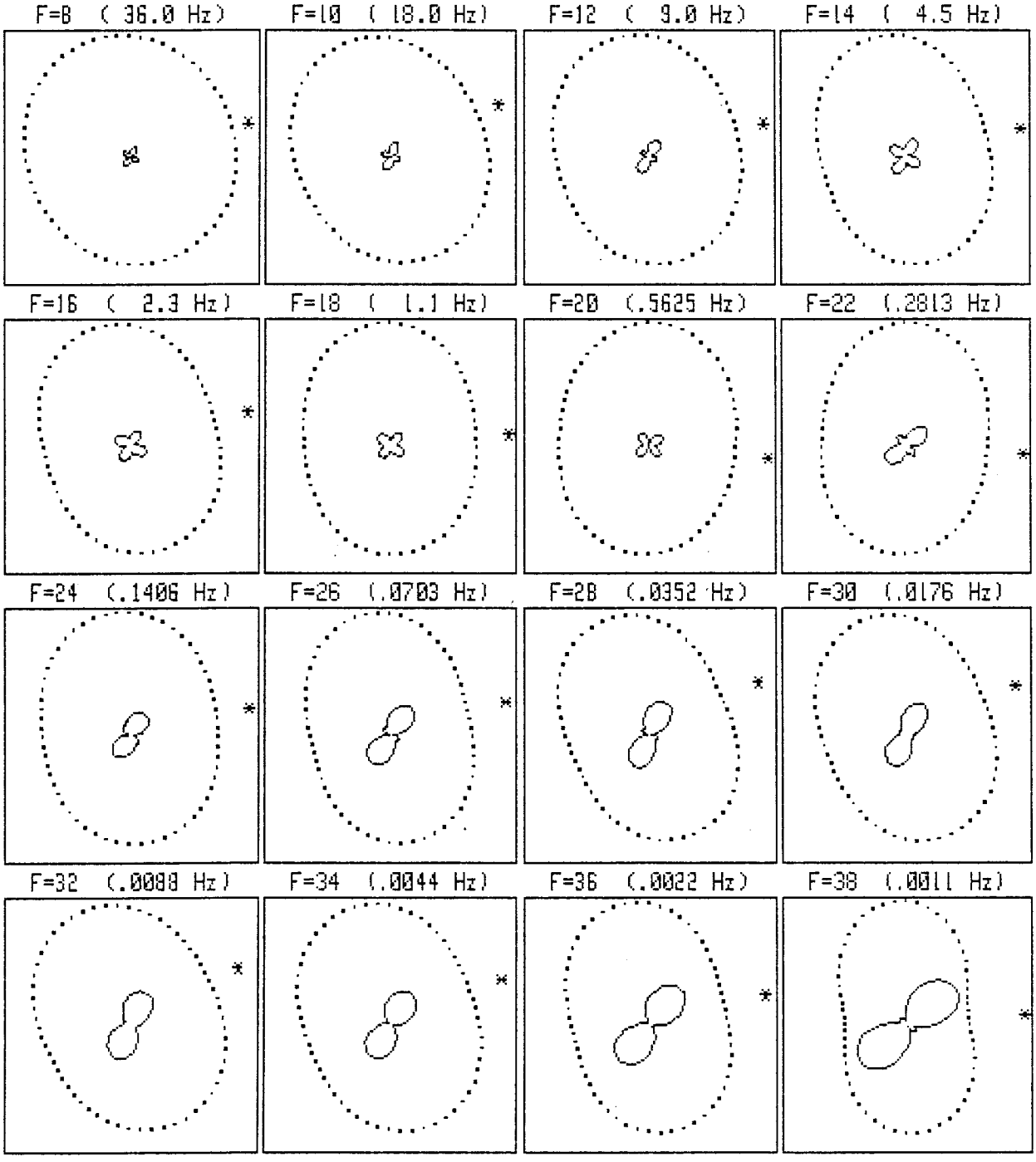
F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	1184	.935	.874	.054	.978	.984
5	96.00 Hz	992	.931	.854	.098	.996	.977
6	72.00 Hz	320	.932	.916	.393	.918	.938
7	48.00 Hz	573	.891	.843	.174	.953	.971
8	36.00 Hz	798	.914	.891	.723	.983	.987
9	24.00 Hz	1056	.912	.863	.654	.985	.986
10	18.00 Hz	1216	.930	.899	.837	.962	.957
11	12.00 Hz	896	.909	.885	.232	.974	.938
12	9.00 Hz	480	.968	.949	.316	.990	.988
13	6.00 Hz	640	.944	.895	.415	.985	.781
14	4.50 Hz	1344	.945	.772	.494	.959	.890
15	3.00 Hz	10131	.870	.834	.175	.890	.787
16	2.25 Hz	7648	.904	.867	.325	.893	.806
17	1.50 Hz	5080	.947	.862	.426	.902	.693
18	1.13 Hz	5024	.983	.913	.657	.922	.858
19	1.33 Sec	2564	.987	.986	.794	.870	.519
20	1.78 Sec	2564	.989	.991	.879	.900	.831
21	2.67 Sec	1131	.973	.983	.803	.939	.927
22	3.56 Sec	1272	.936	.948	.385	.845	.696
23	5.33 Sec	492	.970	.966	.292	.929	.715
24	7.11 Sec	621	.995	.989	.543	.976	.952
25	10.67 Sec	323	.998	.995	.794	.986	.990
26	14.22 Sec	155	.994	.993	.529	.985	.979
27	21.33 Sec	102	1.000	.999	.652	.997	.996
28	28.44 Sec	114	.999	.999	.362	.993	.992
29	42.67 Sec	150	.999	.996	.733	.998	.998
30	56.89 Sec	102	.999	.998	.636	.996	.996
31	85.33 Sec	78	.999	.995	.273	.998	.996
32	113.78 Sec	42	.999	.998	.344	.998	.991
33	170.67 Sec	33	1.000	.996	.138	.997	.997
34	227.56 Sec	33	1.000	.999	.114	.997	.989
35	341.33 Sec	6	.999	.997	.723	.996	.988
36	455.11 Sec	6	1.000	1.000	.578	.999	.994
37	682.67 Sec	3	1.000	.998	.953	.996	.992
38	910.22 Sec	3	1.000	.995	.565	.991	.994

PHOENIX GEOPHYSICS

MT Site: LAKE86-P11E

IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___



PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P12s/P13s/

Operator: VAAG & OJALA
Date: 30 Sep 1986
Time: 06:05:13

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#219-30Aug86-05
SP--Stn02: B#221-30Aug86-05
Sens-Ch01: C#452-04Sep86-01
Sens-Ch02: C#239-04Sep86-01
Sens-Ch03: L#419-05Sep86-01
Sens-Ch06: C#201-04Sep86-01
Sens-Ch07: C#306-04Sep86-01
Sens-Ch08: L#416-05Sep86-01

Station 1

Stn Number:LAKE86-P12s
Site Desc:T43N R03E Sec.28 NW1/4
41,32,36 N 121,38,13 W
Elevation:6320 FT
Reference:LAKE86-P13s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: BURNS, ET AL.
Sensor Processor: SE219
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL452	+35 DEG
Hy	2	COIL239	+125 DEG
Hz	3	LOOP419	
Ex	4	150 M	+35 DEG
Ey	5	150 M	+125 DEG
Rx	6	COIL201	+55 DEG
Ry	7	COIL306	+145 DEG

Ex Pot Resist: 6.0 K Ohms
Ex Voltage: AC=20.5 mv, DC=40.2 mv
Ey Pot Resist: 6.0 K Ohms
Ey Voltage: AC=15.6 mv, DC=39.3 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

OPERATOR LOG FOR MT SITES LAKE86-P12s/P13s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P12a/P13a/		
Run STARTED:	19:48:23	28 Sep 1986
Run QUIT:	09:50:09	29 Sep 1986
Run Start and Stop Time for LAKE86-P12b/P13b/		
Run STARTED:	10:38:19	29 Sep 1986
Run QUIT:	04:36:51	30 Sep 1986
Run Start and Stop Time for LAKE86-P12c/P13c/		
Run STARTED:	06:05:13	30 Sep 1986
Run QUIT:	12:26:40	30 Sep 1986

Operator:D. OJALA,E. VARG

Cultural Factors:
NONE NEARBY.
Weather Conditions:
CLEAR AND WARM WITH LIGHT WINDS.
Other Factors:
LOGGING OPERATIONS NEAR SITES AND COMMENCEMENT OF ROAD IMPROVEMENT ON FOREST SERVICE ROADS PROMPT DECISION TO MOVE TO NEXT SITES.

PHOENIX GEOPHYSICS

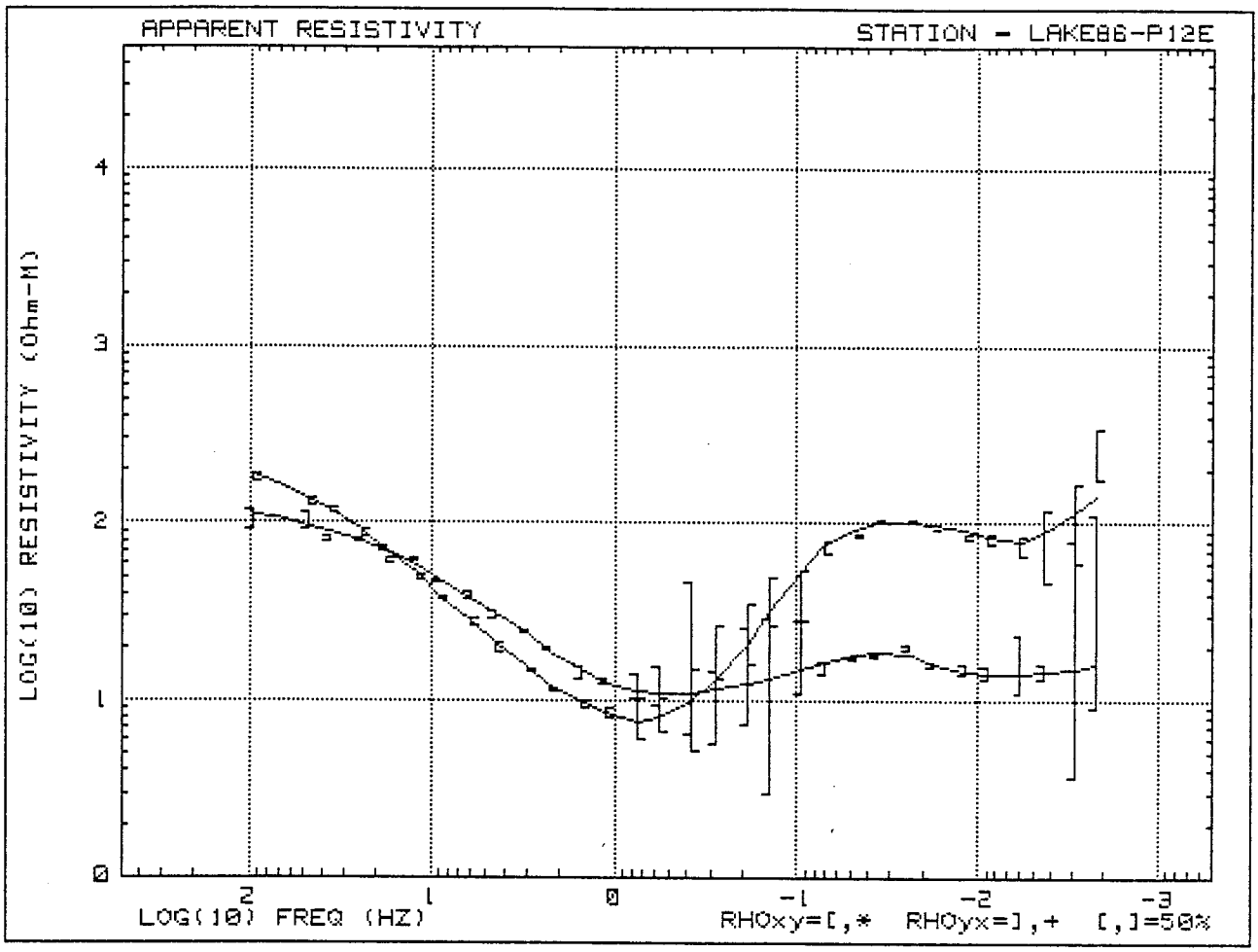
MT Site: LAKE86-P12E

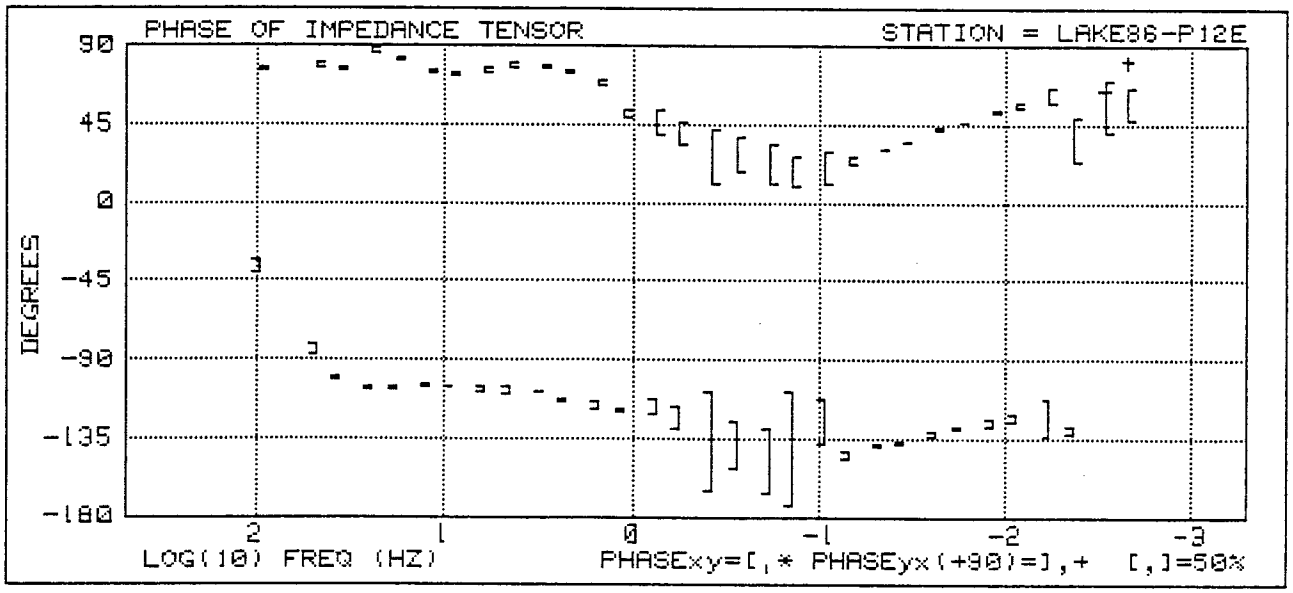
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

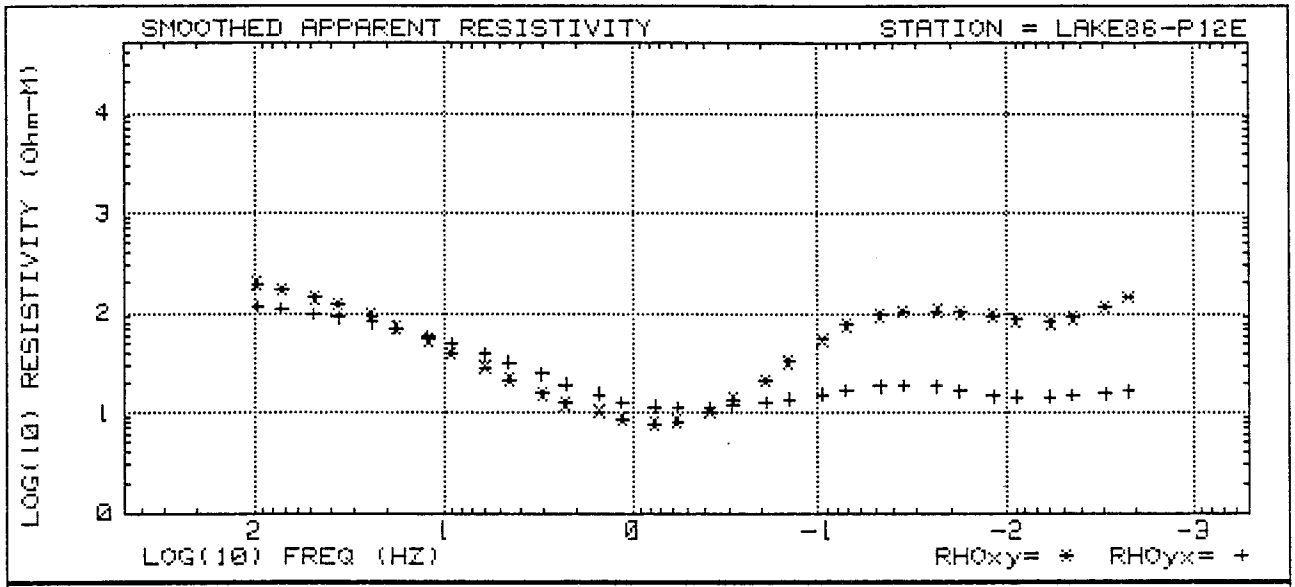
MT Site: LAKE86-P12E

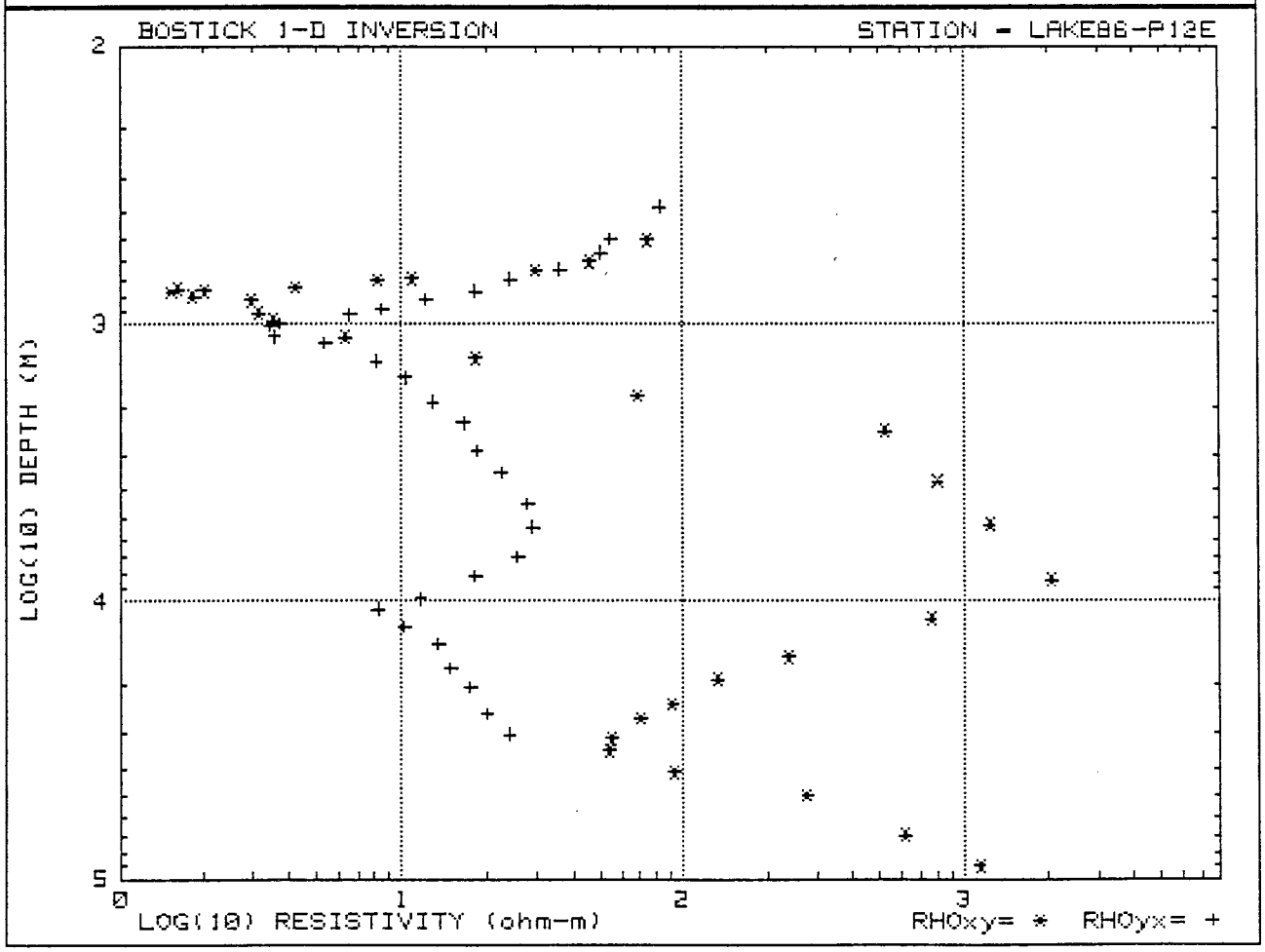




PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
5	96.00 Hz	2131	179.0	6.4	103.6	21.4	76.7	1.8	-36.5	5.5
7	48.00 Hz	1899	132.3	7.9	102.9	16.7	79.4	2.2	-83.8	4.4
8	36.00 Hz	2413	118.0	3.3	81.3	6.2	76.7	.9	-100.4	1.7
9	24.00 Hz	2784	87.7	7.7	80.3	3.1	87.9	2.1	-106.1	.9
10	18.00 Hz	2208	62.1	5.2	71.8	2.7	82.5	1.5	-105.5	.8
11	12.00 Hz	1440	49.9	4.4	62.0	3.5	75.5	1.2	-105.0	1.0
12	9.00 Hz	2208	38.0	2.5	47.5	3.4	73.7	.7	-105.2	1.0
13	6.00 Hz	2015	27.7	5.5	39.1	5.7	76.2	1.5	-106.7	1.6
14	4.50 Hz	2591	19.9	8.4	30.6	8.5	78.7	2.3	-107.5	2.3
15	3.00 Hz	23229	14.9	3.2	24.5	3.1	78.2	.9	-108.1	.9
16	2.25 Hz	11904	11.6	3.4	19.7	3.6	74.9	1.0	-112.7	1.0
17	1.50 Hz	6787	9.5	8.9	14.5	12.4	69.4	2.4	-115.9	3.3
18	1.13 Hz	6004	8.5	9.8	13.0	4.1	51.3	2.7	-118.2	1.2
19	1.33 Sec	816	7.9	46.0	12.2	25.1	46.4	10.9	-117.0	6.4
20	1.78 Sec	960	8.3	35.9	12.1	42.4	40.0	8.8	-122.8	10.1
21	2.67 Sec	2391	8.9	99.9	17.3	99.9	26.0	23.1	-136.3	41.7
22	3.56 Sec	2172	18.7	65.8	9.2	99.9	27.4	14.5	-138.7	19.9
23	5.33 Sec	335	23.7	80.3	13.6	99.9	22.3	16.9	-148.0	27.0
24	7.11 Sec	1255	36.2	58.2	9.3	99.9	18.0	13.1	-140.7	48.3
25	10.67 Sec	622	38.8	65.2	17.5	98.2	20.0	14.4	-124.9	19.6
26	14.22 Sec	130	73.1	11.8	15.1	12.5	24.8	3.2	-144.4	3.4
27	21.33 Sec	180	86.6	2.4	17.4	3.1	30.8	.7	-138.7	.9
28	28.44 Sec	168	103.1	1.6	18.1	2.2	34.8	.4	-137.1	.6
29	42.67 Sec	138	102.4	2.0	19.6	4.8	43.0	.6	-132.2	1.3
30	56.89 Sec	234	92.4	1.7	15.9	4.4	46.4	.5	-128.5	1.2
31	85.33 Sec	93	84.6	5.7	14.9	11.0	52.7	1.6	-125.7	3.0
32	113.78 Sec	138	81.4	9.2	14.4	11.5	56.5	2.5	-122.5	3.1
33	170.67 Sec	51	74.1	23.0	16.1	75.5	61.7	5.9	-122.5	16.1
34	227.56 Sec	3	74.1	96.9	14.6	13.7	36.5	19.4	-130.1	3.7
35	341.33 Sec	51	99.5	99.9	16.9	99.9	55.9	21.8	63.8	65.7
36	455.11 Sec	54	246.5	65.0	32.1	99.9	57.1	14.3	80.7	53.5

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
5	96.00 Hz	2131	192.1	112.6	75.0	503	83.2	385
7	48.00 Hz	1899	138.7	95.9	46.6	605	55.3	503
8	36.00 Hz	2413	119.9	89.5	30.1	650	51.0	561
9	24.00 Hz	2784	91.6	79.3	11.0	695	36.3	647
10	18.00 Hz	2208	69.6	69.2	8.3	702	24.4	698
11	12.00 Hz	1440	53.1	56.9	4.3	748	18.3	775
12	9.00 Hz	2208	38.6	48.5	1.6	756	12.3	826
13	6.00 Hz	2015	28.1	37.7	2.0	770	8.6	892
14	4.50 Hz	2591	21.2	31.4	1.5	777	6.6	939
15	3.00 Hz	23229	15.4	24.0	1.8	807	3.7	1007
16	2.25 Hz	11904	12.3	18.9	3.0	831	3.5	1031
17	1.50 Hz	6787	10.1	14.9	3.2	924	3.6	1121
18	1.13 Hz	6004	8.5	12.4	3.5	980	5.4	1180
19	1.33 Sec	816	7.6	11.3	6.3	1133	8.2	1383
20	1.78 Sec	960	8.0	11.1	18.3	1344	10.3	1577
21	2.67 Sec	2391	10.0	11.1	69.3	1834	13.0	1934
22	3.56 Sec	2172	13.5	11.7	525.7	2464	16.7	2294
23	5.33 Sec	335	20.7	12.5	808.5	3742	18.6	2908
24	7.11 Sec	1255	31.7	13.4	1236.1	5343	22.6	3472
25	10.67 Sec	622	53.0	15.0	2065.2	8458	27.9	4495
26	14.22 Sec	130	75.4	16.5	764.4	11657	29.1	5452
27	21.33 Sec	180	93.5	18.1	240.4	15895	25.8	6998
28	28.44 Sec	168	102.3	18.6	134.6	19201	18.4	8193
29	42.67 Sec	138	102.8	18.0	92.4	23566	11.7	9874
30	56.89 Sec	234	98.6	16.1	71.0	26660	8.3	10767
31	85.33 Sec	93	91.8	14.5	55.7	31497	10.3	12497
32	113.78 Sec	138	83.3	14.3	54.5	34640	13.6	14357
33	170.67 Sec	51	79.4	14.2	94.0	41433	15.0	17526
34	227.56 Sec	3	88.3	14.6	278.6	50434	17.7	20500
35	341.33 Sec	51	113.8	15.2	619.0	70136	20.2	25623
36	455.11 Sec	54	142.3	16.1	1139.8	90576	24.2	30452

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
5	96.00 Hz	2131	-17.27	-.90	166.54	67.52	285.22	163.71
7	48.00 Hz	1899	-10.73	-31.44	202.83	32.77	175.13	92.05
8	36.00 Hz	2413	-3.01	-6.91	21.74	33.60	141.83	11.24
9	24.00 Hz	2784	-.12	4.03	11.68	3.68	102.52	29.29
10	18.00 Hz	2208	2.43	.78	6.74	9.70	74.13	7.20
11	12.00 Hz	1440	-1.28	.99	5.22	13.67	52.98	2.80
12	9.00 Hz	2208	1.16	-1.37	1.28	11.61	39.71	.52
13	6.00 Hz	2015	-1.94	.65	4.11	6.87	28.01	1.20
14	4.50 Hz	2591	-.48	-.19	4.71	4.16	20.75	1.47
15	3.00 Hz	23229	-.43	-.83	.37	3.05	14.64	.11
16	2.25 Hz	11904	-.82	.75	.29	2.97	11.05	.07
17	1.50 Hz	6787	-.55	-.52	1.12	2.97	7.91	.26
18	1.13 Hz	6004	-1.15	-.29	.26	4.32	5.39	.21
19	1.33 Sec	816	-.696	.141	3.828	3.752	3.945	2.126
20	1.78 Sec	960	.032	.004	3.414	3.709	3.108	1.100
21	2.67 Sec	2391	-.076	-.275	28.941	3.668	1.792	5.415
22	3.56 Sec	2172	-.134	-.379	3.274	4.546	2.361	3.355
23	5.33 Sec	335	.010	-.400	3.911	4.363	1.793	3.865
24	7.11 Sec	1255	.186	-.074	7.529	4.800	1.558	2.677
25	10.67 Sec	622	-.200	-.119	1.445	4.010	1.457	2.296
26	14.22 Sec	130	-.026	-.500	.075	4.601	2.130	.159
27	21.33 Sec	180	.121	-.223	.003	3.870	2.304	.006
28	28.44 Sec	168	.107	-.263	.002	3.493	2.432	.002
29	42.67 Sec	138	.107	-.093	.003	2.533	2.363	.002
30	56.89 Sec	234	.109	-.047	.002	1.966	2.063	.001
31	85.33 Sec	93	.057	-.069	.005	1.349	1.772	.008
32	113.78 Sec	138	.029	.007	.005	1.043	1.577	.014
33	170.67 Sec	51	.027	-.066	.037	.698	1.297	.046
34	227.56 Sec	3	.035	.306	.044	1.025	.760	.374
35	341.33 Sec	51	.538	.635	.269	.677	1.000	.422
36	455.11 Sec	54	.255	1.008	.406	.893	1.382	.339

PHOENIX GEOPHYSICS

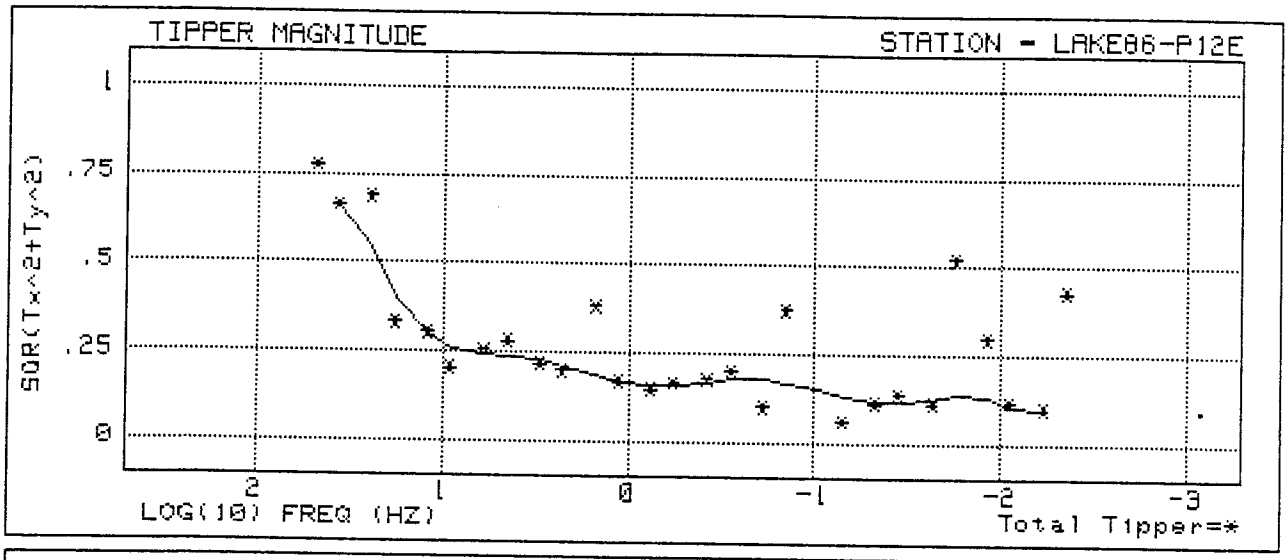
MT Site: LAKE86-P12E

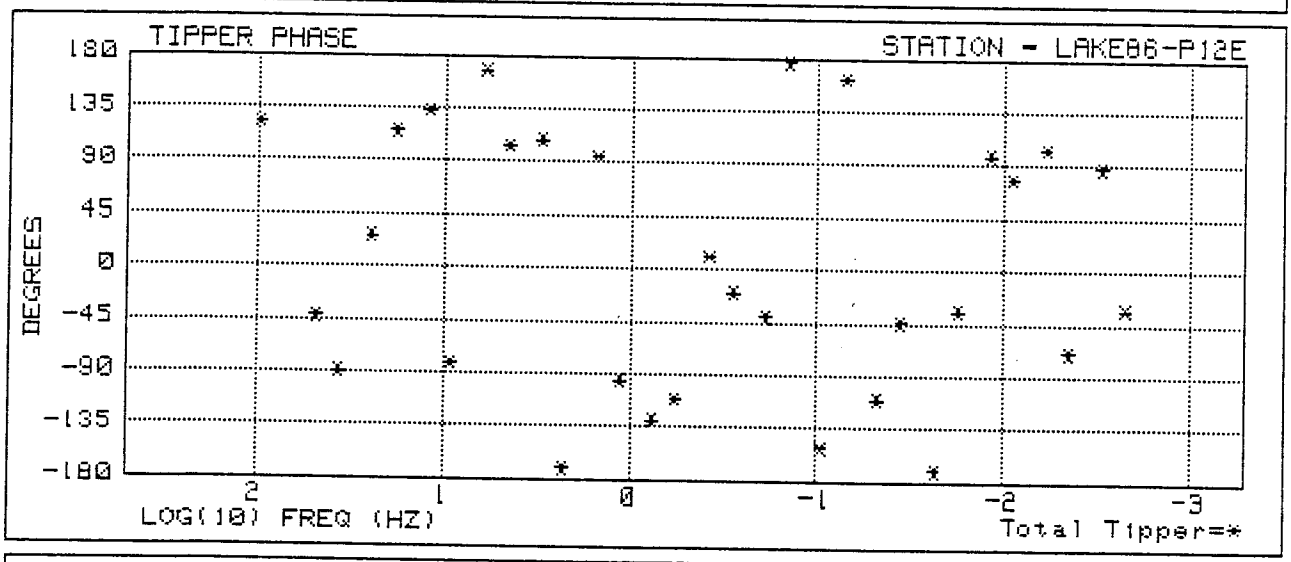
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

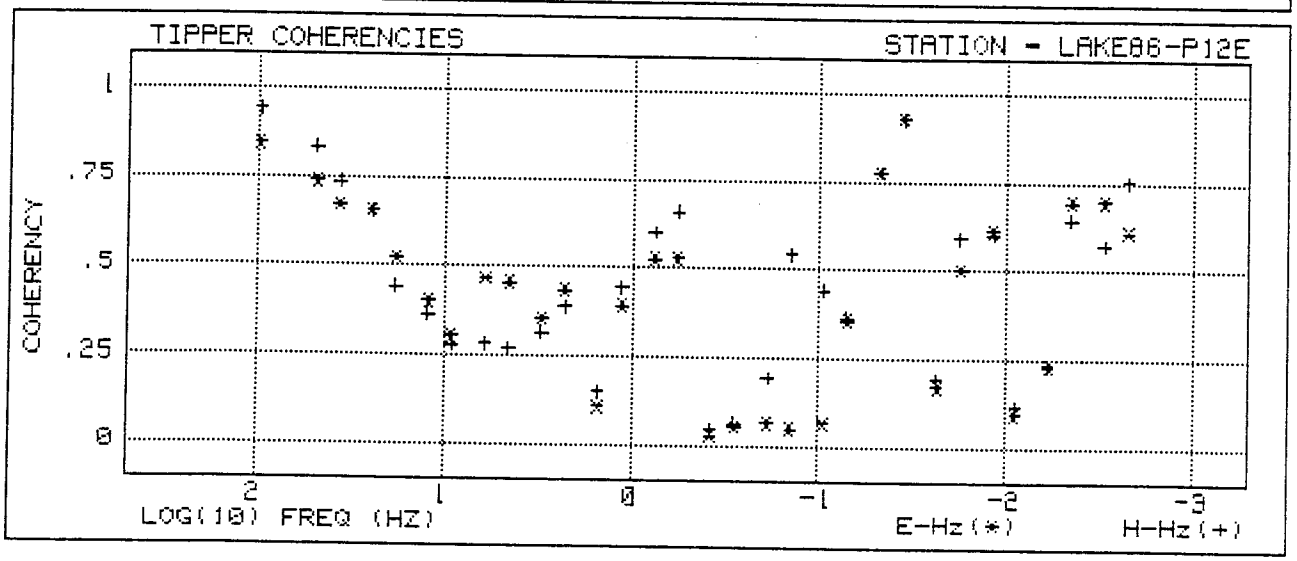
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
5	96.00 Hz	2131	179.33	-132.49	931.57	-14.77	-4.94	915.72
7	48.00 Hz	1899	16.85	-156.25	293.88	-24.93	5.88	133.37
8	36.00 Hz	2413	-21.83	-118.96	26.58	-22.40	3.06	13.74
9	24.00 Hz	2784	-27.28	-94.32	4.38	-1.28	.70	10.97
10	18.00 Hz	2208	-21.53	-77.44	2.26	1.36	4.61	2.42
11	12.00 Hz	1440	-15.81	-58.88	2.19	-.69	.77	1.17
12	9.00 Hz	2208	-12.12	-44.62	1.18	.81	-1.33	.47
13	6.00 Hz	2015	-9.85	-32.79	1.79	-.06	-.52	.53
14	4.50 Hz	2591	-7.87	-25.02	2.29	.29	-.86	.71
15	3.00 Hz	23229	-5.96	-18.22	.17	-.09	-1.12	.05
16	2.25 Hz	11904	-5.75	-13.72	.14	.40	-.51	.03
17	1.50 Hz	6787	-4.56	-9.37	.74	-.33	-.75	.17
18	1.13 Hz	6004	-4.04	-7.53	.06	-.04	-.14	.05
19	1.33 Sec	816	-3.067	-6.014	1.143	.136	.417	.635
20	1.78 Sec	960	-3.161	-4.896	2.121	.257	.073	.684
21	2.67 Sec	2391	-4.111	-3.930	34.311	.145	-.321	6.420
22	3.56 Sec	2172	-2.698	-2.369	3.124	-.130	.579	3.202
23	5.33 Sec	335	-3.029	-1.891	5.673	.025	-.199	5.608
24	7.11 Sec	1255	-1.978	-1.618	9.273	.195	.347	3.297
25	10.67 Sec	622	-1.637	-2.351	1.921	.456	1.623	3.053
26	14.22 Sec	130	-1.874	-1.344	.037	-.165	-.018	.079
27	21.33 Sec	180	-1.518	-1.332	.002	.033	-.010	.003
28	28.44 Sec	168	-1.307	-1.213	.001	-.030	-.016	.001
29	42.67 Sec	138	-1.019	-1.124	.003	.070	-.048	.002
30	56.89 Sec	234	-.737	-.926	.001	.097	-.034	.001
31	85.33 Sec	93	-.547	-.760	.005	-.015	-.011	.007
32	113.78 Sec	138	-.427	-.670	.004	.042	-.002	.010
33	170.67 Sec	51	-.369	-.579	.075	-.103	-.007	.093
34	227.56 Sec	3	-.365	-.433	.003	.310	-.251	.023
35	341.33 Sec	51	.220	.447	.652	.543	.631	1.022
36	455.11 Sec	54	.096	.586	.614	.572	.849	.514

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E







PHOENIX GEOPHYSICS

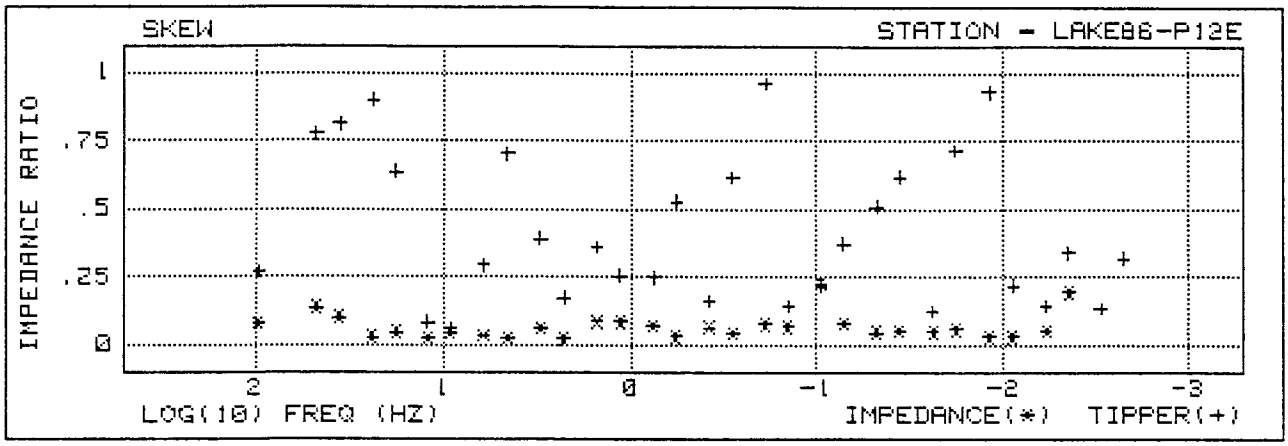
MT Site: LAKE86-P12E

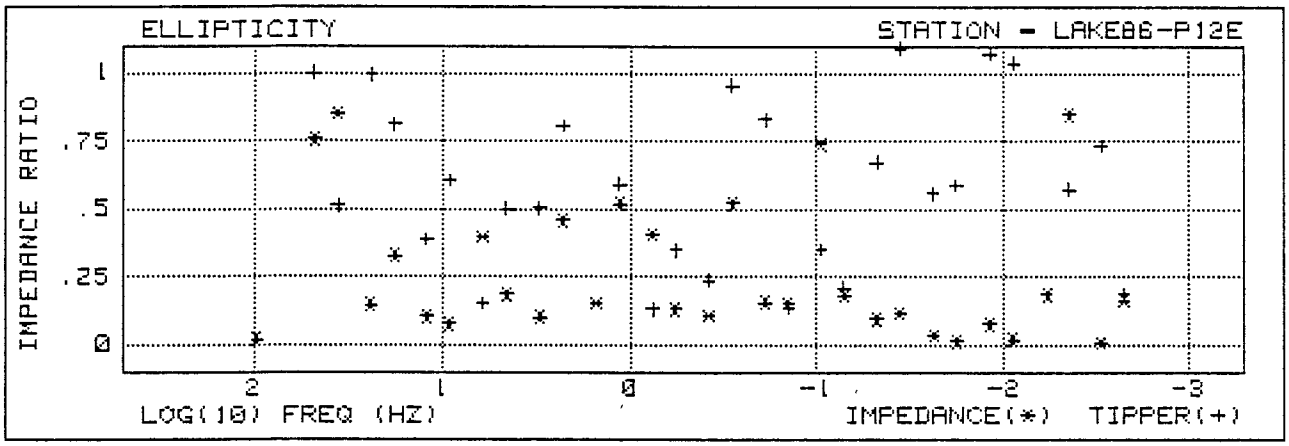
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

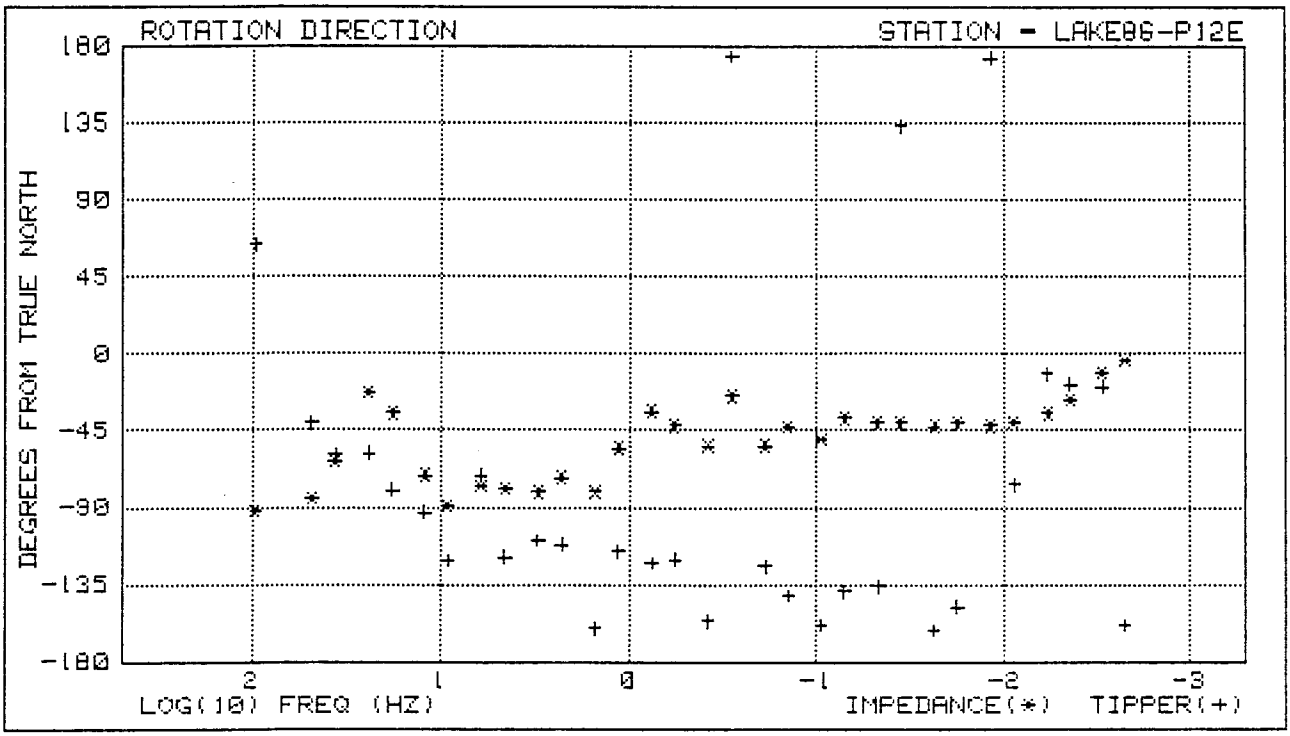
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
5	96.00 Hz	2131	2.01	121.45	.84	.94
7	48.00 Hz	1899	.77	-43.40	.74	.83
8	36.00 Hz	2413	.66	-90.47	.67	.73
9	24.00 Hz	2784	.69	25.39	.65	.65
10	18.00 Hz	2208	.33	114.26	.52	.44
11	12.00 Hz	1440	.30	132.08	.40	.36
12	9.00 Hz	2208	.20	-82.21	.30	.28
13	6.00 Hz	2015	.25	166.79	.46	.28
14	4.50 Hz	2591	.28	102.57	.45	.26
15	3.00 Hz	23229	.21	107.43	.35	.31
16	2.25 Hz	11904	.20	-171.80	.43	.39
17	1.50 Hz	6787	.38	94.05	.10	.15
18	1.13 Hz	6004	.16	-96.19	.39	.44
19	1.33 Sec	816	.14	-130.05	.52	.60
20	1.78 Sec	960	.16	-111.73	.52	.66
21	2.67 Sec	2391	.17	10.19	.02	.04
22	3.56 Sec	2172	.20	-20.65	.05	.06
23	5.33 Sec	335	.10	-41.28	.06	.19
24	7.11 Sec	1255	.37	175.45	.05	.54
25	10.67 Sec	622	1.14	-152.83	.06	.44
26	14.22 Sec	130	.06	161.56	.35	.36
27	21.33 Sec	180	.11	-111.16	.77	.77
28	28.44 Sec	168	.13	-45.10	.93	.92
29	42.67 Sec	138	.11	-171.16	.17	.19
30	56.89 Sec	234	.52	-35.31	.50	.59
31	85.33 Sec	93	.29	96.85	.61	.60
32	113.78 Sec	138	.11	77.23	.09	.11
33	170.67 Sec	51	.10	102.83	.23	.23
34	227.56 Sec	3	.42	-70.59	.69	.64
35	341.33 Sec	51	3.39	87.46	.69	.57
36	455.11 Sec	54	4.01	-33.45	.61	.75

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E







PHOENIX GEOPHYSICS

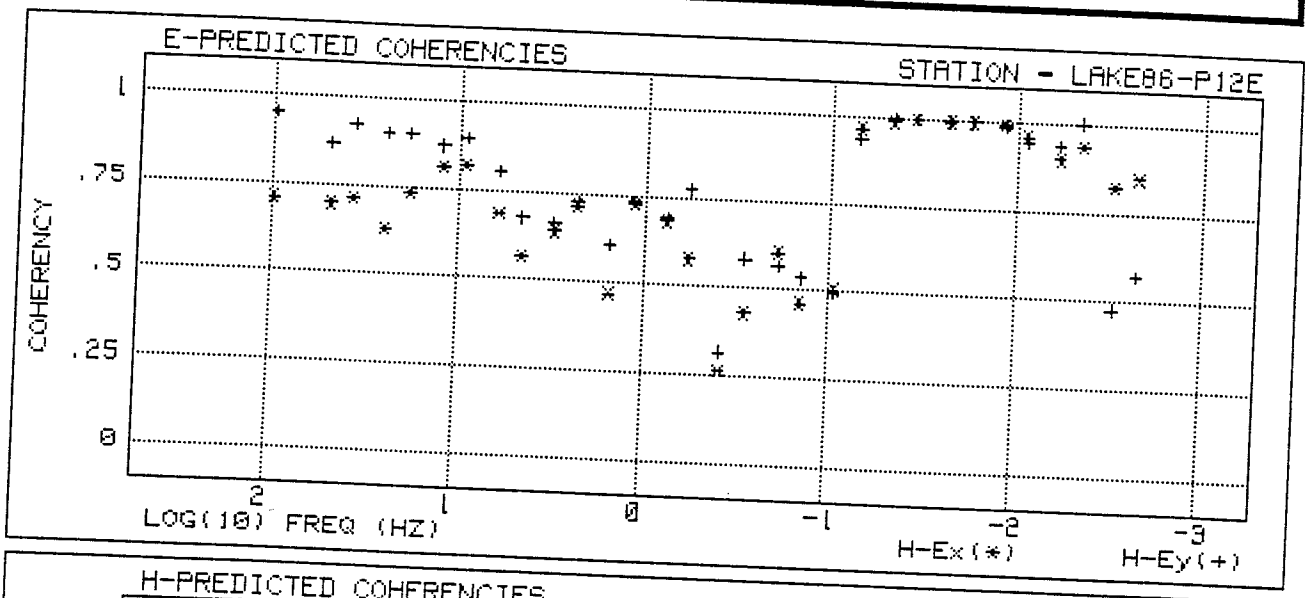
MT Site: LAKE86-P12E

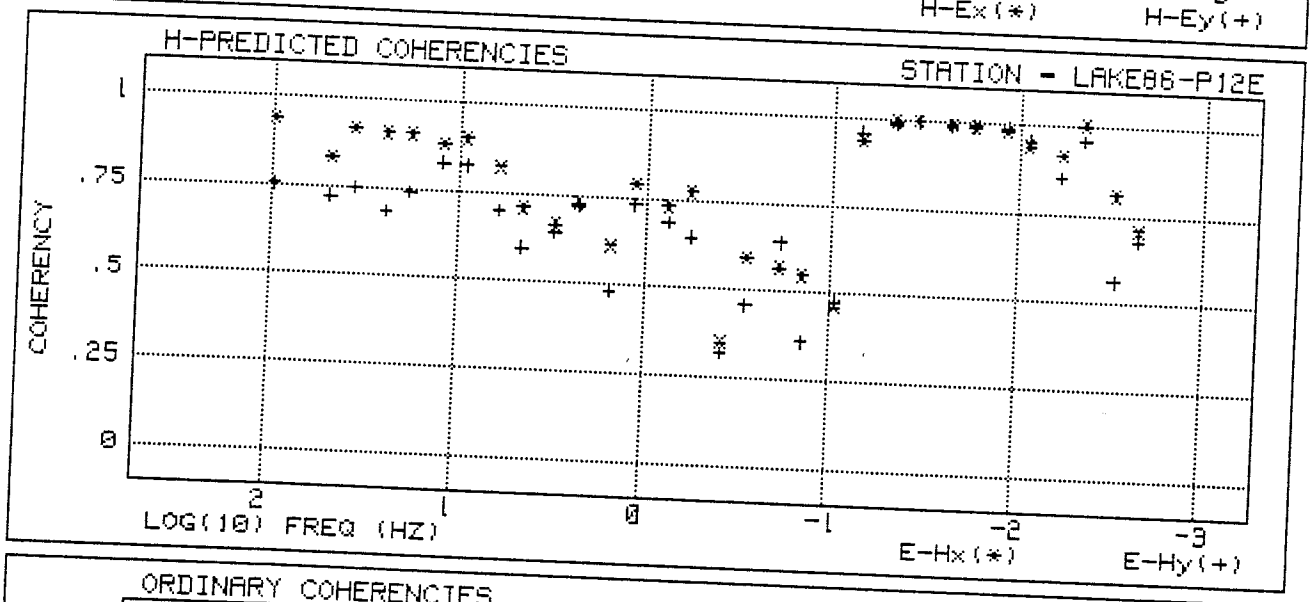
SKEW, ELLIPTICITY AND STRIKE

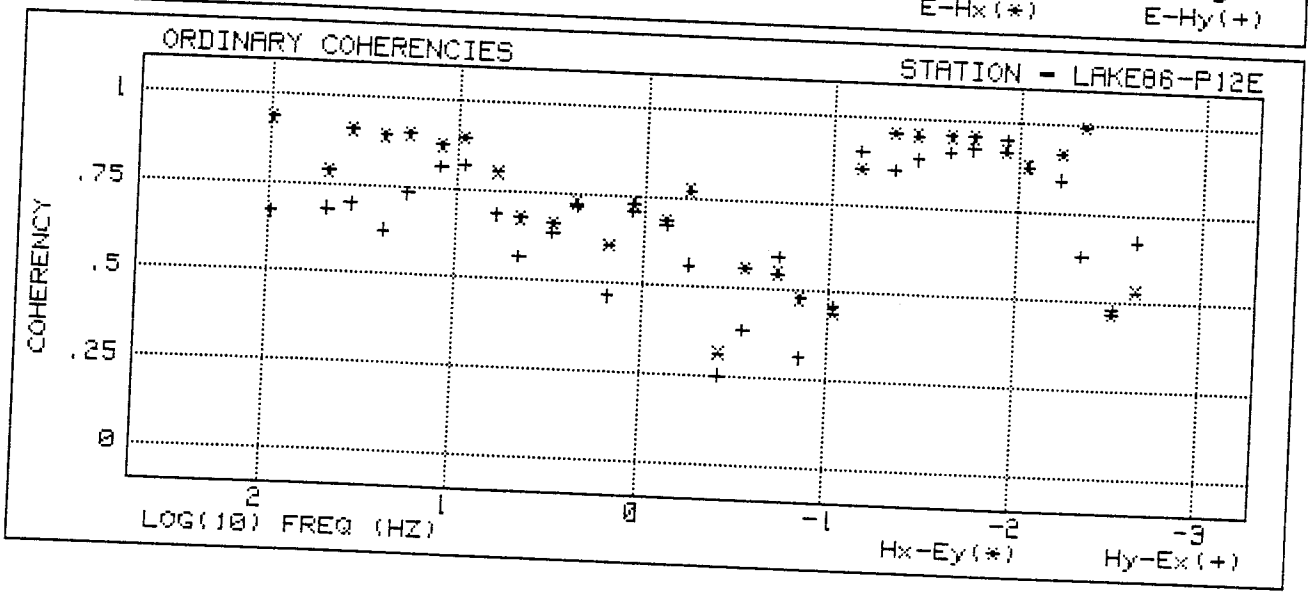
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
5	96.00 Hz	2131	.08	.02	-92.87	.27	7.31	63.15
7	48.00 Hz	1899	.13	.75	-85.37	.77	.99	-41.08
8	36.00 Hz	2413	.10	.85	-63.87	.81	.51	-59.73
9	24.00 Hz	2784	.02	.14	-23.16	.90	.99	-59.15
10	18.00 Hz	2208	.04	.32	-35.43	.63	.81	-80.66
11	12.00 Hz	1440	.02	.10	-72.18	.08	.39	-93.46
12	9.00 Hz	2208	.04	.07	-89.88	.05	.60	-121.63
13	6.00 Hz	2015	.03	.39	-78.03	.29	.15	-71.80
14	4.50 Hz	2591	.02	.18	-79.72	.70	.50	-119.71
15	3.00 Hz	23229	.06	.10	-81.60	.39	.50	-110.25
16	2.25 Hz	11904	.02	.45	-73.55	.17	.80	-112.32
17	1.50 Hz	6787	.08	.15	-81.51	.36	1.97	-161.21
18	1.13 Hz	6004	.08	.52	-56.20	.25	.59	-116.26
19	1.33 Sec	816	.07	.40	-34.35	.25	.13	-123.19
20	1.78 Sec	960	.03	.13	-42.45	.52	.35	-121.28
21	2.67 Sec	2391	.06	.10	-54.65	.16	.23	-156.93
22	3.56 Sec	2172	.04	.52	-25.09	.61	.95	173.26
23	5.33 Sec	335	.07	.15	-54.64	.96	.82	-124.77
24	7.11 Sec	1255	.06	.15	-43.68	.14	.13	-141.96
25	10.67 Sec	622	.22	.73	-50.71	.21	.35	-159.07
26	14.22 Sec	130	.08	.18	-37.99	.37	.21	-139.33
27	21.33 Sec	180	.04	.09	-41.30	.51	.67	-136.68
28	28.44 Sec	168	.05	.11	-41.01	.61	1.08	132.60
29	42.67 Sec	138	.05	.03	-43.13	.12	.55	-162.07
30	56.89 Sec	234	.05	.01	-41.32	.71	.58	-148.66
31	85.33 Sec	93	.03	.07	-42.41	.93	1.07	172.25
32	113.78 Sec	138	.03	.01	-40.86	.21	1.03	-77.42
33	170.67 Sec	51	.05	.18	-35.45	.14	3.94	-12.03
34	227.56 Sec	3	.19	.84	-27.50	.34	.57	-18.65
35	341.33 Sec	51	2.32	.00	-11.54	.13	.73	-20.06
36	455.11 Sec	54	1.81	.16	-4.40	.32	.18	-159.11

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E







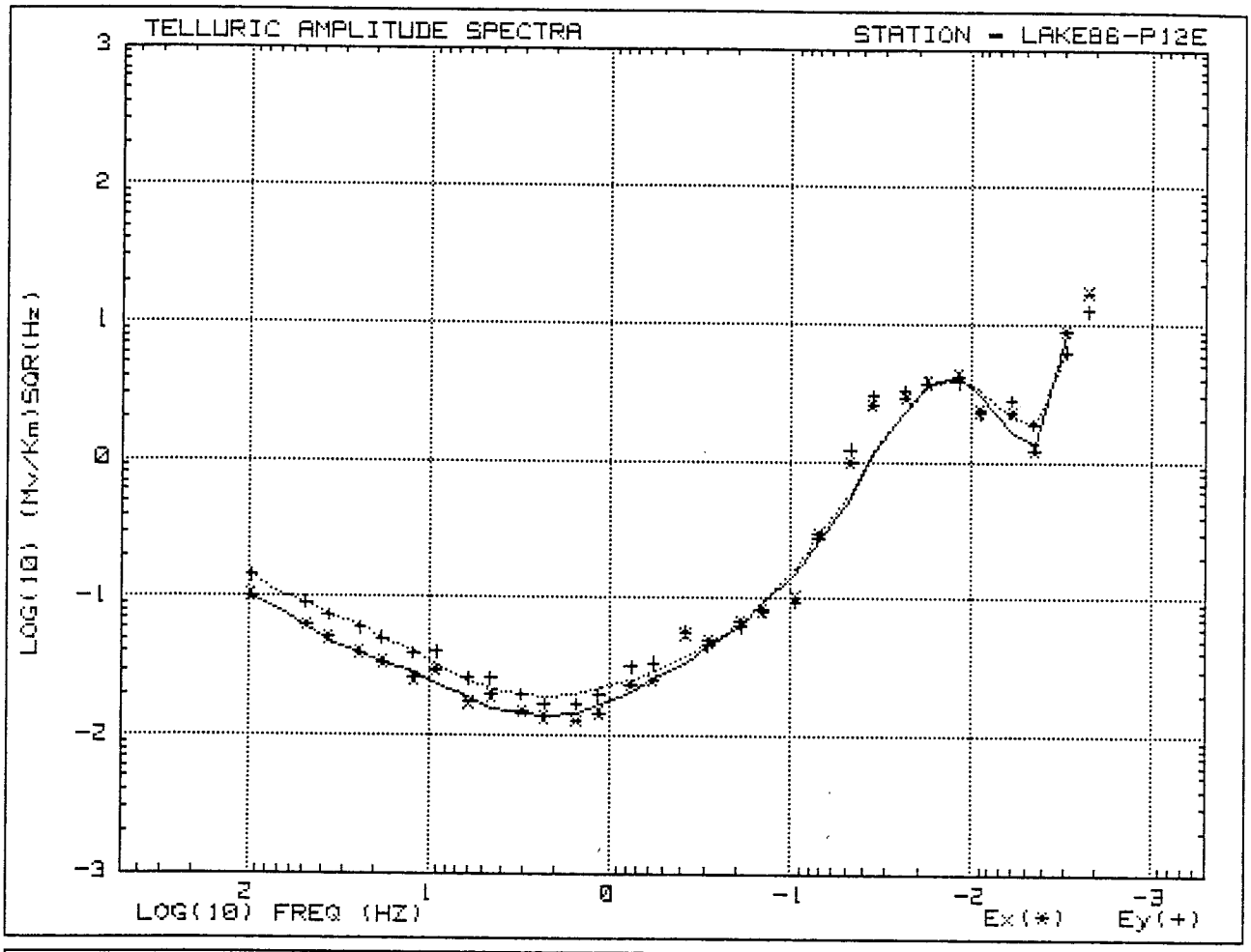
PHOENIX GEOPHYSICS

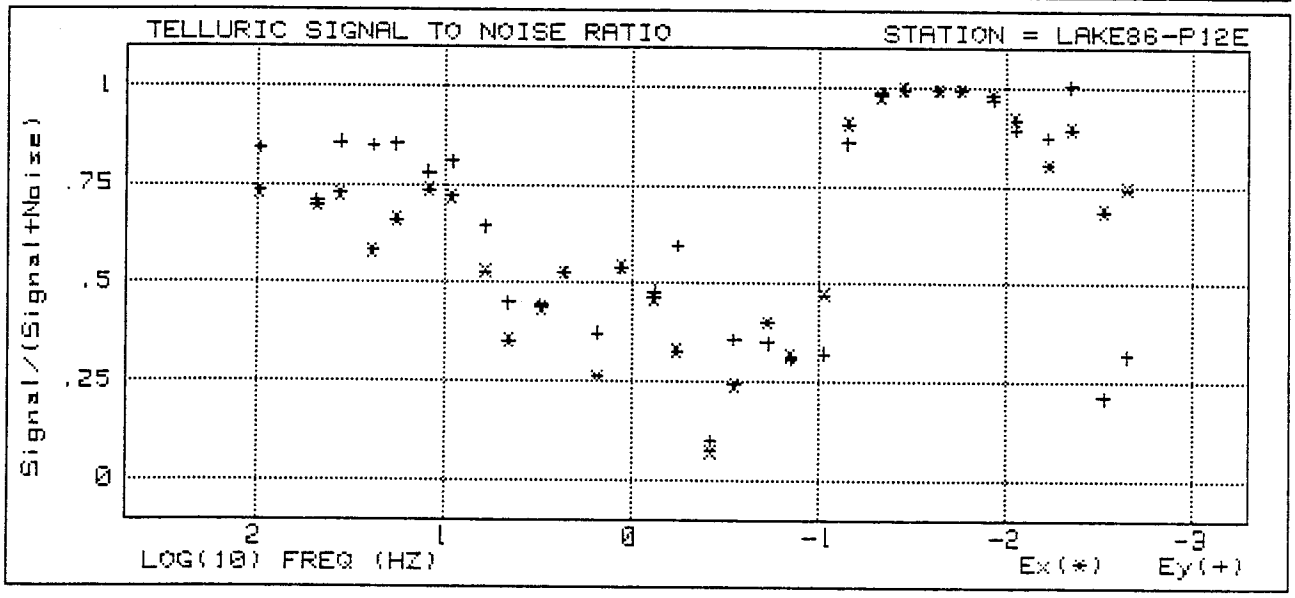
MT Site: LAKE86-P12E

MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
5	96.00 Hz	2131	.70	.95	.93	.75	.93	.66
7	48.00 Hz	1899	.69	.86	.83	.72	.78	.68
8	36.00 Hz	2413	.71	.92	.91	.74	.90	.69
9	24.00 Hz	2784	.62	.90	.90	.68	.89	.62
10	18.00 Hz	2208	.73	.90	.90	.74	.90	.73
11	12.00 Hz	1440	.81	.87	.88	.82	.87	.81
12	9.00 Hz	2208	.81	.89	.90	.82	.89	.81
13	6.00 Hz	2015	.68	.80	.82	.69	.80	.68
14	4.50 Hz	2591	.56	.67	.71	.59	.67	.56
15	3.00 Hz	23229	.64	.66	.66	.64	.66	.63
16	2.25 Hz	11904	.71	.72	.72	.72	.72	.71
17	1.50 Hz	6787	.46	.60	.61	.48	.60	.46
18	1.13 Hz	6004	.72	.73	.79	.73	.73	.70
19	1.33 Sec	816	.68	.69	.73	.68	.68	.67
20	1.78 Sec	960	.57	.77	.77	.64	.77	.56
21	2.67 Sec	2391	.26	.31	.35	.32	.31	.25
22	3.56 Sec	2172	.43	.58	.59	.45	.55	.38
23	5.33 Sec	335	.60	.56	.56	.64	.54	.59
24	7.11 Sec	1255	.46	.53	.55	.36	.47	.31
25	10.67 Sec	622	.50	.49	.46	.47	.44	.45
26	14.22 Sec	130	.96	.93	.93	.96	.85	.90
27	21.33 Sec	180	.99	.99	.99	.99	.95	.85
28	28.44 Sec	168	1.00	1.00	1.00	.99	.95	.88
29	42.67 Sec	138	.99	.99	.99	.98	.95	.91
30	56.89 Sec	234	.99	.99	.99	.98	.95	.92
31	85.33 Sec	93	.99	.98	.98	.98	.92	.95
32	113.78 Sec	138	.96	.94	.93	.95	.87	.87
33	170.67 Sec	51	.90	.93	.91	.85	.91	.84
34	227.56 Sec	3	.93	1.00	1.00	.96	.99	.63
35	341.33 Sec	51	.82	.47	.80	.56	.46	.48
36	455.11 Sec	54	.85	.57	.71	.68	.53	.67

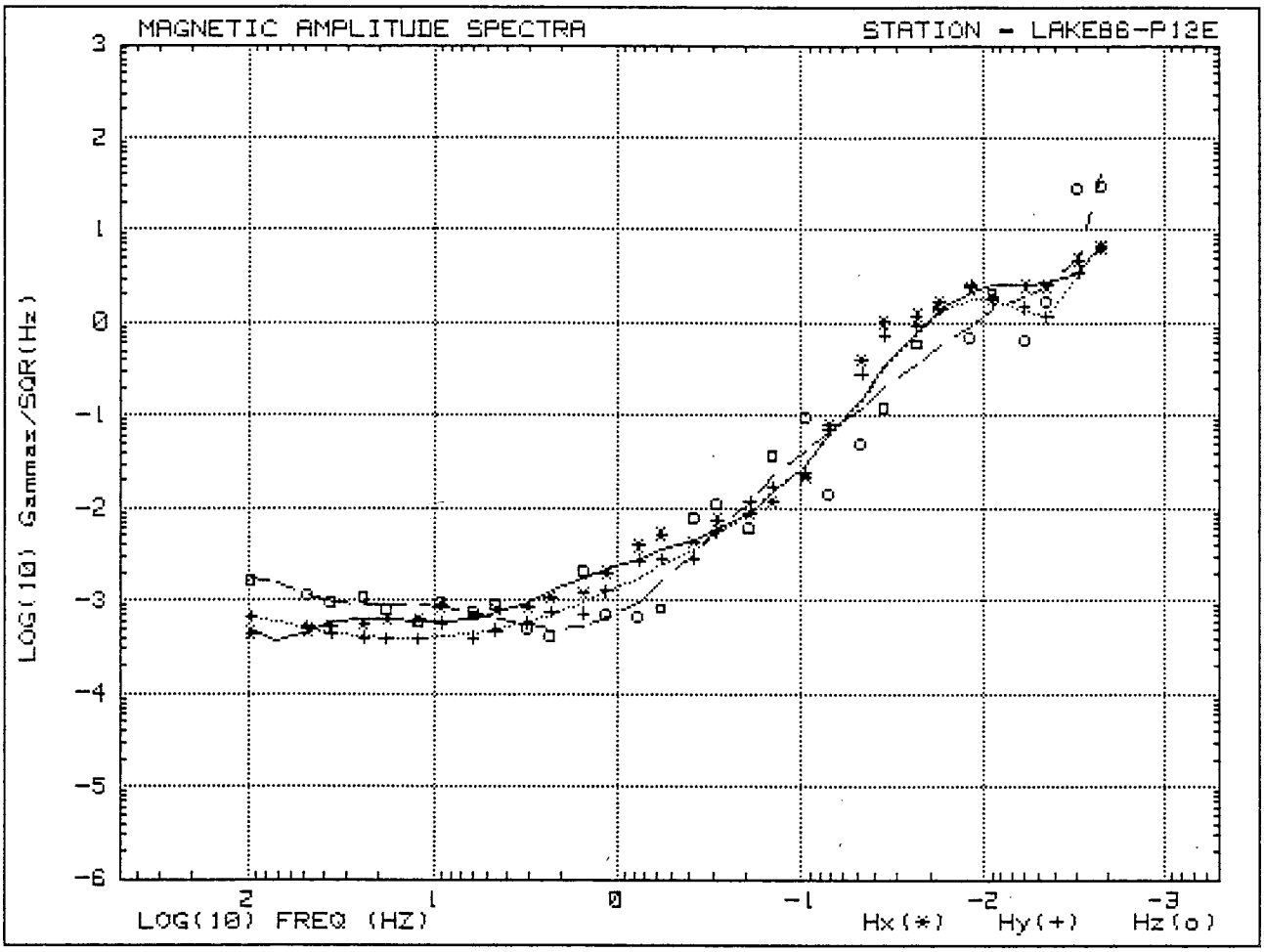
MT Site: LAKE86-P12E

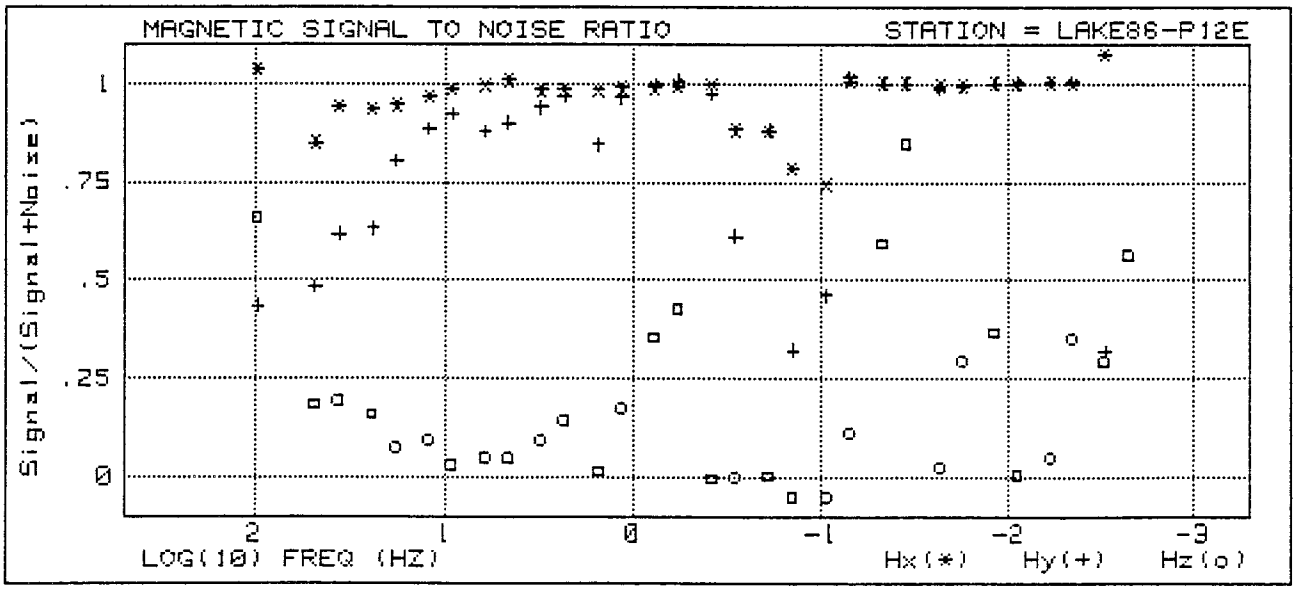




PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	2131	4.42E-04	6.62E-04	1.74E-03	1.01E-01	1.42E-01
7	48.00 Hz	1899	4.73E-04	5.08E-04	1.20E-03	6.17E-02	8.92E-02
8	36.00 Hz	2413	5.03E-04	4.43E-04	9.99E-04	4.97E-02	7.27E-02
9	24.00 Hz	2784	5.54E-04	3.92E-04	1.15E-03	3.91E-02	5.90E-02
10	18.00 Hz	2208	6.14E-04	3.86E-04	8.25E-04	3.33E-02	4.94E-02
11	12.00 Hz	1440	6.17E-04	3.82E-04	6.10E-04	2.54E-02	3.81E-02
12	9.00 Hz	2208	8.60E-04	5.64E-04	9.86E-04	2.92E-02	3.92E-02
13	6.00 Hz	2015	6.99E-04	3.92E-04	7.81E-04	1.71E-02	2.54E-02
14	4.50 Hz	2591	7.93E-04	4.64E-04	9.44E-04	1.91E-02	2.55E-02
15	3.00 Hz	23229	8.56E-04	5.61E-04	5.15E-04	1.48E-02	1.94E-02
16	2.25 Hz	11904	1.06E-03	7.35E-04	4.32E-04	1.34E-02	1.66E-02
17	1.50 Hz	6787	1.18E-03	7.09E-04	2.15E-03	1.26E-02	1.65E-02
18	1.13 Hz	6004	1.97E-03	1.23E-03	7.39E-04	1.43E-02	1.91E-02
19	1.33 Sec	816	3.89E-03	2.64E-03	7.04E-04	2.29E-02	3.11E-02
20	1.78 Sec	960	5.09E-03	2.78E-03	8.69E-04	2.46E-02	3.32E-02
21	2.67 Sec	2391	4.20E-03	2.84E-03	8.10E-03	5.40E-02	5.60E-02
22	3.56 Sec	2172	7.32E-03	5.60E-03	1.17E-02	4.80E-02	4.43E-02
23	5.33 Sec	335	8.61E-03	1.15E-02	6.29E-03	6.72E-02	6.15E-02
24	7.11 Sec	1255	1.16E-02	1.66E-02	3.94E-02	8.08E-02	7.83E-02
25	10.67 Sec	622	2.10E-02	2.40E-02	1.03E-01	1.02E-01	9.31E-02
26	14.22 Sec	130	7.84E-02	6.96E-02	1.46E-02	2.95E-01	2.73E-01
27	21.33 Sec	180	3.96E-01	2.81E-01	5.35E-02	9.65E-01	1.20E+00
28	28.44 Sec	168	1.02E+00	7.44E-01	1.30E-01	2.52E+00	2.99E+00
29	42.67 Sec	138	1.18E+00	9.46E-01	6.29E-01	2.86E+00	3.17E+00
30	56.89 Sec	234	1.67E+00	1.39E+00	1.51E+00	3.68E+00	3.66E+00
31	85.33 Sec	93	2.37E+00	2.55E+00	7.42E-01	4.13E+00	3.71E+00
32	113.78 Sec	138	1.84E+00	1.73E+00	2.15E+00	2.30E+00	2.21E+00
33	170.67 Sec	51	2.51E+00	1.47E+00	6.76E-01	2.23E+00	2.74E+00
34	227.56 Sec	3	2.48E+00	1.17E+00	1.81E+00	1.20E+00	1.85E+00
35	341.33 Sec	51	4.75E+00	3.46E+00	3.03E+01	8.73E+00	6.20E+00
36	455.11 Sec	54	6.36E+00	6.55E+00	3.17E+01	1.68E+01	1.24E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P12E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	2131	1.000	.433	.664	.732	.841
7	48.00 Hz	1899	.848	.481	.190	.695	.708
8	36.00 Hz	2413	.940	.616	.199	.725	.855
9	24.00 Hz	2784	.935	.631	.165	.581	.848
10	18.00 Hz	2208	.946	.804	.082	.660	.851
11	12.00 Hz	1440	.966	.885	.100	.736	.779
12	9.00 Hz	2208	.985	.922	.034	.719	.807
13	6.00 Hz	2015	.995	.878	.056	.527	.642
14	4.50 Hz	2591	1.000	.899	.052	.352	.448
15	3.00 Hz	23229	.984	.939	.097	.436	.443
16	2.25 Hz	11904	.985	.968	.148	.527	.526
17	1.50 Hz	6787	.984	.844	.020	.261	.370
18	1.13 Hz	6004	.989	.965	.180	.541	.538
19	1.33 Sec	816	.989	.997	.360	.461	.477
20	1.78 Sec	960	.994	1.000	.433	.327	.594
21	2.67 Sec	2391	.998	.974	.001	.070	.098
22	3.56 Sec	2172	.883	.610	.003	.240	.356
23	5.33 Sec	335	.879	.881	.007	.400	.348
24	7.11 Sec	1255	.784	.320	0.000	.313	.308
25	10.67 Sec	622	.743	.461	0.000	.472	.320
26	14.22 Sec	130	1.000	1.000	.115	.905	.857
27	21.33 Sec	180	.999	1.000	.599	.976	.986
28	28.44 Sec	168	1.000	1.000	.856	.993	.993
29	42.67 Sec	138	.993	.988	.029	.992	.992
30	56.89 Sec	234	.996	.992	.299	.992	.991
31	85.33 Sec	93	1.000	1.000	.373	.979	.968
32	113.78 Sec	138	.997	1.000	.011	.917	.890
33	170.67 Sec	51	1.000	1.000	.053	.802	.872
34	227.56 Sec	3	.999	1.000	.355	.892	1.000
35	341.33 Sec	51	1.000	.318	.297	.684	.209
36	455.11 Sec	54	0.000	0.000	.568	.743	.316

PHOENIX GEOPHYSICS

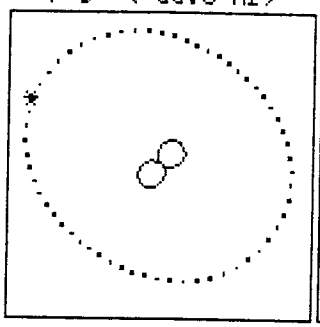
MT Site: LAKE86-P12E

IMPEDANCE POLAR DIAGRAMS

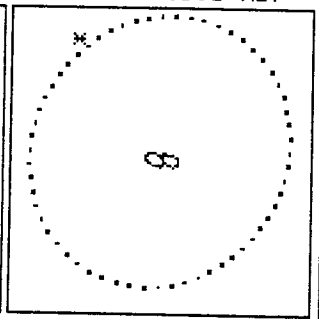
XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction

Zxy = ...
Zxx = ___

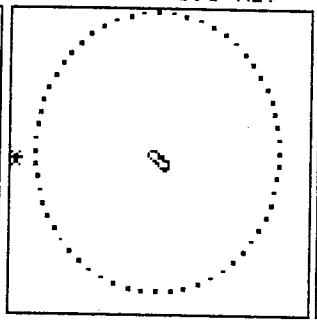
F=8 (36.0 Hz)



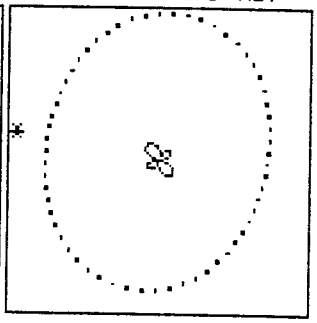
F=10 (18.0 Hz)



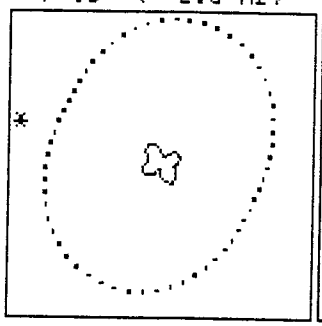
F=12 (9.0 Hz)



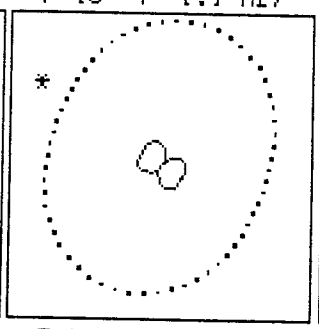
F=14 (4.5 Hz)



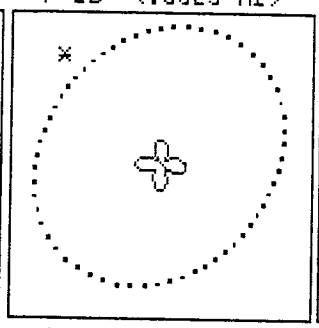
F=16 (2.3 Hz)



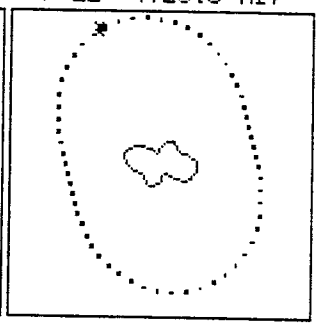
F=18 (1.1 Hz)



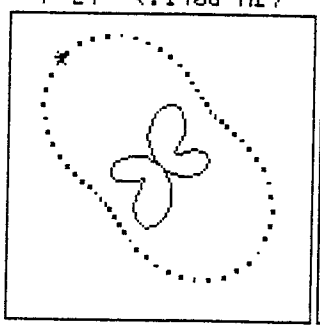
F=20 (.5625 Hz)



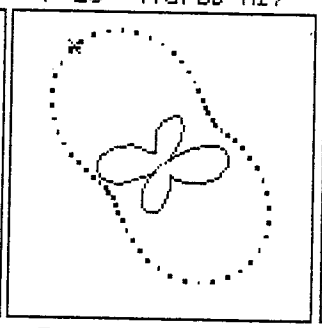
F=22 (.2813 Hz)



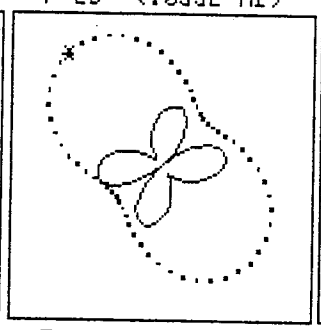
F=24 (.1406 Hz)



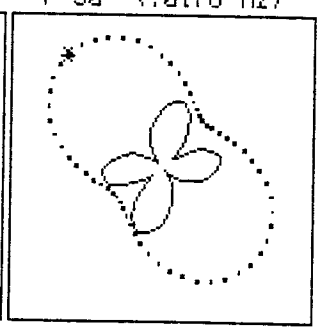
F=26 (.0703 Hz)



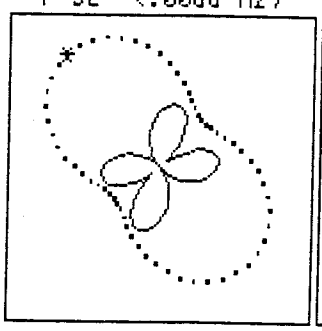
F=28 (.0352 Hz)



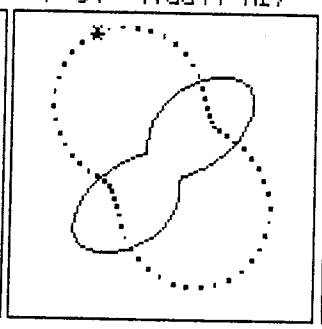
F=30 (.0176 Hz)



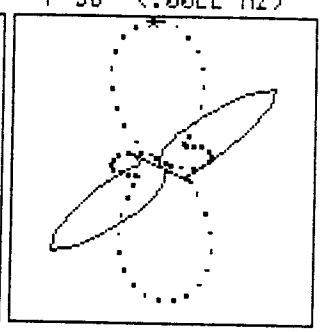
F=32 (.0088 Hz)



F=34 (.0044 Hz)



F=36 (.0022 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P12s/P13s/

Operator: VAAG & OJALA
Date: 30 Sep 1986
Time: 06:05:13

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#219-30Aug86-05
SP--Stn02: B#221-30Aug86-05
Sens-Ch01: C#452-04Sep86-01
Sens-Ch02: C#239-04Sep86-01
Sens-Ch03: L#419-05Sep86-01
Sens-Ch06: C#201-04Sep86-01
Sens-Ch07: C#306-04Sep86-01
Sens-Ch08: L#416-05Sep86-01

Station 2

Stn Number:LAKE86-P13s
Site Desc:T43N R03E Sec.27 SW1/4
41,31,52 N 121,36,49 W
Elevation:6120 FT
Reference:LAKE86-P12s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: BURNS, ET AL.
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL201	+55 DEG
Hy	7	COIL306	+145 DEG
Hz	8	LOOP416	
Ex	9	150 M	+55 DEG
Ey	10	150 M	+145 DEG
Rx	1	COIL452	+35 DEG
Ry	2	COIL239	+125 DEG

Ex Pot Resist: 4.5 K Ohms
Ex Voltage: AC=20.0 mv, DC=36.8 mv
Ey Pot Resist: 5.0 K Ohms
Ey Voltage: AC=17.3 mv, DC=66.5 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

OPERATOR LOG FOR MT SITES LAKE86-P12s/P13s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P12a/P13a/
Run STARTED: 19:48:23 28 Sep 1986
Run QUIT: 09:50:09 29 Sep 1986

Run Start and Stop Time for LAKE86-P12b/P13b/
Run STARTED: 10:38:19 29 Sep 1986
Run QUIT: 04:36:51 30 Sep 1986

Run Start and Stop Time for LAKE86-P12c/P13c/
Run STARTED: 06:05:13 30 Sep 1986
Run QUIT: 12:26:40 30 Sep 1986

Operator:D. OJALA,E. VAAG

Cultural Factors:
NONE NEARBY.
Weather Conditions:
CLEAR AND WARM WITH LIGHT WINDS.
Other Factors:
LOGGING OPERATIONS NEAR SITES AND COMMENCEMENT OF ROAD IMPROVEMENT ON FOREST SERVICE ROADS PROMPT DECISION TO MOVE TO NEXT SITES.

PHOENIX GEOPHYSICS

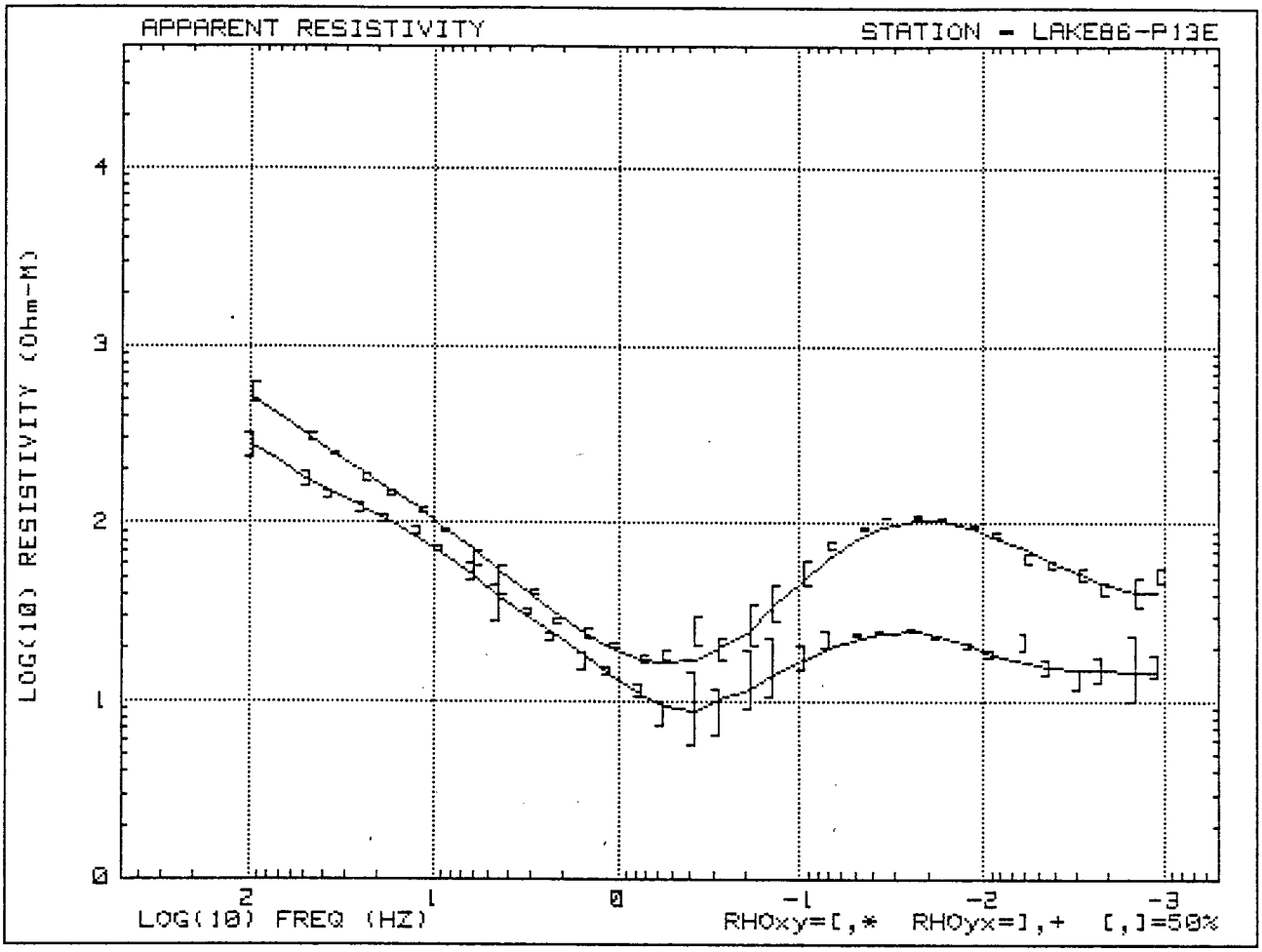
MT Site: LAKE86-P13E

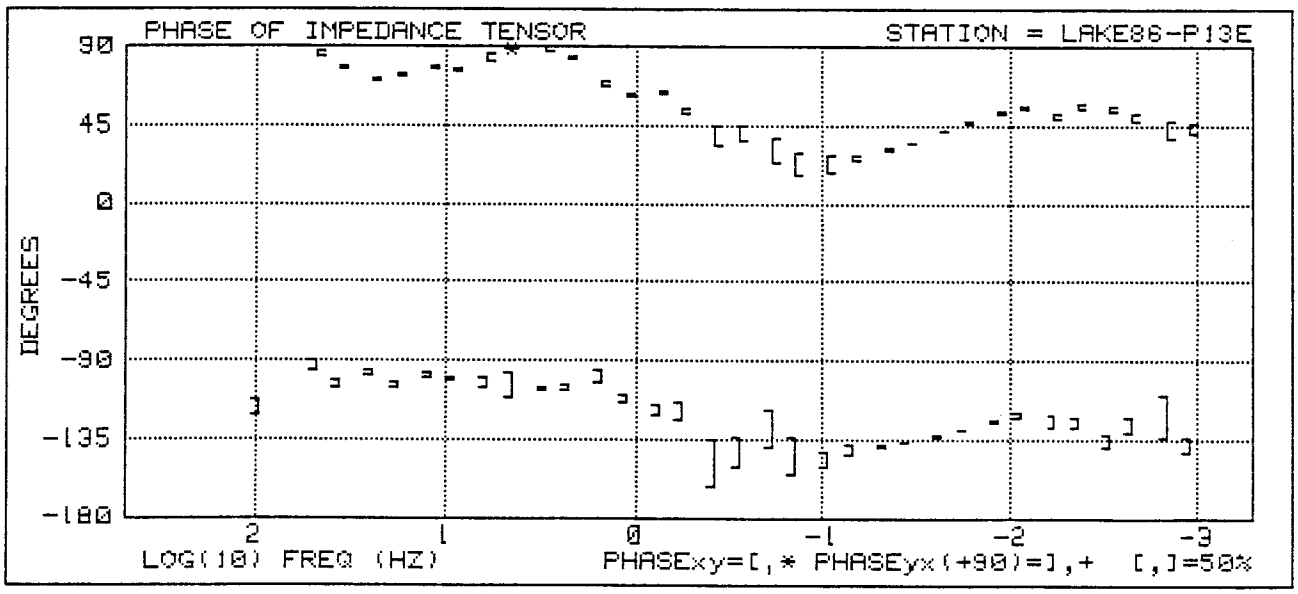
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

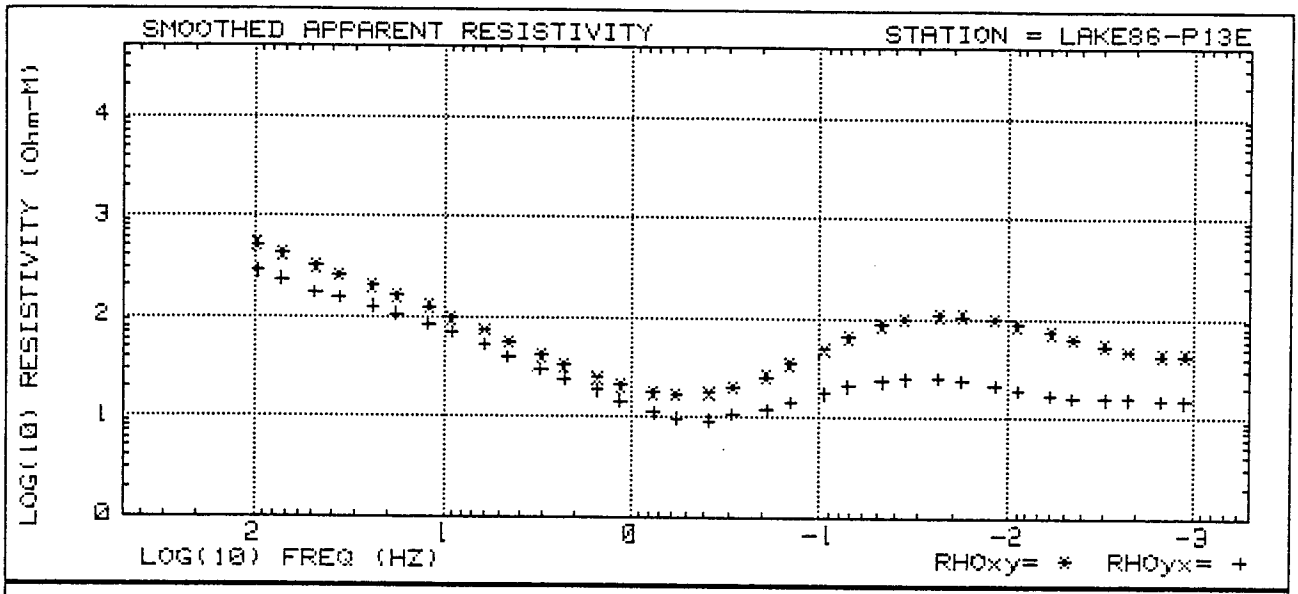
MT Site: LAKE86-P13E

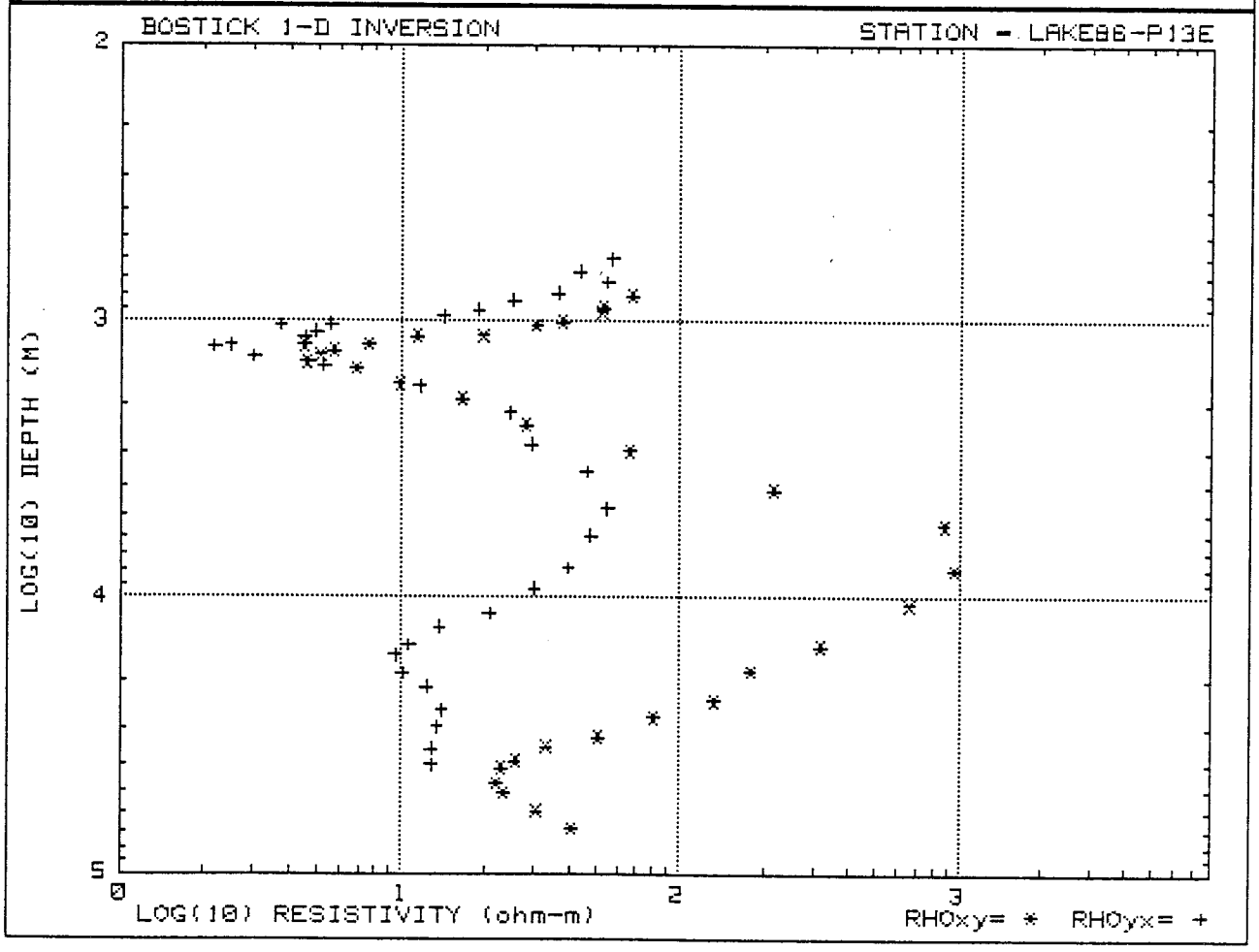




PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
5	96.00 Hz	446	548.2	21.1	273.7	24.8	95.5	5.5	-116.9	6.4
7	48.00 Hz	1322	305.7	8.2	179.4	14.6	85.6	2.3	-92.3	3.9
8	36.00 Hz	382	247.7	4.1	146.0	8.7	77.7	1.1	-103.1	2.4
9	24.00 Hz	3261	182.2	6.6	121.3	9.6	71.1	1.8	-97.1	2.6
10	18.00 Hz	2973	147.0	3.6	107.1	7.7	74.5	1.0	-103.2	2.1
11	12.00 Hz	1248	119.8	5.0	91.3	6.2	78.6	1.4	-98.1	1.7
12	9.00 Hz	2208	91.0	3.4	72.2	4.9	76.1	1.0	-100.0	1.4
13	6.00 Hz	2207	63.6	14.9	53.4	15.4	83.9	4.0	-102.4	4.1
14	4.50 Hz	2015	47.8	31.9	35.2	42.5	88.3	7.9	-104.2	10.2
15	3.00 Hz	8512	41.2	5.2	32.0	4.9	89.0	1.5	-105.8	1.4
16	2.25 Hz	14368	28.3	4.3	23.0	5.7	84.0	1.2	-105.4	1.6
17	1.50 Hz	15095	24.0	8.8	16.8	17.1	69.0	2.4	-98.8	4.5
18	1.13 Hz	7840	20.8	4.1	15.0	8.0	62.5	1.1	-111.6	2.2
19	1.33 Sec	2704	17.5	6.7	11.7	12.1	64.1	1.9	-118.1	3.3
20	1.78 Sec	2704	18.0	10.1	8.5	27.3	53.5	2.8	-118.7	6.9
21	2.67 Sec	516	24.9	32.3	9.1	99.9	39.6	8.0	-148.3	20.5
22	3.56 Sec	1896	19.8	24.4	8.8	55.6	40.5	6.3	-142.2	12.7
23	5.33 Sec	1579	26.7	47.7	13.1	74.1	30.6	11.2	-129.3	15.9
24	7.11 Sec	1172	35.6	39.5	15.5	75.7	23.0	9.5	-144.0	16.1
25	10.67 Sec	400	52.9	27.5	17.6	28.5	23.0	7.0	-146.2	7.2
26	14.22 Sec	390	75.3	7.9	22.4	16.7	26.3	2.2	-140.4	4.4
27	21.33 Sec	168	93.6	1.9	23.7	4.5	31.1	.6	-138.7	1.2
28	28.44 Sec	156	107.7	1.3	24.3	1.8	34.5	.4	-136.4	.5
29	42.67 Sec	270	109.7	1.5	25.1	2.3	42.0	.4	-132.7	.6
30	56.89 Sec	252	106.6	1.6	23.3	2.3	47.0	.5	-129.2	.7
31	85.33 Sec	147	95.8	2.4	20.6	3.2	53.0	.7	-124.5	.9
32	113.78 Sec	162	85.5	4.5	18.4	6.4	55.9	1.3	-121.3	1.8
33	170.67 Sec	84	63.9	10.4	21.4	19.2	50.6	2.8	-124.1	5.0
34	227.56 Sec	60	58.9	6.7	15.7	15.6	56.4	1.9	-125.1	4.1
35	341.33 Sec	39	51.9	10.8	13.2	20.4	55.0	2.9	-135.7	5.3
36	455.11 Sec	42	42.8	13.9	15.2	25.5	49.8	3.7	-126.4	6.5
37	682.67 Sec	18	41.0	30.4	15.5	87.8	42.7	7.6	-121.7	18.1
38	910.22 Sec	15	51.1	13.0	15.6	23.1	43.6	3.5	-138.0	5.9

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
5	96.00 Hz	446	509.5	276.0	68.0	820	57.5	603
7	48.00 Hz	1322	309.7	170.2	53.1	904	43.7	670
8	36.00 Hz	382	250.5	151.8	52.8	939	55.4	731
9	24.00 Hz	3261	197.2	123.3	38.1	1020	36.6	807
10	18.00 Hz	2973	156.7	104.2	30.7	1050	25.3	856
11	12.00 Hz	1248	123.7	80.8	19.8	1143	19.0	923
12	9.00 Hz	2208	94.9	67.9	11.4	1155	14.2	977
13	6.00 Hz	2207	71.8	51.4	7.6	1231	5.6	1041
14	4.50 Hz	2015	54.1	38.9	4.5	1243	3.7	1052
15	3.00 Hz	8512	39.9	29.0	5.7	1299	5.0	1107
16	2.25 Hz	14368	32.2	23.8	5.1	1347	4.6	1158
17	1.50 Hz	15095	24.2	18.1	4.6	1429	2.5	1237
18	1.13 Hz	7840	20.1	14.1	6.9	1505	2.2	1260
19	1.33 Sec	2704	17.2	10.9	9.8	1705	3.0	1357
20	1.78 Sec	2704	16.6	9.5	16.7	1936	5.3	1464
21	2.67 Sec	516	17.2	8.9	28.2	2413	11.6	1738
22	3.56 Sec	1896	19.7	10.4	66.6	2975	24.6	2166
23	5.33 Sec	1579	25.2	11.8	217.0	4122	29.3	2828
24	7.11 Sec	1172	34.0	14.0	879.1	5537	46.4	3549
25	10.67 Sec	400	47.8	17.2	962.6	8033	55.2	4818
26	14.22 Sec	390	63.8	20.1	662.7	10717	48.2	6021
27	21.33 Sec	168	84.6	22.8	317.9	15118	39.9	7857
28	28.44 Sec	156	95.3	24.3	180.1	18528	30.0	9356
29	42.67 Sec	270	104.7	24.6	134.5	23789	20.9	11526
30	56.89 Sec	252	103.9	23.0	81.3	27357	13.7	12864
31	85.33 Sec	147	96.3	20.7	51.6	32254	10.7	14941
32	113.78 Sec	162	84.2	18.4	33.3	34842	9.5	16295
33	170.67 Sec	84	71.3	16.6	25.7	39250	10.1	18915
34	227.56 Sec	60	60.8	15.6	22.9	41872	12.4	21203
35	341.33 Sec	39	52.0	15.3	22.2	47435	14.1	25709
36	455.11 Sec	42	46.0	15.2	23.4	51501	13.5	29556
37	682.67 Sec	18	41.5	14.7	30.8	59914	12.9	35658
38	910.22 Sec	15	41.5	14.5	41.4	69169	12.9	40842

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
5	96.00 Hz	446	-172.65	20.86	999.99	-49.61	510.57	999.99
7	48.00 Hz	1322	19.34	-22.61	882.68	20.96	270.06	229.20
8	36.00 Hz	382	-9.02	-6.81	77.79	44.94	206.32	35.40
9	24.00 Hz	3261	-3.86	10.28	117.95	47.82	139.92	44.55
10	18.00 Hz	2973	-8.06	4.84	31.23	30.66	110.86	8.22
11	12.00 Hz	1248	.47	-.66	15.72	16.78	83.11	8.72
12	9.00 Hz	2208	3.26	-1.42	5.77	15.34	62.13	2.26
13	6.00 Hz	2207	.05	3.42	45.83	4.62	43.42	18.43
14	4.50 Hz	2015	.06	1.04	113.85	.98	32.77	41.25
15	3.00 Hz	8512	1.91	.17	1.97	.45	24.87	.81
16	2.25 Hz	14368	-.16	1.08	.66	1.86	17.74	.28
17	1.50 Hz	15095	1.60	-.41	.36	4.82	12.53	.64
18	1.13 Hz	7840	.13	-.07	.21	5.00	9.59	.09
19	1.33 Sec	2704	-.541	.258	.235	3.544	7.293	.139
20	1.78 Sec	2704	.038	.512	.609	4.239	5.727	.234
21	2.67 Sec	516	-.012	.771	3.379	5.269	4.357	1.835
22	3.56 Sec	1896	-.443	1.030	1.360	4.012	3.426	.665
23	5.33 Sec	1579	.206	.519	2.526	4.302	2.549	1.900
24	7.11 Sec	1172	.377	.382	2.130	4.608	1.957	1.386
25	10.67 Sec	400	-.022	.257	.673	4.586	1.946	.732
26	14.22 Sec	390	-.018	-.076	.207	4.614	2.278	.077
27	21.33 Sec	168	.115	-.115	.010	4.009	2.423	.004
28	28.44 Sec	156	.031	-.105	.003	3.584	2.466	.002
29	42.67 Sec	270	.117	-.072	.002	2.664	2.399	.001
30	56.89 Sec	252	.079	-.050	.001	2.086	2.241	.001
31	85.33 Sec	147	.103	.018	.001	1.425	1.892	.002
32	113.78 Sec	162	.149	-.019	.003	1.088	1.604	.004
33	170.67 Sec	84	-.004	-.002	.018	.868	1.057	.009
34	227.56 Sec	60	-.014	.060	.004	.629	.948	.003
35	341.33 Sec	39	.039	.060	.005	.501	.714	.004
36	455.11 Sec	42	.005	.035	.007	.443	.524	.004
37	682.67 Sec	18	.023	-.067	.032	.403	.372	.011
38	910.22 Sec	15	-.025	.010	.002	.384	.365	.002

PHOENIX GEOPHYSICS

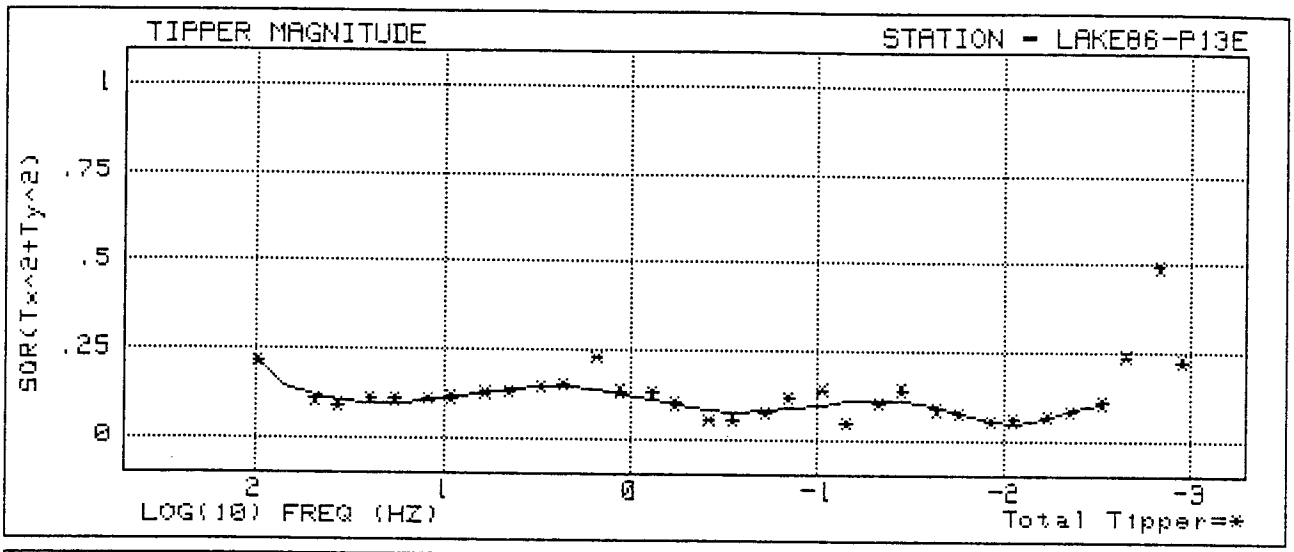
MT Site: LAKE86-P13E

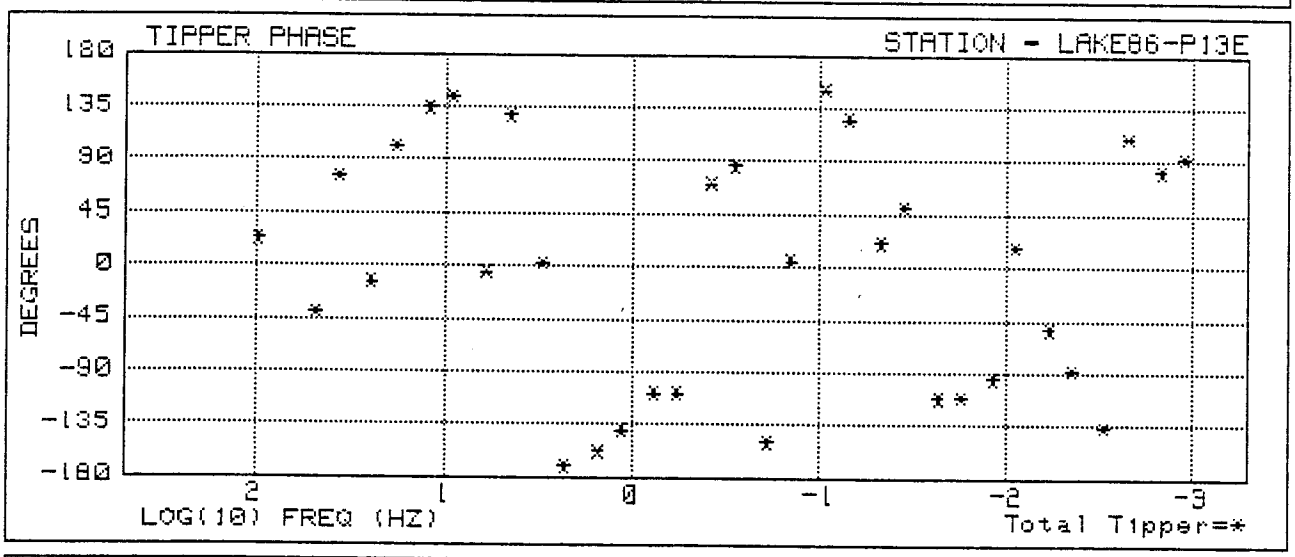
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

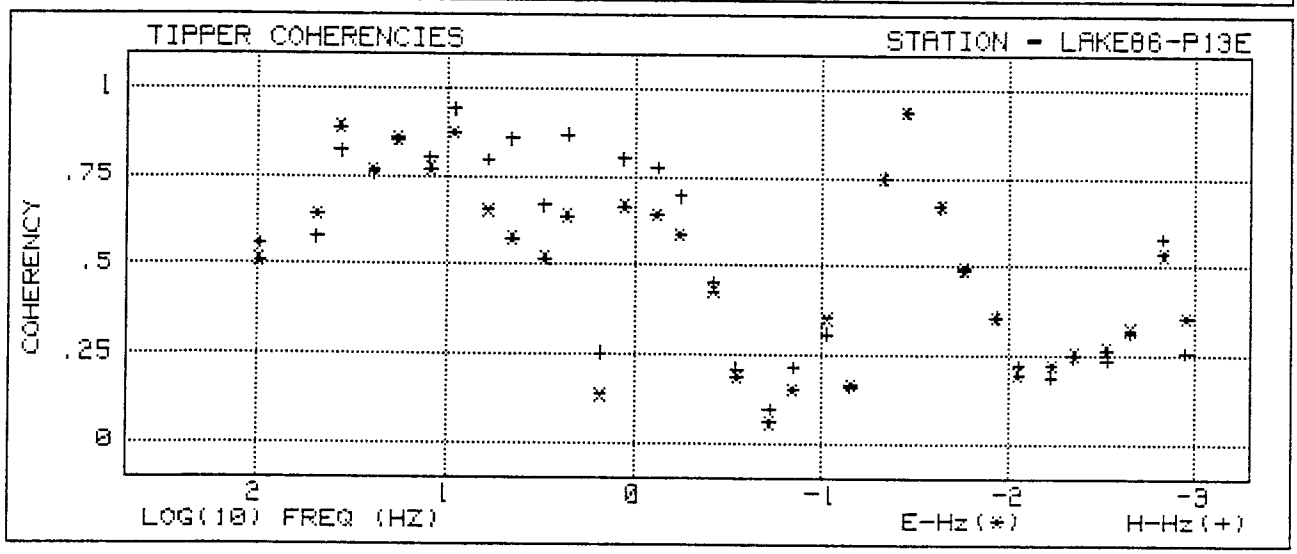
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
5	96.00 Hz	446	-163.79	-323.37	999.99	-125.31	74.82	999.99
7	48.00 Hz	1322	-8.49	-207.35	400.67	-14.15	-15.95	104.04
8	36.00 Hz	382	-36.87	-157.87	91.66	-3.05	-7.80	41.71
9	24.00 Hz	3261	-14.95	-119.72	61.34	2.57	-.19	23.17
10	18.00 Hz	2973	-22.43	-95.57	26.27	1.15	-.12	6.91
11	12.00 Hz	1248	-10.38	-73.27	9.99	-2.38	1.19	5.54
12	9.00 Hz	2208	-9.95	-56.13	3.65	.96	.65	1.43
13	6.00 Hz	2207	-8.59	-39.11	16.40	-3.02	.60	6.59
14	4.50 Hz	2015	-6.93	-27.28	49.77	-1.09	-.21	18.03
15	3.00 Hz	8512	-5.95	-21.10	.56	.72	-1.56	.23
16	2.25 Hz	14368	-4.27	-15.52	.40	-.98	.20	.17
17	1.50 Hz	15095	-1.72	-11.11	1.58	1.28	.30	2.78
18	1.13 Hz	7840	-3.38	-8.53	.25	.15	-.10	.11
19	1.33 Sec	2704	-3.112	-5.839	.286	.109	.065	.169
20	1.78 Sec	2704	-2.350	-4.288	.695	.500	-.095	.267
21	2.67 Sec	516	-3.517	-2.171	4.374	.505	.356	2.376
22	3.56 Sec	1896	-2.783	-2.159	1.214	.531	.086	.594
23	5.33 Sec	1579	-2.224	-2.715	1.892	.131	-.427	1.423
24	7.11 Sec	1172	-2.670	-1.939	1.729	.382	-.131	1.125
25	10.67 Sec	400	-2.388	-1.598	.259	.041	-.142	.282
26	14.22 Sec	390	-2.161	-1.788	.094	-.005	-.142	.035
27	21.33 Sec	168	-1.772	-1.556	.005	.098	-.073	.002
28	28.44 Sec	156	-1.499	-1.426	.001	.012	-.066	.000
29	42.67 Sec	270	-1.162	-1.259	.001	.066	-.005	.001
30	56.89 Sec	252	-.903	-1.109	.001	.071	-.042	.000
31	85.33 Sec	147	-.622	-.905	.001	.080	.036	.001
32	113.78 Sec	162	-.467	-.770	.002	.078	.033	.002
33	170.67 Sec	84	-.445	-.656	.010	.046	-.054	.005
34	227.56 Sec	60	-.337	-.480	.004	.020	.039	.002
35	341.33 Sec	39	-.315	-.307	.003	.085	.039	.003
36	455.11 Sec	42	-.242	-.329	.004	.038	.001	.002
37	682.67 Sec	18	-.177	-.287	.023	.007	-.027	.007
38	910.22 Sec	15	-.218	-.196	.002	-.025	.010	.002

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E







PHOENIX GEOPHYSICS

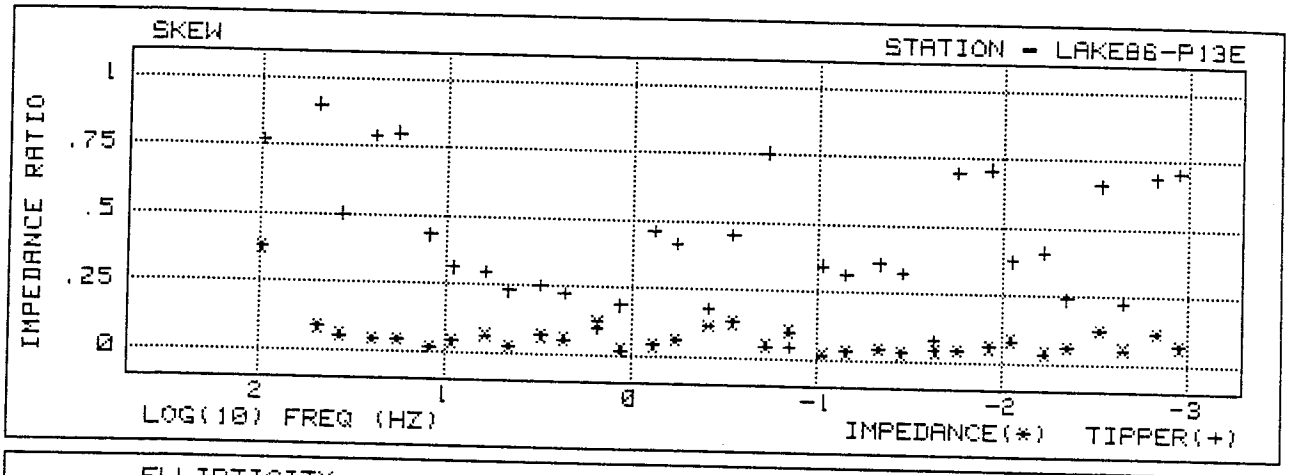
MT Site: LAKE86-P13E

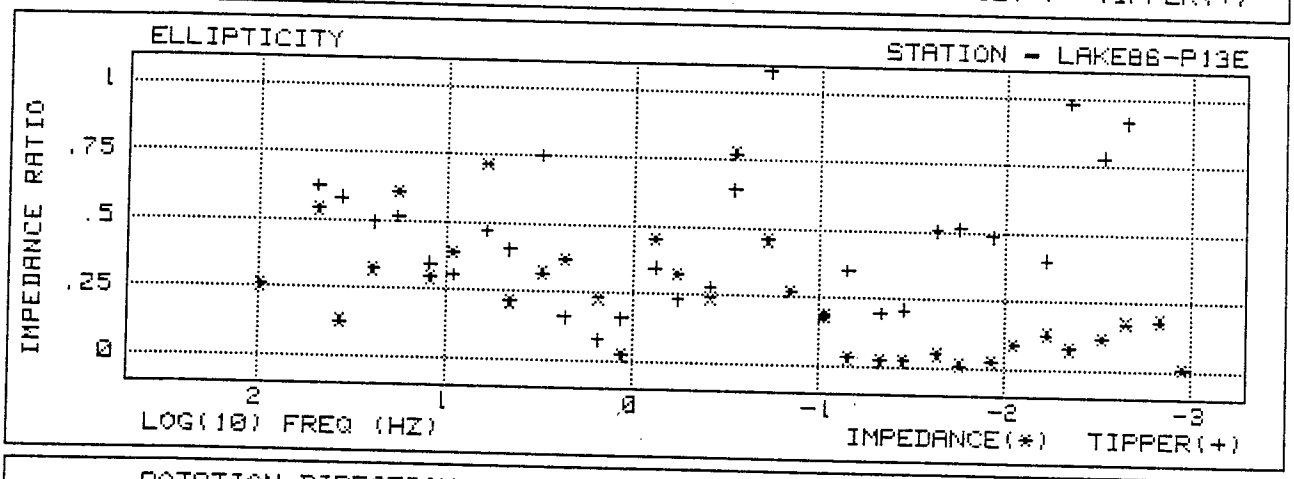
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

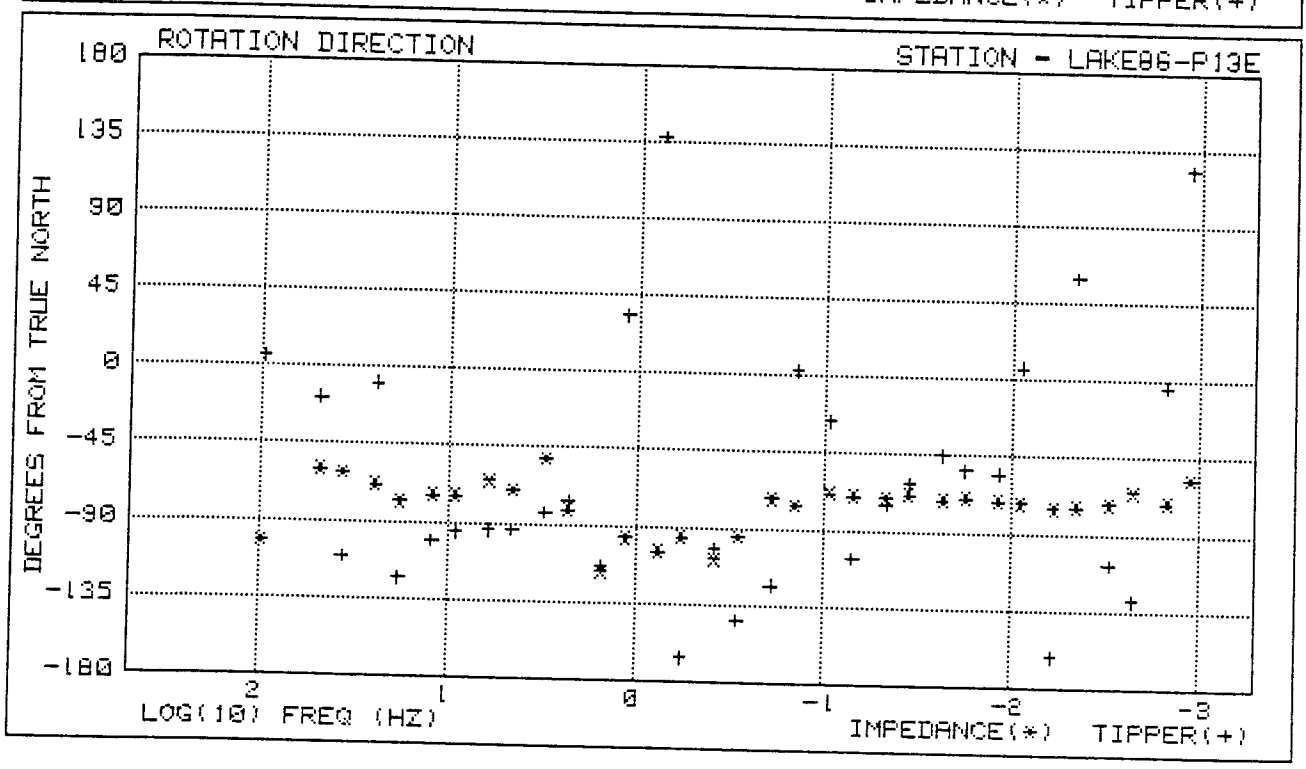
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
5	96.00 Hz	446	.21	22.19	.51	.56
7	48.00 Hz	1322	.10	-40.33	.64	.57
8	36.00 Hz	382	.09	75.06	.89	.82
9	24.00 Hz	3261	.11	-14.79	.76	.76
10	18.00 Hz	2973	.10	100.44	.85	.85
11	12.00 Hz	1248	.11	133.36	.77	.80
12	9.00 Hz	2208	.11	142.39	.87	.94
13	6.00 Hz	2207	.12	-5.99	.65	.79
14	4.50 Hz	2015	.13	126.99	.57	.85
15	3.00 Hz	8512	.14	1.35	.51	.67
16	2.25 Hz	14368	.15	-171.24	.63	.87
17	1.50 Hz	15095	.22	-158.99	.13	.25
18	1.13 Hz	7840	.13	-140.46	.66	.80
19	1.33 Sec	2704	.12	-109.20	.64	.77
20	1.78 Sec	2704	.10	-108.89	.58	.69
21	2.67 Sec	516	.05	69.73	.42	.45
22	3.56 Sec	1896	.05	85.38	.18	.21
23	5.33 Sec	1579	.07	-150.63	.05	.09
24	7.11 Sec	1172	.11	4.67	.15	.21
25	10.67 Sec	400	.14	149.32	.35	.30
26	14.22 Sec	390	.04	124.03	.16	.16
27	21.33 Sec	168	.10	20.09	.74	.75
28	28.44 Sec	156	.14	50.06	.93	.93
29	42.67 Sec	270	.08	-112.55	.67	.67
30	56.89 Sec	252	.07	-111.90	.49	.49
31	85.33 Sec	147	.05	-95.43	.35	.35
32	113.78 Sec	162	.05	16.10	.19	.22
33	170.67 Sec	84	.06	-53.51	.22	.19
34	227.56 Sec	60	.08	-88.43	.25	.24
35	341.33 Sec	39	.10	-137.48	.26	.23
36	455.11 Sec	42	.23	109.18	.32	.31
37	682.67 Sec	18	.49	80.97	.53	.58
38	910.22 Sec	15	.22	92.43	.35	.25

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E







PHOENIX GEOPHYSICS

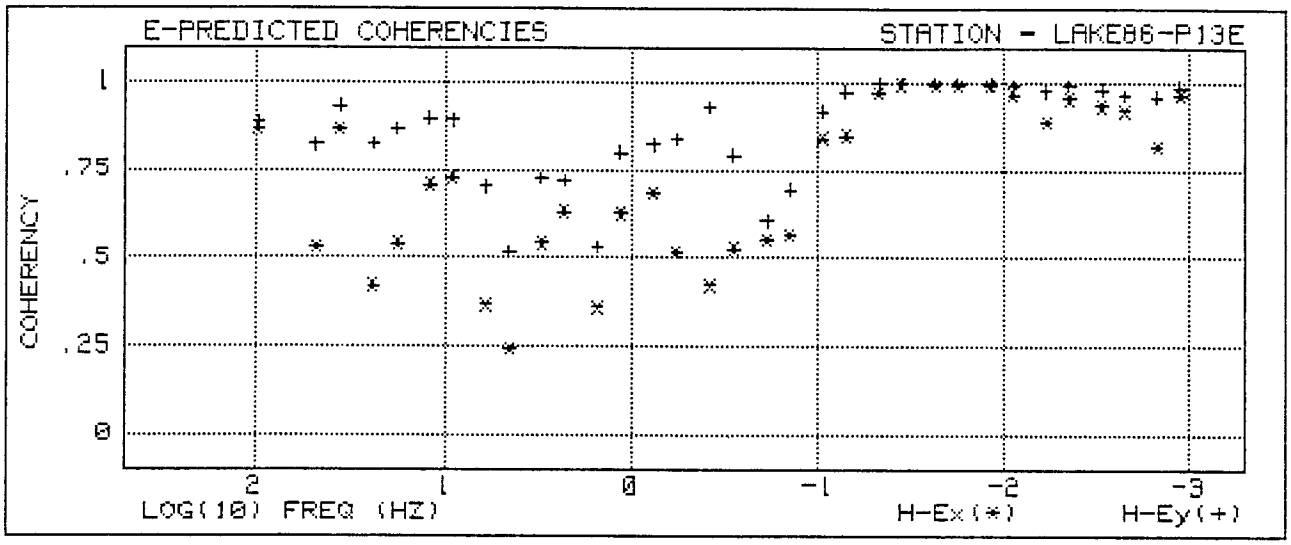
MT Site: LAKE86-P13E

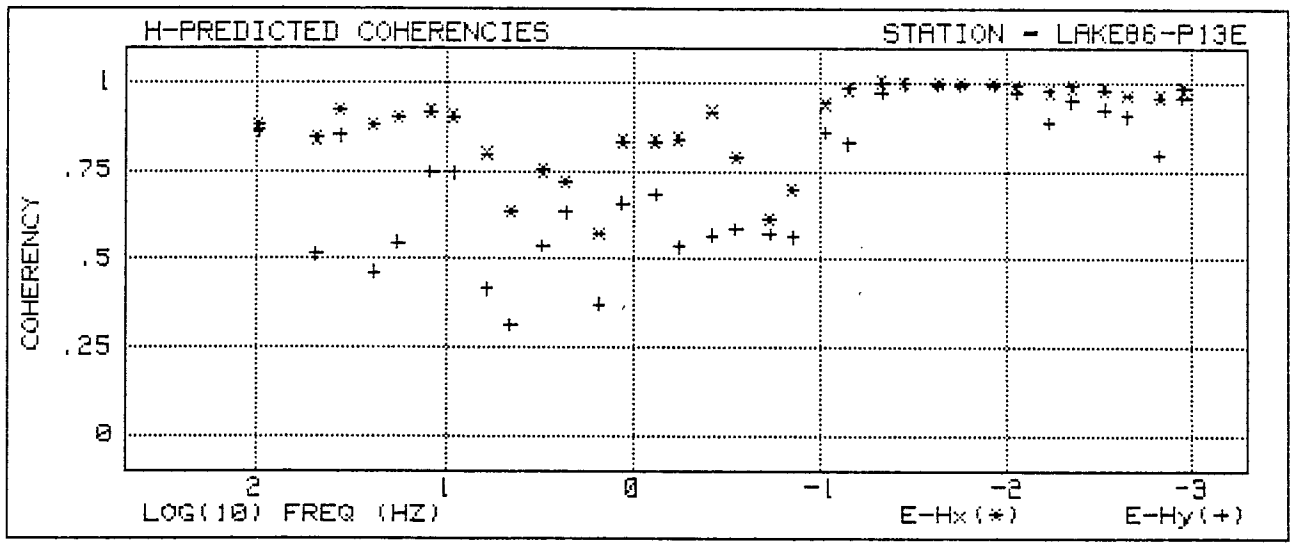
SKEW, ELLIPTICITY AND STRIKE

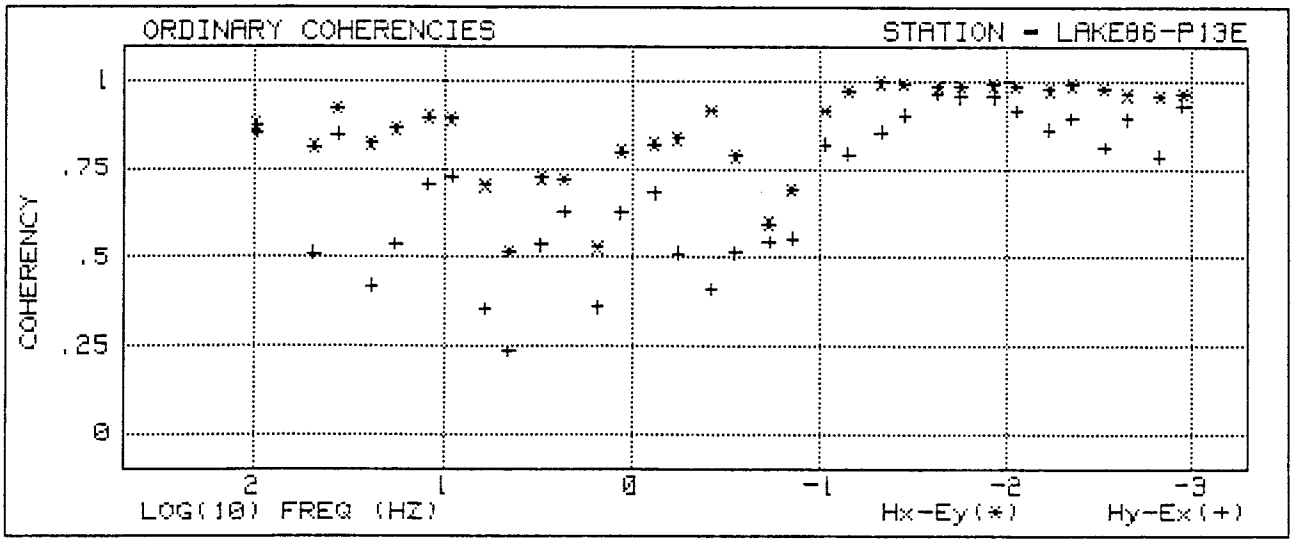
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
5	96.00 Hz	446	.37	.25	-103.04	.77	2.04	5.18
7	48.00 Hz	1322	.08	.53	-60.51	.90	.62	-18.31
8	36.00 Hz	382	.05	.12	-62.51	.50	.58	-111.38
9	24.00 Hz	3261	.04	.32	-69.01	.78	.49	-9.71
10	18.00 Hz	2973	.04	.60	-78.86	.79	.51	-123.60
11	12.00 Hz	1248	.01	.29	-74.81	.43	.34	-101.44
12	9.00 Hz	2208	.04	.38	-74.87	.31	.30	-96.19
13	6.00 Hz	2207	.06	.71	-65.77	.29	.47	-94.78
14	4.50 Hz	2015	.02	.21	-70.89	.23	.40	-94.21
15	3.00 Hz	8512	.06	.31	-52.03	.25	.75	-83.85
16	2.25 Hz	14368	.05	.37	-82.20	.22	.15	-76.66
17	1.50 Hz	15095	.12	.23	-117.94	.09	.07	-114.76
18	1.13 Hz	7840	.02	.02	-97.39	.18	.15	32.66
19	1.33 Sec	2704	.04	.45	-105.20	.46	.34	137.04
20	1.78 Sec	2704	.06	.32	-96.42	.41	.23	-166.86
21	2.67 Sec	516	.11	.24	-109.18	.18	.28	-103.04
22	3.56 Sec	1896	.13	.77	-95.42	.45	.63	-144.72
23	5.33 Sec	1579	.04	.46	-73.07	.75	1.07	-124.03
24	7.11 Sec	1172	.10	.26	-76.86	.04	3.36	2.07
25	10.67 Sec	400	.01	.18	-69.05	.34	.18	-26.58
26	14.22 Sec	390	.03	.03	-70.48	.31	.35	-107.38
27	21.33 Sec	168	.04	.02	-71.24	.35	.19	-74.64
28	28.44 Sec	156	.03	.02	-69.23	.32	.21	-62.28
29	42.67 Sec	270	.04	.04	-71.78	.07	.50	-45.31
30	56.89 Sec	252	.04	.01	-70.43	.69	.51	-54.12
31	85.33 Sec	147	.06	.02	-72.01	.71	.48	-55.98
32	113.78 Sec	162	.08	.08	-72.96	.37	2.49	6.10
33	170.67 Sec	84	.03	.12	-75.71	.40	.40	-162.41
34	227.56 Sec	60	.06	.07	-74.70	.24	.97	59.37
35	341.33 Sec	39	.12	.11	-72.78	.65	.78	-108.63
36	455.11 Sec	42	.05	.17	-65.70	.22	.91	-129.09
37	682.67 Sec	18	.11	.18	-71.87	.68	1.76	-4.08
38	910.22 Sec	15	.07	.00	-57.93	.70	2.21	122.32

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E







PHOENIX GEOPHYSICS

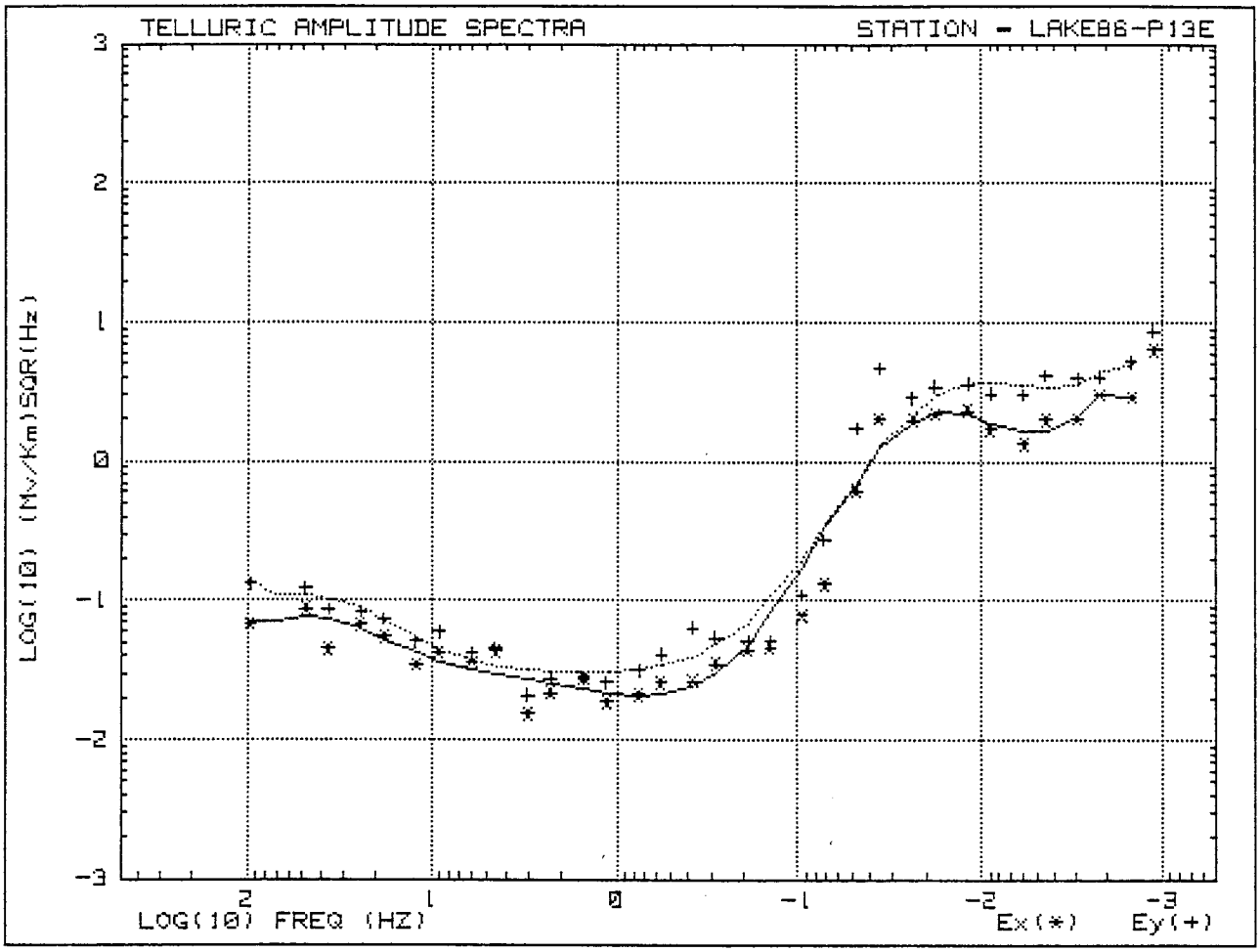
MT Site: LAKE86-P13E

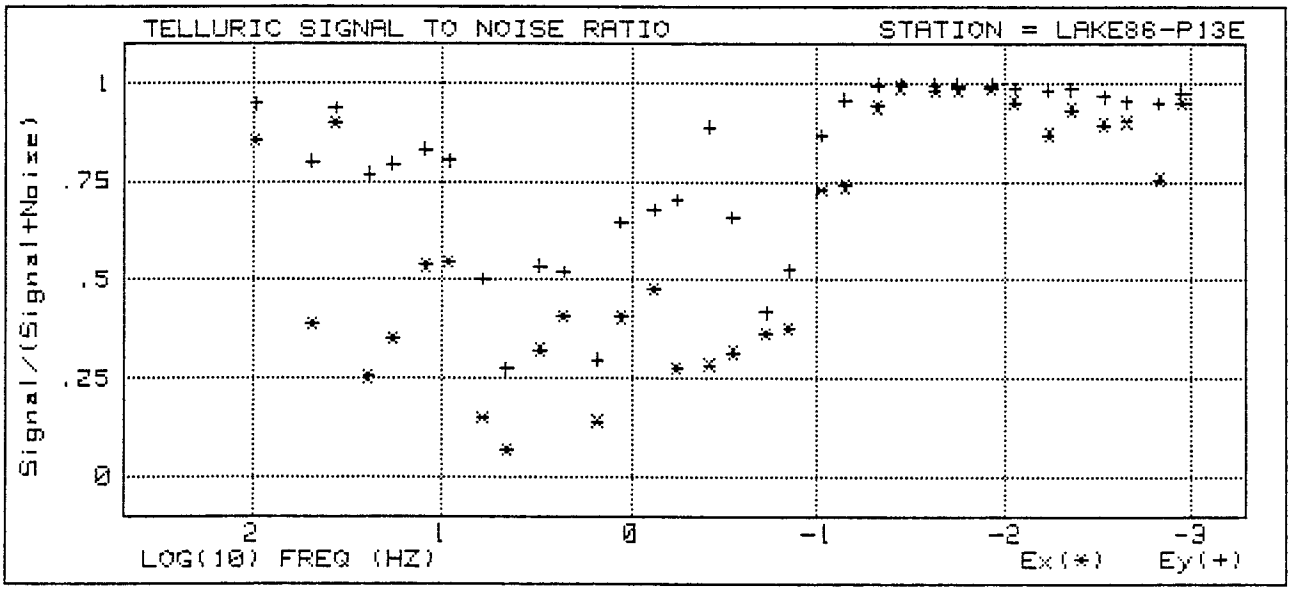
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
5	96.00 Hz	446	.87	.88	.88	.86	.87	.85
7	48.00 Hz	1322	.53	.82	.84	.51	.81	.51
8	36.00 Hz	382	.86	.93	.92	.85	.92	.84
9	24.00 Hz	3261	.42	.82	.88	.46	.82	.42
10	18.00 Hz	2973	.54	.86	.90	.54	.86	.53
11	12.00 Hz	1248	.70	.89	.92	.74	.89	.70
12	9.00 Hz	2208	.73	.89	.90	.74	.89	.72
13	6.00 Hz	2207	.36	.70	.80	.41	.70	.35
14	4.50 Hz	2015	.24	.51	.63	.31	.51	.23
15	3.00 Hz	8512	.54	.72	.75	.53	.72	.53
16	2.25 Hz	14368	.63	.72	.72	.63	.72	.62
17	1.50 Hz	15095	.36	.53	.57	.37	.52	.36
18	1.13 Hz	7840	.62	.79	.83	.66	.79	.62
19	1.33 Sec	2704	.68	.82	.83	.68	.82	.68
20	1.78 Sec	2704	.51	.83	.84	.53	.83	.51
21	2.67 Sec	516	.42	.93	.92	.56	.91	.41
22	3.56 Sec	1896	.52	.79	.79	.58	.78	.51
23	5.33 Sec	1579	.55	.60	.61	.57	.59	.54
24	7.11 Sec	1172	.56	.69	.70	.56	.69	.55
25	10.67 Sec	400	.84	.92	.94	.86	.91	.82
26	14.22 Sec	390	.84	.97	.98	.83	.97	.79
27	21.33 Sec	168	.97	1.00	1.00	.97	.99	.85
28	28.44 Sec	156	.99	1.00	1.00	.99	.99	.90
29	42.67 Sec	270	.99	1.00	1.00	.99	.98	.96
30	56.89 Sec	252	.99	1.00	1.00	.99	.98	.95
31	85.33 Sec	147	.99	1.00	1.00	.99	.99	.95
32	113.78 Sec	162	.96	.99	.99	.97	.98	.91
33	170.67 Sec	84	.88	.97	.97	.88	.97	.86
34	227.56 Sec	60	.95	.99	.99	.94	.99	.89
35	341.33 Sec	39	.93	.98	.98	.92	.98	.81
36	455.11 Sec	42	.92	.96	.96	.90	.96	.89
37	682.67 Sec	18	.81	.96	.96	.79	.95	.78
38	910.22 Sec	15	.96	.98	.98	.95	.96	.93

PHOENIX GEOPHYSICS

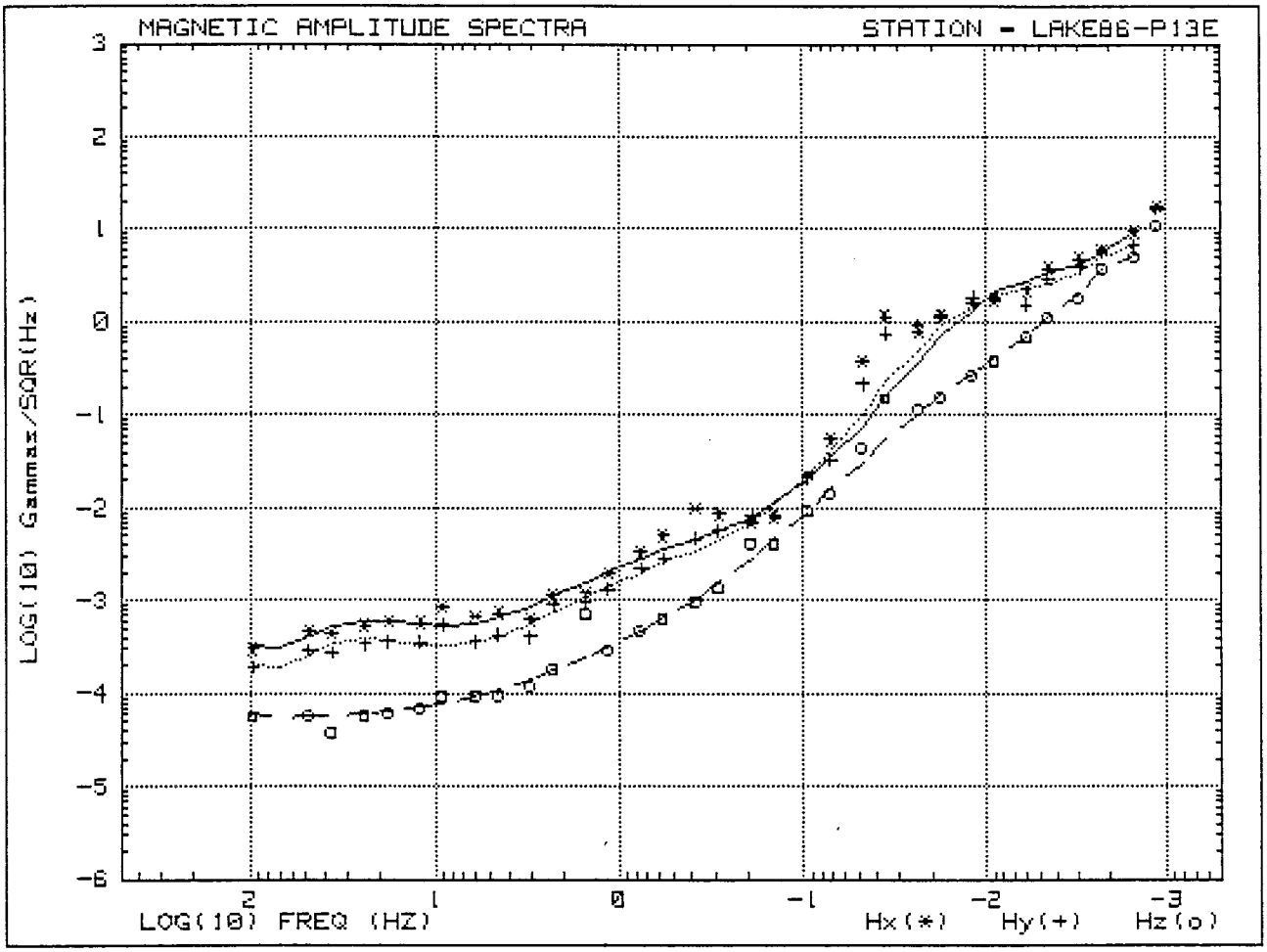
MT Site: LAKE86-P13E

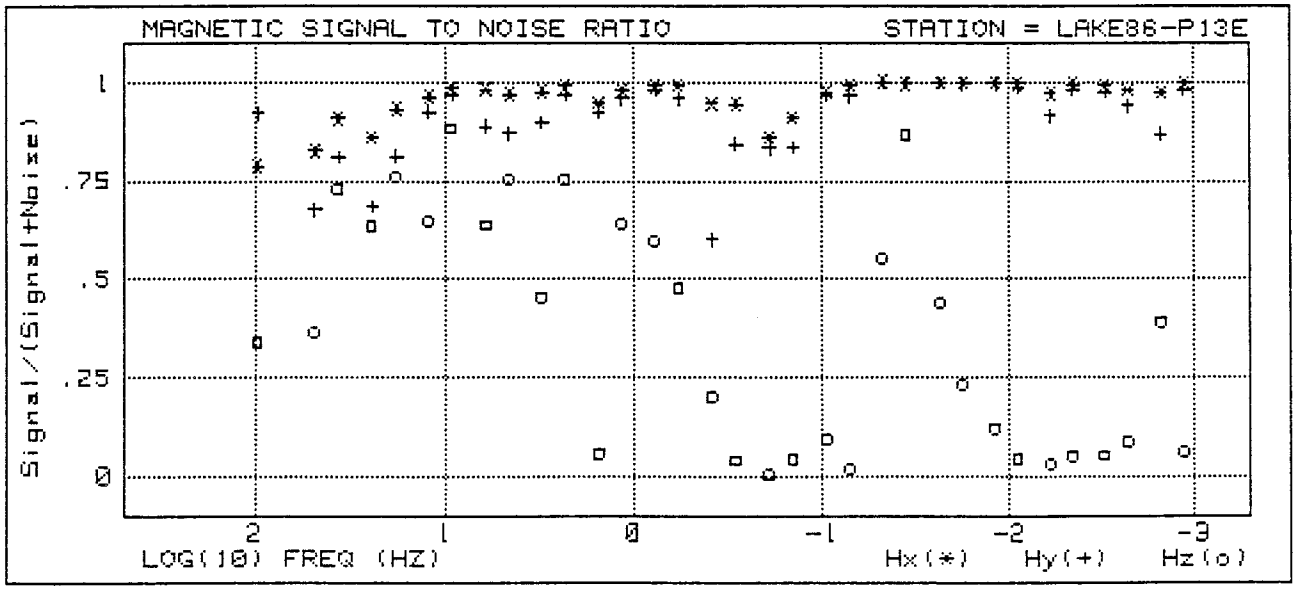




PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	446	2.94E-04	1.87E-04	5.87E-05	6.73E-02	1.30E-01
7	48.00 Hz	1322	4.57E-04	2.83E-04	5.98E-05	8.60E-02	1.22E-01
8	36.00 Hz	382	4.29E-04	2.66E-04	4.04E-05	4.41E-02	8.55E-02
9	24.00 Hz	3261	5.25E-04	3.31E-04	5.95E-05	6.65E-02	8.19E-02
10	18.00 Hz	2973	5.82E-04	3.57E-04	6.33E-05	5.41E-02	7.30E-02
11	12.00 Hz	1248	5.58E-04	3.50E-04	7.15E-05	3.41E-02	5.01E-02
12	9.00 Hz	2208	8.35E-04	5.38E-04	9.82E-05	4.13E-02	5.83E-02
13	6.00 Hz	2207	6.59E-04	3.53E-04	9.99E-05	3.55E-02	4.07E-02
14	4.50 Hz	2015	7.17E-04	4.18E-04	1.00E-04	4.27E-02	4.45E-02
15	3.00 Hz	8512	6.07E-04	4.03E-04	1.24E-04	1.52E-02	2.05E-02
16	2.25 Hz	14368	1.10E-03	8.60E-04	1.85E-04	2.13E-02	2.68E-02
17	1.50 Hz	15095	1.18E-03	9.40E-04	7.32E-04	2.73E-02	2.73E-02
18	1.13 Hz	7840	1.91E-03	1.30E-03	3.05E-04	1.84E-02	2.54E-02
19	1.33 Sec	2704	3.23E-03	2.17E-03	4.98E-04	2.07E-02	3.12E-02
20	1.78 Sec	2704	4.95E-03	2.74E-03	6.69E-04	2.54E-02	4.06E-02
21	2.67 Sec	516	9.73E-03	4.58E-03	1.04E-03	2.62E-02	6.29E-02
22	3.56 Sec	1896	8.46E-03	5.50E-03	1.41E-03	3.43E-02	5.31E-02
23	5.33 Sec	1579	6.83E-03	8.29E-03	4.34E-03	4.38E-02	5.05E-02
24	7.11 Sec	1172	7.84E-03	8.11E-03	4.28E-03	4.55E-02	5.04E-02
25	10.67 Sec	400	2.26E-02	2.06E-02	9.59E-03	7.76E-02	1.08E-01
26	14.22 Sec	390	5.35E-02	3.30E-02	1.50E-02	1.31E-01	2.71E-01
27	21.33 Sec	168	3.78E-01	2.12E-01	4.67E-02	6.07E-01	1.69E+00
28	28.44 Sec	156	1.12E+00	7.40E-01	1.59E-01	2.00E+00	4.63E+00
29	42.67 Sec	270	7.70E-01	9.11E-01	1.22E-01	1.93E+00	2.81E+00
30	56.89 Sec	252	1.11E+00	1.17E+00	1.63E-01	2.15E+00	3.40E+00
31	85.33 Sec	147	1.58E+00	1.81E+00	2.76E-01	2.27E+00	3.55E+00
32	113.78 Sec	162	1.71E+00	1.77E+00	4.11E-01	1.68E+00	3.02E+00
33	170.67 Sec	84	2.23E+00	1.50E+00	7.13E-01	1.33E+00	2.96E+00
34	227.56 Sec	60	3.70E+00	2.91E+00	1.19E+00	1.97E+00	4.08E+00
35	341.33 Sec	39	4.69E+00	3.75E+00	1.87E+00	2.00E+00	3.94E+00
36	455.11 Sec	42	5.91E+00	5.63E+00	3.94E+00	2.97E+00	3.99E+00
37	682.67 Sec	18	9.22E+00	6.47E+00	5.31E+00	2.87E+00	5.15E+00
38	910.22 Sec	15	1.73E+01	1.61E+01	1.17E+01	6.28E+00	8.46E+00

PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
5	96.00 Hz	446	.786	.921	.345	.854	.944
7	48.00 Hz	1322	.825	.675	.371	.386	.797
8	36.00 Hz	382	.907	.809	.736	.897	.935
9	24.00 Hz	3261	.860	.683	.638	.254	.767
10	18.00 Hz	2973	.931	.811	.768	.349	.792
11	12.00 Hz	1248	.963	.924	.654	.537	.830
12	9.00 Hz	2208	.985	.967	.889	.545	.801
13	6.00 Hz	2207	.981	.886	.644	.148	.500
14	4.50 Hz	2015	.967	.869	.760	.066	.271
15	3.00 Hz	8512	.974	.898	.460	.319	.535
16	2.25 Hz	14368	.990	.967	.762	.406	.519
17	1.50 Hz	15095	.947	.925	.063	.137	.295
18	1.13 Hz	7840	.979	.959	.647	.404	.644
19	1.33 Sec	2704	.990	.978	.603	.474	.677
20	1.78 Sec	2704	.991	.958	.482	.274	.702
21	2.67 Sec	516	.946	.598	.206	.283	.886
22	3.56 Sec	1896	.943	.843	.045	.314	.659
23	5.33 Sec	1579	.858	.832	.008	.362	.417
24	7.11 Sec	1172	.909	.833	.047	.375	.523
25	10.67 Sec	400	.974	.966	.099	.728	.866
26	14.22 Sec	390	.991	.964	.023	.738	.955
27	21.33 Sec	168	1.000	.997	.557	.938	.994
28	28.44 Sec	156	.996	.999	.873	.989	.998
29	42.67 Sec	270	.999	.999	.445	.979	.993
30	56.89 Sec	252	.998	.996	.238	.983	.993
31	85.33 Sec	147	.997	.995	.126	.986	.994
32	113.78 Sec	162	.995	.986	.046	.949	.984
33	170.67 Sec	84	.970	.914	.035	.867	.979
34	227.56 Sec	60	.994	.980	.057	.930	.984
35	341.33 Sec	39	.991	.973	.058	.893	.965
36	455.11 Sec	42	.978	.939	.090	.901	.951
37	682.67 Sec	18	.973	.867	.397	.755	.948
38	910.22 Sec	15	.999	.978	.067	.947	.975

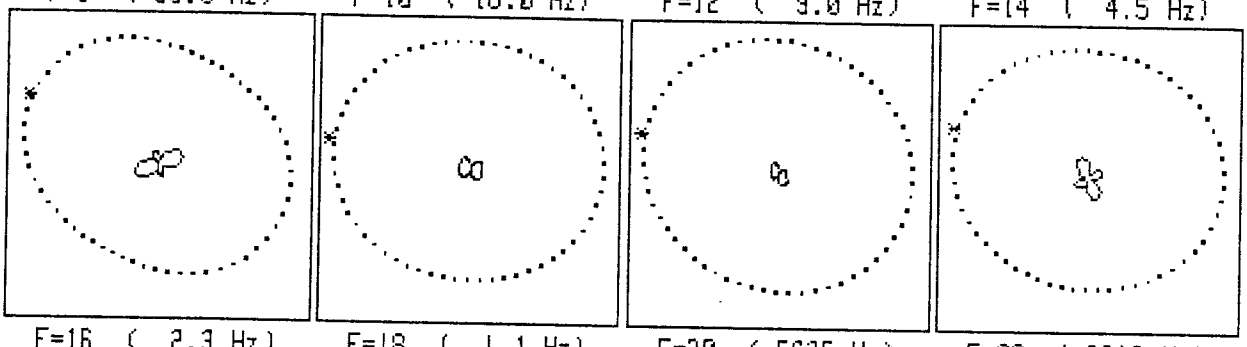
PHOENIX GEOPHYSICS

MT Site: LAKE86-P13E

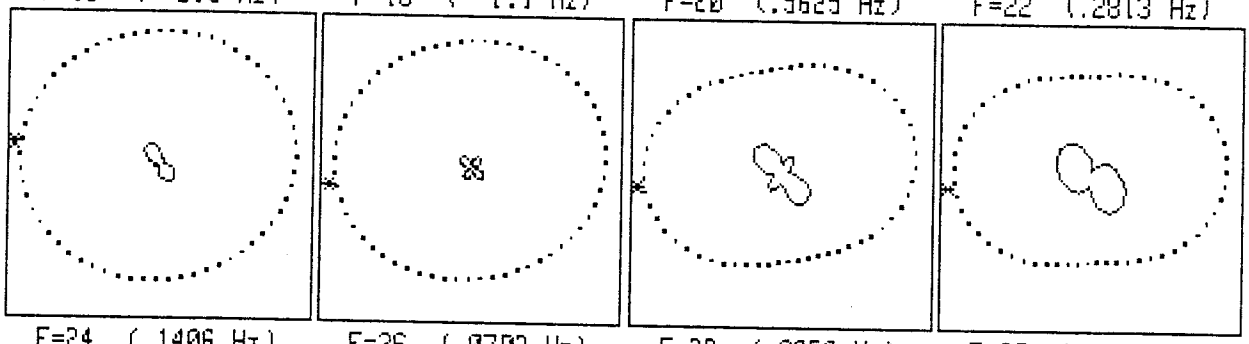
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ___

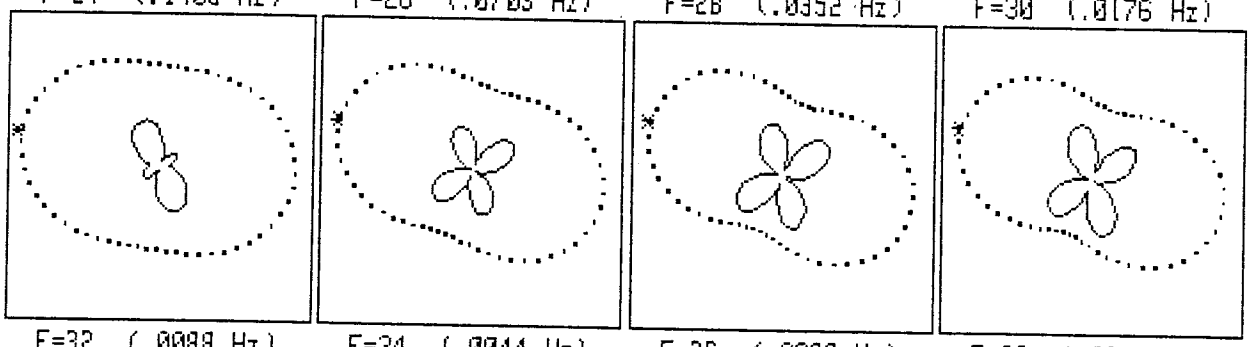
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



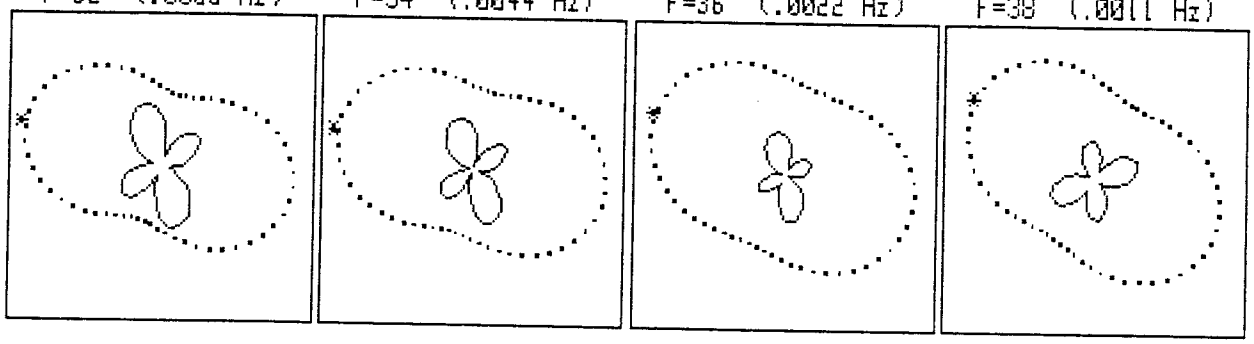
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P14s/P16a/

Operator:D. OJALA
Date: 14 Oct 1986
Time: 11:30:04

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#221-30Aug86-05
SP--Stn02: B#507-30Aug86-05
Sens-Ch01: C#201-04Sep86-01
Sens-Ch02: C#436-04Sep86-01
Sens-Ch03: L#419-05Sep86-01
Sens-Ch06: C#306-04Sep86-01
Sens-Ch07: C#452-04Sep86-01
Sens-Ch08: L#416-05Sep86-01

Station 1

Stn Number:LAKE86-P14s
Site Desc:T43N R3E Sec. 25 NW1/4
41,32,24 N 121,34,04 W
Elevation:6480 FT
Reference:LAKE86-P16s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P. MURPHY
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	1	COIL201	+0 DEG
Hy	2	COIL436	+90 DEG
Hz	3	LOOP419	
Ex	4	200 M	+0 DEG
Ey	5	200 M	+90 DEG
Rx	6	COIL306	+45 DEG
Ry	7	COIL452	+135 DEG

Ex Pot Resist: 6.5 K Ohms
Ex Voltage: AC=29.2 mv, DC=56.5 mv
Ey Pot Resist: 6.0 K Ohms
Ey Voltage: AC=13.9 mv, DC=20.9 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

OPERATOR LOG FOR MT SITES LAKE86-P14s/P16s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P05a/P11a/P14a/

Run STARTED:	17:22:06	13 Oct 1986
Run QUIT:	04:07:25	14 Oct 1986

Run Start and Stop Time for LAKE86-P14b/P16b/

Run STARTED:	11:30:04	14 Oct 1986
Run QUIT:	04:49:05	15 Oct 1986

Operator:D. OJALA

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST OF SITES.
Weather Conditions:
CLEAR AND WARM DURING THE DAY, CLEAR AND COOL AT NIGHT.
WINDS CALM.
Other Factors:
ANOTHER NIGHT WITH SOME FAIRLY GOOD SIGNAL.

PHOENIX GEOPHYSICS

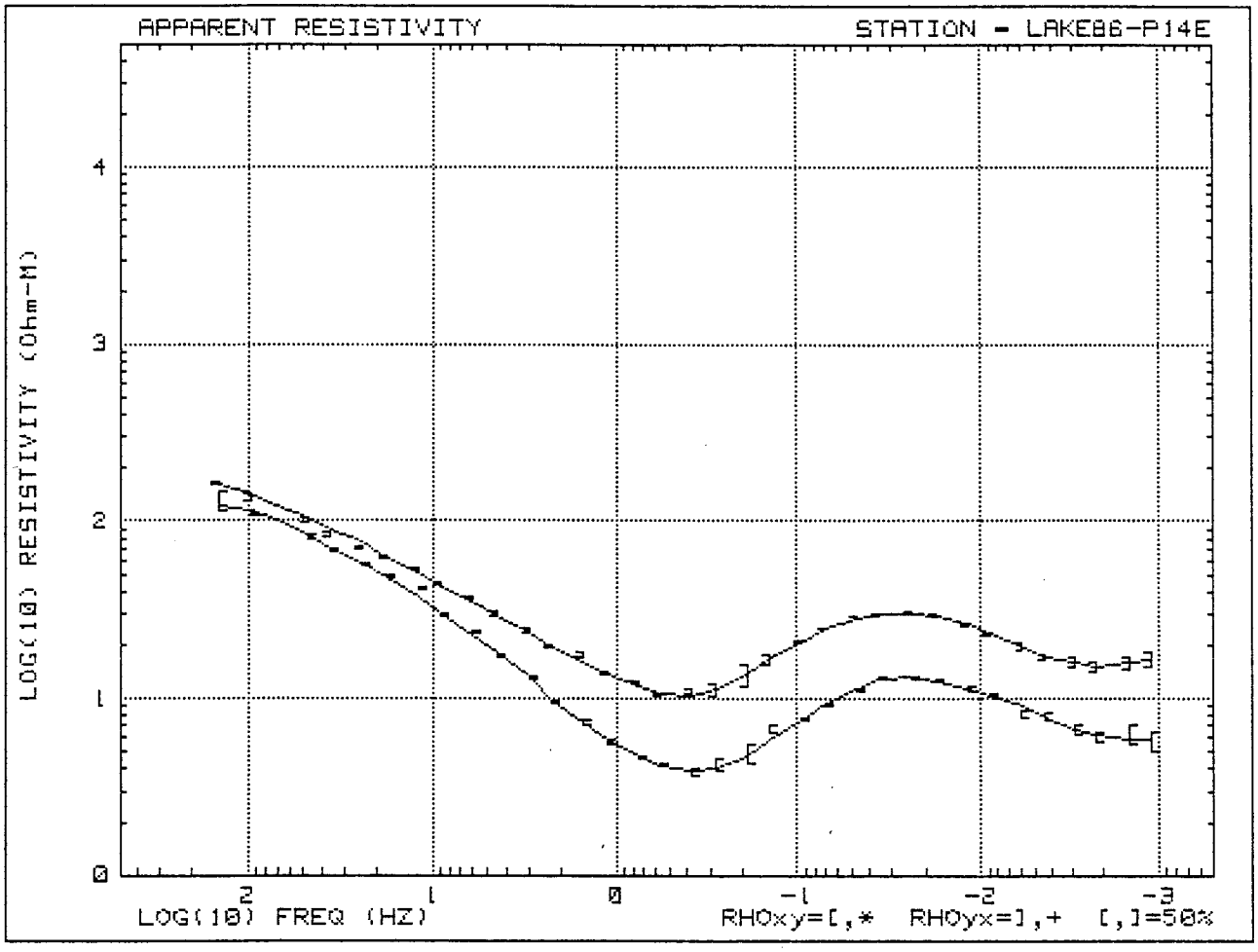
MT Site: LAKE86-P14E

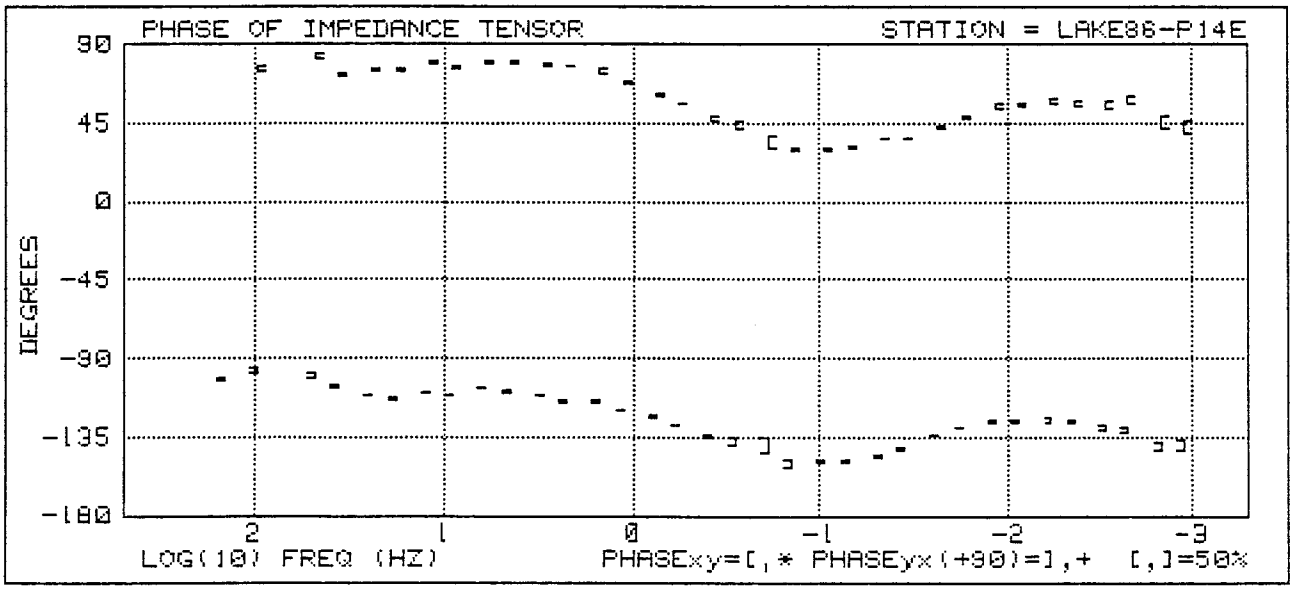
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

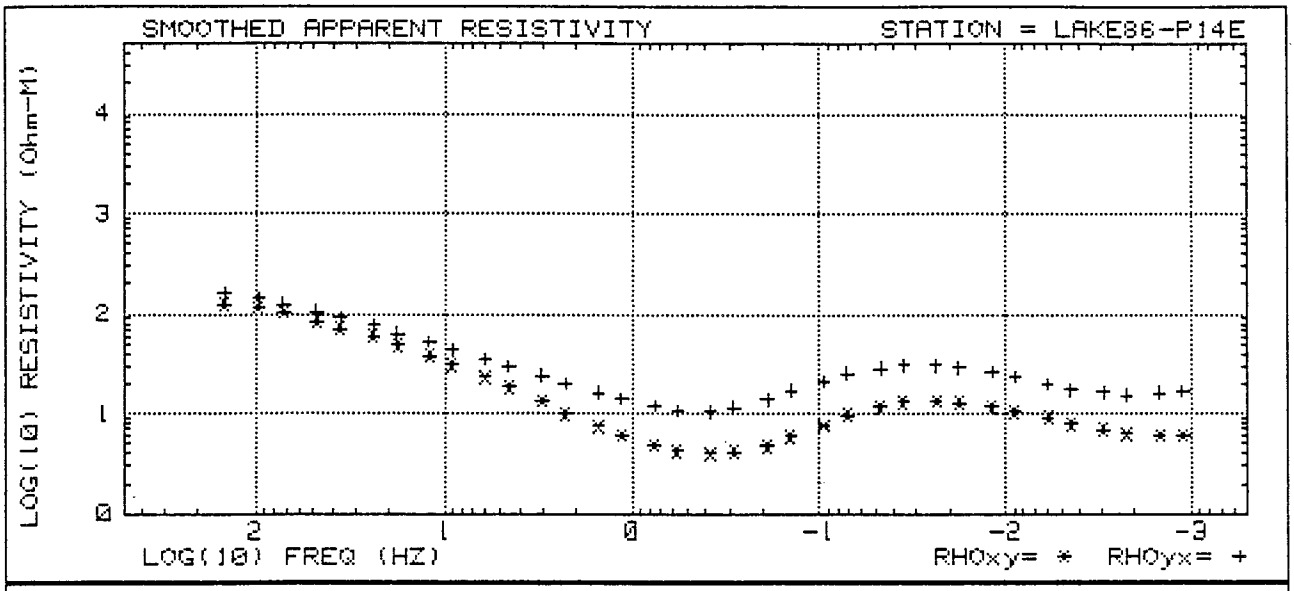
MT Site: LAKE86-P14E

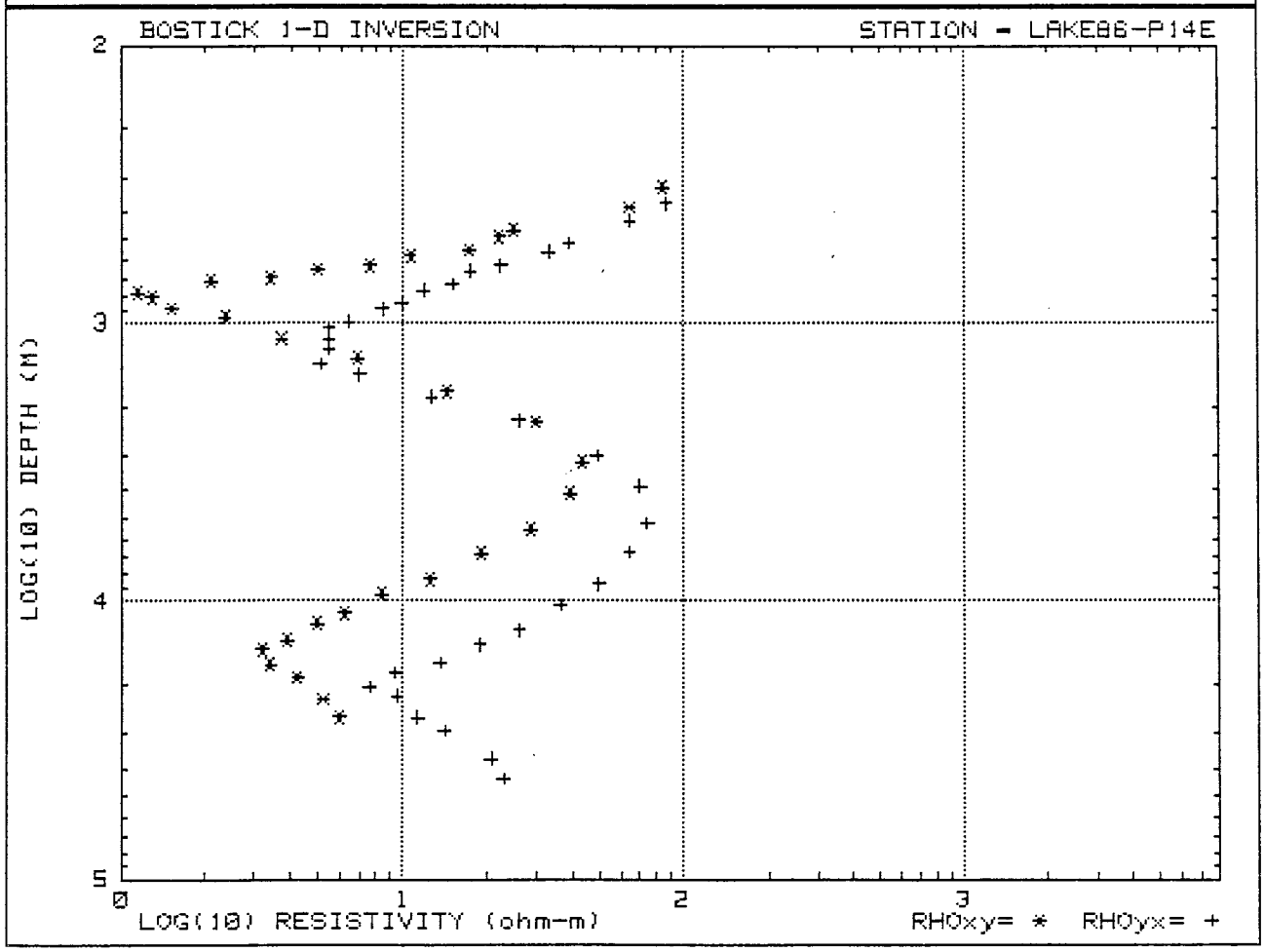




PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	896	129.3	20.3	165.3	3.6	102.5	5.3	-101.5	1.0
5	96.00 Hz	512	109.6	4.1	137.1	7.8	76.0	1.2	-97.4	2.2
7	48.00 Hz	894	80.9	6.2	101.0	6.3	82.9	1.7	-99.6	1.7
8	36.00 Hz	1402	68.7	2.4	84.9	4.2	72.1	.7	-106.1	1.2
9	24.00 Hz	1760	57.0	1.8	71.1	2.9	75.5	.5	-110.8	.8
10	18.00 Hz	704	48.6	3.5	62.4	4.0	75.6	1.0	-112.5	1.1
11	12.00 Hz	2464	41.1	2.3	53.1	2.4	79.6	.7	-109.6	.7
12	9.00 Hz	1248	29.5	2.6	44.3	2.3	77.1	.7	-110.8	.7
13	6.00 Hz	2624	23.7	2.8	37.1	2.4	79.7	.8	-106.8	.7
14	4.50 Hz	3008	17.4	3.6	29.8	3.2	79.6	1.0	-109.1	.9
15	3.00 Hz	18944	13.0	3.2	24.2	3.6	78.5	.9	-110.9	1.0
16	2.25 Hz	26448	9.6	3.3	19.9	3.0	77.5	.9	-114.1	.8
17	1.50 Hz	10448	7.3	5.5	17.6	4.0	74.4	1.5	-114.6	1.1
18	1.13 Hz	6448	5.7	3.6	14.1	2.6	68.5	1.0	-119.2	.7
19	1.33 Sec	2564	4.7	2.5	12.3	2.7	61.4	.7	-123.3	.8
20	1.78 Sec	4484	4.2	2.0	10.5	2.7	56.0	.6	-127.8	.8
21	2.67 Sec	1416	3.9	5.2	11.0	4.7	47.8	1.5	-134.1	1.3
22	3.56 Sec	1527	4.3	11.7	11.2	12.3	43.6	3.2	-137.5	3.3
23	5.33 Sec	684	4.9	18.4	13.6	24.2	34.0	4.8	-139.8	6.2
24	7.11 Sec	1597	6.8	6.4	16.5	10.1	30.1	1.8	-149.5	2.8
25	10.67 Sec	737	7.7	2.7	20.9	3.4	29.9	.7	-148.8	1.0
26	14.22 Sec	833	9.4	2.9	24.7	1.7	31.6	.8	-148.2	.5
27	21.33 Sec	300	11.3	1.6	29.0	1.7	36.3	.4	-145.3	.5
28	28.44 Sec	390	13.0	1.6	29.2	2.2	36.4	.5	-141.5	.6
29	42.67 Sec	330	13.1	2.3	30.3	1.9	43.1	.7	-133.7	.5
30	56.89 Sec	258	12.5	2.5	29.3	1.6	48.2	.7	-129.0	.5
31	85.33 Sec	42	11.3	3.9	25.9	1.4	54.8	1.1	-125.8	.4
32	113.78 Sec	129	10.5	2.8	22.9	2.9	55.5	.8	-125.6	.8
33	170.67 Sec	54	8.2	5.6	19.6	5.7	57.4	1.6	-125.0	1.6
34	227.56 Sec	78	7.9	6.1	17.2	5.1	56.0	1.7	-125.5	1.4
35	341.33 Sec	27	6.7	11.6	16.0	10.2	56.1	3.2	-129.2	2.8
36	455.11 Sec	21	6.1	12.0	15.1	9.5	58.6	3.2	-130.9	2.6
37	682.67 Sec	15	6.2	21.1	15.8	13.4	45.2	5.5	-139.7	3.6
38	910.22 Sec	12	5.7	21.9	16.6	16.2	42.6	5.7	-139.9	4.3

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	896	121.9	159.9	85.1	327	87.4	375
5	96.00 Hz	512	113.4	142.0	64.6	387	64.6	433
7	48.00 Hz	894	83.1	103.8	25.0	468	39.1	523
8	36.00 Hz	1402	69.5	90.2	22.3	494	33.2	563
9	24.00 Hz	1760	58.2	75.3	17.4	554	22.4	630
10	18.00 Hz	704	47.8	62.0	10.6	580	17.5	660
11	12.00 Hz	2464	37.5	51.1	7.6	629	15.1	734
12	9.00 Hz	1248	30.2	42.5	5.0	652	11.9	774
13	6.00 Hz	2624	22.8	34.6	3.4	694	9.9	854
14	4.50 Hz	3008	18.1	29.0	2.1	714	8.5	903
15	3.00 Hz	18944	13.2	23.6	.78	746	6.4	999
16	2.25 Hz	26448	9.8	19.5	.87	753	5.5	1048
17	1.50 Hz	10448	7.4	16.0	1.2	789	5.5	1163
18	1.13 Hz	6448	5.9	13.9	1.3	815	5.5	1250
19	1.33 Sec	2564	4.7	11.8	1.5	895	5.1	1414
20	1.78 Sec	4484	4.1	10.5	2.4	966	7.0	1541
21	2.67 Sec	1416	3.9	10.3	3.7	1150	12.7	1866
22	3.56 Sec	1527	4.1	11.3	6.9	1355	26.1	2258
23	5.33 Sec	684	4.7	13.5	14.5	1778	49.3	3025
24	7.11 Sec	1597	5.8	16.8	30.1	2288	70.5	3889
25	10.67 Sec	737	7.5	20.8	43.8	3179	74.7	5295
26	14.22 Sec	833	9.5	24.9	39.7	4136	64.8	6691
27	21.33 Sec	300	11.4	28.3	28.6	5561	50.0	8738
28	28.44 Sec	390	12.8	30.1	19.2	6787	36.5	10420
29	42.67 Sec	330	13.1	30.2	12.5	8429	26.2	12770
30	56.89 Sec	258	12.6	28.7	8.4	9518	19.0	14377
31	85.33 Sec	42	11.5	26.2	6.2	11131	13.6	16833
32	113.78 Sec	129	10.2	23.1	5.0	12145	9.4	18226
33	170.67 Sec	54	9.0	19.6	3.9	13962	7.6	20573
34	227.56 Sec	78	7.8	17.0	3.2	14981	9.6	22141
35	341.33 Sec	27	6.8	16.1	3.4	17084	11.3	26404
36	455.11 Sec	21	6.2	15.1	4.3	18929	14.2	29480
37	682.67 Sec	15	5.9	15.8	5.3	22677	20.8	36974
38	910.22 Sec	12	6.0	16.6	6.0	26200	23.0	43706

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	896	-3.31	12.84	210.73	-66.10	297.85	999.99
5	96.00 Hz	512	-7.37	20.43	159.80	55.38	222.56	42.68
7	48.00 Hz	894	.07	5.78	63.80	17.34	138.24	35.04
8	36.00 Hz	1402	2.04	3.61	8.52	34.12	105.82	3.57
9	24.00 Hz	1760	1.47	8.47	2.22	20.77	80.09	1.12
10	18.00 Hz	704	1.80	9.08	3.78	16.48	64.08	2.53
11	12.00 Hz	2464	.48	6.07	.90	8.94	48.86	.66
12	9.00 Hz	1248	2.34	3.67	.75	8.11	35.54	.43
13	6.00 Hz	2624	-.31	3.70	.56	4.76	26.25	.27
14	4.50 Hz	3008	.63	1.61	.56	3.56	19.46	.25
15	3.00 Hz	18944	.37	1.43	.25	2.78	13.67	.10
16	2.25 Hz	26448	.43	1.06	.10	2.25	10.16	.06
17	1.50 Hz	10448	.52	.83	.09	1.99	7.13	.08
18	1.13 Hz	6448	.28	.65	.03	2.08	5.27	.02
19	1.33 Sec	2564	.211	.346	.012	2.009	3.681	.005
20	1.78 Sec	4484	.197	.269	.009	1.924	2.854	.002
21	2.67 Sec	1416	.243	.209	.030	1.807	1.996	.009
22	3.56 Sec	1527	.146	.265	.057	1.774	1.688	.037
23	5.33 Sec	684	.254	.062	.135	1.775	1.197	.065
24	7.11 Sec	1597	.324	.346	.028	1.889	1.096	.009
25	10.67 Sec	737	.312	.266	.004	1.644	.946	.001
26	14.22 Sec	833	.302	.312	.002	1.547	.951	.001
27	21.33 Sec	300	.318	.284	.001	1.310	.962	.000
28	28.44 Sec	390	.269	.303	.002	1.218	.899	.000
29	42.67 Sec	330	.224	.209	.001	.905	.847	.000
30	56.89 Sec	258	.178	.186	.001	.699	.783	.000
31	85.33 Sec	42	.182	.174	.000	.469	.666	.000
32	113.78 Sec	129	.145	.135	.000	.386	.561	.000
33	170.67 Sec	54	.112	.107	.001	.263	.412	.000
34	227.56 Sec	78	.081	.110	.000	.234	.346	.000
35	341.33 Sec	27	.061	.051	.001	.175	.260	.001
36	455.11 Sec	21	.066	.059	.000	.135	.221	.000
37	682.67 Sec	15	.038	.013	.001	.151	.152	.001
38	910.22 Sec	12	.046	.048	.001	.130	.120	.001

PHOENIX GEOPHYSICS

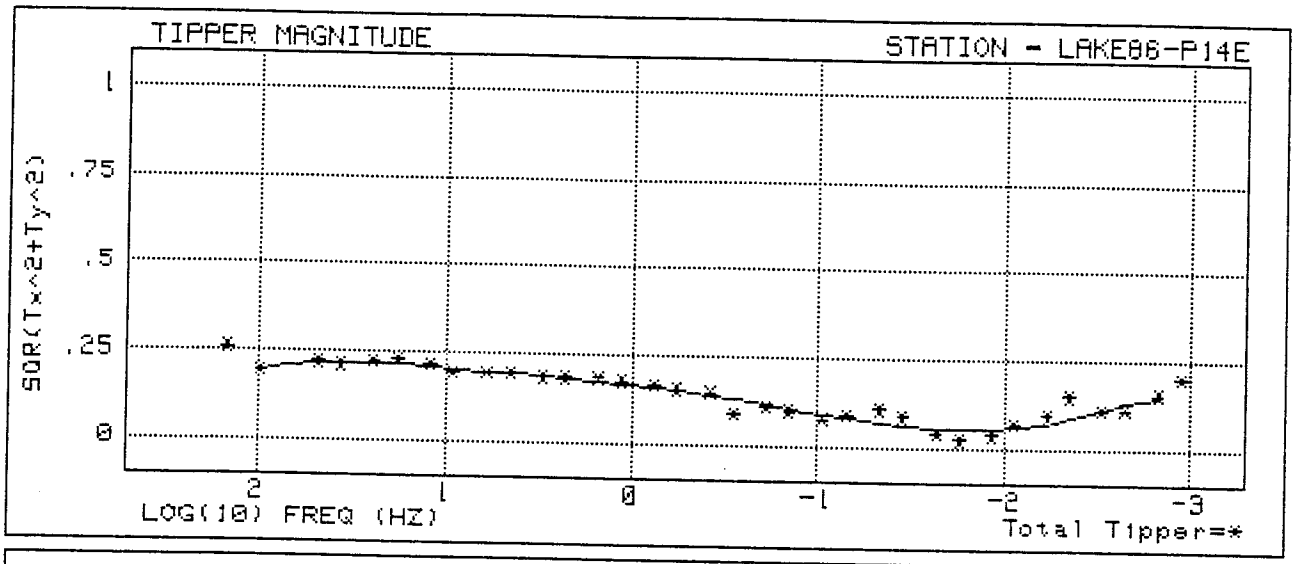
MT Site: LAKE86-P14E

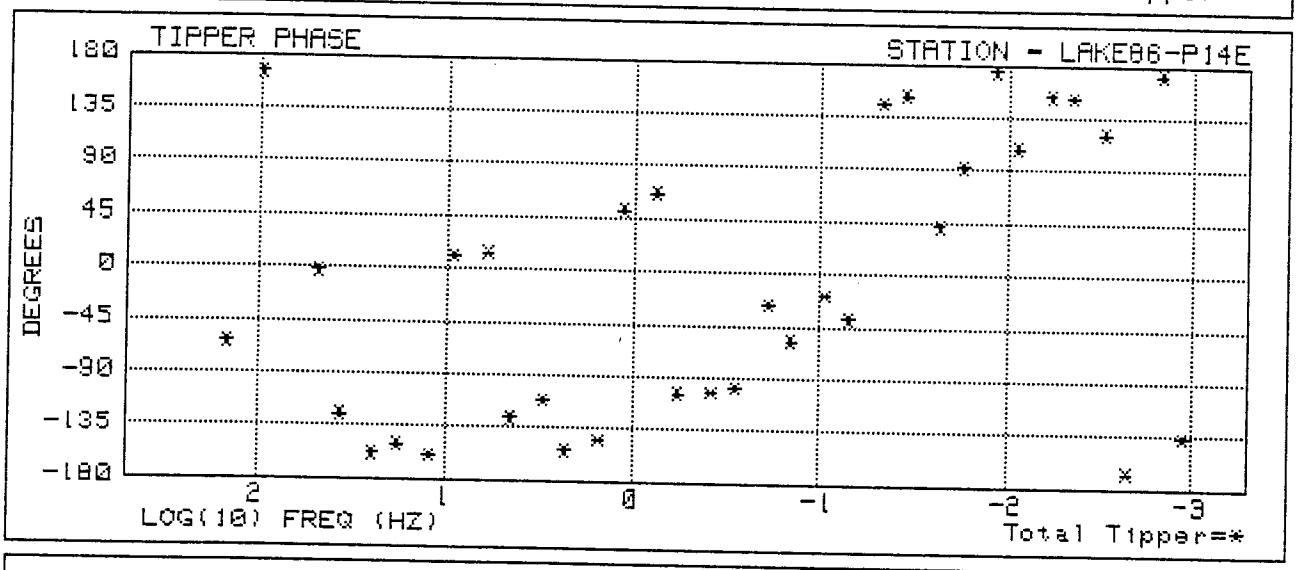
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

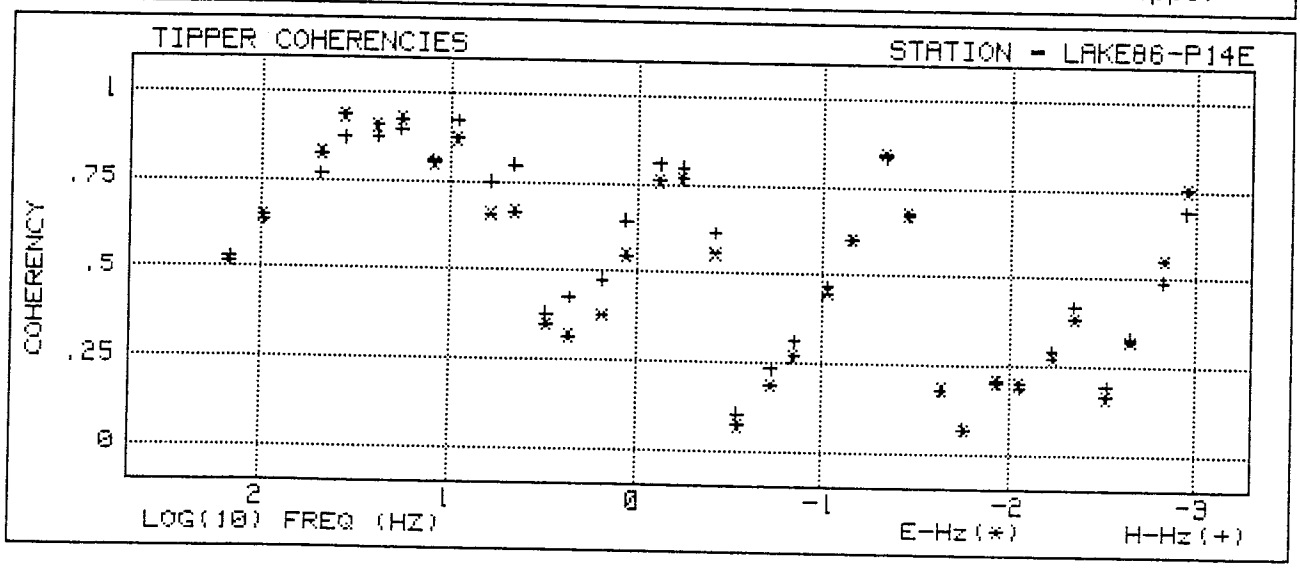
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	896	-68.51	-338.09	76.04	-12.29	42.87	572.69
5	96.00 Hz	512	-32.91	-254.43	186.60	-3.51	23.15	49.84
7	48.00 Hz	894	-25.83	-153.50	44.93	-5.41	8.83	24.68
8	36.00 Hz	1402	-34.20	-118.82	13.18	10.34	3.55	5.53
9	24.00 Hz	1760	-32.84	-86.36	3.54	3.42	4.71	1.78
10	18.00 Hz	704	-28.62	-69.28	4.32	3.38	5.40	2.89
11	12.00 Hz	2464	-18.98	-53.17	.93	1.57	3.54	.69
12	9.00 Hz	1248	-15.88	-41.71	.52	3.02	2.82	.30
13	6.00 Hz	2624	-9.62	-31.96	.31	1.04	2.56	.15
14	4.50 Hz	3008	-8.46	-24.47	.33	.24	1.99	.15
15	3.00 Hz	18944	-6.81	-17.79	.23	.50	1.30	.09
16	2.25 Hz	26448	-6.10	-13.64	.10	.28	1.23	.05
17	1.50 Hz	10448	-4.79	-10.45	.10	.46	.88	.09
18	1.13 Hz	6448	-4.34	-7.76	.03	.35	.58	.02
19	1.33 Sec	2564	-3.725	-5.670	.016	.314	.257	.007
20	1.78 Sec	4484	-3.334	-4.304	.010	.328	.142	.003
21	2.67 Sec	1416	-3.154	-3.257	.021	.334	.111	.007
22	3.56 Sec	1527	-2.925	-2.682	.105	.406	-.036	.068
23	5.33 Sec	684	-2.731	-2.304	.299	.498	-.149	.145
24	7.11 Sec	1597	-2.936	-1.731	.054	.598	-.107	.017
25	10.67 Sec	737	-2.678	-1.619	.006	.559	-.114	.002
26	14.22 Sec	833	-2.507	-1.553	.001	.540	-.068	.001
27	21.33 Sec	300	-2.145	-1.484	.001	.432	.103	.001
28	28.44 Sec	390	-1.771	-1.411	.001	.449	.108	.000
29	42.67 Sec	330	-1.301	-1.362	.001	.325	.131	.000
30	56.89 Sec	258	-1.010	-1.246	.000	.260	.131	.000
31	85.33 Sec	42	-.721	-1.000	.000	.187	.170	.000
32	113.78 Sec	129	-.584	-.817	.000	.129	.147	.000
33	170.67 Sec	54	-.434	-.621	.001	.111	.108	.000
34	227.56 Sec	78	-.357	-.500	.000	.095	.099	.000
35	341.33 Sec	27	-.306	-.375	.001	.082	.027	.001
36	455.11 Sec	21	-.267	-.308	.001	.080	.039	.001
37	682.67 Sec	15	-.259	-.220	.001	.005	.064	.001
38	910.22 Sec	12	-.231	-.194	.001	.046	.047	.001

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E







PHOENIX GEOPHYSICS

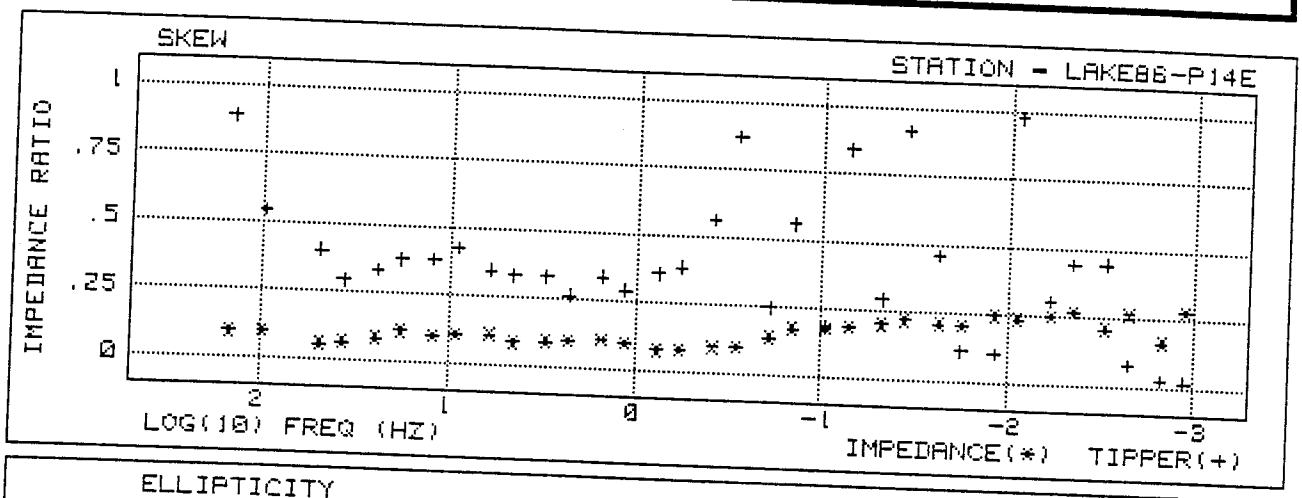
MT Site: LAKE86-P14E

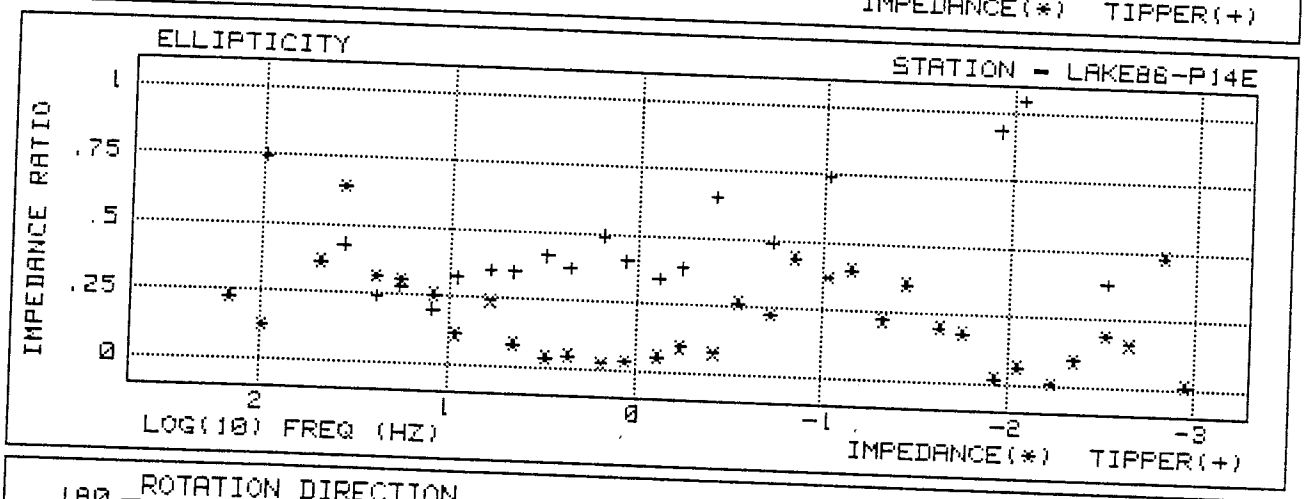
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

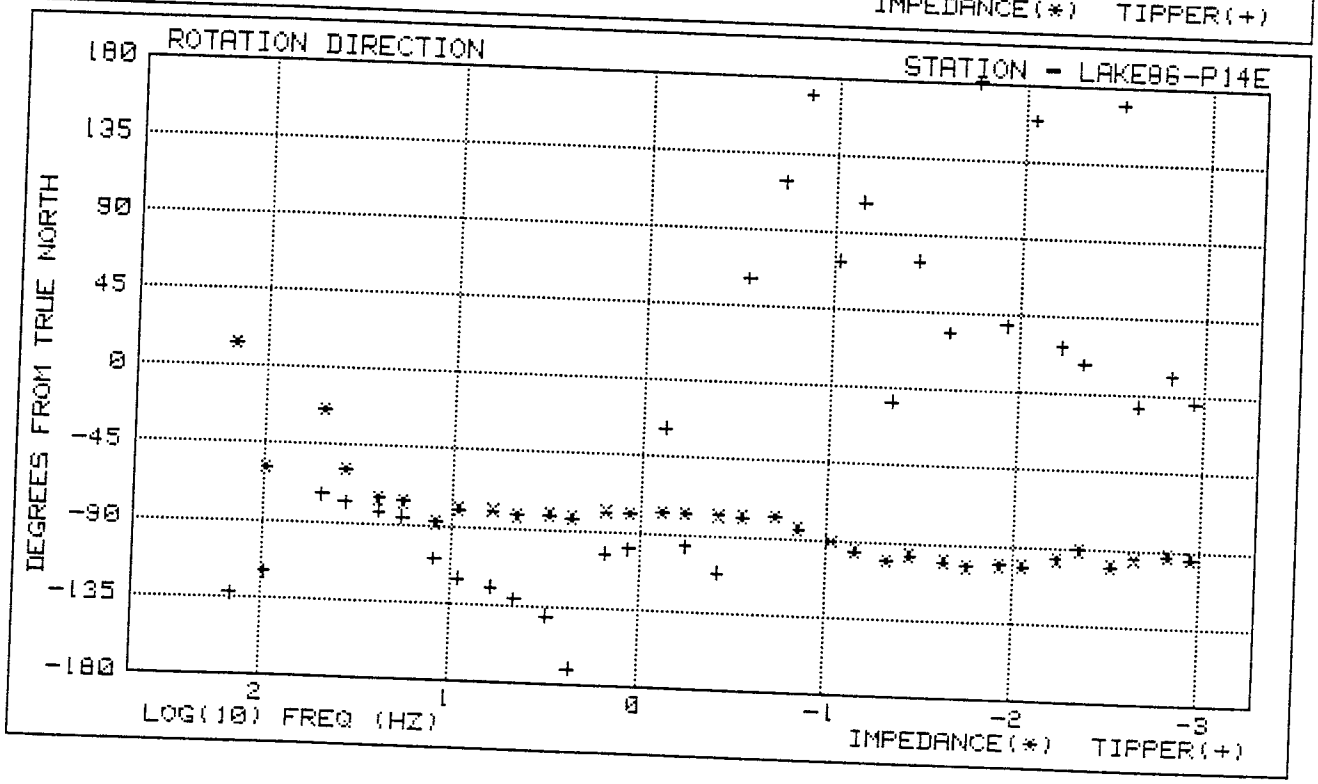
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	896	.25	-64.03	.51	.53
5	96.00 Hz	512	.19	165.10	.64	.63
7	48.00 Hz	894	.22	-3.09	.82	.77
8	36.00 Hz	1402	.21	-126.27	.93	.87
9	24.00 Hz	1760	.22	-158.58	.90	.87
10	18.00 Hz	704	.22	-150.96	.92	.89
11	12.00 Hz	2464	.21	-160.54	.80	.80
12	9.00 Hz	1248	.19	9.93	.87	.92
13	6.00 Hz	2624	.19	12.82	.65	.75
14	4.50 Hz	3008	.19	-127.33	.66	.79
15	3.00 Hz	18944	.18	-111.91	.34	.37
16	2.25 Hz	26448	.18	-154.95	.31	.42
17	1.50 Hz	10448	.18	-145.47	.37	.47
18	1.13 Hz	6448	.17	51.01	.54	.64
19	1.33 Sec	2564	.16	65.61	.75	.81
20	1.78 Sec	4484	.15	-104.63	.76	.79
21	2.67 Sec	1416	.14	-103.45	.55	.61
22	3.56 Sec	1527	.09	-99.02	.07	.10
23	5.33 Sec	684	.11	-28.00	.18	.23
24	7.11 Sec	1597	.09	-58.27	.26	.31
25	10.67 Sec	737	.07	-19.01	.45	.46
26	14.22 Sec	833	.08	-38.78	.60	.60
27	21.33 Sec	300	.10	144.39	.84	.83
28	28.44 Sec	390	.08	151.95	.67	.67
29	42.67 Sec	330	.04	40.71	.18	.18
30	56.89 Sec	258	.02	91.11	.06	.07
31	85.33 Sec	42	.03	173.45	.20	.20
32	113.78 Sec	129	.06	107.19	.19	.18
33	170.67 Sec	54	.09	152.22	.27	.29
34	227.56 Sec	78	.14	150.90	.38	.41
35	341.33 Sec	27	.11	119.94	.16	.19
36	455.11 Sec	21	.11	-168.04	.32	.33
37	682.67 Sec	15	.15	170.91	.55	.49
38	910.22 Sec	12	.20	-137.15	.75	.69

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E







PHOENIX GEOPHYSICS

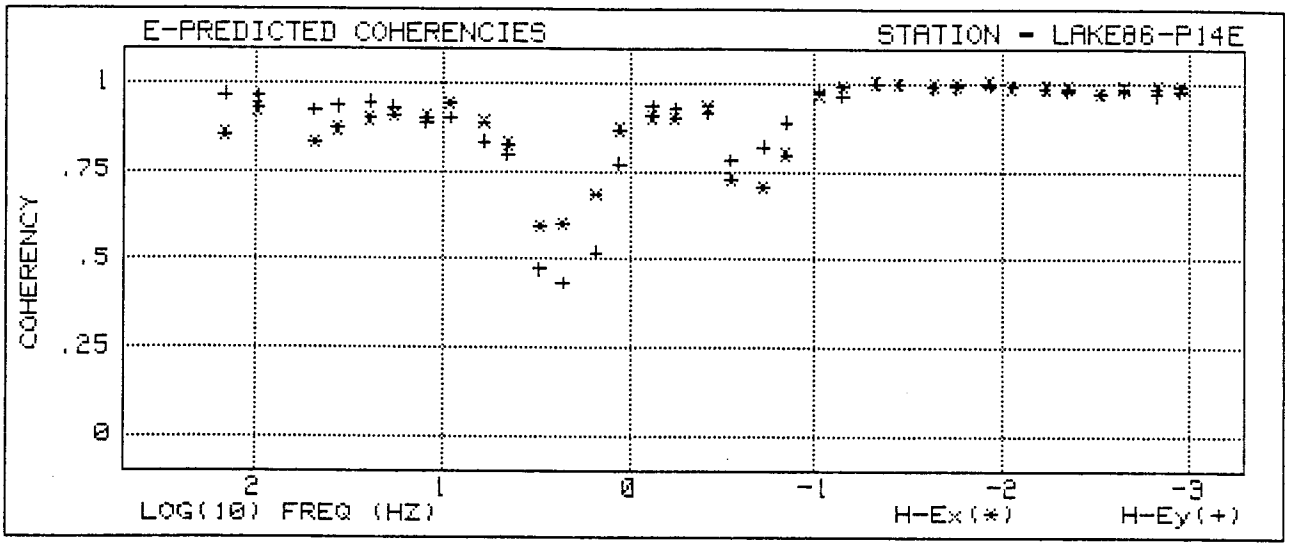
MT Site: LAKE86-P14E

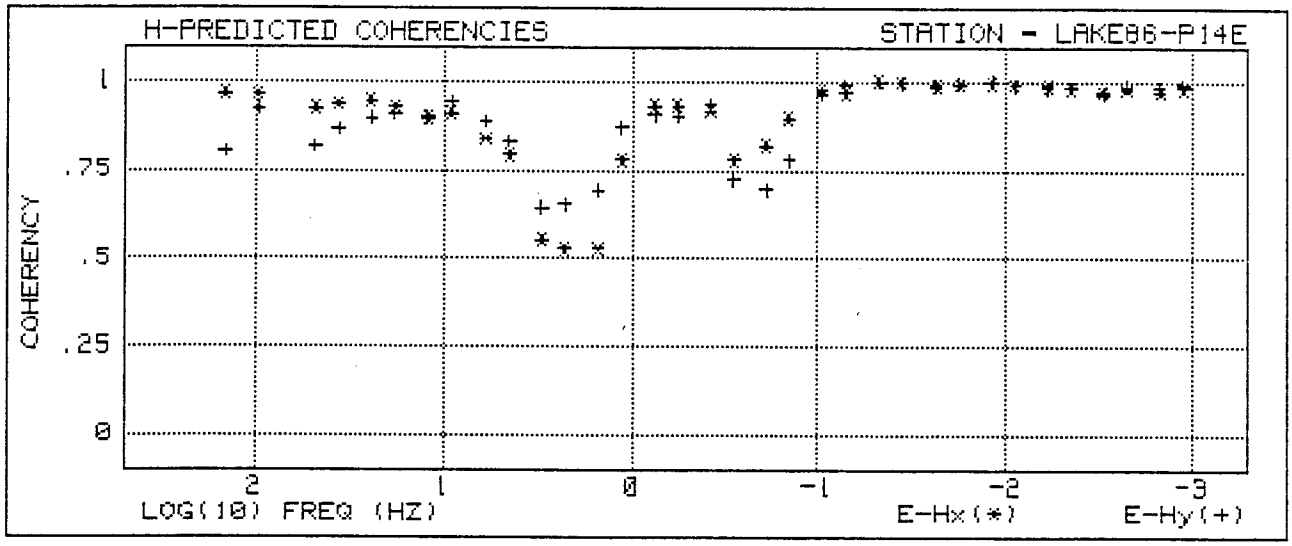
SKEW, ELLIPTICITY AND STRIKE

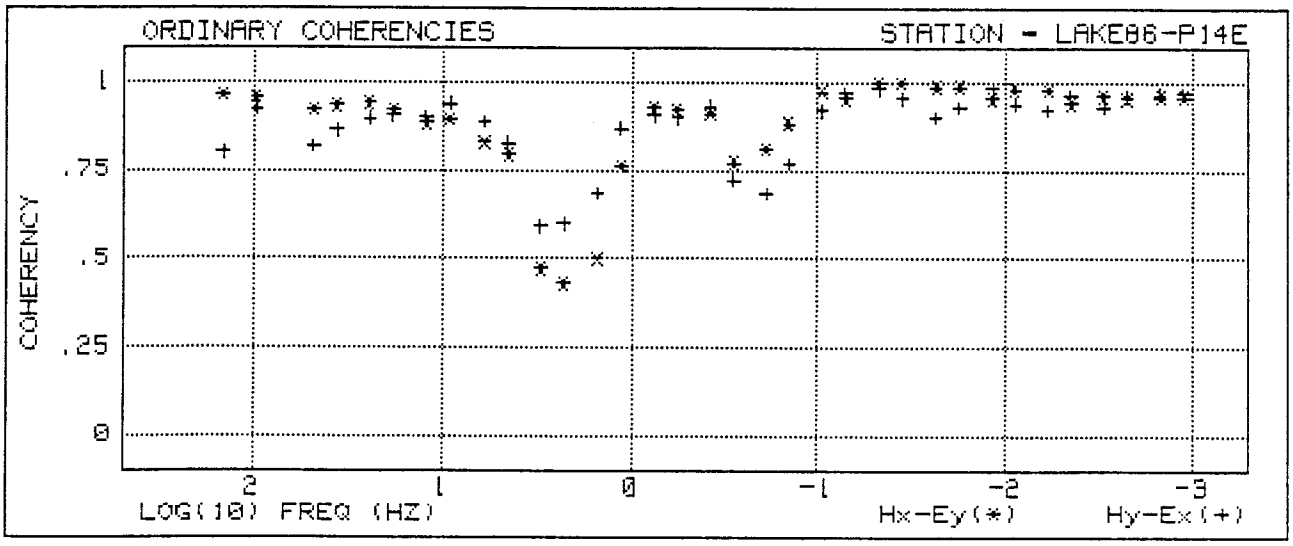
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	896	.09	.22	13.09	.88	1.34	-133.83
5	96.00 Hz	512	.09	.12	-59.54	.54	.74	-120.41
7	48.00 Hz	894	.05	.36	-24.52	.40	1.40	-74.59
8	36.00 Hz	1402	.06	.64	-59.21	.29	.42	-78.72
9	24.00 Hz	1760	.08	.31	-75.63	.33	.24	-83.36
10	18.00 Hz	704	.11	.30	-77.27	.37	.28	-86.56
11	12.00 Hz	2464	.09	.25	-88.61	.37	.20	-109.87
12	9.00 Hz	1248	.10	.11	-80.69	.42	.32	-121.24
13	6.00 Hz	2624	.10	.23	-80.45	.34	.35	-125.51
14	4.50 Hz	3008	.08	.08	-83.19	.33	.34	-132.31
15	3.00 Hz	18944	.09	.03	-81.91	.33	.41	-141.31
16	2.25 Hz	26448	.10	.04	-83.36	.26	.37	-171.64
17	1.50 Hz	10448	.10	.02	-79.37	.33	.49	-103.79
18	1.13 Hz	6448	.09	.03	-79.80	.29	.40	-100.23
19	1.33 Sec	2564	.07	.05	-78.16	.35	.34	-28.41
20	1.78 Sec	4484	.08	.09	-78.33	.38	.38	-97.41
21	2.67 Sec	1416	.09	.07	-78.74	.56	.65	-112.29
22	3.56 Sec	1527	.09	.26	-79.42	.86	1.29	60.51
23	5.33 Sec	684	.13	.22	-78.37	.25	.49	118.07
24	7.11 Sec	1597	.17	.43	-85.17	.55	1.19	169.23
25	10.67 Sec	737	.18	.37	-91.16	.18	.74	72.70
26	14.22 Sec	833	.18	.40	-96.42	.83	1.76	107.44
27	21.33 Sec	300	.20	.22	-101.25	.29	2.97	-8.14
28	28.44 Sec	390	.22	.35	-97.85	.91	1.52	74.00
29	42.67 Sec	330	.21	.20	-100.94	.46	1.29	33.22
30	56.89 Sec	258	.20	.18	-103.24	.11	4.02	179.97
31	85.33 Sec	42	.25	.02	-101.79	.10	.93	38.29
32	113.78 Sec	129	.23	.06	-102.27	.97	1.04	158.76
33	170.67 Sec	54	.25	.00	-97.35	.30	6.39	26.92
34	227.56 Sec	78	.27	.09	-91.59	.44	4.15	17.41
35	341.33 Sec	27	.20	.18	-100.91	.44	.38	168.86
36	455.11 Sec	21	.26	.15	-95.91	.07	24.19	-6.93
37	682.67 Sec	15	.16	.48	-93.53	.02	5.69	10.93
38	910.22 Sec	12	.28	.01	-95.08	.02	55.29	-4.15

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E







PHOENIX GEOPHYSICS

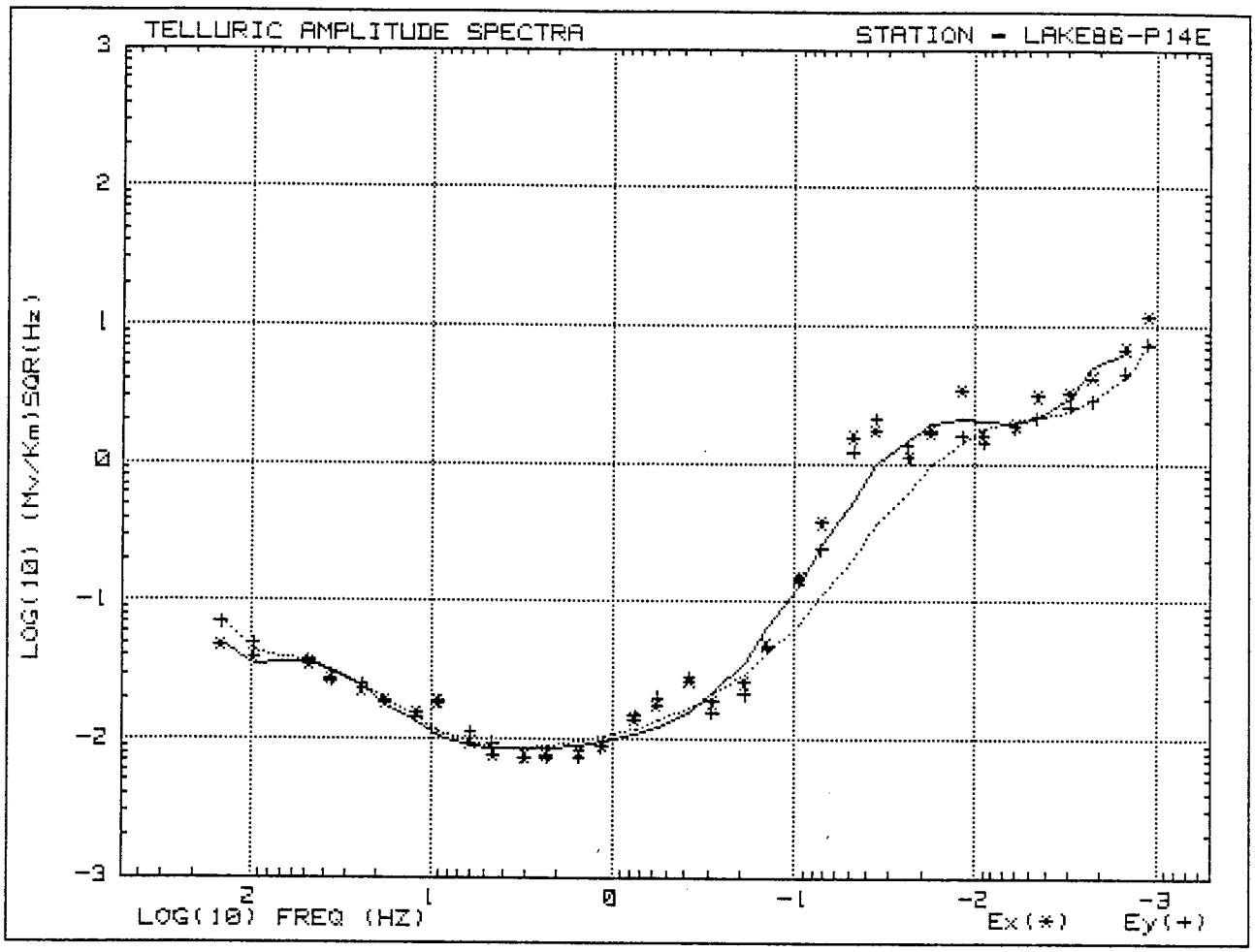
MT Site: LAKE86-P14E

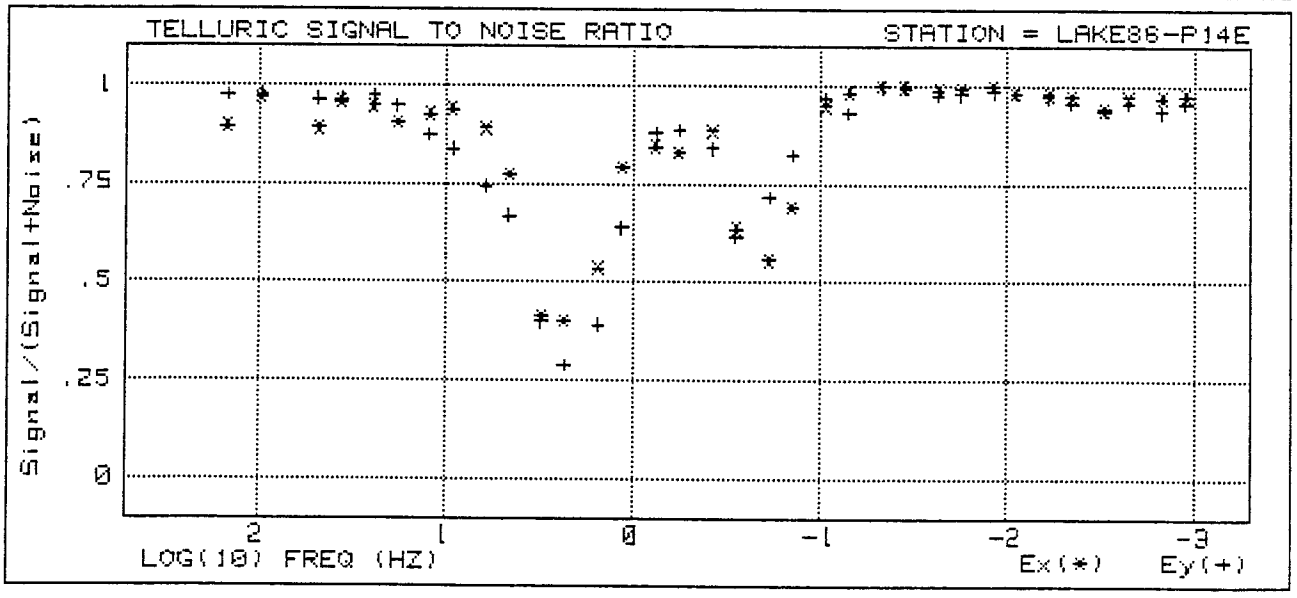
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	896	.85	.96	.96	.80	.96	.80
5	96.00 Hz	512	.92	.96	.96	.92	.96	.92
7	48.00 Hz	894	.83	.92	.92	.82	.92	.81
8	36.00 Hz	1402	.87	.93	.93	.86	.93	.86
9	24.00 Hz	1760	.89	.94	.94	.89	.94	.89
10	18.00 Hz	704	.91	.93	.93	.91	.92	.90
11	12.00 Hz	2464	.90	.89	.89	.90	.88	.89
12	9.00 Hz	1248	.94	.90	.91	.94	.89	.94
13	6.00 Hz	2624	.89	.83	.83	.88	.82	.88
14	4.50 Hz	3008	.82	.79	.79	.83	.79	.82
15	3.00 Hz	18944	.59	.47	.55	.64	.47	.59
16	2.25 Hz	26448	.60	.43	.52	.65	.43	.59
17	1.50 Hz	10448	.68	.51	.52	.69	.50	.68
18	1.13 Hz	6448	.86	.77	.78	.87	.76	.86
19	1.33 Sec	2564	.90	.93	.93	.90	.92	.90
20	1.78 Sec	4484	.90	.92	.93	.90	.92	.90
21	2.67 Sec	1416	.93	.91	.91	.93	.90	.93
22	3.56 Sec	1527	.73	.78	.78	.72	.77	.72
23	5.33 Sec	684	.70	.82	.82	.69	.81	.68
24	7.11 Sec	1597	.79	.89	.89	.78	.88	.76
25	10.67 Sec	737	.97	.98	.98	.96	.97	.92
26	14.22 Sec	833	.99	.96	.97	.99	.95	.97
27	21.33 Sec	300	1.00	1.00	1.00	1.00	1.00	.98
28	28.44 Sec	390	1.00	1.00	1.00	.99	1.00	.95
29	42.67 Sec	330	.99	.99	.99	.98	.98	.90
30	56.89 Sec	258	.99	.99	.99	.99	.99	.93
31	85.33 Sec	42	1.00	.99	.99	1.00	.95	.98
32	113.78 Sec	129	.99	.99	.99	.99	.98	.94
33	170.67 Sec	54	.99	.98	.99	.98	.97	.92
34	227.56 Sec	78	.99	.98	.98	.98	.94	.96
35	341.33 Sec	27	.97	.97	.97	.96	.96	.93
36	455.11 Sec	21	.98	.98	.98	.99	.95	.96
37	682.67 Sec	15	.99	.97	.97	.98	.96	.96
38	910.22 Sec	12	.99	.98	.98	.99	.96	.97

PHOENIX GEOPHYSICS

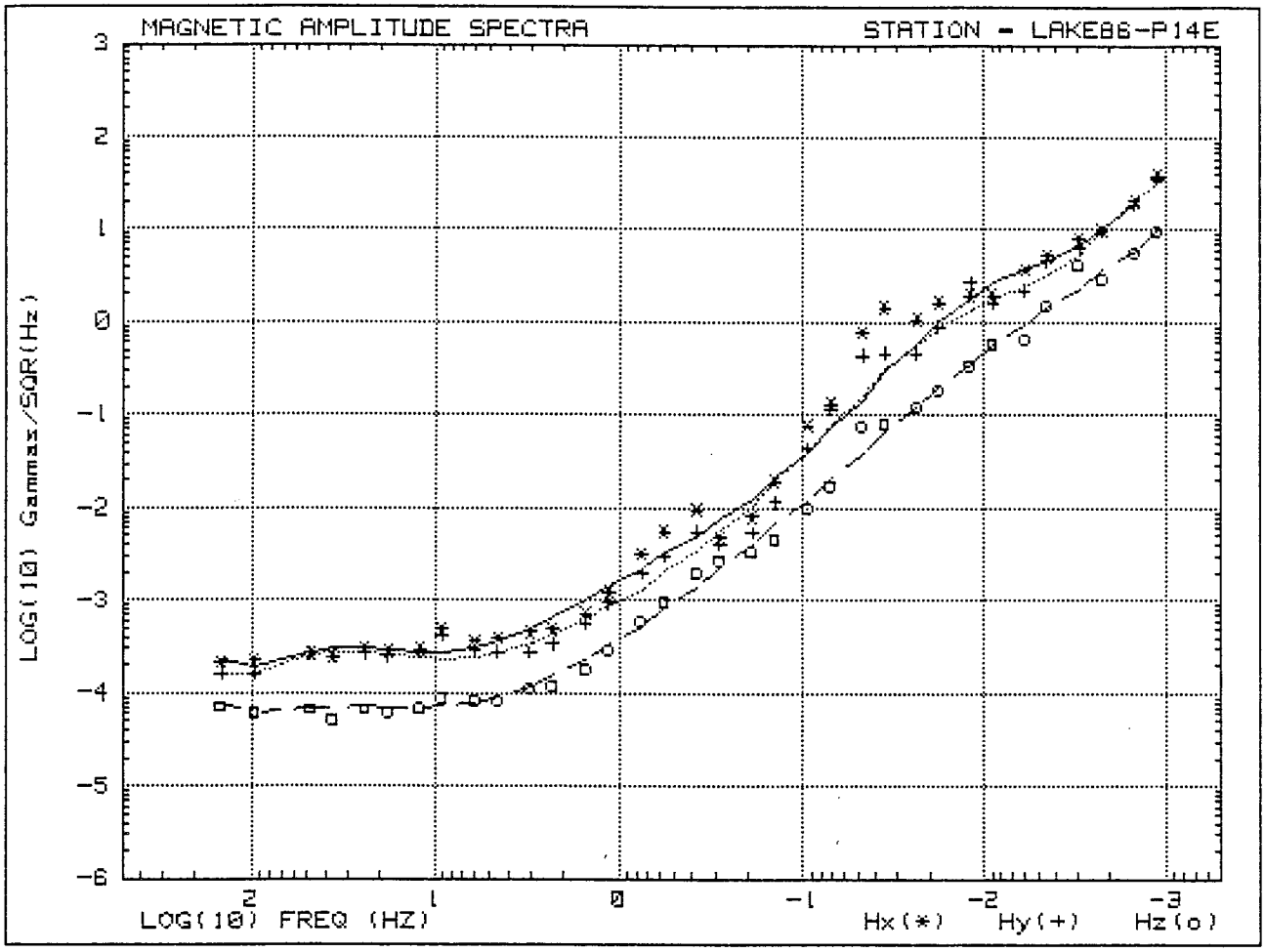
MT Site: LAKE86-P14E

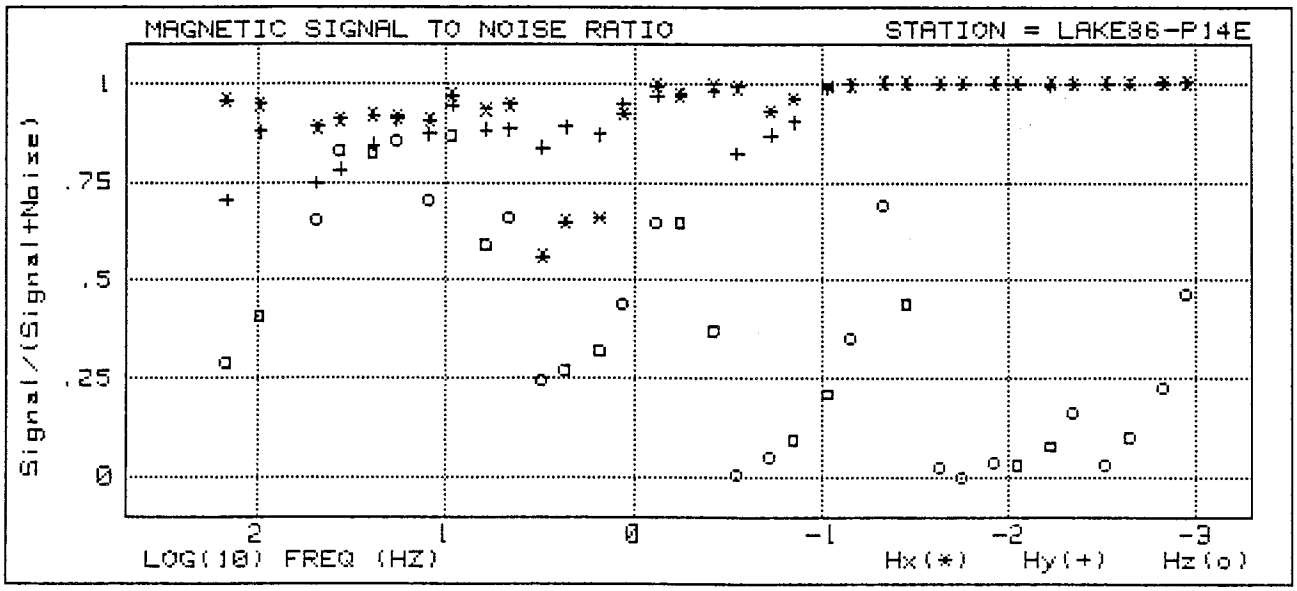




PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	896	2.11E-04	1.61E-04	7.47E-05	4.70E-02	6.92E-02
5	96.00 Hz	512	2.19E-04	1.58E-04	6.32E-05	3.86E-02	4.88E-02
7	48.00 Hz	894	2.62E-04	2.62E-04	7.05E-05	3.42E-02	3.70E-02
8	36.00 Hz	1402	2.43E-04	2.44E-04	5.50E-05	2.69E-02	2.62E-02
9	24.00 Hz	1760	3.04E-04	2.61E-04	7.05E-05	2.26E-02	2.47E-02
10	18.00 Hz	704	2.77E-04	2.45E-04	6.43E-05	1.81E-02	1.87E-02
11	12.00 Hz	2464	2.93E-04	2.73E-04	7.09E-05	1.53E-02	1.44E-02
12	9.00 Hz	1248	4.78E-04	4.10E-04	9.08E-05	1.85E-02	1.82E-02
13	6.00 Hz	2624	3.63E-04	2.78E-04	8.55E-05	9.23E-03	1.09E-02
14	4.50 Hz	3008	3.86E-04	2.75E-04	8.78E-05	7.56E-03	9.21E-03
15	3.00 Hz	18944	4.47E-04	2.67E-04	1.15E-04	7.31E-03	7.25E-03
16	2.25 Hz	26448	4.73E-04	3.30E-04	1.26E-04	7.44E-03	7.31E-03
17	1.50 Hz	10448	7.06E-04	5.55E-04	1.88E-04	8.01E-03	7.19E-03
18	1.13 Hz	6448	1.22E-03	9.19E-04	3.07E-04	8.80E-03	8.61E-03
19	1.33 Sec	2564	3.10E-03	1.93E-03	6.19E-04	1.38E-02	1.45E-02
20	1.78 Sec	4484	5.42E-03	2.94E-03	9.83E-04	1.72E-02	1.97E-02
21	2.67 Sec	1416	9.33E-03	5.43E-03	2.04E-03	2.57E-02	2.79E-02
22	3.56 Sec	1527	4.69E-03	4.03E-03	2.86E-03	1.84E-02	1.52E-02
23	5.33 Sec	684	8.03E-03	5.32E-03	3.47E-03	2.55E-02	2.07E-02
24	7.11 Sec	1597	1.93E-02	1.13E-02	4.85E-03	4.75E-02	4.57E-02
25	10.67 Sec	737	7.55E-02	4.32E-02	1.05E-02	1.45E-01	1.47E-01
26	14.22 Sec	833	1.29E-01	1.12E-01	1.83E-02	3.67E-01	2.37E-01
27	21.33 Sec	300	7.66E-01	4.34E-01	8.07E-02	1.52E+00	1.20E+00
28	28.44 Sec	390	1.42E+00	4.57E-01	8.51E-02	1.69E+00	2.09E+00
29	42.67 Sec	330	1.05E+00	4.51E-01	1.26E-01	1.08E+00	1.32E+00
30	56.89 Sec	258	1.60E+00	8.81E-01	1.94E-01	1.65E+00	1.72E+00
31	85.33 Sec	42	1.91E+00	2.63E+00	3.64E-01	3.36E+00	1.56E+00
32	113.78 Sec	129	1.91E+00	1.58E+00	6.10E-01	1.58E+00	1.39E+00
33	170.67 Sec	54	3.61E+00	2.14E+00	6.93E-01	1.87E+00	1.81E+00
34	227.56 Sec	78	5.14E+00	4.53E+00	1.57E+00	3.07E+00	2.13E+00
35	341.33 Sec	27	7.70E+00	6.39E+00	4.31E+00	3.20E+00	2.56E+00
36	455.11 Sec	21	9.85E+00	9.56E+00	3.11E+00	4.14E+00	2.83E+00
37	682.67 Sec	15	2.01E+01	1.89E+01	6.03E+00	6.72E+00	4.51E+00
38	910.22 Sec	12	3.84E+01	3.52E+01	1.01E+01	1.16E+01	7.19E+00

PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	896	.955	.701	.294	.894	.972
5	96.00 Hz	512	.946	.877	.411	.967	.975
7	48.00 Hz	894	.888	.746	.657	.889	.962
8	36.00 Hz	1402	.909	.780	.834	.956	.962
9	24.00 Hz	1760	.917	.843	.829	.946	.972
10	18.00 Hz	704	.913	.908	.860	.903	.946
11	12.00 Hz	2464	.906	.871	.711	.924	.872
12	9.00 Hz	1248	.969	.940	.875	.937	.836
13	6.00 Hz	2624	.932	.881	.594	.890	.741
14	4.50 Hz	3008	.945	.881	.667	.772	.666
15	3.00 Hz	18944	.559	.836	.248	.413	.397
16	2.25 Hz	26448	.647	.889	.274	.399	.286
17	1.50 Hz	10448	.657	.869	.323	.535	.390
18	1.13 Hz	6448	.923	.946	.444	.790	.637
19	1.33 Sec	2564	.993	.968	.654	.842	.875
20	1.78 Sec	4484	.968	.973	.654	.828	.884
21	2.67 Sec	1416	.996	.981	.378	.883	.837
22	3.56 Sec	1527	.990	.821	.012	.634	.615
23	5.33 Sec	684	.928	.868	.055	.555	.714
24	7.11 Sec	1597	.961	.902	.097	.690	.822
25	10.67 Sec	737	.991	.985	.215	.945	.963
26	14.22 Sec	833	.996	.996	.358	.982	.929
27	21.33 Sec	300	1.000	.999	.696	.997	.996
28	28.44 Sec	390	1.000	.997	.446	.995	.994
29	42.67 Sec	330	1.000	.997	.029	.987	.973
30	56.89 Sec	258	1.000	.999	.005	.991	.976
31	85.33 Sec	42	1.000	1.000	.041	.998	.983
32	113.78 Sec	129	.999	.997	.034	.979	.980
33	170.67 Sec	54	1.000	.994	.083	.976	.970
34	227.56 Sec	78	.998	.999	.167	.972	.953
35	341.33 Sec	27	1.000	1.000	.035	.940	.935
36	455.11 Sec	21	1.000	.999	.107	.971	.956
37	682.67 Sec	15	1.000	1.000	.231	.969	.932
38	910.22 Sec	12	1.000	1.000	.470	.974	.955

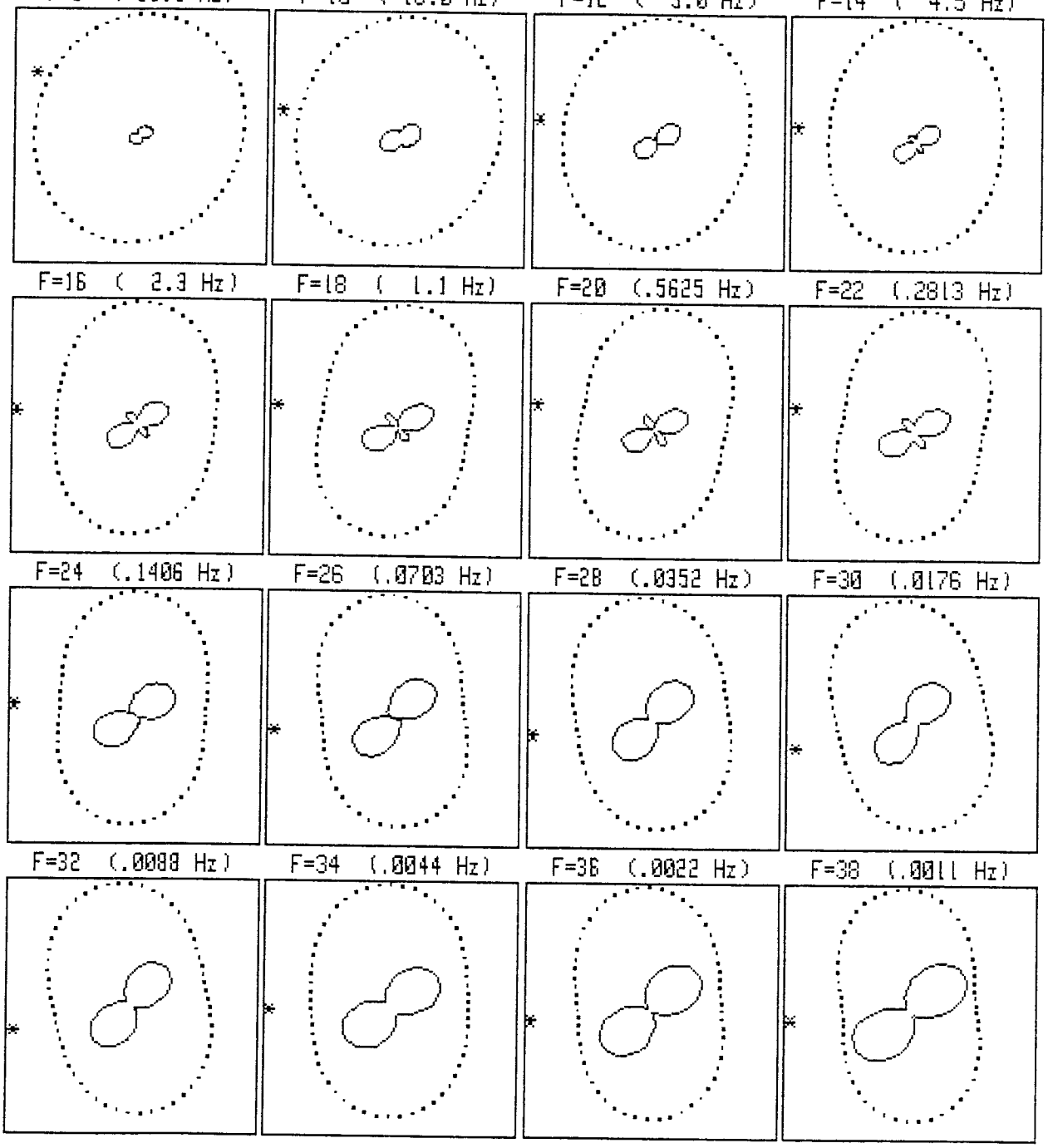
PHOENIX GEOPHYSICS

MT Site: LAKE86-P14E

IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=1
Zxx Normalized to 1 *=Rotation Direction

Zxy = ...
Zxx = ___



PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P05s/P07s/P15s/

Operator:D. OJALA
Date: 12 Oct 1986
Time: 22:34:19

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#219-30Aug86-05
SP--Stn02: B#507-30Aug86-05
SP--Stn03: B#221-30Aug86-05
Sens-Ch01: C#239-04Sep86-01
Sens-Ch02: C#445-04Sep86-01
Sens-Ch03: L#307-05Sep86-01
Sens-Ch06: C#306-04Sep86-01
Sens-Ch07: C#452-04Sep86-01
Sens-Ch08: L#416-05Sep86-01
Sens-Ch11: C#436-04Sep86-01
Sens-Ch12: C#201-04Sep86-01
Sens-Ch13: L#419-05Sep86-01

Station 3

Stn Number:LAKE86-P15s
Site Desc:T43N R4E Sec.30 NE1/4
41,32,36 N 121,33,10 W
Elevation:6360 FT
Reference:LAKE86-P05s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P. BURNS
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	11	COIL436	+45 DEG
Hy	12	COIL201	+135 DEG
Hz	13	LOOP419	
Ex	14	223 M	+45 DEG
Ey	15	220 M	+135 DEG
Rx	1	COIL239	+0 DEG
Ry	2	COIL445	+90 DEG

Ex Pot Resist: 3.5 K Ohms
Ex Voltage: AC=33.0 mv, DC=104.8mv
Ey Pot Resist: 7.0 K Ohms
Ey Voltage: AC=22.0 mv, DC=75.0 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

OPERATOR LOG FOR MT SITES LAKE86-P05s/P07s/P15s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P05a/P07a/P15a/		
Run STARTED:	14:42:37	10 Oct 1986
Run QUIT:	05:48:19	11 Oct 1986
Run Start and Stop Time for LAKE86-P05b/P07b/P15b/		
Run STARTED:	06:19:47	11 Oct 1986
Run QUIT:	20:26:15	11 Oct 1986
Run Start and Stop Time for LAKE86-P05c/P07c/P15c/		
Run STARTED:	21:02:29	11 Oct 1986
Run QUIT:	10:53:09	12 Oct 1986
Run Start and Stop Time for LAKE86-P05d/P07d/P15d/		
Run STARTED:	11:58:30	12 Oct 1986
Run QUIT:	21:41:20	12 Oct 1986
Run Start and Stop Time for LAKE86-P05e/P07e/P15e/		
Run STARTED:	22:34:19	12 Oct 1986
Run QUIT:	09:33:55	13 Oct 1986

Operator: DAVE OJALA (oplog by Vaag)

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST OF SITES CAUSES POOR DATA ABOVE 60 HZ. SOME TRAFFIC ON ROADS NEAR SITES.

Weather Conditions:
WARM AND SUNNY DURING DAY; COOL AND CLEAR OVERNIGHT. LIGHT WINDS.

Other Factors:
MT SIGNAL STRENGTH FINALLY INCREASES DURING RUN 'd.'

PHOENIX GEOPHYSICS

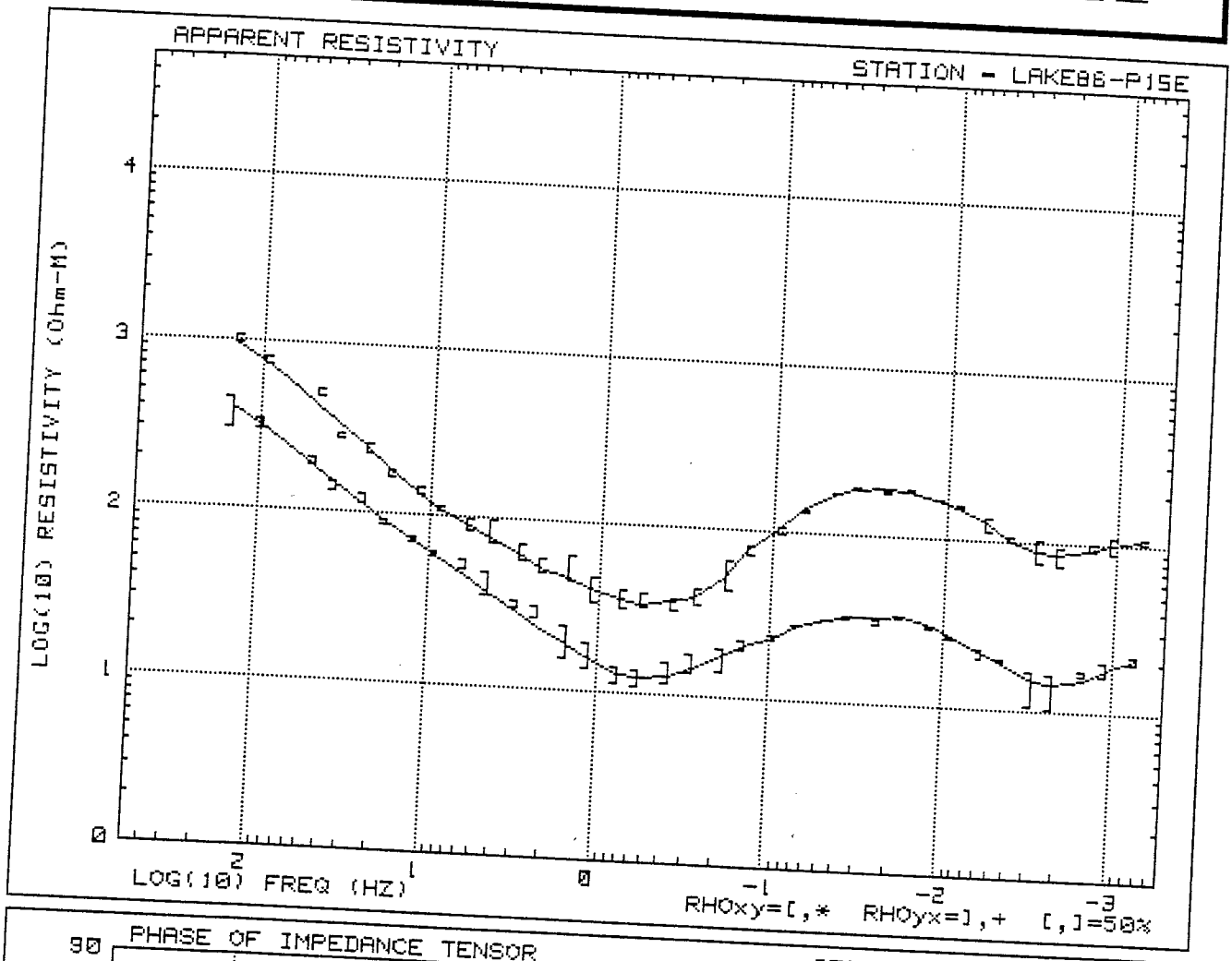
MT Site: LAKE86-P15E

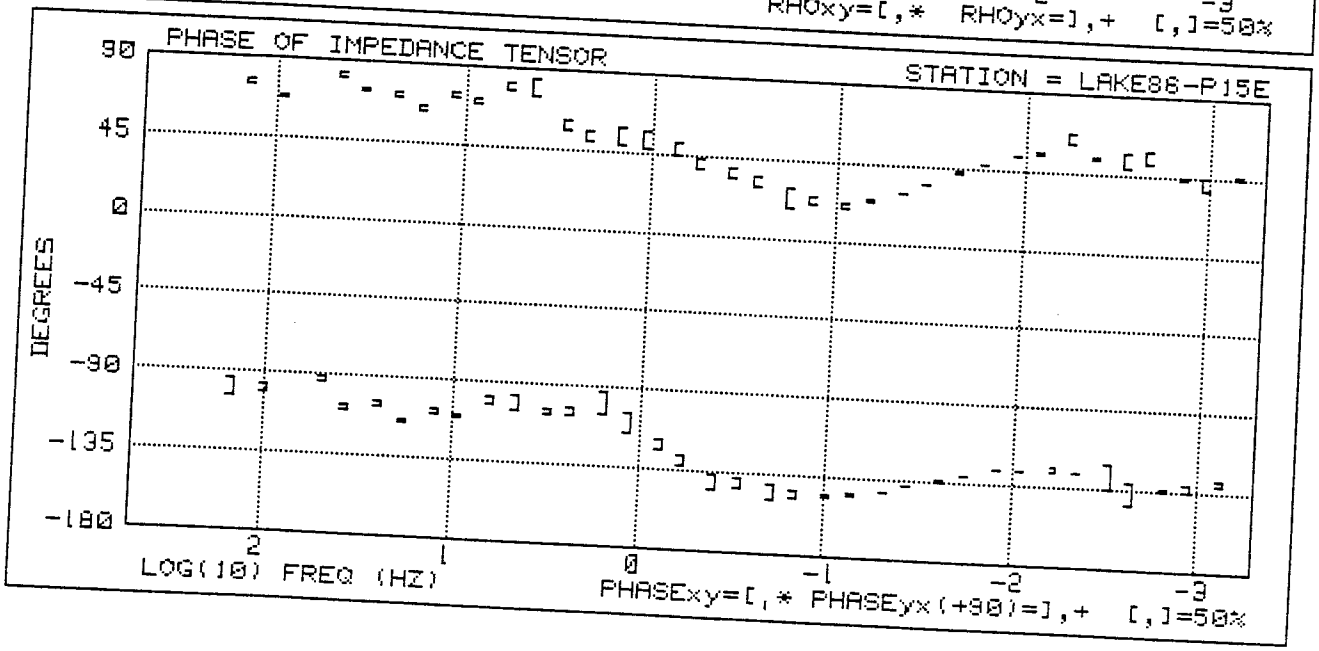
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

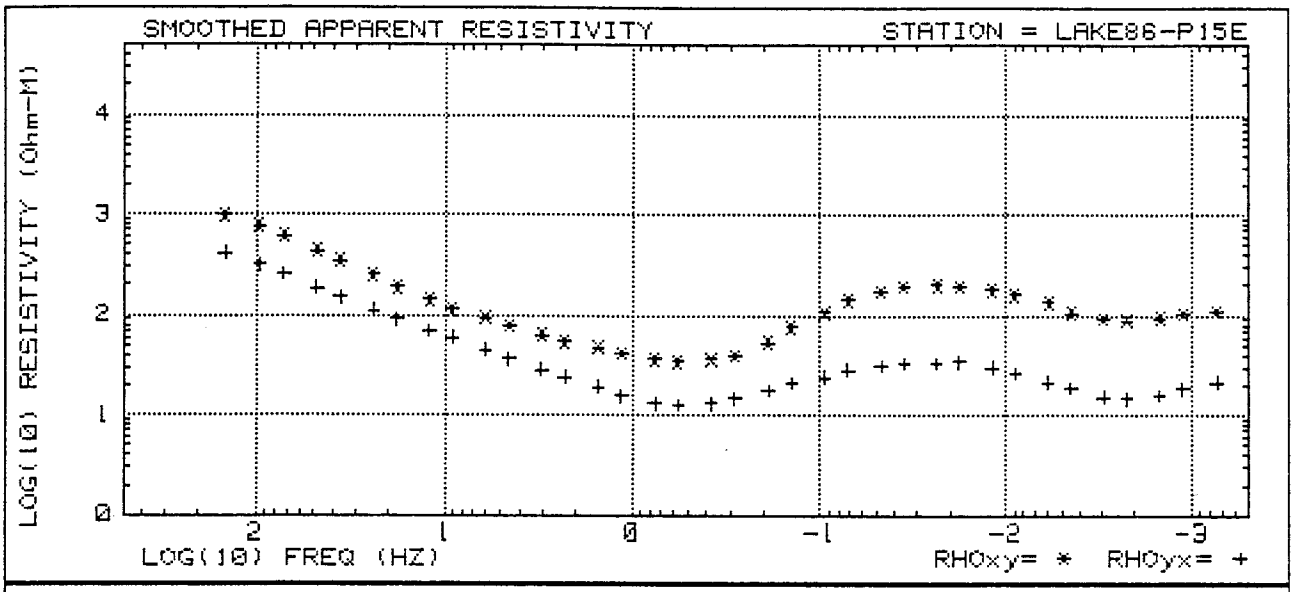
MT Site: LAKE86-P15E

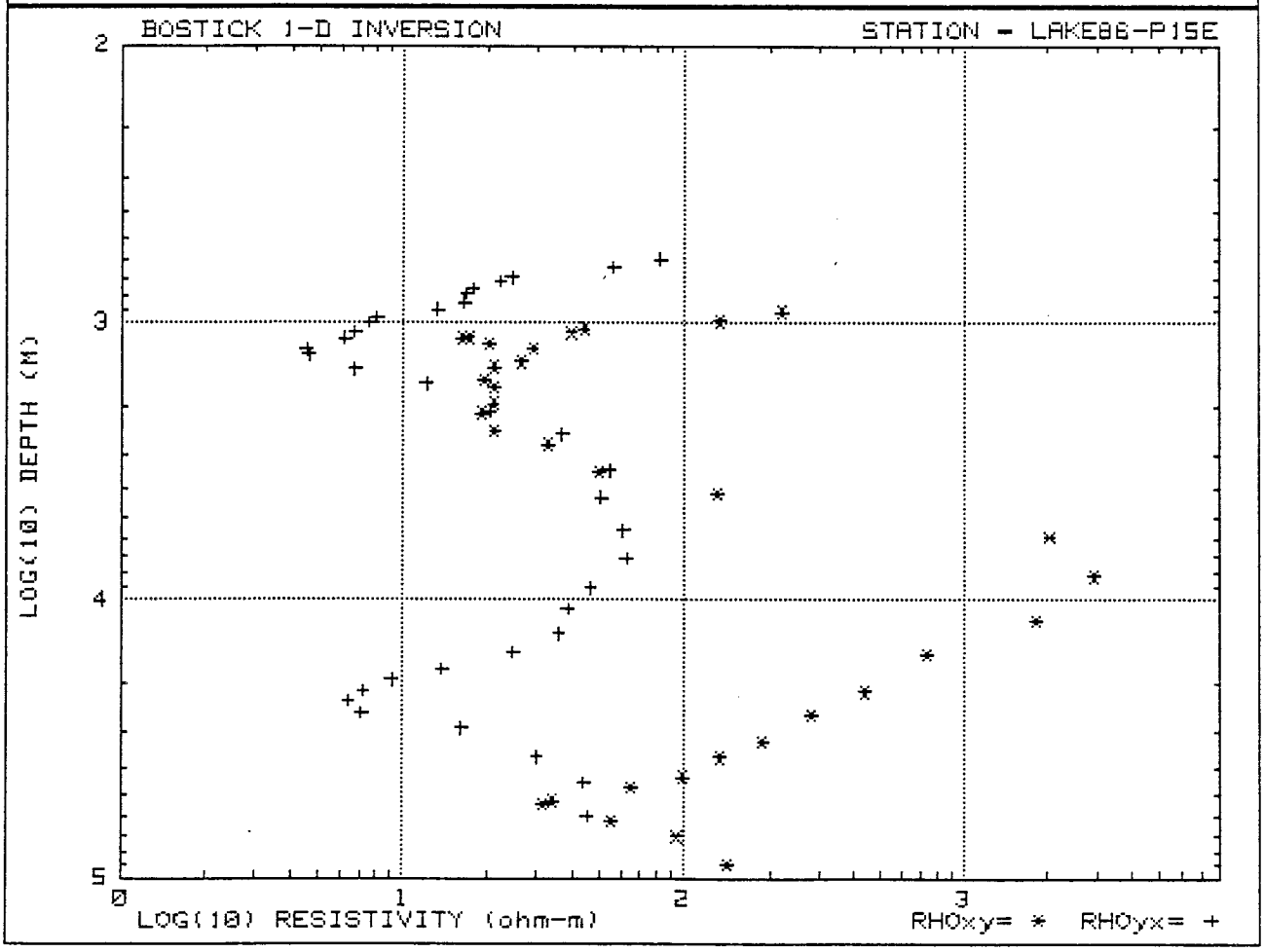




PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	283	996.8	7.4	371.0	33.3	75.7	2.0	-98.8	8.2
5	96.00 Hz	814	761.2	5.7	323.2	9.1	68.4	1.6	-99.0	2.5
7	48.00 Hz	1842	507.7	5.7	197.2	7.9	81.7	1.6	-93.1	2.2
8	36.00 Hz	2064	282.4	5.4	142.7	7.8	74.2	1.5	-108.4	2.1
9	24.00 Hz	2202	244.1	9.1	120.7	9.9	71.9	2.5	-105.0	2.7
10	18.00 Hz	2231	173.9	7.5	89.0	6.3	64.6	2.1	-114.5	1.8
11	12.00 Hz	2592	141.1	6.9	71.9	6.4	72.9	1.9	-108.5	1.8
12	9.00 Hz	2688	111.7	6.0	59.7	4.2	70.1	1.7	-109.8	1.2
13	6.00 Hz	2272	90.6	11.1	52.1	9.7	79.5	3.0	-100.6	2.7
14	4.50 Hz	2656	84.9	26.6	41.4	25.5	79.8	6.8	-101.2	6.5
15	3.00 Hz	22822	63.9	16.3	31.5	8.8	59.2	4.3	-105.4	2.4
16	2.25 Hz	37015	54.2	16.7	28.6	10.9	53.4	4.4	-104.7	3.0
17	1.50 Hz	13040	53.7	29.5	19.4	39.8	53.5	7.4	-99.0	9.6
18	1.13 Hz	12928	39.8	28.5	16.3	30.7	52.8	7.2	-109.5	7.7
19	1.33 Sec	5252	36.3	20.9	12.8	18.4	48.6	5.4	-121.0	4.8
20	1.78 Sec	5556	35.8	14.6	12.2	16.2	40.3	3.9	-128.7	4.3
21	2.67 Sec	1008	34.5	12.8	13.6	24.8	36.4	3.5	-140.5	6.3
22	3.56 Sec	3521	39.3	18.1	15.5	19.1	32.3	4.8	-140.5	5.0
23	5.33 Sec	2124	53.3	34.3	16.5	28.3	24.1	8.4	-144.8	7.1
24	7.11 Sec	2004	76.8	11.0	20.6	10.5	22.7	3.0	-145.2	2.9
25	10.67 Sec	797	103.2	5.6	23.5	3.8	20.6	1.6	-145.4	1.1
26	14.22 Sec	629	135.6	1.7	28.0	1.5	24.1	.5	-144.4	.4
27	21.33 Sec	576	177.9	1.0	30.7	1.0	29.4	.3	-141.6	.3
28	28.44 Sec	288	191.2	1.1	32.4	1.3	34.6	.3	-137.7	.4
29	42.67 Sec	510	186.3	4.5	31.2	4.4	42.4	1.3	-134.3	1.2
30	56.89 Sec	390	193.4	1.2	33.5	.8	48.2	.3	-131.2	.2
31	85.33 Sec	291	173.0	1.1	29.5	1.0	53.1	.3	-127.0	.3
32	113.78 Sec	297	159.3	1.4	26.1	2.1	55.3	.4	-126.3	.6
33	170.67 Sec	117	126.5	16.1	21.1	9.5	64.5	4.3	-125.0	2.6
34	227.56 Sec	117	104.8	2.9	19.9	2.3	54.6	.8	-126.4	.7
35	341.33 Sec	66	88.8	26.1	13.4	43.4	53.4	6.6	-128.1	10.3
36	455.11 Sec	60	83.8	21.7	13.1	42.4	55.6	5.6	-137.0	10.1
37	682.67 Sec	30	96.8	5.5	17.1	4.6	44.4	1.5	-134.0	1.3
38	910.22 Sec	36	99.0	19.3	18.1	13.3	41.6	5.0	-132.9	3.6
39	1365.33 Sec	9	107.9	5.7	21.0	8.0	45.9	1.6	-129.2	2.2

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	283	972.4	401.9	221.0	925	82.6	595
5	96.00 Hz	814	753.3	307.6	135.2	997	56.6	637
7	48.00 Hz	1842	429.2	183.4	44.2	1064	24.6	696
8	36.00 Hz	2064	341.6	146.8	39.9	1096	22.3	719
9	24.00 Hz	2202	248.1	110.1	17.2	1144	17.8	762
10	18.00 Hz	2231	186.9	89.0	16.4	1156	16.9	791
11	12.00 Hz	2592	138.7	68.7	20.4	1210	16.6	852
12	9.00 Hz	2688	111.6	58.3	29.0	1253	13.3	906
13	6.00 Hz	2272	92.3	44.4	26.4	1396	8.1	969
14	4.50 Hz	2656	76.0	36.1	21.2	1462	7.6	1008
15	3.00 Hz	22822	62.5	28.3	19.7	1624	6.7	1093
16	2.25 Hz	37015	52.9	23.5	21.1	1726	6.2	1151
17	1.50 Hz	13040	46.4	18.9	21.0	1979	4.5	1262
18	1.13 Hz	12928	40.8	15.4	19.1	2143	4.6	1317
19	1.33 Sec	5252	36.1	13.0	21.4	2469	6.7	1482
20	1.78 Sec	5556	34.2	12.4	33.0	2773	12.1	1668
21	2.67 Sec	1008	35.7	12.9	50.3	3471	20.5	2089
22	3.56 Sec	3521	38.4	14.4	131.8	4159	37.1	2550
23	5.33 Sec	2124	52.2	17.5	2034.7	5936	54.5	3440
24	7.11 Sec	2004	75.4	20.6	2940.2	8240	51.1	4309
25	10.67 Sec	797	105.9	23.5	1828.5	11962	61.0	5638
26	14.22 Sec	629	139.8	28.0	744.3	15866	63.0	7106
27	21.33 Sec	576	170.1	30.7	439.6	21441	46.9	9109
28	28.44 Sec	288	189.8	32.4	283.6	26152	38.7	10803
29	42.67 Sec	510	195.2	32.7	190.4	32477	36.1	13286
30	56.89 Sec	390	188.2	33.5	135.2	36827	24.9	15544
31	85.33 Sec	291	174.2	29.5	99.3	43391	13.8	17850
32	113.78 Sec	297	155.7	26.1	65.4	47362	9.2	19398
33	170.67 Sec	117	131.2	21.1	34.2	53261	7.2	21369
34	227.56 Sec	117	103.7	18.6	31.7	54656	6.4	23156
35	341.33 Sec	66	90.8	15.1	55.6	62653	7.2	25530
36	455.11 Sec	60	87.7	14.5	94.5	71114	16.3	28950
37	682.67 Sec	30	93.2	15.7	143.0	89755	30.1	36840
38	910.22 Sec	36	101.6	18.1	155.8	108203	44.3	45651
39	1365.33 Sec	9	107.8	21.0	145.3	136558	45.7	60269

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	283	-85.36	131.08	999.99	209.13	820.95	999.99
5	96.00 Hz	814	-46.41	-30.27	999.99	222.54	562.02	565.26
7	48.00 Hz	1842	-18.06	-16.45	407.62	50.48	345.40	186.53
8	36.00 Hz	2064	17.21	-15.74	233.78	61.49	216.91	69.94
9	24.00 Hz	2202	-27.86	10.13	272.57	53.16	162.68	111.25
10	18.00 Hz	2231	-4.35	.09	69.02	53.70	113.01	41.17
11	12.00 Hz	2592	4.11	4.41	42.69	27.01	87.95	19.05
12	9.00 Hz	2688	-.16	.68	13.22	24.12	66.66	8.64
13	6.00 Hz	2272	-4.27	.57	30.58	9.51	51.26	15.17
14	4.50 Hz	2656	-.46	3.26	106.68	7.71	43.03	53.20
15	3.00 Hz	22822	-3.80	8.74	32.70	15.84	26.61	10.94
16	2.25 Hz	37015	-2.92	8.67	24.79	14.74	19.82	7.30
17	1.50 Hz	13040	-4.85	3.18	25.10	11.95	16.13	13.43
18	1.13 Hz	12928	-2.23	1.47	16.07	9.05	11.93	7.05
19	1.33 Sec	5252	.121	-.525	6.557	7.714	8.763	2.457
20	1.78 Sec	5556	-.562	.074	2.813	7.651	6.485	.930
21	2.67 Sec	1008	.258	-.545	1.528	6.481	4.772	.470
22	3.56 Sec	3521	.282	.002	2.072	6.278	3.976	.766
23	5.33 Sec	2124	.046	-.262	2.800	6.457	2.884	2.172
24	7.11 Sec	2004	.264	-.499	.461	6.779	2.831	.293
25	10.67 Sec	797	.155	-.232	.051	6.511	2.448	.073
26	14.22 Sec	629	.245	-.255	.006	6.302	2.819	.007
27	21.33 Sec	576	.260	-.231	.001	5.627	3.166	.002
28	28.44 Sec	288	.278	-.138	.002	4.770	3.296	.002
29	42.67 Sec	510	.390	-.189	.020	3.450	3.150	.021
30	56.89 Sec	390	.292	-.018	.000	2.748	3.074	.001
31	85.33 Sec	291	.228	.043	.001	1.913	2.545	.001
32	113.78 Sec	297	.160	.083	.001	1.506	2.175	.001
33	170.67 Sec	117	.178	.111	.034	.829	1.737	.041
34	227.56 Sec	117	.044	.091	.001	.879	1.237	.001
35	341.33 Sec	66	.040	.012	.014	.680	.916	.035
36	455.11 Sec	60	.109	.043	.013	.542	.792	.018
37	682.67 Sec	30	.027	.041	.001	.601	.590	.001
38	910.22 Sec	36	.013	.048	.008	.552	.490	.008
39	1365.33 Sec	9	.059	-.007	.001	.438	.451	.001

PHOENIX GEOPHYSICS

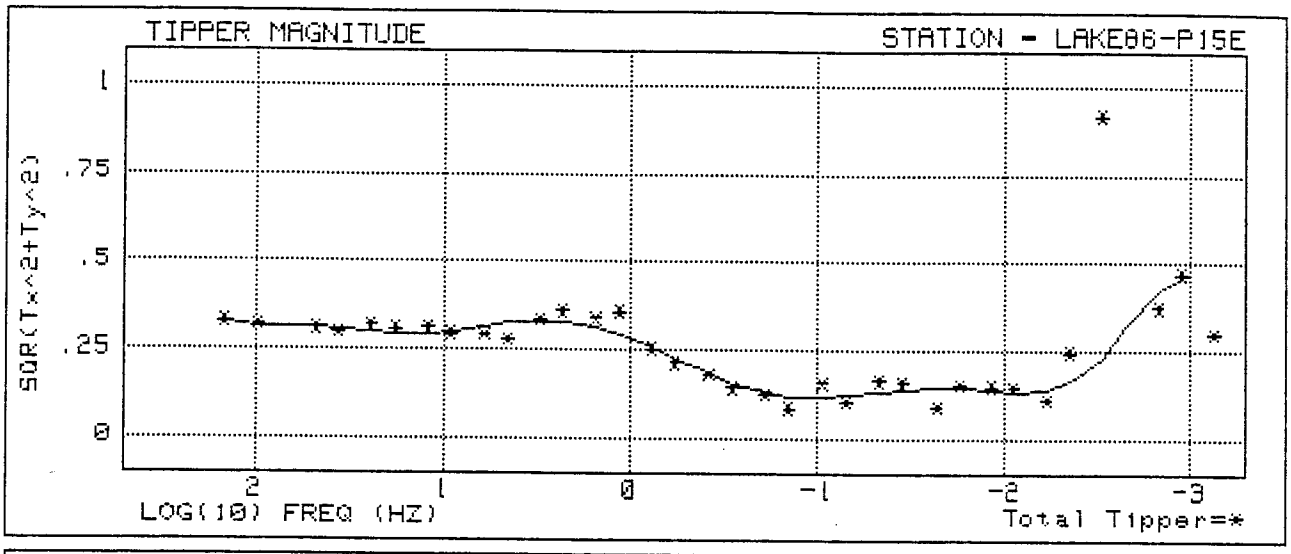
MT Site: LAKE86-P15E

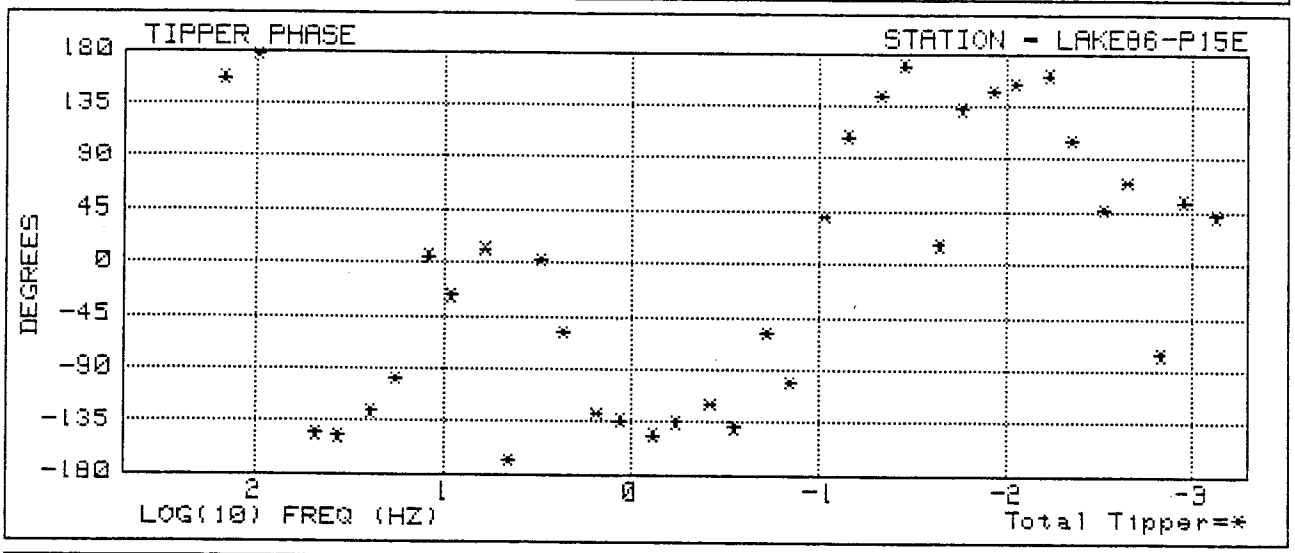
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

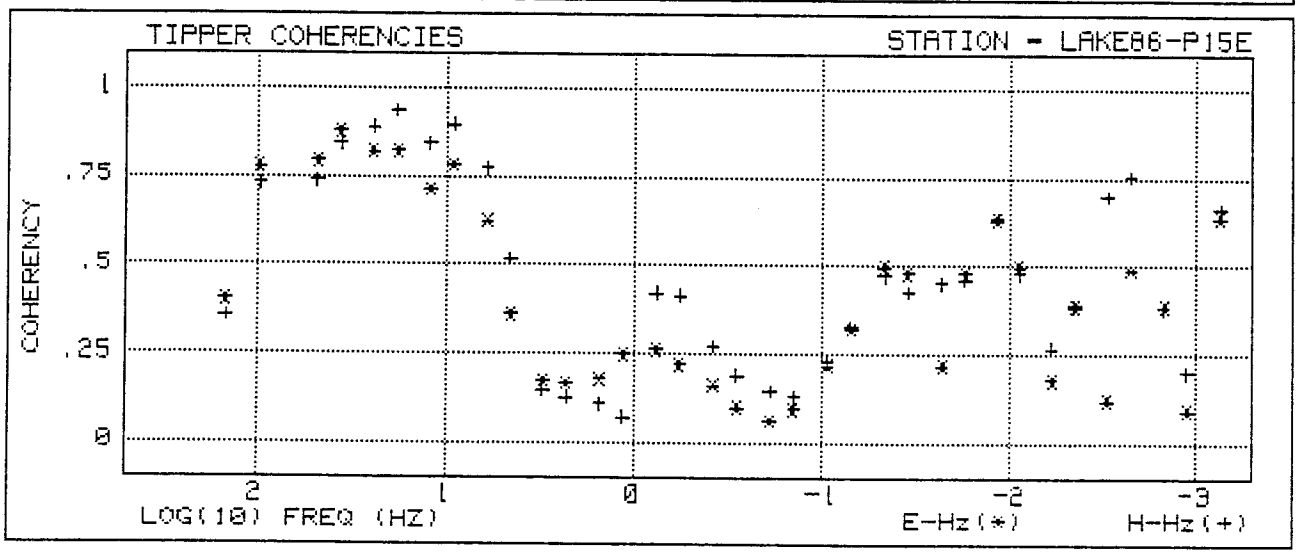
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	283	-78.81	-510.78	999.99	5.05	93.09	984.95
5	96.00 Hz	814	-61.70	-389.01	590.39	-48.16	-28.65	195.43
7	48.00 Hz	1842	-11.73	-217.26	135.31	-11.16	-18.53	61.92
8	36.00 Hz	2064	-50.55	-152.10	72.09	-7.69	-11.54	21.57
9	24.00 Hz	2202	-31.07	-116.27	65.13	2.67	-4.39	26.58
10	18.00 Hz	2231	-37.14	-81.44	15.15	-2.13	-1.08	9.04
11	12.00 Hz	2592	-20.86	-62.30	8.40	1.68	4.99	3.75
12	9.00 Hz	2688	-17.54	-48.75	2.30	2.33	-.24	1.50
13	6.00 Hz	2272	-7.29	-38.86	6.76	-.74	-.06	3.35
14	4.50 Hz	2656	-5.95	-29.93	24.08	-1.02	3.33	12.01
15	3.00 Hz	22822	-5.78	-20.95	1.67	.91	.38	.56
16	2.25 Hz	37015	-4.54	-17.35	1.72	-.85	.07	.51
17	1.50 Hz	13040	-1.90	-11.92	8.17	-2.75	-1.83	4.38
18	1.13 Hz	12928	-3.21	-9.03	3.30	-1.38	-.24	1.45
19	1.33 Sec	5252	-3.563	-5.939	.681	-.410	.256	.255
20	1.78 Sec	5556	-3.666	-4.571	.385	-.508	-.039	.127
21	2.67 Sec	1008	-3.897	-3.208	.624	-.042	-.049	.192
22	3.56 Sec	3521	-3.607	-2.968	.334	.215	.181	.123
23	5.33 Sec	2124	-3.219	-2.267	.480	-.029	.135	.372
24	7.11 Sec	2004	-3.127	-2.172	.072	.154	.108	.046
25	10.67 Sec	797	-2.734	-1.886	.008	.116	.036	.011
26	14.22 Sec	629	-2.551	-1.829	.001	.170	.027	.001
27	21.33 Sec	576	-2.103	-1.666	.000	.145	.039	.001
28	28.44 Sec	288	-1.765	-1.606	.000	.159	.073	.001
29	42.67 Sec	510	-1.335	-1.369	.003	.182	.058	.004
30	56.89 Sec	390	-1.131	-1.292	.000	.167	.096	.000
31	85.33 Sec	291	-.790	-1.050	.000	.151	.100	.000
32	113.78 Sec	297	-.635	-.863	.000	.146	.092	.000
33	170.67 Sec	117	-.451	-.645	.003	.093	.141	.003
34	227.56 Sec	117	-.393	-.533	.000	.104	.050	.000
35	341.33 Sec	66	-.274	-.349	.013	.071	-.009	.032
36	455.11 Sec	60	-.278	-.259	.009	.130	.032	.013
37	682.67 Sec	30	-.246	-.254	.000	.042	.025	.000
38	910.22 Sec	36	-.215	-.231	.001	.035	.019	.001
39	1365.33 Sec	9	-.175	-.215	.000	.030	.025	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E







PHOENIX GEOPHYSICS

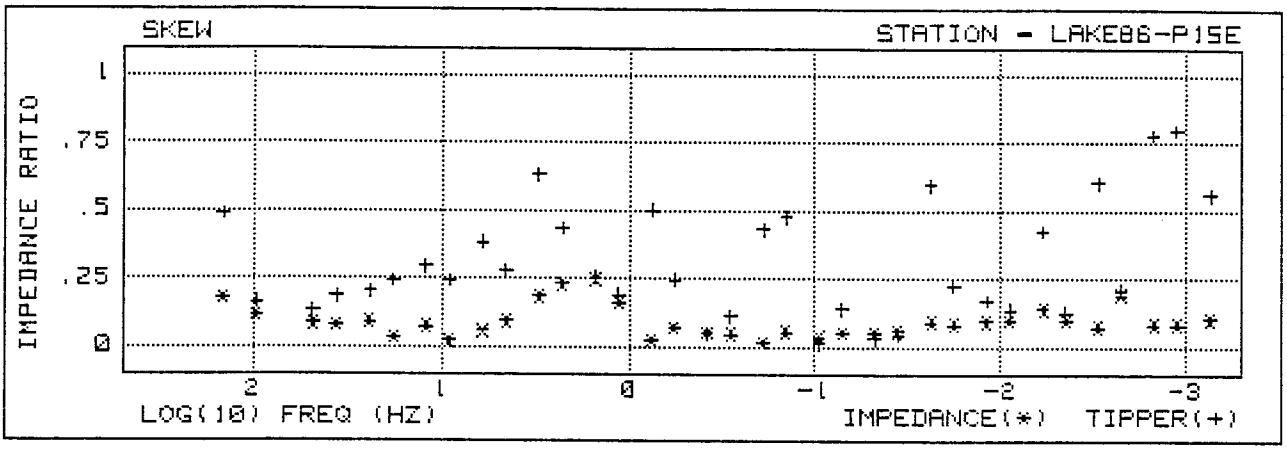
MT Site: LAKE86-P15E

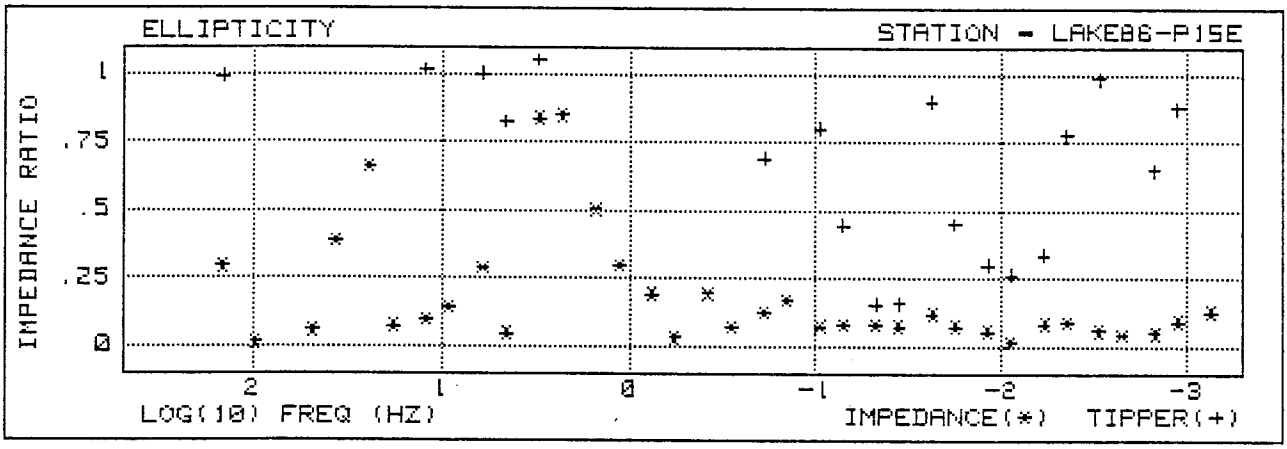
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

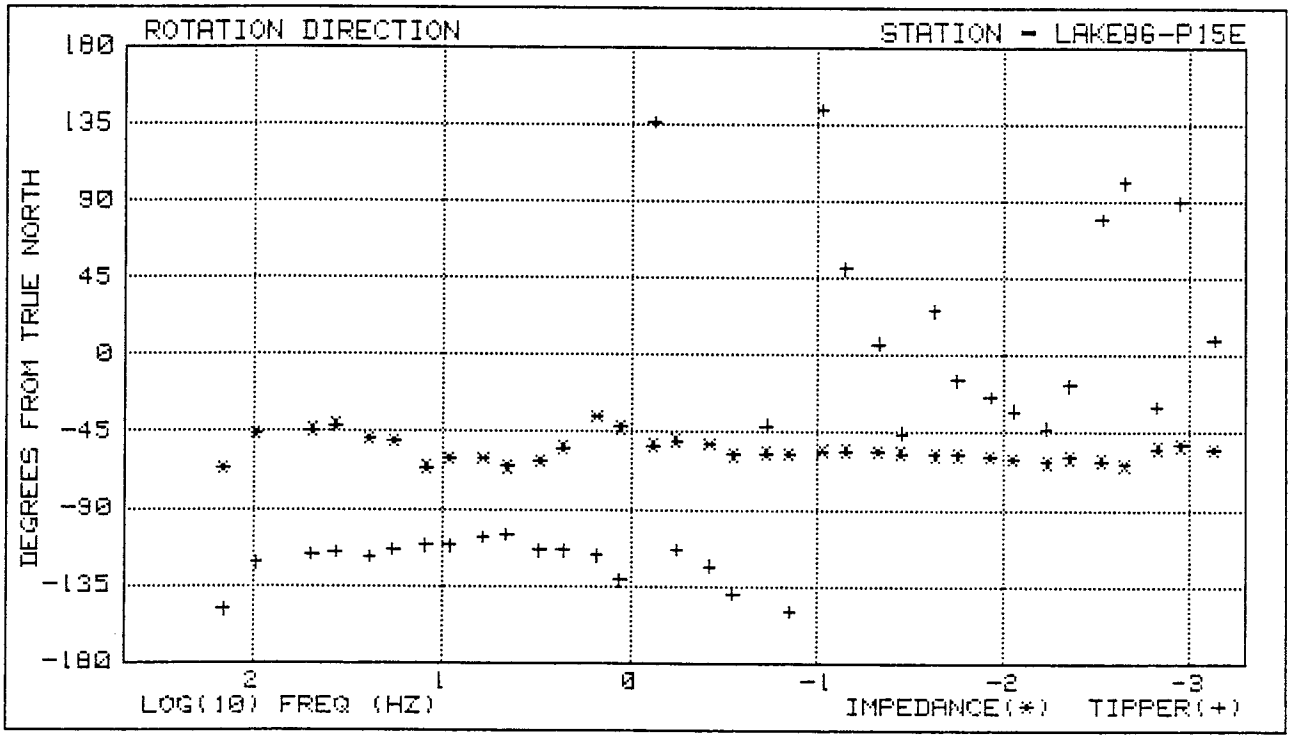
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	283	.33	156.01	.40	.35
5	96.00 Hz	814	.32	176.12	.77	.73
7	48.00 Hz	1842	.31	-146.14	.79	.74
8	36.00 Hz	2064	.30	-148.06	.87	.84
9	24.00 Hz	2202	.31	-127.33	.82	.89
10	18.00 Hz	2231	.31	-99.40	.82	.93
11	12.00 Hz	2592	.31	4.74	.71	.84
12	9.00 Hz	2688	.29	-28.15	.78	.89
13	6.00 Hz	2272	.29	11.00	.62	.77
14	4.50 Hz	2656	.27	-168.60	.36	.51
15	3.00 Hz	22822	.33	1.40	.17	.14
16	2.25 Hz	37015	.36	-59.33	.16	.12
17	1.50 Hz	13040	.33	-129.06	.17	.10
18	1.13 Hz	12928	.35	-134.43	.24	.07
19	1.33 Sec	5252	.25	-147.11	.26	.42
20	1.78 Sec	5556	.21	-135.82	.22	.41
21	2.67 Sec	1008	.18	-119.99	.16	.27
22	3.56 Sec	3521	.14	-139.67	.09	.18
23	5.33 Sec	2124	.12	-59.39	.06	.14
24	7.11 Sec	2004	.08	-101.13	.09	.12
25	10.67 Sec	797	.15	39.36	.21	.22
26	14.22 Sec	629	.10	107.89	.32	.32
27	21.33 Sec	576	.16	142.77	.49	.47
28	28.44 Sec	288	.15	168.70	.48	.42
29	42.67 Sec	510	.09	15.56	.21	.45
30	56.89 Sec	390	.15	131.47	.47	.46
31	85.33 Sec	291	.14	146.85	.63	.63
32	113.78 Sec	297	.14	152.82	.49	.48
33	170.67 Sec	117	.11	160.32	.17	.26
34	227.56 Sec	117	.24	104.68	.38	.38
35	341.33 Sec	66	.92	45.86	.12	.69
36	455.11 Sec	60	1.45	69.30	.48	.75
37	682.67 Sec	30	.37	-77.03	.38	.38
38	910.22 Sec	36	.47	52.69	.09	.19
39	1365.33 Sec	9	.30	40.65	.63	.66

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E







PHOENIX GEOPHYSICS

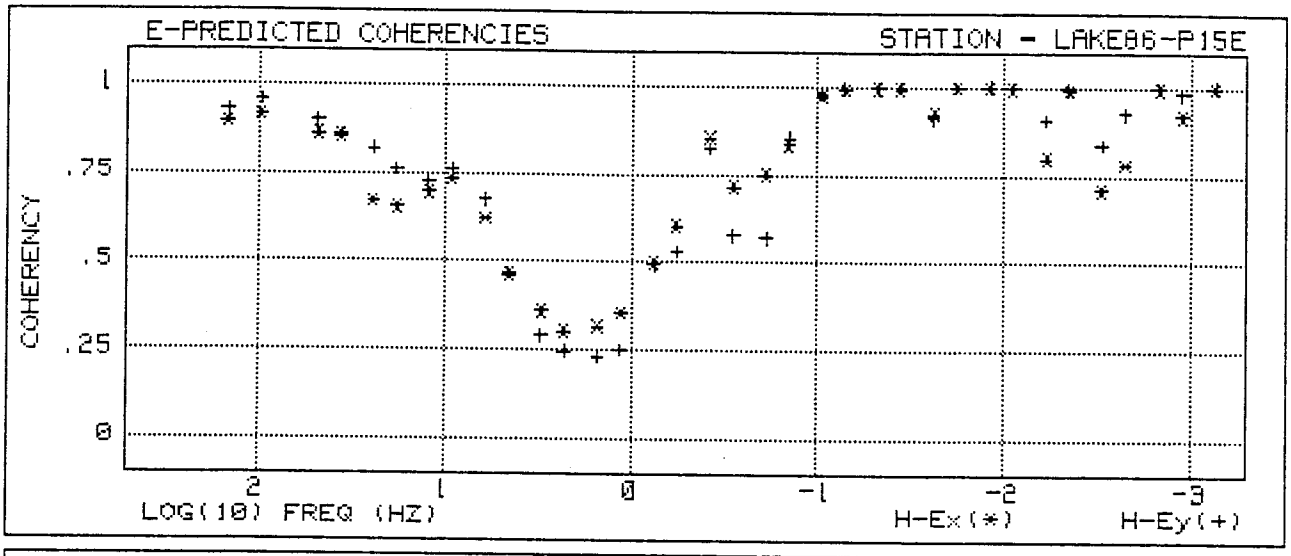
MT Site: LAKE86-P15E

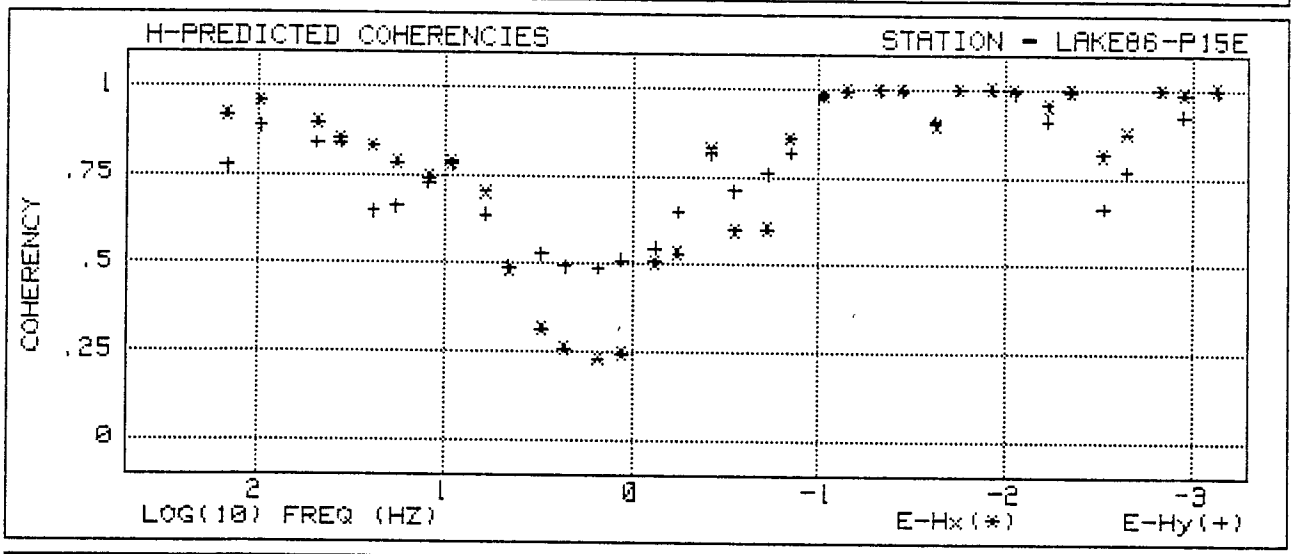
SKEW, ELLIPTICITY AND STRIKE

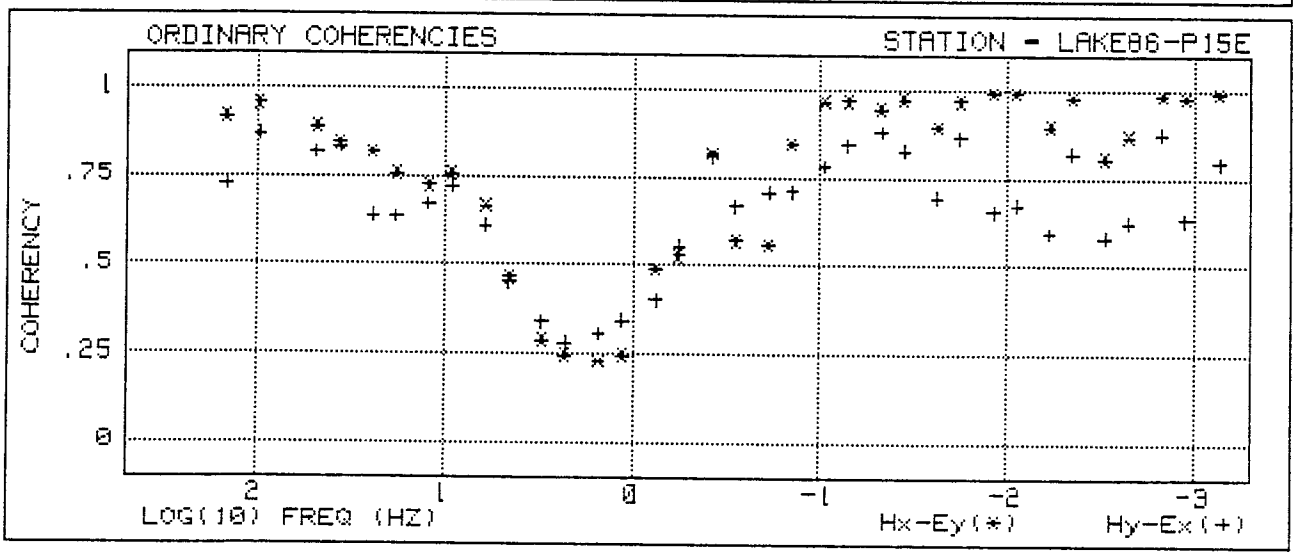
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	283	.17	.29	-66.49	.49	.99	-149.40
5	96.00 Hz	814	.11	.01	-46.63	.16	3.26	-121.86
7	48.00 Hz	1842	.08	.05	-44.68	.13	3.07	-117.41
8	36.00 Hz	2064	.07	.38	-41.50	.18	3.19	-115.60
9	24.00 Hz	2202	.09	.66	-49.38	.20	2.48	-118.58
10	18.00 Hz	2231	.03	.07	-50.80	.24	1.89	-114.46
11	12.00 Hz	2592	.07	.09	-66.01	.29	1.01	-112.15
12	9.00 Hz	2688	.02	.14	-60.70	.24	1.23	-112.14
13	6.00 Hz	2272	.05	.28	-61.03	.38	1.00	-107.14
14	4.50 Hz	2656	.09	.04	-65.94	.27	.82	-105.53
15	3.00 Hz	22822	.18	.83	-62.50	.63	1.05	-114.65
16	2.25 Hz	37015	.23	.84	-54.83	.43	1.58	-115.11
17	1.50 Hz	13040	.25	.50	-36.49	.25	4.95	-117.64
18	1.13 Hz	12928	.16	.29	-42.35	.19	10.54	-132.40
19	1.33 Sec	5252	.02	.19	-53.02	.50	1.57	135.69
20	1.78 Sec	5556	.07	.03	-50.46	.24	1.98	-114.29
21	2.67 Sec	1008	.05	.19	-52.30	.04	3.01	-123.97
22	3.56 Sec	3521	.04	.07	-58.51	.11	6.34	-140.10
23	5.33 Sec	2124	.01	.12	-57.73	.43	.69	-41.48
24	7.11 Sec	2004	.05	.17	-57.80	.47	1.83	-150.68
25	10.67 Sec	797	.03	.07	-56.03	.01	.80	143.11
26	14.22 Sec	629	.05	.08	-56.10	.14	.44	50.14
27	21.33 Sec	576	.05	.08	-56.39	.03	.15	6.23
28	28.44 Sec	288	.05	.07	-57.33	.04	.15	-45.82
29	42.67 Sec	510	.09	.12	-58.25	.59	.90	25.64
30	56.89 Sec	390	.08	.07	-58.56	.22	.45	-15.27
31	85.33 Sec	291	.09	.05	-59.65	.17	.30	-24.65
32	113.78 Sec	297	.09	.01	-60.67	.13	.26	-32.72
33	170.67 Sec	117	.14	.08	-62.79	.42	.33	-43.07
34	227.56 Sec	117	.09	.09	-60.00	.12	.77	-18.03
35	341.33 Sec	66	.07	.05	-61.84	.60	.98	79.52
36	455.11 Sec	60	.19	.04	-64.19	.21	1.20	100.77
37	682.67 Sec	30	.08	.05	-54.83	.78	.64	-30.30
38	910.22 Sec	36	.08	.09	-52.63	.79	.87	89.05
39	1365.33 Sec	9	.10	.12	-54.90	.55	1.94	8.35

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E







PHOENIX GEOPHYSICS

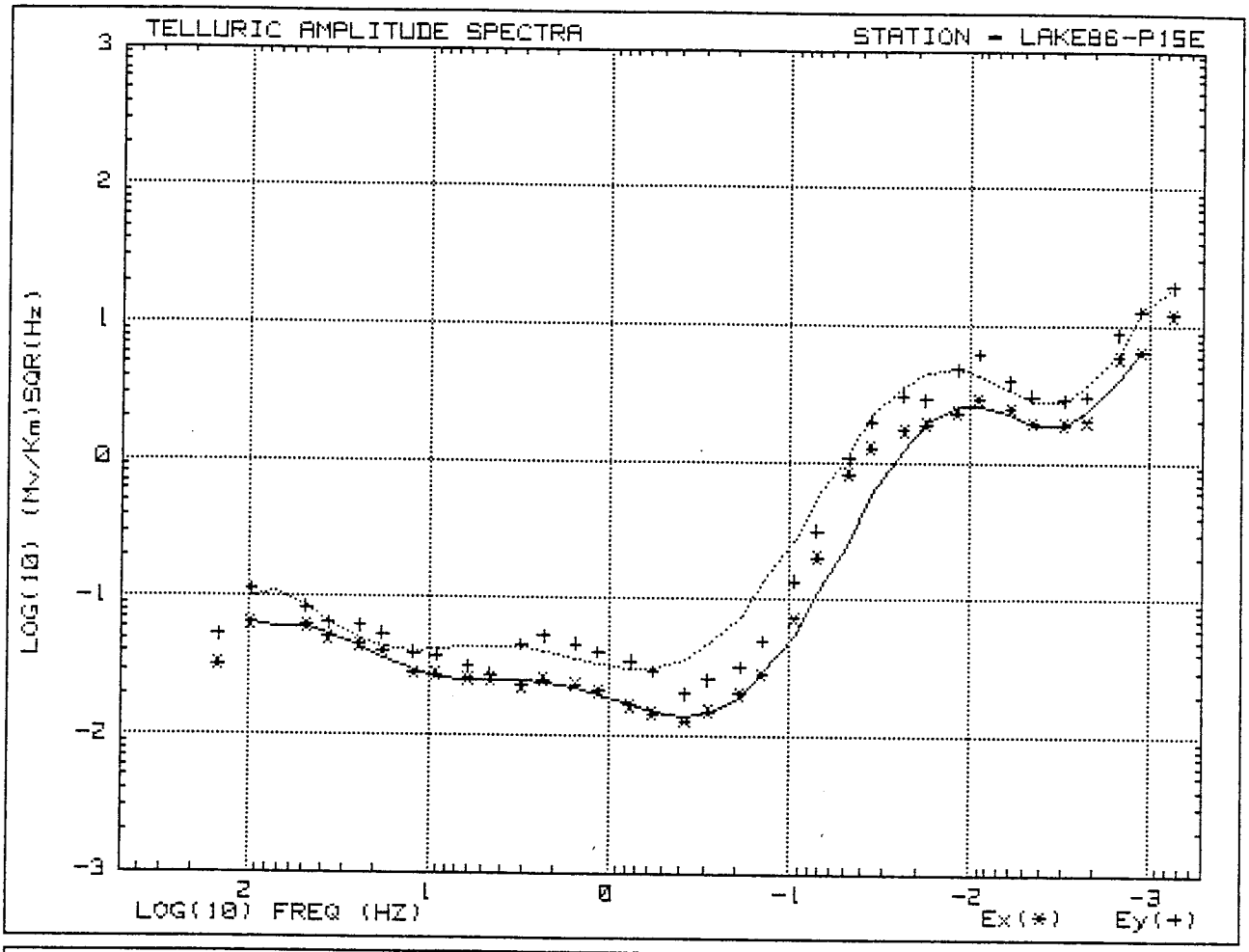
MT Site: LAKE86-P15E

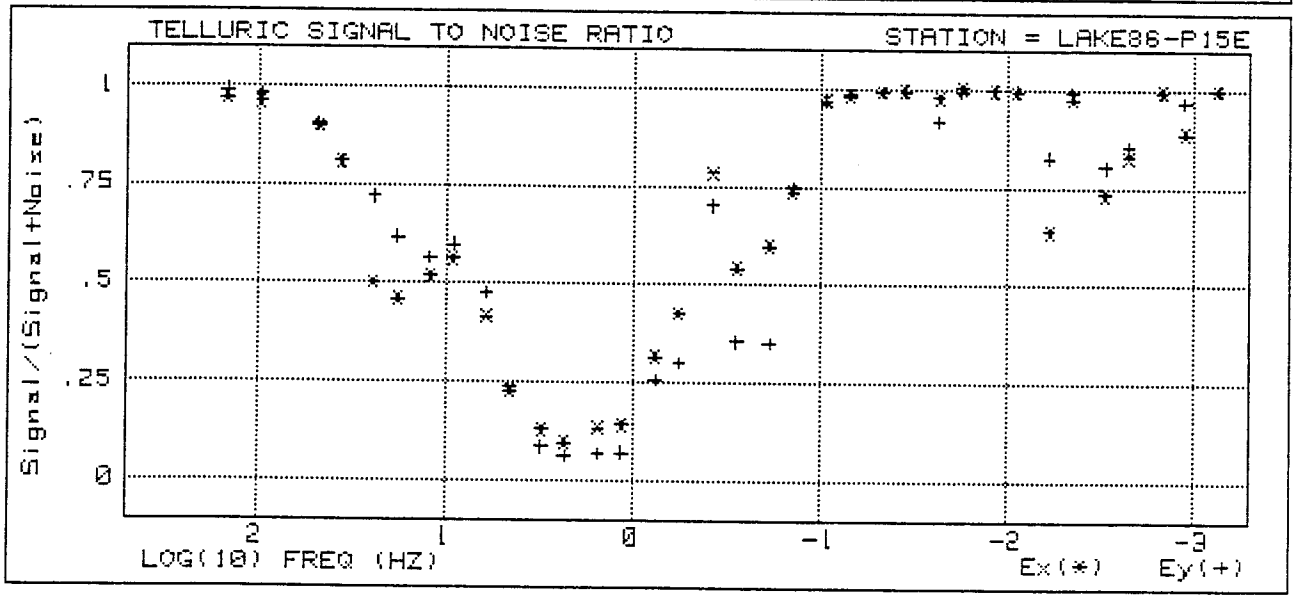
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	283	.89	.92	.91	.77	.91	.72
5	96.00 Hz	814	.91	.96	.95	.88	.95	.87
7	48.00 Hz	1842	.86	.90	.89	.83	.89	.81
8	36.00 Hz	2064	.85	.86	.85	.84	.84	.83
9	24.00 Hz	2202	.67	.82	.83	.64	.81	.63
10	18.00 Hz	2231	.65	.76	.78	.66	.75	.63
11	12.00 Hz	2592	.69	.72	.74	.72	.72	.67
12	9.00 Hz	2688	.73	.76	.78	.78	.75	.72
13	6.00 Hz	2272	.62	.67	.70	.63	.66	.61
14	4.50 Hz	2656	.46	.46	.48	.49	.46	.45
15	3.00 Hz	22822	.36	.28	.31	.53	.28	.34
16	2.25 Hz	37015	.30	.24	.25	.49	.24	.28
17	1.50 Hz	13040	.31	.23	.23	.48	.22	.30
18	1.13 Hz	12928	.35	.25	.24	.51	.24	.34
19	1.33 Sec	5252	.49	.49	.50	.54	.49	.40
20	1.78 Sec	5556	.60	.53	.53	.65	.52	.55
21	2.67 Sec	1008	.85	.82	.83	.81	.81	.80
22	3.56 Sec	3521	.71	.57	.59	.71	.57	.67
23	5.33 Sec	2124	.75	.57	.60	.76	.55	.70
24	7.11 Sec	2004	.83	.85	.86	.81	.84	.71
25	10.67 Sec	797	.97	.98	.98	.97	.96	.78
26	14.22 Sec	629	.99	.99	.99	.99	.97	.84
27	21.33 Sec	576	.99	1.00	1.00	.99	.94	.88
28	28.44 Sec	288	.99	1.00	1.00	.99	.97	.82
29	42.67 Sec	510	.92	.91	.90	.90	.89	.69
30	56.89 Sec	390	1.00	1.00	1.00	1.00	.97	.86
31	85.33 Sec	291	1.00	1.00	1.00	1.00	.99	.65
32	113.78 Sec	297	.99	1.00	1.00	.99	.99	.67
33	170.67 Sec	117	.80	.91	.95	.91	.89	.59
34	227.56 Sec	117	.99	.99	.99	.99	.98	.82
35	341.33 Sec	66	.71	.84	.81	.66	.80	.58
36	455.11 Sec	60	.78	.92	.87	.76	.86	.62
37	682.67 Sec	30	1.00	1.00	1.00	1.00	.98	.87
38	910.22 Sec	36	.92	.98	.99	.92	.98	.63
39	1365.33 Sec	9	1.00	1.00	1.00	.99	.99	.79

PHOENIX GEOPHYSICS

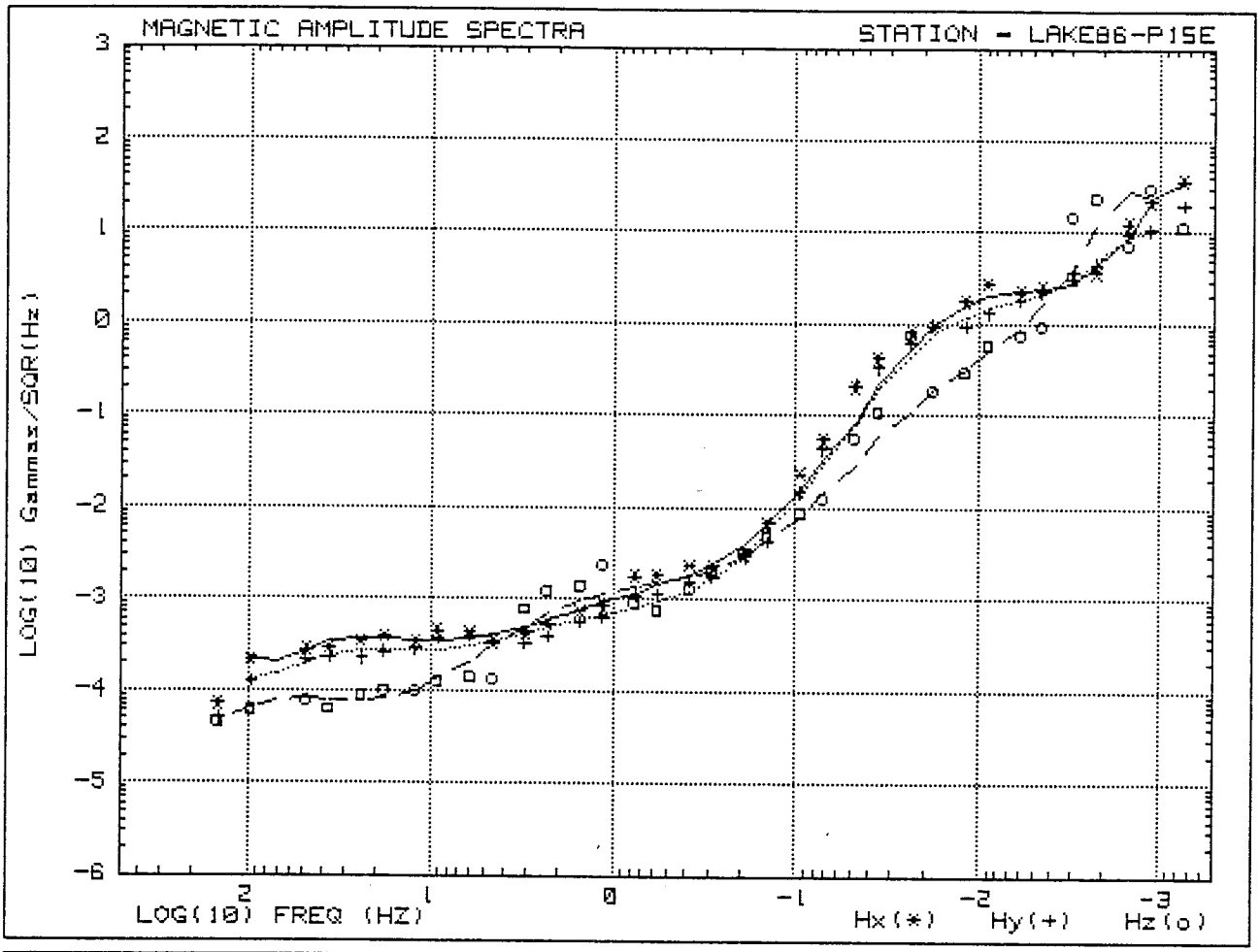
MT Site: LAKE86-P15E

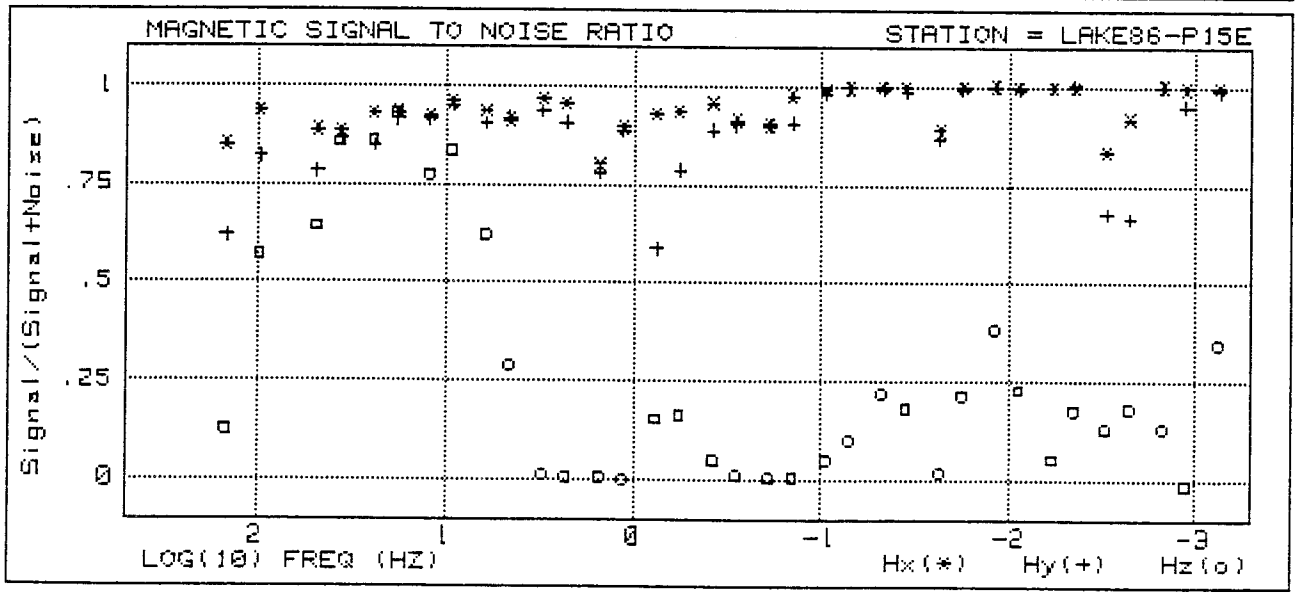




PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	283	6.98E-05	4.88E-05	4.89E-05	3.18E-02	5.18E-02
5	96.00 Hz	814	2.12E-04	1.23E-04	6.45E-05	6.39E-02	1.12E-01
7	48.00 Hz	1842	2.75E-04	2.13E-04	8.10E-05	6.15E-02	8.29E-02
8	36.00 Hz	2064	2.87E-04	2.29E-04	6.61E-05	5.02E-02	6.38E-02
9	24.00 Hz	2202	3.39E-04	2.18E-04	9.15E-05	4.46E-02	6.14E-02
10	18.00 Hz	2231	3.81E-04	2.57E-04	1.06E-04	3.99E-02	5.32E-02
11	12.00 Hz	2592	3.43E-04	2.76E-04	1.05E-04	2.79E-02	3.88E-02
12	9.00 Hz	2688	4.40E-04	3.63E-04	1.33E-04	2.73E-02	3.74E-02
13	6.00 Hz	2272	4.29E-04	3.83E-04	1.45E-04	2.54E-02	3.08E-02
14	4.50 Hz	2656	3.24E-04	3.39E-04	1.39E-04	2.51E-02	2.71E-02
15	3.00 Hz	22822	4.26E-04	3.27E-04	8.19E-04	2.26E-02	4.49E-02
16	2.25 Hz	37015	5.29E-04	3.85E-04	1.26E-03	2.52E-02	5.20E-02
17	1.50 Hz	13040	7.21E-04	5.45E-04	1.48E-03	2.30E-02	4.55E-02
18	1.13 Hz	12928	8.16E-04	6.15E-04	2.48E-03	2.08E-02	3.99E-02
19	1.33 Sec	5252	1.76E-03	1.09E-03	9.56E-04	1.64E-02	3.47E-02
20	1.78 Sec	5556	1.82E-03	1.13E-03	7.78E-04	1.43E-02	2.90E-02
21	2.67 Sec	1008	2.31E-03	1.55E-03	1.34E-03	1.25E-02	2.01E-02
22	3.56 Sec	3521	2.27E-03	1.76E-03	2.14E-03	1.50E-02	2.54E-02
23	5.33 Sec	2124	3.04E-03	2.90E-03	3.39E-03	1.99E-02	3.16E-02
24	7.11 Sec	2004	6.60E-03	4.18E-03	4.97E-03	2.79E-02	4.86E-02
25	10.67 Sec	797	2.29E-02	1.46E-02	9.03E-03	7.17E-02	1.33E-01
26	14.22 Sec	629	5.37E-02	4.24E-02	1.33E-02	1.99E-01	3.08E-01
27	21.33 Sec	576	2.03E-01	2.11E-01	5.86E-02	8.02E-01	1.03E+00
28	28.44 Sec	288	4.11E-01	3.28E-01	1.16E-01	1.25E+00	1.95E+00
29	42.67 Sec	510	7.93E-01	5.93E-01	7.90E-01	1.68E+00	3.00E+00
30	56.89 Sec	390	9.14E-01	9.40E-01	1.97E-01	1.87E+00	2.82E+00
31	85.33 Sec	291	1.76E+00	9.16E-01	3.08E-01	2.28E+00	4.75E+00
32	113.78 Sec	297	2.67E+00	1.29E+00	6.11E-01	2.86E+00	6.05E+00
33	170.67 Sec	117	2.18E+00	1.82E+00	7.94E-01	2.43E+00	3.88E+00
34	227.56 Sec	117	2.43E+00	2.22E+00	9.72E-01	1.91E+00	3.02E+00
35	341.33 Sec	66	3.12E+00	3.74E+00	1.55E+01	1.87E+00	2.80E+00
36	455.11 Sec	60	3.56E+00	4.44E+00	2.48E+01	1.96E+00	2.97E+00
37	682.67 Sec	30	1.24E+01	9.69E+00	7.50E+00	5.79E+00	8.56E+00
38	910.22 Sec	36	2.14E+01	1.04E+01	3.15E+01	6.34E+00	1.25E+01
39	1365.33 Sec	9	3.60E+01	1.94E+01	1.19E+01	1.19E+01	1.92E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P15E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	283	.848	.619	.132	.968	.987
5	96.00 Hz	814	.934	.819	.579	.957	.976
7	48.00 Hz	1842	.886	.782	.649	.897	.902
8	36.00 Hz	2064	.885	.865	.864	.807	.808
9	24.00 Hz	2202	.929	.846	.868	.501	.718
10	18.00 Hz	2231	.930	.913	.938	.458	.616
11	12.00 Hz	2592	.923	.913	.781	.516	.564
12	9.00 Hz	2688	.957	.949	.839	.562	.597
13	6.00 Hz	2272	.935	.904	.626	.414	.476
14	4.50 Hz	2656	.911	.918	.293	.225	.234
15	3.00 Hz	22822	.967	.936	.018	.127	.083
16	2.25 Hz	37015	.953	.905	.012	.093	.061
17	1.50 Hz	13040	.800	.780	.012	.131	.066
18	1.13 Hz	12928	.895	.887	.004	.139	.068
19	1.33 Sec	5252	.929	.587	.158	.313	.255
20	1.78 Sec	5556	.936	.786	.168	.424	.299
21	2.67 Sec	1008	.956	.886	.052	.781	.700
22	3.56 Sec	3521	.913	.901	.018	.540	.354
23	5.33 Sec	2124	.899	.901	.008	.597	.349
24	7.11 Sec	2004	.974	.905	.010	.736	.743
25	10.67 Sec	797	.992	.979	.053	.969	.968
26	14.22 Sec	629	.996	.996	.105	.981	.986
27	21.33 Sec	576	.997	.993	.223	.991	.992
28	28.44 Sec	288	.999	.988	.188	.994	.994
29	42.67 Sec	510	.889	.866	.022	.976	.916
30	56.89 Sec	390	.999	.994	.220	1.000	.994
31	85.33 Sec	291	1.000	.999	.386	.995	.996
32	113.78 Sec	297	.998	.993	.234	.991	.994
33	170.67 Sec	117	.998	.997	.058	.637	.823
34	227.56 Sec	117	.999	1.000	.183	.975	.989
35	341.33 Sec	66	.834	.676	.134	.731	.800
36	455.11 Sec	60	.917	.664	.187	.826	.851
37	682.67 Sec	30	.999	.999	.137	.993	.992
38	910.22 Sec	36	.996	.949	0.000	.886	.966
39	1365.33 Sec	9	.999	.990	.352	.998	.998

PHOENIX GEOPHYSICS

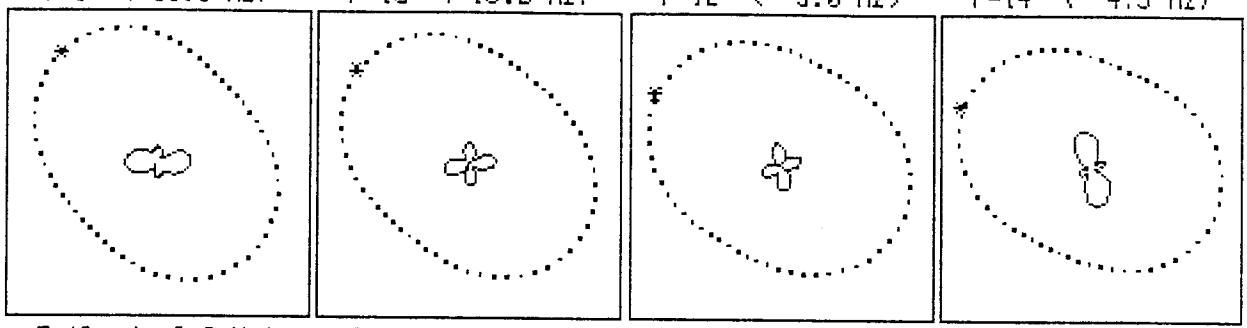
MT Site: LAKE86-P15E

IMPEDANCE POLAR DIAGRAMS

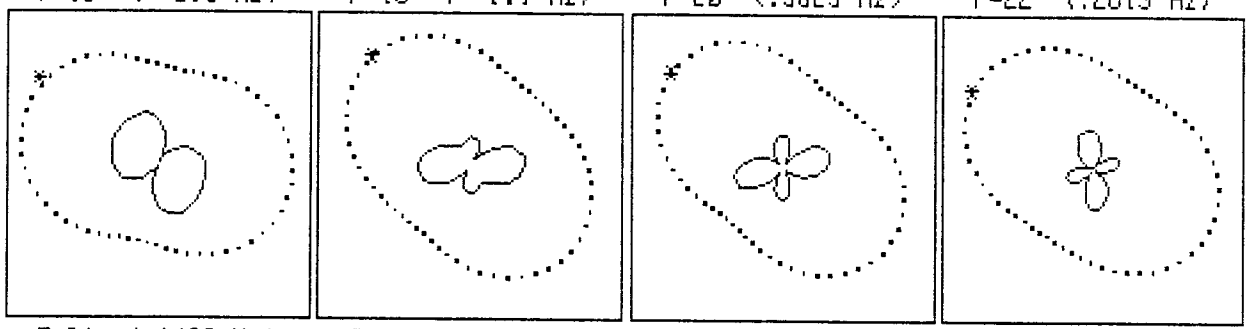
XPR File:X#ED=3
Zxx Normalized to 1 *=Rotation Direction

Zxy = ...
Zxx = ___

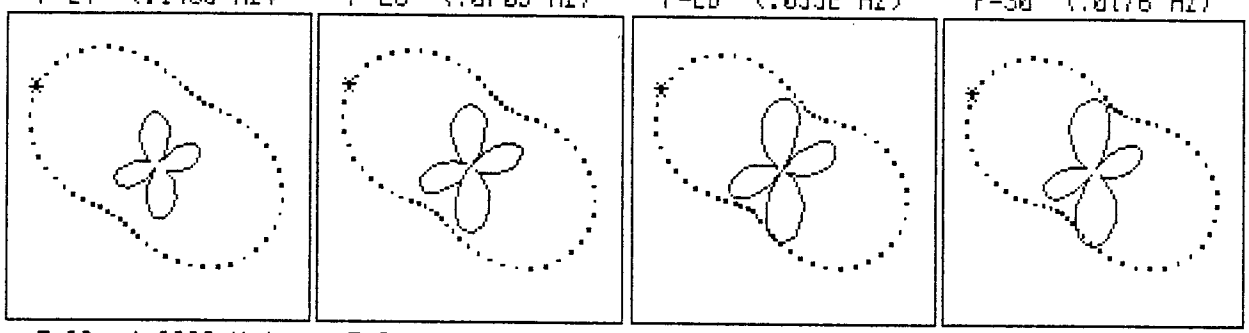
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



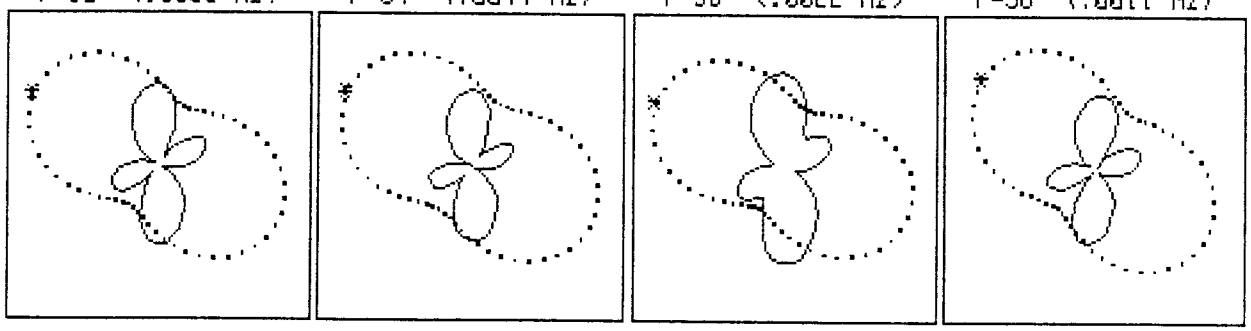
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P14b/P16a/

Operator:D. OJALA
Date: 14 Oct 1986
Time: 11:30:04

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer:	D#206-02Sep86-15
SP--Stn01:	B#221-30Aug86-05
SP--Stn02:	B#507-30Aug86-05
Sens-Ch01:	C#201-04Sep86-01
Sens-Ch02:	C#436-04Sep86-01
Sens-Ch03:	L#419-05Sep86-01
Sens-Ch06:	C#306-04Sep86-01
Sens-Ch07:	C#452-04Sep86-01
Sens-Ch08:	L#416-05Sep86-01

Station 2

Stn Number:LAKE86-P16a
Site Desc:T43N R3E Sec.36 NE1/4
41,31,33 N 121,34,16 W
Elevation:6000 FT
Reference:LAKE86-P14b
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: P. BURNS
Sensor Processor: SE507
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL306	+45 DEG
Hy	7	COIL452	+135 DEG
Hz	8	LOOP416	
Ex	9	200 M	+45 DEG
Ey	10	200 M	+135 DEG
Rx	1	COIL201	+0 DEG
Ry	2	COIL436	+90 DEG

Ex Pot Resist: 4.5 K Ohms
Ex Voltage: AC=26.9 mv, DC=81.1 mv
Ey Pot Resist: 5.5 K Ohms
Ey Voltage: AC=20.7 mv, DC=130.2mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

OPERATOR LOG FOR MT SITES LAKE86-P14b/P16a/
Run Chronology

Run STARTED:	11:30:04	14 Oct	1986
Data Acquisition Begun:	13:36:05	14 Oct	1986
Entered HI Range:	13:36:17	14 Oct	1986
Began HI X#2:	13:46:48	14 Oct	1986
Exited HI Range:	13:47:17	14 Oct	1986
Entered LO Range:	13:47:32	14 Oct	1986
Began LO X#2:	14:43:10	14 Oct	1986
Began LO X#3:	15:38:46	14 Oct	1986
Began LO X#4:	16:34:22	14 Oct	1986
Began LO X#5:	17:29:53	14 Oct	1986
Began LO X#6:	18:25:26	14 Oct	1986
Exited LO Range:	18:34:58	14 Oct	1986
Entered HI Range:	18:35:01	14 Oct	1986
Exited HI Range:	19:10:37	14 Oct	1986
Entered LO Range:	19:10:41	14 Oct	1986
Began LO X#7:	20:30:13	14 Oct	1986
Began LO X#8:	21:59:03	14 Oct	1986
Began LO X#9:	23:27:57	14 Oct	1986
Began LO X#10:	00:56:50	15 Oct	1986
Exited LO Range:	02:38:48	15 Oct	1986
Entered HI Range:	02:38:52	15 Oct	1986
Began HI X#3:	03:11:48	15 Oct	1986
Began HI X#4:	03:23:02	15 Oct	1986
Began HI X#5:	03:34:08	15 Oct	1986
Began HI X#6:	03:45:15	15 Oct	1986
Began HI X#7:	03:56:36	15 Oct	1986
Began HI X#8:	04:08:05	15 Oct	1986
Began HI X#9:	04:19:33	15 Oct	1986
Began HI X#10:	04:31:08	15 Oct	1986
Exited HI Range:	04:49:03	15 Oct	1986
Run QUIT:	04:49:05	15 Oct	1986

Operator:D. OJALA

Cultural Factors:
POWER CORRIDOR ~20 MILES EAST OF SITES.
Weather Conditions:
CLEAR AND WARM DURING THE DAY, CLEAR AND COOL AT NIGHT.
WINDS CALM.
Other Factors:
ANOTHER NIGHT WITH SOME FAIRLY GOOD SIGNAL.

PHOENIX GEOPHYSICS

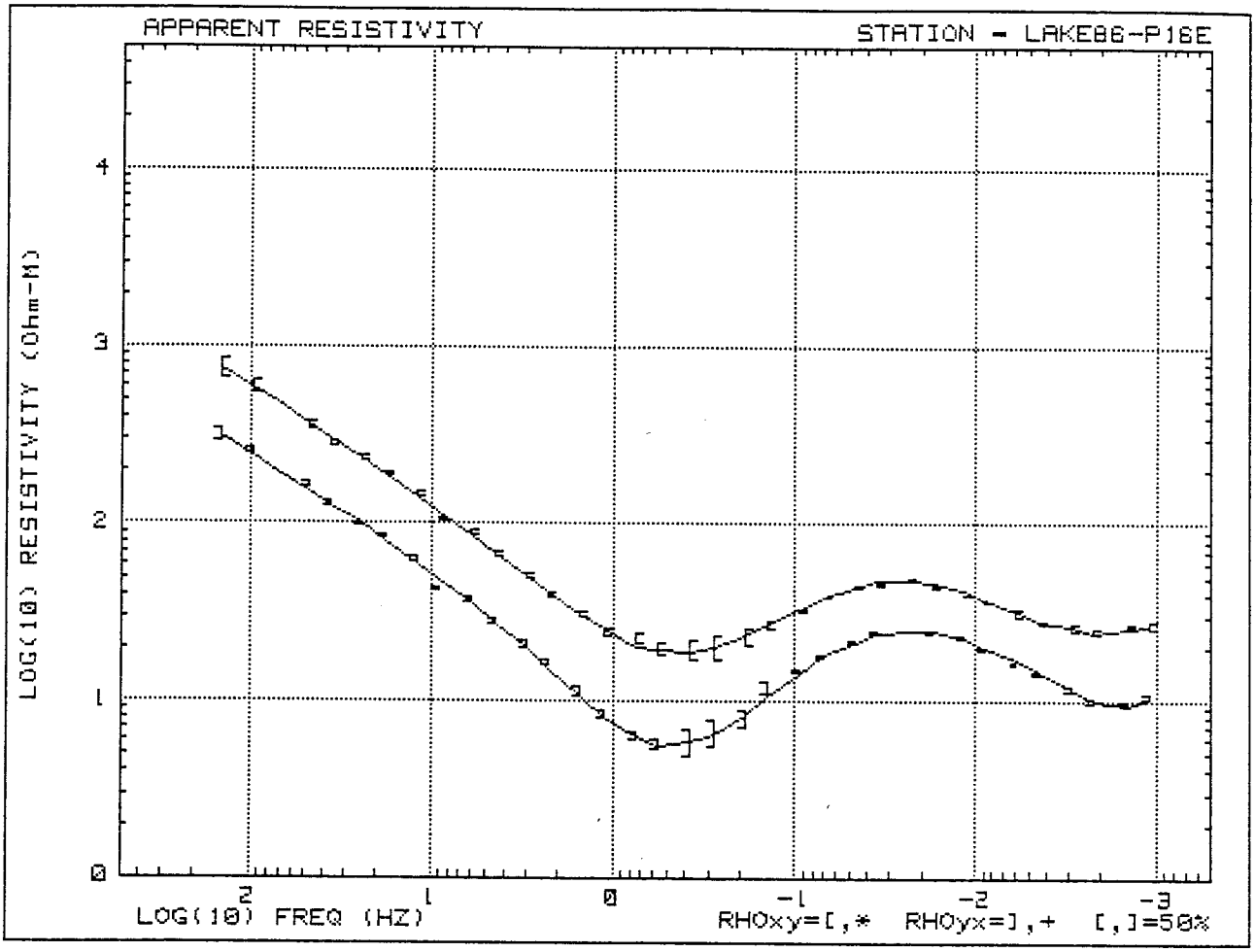
MT Site: LAKE86-P16E

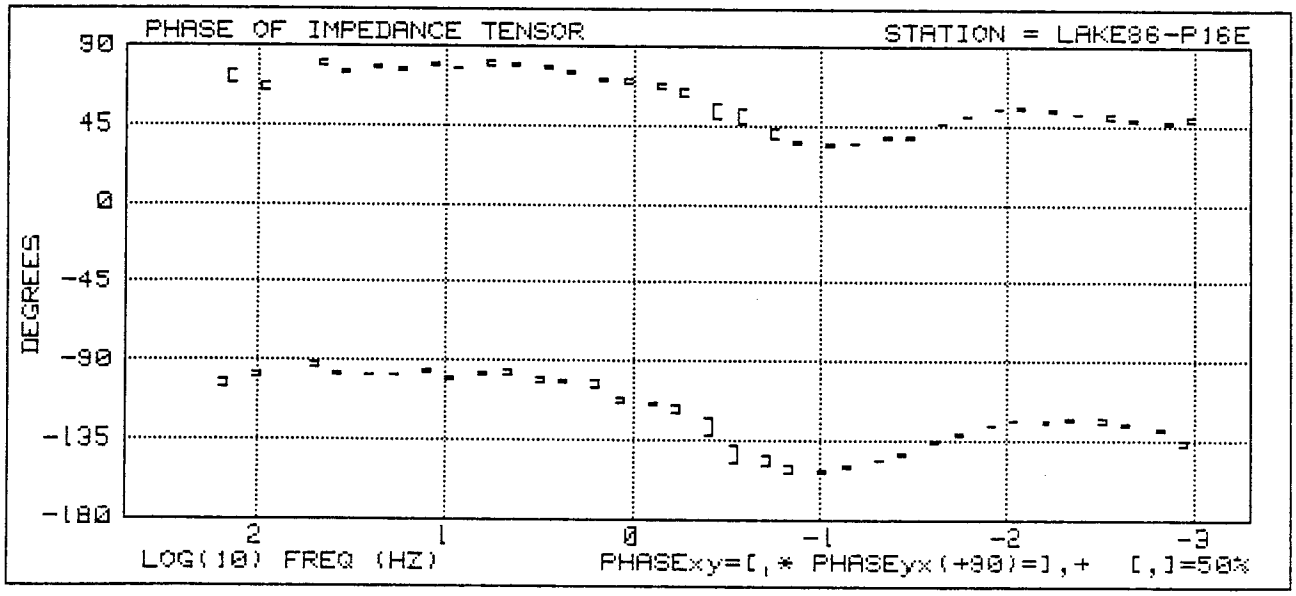
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

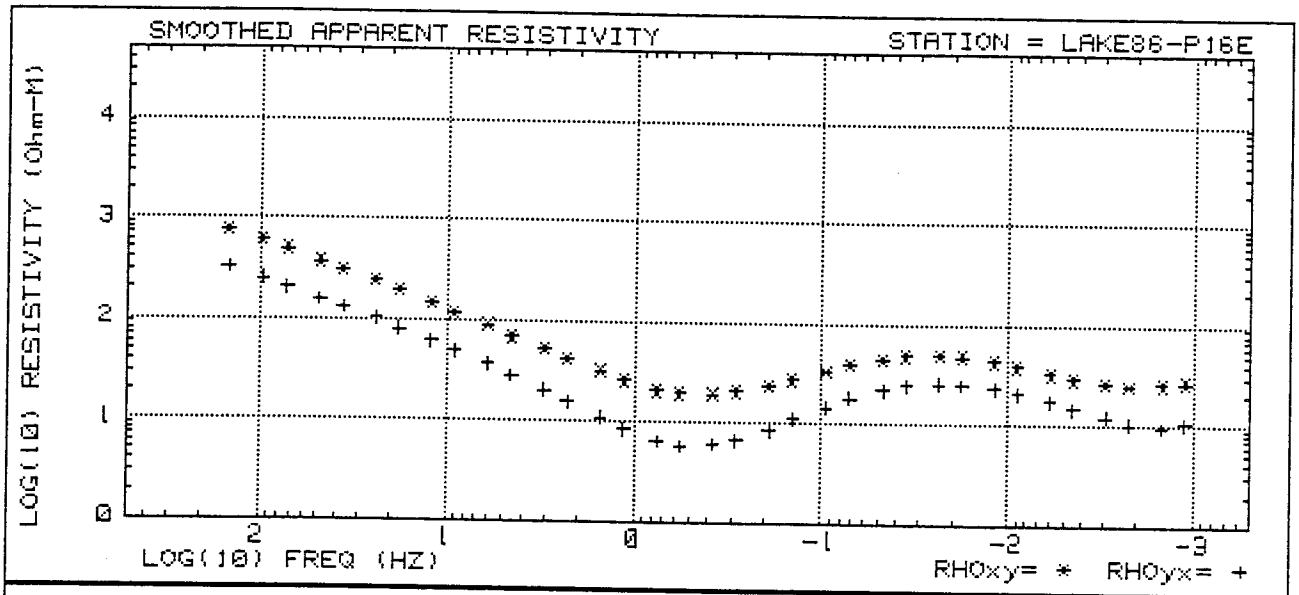
MT Site: LAKE86-P16E

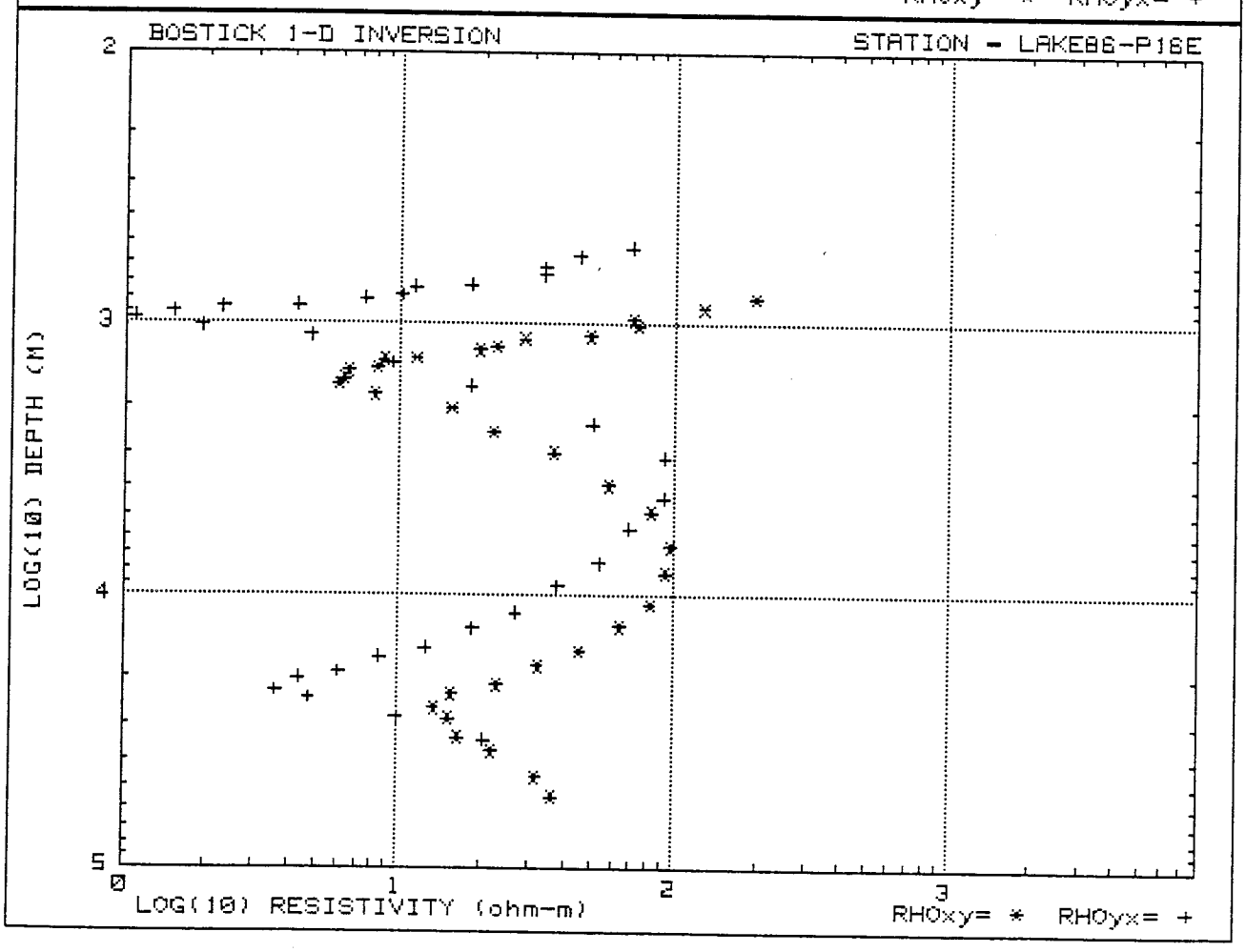




PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	192	754.4	21.5	316.3	10.8	72.8	5.6	-103.6	2.9
5	96.00 Hz	480	597.7	12.0	259.1	6.8	66.7	3.2	-98.3	1.9
7	48.00 Hz	1625	358.6	6.7	167.2	4.6	80.2	1.8	-92.4	1.3
8	36.00 Hz	1275	283.7	4.4	130.6	3.6	75.3	1.2	-98.0	1.0
9	24.00 Hz	640	237.6	4.6	100.2	3.2	78.0	1.3	-98.3	.9
10	18.00 Hz	1216	193.4	3.1	84.5	2.2	76.6	.9	-98.0	.6
11	12.00 Hz	1632	147.5	3.5	63.4	3.4	80.0	1.0	-95.7	1.0
12	9.00 Hz	1056	105.5	2.7	43.0	2.5	77.5	.8	-100.5	.7
13	6.00 Hz	1824	88.7	4.7	37.1	3.7	80.2	1.3	-97.5	1.0
14	4.50 Hz	1248	67.3	6.7	28.2	6.7	79.5	1.9	-97.1	1.9
15	3.00 Hz	6704	50.8	5.0	20.8	6.4	77.9	1.4	-101.2	1.8
16	2.25 Hz	7440	39.6	3.4	16.5	5.7	75.2	1.0	-101.8	1.6
17	1.50 Hz	5146	31.0	5.2	11.4	8.2	71.3	1.4	-103.0	2.3
18	1.13 Hz	3146	24.6	6.9	8.4	7.0	70.2	1.9	-112.3	1.9
19	1.33 Sec	2374	22.4	9.0	6.3	6.4	67.6	2.5	-114.4	1.8
20	1.78 Sec	1590	19.8	11.9	5.7	11.1	63.5	3.2	-117.9	3.0
21	2.67 Sec	1751	19.3	20.6	5.8	28.3	53.4	5.4	-127.5	7.1
22	3.56 Sec	816	19.8	26.1	6.6	28.7	50.1	6.6	-142.8	7.2
23	5.33 Sec	688	22.8	16.8	7.9	17.8	40.6	4.4	-146.5	4.7
24	7.11 Sec	952	26.9	6.6	11.8	11.9	35.5	1.8	-151.5	3.2
25	10.67 Sec	336	32.8	2.7	14.7	2.8	34.2	.8	-153.1	.8
26	14.22 Sec	342	38.3	1.6	17.8	1.7	34.7	.5	-149.7	.5
27	21.33 Sec	90	43.9	1.3	21.4	1.2	38.5	.4	-146.0	.3
28	28.44 Sec	252	45.9	1.8	24.5	1.3	38.4	.5	-142.6	.4
29	42.67 Sec	234	48.6	1.5	25.0	1.1	46.3	.4	-135.9	.3
30	56.89 Sec	216	44.4	1.3	24.4	1.0	50.9	.4	-131.5	.3
31	85.33 Sec	117	39.4	1.0	22.9	1.1	54.5	.3	-126.7	.3
32	113.78 Sec	63	36.0	1.6	19.8	1.4	55.7	.5	-123.7	.4
33	170.67 Sec	9	31.4	5.4	16.1	2.9	54.0	1.5	-124.0	.8
34	227.56 Sec	24	27.4	2.7	14.5	2.9	51.8	.8	-122.9	.8
35	341.33 Sec	15	26.2	6.5	11.8	3.9	51.1	1.8	-123.7	1.1
36	455.11 Sec	15	24.6	4.5	10.1	4.6	48.6	1.3	-125.7	1.3
37	682.67 Sec	9	27.1	2.5	9.8	3.1	47.0	.7	-128.8	.9
38	910.22 Sec	6	26.6	7.2	10.8	5.4	49.5	2.0	-136.3	1.5

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	192	745.0	316.2	196.3	809	69.5	527
5	96.00 Hz	480	588.2	244.0	127.6	881	44.6	567
7	48.00 Hz	1625	362.7	150.0	70.7	978	33.6	629
8	36.00 Hz	1275	299.0	126.2	74.1	1026	33.5	666
9	24.00 Hz	640	238.8	100.3	49.1	1123	18.1	728
10	18.00 Hz	1216	189.4	78.0	28.4	1154	11.3	741
11	12.00 Hz	1632	143.0	59.8	22.4	1229	10.1	794
12	9.00 Hz	1056	114.3	47.7	19.6	1268	7.4	819
13	6.00 Hz	1824	87.6	36.0	11.5	1360	4.2	872
14	4.50 Hz	1248	67.1	27.6	8.7	1374	2.3	881
15	3.00 Hz	6704	51.4	20.0	8.2	1473	1.5	919
16	2.25 Hz	7440	40.6	15.2	6.5	1513	.81	929
17	1.50 Hz	5146	31.1	10.7	6.2	1621	.57	952
18	1.13 Hz	3146	25.6	8.1	5.9	1698	1.1	962
19	1.33 Sec	2374	20.2	6.3	8.1	1847	1.9	1033
20	1.78 Sec	1590	19.0	5.6	15.5	2071	4.7	1125
21	2.67 Sec	1751	18.8	6.0	22.1	2522	9.4	1419
22	3.56 Sec	816	20.1	6.6	36.5	3012	18.2	1718
23	5.33 Sec	688	23.0	8.3	57.6	3941	50.6	2362
24	7.11 Sec	952	27.1	10.8	82.6	4943	92.7	3118
25	10.67 Sec	336	32.6	14.3	97.1	6641	92.1	4395
26	14.22 Sec	342	38.3	17.9	93.6	8303	68.8	5681
27	21.33 Sec	90	43.7	21.5	82.4	10860	53.4	7618
28	28.44 Sec	252	47.4	24.1	63.9	13064	37.8	9314
29	42.67 Sec	234	48.4	25.0	45.8	16168	26.6	11632
30	56.89 Sec	216	46.5	24.6	32.0	18300	18.8	13313
31	85.33 Sec	117	42.6	22.8	22.9	21453	12.6	15700
32	113.78 Sec	63	37.8	20.1	15.8	23324	8.5	17039
33	170.67 Sec	9	32.1	17.2	13.5	26327	6.1	19298
34	227.56 Sec	24	28.5	14.5	15.4	28650	4.4	20422
35	341.33 Sec	15	26.1	11.9	16.6	33585	3.6	22658
36	455.11 Sec	15	24.4	10.0	22.2	37502	4.8	24003
37	682.67 Sec	9	25.3	9.3	31.9	46731	9.9	28335
38	910.22 Sec	6	26.5	10.2	36.6	55227	20.7	34347

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	192	37.73	-13.18	999.99	217.45	704.18	999.99
5	96.00 Hz	480	50.17	47.33	307.22	212.29	491.76	999.99
7	48.00 Hz	1625	8.77	28.61	46.41	50.06	289.08	179.42
8	36.00 Hz	1275	3.59	15.71	19.37	57.53	218.55	48.14
9	24.00 Hz	640	-3.18	2.63	13.95	35.22	165.14	28.91
10	18.00 Hz	1216	-2.05	2.33	3.60	30.63	128.34	8.07
11	12.00 Hz	1632	.12	2.53	3.01	16.40	92.62	5.19
12	9.00 Hz	1056	2.51	1.07	.82	14.92	67.28	1.72
13	6.00 Hz	1824	.12	1.38	1.10	8.81	50.84	2.85
14	4.50 Hz	1248	1.88	2.03	1.59	7.10	38.27	3.17
15	3.00 Hz	6704	.80	1.17	.65	5.78	26.99	.89
16	2.25 Hz	7440	1.55	.87	.36	5.40	20.40	.25
17	1.50 Hz	5146	1.97	.34	.54	4.89	14.45	.30
18	1.13 Hz	3146	.54	.34	.27	3.98	11.07	.31
19	1.33 Sec	2374	.281	.067	.099	3.496	8.467	.311
20	1.78 Sec	1590	.254	.103	.175	3.328	6.689	.351
21	2.67 Sec	1751	.019	.048	.408	3.586	4.824	.633
22	3.56 Sec	816	.308	-.098	.276	3.383	4.047	.748
23	5.33 Sec	688	.392	-.043	.108	3.514	3.010	.257
24	7.11 Sec	952	.494	-.095	.056	3.536	2.526	.039
25	10.67 Sec	336	.506	-.183	.004	3.242	2.204	.006
26	14.22 Sec	342	.446	-.165	.001	3.019	2.089	.002
27	21.33 Sec	90	.466	-.086	.001	2.511	1.997	.001
28	28.44 Sec	252	.373	-.003	.000	2.227	1.764	.001
29	42.67 Sec	234	.267	.039	.000	1.650	1.725	.001
30	56.89 Sec	216	.228	.071	.000	1.245	1.535	.000
31	85.33 Sec	117	.151	.102	.000	.881	1.238	.000
32	113.78 Sec	63	.104	.110	.000	.708	1.039	.000
33	170.67 Sec	9	.089	.073	.001	.563	.777	.001
34	227.56 Sec	24	.057	.096	.000	.480	.610	.000
35	341.33 Sec	15	.035	.066	.000	.390	.482	.001
36	455.11 Sec	15	.045	.052	.000	.344	.390	.000
37	682.67 Sec	9	.036	.034	.000	.304	.326	.000
38	910.22 Sec	6	.063	.020	.000	.248	.290	.000

PHOENIX GEOPHYSICS

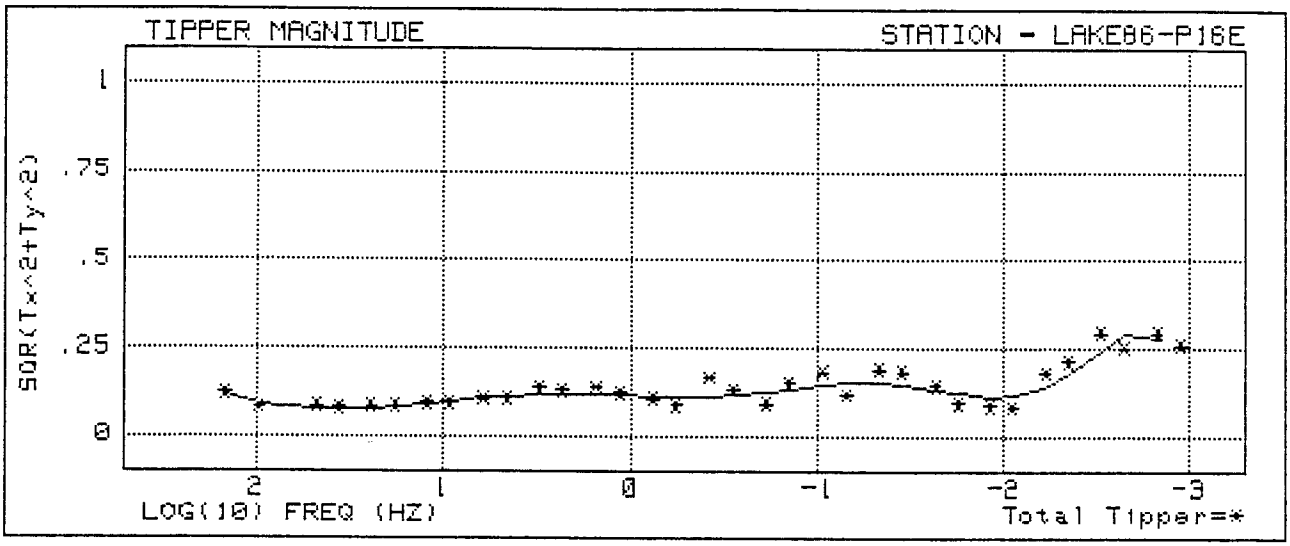
MT Site: LAKE86-P16E

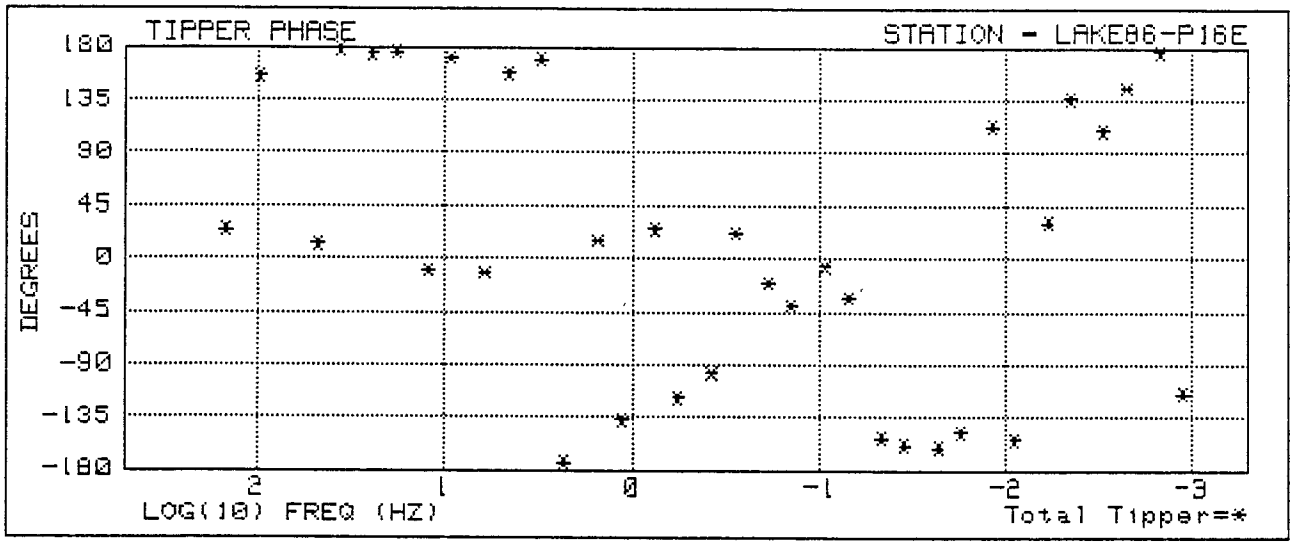
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

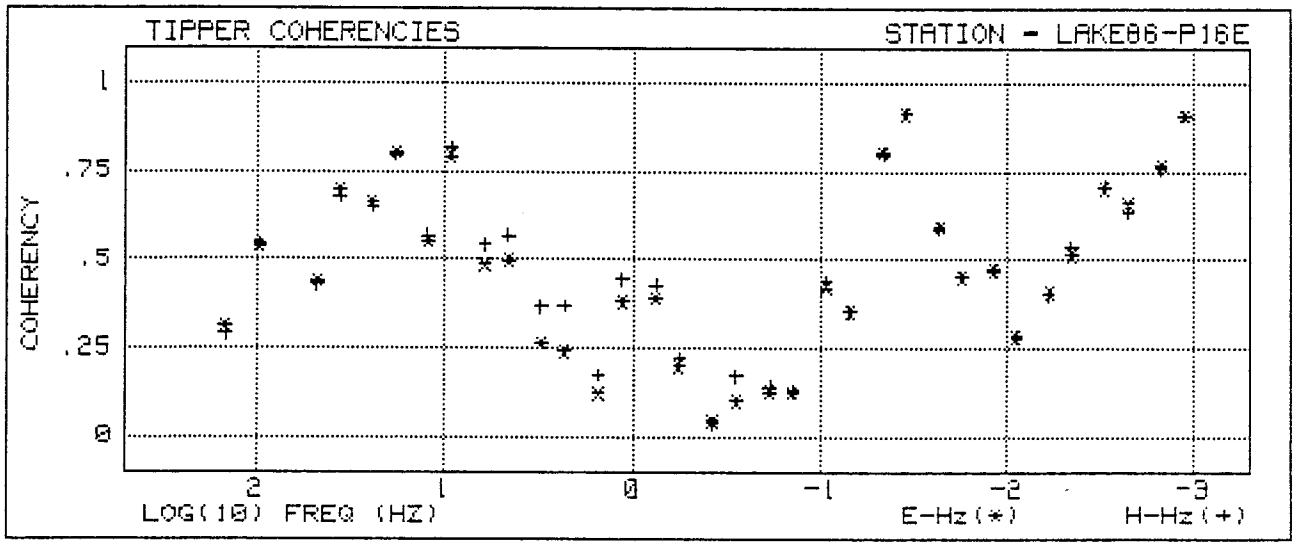
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	192	-111.93	-463.94	999.99	-27.14	15.31	999.99
5	96.00 Hz	480	-51.20	-348.90	272.61	69.49	25.54	999.99
7	48.00 Hz	1625	-8.27	-200.12	39.97	28.92	19.14	154.52
8	36.00 Hz	1275	-21.38	-151.80	14.37	10.47	11.99	35.71
9	24.00 Hz	640	-15.76	-108.53	5.98	1.35	1.08	12.39
10	18.00 Hz	1216	-12.20	-86.33	1.87	2.10	.51	4.20
11	12.00 Hz	1632	-6.17	-61.39	2.17	1.68	2.02	3.74
12	9.00 Hz	1056	-8.02	-43.25	.59	2.46	1.08	1.24
13	6.00 Hz	1824	-4.33	-33.08	.73	.11	1.38	1.91
14	4.50 Hz	1248	-3.13	-24.99	1.32	.71	2.38	2.64
15	3.00 Hz	6704	-3.44	-17.31	.59	1.50	1.00	.81
16	2.25 Hz	7440	-2.79	-13.34	.28	-.19	1.52	.19
17	1.50 Hz	5146	-2.09	-9.00	.26	.45	1.12	.14
18	1.13 Hz	3146	-2.61	-6.34	.11	.08	.48	.13
19	1.33 Sec	2374	-2.010	-4.438	.045	.043	.156	.143
20	1.78 Sec	1590	-1.874	-3.542	.089	.113	.169	.179
21	2.67 Sec	1751	-1.999	-2.606	.336	.147	-.043	.521
22	3.56 Sec	816	-2.429	-1.842	.295	.219	-.060	.799
23	5.33 Sec	688	-2.261	-1.499	.099	.158	.151	.235
24	7.11 Sec	952	-2.528	-1.372	.053	.034	.306	.037
25	10.67 Sec	336	-2.338	-1.188	.003	.048	.225	.004
26	14.22 Sec	342	-2.158	-1.263	.001	.052	.245	.002
27	21.33 Sec	90	-1.859	-1.253	.000	.134	.205	.000
28	28.44 Sec	252	-1.647	-1.259	.000	.104	.306	.001
29	42.67 Sec	234	-1.229	-1.192	.000	.132	.145	.000
30	56.89 Sec	216	-.970	-1.098	.000	.137	.129	.000
31	85.33 Sec	117	-.692	-.928	.000	.135	.111	.000
32	113.78 Sec	63	-.517	-.775	.000	.126	.094	.000
33	170.67 Sec	9	-.384	-.570	.000	.109	.056	.000
34	227.56 Sec	24	-.307	-.474	.000	.085	.061	.000
35	341.33 Sec	15	-.231	-.346	.000	.062	.034	.000
36	455.11 Sec	15	-.195	-.271	.000	.049	.048	.000
37	682.67 Sec	9	-.168	-.209	.000	.032	.038	.000
38	910.22 Sec	6	-.176	-.168	.000	.040	.034	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E







PHOENIX GEOPHYSICS

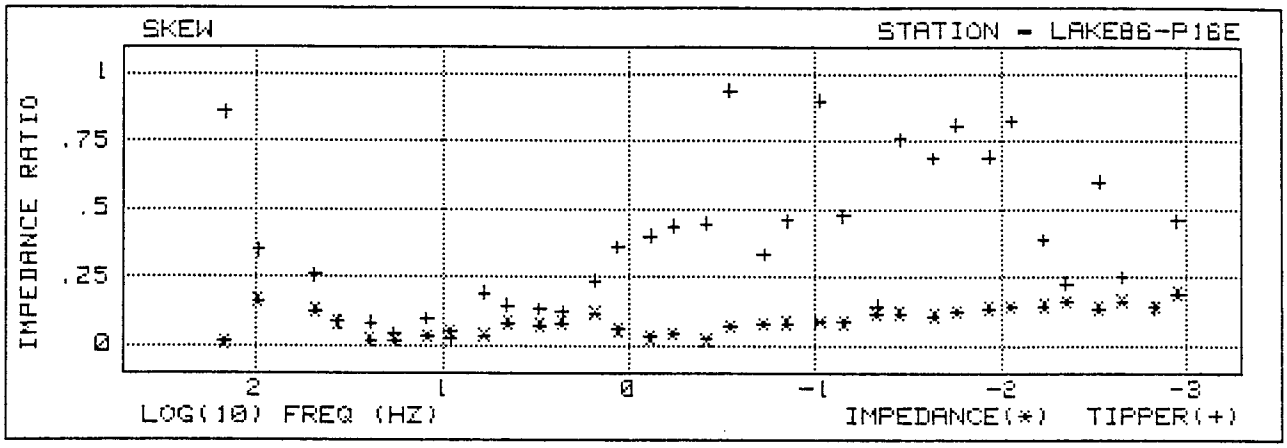
MT Site: LAKE86-P16E

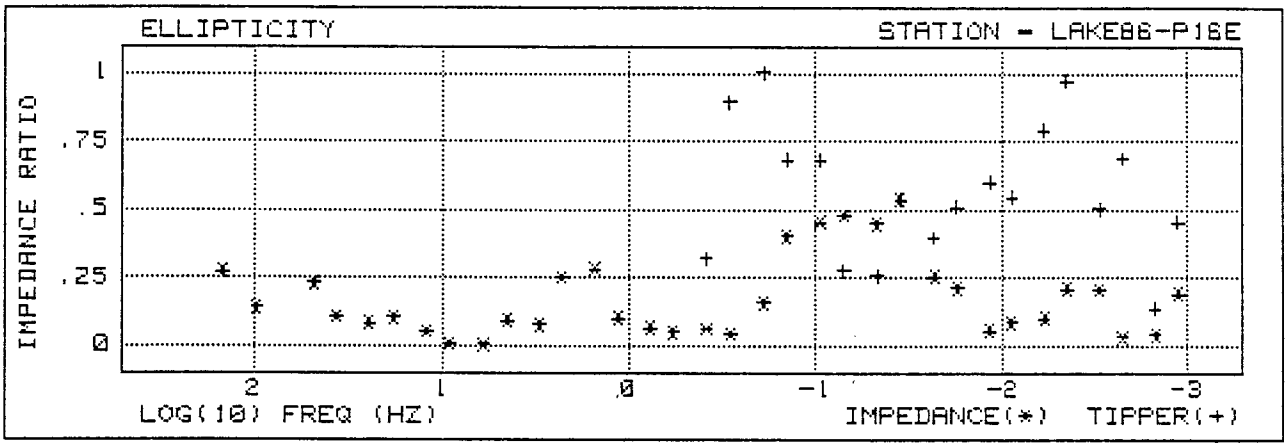
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

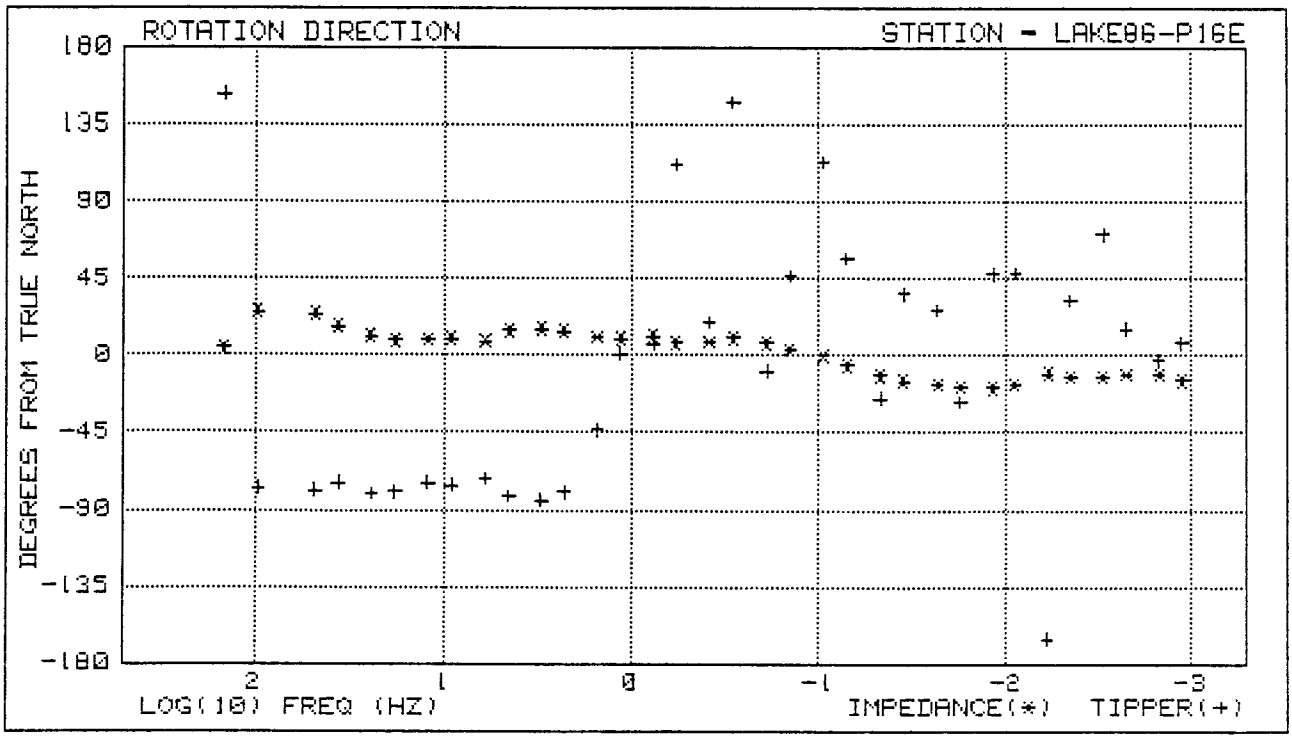
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	192	.12	23.31	.31	.29
5	96.00 Hz	480	.08	154.21	.53	.54
7	48.00 Hz	1625	.08	11.72	.44	.43
8	36.00 Hz	1275	.08	177.36	.69	.67
9	24.00 Hz	640	.08	173.64	.66	.65
10	18.00 Hz	1216	.08	174.71	.80	.79
11	12.00 Hz	1632	.09	-10.95	.55	.56
12	9.00 Hz	1056	.09	169.89	.79	.82
13	6.00 Hz	1824	.10	-13.02	.48	.54
14	4.50 Hz	1248	.10	156.37	.49	.56
15	3.00 Hz	6704	.13	168.87	.26	.36
16	2.25 Hz	7440	.12	-173.98	.24	.37
17	1.50 Hz	5146	.13	14.64	.12	.17
18	1.13 Hz	3146	.12	-137.83	.38	.44
19	1.33 Sec	2374	.10	24.16	.39	.42
20	1.78 Sec	1590	.08	-119.23	.19	.22
21	2.67 Sec	1751	.16	-98.19	.04	.03
22	3.56 Sec	816	.13	20.89	.10	.17
23	5.33 Sec	688	.09	-21.64	.12	.14
24	7.11 Sec	952	.14	-40.61	.12	.13
25	10.67 Sec	336	.18	-7.73	.42	.43
26	14.22 Sec	342	.11	-33.77	.35	.35
27	21.33 Sec	90	.19	-153.15	.80	.80
28	28.44 Sec	252	.18	-159.28	.91	.91
29	42.67 Sec	234	.14	-161.36	.59	.58
30	56.89 Sec	216	.09	-148.67	.45	.45
31	85.33 Sec	117	.08	111.66	.47	.47
32	113.78 Sec	63	.08	-154.52	.28	.28
33	170.67 Sec	9	.18	29.84	.40	.40
34	227.56 Sec	24	.21	135.44	.51	.53
35	341.33 Sec	15	.29	108.00	.70	.70
36	455.11 Sec	15	.25	145.06	.66	.63
37	682.67 Sec	9	.29	175.25	.76	.76
38	910.22 Sec	6	.26	-115.62	.91	.91

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E







PHOENIX GEOPHYSICS

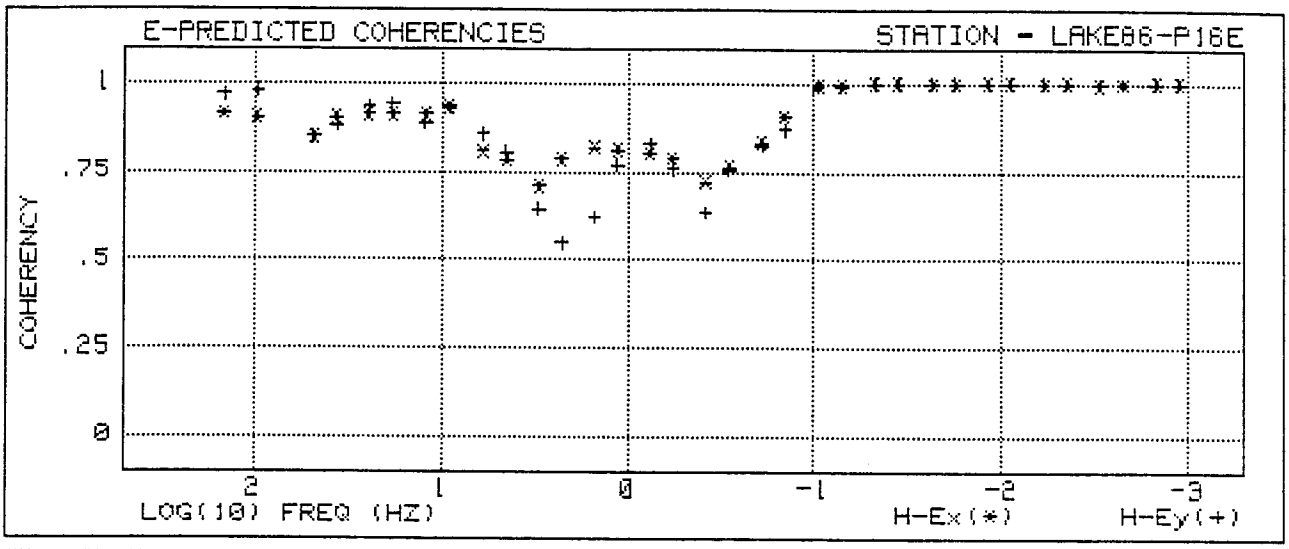
MT Site: LAKE86-P16E

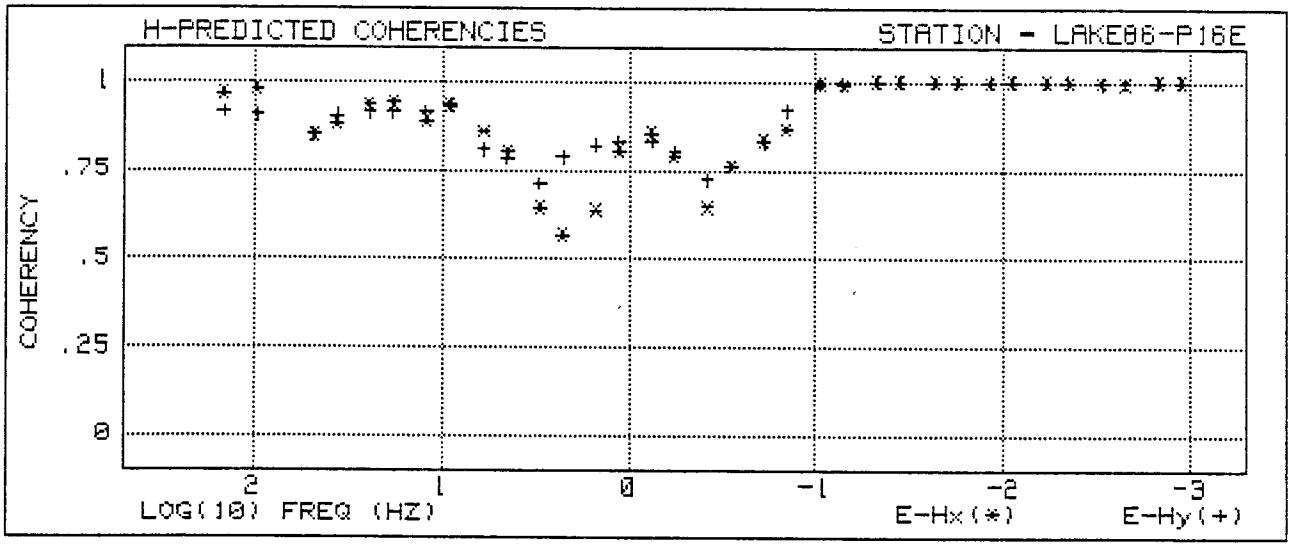
SKEW, ELLIPTICITY AND STRIKE

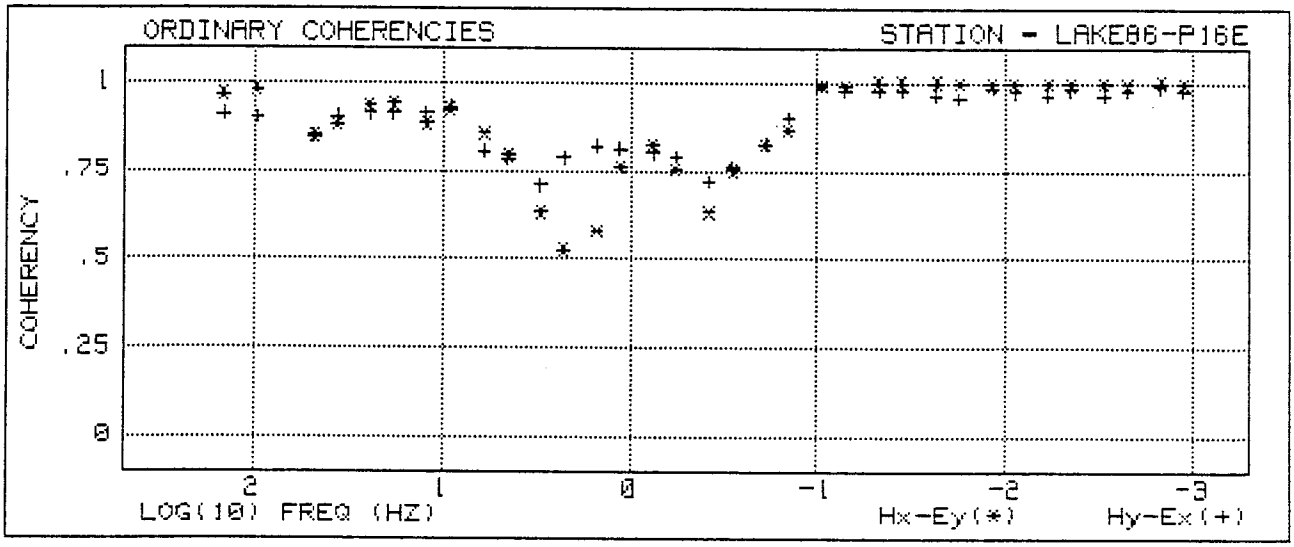
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	192	.01	.27	3.54	.85	1.24	152.19
5	96.00 Hz	480	.16	.14	25.06	.35	2.76	-77.70
7	48.00 Hz	1625	.12	.23	23.34	.26	3.49	-79.00
8	36.00 Hz	1275	.08	.10	16.25	.08	20.10	-74.88
9	24.00 Hz	640	.01	.08	10.66	.08	13.64	-80.99
10	18.00 Hz	1216	.01	.10	8.28	.04	49.80	-79.92
11	12.00 Hz	1632	.03	.05	8.71	.09	21.02	-74.88
12	9.00 Hz	1056	.05	.00	8.95	.02	55.56	-76.44
13	6.00 Hz	1824	.03	.00	7.59	.19	10.60	-72.24
14	4.50 Hz	1248	.08	.09	14.02	.14	3.73	-82.47
15	3.00 Hz	6704	.07	.07	14.87	.13	4.76	-84.80
16	2.25 Hz	7440	.08	.25	13.39	.12	8.19	-80.32
17	1.50 Hz	5146	.12	.28	9.81	.23	5.87	-44.23
18	1.13 Hz	3146	.06	.10	8.95	.36	3.76	.23
19	1.33 Sec	2374	.03	.06	10.62	.40	4.84	6.30
20	1.78 Sec	1590	.04	.04	6.56	.43	4.28	111.10
21	2.67 Sec	1751	.02	.06	7.28	.44	.32	18.77
22	3.56 Sec	816	.07	.04	9.70	.93	.89	147.25
23	5.33 Sec	688	.08	.16	6.41	.33	1.00	-9.99
24	7.11 Sec	952	.08	.40	2.57	.45	.68	46.22
25	10.67 Sec	336	.09	.45	-.65	.89	.68	112.84
26	14.22 Sec	342	.08	.48	-6.41	.47	.27	56.25
27	21.33 Sec	90	.11	.45	-12.15	.14	.25	-25.74
28	28.44 Sec	252	.12	.53	-15.37	.75	.53	35.76
29	42.67 Sec	234	.11	.25	-17.66	.68	.39	25.78
30	56.89 Sec	216	.12	.21	-19.02	.80	.51	-27.58
31	85.33 Sec	117	.13	.05	-19.38	.69	.60	46.90
32	113.78 Sec	63	.14	.08	-17.52	.82	.54	47.48
33	170.67 Sec	9	.14	.10	-11.40	.39	.79	-166.12
34	227.56 Sec	24	.16	.21	-13.01	.22	.97	31.61
35	341.33 Sec	15	.13	.20	-13.33	.60	.50	70.26
36	455.11 Sec	15	.16	.03	-11.49	.25	.68	14.72
37	682.67 Sec	9	.14	.04	-11.47	.14	.13	-3.64
38	910.22 Sec	6	.19	.19	-15.02	.45	.45	6.52

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E







PHOENIX GEOPHYSICS

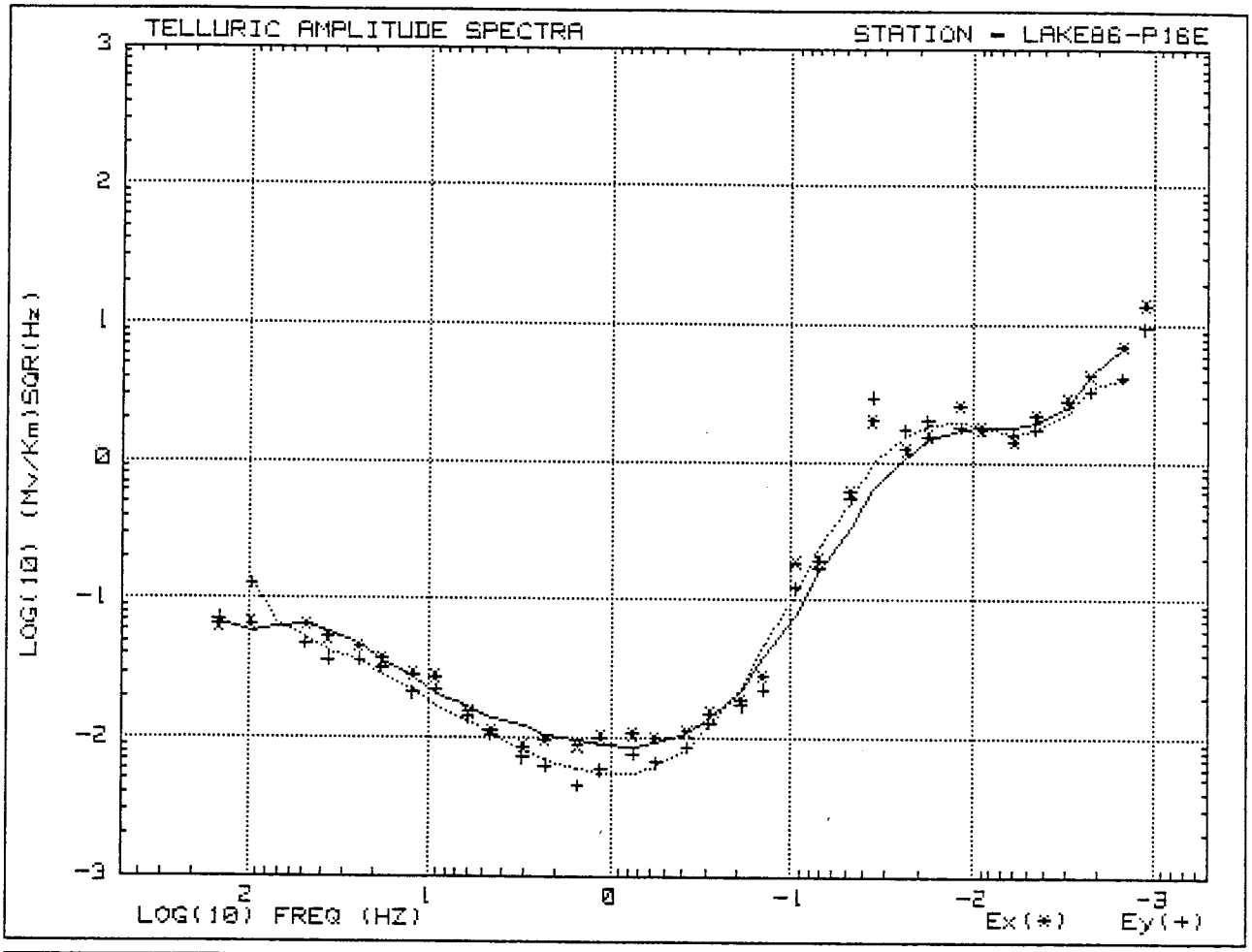
MT Site: LAKE86-P16E

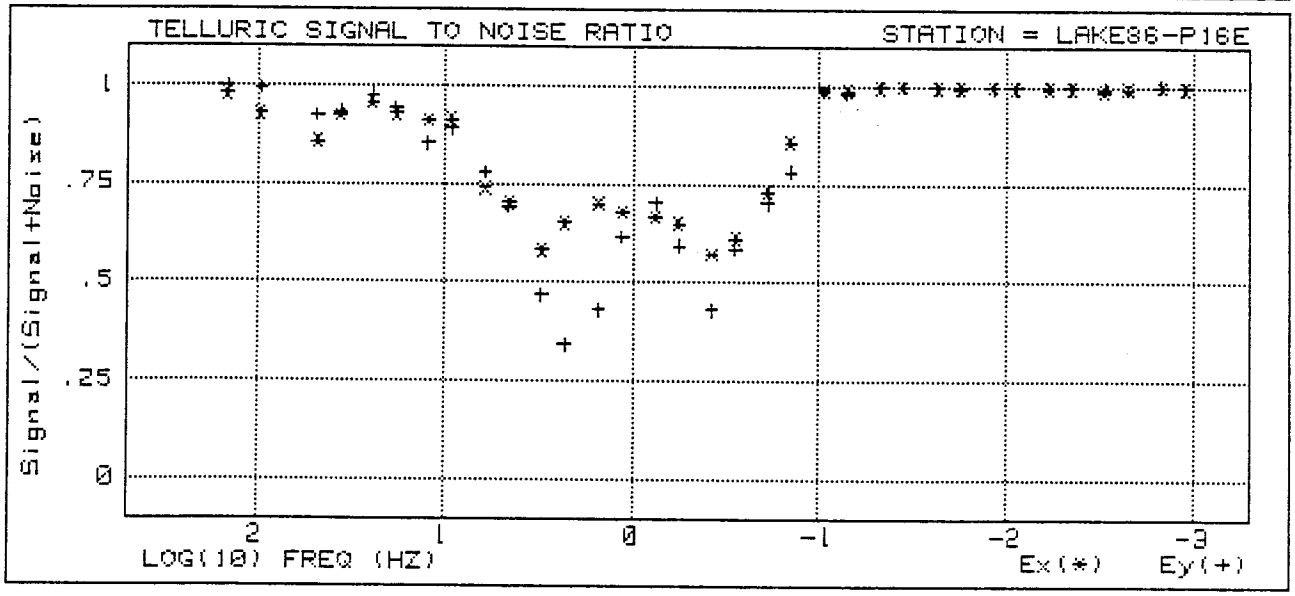
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	192	.91	.96	.96	.91	.96	.91
5	96.00 Hz	480	.90	.98	.98	.90	.98	.90
7	48.00 Hz	1625	.85	.85	.85	.85	.84	.85
8	36.00 Hz	1275	.90	.88	.88	.90	.88	.90
9	24.00 Hz	640	.91	.93	.93	.91	.93	.91
10	18.00 Hz	1216	.91	.94	.94	.91	.94	.91
11	12.00 Hz	1632	.91	.88	.89	.91	.88	.91
12	9.00 Hz	1056	.93	.93	.93	.93	.92	.93
13	6.00 Hz	1824	.80	.85	.86	.80	.85	.80
14	4.50 Hz	1248	.78	.80	.80	.78	.79	.78
15	3.00 Hz	6704	.71	.64	.64	.71	.63	.71
16	2.25 Hz	7440	.78	.55	.56	.78	.52	.78
17	1.50 Hz	5146	.82	.62	.63	.82	.58	.82
18	1.13 Hz	3146	.81	.77	.80	.83	.76	.81
19	1.33 Sec	2374	.80	.83	.85	.83	.82	.80
20	1.78 Sec	1590	.79	.76	.79	.80	.75	.79
21	2.67 Sec	1751	.72	.63	.64	.72	.63	.72
22	3.56 Sec	816	.76	.75	.76	.76	.75	.75
23	5.33 Sec	688	.83	.82	.83	.83	.82	.82
24	7.11 Sec	952	.91	.87	.86	.92	.86	.90
25	10.67 Sec	336	.99	.99	.99	.99	.99	.99
26	14.22 Sec	342	.99	.99	.99	.99	.99	.98
27	21.33 Sec	90	1.00	1.00	1.00	1.00	1.00	.98
28	28.44 Sec	252	1.00	1.00	1.00	1.00	1.00	.97
29	42.67 Sec	234	1.00	1.00	1.00	1.00	1.00	.96
30	56.89 Sec	216	1.00	1.00	1.00	1.00	1.00	.95
31	85.33 Sec	117	1.00	1.00	1.00	1.00	.99	.98
32	113.78 Sec	63	1.00	1.00	1.00	1.00	1.00	.97
33	170.67 Sec	9	1.00	1.00	1.00	1.00	1.00	.96
34	227.56 Sec	24	1.00	1.00	1.00	1.00	.99	.98
35	341.33 Sec	15	.99	1.00	1.00	.99	1.00	.96
36	455.11 Sec	15	1.00	1.00	1.00	1.00	.99	.98
37	682.67 Sec	9	1.00	1.00	1.00	1.00	1.00	.99
38	910.22 Sec	6	1.00	1.00	1.00	1.00	1.00	.98

PHOENIX GEOPHYSICS

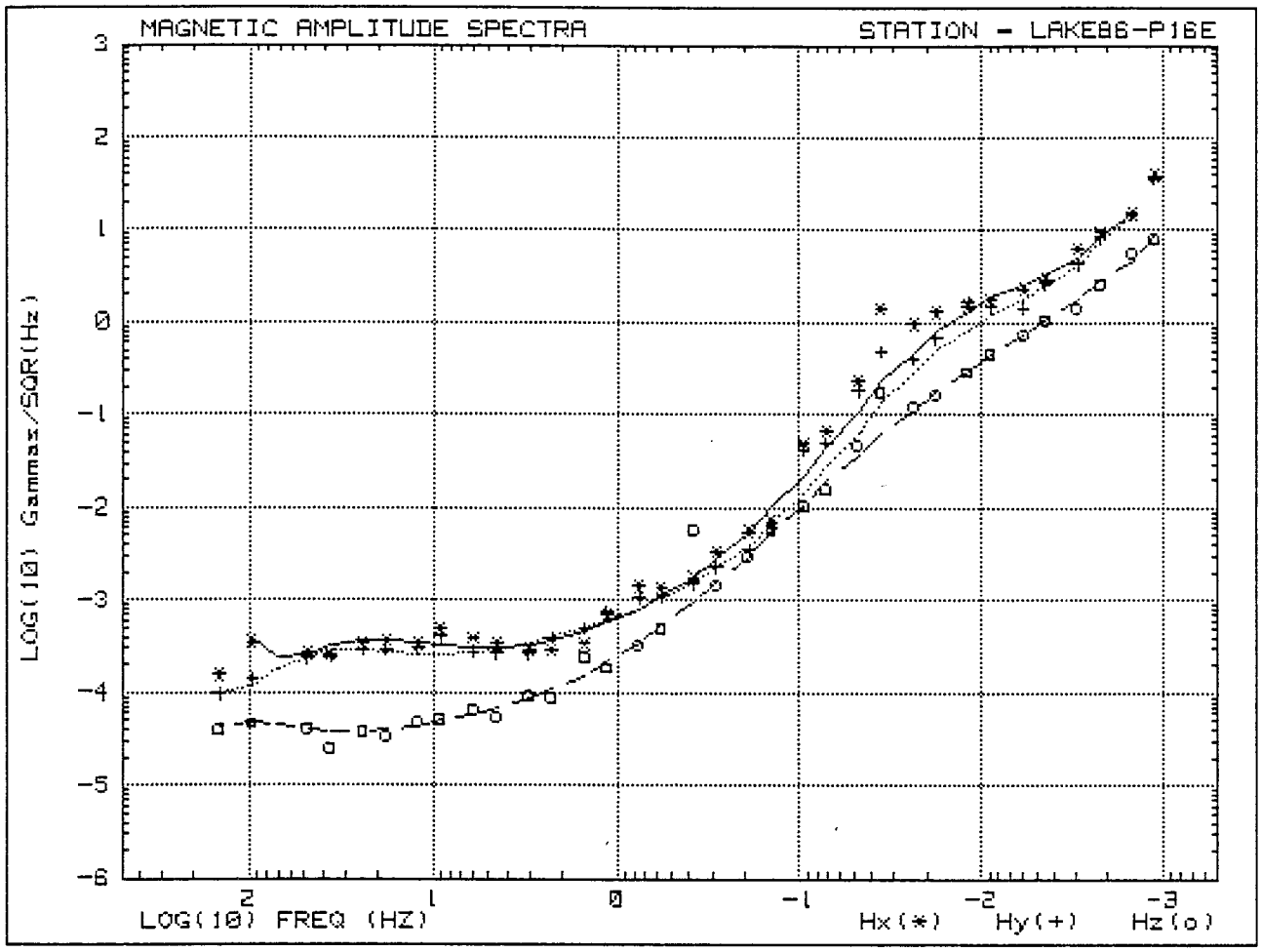
MT Site: LAKE86-P16E

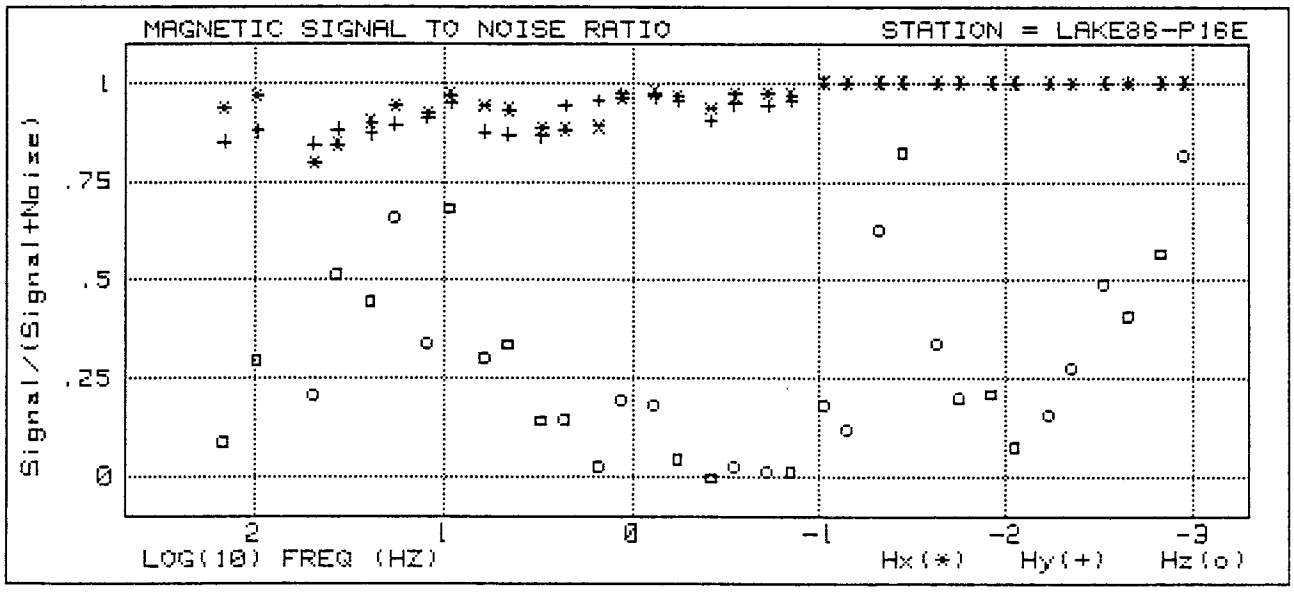




PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	192	1.54E-04	9.57E-05	4.14E-05	6.37E-02	7.03E-02
5	96.00 Hz	480	3.49E-04	1.36E-04	4.89E-05	6.55E-02	1.27E-01
7	48.00 Hz	1625	2.61E-04	2.33E-04	4.33E-05	6.43E-02	4.77E-02
8	36.00 Hz	1275	2.52E-04	2.42E-04	2.63E-05	5.17E-02	3.59E-02
9	24.00 Hz	640	3.42E-04	2.89E-04	4.02E-05	4.52E-02	3.59E-02
10	18.00 Hz	1216	3.63E-04	2.89E-04	3.55E-05	3.66E-02	3.16E-02
11	12.00 Hz	1632	3.31E-04	3.05E-04	5.05E-05	2.81E-02	2.08E-02
12	9.00 Hz	1056	4.90E-04	3.99E-04	5.42E-05	2.72E-02	2.18E-02
13	6.00 Hz	1824	3.84E-04	2.74E-04	6.79E-05	1.52E-02	1.40E-02
14	4.50 Hz	1248	3.40E-04	2.61E-04	5.77E-05	1.11E-02	1.02E-02
15	3.00 Hz	6704	2.88E-04	2.61E-04	9.53E-05	8.48E-03	7.04E-03
16	2.25 Hz	7440	2.85E-04	3.85E-04	9.26E-05	9.54E-03	6.24E-03
17	1.50 Hz	5146	3.35E-04	4.89E-04	2.49E-04	8.62E-03	4.43E-03
18	1.13 Hz	3146	6.98E-04	7.32E-04	1.95E-04	1.00E-02	5.82E-03
19	1.33 Sec	2374	1.39E-03	1.03E-03	3.50E-04	1.06E-02	7.55E-03
20	1.78 Sec	1590	1.35E-03	1.11E-03	5.11E-04	9.83E-03	6.57E-03
21	2.67 Sec	1751	1.75E-03	1.50E-03	6.09E-03	1.10E-02	8.41E-03
22	3.56 Sec	816	3.33E-03	2.28E-03	1.56E-03	1.50E-02	1.28E-02
23	5.33 Sec	688	5.49E-03	3.50E-03	3.12E-03	1.87E-02	1.71E-02
24	7.11 Sec	952	6.85E-03	6.11E-03	6.05E-03	2.78E-02	2.24E-02
25	10.67 Sec	336	4.86E-02	4.19E-02	1.08E-02	1.85E-01	1.22E-01
26	14.22 Sec	342	6.61E-02	4.90E-02	1.64E-02	1.93E-01	1.67E-01
27	21.33 Sec	90	2.32E-01	1.80E-01	4.96E-02	5.96E-01	5.35E-01
28	28.44 Sec	252	1.38E+00	4.77E-01	1.81E-01	1.96E+00	2.91E+00
29	42.67 Sec	234	9.47E-01	3.97E-01	1.31E-01	1.22E+00	1.69E+00
30	56.89 Sec	216	1.29E+00	6.61E-01	1.74E-01	1.53E+00	1.97E+00
31	85.33 Sec	117	1.50E+00	1.66E+00	3.07E-01	2.53E+00	1.77E+00
32	113.78 Sec	63	1.76E+00	1.50E+00	4.75E-01	1.73E+00	1.71E+00
33	170.67 Sec	9	2.29E+00	1.42E+00	7.74E-01	1.38E+00	1.57E+00
34	227.56 Sec	24	2.90E+00	2.64E+00	1.13E+00	2.13E+00	1.69E+00
35	341.33 Sec	15	6.25E+00	4.26E+00	1.49E+00	2.77E+00	2.72E+00
36	455.11 Sec	15	9.21E+00	8.27E+00	2.79E+00	4.22E+00	3.21E+00
37	682.67 Sec	9	1.50E+01	1.44E+01	5.86E+00	6.86E+00	4.08E+00
38	910.22 Sec	6	3.84E+01	3.59E+01	8.27E+00	1.37E+01	9.38E+00

PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	192	.934	.849	.090	.977	.995
5	96.00 Hz	480	.966	.876	.298	.926	.991
7	48.00 Hz	1625	.797	.842	.213	.855	.921
8	36.00 Hz	1275	.842	.880	.522	.922	.932
9	24.00 Hz	640	.899	.869	.452	.956	.974
10	18.00 Hz	1216	.940	.892	.666	.928	.938
11	12.00 Hz	1632	.922	.912	.343	.909	.850
12	9.00 Hz	1056	.968	.951	.687	.911	.888
13	6.00 Hz	1824	.941	.873	.307	.738	.777
14	4.50 Hz	1248	.930	.869	.341	.699	.692
15	3.00 Hz	6704	.884	.863	.146	.580	.466
16	2.25 Hz	7440	.879	.942	.148	.649	.341
17	1.50 Hz	5146	.890	.954	.031	.698	.428
18	1.13 Hz	3146	.962	.970	.198	.676	.613
19	1.33 Sec	2374	.974	.965	.185	.663	.701
20	1.78 Sec	1590	.967	.953	.048	.648	.590
21	2.67 Sec	1751	.935	.904	.001	.570	.429
22	3.56 Sec	816	.971	.946	.030	.610	.585
23	5.33 Sec	688	.973	.940	.019	.730	.699
24	7.11 Sec	952	.968	.957	.018	.855	.779
25	10.67 Sec	336	.999	.999	.187	.990	.984
26	14.22 Sec	342	.999	.998	.122	.988	.982
27	21.33 Sec	90	.999	.999	.635	.996	.997
28	28.44 Sec	252	1.000	1.000	.830	.997	.998
29	42.67 Sec	234	1.000	.999	.343	.995	.996
30	56.89 Sec	216	1.000	.999	.203	.994	.996
31	85.33 Sec	117	.999	.999	.215	.998	.996
32	113.78 Sec	63	1.000	.999	.078	.996	.996
33	170.67 Sec	9	.999	.998	.160	.993	.999
34	227.56 Sec	24	.999	.999	.283	.996	.996
35	341.33 Sec	15	.999	.999	.495	.986	.994
36	455.11 Sec	15	.998	1.000	.416	.994	.992
37	682.67 Sec	9	1.000	1.000	.574	.999	.999
38	910.22 Sec	6	1.000	1.000	.822	.996	.995

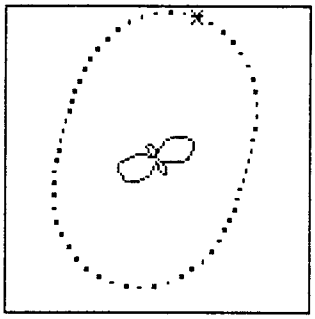
PHOENIX GEOPHYSICS

MT Site: LAKE86-P16E

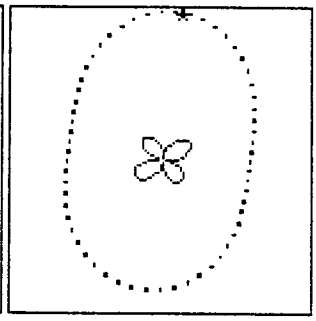
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction Zxy = ... Zxx = ___

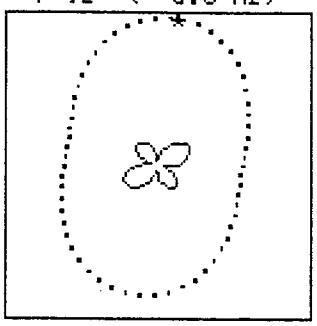
F=8 (36.0 Hz)



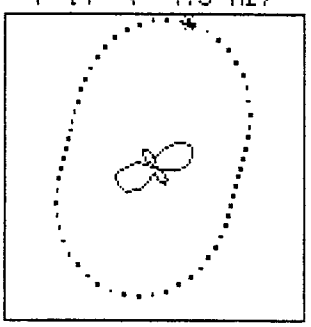
F=10 (18.0 Hz)



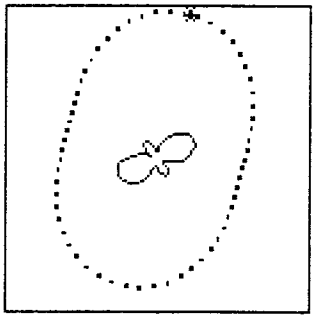
F=12 (9.0 Hz)



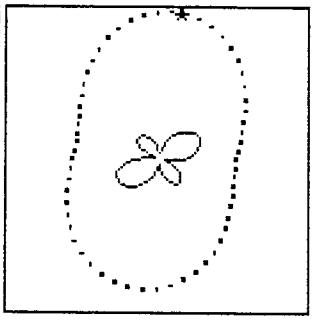
F=14 (4.5 Hz)



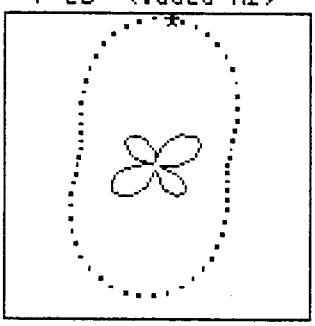
F=16 (2.3 Hz)



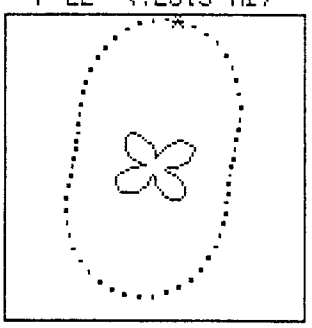
F=18 (1.1 Hz)



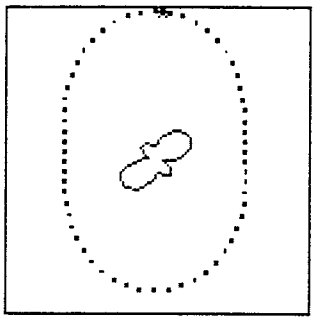
F=20 (.5625 Hz)



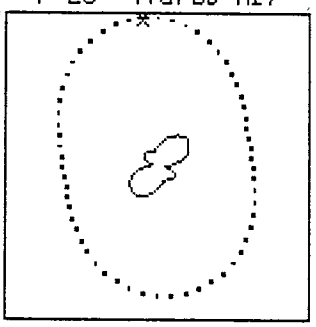
F=22 (.2813 Hz)



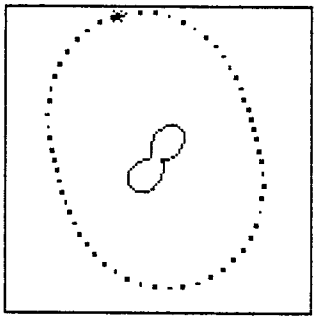
F=24 (.1406 Hz)



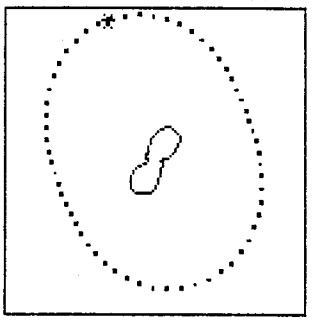
F=26 (.0703 Hz)



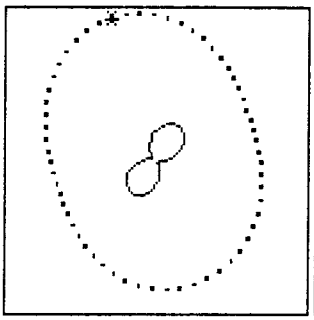
F=28 (.0352 Hz)



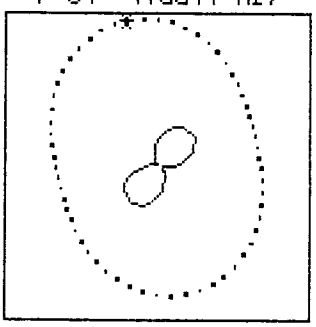
F=30 (.0176 Hz)



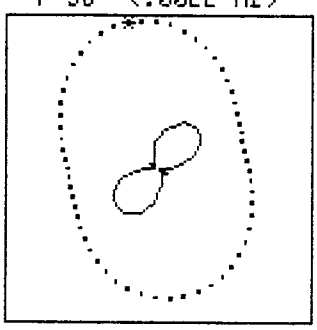
F=32 (.0088 Hz)



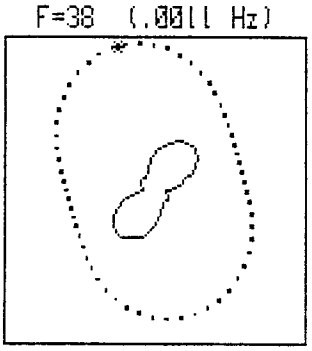
F=34 (.0044 Hz)



F=36 (.0022 Hz)



F=38 (.0011 Hz)



PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

MAGNETOTELLURIC SURVEY REPORT

Run Information

Project:MEDICINE LAKE 1986
Client:UNOCAL GEOTHERMAL
Run:LAKE86-P10s/P17s/

Operator:OJALA
Date: 4 Oct 1986
Time: 16:40:27

Program Version:MT_SYSTEM
Latest Revision:FEB 23 1986

Reference Field: 4 = Rem H Ref
XPR Weighting: RHO VAR STN
XPR Recording Hi Passes: 2
XPR Recording Lo Stacks: 1250
Notch Filters: 60,180,300 Hz
Digitizer: D206

System Calibration Files

Digitizer: D#206-02Sep86-15
SP--Stn01: B#507-30Aug86-05
SP--Stn02: B#221-30Aug86-05
Sens-Ch01: C#445-04Sep86-01
Sens-Ch02: C#239-04Sep86-01
Sens-Ch03: L#416-05Sep86-01
Sens-Ch06: C#201-04Sep86-01
Sens-Ch07: C#306-04Sep86-01
Sens-Ch08: L#419-05Sep86-01

Station 2

Stn Number:LAKE86-P17s
Site Desc:T43N R3E Sec.22 NW1/4
41,34,18 N 121,37,29 W
Elevation:6720 FT
Reference:LAKE86-P10s
Rotation: Principal Axes
Site Permitted by:UNOCAL
Site Layout by: B. STEWART
Sensor Processor: SE221
SP Box Gains:H's - x1 E's - x1

MT Comp	Chan#	Sensor	Azimuth
Hx	6	COIL201	+0 DEG
Hy	7	COIL306	+90 DEG
Hz	8	LOOP419	
Ex	9	150 M	+0 DEG
Ey	10	150 M	+90 DEG
Rx	1	COIL445	+0 DEG
Ry	2	COIL239	+90 DEG

Ex Pot Resist: 8.0 K Ohms
Ex Voltage: AC=38.0 mv, DC=9.4 mv
Ey Pot Resist: 6.5 K Ohms
Ey Voltage: AC=12.5 mv, DC=89.0 mv

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

OPERATOR LOG FOR MT SITES LAKE86-P10s/P17s/
Summarized Run Chronologies

Run Start and Stop Time for LAKE86-P10a/P17a/		
Run STARTED:	13:02:49	3 Oct 1986
Run QUIT:	19:30:02	3 Oct 1986
Run Start and Stop Time for LAKE86-P10b/P17b/		
Run STARTED:	19:57:52	3 Oct 1986
Run QUIT:	04:58:17	4 Oct 1986
Run Start and Stop Time for LAKE86-P10c/P17c/		
Run STARTED:	05:55:08	4 Oct 1986
Run QUIT:	15:25:42	4 Oct 1986
Run Start and Stop Time for LAKE86-P10d/P17d/		
Run STARTED:	16:40:27	4 Oct 1986
Run QUIT:	09:00:46	5 Oct 1986

AND POSSIBLY DANGEROUS.

PHOENIX GEOPHYSICS

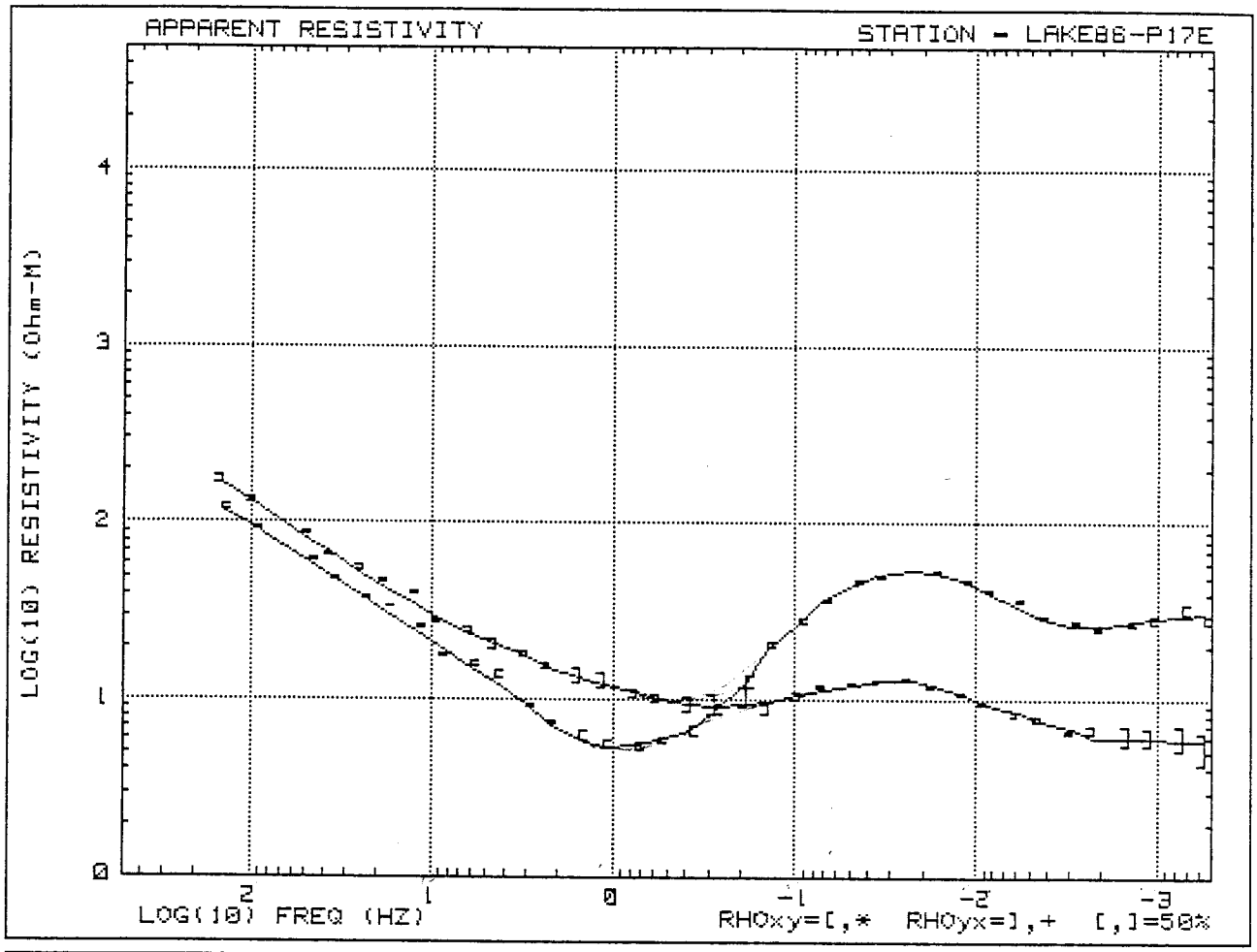
MT Site: LAKE86-P17E

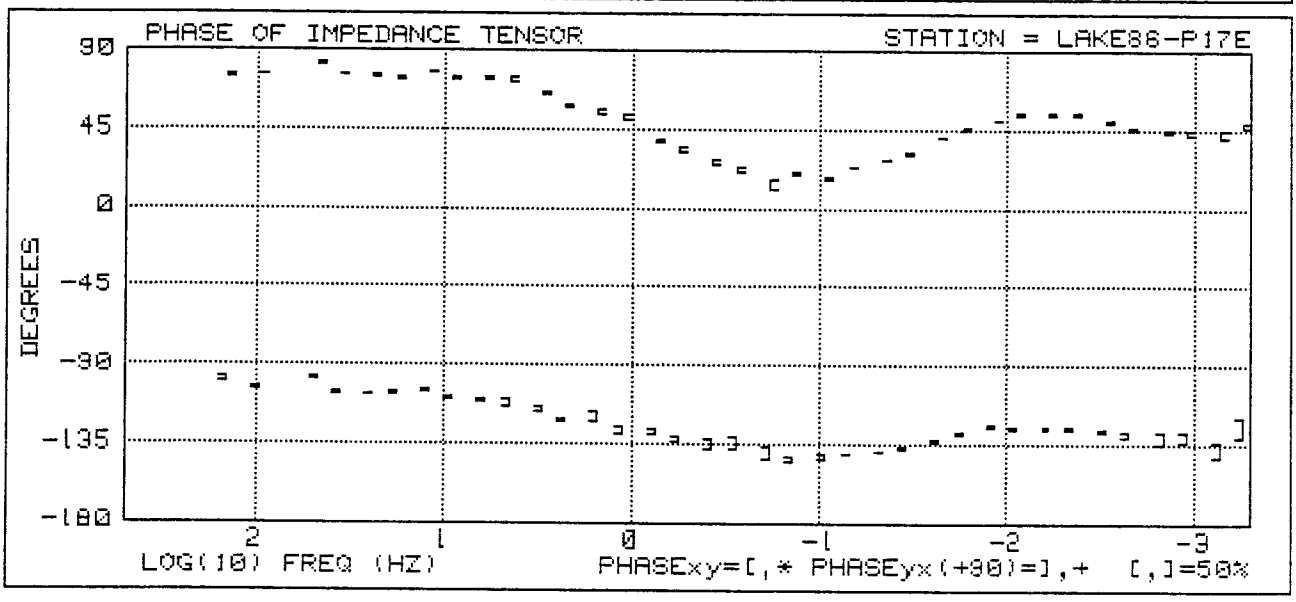
MT SYSTEM PARAMETERS

BAND	F#	DEC LEVEL	HARMONIC	FREQUENCY	PERIOD	CLOCK RATE(Hz)
1	1	0	8th	384.00	.00260	1536.0
1	2	0	6th	288.00	.00347	1536.0
2	3	0	8th	192.00	.00521	768.0
2	4	0	6th	144.00	.00694	768.0
3	5	0	8th	96.00	.01042	384.0
3	6	0	6th	72.00	.01389	384.0
4	7	0	8th	48.00	.02083	192.0
4	8	0	6th	36.00	.02778	192.0
5	9	0	8th	24.00	.04167	96.0
5	10	0	6th	18.00	.05556	96.0
6	11	0	8th	12.00	.08333	48.0
6	12	0	6th	9.00	.11111	48.0
7	13	0	8th	6.00	.16667	24.0
7	14	0	6th	4.50	.22222	24.0
8	15	0	8th	3.00	.33333	12.0
8	16	0	6th	2.25	.44444	12.0
9	17	1	8th	1.50	.66667	12.0
9	18	1	6th	1.13	.88889	12.0
10	19	2	8th	.75000	1.33	12.0
10	20	2	6th	.56250	1.78	12.0
11	21	3	8th	.37500	2.67	12.0
11	22	3	6th	.28125	3.56	12.0
12	23	4	8th	.18750	5.33	12.0
12	24	4	6th	.14063	7.11	12.0
13	25	5	8th	.09375	10.67	12.0
13	26	5	6th	.07031	14.22	12.0
14	27	6	8th	.04688	21.33	12.0
14	28	6	6th	.03516	28.44	12.0
15	29	7	8th	.02344	42.67	12.0
15	30	7	6th	.01758	56.89	12.0
16	31	8	8th	.01172	85.33	12.0
16	32	8	6th	.00879	113.78	12.0
17	33	9	8th	.00586	170.67	12.0
17	34	9	6th	.00439	227.56	12.0
18	35	10	8th	.00293	341.33	12.0
18	36	10	6th	.00220	455.11	12.0
19	37	11	8th	.00146	682.67	12.0
19	38	11	6th	.00110	910.22	12.0
20	39	12	8th	.00073	1365.33	12.0
20	40	12	6th	.00055	1820.44	12.0

PHOENIX GEOPHYSICS

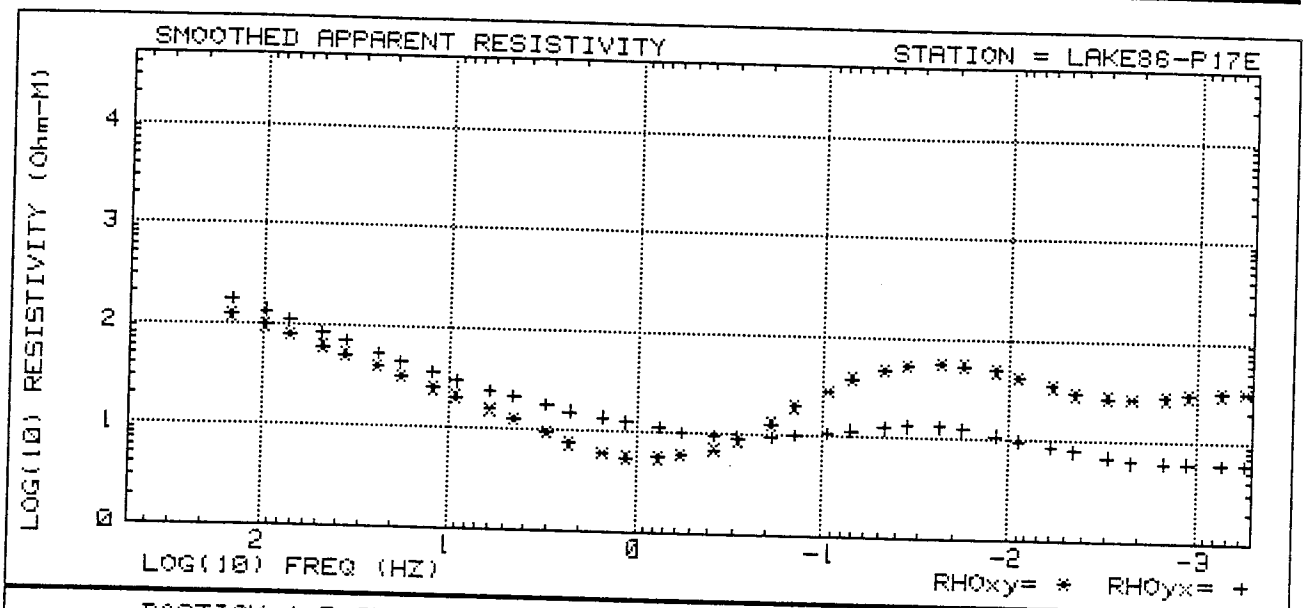
MT Site: LAKE86-P17E

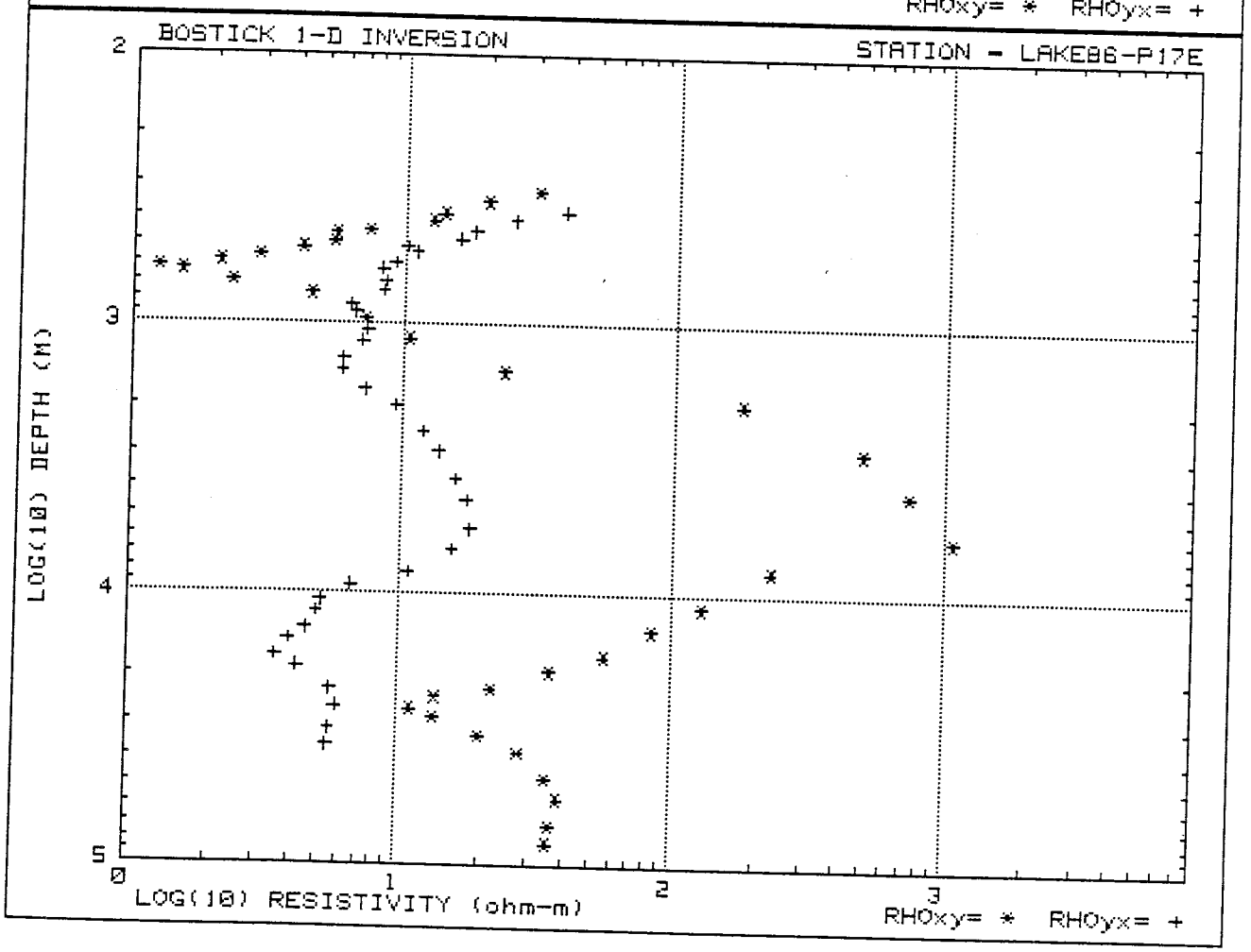




PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

APPARENT RESISTIVITY ESTIMATES

F#	Frq/Prd	STACKS	RHOxy	%SD	RHOyx	%SD	PHAxy	%SD	PHAyx	%SD
4	144.00 Hz	384	122.6	4.5	175.9	5.5	75.6	1.3	-98.1	1.5
5	96.00 Hz	605	94.4	3.2	135.0	3.4	76.0	.9	-103.6	1.0
7	48.00 Hz	1535	62.1	2.2	86.8	2.2	82.8	.6	-97.3	.6
8	36.00 Hz	1631	49.2	2.0	67.3	2.5	76.3	.6	-105.9	.7
9	24.00 Hz	1536	38.1	2.2	55.9	3.1	75.3	.6	-106.6	.9
10	18.00 Hz	1536	33.9	2.1	47.1	3.0	73.8	.6	-106.3	.8
11	12.00 Hz	1632	26.1	2.6	40.2	3.2	77.4	.7	-104.9	.9
12	9.00 Hz	1440	18.1	2.1	27.4	2.5	73.8	.6	-109.0	.7
13	6.00 Hz	1536	16.1	4.6	24.8	4.3	73.7	1.3	-109.9	1.2
14	4.50 Hz	1152	13.9	7.7	20.6	9.0	73.3	2.1	-111.7	2.5
15	3.00 Hz	7456	9.4	3.2	18.1	5.7	65.3	.9	-115.0	1.6
16	2.25 Hz	16178	7.5	3.4	15.5	6.4	58.1	1.0	-121.6	1.8
17	1.50 Hz	7664	6.3	8.5	13.6	16.6	55.1	2.3	-119.7	4.4
18	1.13 Hz	7432	5.6	8.1	12.9	12.7	51.5	2.2	-126.8	3.4
19	1.33 Sec	8217	5.5	5.1	10.8	5.4	38.4	1.4	-127.9	1.5
20	1.78 Sec	7529	5.9	6.2	10.1	7.9	33.1	1.7	-132.0	2.2
21	2.67 Sec	3242	6.8	9.3	9.5	14.9	26.1	2.5	-134.7	4.0
22	3.56 Sec	4002	9.0	9.7	9.4	18.6	22.2	2.6	-134.2	4.9
23	5.33 Sec	2176	12.7	14.3	10.3	18.9	13.9	3.8	-139.9	5.0
24	7.11 Sec	2666	20.5	3.4	8.9	8.0	20.6	1.0	-143.2	2.2
25	10.67 Sec	994	28.2	4.8	10.5	8.1	17.0	1.3	-141.5	2.2
26	14.22 Sec	988	36.6	1.2	11.9	1.3	23.6	.3	-140.9	.4
27	21.33 Sec	564	47.1	.7	12.4	.9	28.3	.2	-139.1	.3
28	28.44 Sec	664	50.1	.7	12.4	1.6	31.3	.2	-137.1	.4
29	42.67 Sec	532	53.7	.7	13.1	1.7	40.2	.2	-132.7	.5
30	56.89 Sec	556	53.2	.8	11.9	2.0	45.5	.2	-128.6	.6
31	85.33 Sec	165	47.0	1.7	10.7	2.5	50.6	.5	-124.1	.7
32	113.78 Sec	219	41.1	1.8	9.6	3.1	54.3	.5	-125.3	.9
33	170.67 Sec	141	36.7	3.4	8.4	5.1	54.5	1.0	-125.8	1.4
34	227.56 Sec	162	29.8	2.6	7.8	4.8	53.7	.7	-125.6	1.3
35	341.33 Sec	57	27.4	3.0	6.6	4.0	50.0	.8	-127.5	1.1
36	455.11 Sec	54	25.2	4.3	6.7	7.5	46.1	1.2	-128.7	2.1
37	682.67 Sec	24	27.5	5.2	6.2	19.1	44.3	1.4	-131.4	5.0
38	910.22 Sec	12	28.4	7.7	6.2	19.9	44.0	2.1	-130.8	5.2
39	1365.33 Sec	12	32.9	11.8	6.1	28.0	42.6	3.2	-137.9	7.1
40	1820.44 Sec	9	28.6	8.8	5.3	33.5	47.9	2.4	-124.8	8.3

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

SMOOTHED APPARENT RESISTIVITY AND 1D INVERSION RESULTS

F#	Frq/Prd	STACKS	RHOxy	RHOyx	INV RHOxy	DEP	INV RHOyx	DEP
4	144.00 Hz	384	119.1	168.1	30.6	324	38.5	385
5	96.00 Hz	605	93.7	130.3	19.9	352	25.1	415
7	48.00 Hz	1535	58.7	79.2	13.9	393	18.0	457
8	36.00 Hz	1631	49.5	67.9	12.7	417	15.9	489
9	24.00 Hz	1536	38.9	51.6	7.4	453	10.2	522
10	18.00 Hz	1536	30.9	42.7	5.5	466	11.1	548
11	12.00 Hz	1632	24.0	34.3	5.4	503	9.2	602
12	9.00 Hz	1440	19.9	28.6	4.2	530	8.2	634
13	6.00 Hz	1536	15.2	23.4	2.9	567	8.5	703
14	4.50 Hz	1152	12.5	20.6	2.1	592	8.4	762
15	3.00 Hz	7456	9.3	17.4	1.2	627	6.4	858
16	2.25 Hz	16178	7.3	14.9	1.5	643	6.6	917
17	1.50 Hz	7664	5.9	13.3	2.3	706	7.3	1061
18	1.13 Hz	7432	5.4	12.2	4.5	783	7.0	1172
19	1.33 Sec	8217	5.6	11.1	7.1	968	6.0	1366
20	1.78 Sec	7529	5.9	9.9	10.6	1156	5.9	1493
21	2.67 Sec	3242	6.7	9.3	23.3	1510	7.2	1771
22	3.56 Sec	4002	8.7	9.1	178.5	1979	9.5	2021
23	5.33 Sec	2176	12.7	9.4	493.4	2923	12.0	2524
24	7.11 Sec	2666	19.1	9.8	744.3	4146	13.6	2978
25	10.67 Sec	994	27.6	10.5	1077.4	6109	15.9	3775
26	14.22 Sec	988	37.0	11.3	229.3	8167	17.4	4517
27	21.33 Sec	564	45.6	12.2	128.9	11096	18.0	5744
28	28.44 Sec	664	51.6	12.9	84.6	13629	15.5	6827
29	42.67 Sec	532	53.9	13.0	56.3	17069	10.8	8384
30	56.89 Sec	556	52.3	12.1	36.0	19418	6.6	9343
31	85.33 Sec	165	47.4	10.6	21.9	22636	5.1	10710
32	113.78 Sec	219	40.5	9.5	13.8	24173	4.9	11703
33	170.67 Sec	141	33.7	8.5	11.2	26984	4.5	13579
34	227.56 Sec	162	28.7	7.7	13.6	28737	4.0	14886
35	341.33 Sec	57	26.3	6.8	20.0	33723	3.5	17183
36	455.11 Sec	54	26.1	6.2	27.8	38772	4.2	18861
37	682.67 Sec	24	26.9	6.0	35.1	48231	5.6	22786
38	910.22 Sec	12	28.6	6.0	39.0	57414	5.9	26376
39	1365.33 Sec	12	29.9	6.0	36.5	71962	5.6	32084
40	1820.44 Sec	9	30.6	5.9	35.6	84001	5.5	36870

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zxx,Zxy)

F#	Frq/Prd	STACKS	Zxx RE	Zxx IM	VARxx	Zxy RE	Zxy IM	VARxy
4	144.00 Hz	384	-20.29	16.44	142.41	73.93	287.72	87.05
5	96.00 Hz	605	-.13	14.30	31.89	51.45	206.55	23.16
7	48.00 Hz	1535	-1.64	4.90	3.65	15.20	121.14	3.60
8	36.00 Hz	1631	-.50	2.46	1.87	22.26	91.40	1.66
9	24.00 Hz	1536	.14	2.15	.86	17.15	65.37	1.12
10	18.00 Hz	1536	-1.06	.87	.49	15.45	53.05	.66
11	12.00 Hz	1632	-1.22	1.06	.31	8.65	38.60	.52
12	9.00 Hz	1440	.12	.53	.14	7.97	27.40	.18
13	6.00 Hz	1536	-.16	.15	.24	6.15	21.09	.49
14	4.50 Hz	1152	.07	-.54	.60	5.10	16.96	.87
15	3.00 Hz	7456	.16	.24	.09	4.95	10.77	.07
16	2.25 Hz	16178	.17	.07	.09	4.84	7.79	.05
17	1.50 Hz	7664	.39	.06	.37	3.92	5.62	.16
18	1.13 Hz	7432	.44	-.16	.14	3.49	4.38	.10
19	1.33 Sec	8217	.327	-.110	.023	3.547	2.807	.026
20	1.78 Sec	7529	.427	-.117	.038	3.406	2.222	.030
21	2.67 Sec	3242	.173	.056	.087	3.194	1.567	.050
22	3.56 Sec	4002	.356	.269	.173	3.285	1.342	.053
23	5.33 Sec	2176	.243	.543	.161	3.351	.830	.106
24	7.11 Sec	2666	-.211	.093	.025	3.554	1.333	.008
25	10.67 Sec	994	-.261	-.083	.028	3.476	1.061	.015
26	14.22 Sec	988	-.218	.033	.001	3.286	1.434	.001
27	21.33 Sec	564	-.196	-.133	.001	2.927	1.574	.000
28	28.44 Sec	664	-.211	-.110	.001	2.534	1.543	.000
29	42.67 Sec	532	-.095	-.108	.000	1.918	1.619	.000
30	56.89 Sec	556	-.073	-.108	.000	1.516	1.543	.000
31	85.33 Sec	165	-.057	-.054	.000	1.053	1.281	.000
32	113.78 Sec	219	-.034	-.065	.000	.785	1.091	.000
33	170.67 Sec	141	-.045	-.024	.000	.602	.844	.001
34	227.56 Sec	162	-.044	-.006	.000	.479	.652	.000
35	341.33 Sec	57	-.039	-.015	.000	.407	.486	.000
36	455.11 Sec	54	-.020	-.001	.000	.365	.379	.000
37	682.67 Sec	24	-.034	.013	.001	.321	.313	.000
38	910.22 Sec	12	-.014	.002	.001	.284	.274	.000
39	1365.33 Sec	12	-.002	-.034	.001	.255	.235	.001
40	1820.44 Sec	9	.018	-.020	.001	.188	.208	.000

PHOENIX GEOPHYSICS

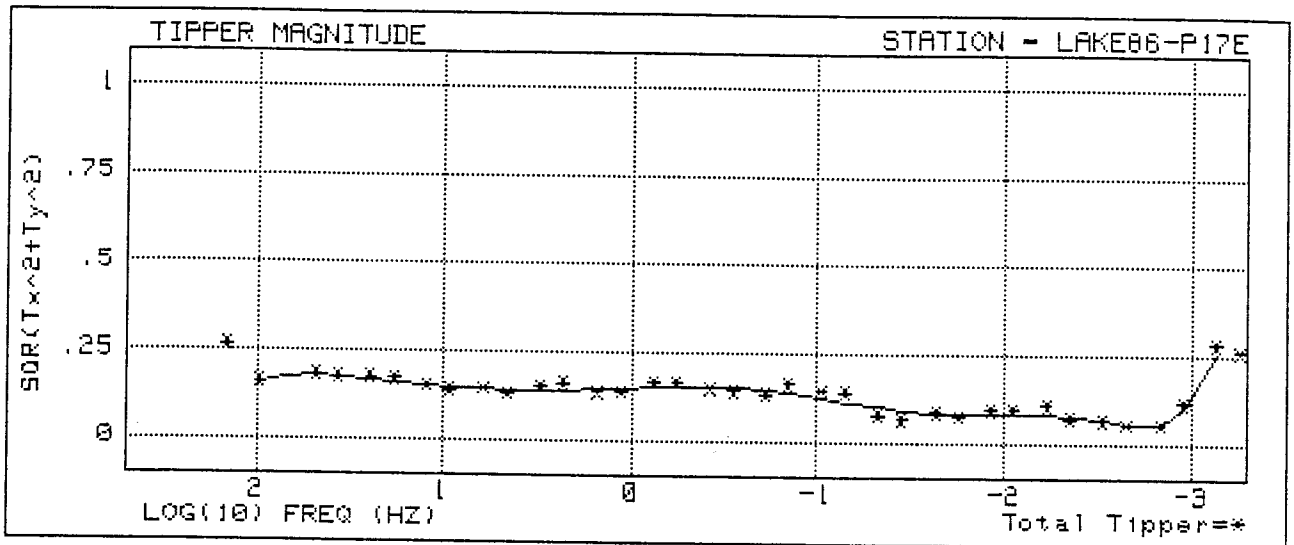
MT Site: LAKE86-P17E

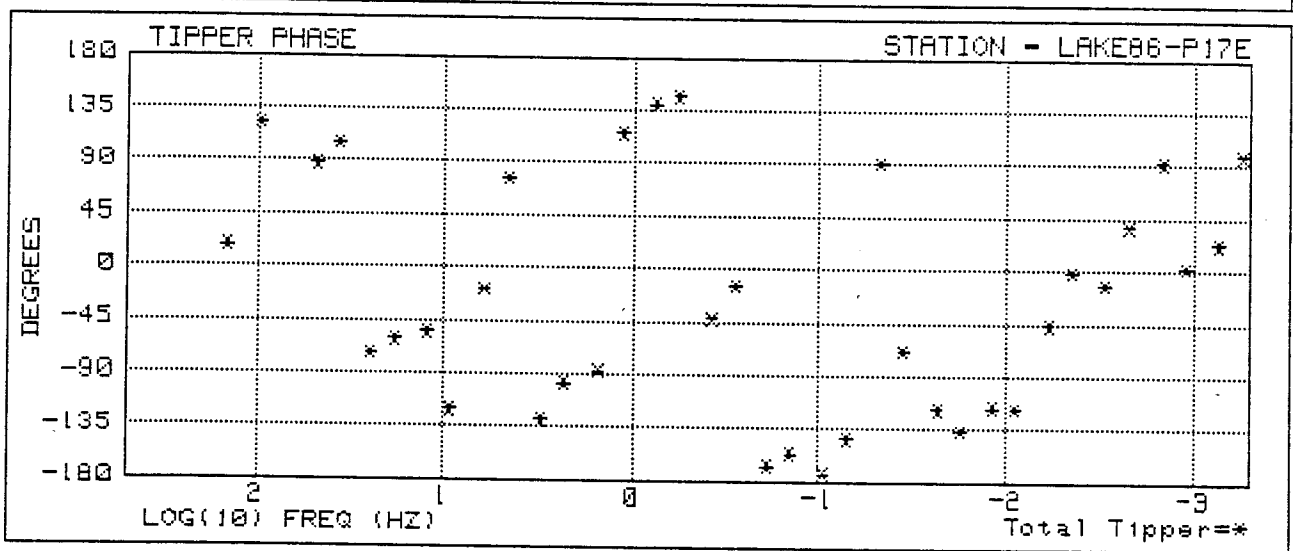
IMPEDANCE TENSOR ESTIMATES AND VARIANCES (Zyx,Zyy)

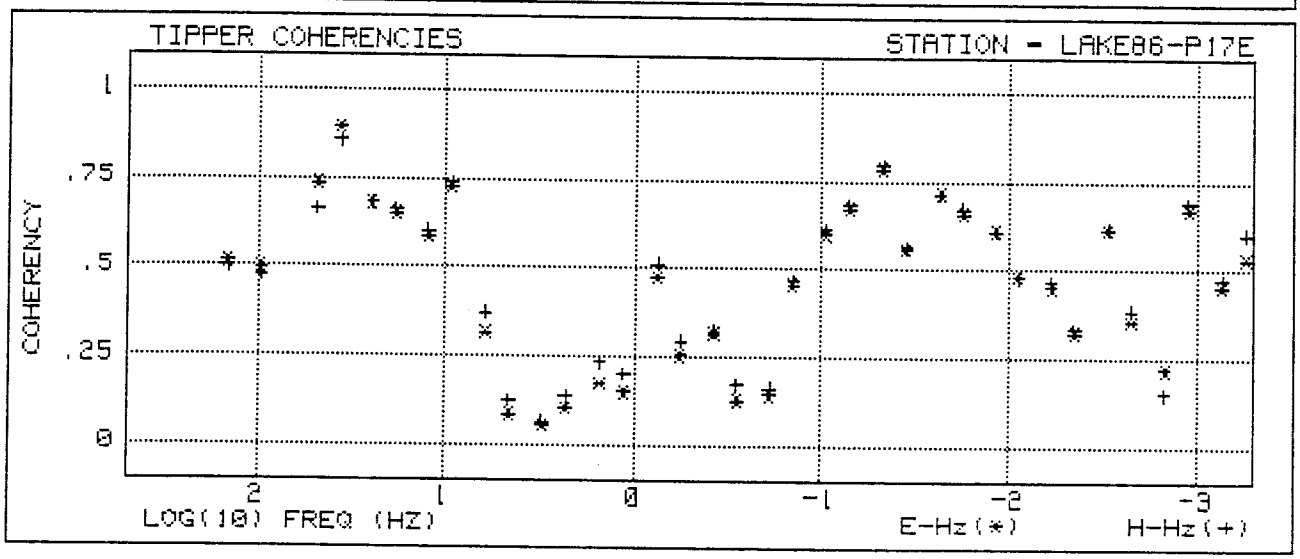
F#	Frq/Prd	STACKS	Zyx RE	Zyx IM	VARyx	Zyy RE	Zyy IM	VARyy
4	144.00 Hz	384	-50.08	-352.31	184.32	3.18	25.11	112.66
5	96.00 Hz	605	-59.80	-247.46	35.90	9.03	12.43	26.07
7	48.00 Hz	1535	-18.23	-143.14	5.06	2.51	4.33	4.99
8	36.00 Hz	1631	-30.06	-105.85	3.62	3.40	.36	3.21
9	24.00 Hz	1536	-23.36	-78.49	3.06	-.91	2.65	3.98
10	18.00 Hz	1536	-18.26	-62.53	1.83	-.49	.70	2.46
11	12.00 Hz	1632	-12.67	-47.48	1.17	.54	.26	1.93
12	9.00 Hz	1440	-11.43	-33.24	.38	.74	.16	.47
13	6.00 Hz	1536	-9.29	-25.62	.67	-.52	.40	1.39
14	4.50 Hz	1152	-7.94	-19.99	1.73	-.03	-.44	2.53
15	3.00 Hz	7456	-6.96	-14.93	.41	-.94	.77	.32
16	2.25 Hz	16178	-6.92	-11.23	.33	-.60	.53	.17
17	1.50 Hz	7664	-5.01	-8.78	1.21	-.80	.48	.51
18	1.13 Hz	7432	-5.10	-6.81	.52	-.46	.43	.34
19	1.33 Sec	8217	-3.920	-5.032	.055	-.699	.062	.061
20	1.78 Sec	7529	-3.560	-3.957	.081	-.532	-.032	.064
21	2.67 Sec	3242	-2.966	-2.996	.171	-.707	-.085	.098
22	3.56 Sec	4002	-2.539	-2.607	.193	-.632	-.313	.060
23	5.33 Sec	2176	-2.384	-2.005	.145	-.485	-.056	.096
24	7.11 Sec	2666	-1.998	-1.493	.018	-.260	-.385	.006
25	10.67 Sec	994	-1.734	-1.378	.015	-.275	-.157	.008
26	14.22 Sec	988	-1.585	-1.289	.000	-.197	-.213	.001
27	21.33 Sec	564	-1.288	-1.117	.000	-.184	-.177	.000
28	28.44 Sec	664	-1.083	-1.005	.000	-.194	-.156	.000
29	42.67 Sec	532	-.840	-.911	.000	-.082	-.128	.000
30	56.89 Sec	556	-.637	-.798	.000	-.066	-.117	.000
31	85.33 Sec	165	-.444	-.655	.000	-.033	-.077	.000
32	113.78 Sec	219	-.374	-.530	.000	-.004	-.087	.000
33	170.67 Sec	141	-.290	-.402	.000	.019	-.069	.000
34	227.56 Sec	162	-.240	-.336	.000	.011	-.048	.000
35	341.33 Sec	57	-.189	-.246	.000	-.006	-.045	.000
36	455.11 Sec	54	-.170	-.212	.000	-.001	-.024	.000
37	682.67 Sec	24	-.141	-.160	.001	-.005	-.021	.000
38	910.22 Sec	12	-.120	-.140	.001	.001	-.017	.000
39	1365.33 Sec	12	-.111	-.100	.001	-.025	-.009	.001
40	1820.44 Sec	9	-.069	-.099	.001	-.009	.010	.000

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E







PHOENIX GEOPHYSICS

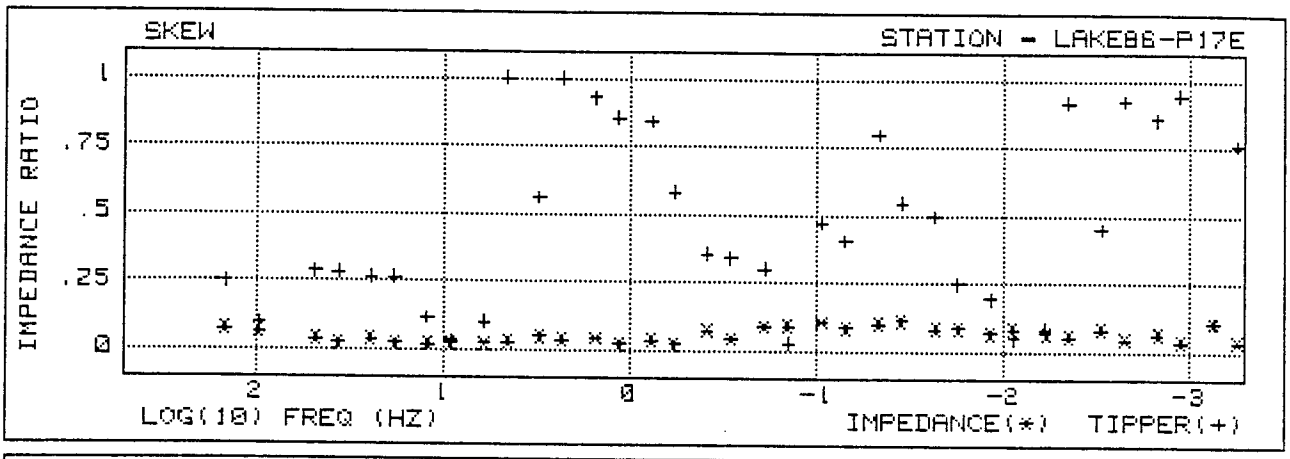
MT Site: LAKE86-P17E

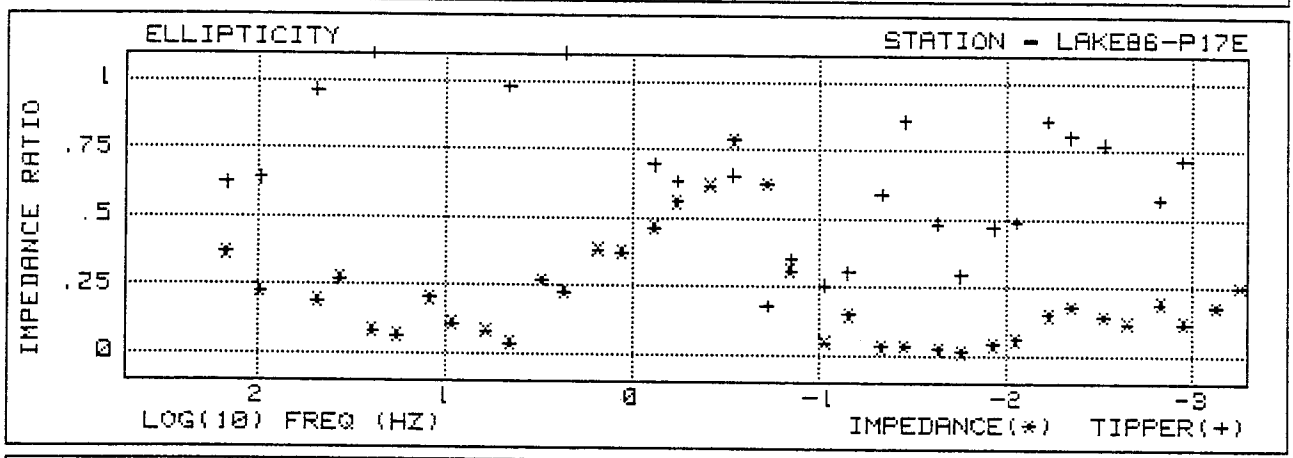
ESTIMATED TIPPER AMPLITUDE, PHASE AND COHERENCIES

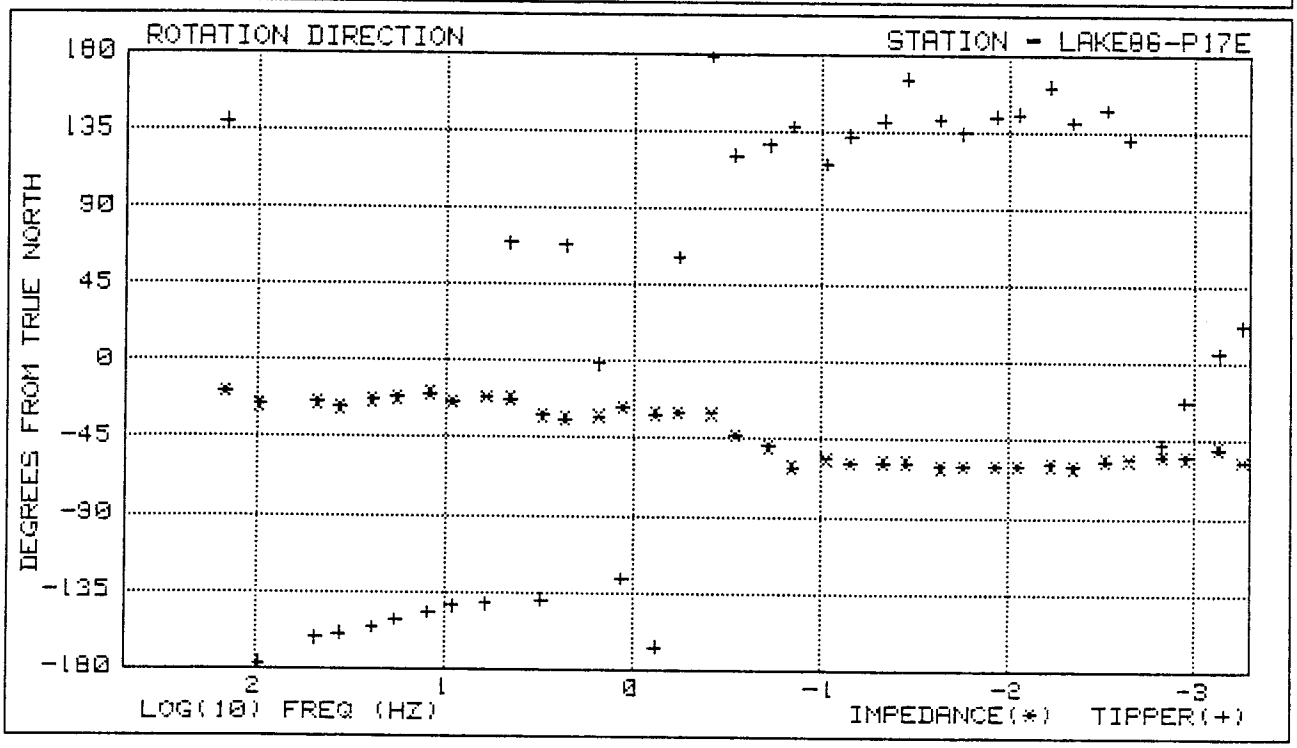
F#	Frq/Prd	STACKS	TIP MAG	TIP PHASE	E-Hz	H-Hz
4	144.00 Hz	384	.26	17.18	.51	.50
5	96.00 Hz	605	.16	121.36	.49	.47
7	48.00 Hz	1535	.18	87.47	.73	.66
8	36.00 Hz	1631	.17	104.73	.89	.85
9	24.00 Hz	1536	.17	-74.13	.68	.68
10	18.00 Hz	1536	.17	-61.79	.65	.66
11	12.00 Hz	1632	.15	-55.58	.58	.60
12	9.00 Hz	1440	.14	-120.96	.72	.74
13	6.00 Hz	1536	.14	-19.28	.31	.37
14	4.50 Hz	1152	.13	75.50	.08	.12
15	3.00 Hz	7456	.15	-129.09	.05	.06
16	2.25 Hz	16178	.16	-98.63	.10	.13
17	1.50 Hz	7664	.13	-88.32	.17	.23
18	1.13 Hz	7432	.13	114.60	.15	.20
19	1.33 Sec	8217	.16	139.32	.47	.51
20	1.78 Sec	7529	.16	146.23	.25	.29
21	2.67 Sec	3242	.15	-43.16	.31	.32
22	3.56 Sec	4002	.14	-15.48	.12	.17
23	5.33 Sec	2176	.13	-168.08	.14	.16
24	7.11 Sec	2666	.16	-157.79	.45	.46
25	10.67 Sec	994	.14	-174.47	.60	.61
26	14.22 Sec	988	.14	-144.05	.67	.68
27	21.33 Sec	564	.07	90.16	.78	.79
28	28.44 Sec	664	.06	-69.53	.55	.56
29	42.67 Sec	532	.08	-119.08	.71	.71
30	56.89 Sec	556	.07	-137.48	.65	.67
31	85.33 Sec	165	.09	-117.28	.61	.60
32	113.78 Sec	219	.09	-118.13	.48	.47
33	170.67 Sec	141	.10	-47.09	.45	.46
34	227.56 Sec	162	.07	-2.56	.32	.33
35	341.33 Sec	57	.06	-13.28	.61	.61
36	455.11 Sec	54	.05	36.59	.35	.38
37	682.67 Sec	24	.05	91.54	.22	.15
38	910.22 Sec	12	.11	1.85	.67	.69
39	1365.33 Sec	12	.28	21.99	.45	.47
40	1820.44 Sec	9	.26	97.91	.53	.60

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E







PHOENIX GEOPHYSICS

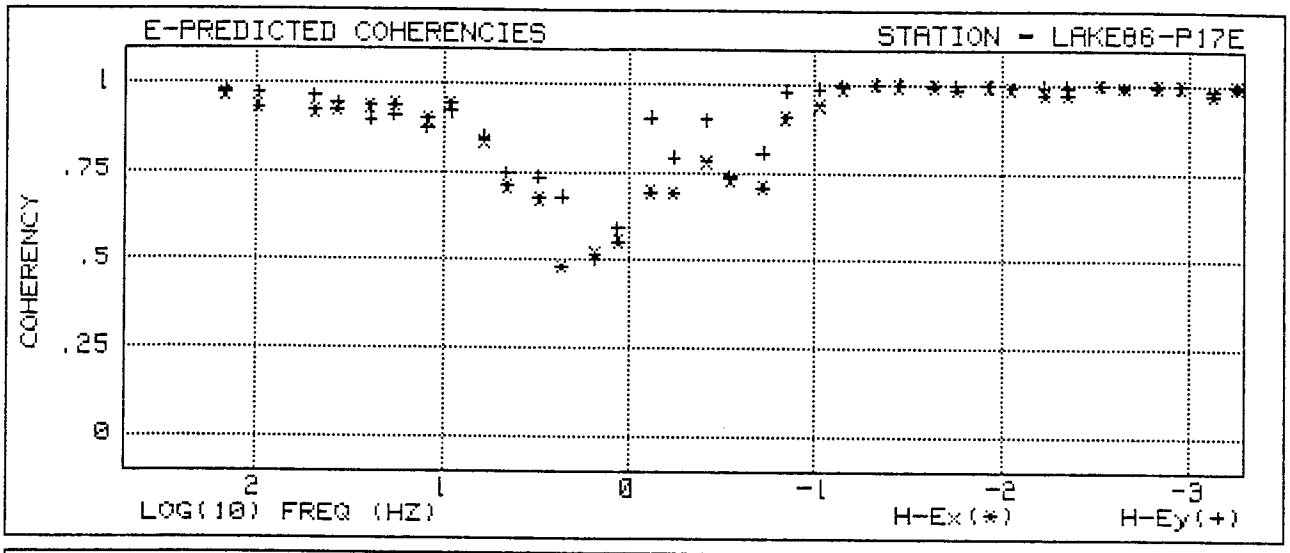
MT Site: LAKE86-P17E

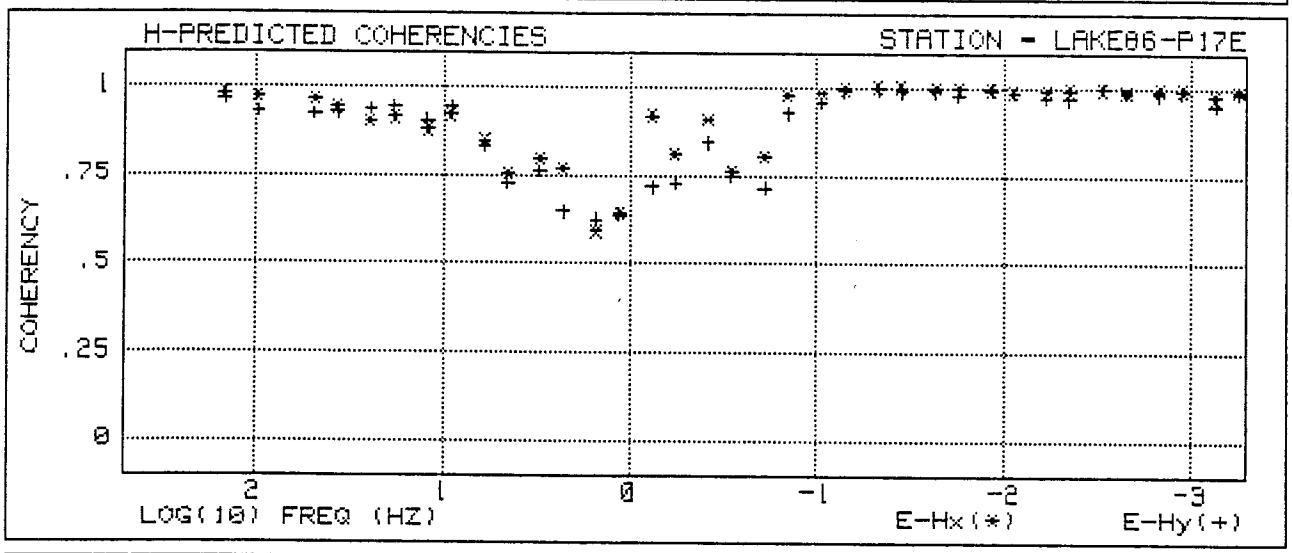
SKEW, ELLIPTICITY AND STRIKE

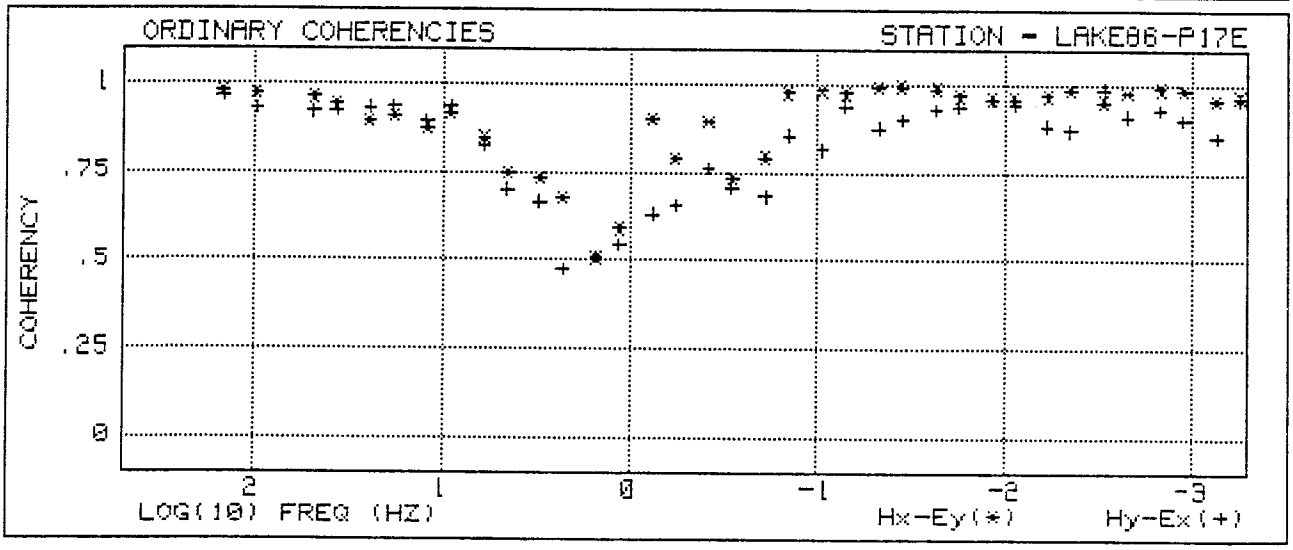
F#	Frq/Prd	STACKS	Z-SKW	Z-ELP	Z-STRK	T-SKW	T-ELP	T-STRK
4	144.00 Hz	384	.07	.36	-18.95	.25	.62	139.13
5	96.00 Hz	605	.06	.22	-26.58	.09	.63	-177.31
7	48.00 Hz	1535	.03	.19	-25.06	.28	.96	-162.81
8	36.00 Hz	1631	.02	.27	-27.93	.28	1.13	-160.32
9	24.00 Hz	1536	.03	.08	-23.62	.26	1.09	-156.53
10	18.00 Hz	1536	.02	.06	-22.49	.26	1.22	-152.14
11	12.00 Hz	1632	.02	.20	-19.98	.11	1.29	-147.65
12	9.00 Hz	1440	.02	.11	-24.92	.03	1.81	-143.82
13	6.00 Hz	1536	.02	.08	-21.66	.10	1.68	-142.30
14	4.50 Hz	1152	.02	.03	-22.79	.99	.98	68.80
15	3.00 Hz	7456	.05	.27	-32.54	.56	2.17	-139.86
16	2.25 Hz	16178	.03	.22	-34.24	1.00	1.10	67.50
17	1.50 Hz	7664	.04	.38	-32.88	.93	1.19	-1.91
18	1.13 Hz	7432	.02	.37	-27.74	.85	1.10	-127.33
19	1.33 Sec	8217	.03	.46	-31.39	.84	.69	-167.53
20	1.78 Sec	7529	.02	.55	-30.37	.58	.63	60.74
21	2.67 Sec	3242	.07	.62	-31.12	.35	1.46	177.65
22	3.56 Sec	4002	.04	.78	-43.77	.34	.65	120.39
23	5.33 Sec	2176	.09	.62	-49.78	.30	.17	126.69
24	7.11 Sec	2666	.09	.31	-61.69	.03	.35	137.40
25	10.67 Sec	994	.10	.04	-57.06	.46	.25	115.76
26	14.22 Sec	988	.08	.14	-59.38	.40	.30	132.16
27	21.33 Sec	564	.10	.03	-59.16	.79	.58	140.72
28	28.44 Sec	664	.11	.03	-58.89	.54	.85	165.34
29	42.67 Sec	532	.08	.02	-61.57	.49	.48	141.37
30	56.89 Sec	556	.08	.01	-60.76	.24	.29	133.99
31	85.33 Sec	165	.07	.04	-60.98	.19	.46	143.49
32	113.78 Sec	219	.08	.05	-60.99	.05	.48	144.83
33	170.67 Sec	141	.06	.14	-59.90	.08	.86	160.65
34	227.56 Sec	162	.05	.17	-61.50	.91	.80	140.22
35	341.33 Sec	57	.08	.14	-57.35	.45	.77	147.30
36	455.11 Sec	54	.04	.12	-57.08	.92	1.28	130.52
37	682.67 Sec	24	.06	.19	-55.18	.85	.56	-48.19
38	910.22 Sec	12	.03	.12	-55.41	.94	.71	-23.46
39	1365.33 Sec	12	.10	.18	-50.06	.10	1.44	5.22
40	1820.44 Sec	9	.03	.25	-57.92	.76	2.19	21.10

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E







PHOENIX GEOPHYSICS

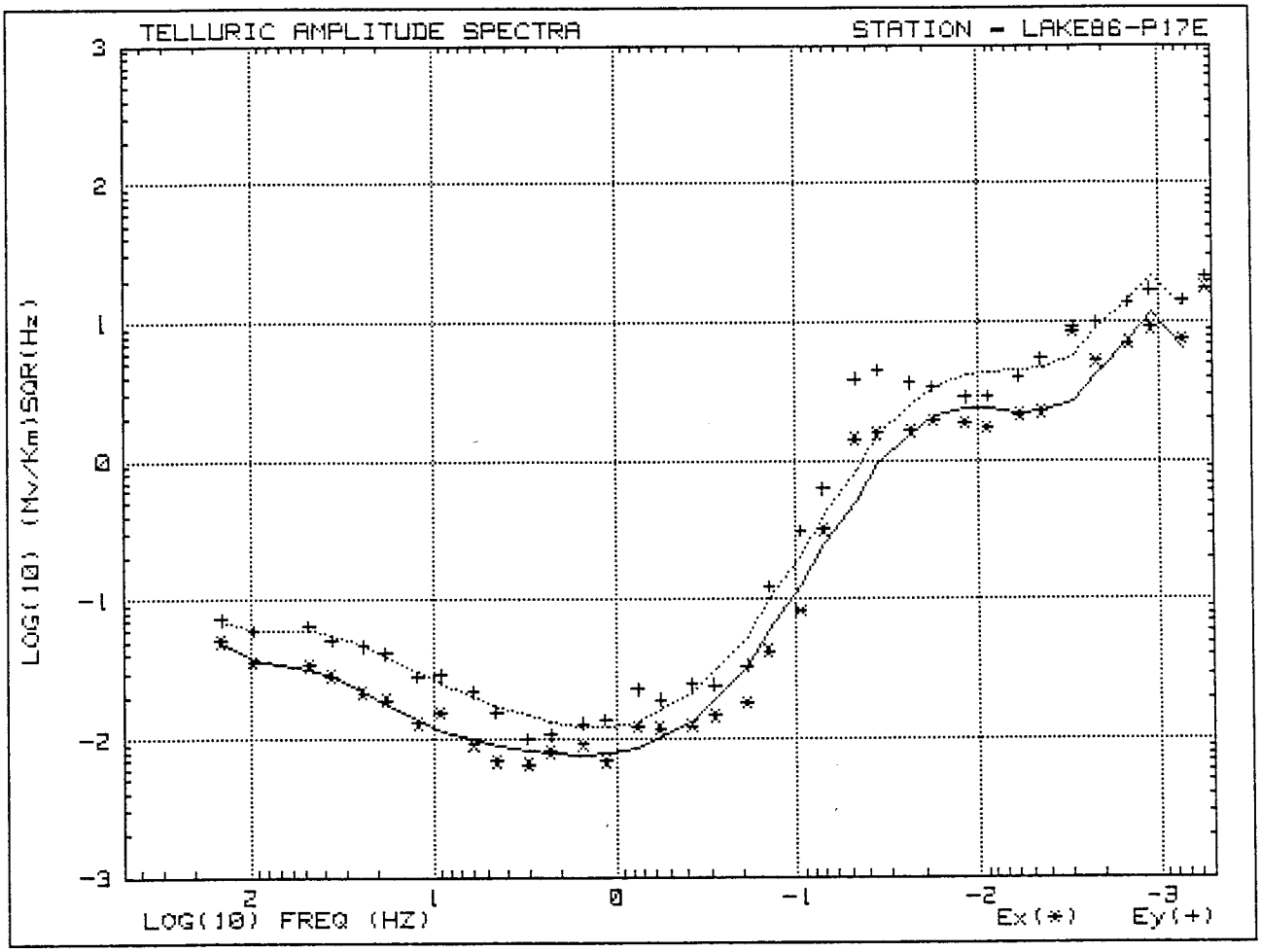
MT Site: LAKE86-P17E

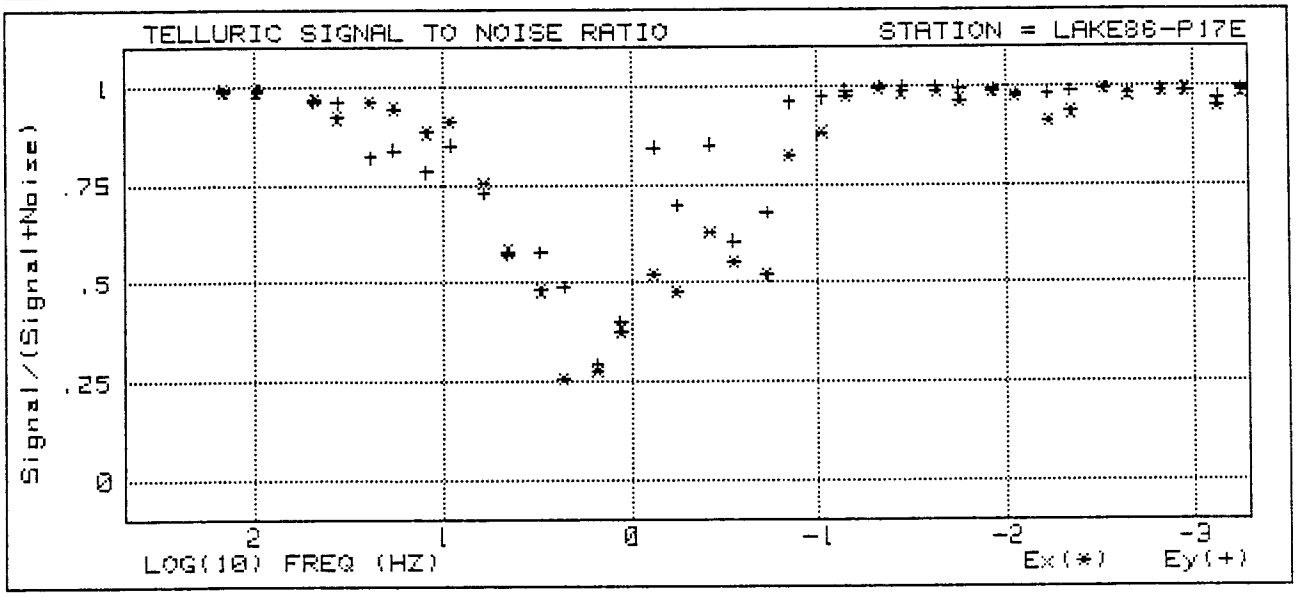
MULTIPLE AND ORDINARY COHERENCIES

F#	Frq/Prd	STACKS	H-Ex	H-Ey	E-Hx	E-Hy	Hx-Ey	Hy-Ex
4	144.00 Hz	384	.97	.98	.98	.96	.98	.96
5	96.00 Hz	605	.93	.97	.97	.93	.97	.93
7	48.00 Hz	1535	.92	.96	.96	.92	.96	.92
8	36.00 Hz	1631	.92	.94	.94	.92	.94	.92
9	24.00 Hz	1536	.93	.89	.90	.93	.89	.93
10	18.00 Hz	1536	.94	.90	.91	.94	.90	.93
11	12.00 Hz	1632	.90	.87	.87	.90	.87	.89
12	9.00 Hz	1440	.94	.92	.92	.94	.91	.93
13	6.00 Hz	1536	.83	.84	.85	.83	.84	.82
14	4.50 Hz	1152	.71	.74	.75	.72	.74	.70
15	3.00 Hz	7456	.67	.73	.79	.76	.73	.66
16	2.25 Hz	16178	.48	.68	.77	.64	.67	.47
17	1.50 Hz	7664	.52	.50	.59	.62	.50	.51
18	1.13 Hz	7432	.55	.59	.64	.64	.59	.54
19	1.33 Sec	8217	.69	.90	.91	.71	.90	.63
20	1.78 Sec	7529	.69	.79	.81	.73	.79	.65
21	2.67 Sec	3242	.78	.90	.91	.84	.89	.76
22	3.56 Sec	4002	.73	.74	.76	.75	.73	.70
23	5.33 Sec	2176	.70	.80	.80	.71	.79	.68
24	7.11 Sec	2666	.90	.98	.97	.92	.97	.85
25	10.67 Sec	994	.94	.98	.98	.96	.98	.81
26	14.22 Sec	988	.99	.99	.99	.99	.97	.94
27	21.33 Sec	564	1.00	1.00	1.00	.99	.99	.87
28	28.44 Sec	664	.99	1.00	1.00	.99	.99	.90
29	42.67 Sec	532	.99	1.00	1.00	.99	.98	.93
30	56.89 Sec	556	.98	1.00	.99	.98	.97	.93
31	85.33 Sec	165	.99	.99	.99	.99	.96	.96
32	113.78 Sec	219	.99	.99	.99	.98	.96	.94
33	170.67 Sec	141	.97	.99	.99	.97	.97	.88
34	227.56 Sec	162	.97	.99	.99	.97	.98	.87
35	341.33 Sec	57	1.00	1.00	.99	1.00	.95	.98
36	455.11 Sec	54	.99	.99	.99	.98	.98	.91
37	682.67 Sec	24	.99	.99	.99	.98	.99	.93
38	910.22 Sec	12	.99	.99	.99	.99	.98	.90
39	1365.33 Sec	12	.97	.98	.97	.95	.95	.85
40	1820.44 Sec	9	.99	.99	.99	.99	.96	.96

PHOENIX GEOPHYSICS

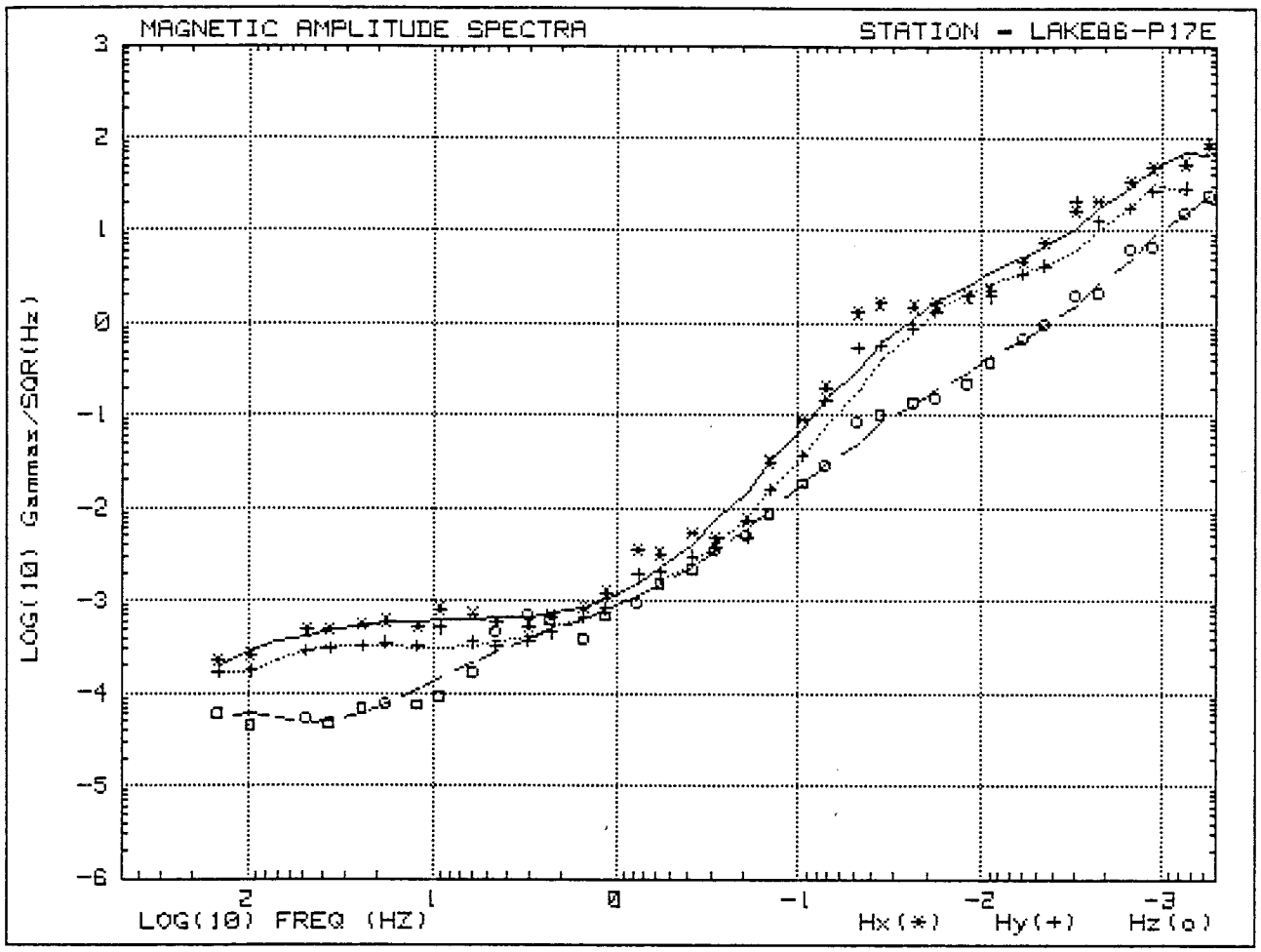
MT Site: LAKE86-P17E

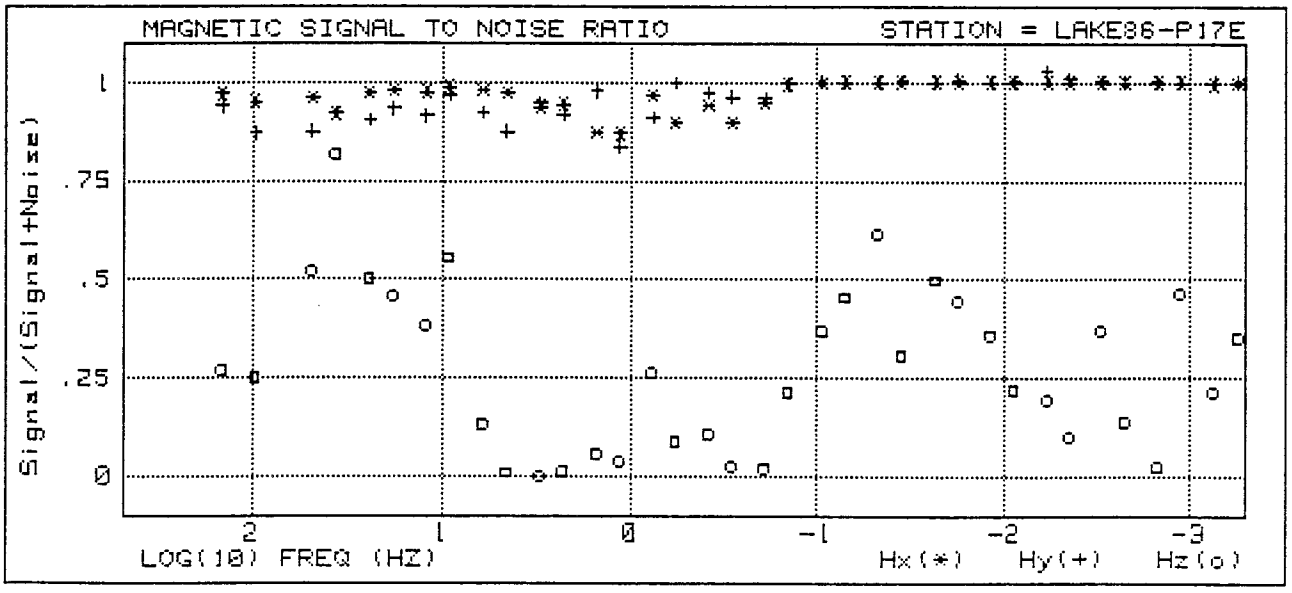




PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E





PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

SIGNAL AMP SPECTRA (Gam/SQR(Hz) Mv/Km/SQR(Hz))

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	384	2.23E-04	1.71E-04	6.27E-05	5.04E-02	7.15E-02
5	96.00 Hz	605	2.55E-04	1.71E-04	4.66E-05	3.53E-02	5.91E-02
7	48.00 Hz	1535	4.73E-04	2.87E-04	5.73E-05	3.36E-02	6.47E-02
8	36.00 Hz	1631	4.90E-04	2.99E-04	4.94E-05	2.83E-02	5.04E-02
9	24.00 Hz	1536	5.44E-04	3.23E-04	7.23E-05	2.15E-02	4.63E-02
10	18.00 Hz	1536	5.98E-04	3.44E-04	8.29E-05	1.89E-02	4.08E-02
11	12.00 Hz	1632	5.20E-04	3.18E-04	7.94E-05	1.29E-02	2.77E-02
12	9.00 Hz	1440	7.97E-04	5.07E-04	9.84E-05	1.53E-02	2.87E-02
13	6.00 Hz	1536	7.12E-04	3.57E-04	1.75E-04	8.98E-03	2.18E-02
14	4.50 Hz	1152	5.70E-04	3.16E-04	5.01E-04	6.80E-03	1.54E-02
15	3.00 Hz	7456	5.30E-04	3.66E-04	7.41E-04	6.42E-03	9.84E-03
16	2.25 Hz	16178	6.69E-04	4.47E-04	6.47E-04	7.98E-03	1.05E-02
17	1.50 Hz	7664	8.55E-04	6.73E-04	4.12E-04	9.04E-03	1.28E-02
18	1.13 Hz	7432	1.23E-03	8.17E-04	7.25E-04	6.76E-03	1.36E-02
19	1.33 Sec	8217	3.53E-03	1.87E-03	1.01E-03	1.21E-02	2.26E-02
20	1.78 Sec	7529	3.21E-03	1.99E-03	1.66E-03	1.17E-02	1.89E-02
21	2.67 Sec	3242	5.37E-03	2.96E-03	2.28E-03	1.22E-02	2.44E-02
22	3.56 Sec	4002	4.73E-03	3.64E-03	3.70E-03	1.46E-02	2.39E-02
23	5.33 Sec	2176	7.33E-03	4.75E-03	5.46E-03	1.80E-02	3.30E-02
24	7.11 Sec	2666	3.11E-02	1.57E-02	9.21E-03	4.21E-02	1.21E-01
25	10.67 Sec	994	8.96E-02	3.63E-02	1.95E-02	8.23E-02	3.05E-01
26	14.22 Sec	988	1.97E-01	1.43E-01	3.04E-02	3.13E-01	6.14E-01
27	21.33 Sec	564	1.28E+00	5.32E-01	9.16E-02	1.41E+00	3.83E+00
28	28.44 Sec	664	1.63E+00	5.69E-01	1.07E-01	1.54E+00	4.45E+00
29	42.67 Sec	532	1.50E+00	8.88E-01	1.49E-01	1.61E+00	3.58E+00
30	56.89 Sec	556	1.65E+00	1.34E+00	1.64E-01	1.92E+00	3.35E+00
31	85.33 Sec	165	1.96E+00	1.95E+00	2.40E-01	1.85E+00	2.83E+00
32	113.78 Sec	219	2.29E+00	1.97E+00	4.07E-01	1.71E+00	2.85E+00
33	170.67 Sec	141	4.66E+00	3.40E+00	7.20E-01	2.10E+00	3.97E+00
34	227.56 Sec	162	7.45E+00	4.20E+00	1.03E+00	2.23E+00	5.34E+00
35	341.33 Sec	57	1.63E+01	2.01E+01	2.16E+00	8.33E+00	8.94E+00
36	455.11 Sec	54	2.07E+01	1.25E+01	2.30E+00	5.12E+00	9.71E+00
37	682.67 Sec	24	3.36E+01	1.72E+01	6.78E+00	6.97E+00	1.35E+01
38	910.22 Sec	12	4.69E+01	2.64E+01	7.06E+00	8.99E+00	1.68E+01
39	1365.33 Sec	12	5.15E+01	2.81E+01	1.65E+01	7.45E+00	1.40E+01
40	1820.44 Sec	9	7.53E+01	8.74E+01	2.47E+01	1.75E+01	2.10E+01

PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

MAGNETIC & ELECTRIC SIGNAL TO NOISE RATIOS [Signal/(Signal+Noise)]

F#	Frq/Prd	STACKS	HX	HY	HZ	EX	EY
4	144.00 Hz	384	.970	.938	.276	.990	.985
5	96.00 Hz	605	.949	.871	.253	.987	.990
7	48.00 Hz	1535	.961	.874	.525	.966	.961
8	36.00 Hz	1631	.920	.923	.823	.920	.957
9	24.00 Hz	1536	.973	.904	.510	.960	.820
10	18.00 Hz	1536	.979	.932	.466	.944	.837
11	12.00 Hz	1632	.974	.913	.389	.883	.782
12	9.00 Hz	1440	.988	.967	.561	.910	.849
13	6.00 Hz	1536	.980	.922	.138	.752	.728
14	4.50 Hz	1152	.972	.873	.013	.578	.571
15	3.00 Hz	7456	.936	.948	.005	.478	.576
16	2.25 Hz	16178	.942	.919	.018	.255	.488
17	1.50 Hz	7664	.871	.977	.061	.273	.294
18	1.13 Hz	7432	.870	.837	.043	.377	.401
19	1.33 Sec	8217	.967	.911	.266	.519	.842
20	1.78 Sec	7529	.897	.998	.091	.476	.696
21	2.67 Sec	3242	.941	.972	.110	.625	.849
22	3.56 Sec	4002	.898	.963	.031	.550	.604
23	5.33 Sec	2176	.948	.958	.025	.517	.677
24	7.11 Sec	2666	.996	.995	.217	.821	.959
25	10.67 Sec	994	.998	1.000	.373	.880	.970
26	14.22 Sec	988	1.000	.999	.460	.974	.987
27	21.33 Sec	564	1.000	1.000	.623	.991	.997
28	28.44 Sec	664	1.000	1.000	.313	.983	.996
29	42.67 Sec	532	1.000	1.000	.505	.985	.995
30	56.89 Sec	556	1.000	1.000	.451	.961	.993
31	85.33 Sec	165	1.000	1.000	.366	.986	.989
32	113.78 Sec	219	1.000	1.000	.225	.974	.978
33	170.67 Sec	141	1.000	1.000	.197	.909	.981
34	227.56 Sec	162	1.000	1.000	.105	.933	.985
35	341.33 Sec	57	1.000	1.000	.377	.991	.991
36	455.11 Sec	54	1.000	1.000	.144	.978	.978
37	682.67 Sec	24	1.000	1.000	.027	.985	.988
38	910.22 Sec	12	1.000	1.000	.472	.988	.987
39	1365.33 Sec	12	.996	1.000	.220	.949	.969
40	1820.44 Sec	9	.998	1.000	.355	.984	.990

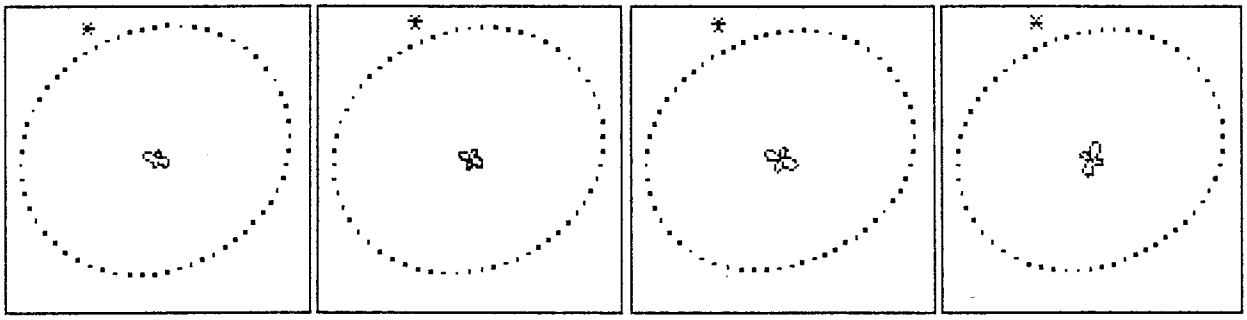
PHOENIX GEOPHYSICS

MT Site: LAKE86-P17E

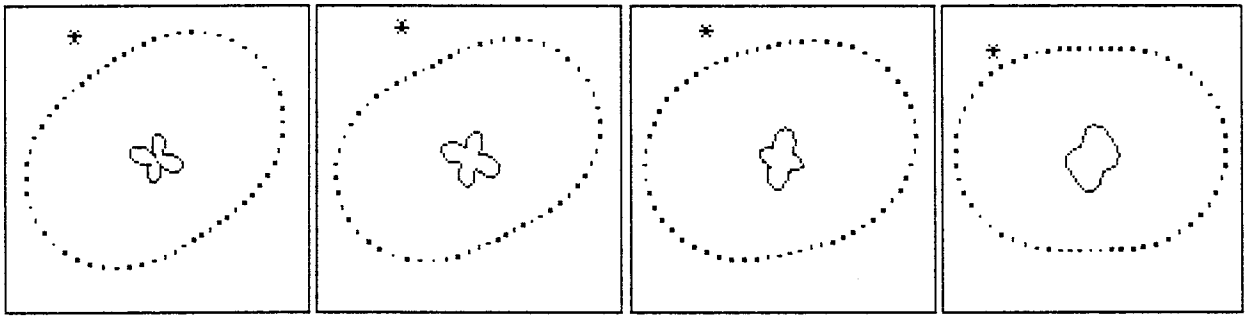
IMPEDANCE POLAR DIAGRAMS

XPR File:X#ED=2
Zxx Normalized to 1 *=Rotation Direction
Zxy = ...
Zxx = ____

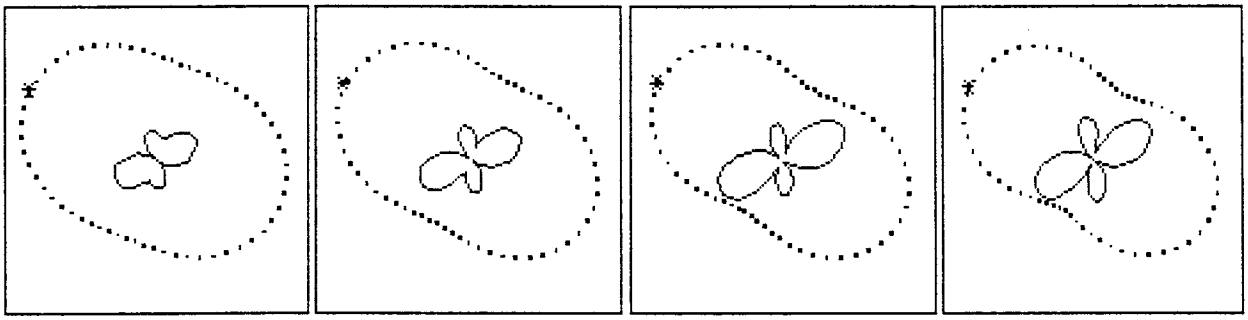
F=8 (36.0 Hz) F=10 (18.0 Hz) F=12 (9.0 Hz) F=14 (4.5 Hz)



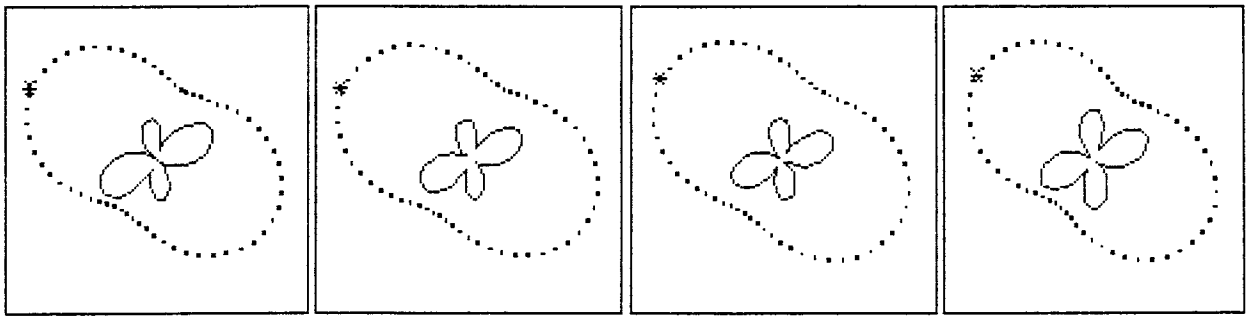
F=16 (2.3 Hz) F=18 (1.1 Hz) F=20 (.5625 Hz) F=22 (.2813 Hz)



F=24 (.1406 Hz) F=26 (.0703 Hz) F=28 (.0352 Hz) F=30 (.0176 Hz)



F=32 (.0088 Hz) F=34 (.0044 Hz) F=36 (.0022 Hz) F=38 (.0011 Hz)



– 41°25'

5E

PHOENIX GEOPHYSICS, INC.

REVISED

UNION 76

GEOTHERMAL DIVISION
LOS ANGELES CALIFORNIA

GLASS MOUNTAIN PROSPECT

MAGNETOTELLURIC SURVEY

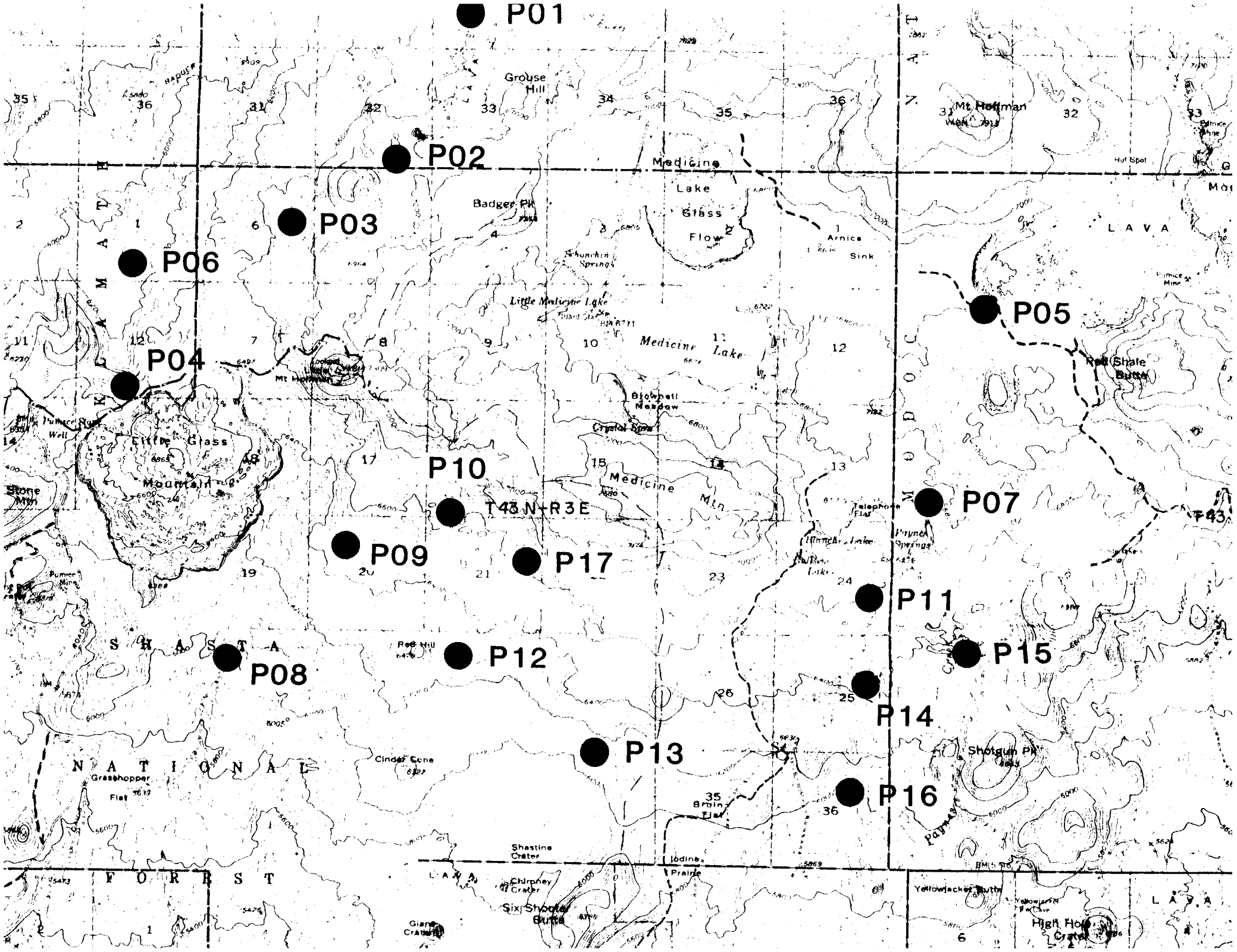
SITE LOCATION MAP

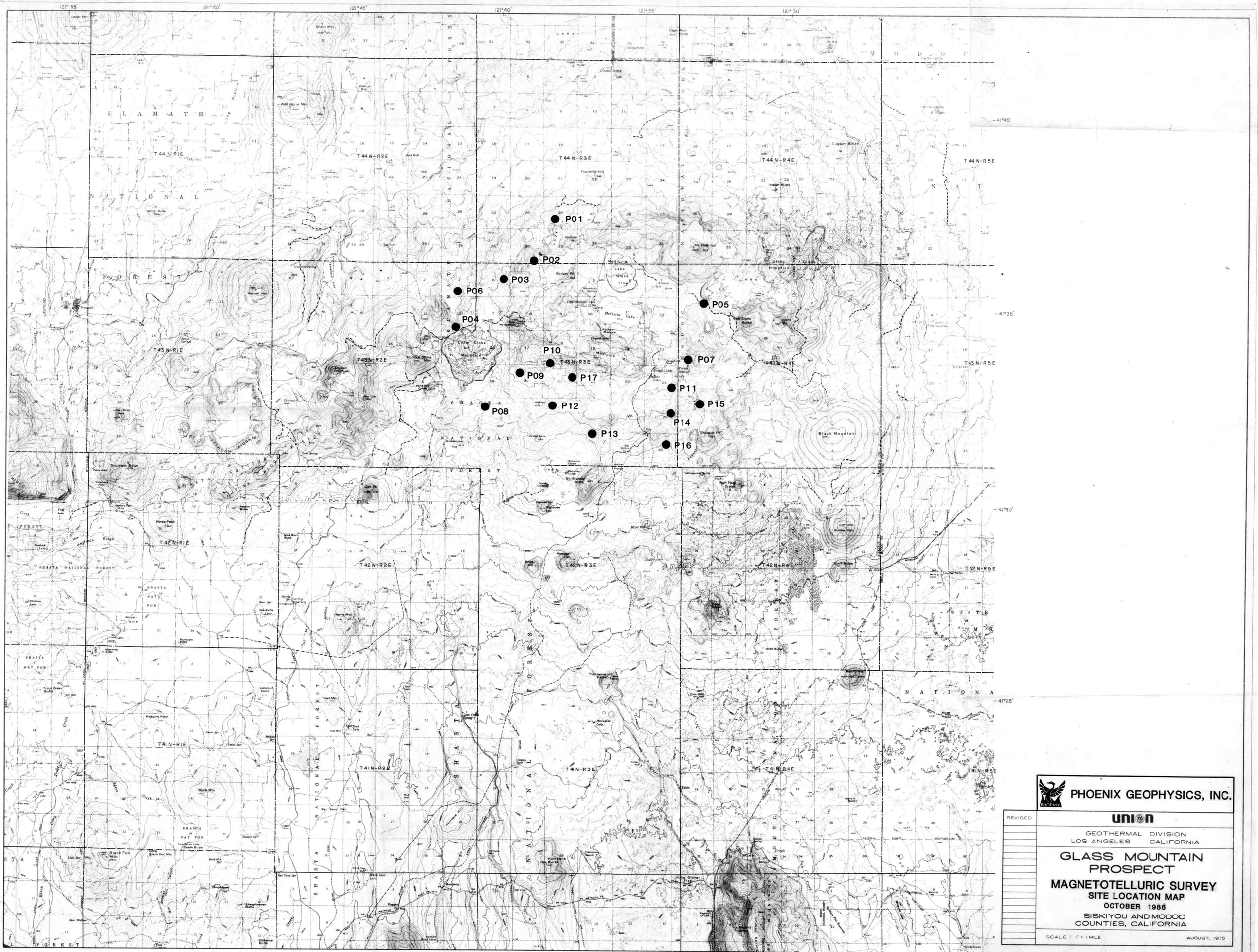
OCTOBER 1986

SISKIYOU AND MODOC
COUNTIES, CALIFORNIA

SCALE : 1" = 1 MILE

AUGUST, 1975


P01
P02
P03
P04
P05
P06
P07
P08
P09
P10
P11
P12
P13
P14
P15
P16
P17
T43N-R3E
Grouse Hill
Mt Hoffman
Medicine Lake Glass Flow
Badger Pk
Arnica Sink
Little Medicine Lake
Medicine Lake
Brownell Meadow
Crystal Spra
Little Glass Mountain
Stone Mtn
Medicine Mtn
Telephone Flat
Paynes Springs
Red Shale Butte
Red Hill
Cinder Cone
Grasshopper Flat
Shotgun Pk
Bruin Flat
Shastine Crater
Chimney Crater
Six Shooter Butte
Iodine Prairie
Yellowjacket Butte
High Hole Crater
Giant Crater
LAVA
SHASTA NATIONAL FOREST
KLAMATH
MODOC



PHOENIX GEOPHYSICS, INC.

union 76

GEOTHERMAL DIVISION
LOS ANGELES CALIFORNIA

GLASS MOUNTAIN PROSPECT

MAGNETOTELLURIC SURVEY

SITE LOCATION MAP

OCTOBER 1986

SISKIYOU AND MODOC COUNTIES, CALIFORNIA

REVISED

SCALE : 1" = 1 MILE

AUGUST, 1975

APPENDIX T:
Geophysical report on the transient electromagnetic (TEM) surveys conducted at the Fourmile Hill Project, Siskiyou County, California on behalf of Calpine Corporation

Attachment XIX

CEC-500-2007-XXX-ATXIX

Geophysical report on the transient electromagnetic (TEM) surveys conducted at the Fourmile Hill Project, Siskiyou County, California on behalf of Calpine Corporation

This document is an attachment to a report funded by the California Energy Commission's Geothermal Resource Development Account (GRDA) Program. The GRDA Program did not fund this document, but the authors of the GRDA funded report have attached it as a supporting document.

The California Energy Commission wishes to thank the copyright holder, Calpine Corporation, for permission to republish this document in electronic format on the Energy Commission's website.

Please contact this document's author/publisher for additional information about the document.

Geophysical Report

on the

Transient Electromagnetic (TEM) Surveys

conducted at the

Four Mile Hill Project

Siskiyou County, California

on behalf of

Calpine Corporation

QGA Project: C-364
Reno, Nevada
July 2002

Jon Powell
Quantech Consulting Inc.

Summary

During the month of June 2002, Quantech Consulting Inc. conducted a transient electromagnetic (TEM) survey on behalf of Calpine Corporation. The survey was conducted at the Four Mile Hill Project, located in Siskiyou County, California.

The objective of the geophysical survey was to map the resistivity features of the sub-surface as part of an on-going exploration program for geothermal energy resources in the area. The survey consisted of 38 center loop soundings. vs. 42 planned

The TEM surveys were conducted with transmitted frequencies of 3.0 Hz and 30 Hz. Readings were acquired in the center of a 300 m x 300 m transmit loop.

Layered-earth inversions have been generated and are presented for each sounding point. Modeling was carried out using the TEMIX-XL software package.

This report outlines the logistical aspects of the survey, the methods of data collection and reduction, and presents the final data. An interpretation of the results is not included.

Table of Contents

Page

Summary i

Table of Contents ii

1.0 Introduction 1

2.0 Survey Parameters and Procedures 2

2.1 Survey Equipment 2

2.2 Survey Parameters 2

2.3 Survey Procedures 2

3.0 Data Processing 3

4.0 Data Presentation 4

Appendices

Appendix A: Sounding Locations
Appendix B: Layered Earth Models

List of Figures

Figure 1. General Location Map 1

1.0 Introduction

Project #:	A-364
Client:	Calpine Corporation
Contact:	Mitch Stark
Survey Type:	Transient Electromagnetic (TEM)
Survey Date:	June 18-27, 2002
Project Area:	Four Mile Hill, Siskiyou County, California Latitude: -41°37′ Longitude: -121°37′ UTM (WGS-84): 614560E – 4608640N

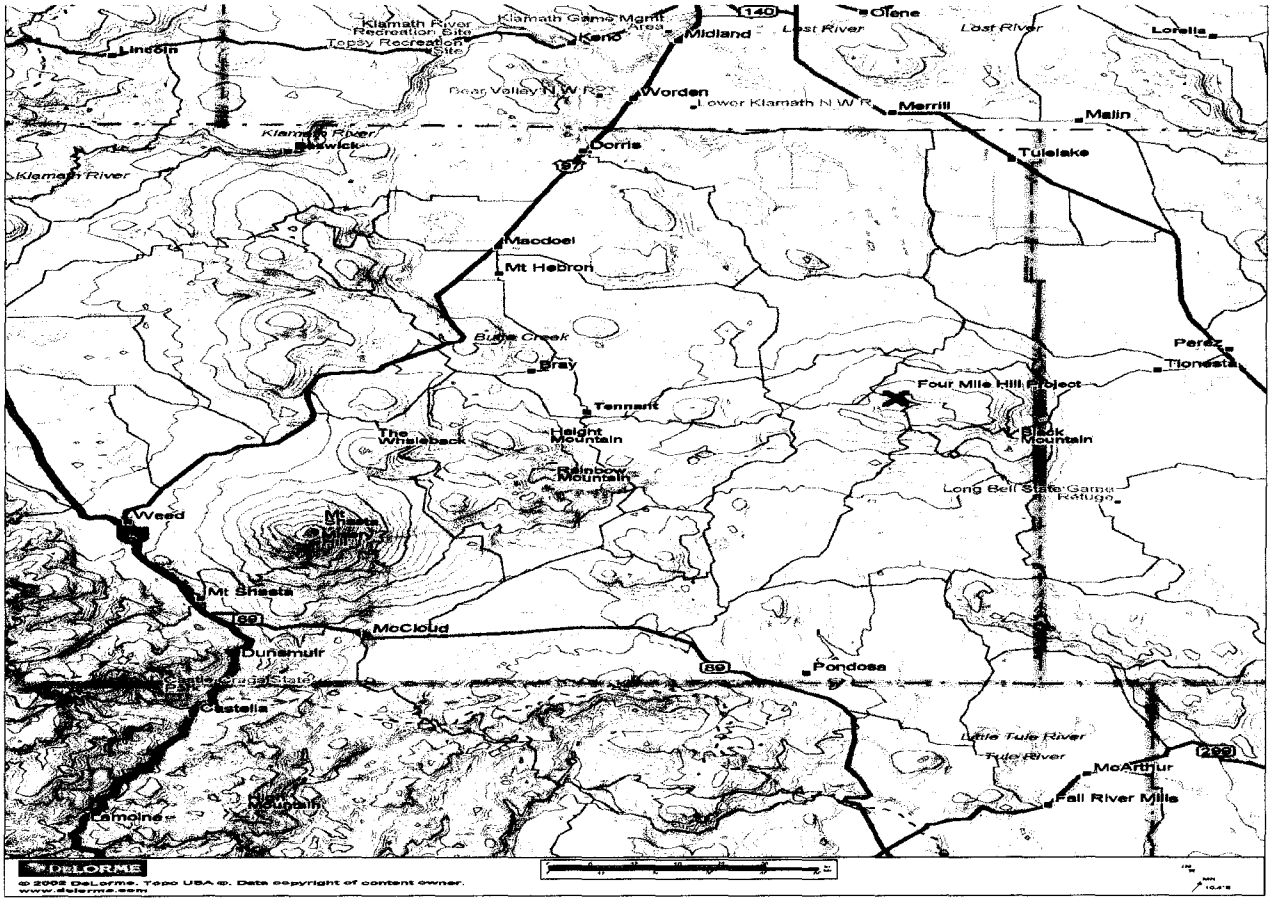


Figure 1. General location map of the Four Mile Hill project.

2.0 Survey Parameters and Procedures

2.1 Survey Equipment

Receiver:	Geonics Digital PROTEM – 20 channels
Transmitter:	Geonics EM-57 (1.85 kilo-Watt)
Antenna:	Geonics 3D-3 Surface Coil

2.2 Survey Parameters

Sounding Type:	Center-loop
Transmit Loop:	300 m x 300 m
Transmitted Frequency:	3.0 & 30 Hz
Transmitted Current:	8.5 Amperes
Transmit Turn-off Time:	98 μs
Receiver Coil Conventions:	Z,X,Y - positive up, east, and north

2.3 Survey Procedures

The soundings were located by Quantech during the course of the survey using a Garmin GPS receiver. A GPS reading was recorded at the center of each sounding point and the point marked with a wooden stake.

The TEM field procedure was designed to collect profiles and isolated sounding data in an expedient manner. Data were collected with a moving-loop method in which the receiver coil was located at the center of a square, single-turn transmit loop. Transmit loop dimensions were fixed at 300m x 300m.

Frequencies of 30.0 Hz and 3.0 Hz were employed allowing secondary magnetic field decay measurements spanning post-ramp times from 88 microseconds to 70 milliseconds. The receiver was operated in "20 gates mode" such that measurements were made independently, and 20 time channels recorded, on each frequency. Synchronization between the transmitter and receiver was achieved with a reference-cable. The transmitter was set to its maximum output of 60 V producing an average current of 8.5 amperes, and a turn-off time of 98 μs.

At the request of Calpine, impromptu tests of the EM67 transmitter were made in order to boost transmitter moment. This necessitated the use of the 220 Volt camp generator, which unfortunately was not able to hold a steady current at 15 amps. The tests were therefore abandoned.

The Z-component decay curves were carefully monitored at each sounding point to ensure the collection of high quality data. Receiver gain was set so that measured response occurred in the unsaturated linear portion of the amplifier's range but with a relatively large signal present in the late channels. Measurements with the transmitter off were made to assess noise levels and assist in setting gains. Gain settings of 3 to 5 for the high frequency and 5 to 7 for the low frequency were typical.

Significant periodic noise was not observed during the course of the survey, however, random noise due to thunderstorm activity typically affected survey operations each afternoon. Stacking to reduce random noise was achieved through numerous repeat measurements at each station, and adjustment of receiver integration (stacking) times depending on the prevalence and amplitude of the sferic noise. At least 4 measurements at high frequency, with an integration time of 30 seconds per reading, and 6 measurements at low frequency, with an integration time of 60 seconds per reading, were typically collected at each sounding point.

In addition to the vertical component (Z) of the magnetic field, the orthogonal horizontal components (X and Y) were collected simultaneously with the Z component. Although not employed by the 1-D inversions completed as part of this survey, the horizontal components are available for future 3-D modeling if desired. An examination of the X and Y components might further be used to assess, in a subjective manner, the validity of the 1D assumptions made in modeling the Z component data and to interpret laterally discontinuous features that cross or occur near survey lines.

The Z component was measured with the positive field direction vertically upward. The X component was directed with an east-positive sense and the Y component was directed in a north-positive sense. These orientations were maintained at every station by referring to the spirit level and compass mounted on the antenna.

3.0 Data Processing

Data collected by the Protem receiver was dumped on a daily basis and is stored in files named "date".raw (eg. Jun26.raw). These files are archived unedited, as dumped from the instrument.

The raw files were then loaded into the Geonics program DATEM for editing, assessment of data quality and data reduction. The receiver coil area, transmitter loop area, transmitter

current and turn-off time are frequently incorrectly recorded in the instrument dump files due to software bugs (Q. Yari, Geonics Ltd., pers. comm.) and were manually edited for correctness. The multiple decay curves at each sounding were individually assessed, and then averaged to improve signal to noise. Noisy decays were flagged and not included in the averaging process. Edited raw files have been stored in files named "date"ed.raw (eg. Jun26ed.raw).

Subsequent to removal of noisy decays and averaging, data were output from DATEM as a late apparent resistivity transformation (file names *res.red) and as millivolts (file names *.red) for input into the modeling program TEMIX.

Layered earth modeling of the sounding data was carried out in the Interpex program TEMIX-XL, version 4.18. Subsequent to importing the data, the decay curves were examined and noisy data points were masked and not considered in the models. Simultaneous inversion of the high and low frequency data was carried out, followed by an analysis of equivalence.

The simplest model possible - typically three layers - was generally used for each sounding, provided that the model fit the field data reasonably well, and the resistivity and/or thickness of each layer in the model was well resolved. In some cases, an additional model, containing an extra layer, has been included where the results were felt to be ambiguous.

4.0 Data Presentation

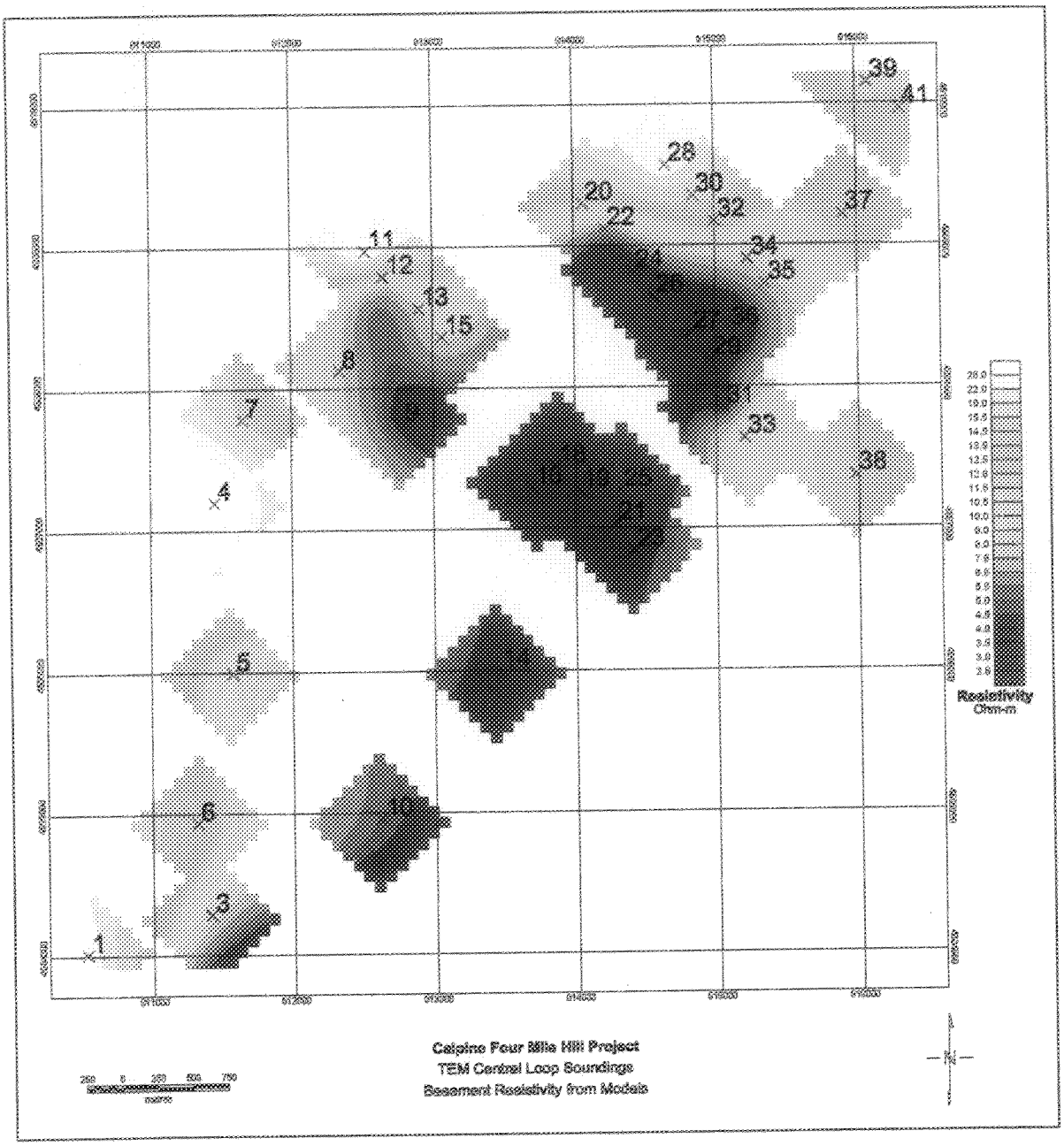
The best-fit layered earth and equivalence models for each sounding are presented graphically together with the observed and model apparent resistivity curves. The model, measured voltage data and model voltages, and parameter resolution matrix have also been printed as text, along with the model fitting error at each time window.

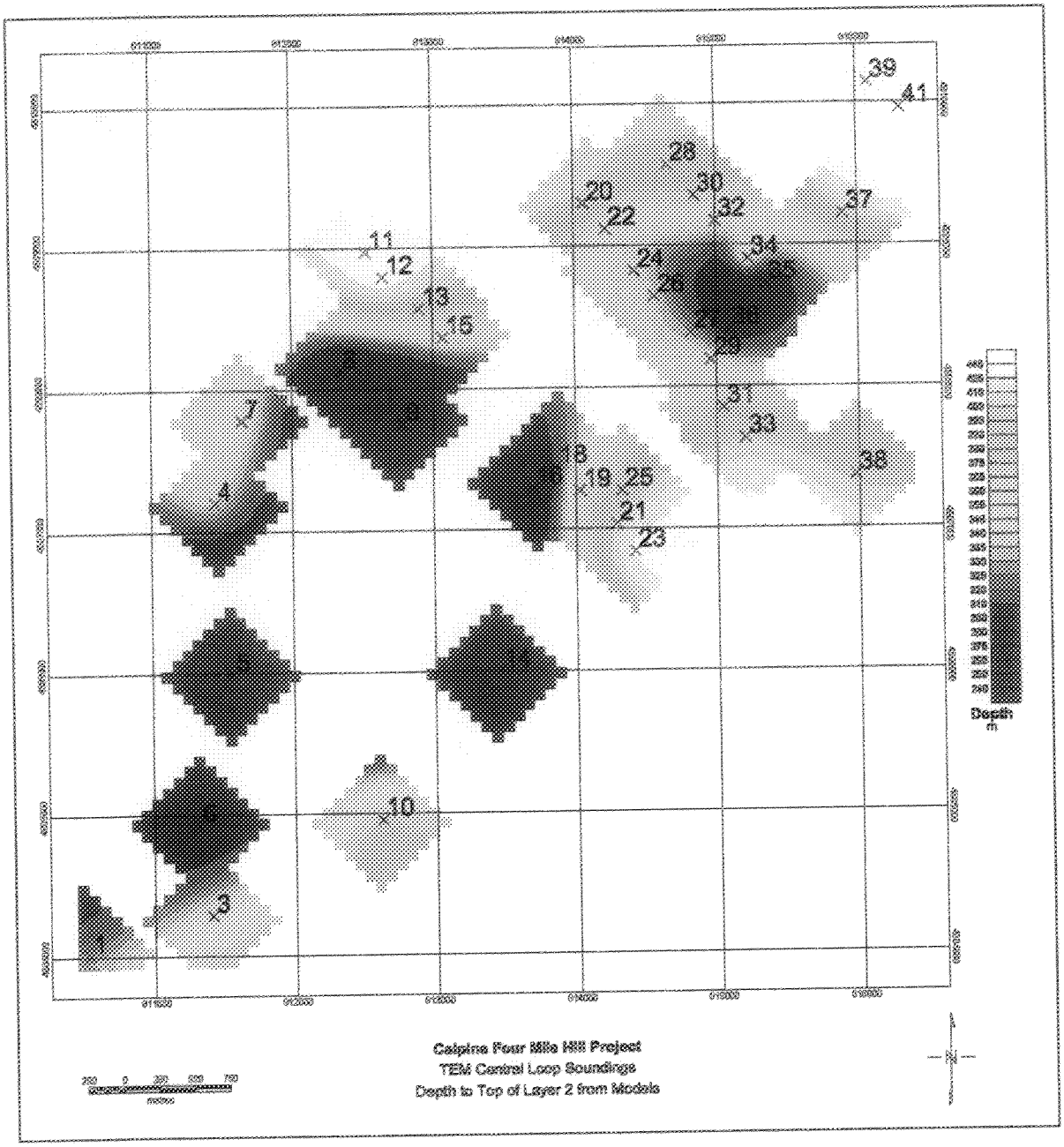
All data has been included on CD with the following formats:

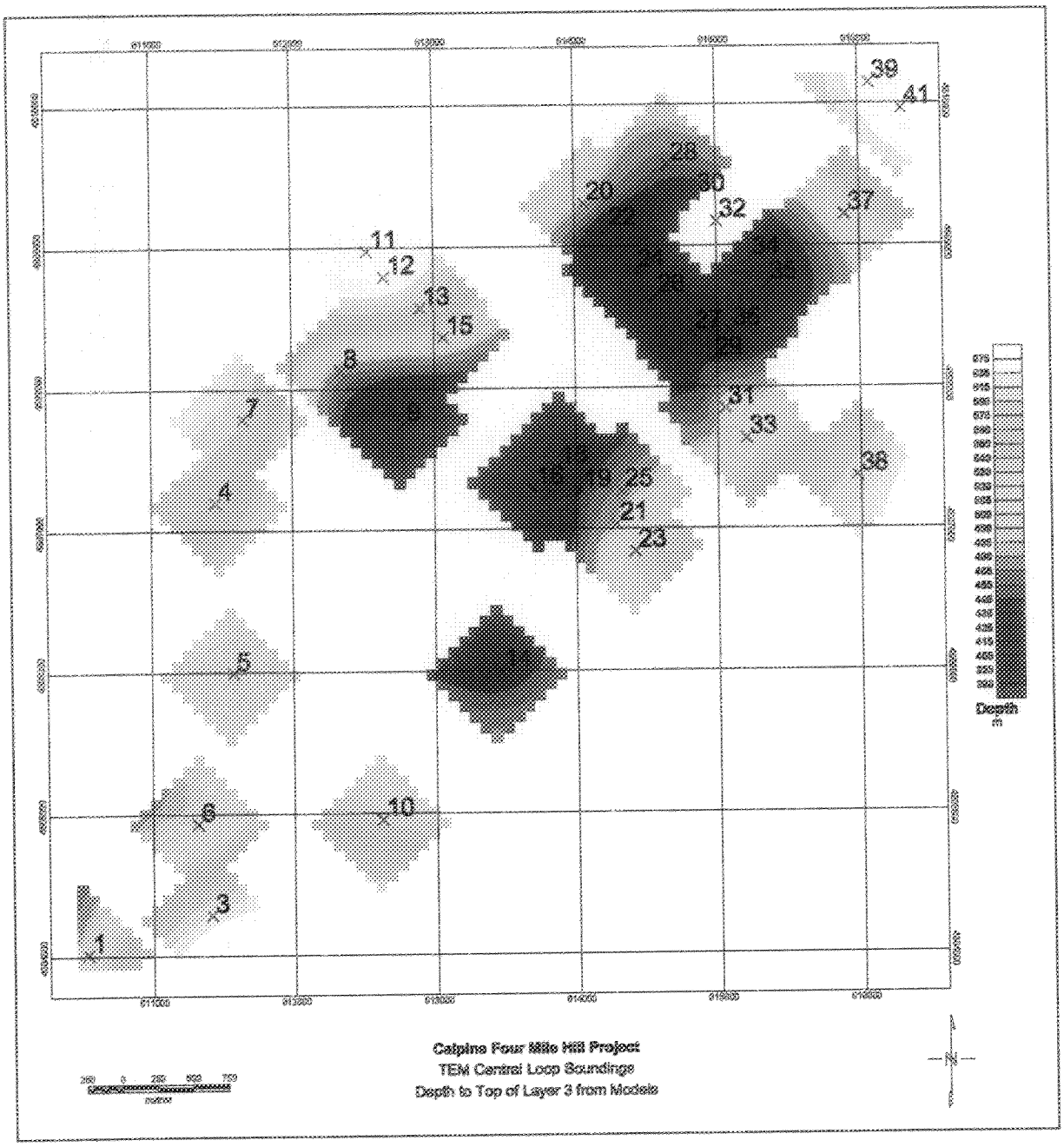
"date".raw	unedited Protem dump files
"date"ed.raw	edited Protem dump files
*res.red	Apparent Resistivity transformation output from DATEM
*.red	mvolt output from DATEM used to import into TEMIX
*.tex	TEMIXXL database containing all layered earth models

Respectfully submitted,

Jon A. Powell
General Manager
Quantech Consulting Inc.


39
41
28
30
20
22
32
37
11
12
34
35
13
15
8
7
33
38
4
5
6
10
3
1
Resistivity
Ohm-m
Calpine Four Mile Hill Project
TEM Central Loop Soundings
Basement Resistivity from Models


39
41
28
30
20
22
32
37
11
12
24
34
13
26
15
31
7
33
18
19
25
38
4
21
23
10
3
Depth
m
Calpine Four Mile Hill Project
TEM Central Loop Soundings
Depth to Top of Layer 2 from Models


39
41
29
20
30
32
37
11
12
13
15
8
7
31
33
38
4
25
21
23
5
6
10
3
1
Depth
Calpine Four Mile Hill Project
TEM Central Loop Soundings
Depth to Top of Layer 3 from Models

Appendix A

Sounding Locations

Loop Number	Easting (WGS84 Coordinates)	Northing	Date Surveyed
Tx1	610535	4604010	26-Jun
Tx2	not	Surveyed	
Tx3	611410	4604285	26-Jun
Tx4	611450	4607200	19-Jun
Tx5	611570	4605990	20-Jun
Tx6	611315	4604930	26-Jun
Tx7	611570	4605860	19-Jun
Tx8	612340	4608125	20-Jun
Tx9	612780	4607750	20-Jun
Tx10	612440	4604955	25-Jun
Tx11	612530	4608970	25-Jun
Tx12	612650	4608790	25-Jun
Tx13	612900	4608565	25-Jun
Tx14	613450	4606000	20-Jun
Tx15	613065	4608360	25-Jun
Tx16	613690	4607290	24-Jun
Tx17	not	surveyed	
Tx18	613860	4607440	24-Jun
Tx19	614025	4607270	24-Jun
Tx20	614065	4609300	22-Jun
Tx21	614280	4607030	24-Jun
Tx22	614220	4609120	22-Jun
Tx23	614410	4606840	23-Jun
Tx24	614420	4608820	22-Jun
Tx25	614320	4607270	24-Jun
Tx26	614560	4608640	23-Jun
Tx27	614820	4608380	23-Jun
Tx28	614660	4609570	22-Jun
Tx29	614960	4608190	23-Jun
Tx30	614850	4609350	22-Jun
Tx31	615050	4607850	23-Jun
Tx32	615000	4609170	21-Jun
Tx33	615200	4607635	23-Jun
Tx34	615230	4608900	21-Jun
Tx35	615350	4608725	21-Jun
Tx36	615090	4608400	27-Jun
Tx37	615900	4609215	27-Jun
Tx38	615975	4607370	23-Jun
Tx39	616080	4610145	26-Jun
Tx40	not	surveyed	
Tx41	616305	4609960	26-Jun

Appendix B

Layered Earth Models

DATA SET: TX1

CLIENT: Calpine Corporation DATE: 26-June-02
LOCATION: Klamath National Forest SOUNDING: Tx1
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: NONE
SOUNDING COORDINATES: E: 611315.0000 N: 4604930.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.710 PERCENT
SMOOTH MODEL FITTING ERROR: 2.374 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1661.9	325.1	-325.1	0.195
2	127.8	169.9	-495.0	1.32
3	24.66			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1256.915	1661.910	2334.819
	2	85.342	127.899	174.337
	3	20.949	24.669	27.706
THICK	1	289.211	325.101	372.368
	2	141.633	169.901	202.679
DEPTH	1	289.211	325.101	372.368
	2	484.003	495.002	515.504

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME	emf (nV/m sqrd)	DIFFERENCE

	(ms)	DATA	SYNTHETIC	(percent)
1	0.0881	781.1	1116.9	-42.98 MASKED
2	0.106	830.8	823.9	0.829
3	0.131	595.4	600.0	-0.779
4	0.161	435.8	440.4	-1.04
5	0.200	324.7	324.2	0.158
6	0.250	240.3	238.3	0.815
7	0.314	175.9	175.1	0.460
8	0.395	127.5	128.1	-0.416
9	0.499	92.61	93.45	-0.903
10	0.631	67.47	67.79	-0.467
11	0.799	49.60	49.28	0.649
12	1.01	36.60	35.77	2.26
13	1.28	26.40	25.96	1.68
14	1.63	18.92	18.67	1.31
15	2.08	13.33	13.22	0.838
16	2.64	9.24	9.15	0.934
17	3.37	6.22	6.16	0.990
18	4.29	4.12	4.05	1.61
19	5.47	2.69	2.62	2.71
20	6.97	1.75	1.68	4.30

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

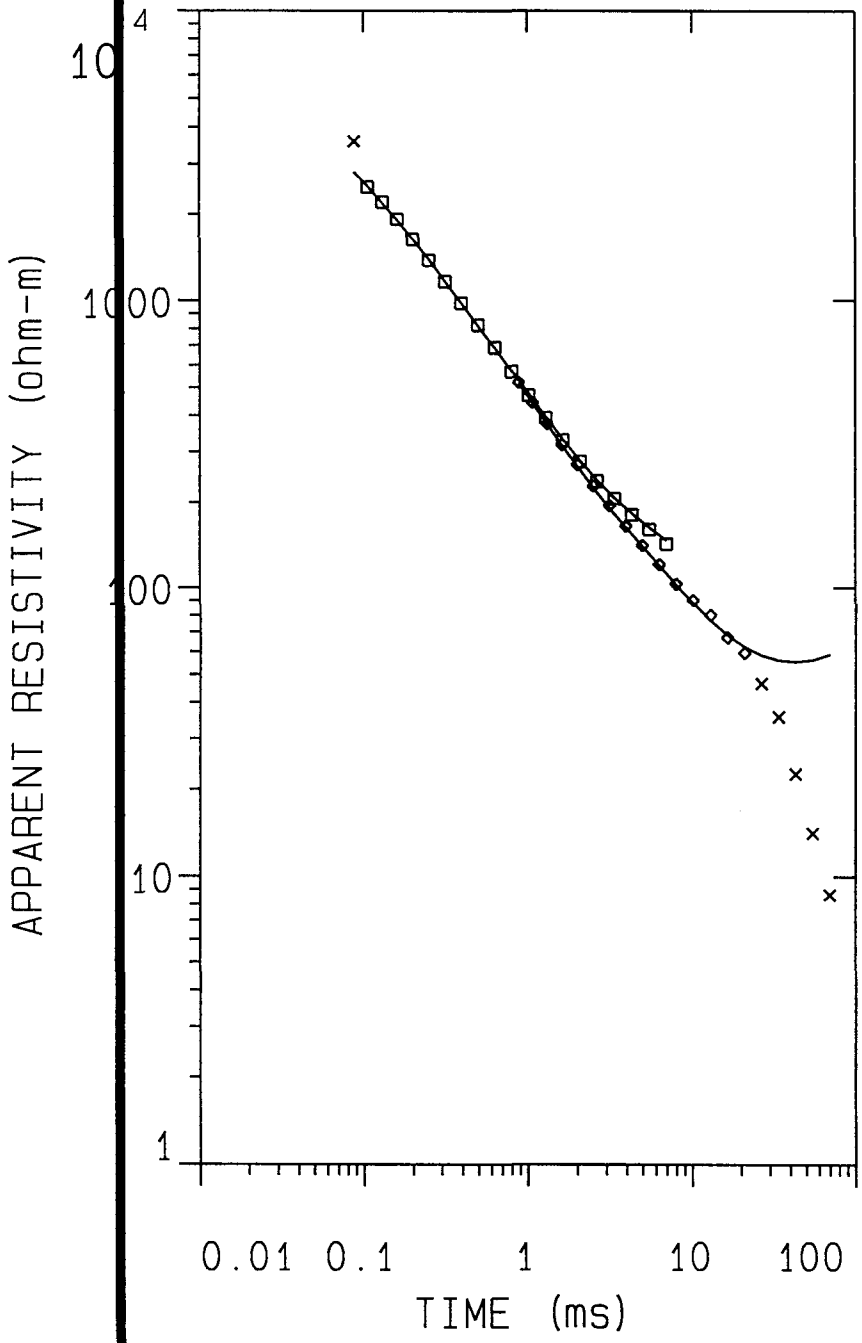
SYNTHETIC FROM LAYERED MODEL:

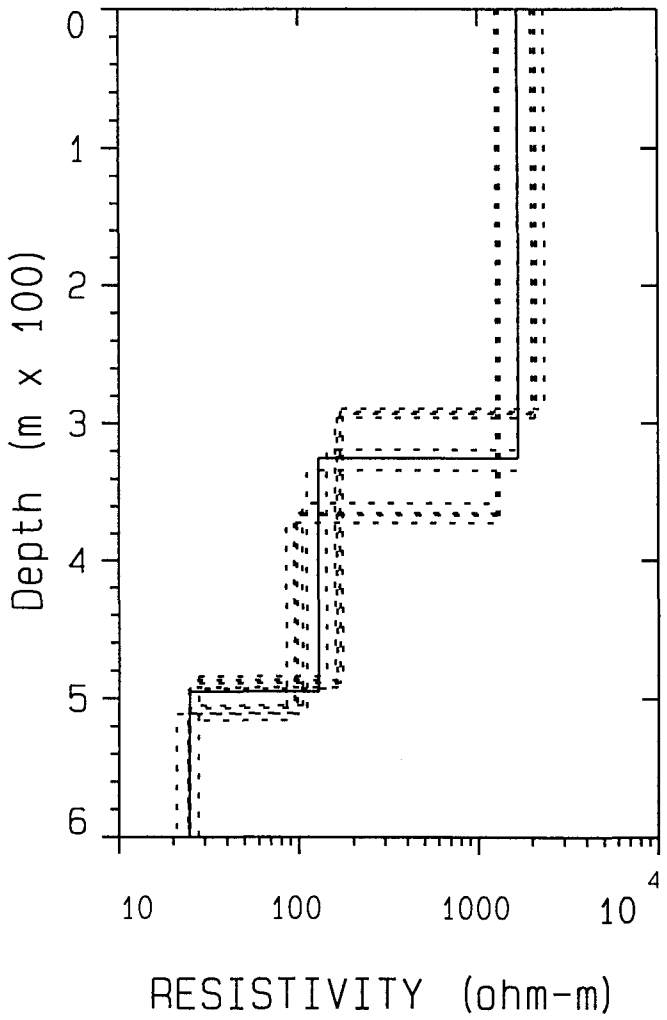
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	44.41	45.13	-1.61
22	1.06	34.90	35.20	-0.866
23	1.31	26.95	27.07	-0.448
24	1.61	20.49	20.67	-0.841
25	2.00	15.27	15.58	-2.01
26	2.50	11.22	11.48	-2.31
27	3.14	8.05	8.30	-3.19
28	3.95	5.82	5.91	-1.57
29	4.99	4.12	4.16	-1.15
30	6.31	2.89	2.93	-1.12
31	7.99	2.03	2.05	-0.863
32	10.13	1.37	1.42	-3.51
33	12.86	0.902	0.961	-6.58
34	16.35	0.647	0.629	2.81
35	20.80	0.425	0.396	6.85
36	26.47	0.334	0.239	28.37 MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
37	33.72	0.272	0.138	49.00 MASKED
38	42.96	0.294	0.0772	73.78 MASKED
39	54.74	0.326	0.0411	87.38 MASKED
40	69.77	0.372	0.0210	94.35 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.59				
P 2	-0.29	0.50			
P 3	0.00	-0.02	0.98		
T 1	0.14	0.17	0.00	0.93	
T 2	-0.22	-0.21	0.01	0.09	0.86
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX1 / Date: 26-June-02	TX1
Equipment: Geonics PROTEM / Sounding: Tx1	Azimuth:

DATA SET: TX3

CLIENT: Calpine Corporation DATE: 26-June-02
LOCATION: Klamath National Forest SOUNDING: Tx3
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 12.35
SOUNDING COORDINATES: E: 611410.0000 N: 4604930.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 8.761 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1933.0	343.7	-343.7	0.177
2	95.94	277.0	-620.7	2.88
3	8.13			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1249.280	1933.055	3995.257
	2	71.689	95.947	122.377
	3	5.483	8.135	11.858
THICK	1	304.474	343.732	383.814
	2	243.619	277.014	317.370
DEPTH	1	304.474	343.732	383.814
	2	612.562	620.745	630.216

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	785.6	861.4	-9.64
2	0.106	758.8	700.6	7.67
3	0.131	608.9	563.9	7.40
4	0.161	476.5	451.4	5.27
5	0.200	368.7	355.4	3.61
6	0.250	272.6	272.0	0.241
7	0.314	192.5	201.6	-4.72
8	0.395	132.2	143.4	-8.42
9	0.499	88.24	97.70	-10.71
10	0.631	58.17	63.99	-9.99
11	0.799	38.90	40.68	-4.56
12	1.01	26.75	25.65	4.08
13	1.28	18.07	16.45	8.95
14	1.63	12.62	10.89	13.66
15	2.08	8.39	7.49	10.76
16	2.64	5.80	5.27	9.13
17	3.37	3.77	3.74	0.756
18	4.29	2.40	2.64	-10.11
19	5.47	1.65	1.84	-11.24
20	6.97	1.09	1.25	-14.40

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

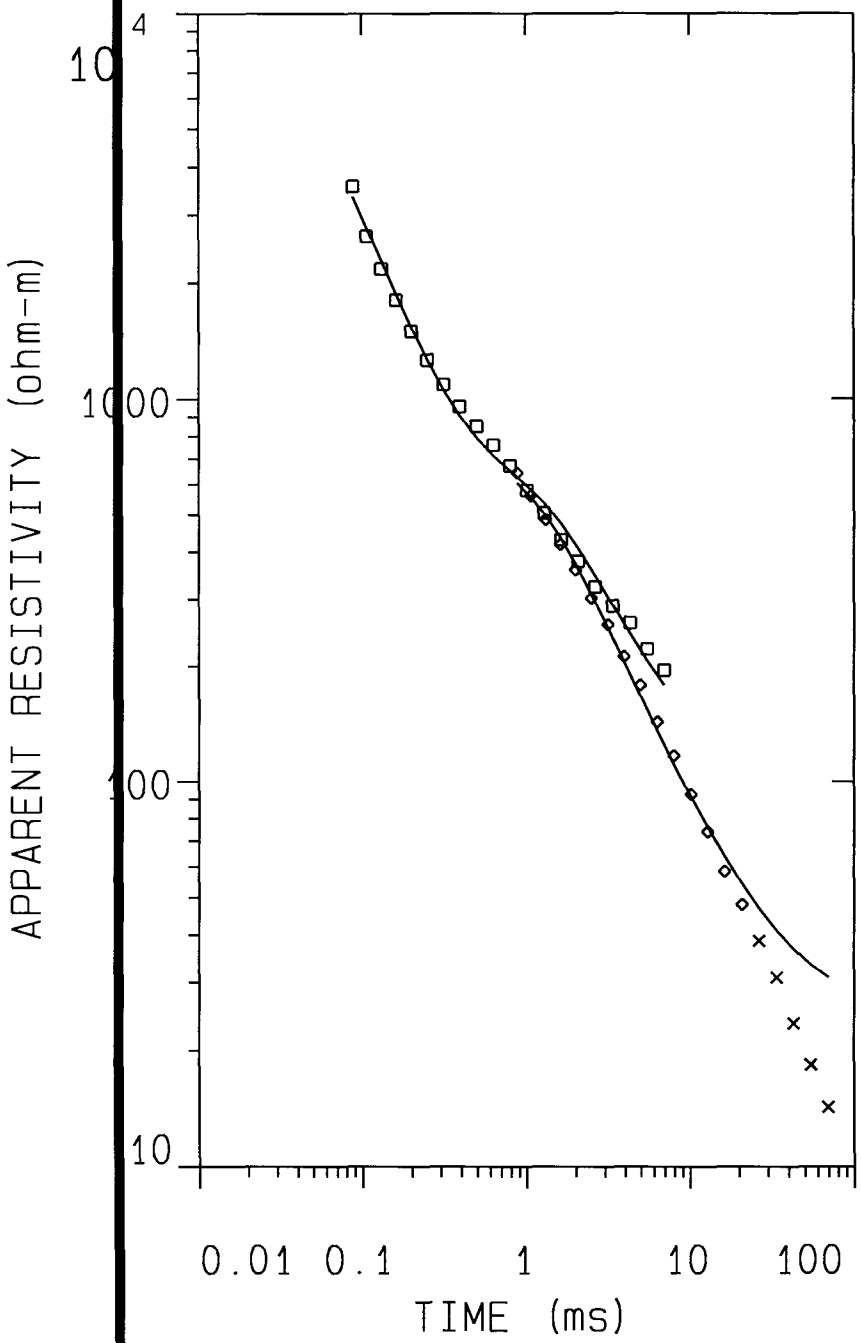
SYNTHETIC FROM LAYERED MODEL:

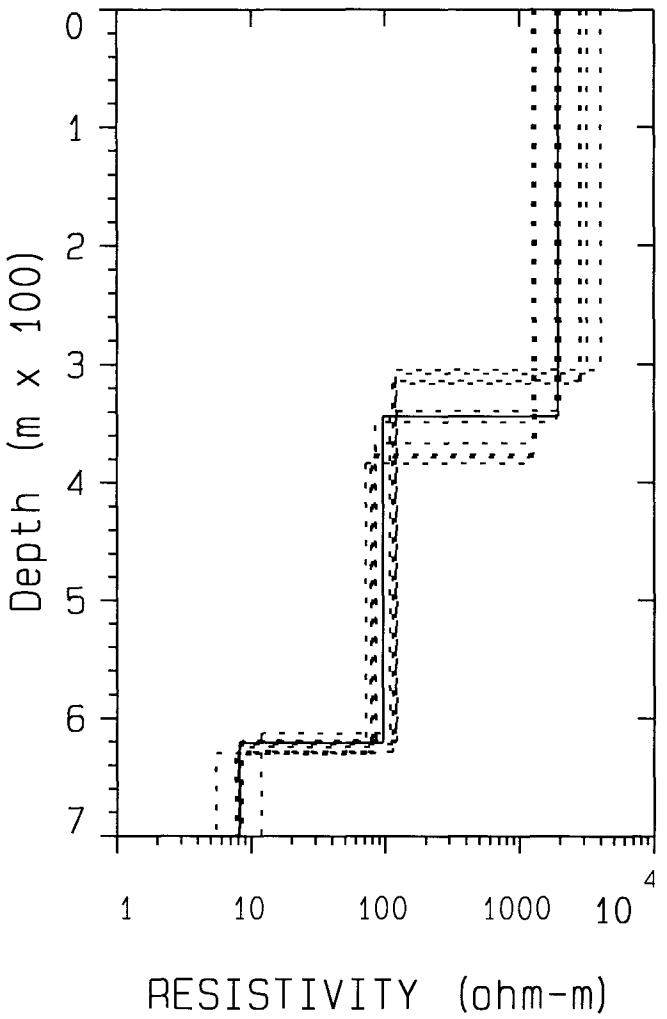
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	32.44	35.44	-9.23	
22	1.06	24.58	24.93	-1.41	
23	1.31	18.24	17.56	3.73	
24	1.61	13.53	12.69	6.23	
25	2.00	9.96	9.45	5.19	
26	2.50	7.38	7.14	3.25	
27	3.14	5.32	5.46	-2.78	
28	3.95	4.00	4.20	-4.86	
29	4.99	2.89	3.20	-10.63	
30	6.31	2.24	2.43	-8.54	
31	7.99	1.68	1.82	-8.17	
32	10.14	1.31	1.34	-1.93	
33	12.87	1.01	0.977	3.93	
34	16.36	0.796	0.696	12.59	
35	20.81	0.585	0.485	17.02	
36	26.48	0.444	0.331	25.49	MASKED
37	33.73	0.337	0.220	34.73	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.277	0.142	48.60 MASKED
39	54.75	0.219	0.0898	59.01 MASKED
40	69.78	0.174	0.0548	68.60 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.44				
P 2	-0.17	0.89			
P 3	-0.01	-0.02	0.93		
T 1	0.09	0.04	0.00	0.98	
T 2	-0.10	-0.05	0.00	0.02	0.97





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX3	Date: 26-June-02
Equipment: Geonics PROTEM	Sounding: Tx3
	TX3
	Azimuth:

DATA SET: TX4

CLIENT: Calpine Corporation DATE: 19-June-02
LOCATION: Klamath National Forest SOUNDING: Tx4
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 7.73
SOUNDING COORDINATES: E: 611450.0000 N: 4607200.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 3.700 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1609.5	337.0	-337.0	0.209
2	91.84	234.4	-571.5	2.55
3	30.36			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1274.298	1609.545	2325.622
	2	75.014	91.845	109.778
	3	24.932	30.366	33.942
THICK	1	309.888	337.053	362.947
	2	211.343	234.493	262.802
DEPTH	1	309.888	337.053	362.947
	2	551.254	571.546	610.139

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 100.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	961.6	999.6	-3.95
2	0.106	866.0	796.4	8.03
3	0.131	643.8	630.9	1.99
4	0.161	498.7	498.9	-0.0371
5	0.200	384.8	390.0	-1.33
6	0.250	290.8	297.2	-2.21
7	0.314	215.5	221.2	-2.62
8	0.395	156.7	160.4	-2.38
9	0.499	111.5	113.3	-1.64
10	0.631	79.29	78.91	0.485
11	0.799	56.14	54.30	3.28
12	1.01	39.44	37.31	5.39
13	1.28	27.32	25.67	6.04
14	1.63	18.59	17.68	4.91
15	2.08	12.40	12.12	2.28
16	2.64	8.17	8.25	-0.943
17	3.37	5.43	5.53	-1.80
18	4.29	3.55	3.64	-2.42
19	5.47	2.37	2.33	1.51
20	6.97	1.55	1.46	6.21

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 100.00 muSEC

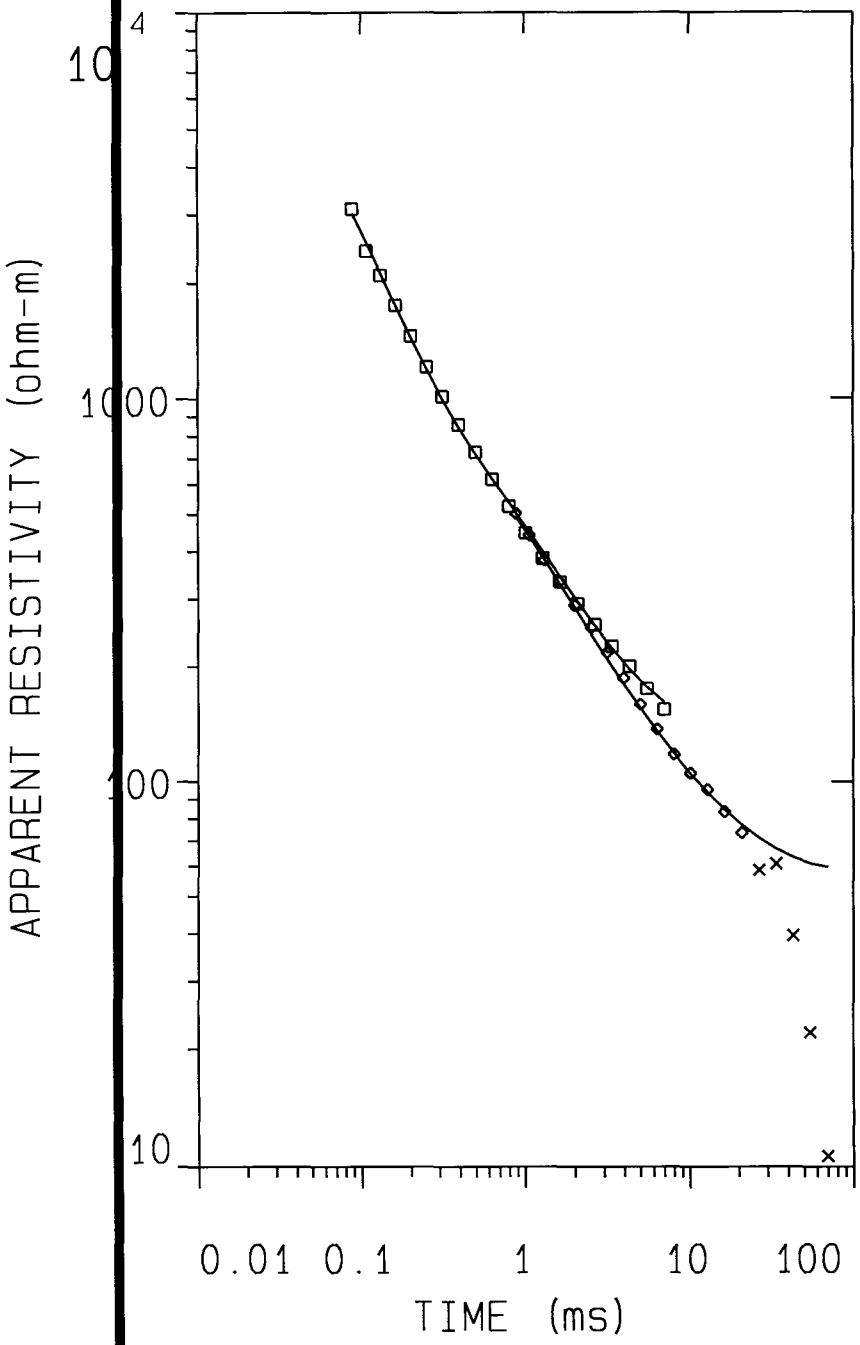
SYNTHETIC FROM LAYERED MODEL:

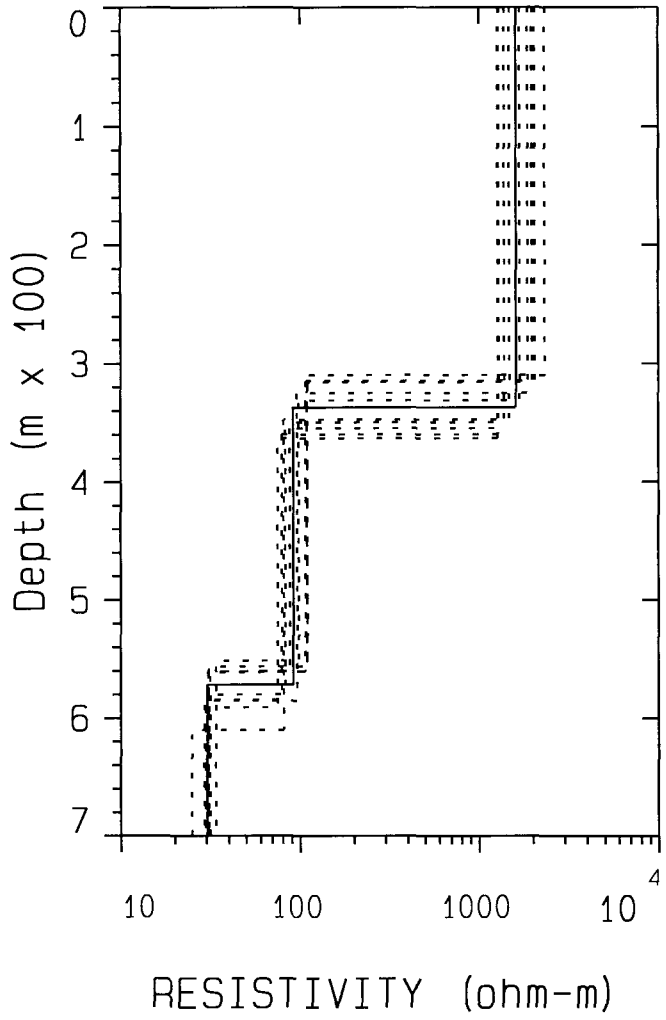
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	46.89	48.05	-2.46	
22	1.06	35.31	35.79	-1.35	
23	1.31	26.44	26.27	0.673	
24	1.61	19.04	19.28	-1.27	
25	2.00	13.77	14.07	-2.23	
26	2.50	9.63	10.15	-5.44	
27	3.14	6.84	7.25	-5.96	
28	3.95	4.86	5.11	-5.25	
29	4.99	3.44	3.56	-3.41	
30	6.31	2.39	2.44	-1.97	
31	7.99	1.66	1.64	0.991	
32	10.14	1.08	1.09	-0.418	
33	12.87	0.695	0.713	-2.53	
34	16.36	0.466	0.456	2.17	
35	20.81	0.309	0.287	7.21	
36	26.48	0.237	0.177	25.41	MASKED
37	33.73	0.122	0.106	12.62	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.127	0.0631	50.54 MASKED
39	54.75	0.166	0.0364	78.07 MASKED
40	69.78	0.272	0.0204	92.47 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.59				
P 2	-0.19	0.83			
P 3	-0.01	-0.02	0.97		
T 1	0.09	0.06	0.00	0.97	
T 2	-0.07	-0.02	0.02	0.02	0.95





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX4 / Date: 19-June-02	TX4
Equipment: Geonics PROTEM / Sounding: Tx4	Azimuth:

DATA SET: TX5

CLIENT: Calpine Corporation DATE: 20-June-02
LOCATION: Klamath National Forest SOUNDING: Tx5
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 12.93
SOUNDING COORDINATES: E: 611570.0000 N: 4605990.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.495 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	16771.1	223.6	-223.6	0.0133
2	155.7	269.5	-493.1	1.73
3	9.32	120.4	-613.6	12.92
4	3.01			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	3871.196	16771.113	167711.094
	2	128.929	155.714	191.308
	3	7.190	9.322	20.499
	4	2.165	3.019	4.882
THICK	1	204.868	223.619	241.847
	2	250.707	269.571	284.255
	3	101.629	120.441	137.332
DEPTH	1	204.868	223.619	241.847
	2	465.960	493.190	502.510
	3	580.417	613.631	630.360

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	1830.5	1531.1	16.35 MASKED
2	0.106	1390.8	1247.5	10.29
3	0.131	992.5	978.0	1.45
4	0.161	702.2	740.4	-5.44
5	0.200	496.3	538.0	-8.39
6	0.250	347.3	372.0	-7.09
7	0.314	239.7	246.8	-2.93
8	0.395	161.4	159.2	1.36
9	0.499	106.8	101.7	4.75
10	0.631	71.34	66.31	7.05
11	0.799	47.76	44.68	6.45
12	1.01	32.45	31.08	4.22
13	1.28	22.36	21.93	1.93
14	1.63	15.49	15.41	0.494
15	2.08	10.79	10.66	1.13
16	2.64	7.47	7.31	2.09
17	3.37	5.14	4.95	3.66
18	4.29	3.48	3.36	3.52
19	5.47	2.37	2.26	4.46
20	6.97	1.60	1.52	5.07

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

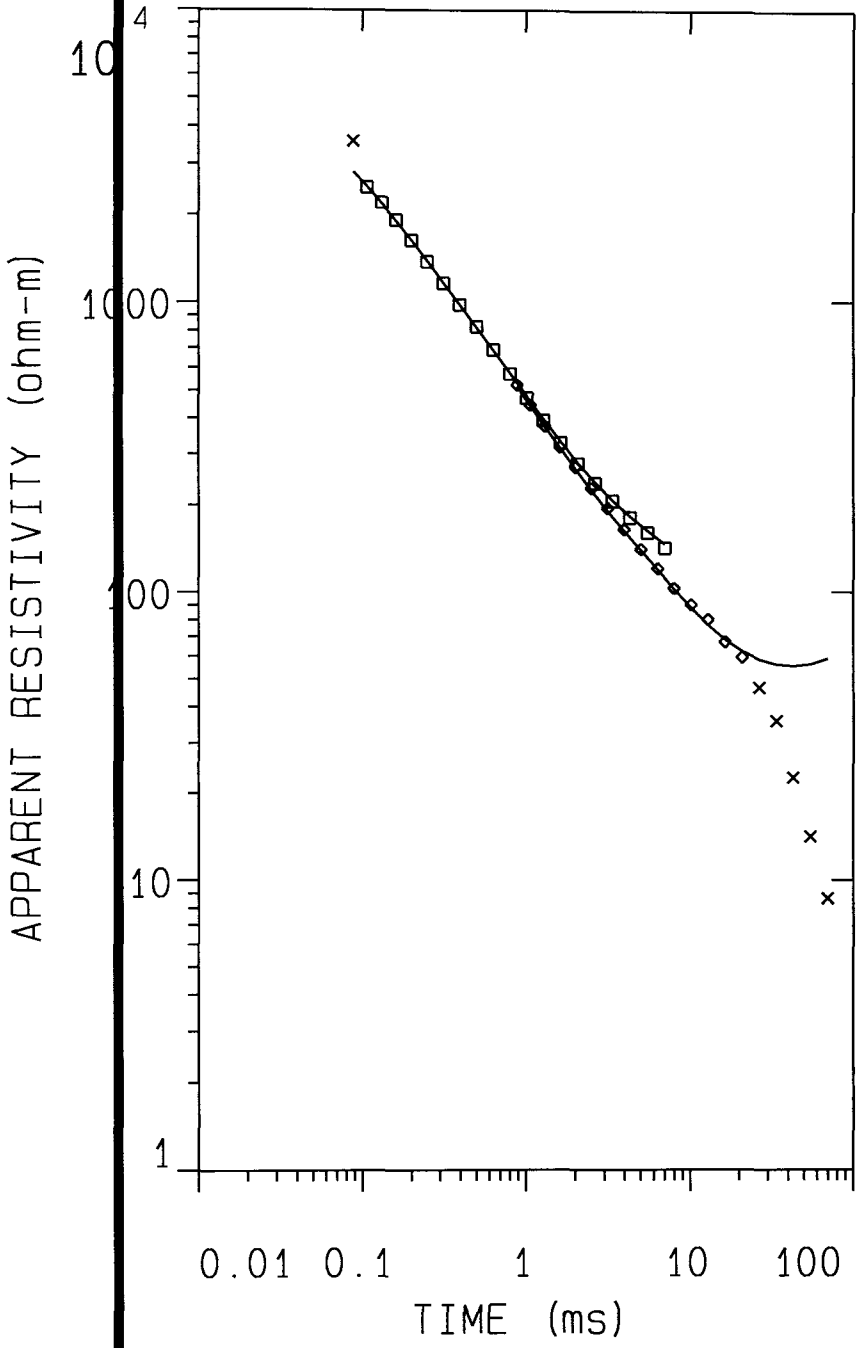
SYNTHETIC FROM LAYERED MODEL:

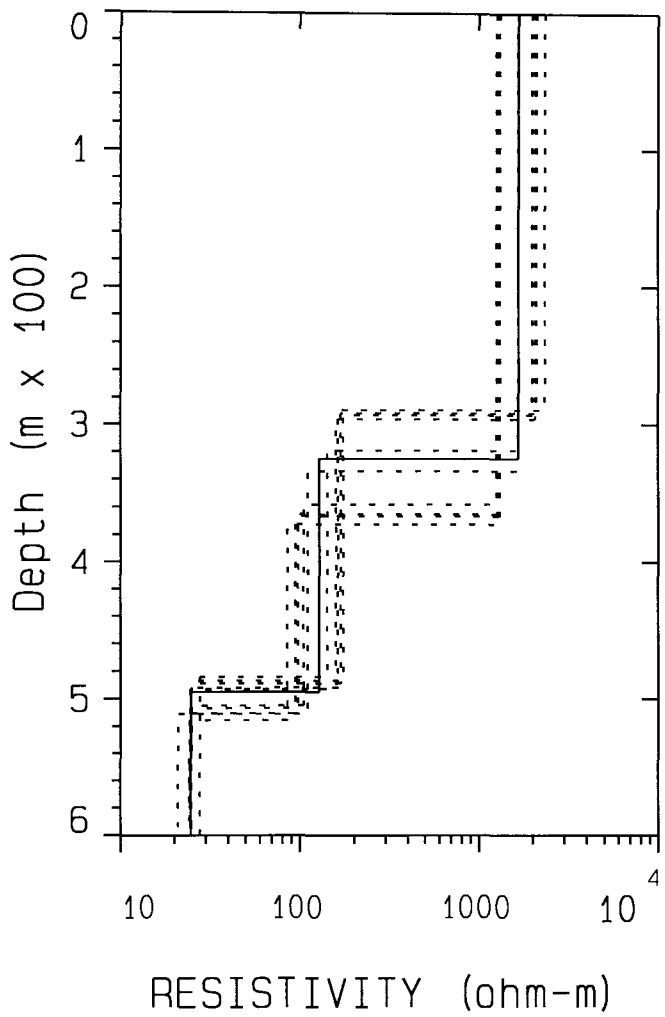
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	39.17	40.72	-3.93
22	1.06	30.32	31.02	-2.31
23	1.31	22.34	23.50	-5.19
24	1.61	16.75	17.77	-6.10
25	2.00	12.69	13.32	-4.89
26	2.50	9.66	9.90	-2.47
27	3.14	7.09	7.34	-3.47
28	3.95	5.31	5.48	-3.31
29	4.99	4.16	4.12	1.03
30	6.31	3.02	3.11	-2.99
31	7.99	2.30	2.36	-2.55
32	10.14	1.76	1.78	-1.29
33	12.87	1.30	1.33	-2.45

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	0.988	0.989	-0.109	
35	20.81	0.724	0.721	0.477	
36	26.48	0.542	0.515	4.85	
37	33.73	0.405	0.360	11.03	MASKED
38	42.97	0.310	0.246	20.87	MASKED
39	54.75	0.226	0.163	27.80	MASKED
40	69.78	0.183	0.104	42.74	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.00						
P 2	-0.01	0.87					
P 3	0.00	-0.07	0.72				
P 4	0.00	-0.03	-0.14	0.69			
T 1	0.01	0.05	0.02	0.01	0.98		
T 2	-0.01	-0.03	0.02	-0.01	0.01	0.98	
T 3	0.00	-0.02	0.02	0.07	0.01	0.00	0.91
	P 1	P 2	P 3	P 4	T 1	T 2	T 3





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX1 / Date: 26-June-02	TX1
Equipment: Geonics PROTEM / Sounding: Tx1	Azimuth:

DATA SET: TX3

CLIENT: Calpine Corporation DATE: 26-June-02
LOCATION: Klamath National Forest SOUNDING: Tx3
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 12.35
SOUNDING COORDINATES: E: 611410.0000 N: 4604930.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 8.761 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1933.0	343.7	-343.7	0.177
2	95.94	277.0	-620.7	2.88
3	8.13			

ALL PARAMETERS ARE FREE

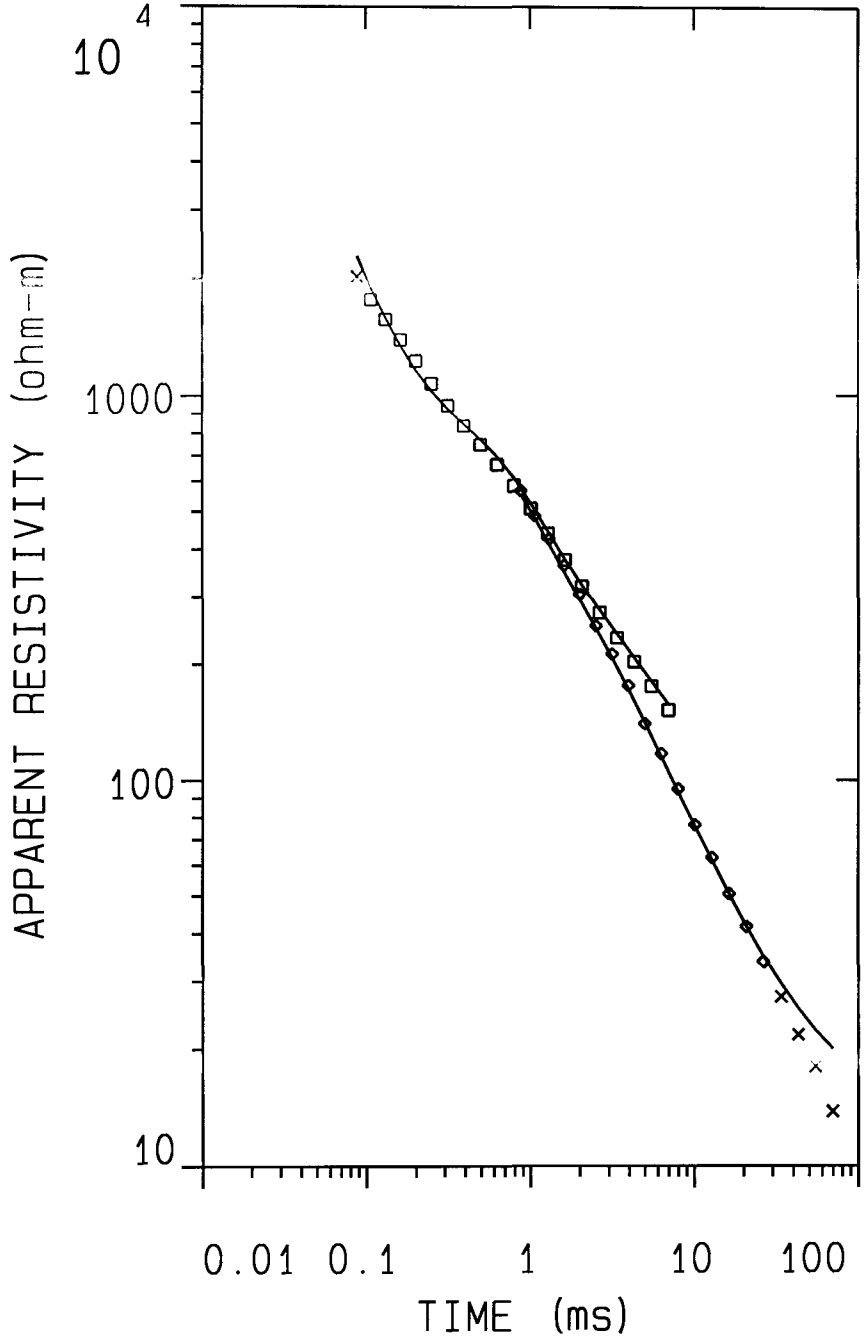
PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

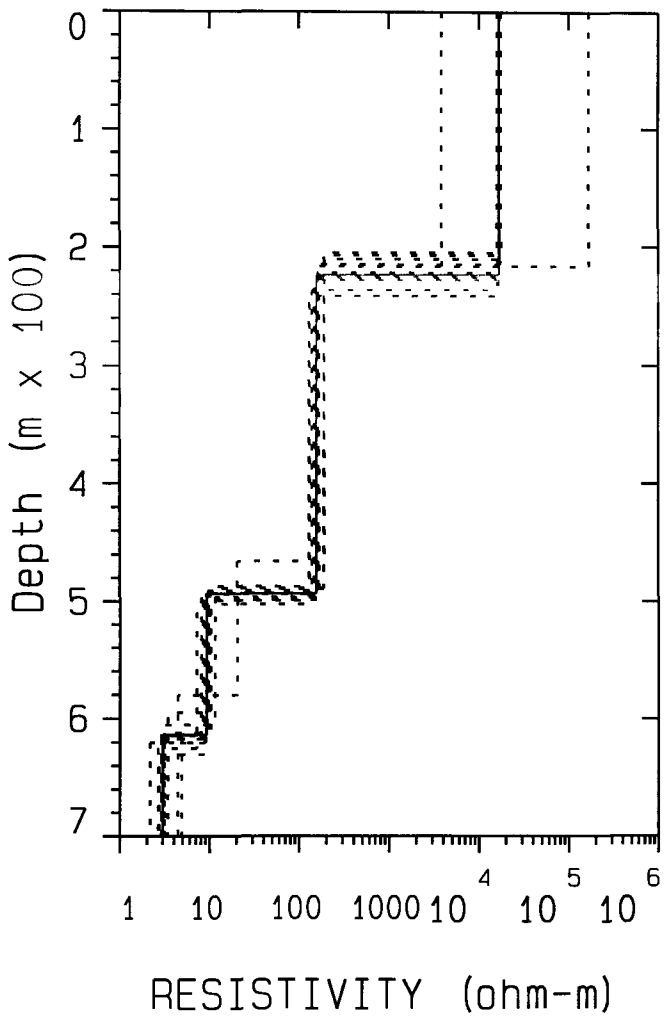
	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1249.280	1933.055	3995.257
	2	71.689	95.947	122.377
	3	5.483	8.135	11.858
THICK	1	304.474	343.732	383.814
	2	243.619	277.014	317.370
DEPTH	1	304.474	343.732	383.814
	2	612.562	620.745	630.216

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX5	Date: 20-June-02
Equipment: Geonics PROTEM	Sounding: Tx5
	TX5
	Azimuth:

DATA SET: TX6

CLIENT: Calpine Corporation DATE: 26-June-02
LOCATION: Klamath National Forest SOUNDING: Tx6
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 14.38
SOUNDING COORDINATES: E: 611315.0000 N: 4604930.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.125 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1809.9	283.7	-283.7	0.156
2	142.4	206.3	-490.1	1.44
3	13.90	129.6	-619.7	9.31
4	2.67			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1249.115	1809.920	2622.506
	2	112.097	142.423	178.900
	3	9.066	13.908	18.668
	4	1.775	2.673	3.508
THICK	1	256.695	283.798	317.223
	2	176.039	206.326	234.605
	3	109.603	129.609	141.047
DEPTH	1	256.695	283.798	317.223
	2	476.988	490.124	510.095
	3	614.660	619.734	628.818

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	1267.6	1274.7	-0.561
2	0.106	1045.9	1013.0	3.14
3	0.131	775.0	779.0	-0.507
4	0.161	559.9	581.5	-3.85
5	0.200	405.2	419.4	-3.50
6	0.250	286.8	290.8	-1.36
7	0.314	200.8	196.6	2.08
8	0.395	138.2	132.2	4.37
9	0.499	93.98	89.44	4.82
10	0.631	64.36	62.06	3.57
11	0.799	44.25	43.48	1.73
12	1.01	30.74	30.51	0.731
13	1.28	21.01	21.00	0.0494
14	1.63	14.42	14.16	1.77
15	2.08	9.66	9.37	3.06
16	2.64	6.55	6.19	5.49
17	3.37	4.30	4.10	4.82
18	4.29	2.80	2.75	1.86
19	5.47	1.82	1.85	-1.90
20	6.97	1.22	1.25	-3.01

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

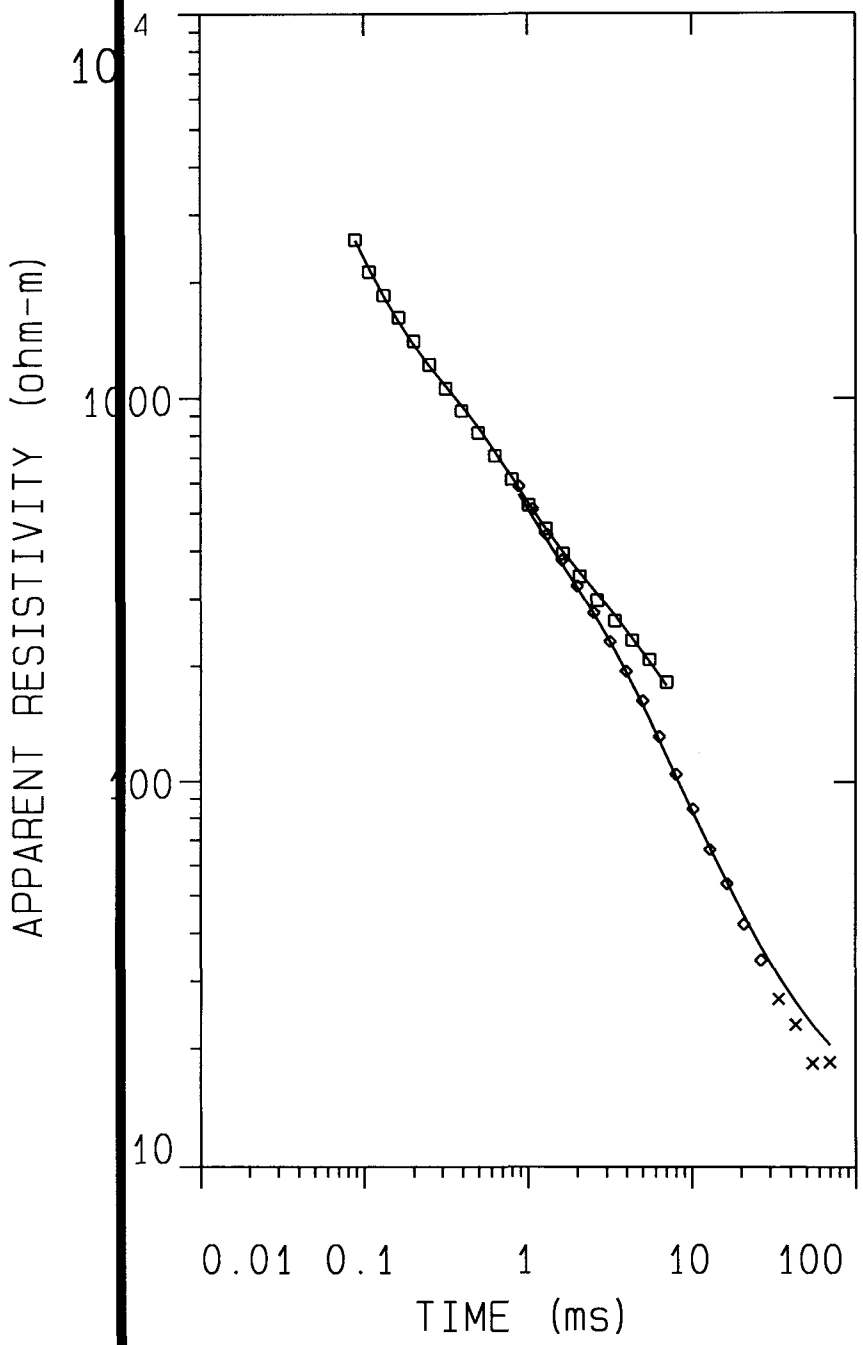
SYNTHETIC FROM LAYERED MODEL:

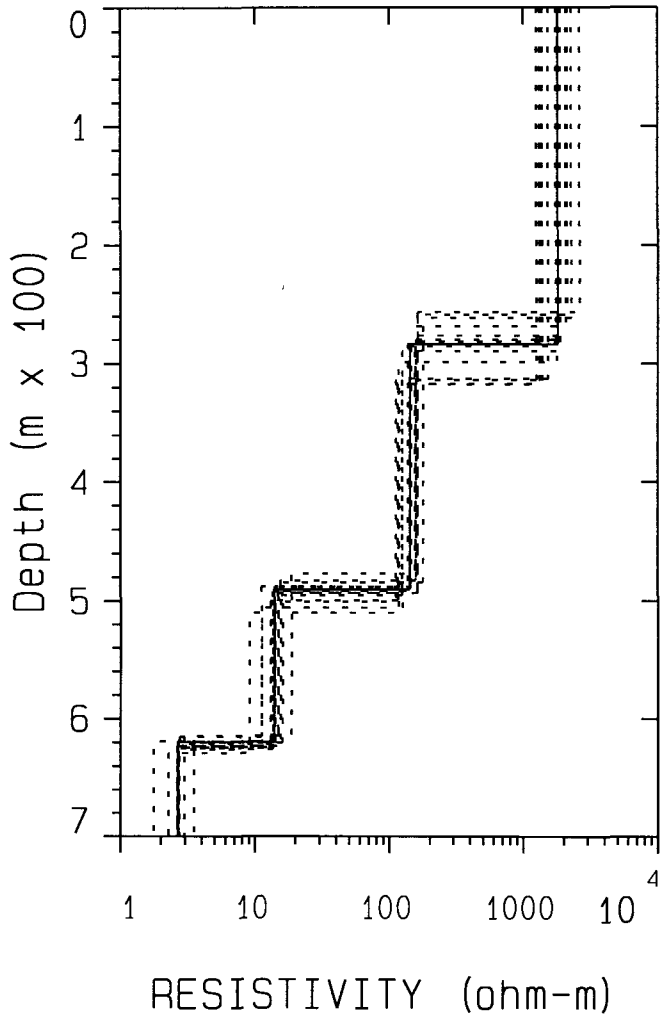
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	36.92	39.66	-7.42
22	1.06	27.94	30.12	-7.79
23	1.31	21.10	22.24	-5.38
24	1.61	15.66	16.26	-3.82
25	2.00	11.56	11.75	-1.66
26	2.50	8.40	8.48	-0.912
27	3.14	6.20	6.18	0.209
28	3.95	4.57	4.59	-0.448
29	4.99	3.33	3.47	-4.00
30	6.31	2.56	2.65	-3.54
31	7.99	1.99	2.03	-2.22
32	10.14	1.50	1.55	-3.29
33	12.87	1.19	1.18	1.51

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	0.897	0.885	1.35	
35	20.81	0.705	0.653	7.36	
36	26.48	0.532	0.473	11.14	
37	33.73	0.411	0.335	18.61	MASKED
38	42.97	0.283	0.231	18.40	MASKED
39	54.75	0.218	0.155	28.94	MASKED
40	69.78	0.118	0.101	14.21	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	P 4	T 1	T 2	T 3
P 1	0.33						
P 2	-0.24	0.64					
P 3	0.04	-0.10	0.66				
P 4	0.02	-0.02	-0.13	0.76			
T 1	0.18	0.14	0.02	0.00	0.92		
T 2	-0.23	-0.14	0.05	0.00	0.08	0.88	
T 3	0.00	-0.06	-0.07	0.01	0.02	0.00	0.95





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX6 / Date: 26-June-02	TX6
Equipment: Geonics PROTEM / Sounding: Tx6	Azimuth:

DATA SET: TX7

CLIENT: Calpine Corporation DATE: 19-June-02
LOCATION: Klamath National Forest SOUNDING: Tx7
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: NONE
SOUNDING COORDINATES: E: 611650.0000 N: 4607785.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.487 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	18840.0	348.5	-348.5	0.0185
2	87.30	250.9	-599.5	2.87
3	15.41			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	3632.066	18840.068	188400.688
	2	72.343	87.305	103.165
	3	12.108	15.410	18.649
THICK	1	334.879	348.598	365.281
	2	231.166	250.905	269.059
DEPTH	1	334.879	348.598	365.281
	2	583.913	599.504	618.221

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	220.3	550.6	-149.8	MASKED
2	0.106	687.7	478.2	30.47	MASKED
3	0.131	439.5	405.8	7.65	
4	0.161	343.5	337.7	1.66	
5	0.200	270.2	274.2	-1.46	
6	0.250	206.0	215.3	-4.53	
7	0.314	153.4	163.4	-6.53	
8	0.395	111.7	119.8	-7.21	
9	0.499	80.72	84.94	-5.22	
10	0.631	57.71	58.76	-1.81	
11	0.799	41.54	40.11	3.43	
12	1.01	29.28	27.36	6.55	
13	1.28	20.78	18.89	9.13	
14	1.63	14.23	13.19	7.31	
15	2.08	9.85	9.31	5.43	
16	2.64	6.80	6.58	3.23	
17	3.37	4.59	4.61	-0.356	
18	4.29	3.01	3.18	-5.76	
19	5.47	2.03	2.15	-5.88	
20	6.97	1.35	1.41	-5.07	

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

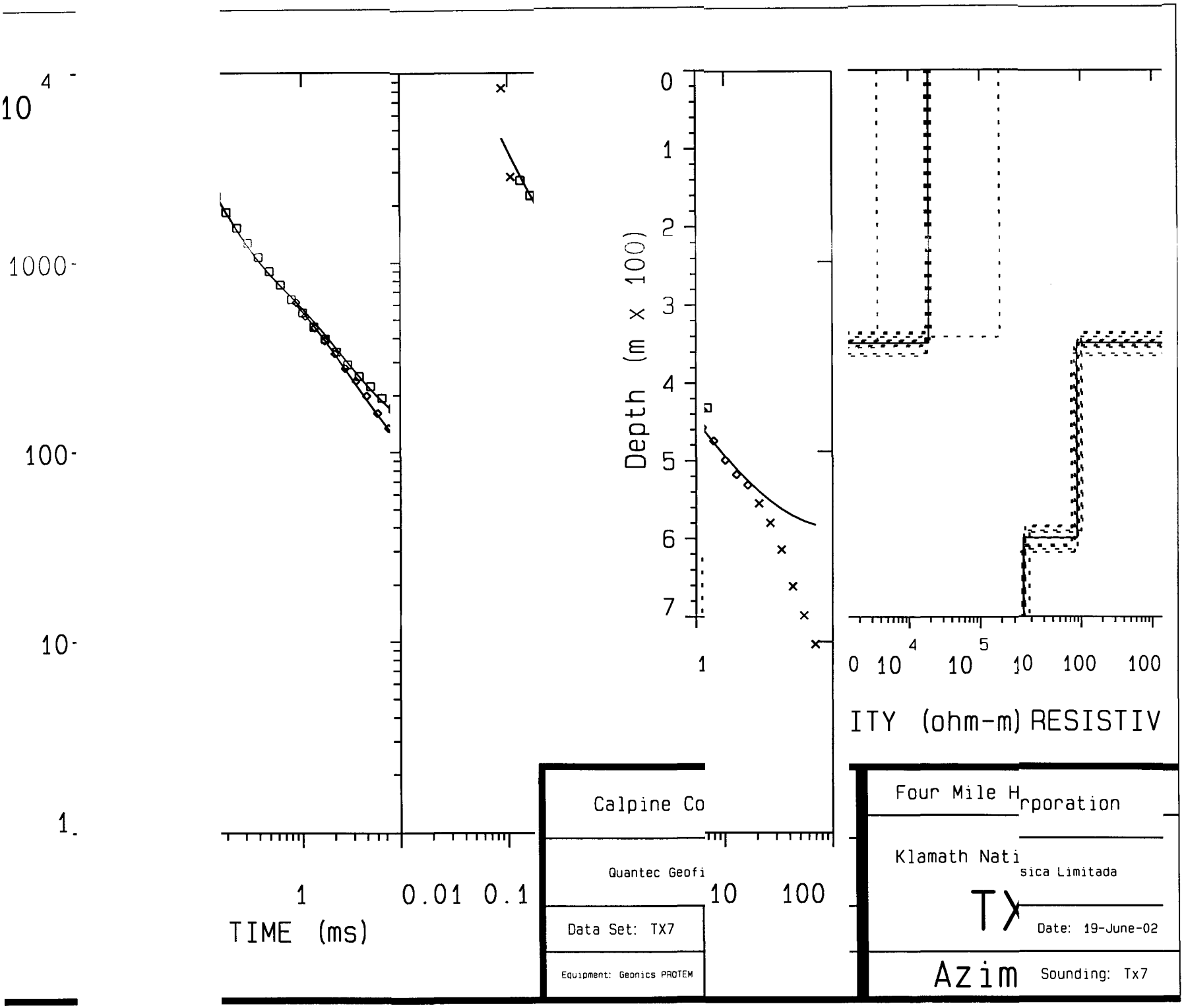
SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	34.44	35.99	-4.48	
22	1.06	27.32	26.85	1.73	
23	1.31	20.09	19.93	0.773	
24	1.61	15.06	14.94	0.821	
25	2.00	11.18	11.27	-0.846	
26	2.50	8.33	8.48	-1.83	
27	3.14	5.95	6.36	-6.87	
28	3.95	4.40	4.74	-7.50	
29	4.99	3.39	3.49	-2.73	
30	6.31	2.48	2.54	-2.20	
31	7.99	1.76	1.82	-3.36	
32	10.14	1.37	1.28	6.87	
33	12.87	0.983	0.887	9.78	
34	16.36	0.652	0.602	7.75	
35	20.81	0.499	0.399	19.87	MASKED
36	26.48	0.390	0.259	33.44	MASKED
37	33.73	0.347	0.164	52.53	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.368	0.102	72.27 MASKED
39	54.75	0.339	0.0614	81.87 MASKED
40	69.78	0.312	0.0359	88.50 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.00				
P 2	-0.01	0.92			
P 3	0.00	-0.02	0.94		
T 1	0.01	0.02	0.00	1.00	
T 2	-0.01	0.00	0.01	0.00	0.98


10 4
1000
100
10
1
TIME (ms)
1
0.01
0.1
Depth (m x 100)
0
1
2
3
4
5
6
7
1
10
100
0
10
4
10
5
10
100
100
ITY (ohm-m) RESISTIV
Calpine Co
Quantec Geofi
Data Set: TX7
Equipment: Geonics PROTEM
Four Mile H
rporation
Klamath Nati
sica Limitada
TX
Date: 19-June-02
Azim
Sounding: Tx7

DATA SET: TX8

DATE: 20 June 02

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.233 PERCENT

L # RESISTIVITY THICKNESS ELEVATION CONDUCTANCE

CLIENT: Calpine Corporation
LOCATION: Klamath National Forest
COUNTY: Siskiyou
PROJECT: Four Mile Hill Project
LOOP SIZE: 300.000 m by 300.000 m
COIL LOC: 0.000 m (X), 0.000 m (Y)
SOUNDING COORDINATES: E: 612340.0000 N: 4608125.0000

DATE: 20-June-02
SOUNDING: Tx8
ELEVATION: 0.00 m
EQUIPMENT: Geonics PROTEM
AZIMUTH:
TIME CONSTANT: 11.33
SLOPE: NONE

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM	
RHO	1	4619.847 (ohm-m)	18400.980 (meters)	184009.813 (meters)	(Siemens)
				0.0	
	1	18400.9	271.9	-271.9	0.0147
	2	200.6	196.1	-468.0	0.977
	3	18.89	175.8	-643.8	9.30
	4	8.14	[illegible]		
DEPTH	1	244.618	271.943	309.351	
	2	450.146	468.058	483.593	
	3	598.088	643.864	695.195	

CURRENT: 8.50 AMPS EM-58
FREQUENCY: 30.00 Hz GAIN: 1
COIL AREA: 200.00 sq m.
RAMP TIME: 98.00 muSEC

	2	130.082	200.671	282.396
	3	14.864	18.892	25.182
	4	5.618	8.150	10.654
THICK	1	244.618	271.943	309.351
	2	169.683	196.115	219.358
	3	133.567	175.806	223.348

SYNTHETIC FROM LAYERED MODEL:

No.	TIME	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
6	0.250	181.4	178.7	1.47
7	0.314	137.6	130.8	4.97
8	0.395	102.8	97.63	5.10
9	0.499	76.55	73.96	3.38
10	0.631	57.05	56.54	0.898
11	0.799	42.74	42.99	-0.571
12	1.01	31.97	32.22	-0.770
13	1.28	23.70	23.67	0.143
	(ms)	DATA	SYNTHETIC	(percent)
1	0.0881	798.2	773.6	3.07
2	0.106	623.5	606.8	2.67
3	0.131	437.7	458.4	-4.72
4	0.161	320.8	338.8	-5.62
5	0.200	242.5	246.9	-1.83

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
14	1.63	17.39	17.01	2.16
15	2.08	12.54	11.98	4.48
16	2.64	8.81	8.31	5.66
17	3.37	6.02	5.69	5.56
18	4.29	4.01	3.85	3.99
19	5.47	2.59	2.57	0.651
20	6.97	1.66	1.69	-1.98
26	2.50	10.79	10.81	-0.170
27	3.14	7.96	7.98	-0.261
28	3.95	5.83	5.88	-0.813
29	4.99	4.13	4.32	-4.45
30	6.31	2.90	3.16	-8.76
31	7.99	2.13	2.30	-7.71
32	10.14	1.57	1.65	-5.23
33	12.87	1.19	1.17	1.01
	(ms)	DATA	SYNTHETIC	(percent)
21	0.881	37.82	40.47	-6.98
22	1.06	30.45	32.30	-6.06
23	1.31	24.21	25.11	-3.71
24	1.61	18.80	19.25	-2.36
25	2.00	14.44	14.54	-0.692

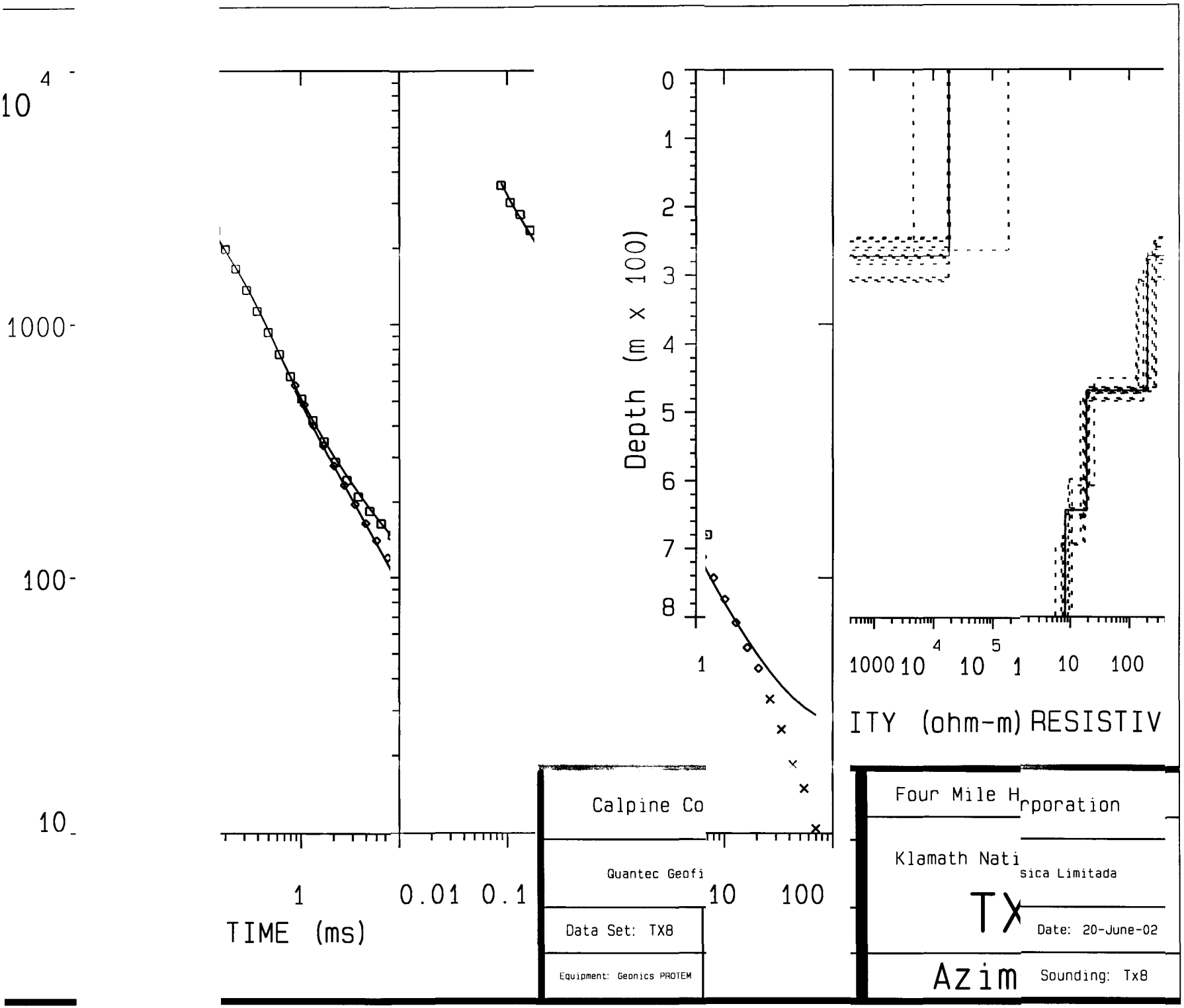
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
40	69.78	0.280	0.0605	78.39	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

```
P 1  0.00
P 2 -0.01  0.38
P 3  0.00 -0.09  0.86
```

34	16.36	0.918	0.824	10.22	
35	20.81	0.666	0.566	15.08	
36	26.48	0.551	0.381	30.89	MASKED
37	33.73	0.452	0.250	44.61	MASKED
38	42.97	0.397	0.160	59.61	MASKED
39	54.75	0.300	0.100	66.68	MASKED

```
P 4  0.00 -0.02 -0.06  0.84
T 1  0.01  0.18  0.02  0.00  0.94
T 2 -0.02 -0.19  0.01  0.00  0.06  0.92
T 3  0.00 -0.02  0.06  0.10  0.01 -0.02  0.83
       P 1   P 2   P 3   P 4   T 1   T 2   T 3
```


10 4
1000
100
10
1
0.01
0.1
TIME (ms)
Depth (m x 100)
0
1
2
3
4
5
6
7
8
1
10
100
1000
10 4
10 5
1
10
100
ITY (ohm-m) RESISTIV
Calpine Co
Quantec Geofi
Data Set: TX8
Equipment: Geonics PROTEM
Four Mile H rporation
Klamath Nati sica Limitada
TX
Date: 20-June-02
Azim
Sounding: Tx8

DATA SET: TX9

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 6.332 PERCENT

L # RESISTIVITY THICKNESS ELEVATION CONDUCTANCE

CLIENT: Calpine Corporation DATE: 20-June-02
LOCATION: Klamath National Forest SOUNDING: Tx9
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.61
SOUNDING COORDINATES: E: 612780.0000 N: 4607750.0000 SLOPE: NONE
ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

LAYER		MINIMUM	BEST	MAXIMUM	
RHO	1	733.201	1506.784	3900.614	
	2	32.164	50.739	67.570	
		(ohm-m)	(meters)	(meters)	(Siemens)
				0.0	
1		1506.7	244.7	-244.7	0.162
2		50.73	137.5	-382.3	2.71
3		4.14			

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.		TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
	3	3.357	4.147	5.020	
THICK	1	222.888	244.766	280.278	
	2	108.793	137.568	160.902	
DEPTH	1	222.888	244.766	280.278	
	2	380.289	382.334	392.317	

1	0.0881	1924.5	1798.1	6.56
2	0.106	1572.6	1498.3	4.72
10	0.631	125.7	116.4	7.33
11	0.799	87.29	81.97	6.08
12	1.01	61.32	59.56	2.86
13	1.28	43.58	44.35	-1.77
14	1.63	31.61	33.35	-5.50
15	2.08	23.52	25.05	-6.50
16	2.64	17.76	18.68	-5.19
17	3.37	13.47	13.70	-1.71
3	0.131	1186.3	1212.8	-2.23
4	0.161	895.4	955.2	-6.68
5	0.200	676.9	726.7	-7.34
6	0.250	500.7	528.5	-5.54
7	0.314	364.2	370.4	-1.69
8	0.395	259.2	252.5	2.60
9	0.499	181.0	170.3	5.87

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	77.31	78.28	-1.25
22	1.06	60.37	62.10	-2.86
18	4.29	10.23	9.88	3.47
19	5.47	7.62	6.95	8.67
20	6.97	5.53	4.77	13.80

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

30	6.31	9.72	9.08	6.61
31	7.99	7.37	6.78	8.02
32	10.14	5.39	4.97	7.82
33	12.87	3.80	3.58	5.98
34	16.36	2.61	2.52	3.62
35	20.81	1.67	1.74	-3.61
36	26.48	1.06	1.17	-10.04
37	33.73	0.709	0.769	-8.44
23	1.31	46.70	49.52	-6.03
24	1.61	37.01	39.73	-7.34
25	2.00	29.44	31.84	-8.17
26	2.50	23.70	25.33	-6.88
27	3.14	19.18	19.94	-3.94
28	3.95	15.48	15.56	-0.489
29	4.99	12.36	11.96	3.22

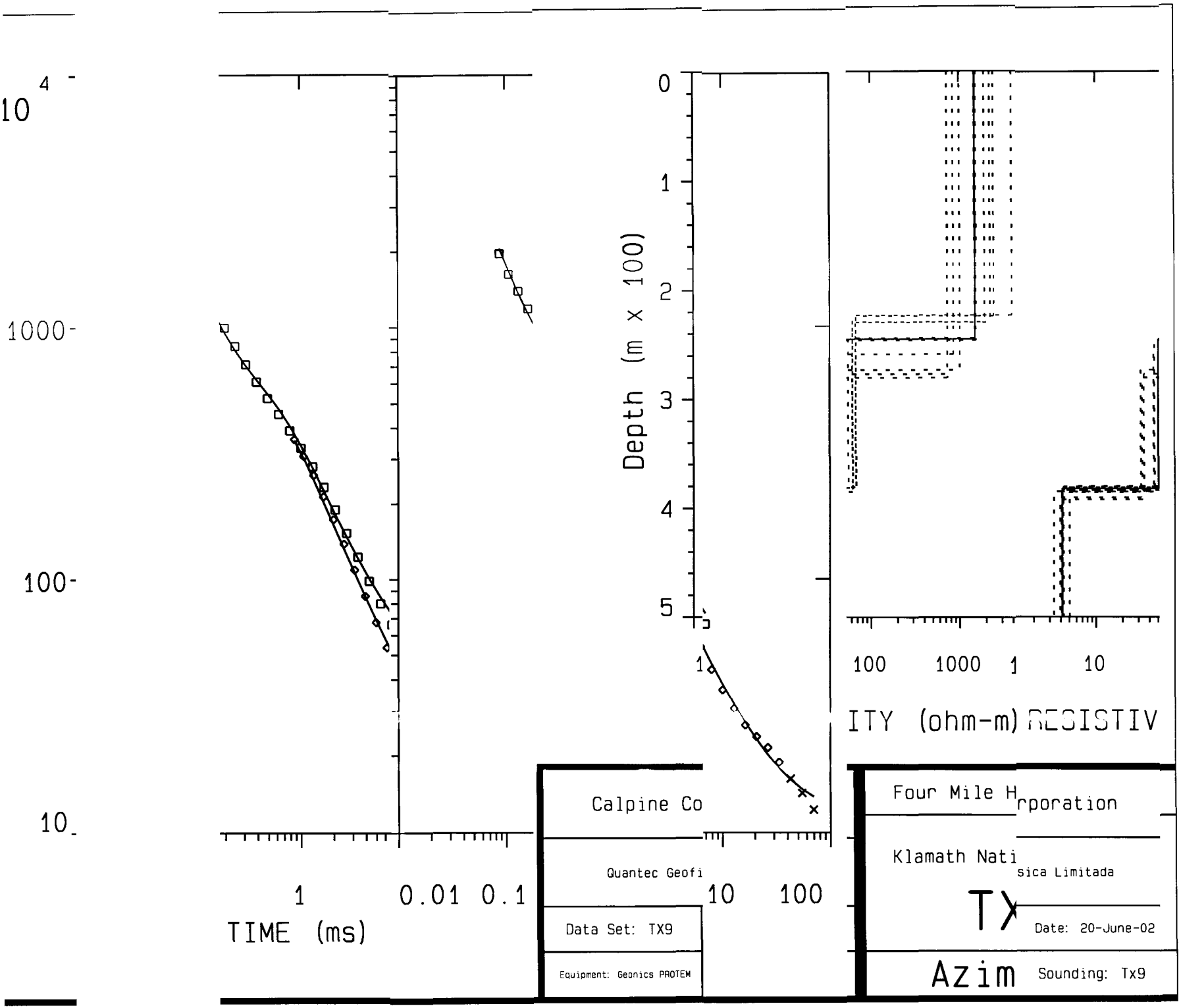
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

"F" INDICATES FIXED PARAMETER

P 1	0.10				
P 2	-0.19	0.78			
P 3	0.01	-0.03	0.94		
T 1	0.09	0.05	0.00	0.98	
T 2	-0.15	-0.08	0.00	0.03	0.95
	P 1	P 2	P 3	T 1	T 2

38	42.97	0.484	0.491	-1.44 MASKED
39	54.75	0.321	0.305	5.06 MASKED
40	69.78	0.219	0.183	16.38 MASKED

PARAMETER RESOLUTION MATRIX:


10 4
1000
100
10
1
0.01
0.1
TIME (ms)
Depth (m x 100)
0
1
2
3
4
5
100
1000
1
10
ITY (ohm-m) RESISTIV
Calpine Co
Quantec Geofi
10
100
Data Set: TX9
Equipment: Geonics PROTEM
Four Mile H rporation
Klamath Nati sica Limitada
TX
Date: 20-June-02
Azim
Sounding: Tx9

DATA SET: TX10

CLIENT: Calpine Corporation DATE: 25-June-02

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.863 PERCENT

L # RESISTIVITY THICKNESS ELEVATION CONDUCTANCE

CLIENT: Calpine Corporation DATE: 25-June-02
LOCATION: Klamath National Forest SOUNDING: Tx10
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 11.26
SOUNDING COORDINATES: E: 612615.0000 N: 4604955.0000 SLOPE: NONE
ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

LAYER		MINIMUM	BEST	MAXIMUM	
RHO	1	836.187	886.898	949.155	
	2	18.339	22.210	27.166	
		(ohm-m)	(meters)	(meters)	(Siemens)
				0.0	
1		886.8	378.2	-378.2	0.426
2		22.21	158.9	-537.1	7.15
3		4.65			

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.		TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
	3	3.578	4.650	6.044	
THICK	1	366.372	378.293	388.610	
	2	145.021	158.902	172.448	
DEPTH	1	366.372	378.293	388.610	
	2	526.331	537.195	548.062	

1	0.0881	1472.8	1698.6	-15.33
2	0.106	1086.7	1127.7	-3.77
10	0.631	81.67	87.89	-7.61
11	0.799	60.87	63.98	-5.11
12	1.01	44.71	45.14	-0.976
13	1.28	31.77	31.15	1.95
14	1.63	21.99	21.21	3.53
15	2.08	14.98	14.41	3.81
16	2.64	10.06	9.87	1.93
17	3.37	6.76	6.79	-0.473
3	0.131	806.1	740.9	8.08
4	0.161	555.3	502.0	9.61
5	0.200	392.2	354.7	9.55
6	0.250	275.9	262.0	5.01
7	0.314	199.8	199.4	0.221
8	0.395	147.6	153.5	-3.99
9	0.499	108.9	117.7	-8.06

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	56.42	58.80	-4.22
22	1.06	44.31	44.67	-0.826
18	4.29	4.54	4.69	-3.25
19	5.47	3.08	3.21	-4.38
20	6.97	2.07	2.18	-5.18

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

30	6.31	4.23	4.27	-0.824
31	7.99	3.26	3.20	2.05
32	10.14	2.39	2.37	0.846
33	12.87	1.75	1.73	1.05
34	16.36	1.27	1.25	2.13
35	20.81	0.887	0.881	0.686
36	26.48	0.617	0.608	1.38
37	33.73	0.413	0.409	0.898
23	1.31	33.87	33.14	2.15
24	1.61	25.33	24.41	3.63
25	2.00	18.57	17.99	3.15
26	2.50	13.59	13.30	2.12
27	3.14	10.13	9.92	2.05
28	3.95	7.43	7.48	-0.763
29	4.99	5.66	5.65	0.136

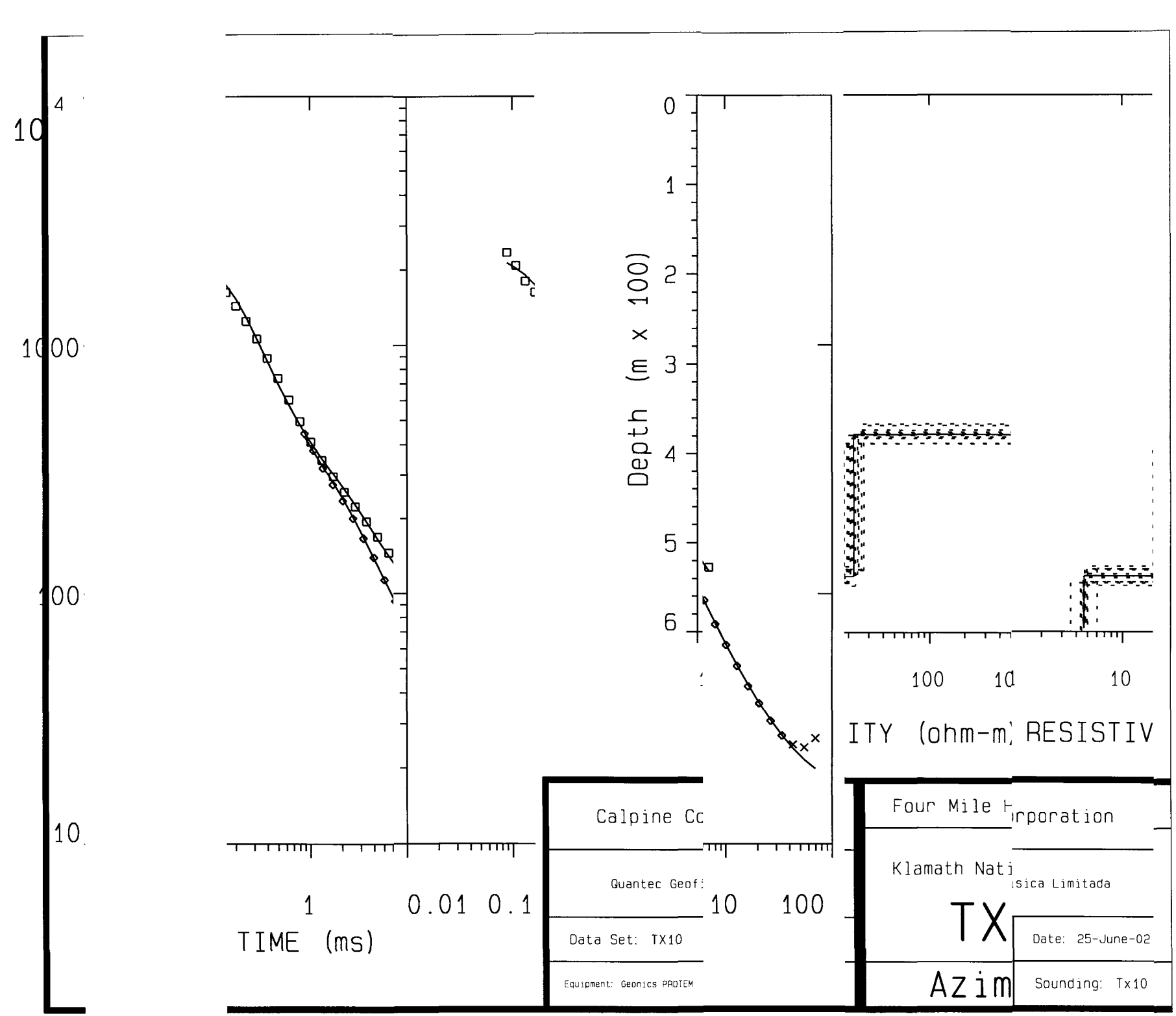
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

"F" INDICATES FIXED PARAMETER

P 1	0.98				
P 2	-0.02	0.84			
P 3	-0.01	-0.06	0.85		
T 1	0.00	0.02	0.00	1.00	
T 2	0.00	-0.02	0.02	0.00	0.96
	P 1	P 2	P 3	T 1	T 2

38	42.97	0.255	0.268	-5.33 MASKED
39	54.75	0.144	0.171	-18.26 MASKED
40	69.78	0.0695	0.105	-52.19 MASKED

PARAMETER RESOLUTION MATRIX:


Depth (m x 100)
0
1
2
3
4
5
6
TIME (ms)
1
0.01
0.1
10
100
100
10
ITY (ohm-m) RESISTIV
Calpine Cc
Quantec Geof
Data Set: TX10
Equipment: Geonics PROTEM
Four Mile
rporation
Klamath Nati
sica Limitada
TX
Date: 25-June-02
Azim
Sounding: Tx10

DATA SET: TX11

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.438 PERCENT

L # RESISTIVITY THICKNESS ELEVATION CONDUCTANCE

CLIENT: Calpine Corporation DATE: 25-June-02
LOCATION: Klamath National Forest SOUNDING: Tx11
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 6.52
SOUNDING COORDINATES: E: 612530.0000 N: 4608970.0000 SLOPE: NONE
ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

LAYER		MINIMUM	BEST	MAXIMUM	
RHO	1	1688.076	1861.198	2228.615	
	2	79.404	92.956	114.399	
		(ohm-m)	(meters)	(meters)	(Siemens)
				0.0	
1		1861.1	447.0	-447.0	0.240
2		92.95	280.8	-727.9	3.02
3		28.00			

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.		TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
	3	24.452	28.004	45.434	
THICK	1	423.419	447.047	467.750	
	2	220.017	280.896	306.706	
DEPTH	1	423.419	447.047	467.750	
	2	654.555	727.943	751.422	

1	0.0881	597.7	636.4	-6.45
2	0.106	465.3	468.0	-0.592
10	0.631	43.09	45.55	-5.70
11	0.799	30.96	31.54	-1.84
12	1.01	22.28	21.55	3.27
13	1.28	15.61	14.64	6.21
14	1.63	10.59	9.96	5.95
15	2.08	7.23	6.78	6.17
16	2.64	4.89	4.63	5.31
17	3.37	3.22	3.13	2.67
3	0.131	372.7	347.2	6.84
4	0.161	281.3	264.2	6.08
5	0.200	212.4	203.2	4.30
6	0.250	158.4	155.9	1.56
7	0.314	116.4	118.7	-1.95
8	0.395	83.19	88.38	-6.23
9	0.499	60.01	64.24	-7.03

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	26.19	28.02	-6.97	
22	1.06	20.31	20.75	-2.16	
18	4.29	2.10	2.10	0.223	
19	5.47	1.37	1.38	-0.431	
20	6.97	0.911	0.887	2.61	

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

30	6.31	1.47	1.53	-4.37
31	7.99	1.00	1.07	-6.42
32	10.14	0.729	0.736	-0.962
33	12.87	0.477	0.496	-4.09
34	16.36	0.249	0.329	-32.21 MASKED
35	20.81	0.202	0.213	-5.52 MASKED
36	26.48	0.107	0.136	-27.29 MASKED
37	33.73	0.0777	0.0847	-8.98 MASKED
23	1.31	15.13	15.10	0.177
24	1.61	11.26	11.01	2.22
25	2.00	8.08	8.02	0.762
26	2.50	5.78	5.83	-0.825
27	3.14	4.13	4.22	-2.08
28	3.95	2.92	3.04	-3.95
29	4.99	2.06	2.17	-5.16

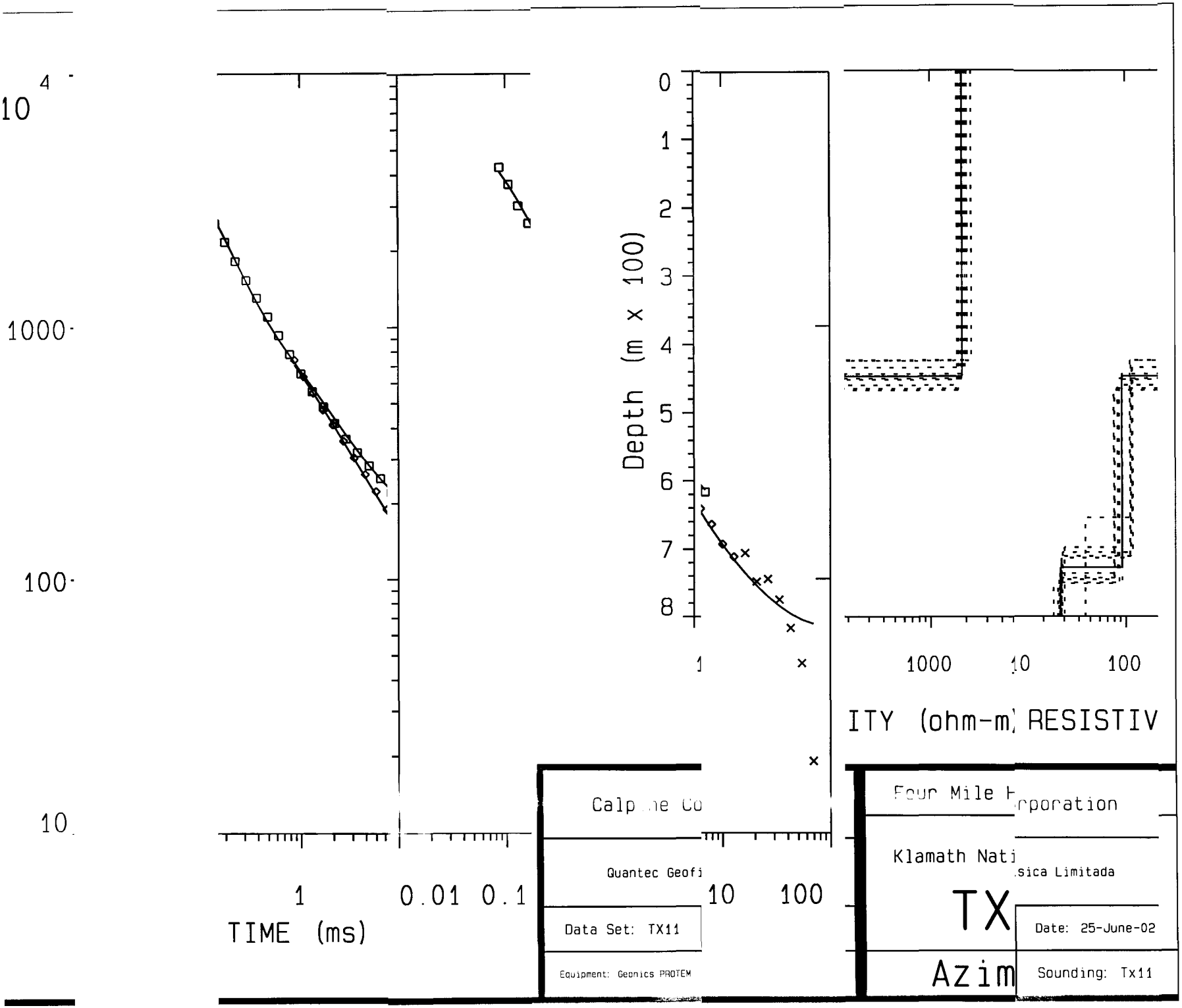
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	

"F" INDICATES FIXED PARAMETER

P 1	0.94				
P 2	-0.05	0.88			
P 3	-0.01	-0.02	0.95		
T 1	0.02	0.03	0.00	0.99	
T 2	-0.01	0.00	0.03	0.00	0.95
	P 1	P 2	P 3	T 1	T 2

38	42.97	0.0623	0.0514	17.46 MASKED
39	54.75	0.0547	0.0304	44.28 MASKED
40	69.78	0.112	0.0175	84.43 MASKED

PARAMETER RESOLUTION MATRIX:


10 4
1000
100
10
1
0.01
0.1
TIME (ms)
Depth (m x 100)
0
1
2
3
4
5
6
7
8
1
10
100
1000
ITY (ohm-m) RESISTIV
Calp ne Co
Quantec Geofi
Data Set: TX11
Equipment: Geonics PROTEM
Four Mile H rporation
Klamath Nati sica Limitada
TX
Date: 25-June-02
Azim
Sounding: Tx11

DATA SET: TX12

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.902 PERCENT

L # RESISTIVITY THICKNESS ELEVATION CONDUCTANCE
CLIENT: Calpine Corporation DATE: 25-June-02
LOCATION: Klamath National Forest SOUNDING: Tx12
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 11.24
SOUNDING COORDINATES: E: 612650.0000 N: 4608970.0000 SLOPE: NONE
ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

LAYER		MINIMUM	BEST	MAXIMUM	
RHO	1	1247.337	1374.931	1561.186	
	2	35.813	44.097	54.372	
		(ohm-m)	(meters)	(meters)	(Siemens)
				0.0	
1		1374.9	443.9	-443.9	0.322
2		44.09	234.5	-678.4	5.31
3		7.57			

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.		TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
	3	5.865	7.570	12.018	
THICK	1	426.419	443.964	462.147	
	2	212.495	234.506	253.854	
DEPTH	1	426.419	443.964	462.147	
	2	662.299	678.471	692.036	

1	0.0881	441.9	905.1	-104.8 MASKED
2	0.106	598.8	617.5	-3.13
10	0.631	50.99	55.08	-8.00
11	0.799	37.06	39.38	-6.25
12	1.01	26.51	27.10	-2.25
13	1.28	18.65	18.21	2.35
14	1.63	12.88	12.01	6.81
15	2.08	8.60	7.93	7.83
16	2.64	5.82	5.27	9.33
17	3.37	3.86	3.56	7.77
3	0.131	398.6	422.1	-5.90
4	0.161	312.5	299.1	4.30
5	0.200	241.6	220.3	8.84
6	0.250	181.9	166.8	8.32
7	0.314	134.1	128.0	4.56
8	0.395	98.49	98.71	-0.223
9	0.499	70.58	74.77	-5.94

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	31.73	35.48	-11.83
22	1.06	24.39	26.39	-8.18
18	4.29	2.45	2.42	1.11
19	5.47	1.65	1.64	0.392
20	6.97	1.06	1.10	-3.77

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

29	4.99	2.74	2.87	-4.60
30	6.31	2.02	2.15	-6.46
31	7.99	1.53	1.60	-5.10
32	10.14	1.11	1.18	-6.23
33	12.87	0.861	0.866	-0.601
34	16.36	0.619	0.620	-0.277
35	20.81	0.482	0.436	9.49
36	26.48	0.380	0.300	20.85 MASKED
37	33.73	-0.324	-0.202	37.68 MASKED
23	1.31	18.48	19.08	-3.22
24	1.61	13.65	13.65	0.0107
25	2.00	10.00	9.80	2.01
26	2.50	7.16	7.05	1.43
27	3.14	5.28	5.17	2.01
28	3.95	3.71	3.84	-3.46

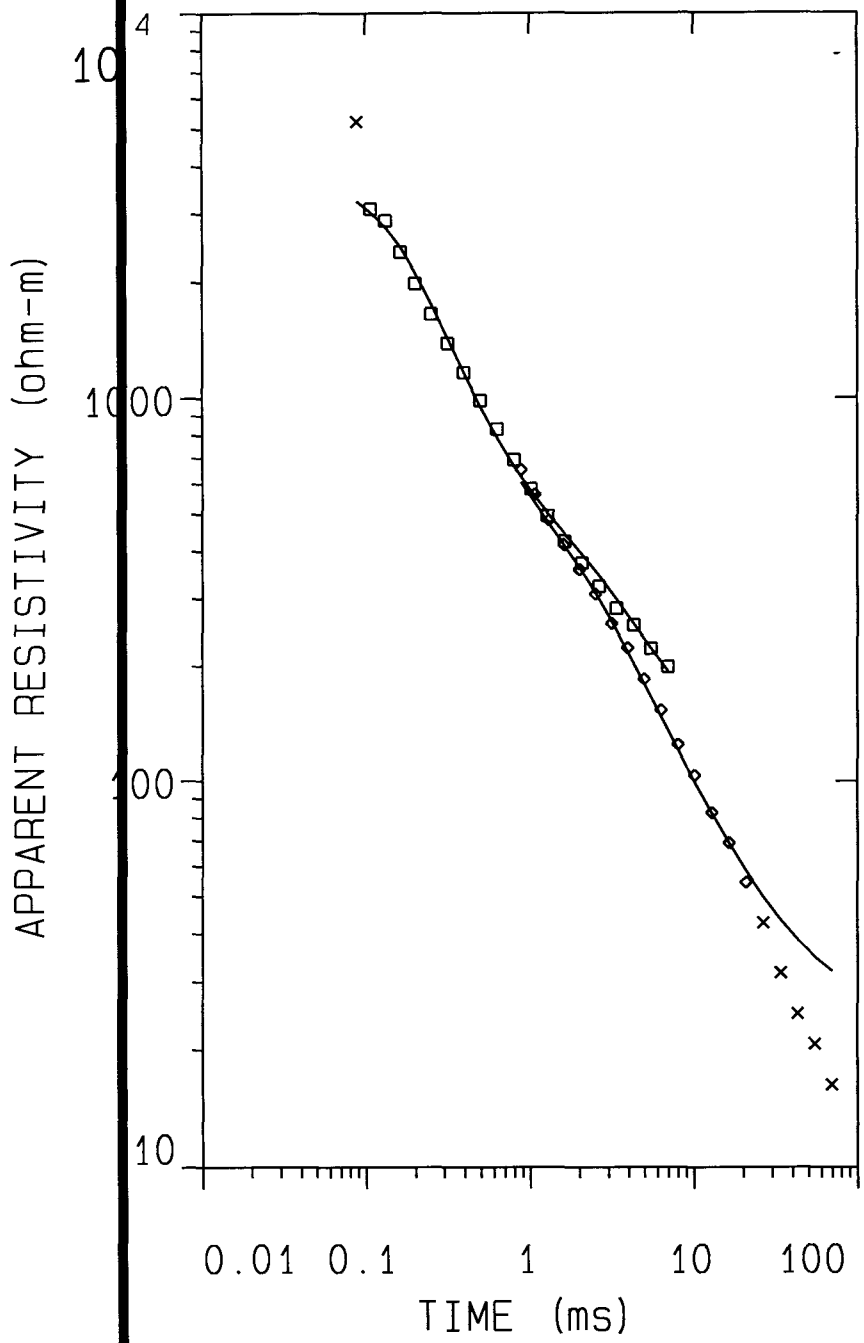
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	

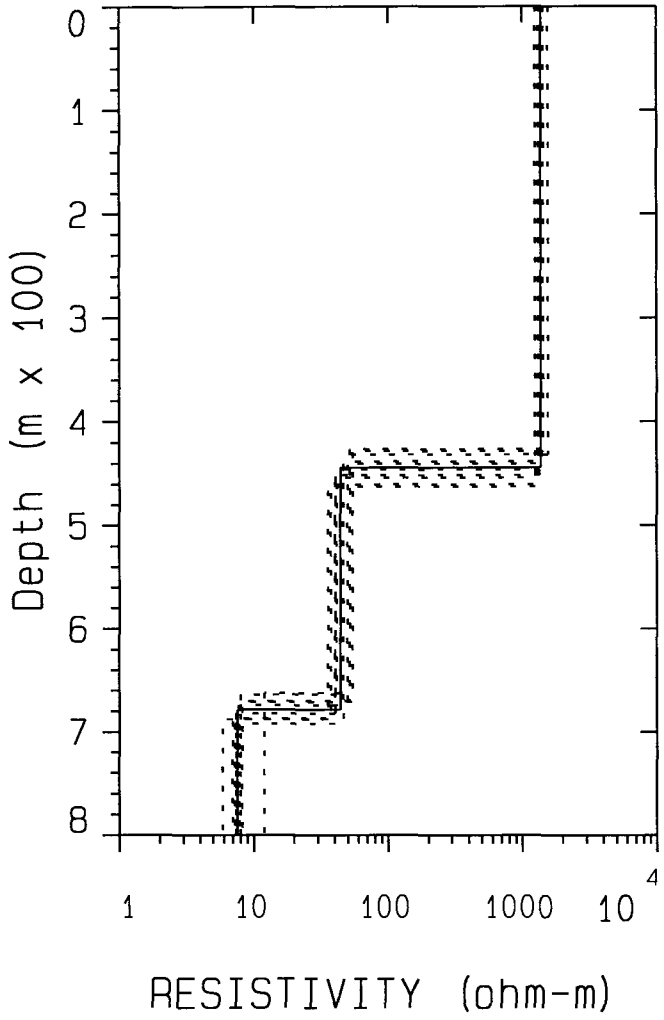
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.98				
P 2	-0.02	0.88			
P 3	-0.01	-0.05	0.86		
T 1	0.01	0.02	0.00	0.99	
T 2	-0.01	-0.02	0.02	0.00	0.97

38	42.97	0.254	0.132	48.09 MASKED
39	54.75	0.182	0.0841	53.85 MASKED
40	69.78	0.143	0.0519	63.82 MASKED

PARAMETER RESOLUTION MATRIX:





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX12 / Date: 25-June-02	TX12
Equipment: Geonics PROTEM / Sounding: Tx12	Azimuth:

DATA SET: TX15

CLIENT: Calpine Corporation DATE: 25-June-02
LOCATION: Klamath National Forest SOUNDING: Tx15
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.93
SOUNDING COORDINATES: E: 613065.0000 N: 4608360.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 2.410 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1050.6	349.8	-349.8	0.332
2	37.04	172.5	-522.3	4.65
3	7.72			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	982.547	1050.664	1141.721
	2	33.504	37.047	41.058
	3	7.025	7.725	8.696
THICK	1	342.557	349.820	357.787
	2	164.033	172.506	179.663
DEPTH	1	342.557	349.820	357.787
	2	516.136	522.326	527.392

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	830.9	1337.2	-60.92 MASKED
2	0.106	948.3	959.1	-1.14
3	0.131	695.8	696.5	-0.0925
4	0.161	531.6	523.7	1.47
5	0.200	412.1	403.0	2.20
6	0.250	315.5	311.3	1.32
7	0.314	239.8	239.8	-0.0322
8	0.395	178.8	181.1	-1.33
9	0.499	130.0	132.8	-2.21
10	0.631	93.07	95.04	-2.12
11	0.799	65.89	66.09	-0.300
12	1.01	46.12	45.36	1.66
13	1.28	31.99	31.00	3.11
14	1.63	22.11	21.36	3.40
15	2.08	15.40	14.83	3.72
16	2.64	10.65	10.41	2.26
17	3.37	7.40	7.28	1.59
18	4.29	5.17	5.06	2.06
19	5.47	3.47	3.46	0.421
20	6.97	2.35	2.32	1.44

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

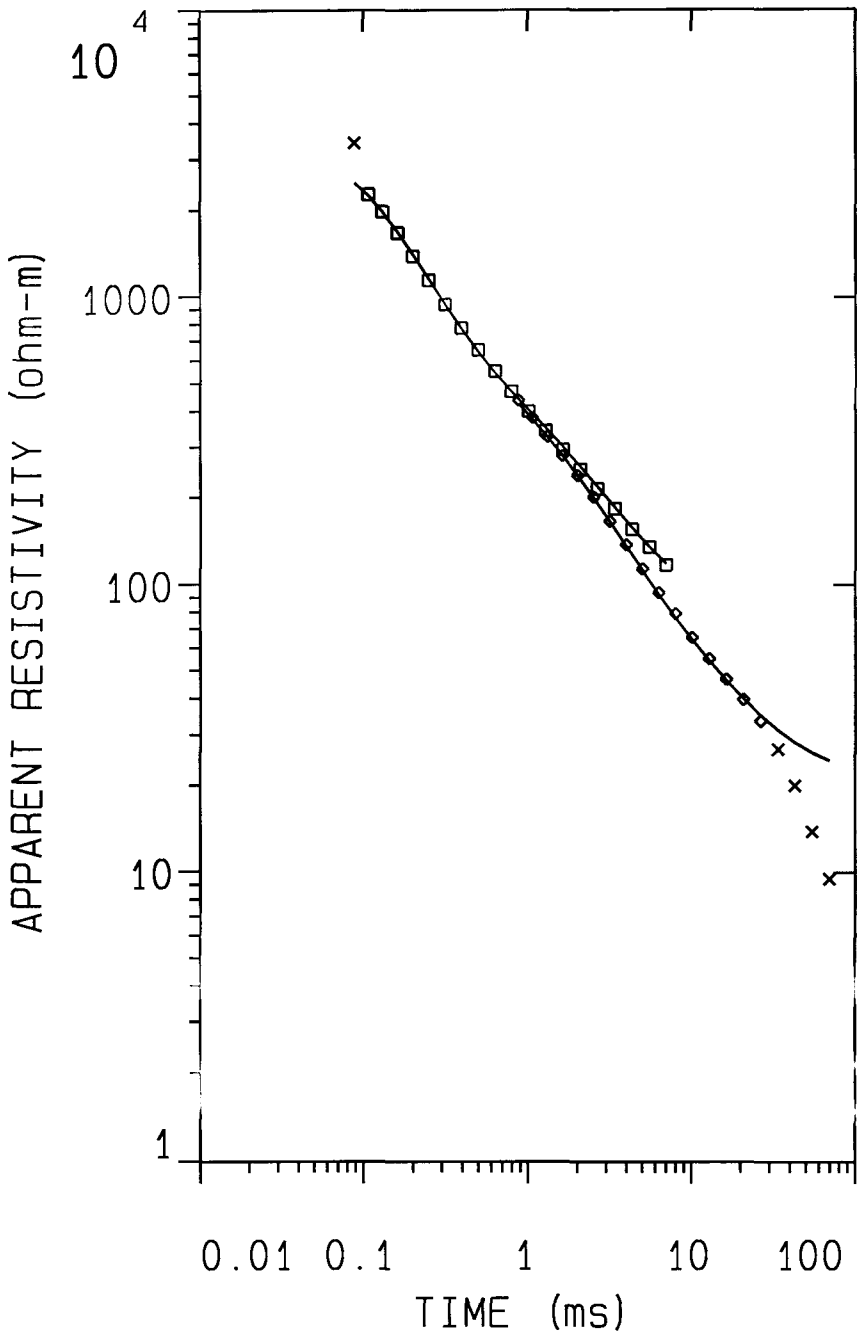
SYNTHETIC FROM LAYERED MODEL:

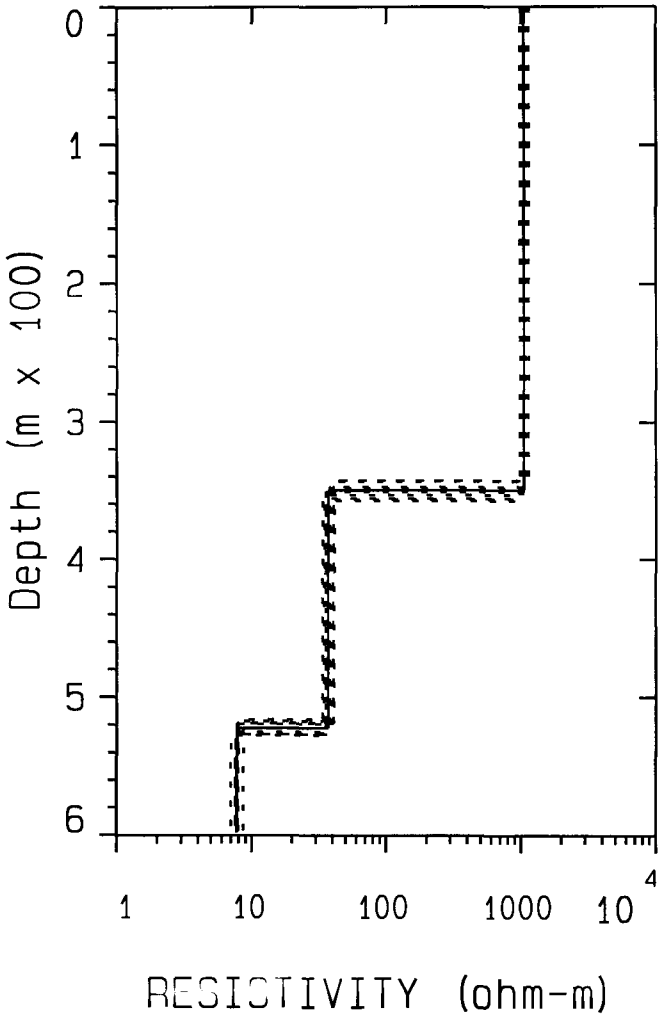
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	57.32	59.71	-4.16
22	1.06	43.63	44.65	-2.35
23	1.31	32.72	32.88	-0.487
24	1.61	24.46	24.43	0.121
25	2.00	18.14	18.26	-0.648
26	2.50	13.53	13.71	-1.29
27	3.14	10.26	10.32	-0.542
28	3.95	7.64	7.76	-1.58
29	4.99	5.69	5.81	-2.07
30	6.31	4.21	4.30	-2.29
31	7.99	3.00	3.15	-5.04
32	10.14	2.21	2.27	-2.85
33	12.87	1.57	1.61	-2.30
34	16.36	1.10	1.12	-1.39
35	20.81	0.772	0.765	0.856
36	26.48	0.547	0.510	6.61
37	33.73	0.418	0.332	20.59 MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.352	0.210	40.29 MASKED
39	54.75	0.335	0.129	61.38 MASKED
40	69.78	0.322	0.0775	75.94 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.95				
P 2	-0.05	0.84			
P 3	-0.01	-0.03	0.92		
T 1	0.01	0.03	0.00	0.99	
T 2	-0.01	-0.02	0.02	0.01	0.96





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX15 / Date: 25-June-02	TX15
Equipment: Geonics PROTEM / Sounding: Tx15	Azimuth:

DATA SET: TX16

CLIENT: Calpine Corporation DATE: 24-June-02
LOCATION: Klamath National Forest SOUNDING: Tx16
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.98
SOUNDING COORDINATES: E: 613690.0000 N: 4607290.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 3.168 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	902.3	273.6	-273.6	0.303
2	39.17	84.72	-358.3	2.16
3	3.79			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	777.694	902.304	1125.414
	2	24.275	39.176	55.740
	3	3.420	3.800	4.136
THICK	1	256.900	273.670	293.715
	2	69.125	84.728	100.897
DEPTH	1	256.900	273.670	293.715
	2	357.080	358.398	363.962

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	1862.1	1821.2	2.19
2	0.106	1326.7	1364.0	-2.80
3	0.131	1018.2	1007.7	1.02
4	0.161	733.9	737.4	-0.482
5	0.200	523.3	530.7	-1.40
6	0.250	369.4	374.2	-1.28
7	0.314	265.4	261.5	1.46
8	0.395	189.8	186.6	1.65
9	0.499	138.6	136.2	1.73
10	0.631	104.1	102.2	1.84
11	0.799	78.90	78.88	0.0197
12	1.01	60.67	61.10	-0.707
13	1.28	46.29	47.63	-2.88
14	1.63	35.32	36.81	-4.21
15	2.08	26.83	28.19	-5.07
16	2.64	20.33	21.27	-4.59
17	3.37	15.39	15.75	-2.33
18	4.29	11.39	11.42	-0.274
19	5.47	8.32	8.08	2.82
20	6.97	5.95	5.56	6.62

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

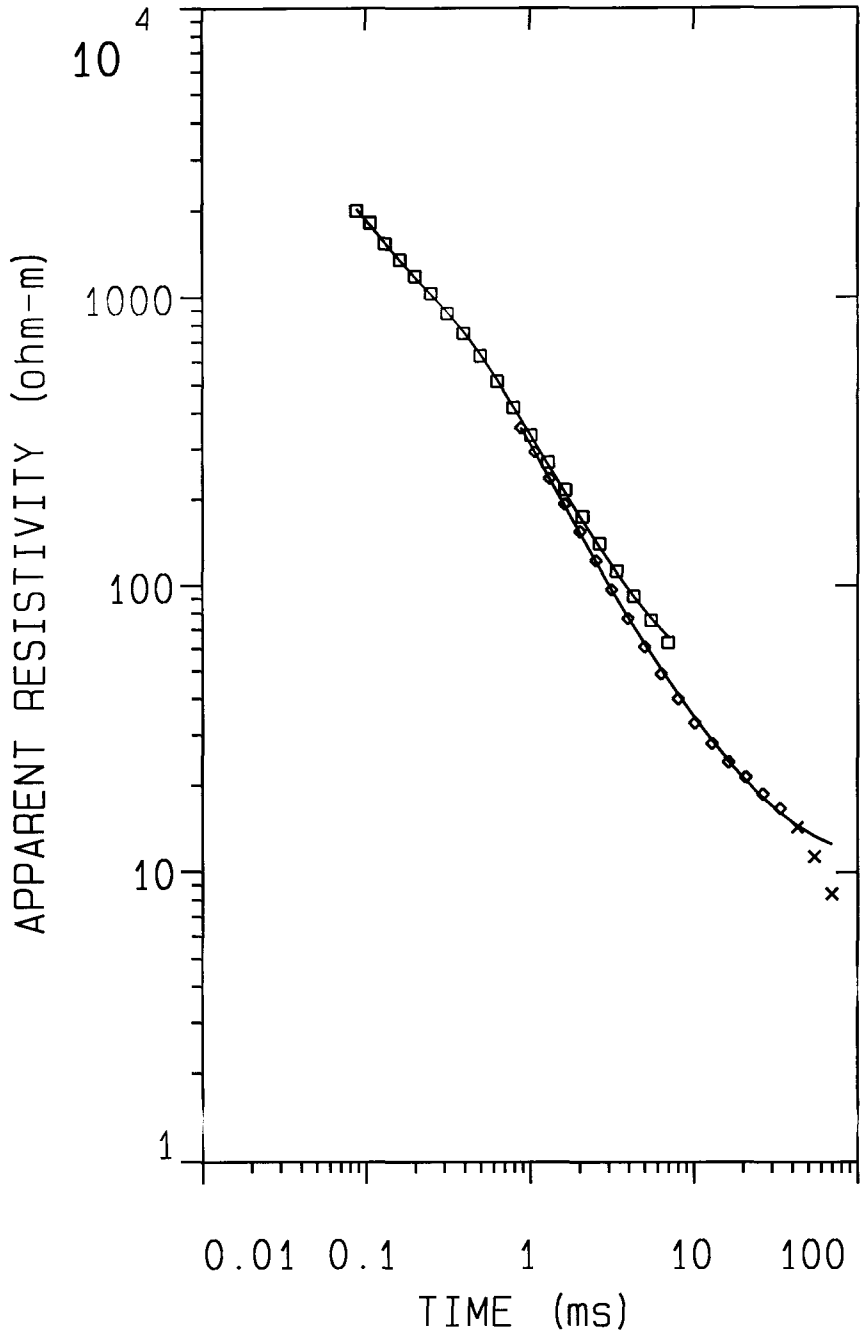
SYNTHETIC FROM LAYERED MODEL:

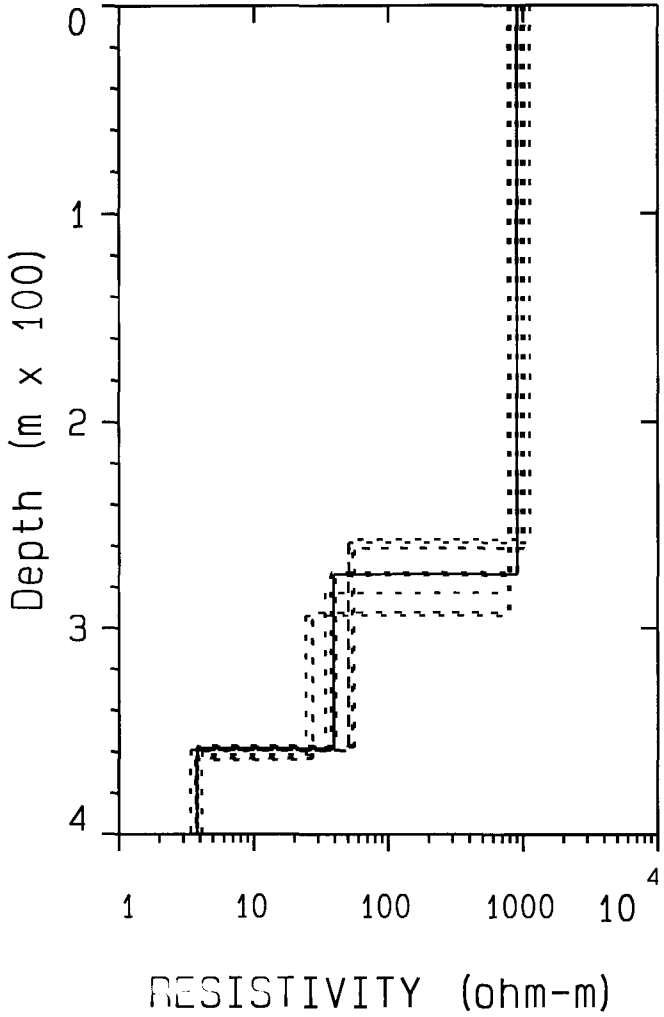
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	78.83	78.65	0.235
22	1.06	65.08	65.35	-0.407
23	1.31	53.58	53.90	-0.609
24	1.61	43.37	44.21	-1.94
25	2.00	35.25	36.02	-2.17
26	2.50	28.60	28.95	-1.22
27	3.14	23.02	22.99	0.133
28	3.95	18.34	18.03	1.70
29	4.99	14.49	13.92	3.92
30	6.31	11.19	10.59	5.34
31	7.99	8.39	7.92	5.55
32	10.14	6.17	5.82	5.75
33	12.87	4.35	4.19	3.67
34	16.36	2.97	2.95	0.867
35	20.81	1.95	2.03	-3.97
36	26.48	1.31	1.37	-4.22
37	33.73	0.854	0.898	-5.18

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.585	0.573	2.04	MASKED
39	54.75	0.454	0.355	21.83	MASKED
40	69.78	0.384	0.213	44.44	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.84				
P 2	-0.18	0.25			
P 3	0.01	-0.03	0.94		
T 1	0.04	0.11	0.00	0.98	
T 2	-0.12	-0.30	0.01	0.05	0.83
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX16 / Date: 24-June-02	TX16
Equipment: Geonics PROTEM / Sounding: Tx16	Azimuth:

DATA SET: TX18

CLIENT: Calpine Corporation DATE: 24-June-02
LOCATION: Klamath National Forest SOUNDING: Tx18
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.45
SOUNDING COORDINATES: E: 613860.0000 N: 4607440.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 6.536 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1714.2	314.9	-314.9	0.183
2	36.93	79.88	-394.8	2.16
3	4.29			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1063.497	1714.251	3618.895
	2	18.510	36.938	71.328
	3	3.570	4.294	5.169
THICK	1	285.001	314.959	344.608
	2	56.521	79.889	108.835
DEPTH	1	285.001	314.959	344.608
	2	392.216	394.848	405.089

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	1093.2	827.0	24.34 MASKED
2	0.106	643.7	659.1	-2.38
3	0.131	524.9	513.1	2.26
4	0.161	390.1	393.2	-0.796
5	0.200	290.9	295.1	-1.44
6	0.250	219.3	218.2	0.509
7	0.314	165.8	161.3	2.70
8	0.395	124.1	120.4	2.95
9	0.499	94.15	92.07	2.20
10	0.631	71.94	71.33	0.848
11	0.799	55.26	56.04	-1.40
12	1.01	42.72	44.13	-3.30
13	1.28	32.59	34.65	-6.30
14	1.63	25.08	27.00	-7.65
15	2.08	19.25	20.77	-7.89
16	2.64	14.91	15.76	-5.73
17	3.37	11.40	11.72	-2.84
18	4.29	8.78	8.54	2.75
19	5.47	6.57	6.06	7.65
20	6.97	4.81	4.19	12.91

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	55.91	56.73	-1.47
22	1.06	46.32	47.58	-2.70
23	1.31	37.96	39.52	-4.09
24	1.61	31.43	32.64	-3.86
25	2.00	25.64	26.72	-4.23
26	2.50	21.08	21.59	-2.42
27	3.14	17.32	17.22	0.552
28	3.95	14.07	13.57	3.53
29	4.99	11.35	10.52	7.28
30	6.31	8.86	8.04	9.23
31	7.99	6.76	6.04	10.56
32	10.14	4.97	4.45	10.43
33	12.87	3.48	3.22	7.42
34	16.36	2.33	2.28	2.12
35	20.81	1.48	1.57	-6.53
36	26.48	0.959	1.06	-11.26
37	33.73	0.599	0.703	-17.21

DATA SET: TX13

CLIENT: Calpine Corporation DATE: 25-June-02
LOCATION: Klamath National Forest SOUNDING: Tx13
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.87
SOUNDING COORDINATES: E: 612900.0000 N: 4608565.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.663 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1170.7	387.6	-387.6	0.331
2	40.89	203.6	-591.2	4.97
3	7.68			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1059.724	1170.778	1333.331
	2	34.320	40.898	48.197
	3	6.294	7.680	10.208
THICK	1	373.758	387.622	401.805
	2	187.204	203.657	218.824
DEPTH	1	373.758	387.622	401.805
	2	578.506	591.279	601.349

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	559.7	1142.1	-104.0	MASKED
2	0.106	783.6	800.1	-2.10	
3	0.131	552.1	565.3	-2.39	
4	0.161	425.1	414.3	2.54	
5	0.200	332.2	313.4	5.65	
6	0.250	253.3	240.4	5.10	
7	0.314	189.8	185.3	2.37	
8	0.395	139.9	141.7	-1.26	
9	0.499	100.5	105.3	-4.76	
10	0.631	71.57	76.31	-6.62	
11	0.799	51.06	53.46	-4.68	
12	1.01	36.30	36.43	-0.371	
13	1.28	25.27	24.48	3.12	
14	1.63	17.56	16.40	6.62	
15	2.08	11.96	11.08	7.38	
16	2.64	8.09	7.57	6.34	
17	3.37	5.45	5.22	4.16	
18	4.29	3.59	3.60	-0.0513	
19	5.47	2.41	2.46	-1.98	
20	6.97	1.61	1.65	-2.27	

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

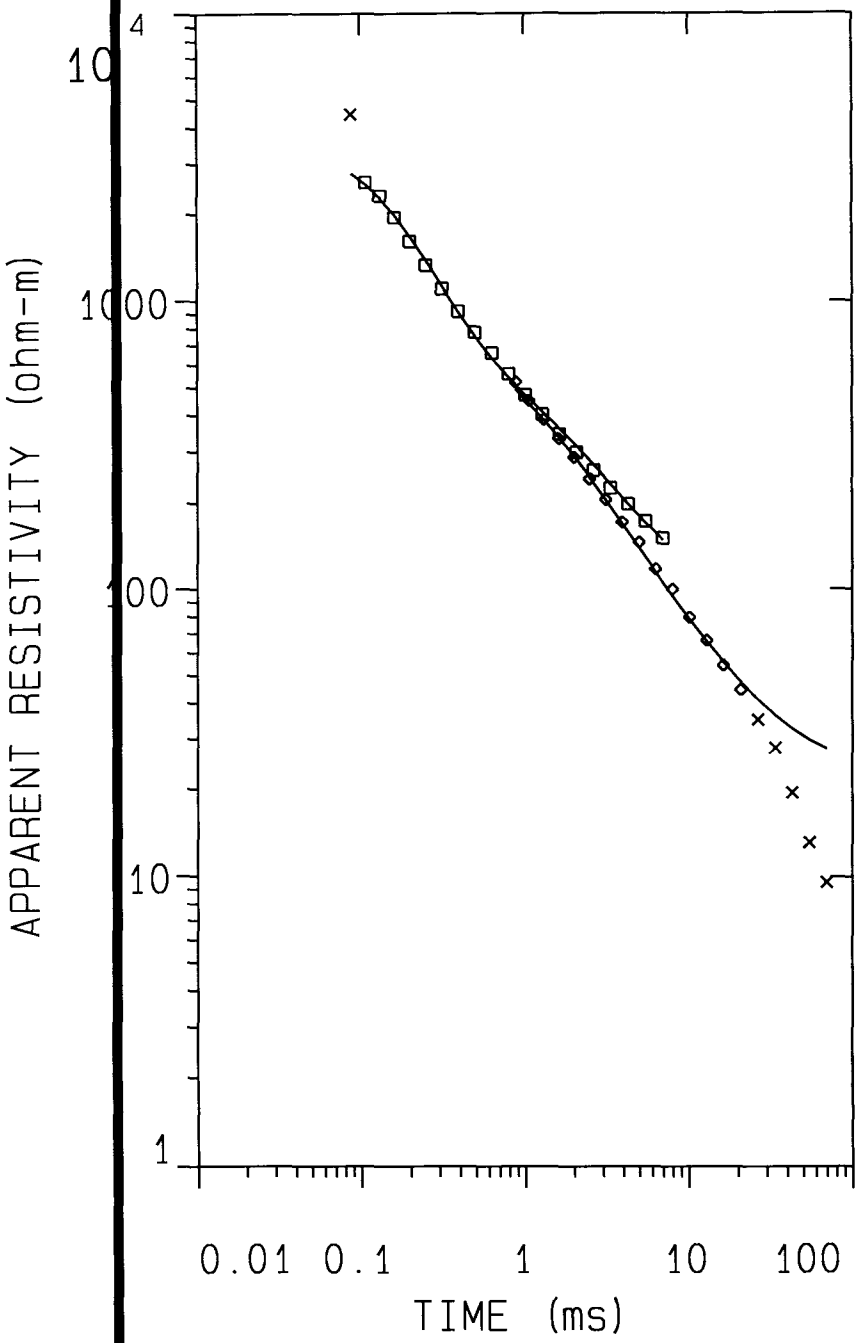
SYNTHETIC FROM LAYERED MODEL:

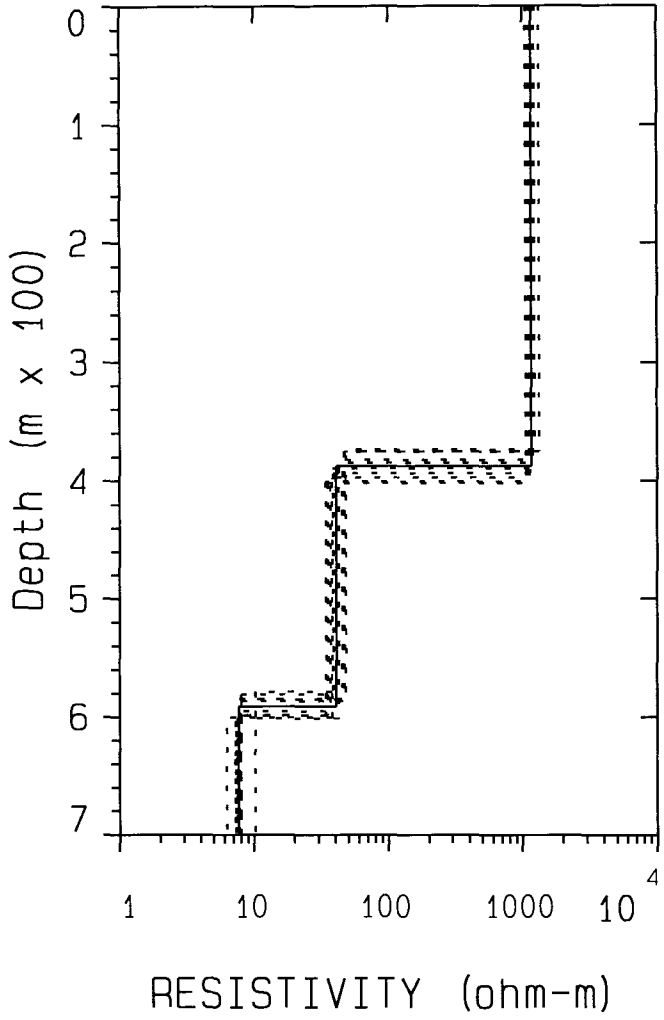
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	44.05	48.00	-8.96	
22	1.06	34.11	35.59	-4.33	
23	1.31	25.62	25.78	-0.617	
24	1.61	19.06	18.71	1.87	
25	2.00	13.91	13.68	1.68	
26	2.50	10.28	10.06	2.13	
27	3.14	7.47	7.49	-0.280	
28	3.95	5.51	5.60	-1.68	
29	4.99	3.92	4.20	-7.11	
30	6.31	3.02	3.13	-3.71	
31	7.99	2.13	2.31	-8.73	
32	10.14	1.65	1.69	-2.44	
33	12.87	1.19	1.21	-1.38	
34	16.36	0.887	0.857	3.35	
35	20.81	0.654	0.593	9.29	
36	26.48	0.513	0.401	21.73	MASKED
37	33.73	0.393	0.265	32.56	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.369	0.170	53.81 MASKED
39	54.75	0.365	0.106	70.82 MASKED
40	69.78	0.320	0.0647	79.81 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.97				
P 2	-0.03	0.87			
P 3	-0.01	-0.04	0.90		
T 1	0.01	0.02	0.00	0.99	
T 2	-0.01	-0.02	0.02	0.01	0.97





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX13 / Date: 25-June-02	TX13
Equipment: Geonics PROTEM / Sounding: Tx13	Azimuth:

DATA SET: TX14

CLIENT: Calpine Corporation DATE: 20-June-02
LOCATION: Klamath National Forest SOUNDING: Tx14
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.48
SOUNDING COORDINATES: E: 613450.0000 N: 4606000.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.330 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	937.4	235.2	-235.2	0.250
2	108.9	198.6	-433.8	1.82
3	3.61			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	704.326	937.452	1332.469
	2	79.475	108.959	137.459
	3	3.087	3.618	4.244
THICK	1	205.101	235.258	274.365
	2	166.519	198.641	233.061
DEPTH	1	205.101	235.258	274.365
	2	433.215	433.899	440.884

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	2477.4	2586.1	-4.38
2	0.106	2088.0	2012.7	3.60
3	0.131	1545.2	1521.6	1.52
4	0.161	1122.4	1120.9	0.131
5	0.200	790.6	793.1	-0.315
6	0.250	525.8	531.8	-1.14
7	0.314	337.7	339.3	-0.485
8	0.395	210.5	208.2	1.07
9	0.499	129.4	126.4	2.29
10	0.631	81.50	78.35	3.86
11	0.799	53.16	51.67	2.78
12	1.01	36.47	36.22	0.681
13	1.28	26.05	26.72	-2.58
14	1.63	19.22	20.16	-4.88
15	2.08	14.52	15.27	-5.12
16	2.64	11.21	11.53	-2.87
17	3.37	8.68	8.56	1.39
18	4.29	6.64	6.27	5.58
19	5.47	5.04	4.49	10.93
20	6.97	3.69	3.14	14.89

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

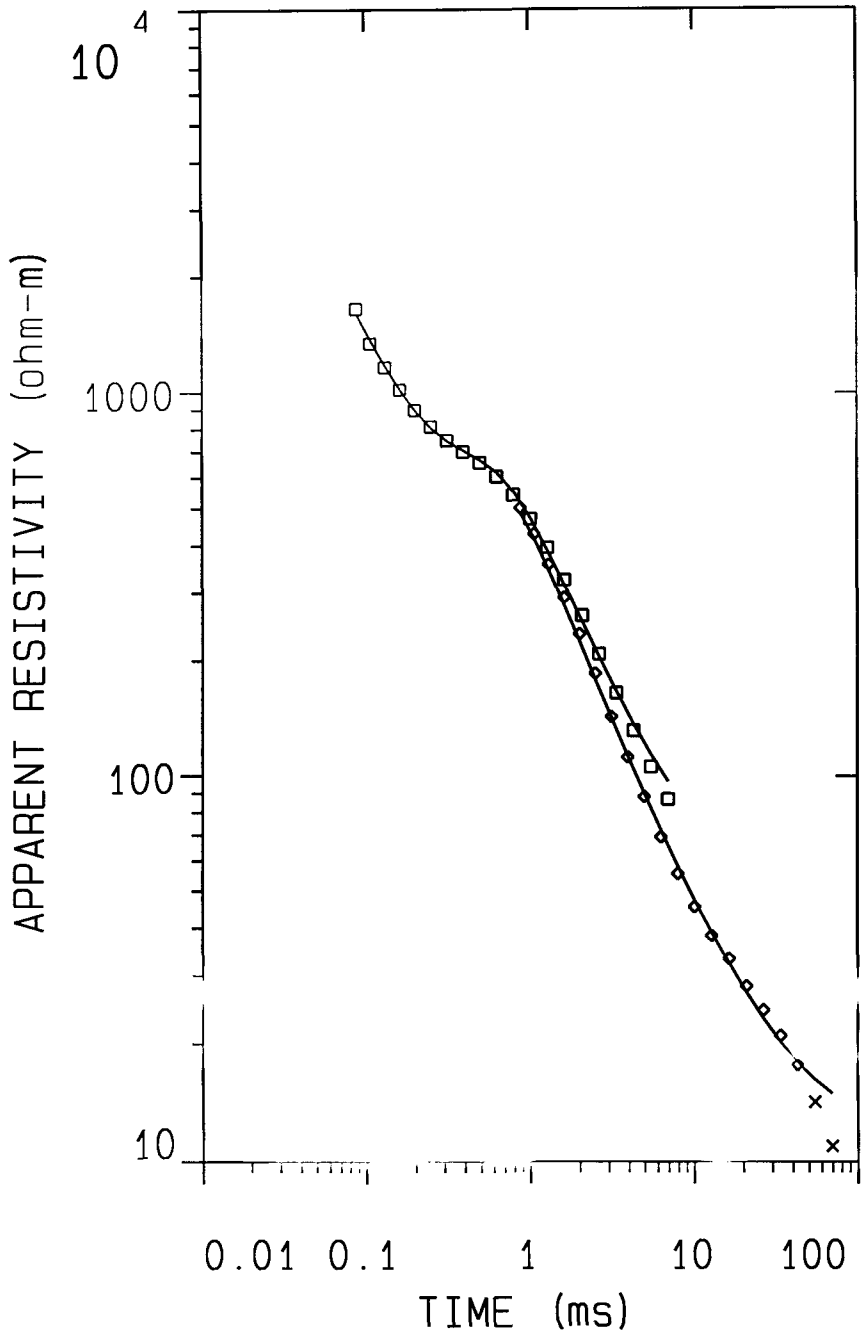
SYNTHETIC FROM LAYERED MODEL:

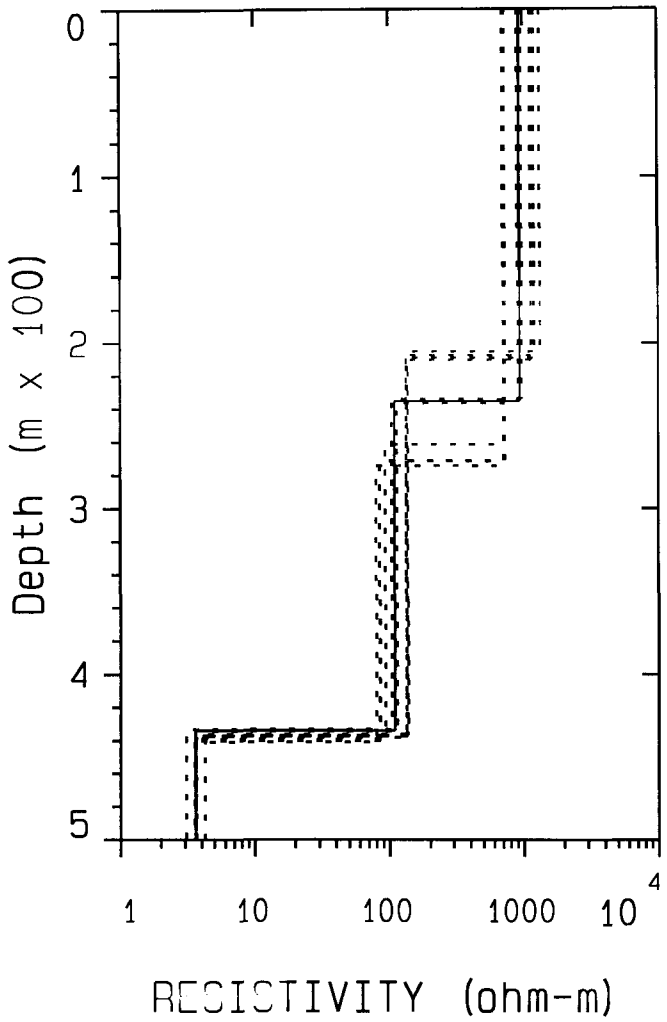
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	46.94	49.15	-4.70
22	1.06	36.67	38.32	-4.48
23	1.31	28.94	30.58	-5.67
24	1.61	23.07	24.72	-7.14
25	2.00	18.76	20.04	-6.81
26	2.50	15.30	16.20	-5.85
27	3.14	12.85	12.95	-0.791
28	3.95	10.41	10.31	1.00
29	4.99	8.32	8.08	2.93
30	6.31	6.65	6.27	5.70
31	7.99	5.12	4.79	6.52
32	10.14	3.81	3.60	5.65
33	12.87	2.73	2.66	2.56
34	16.36	1.84	1.92	-4.47
35	20.81	1.29	1.36	-5.51
36	26.48	0.873	0.941	-7.85
37	33.73	0.599	0.634	-5.76

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.424	0.415	2.10	
39	54.75	0.322	0.264	18.06	MASKED
40	69.78	0.260	0.163	37.26	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.53				
P 2	-0.27	0.67			
P 3	0.01	-0.02	0.94		
T 1	0.18	0.16	0.00	0.91	
T 2	-0.21	-0.19	0.00	0.11	0.87
	P 1	P 2	P 3	T 1	T 2



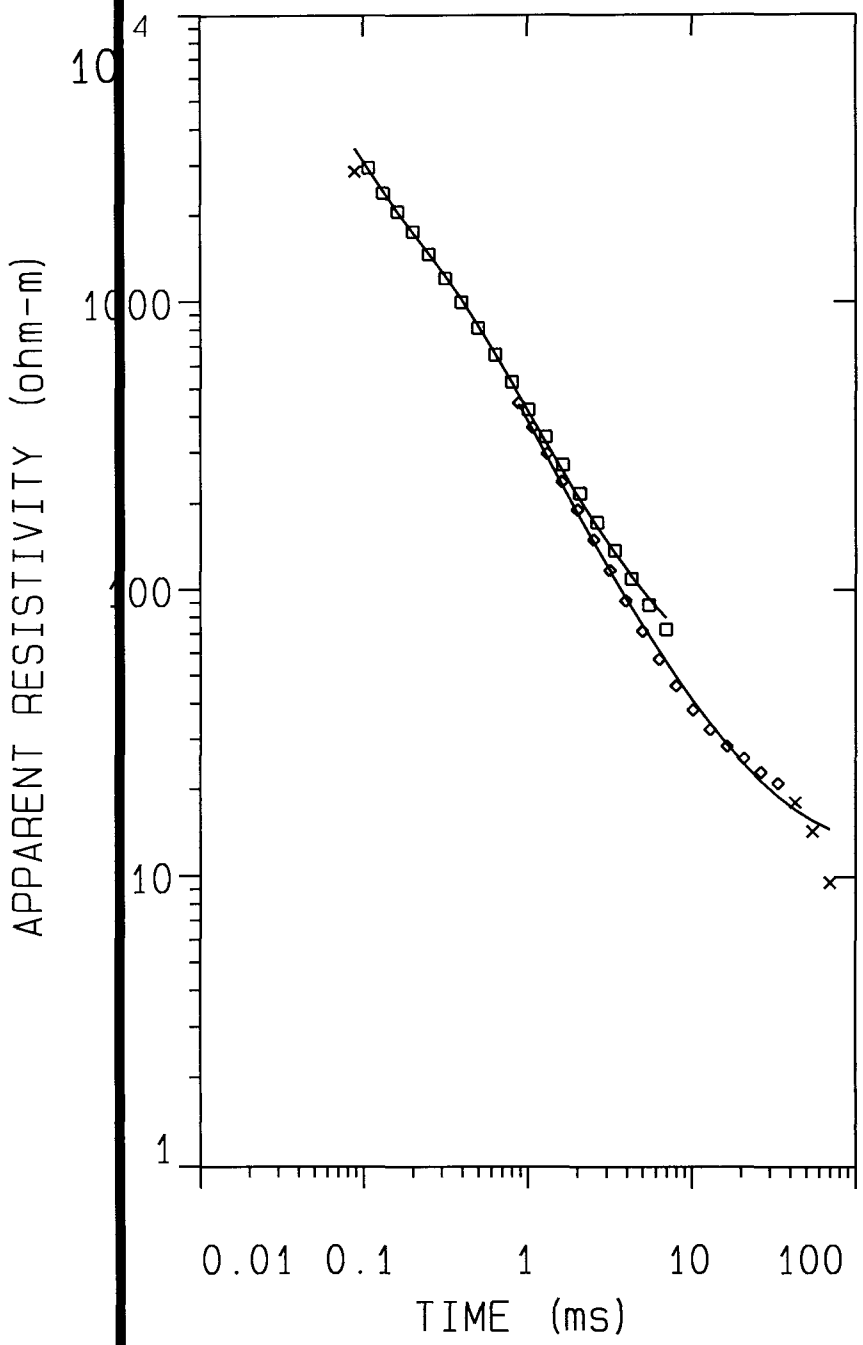


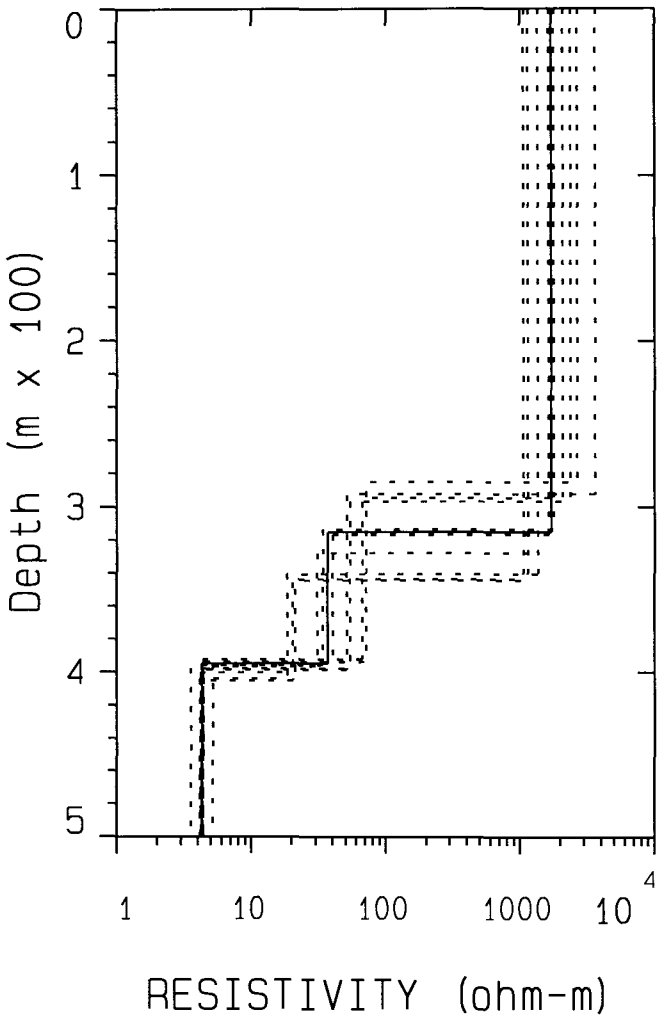
Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX14 / Date: 20-June-02	TX14
Equipment: Geonics PROTEM / Sounding: Tx14	Azimuth:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.412	0.450	-9.31 MASKED
39	54.75	0.318	0.280	11.83 MASKED
40	69.78	0.319	0.169	47.03 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.47				
P 2	-0.23	0.31			
P 3	0.02	-0.03	0.93		
T 1	0.05	0.08	0.00	0.99	
T 2	-0.20	-0.24	0.01	0.04	0.85





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX18 / Date: 24-June-02	TX18
Equipment: Geonics PROTEM / Sounding: Tx18	Azimuth:

DATA SET: TX19

CLIENT: Calpine Corporation DATE: 24-June-02
LOCATION: Klamath National Forest SOUNDING: Tx19
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.34
SOUNDING COORDINATES: E: 614025.0000 N: 4607270.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 2.665 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1137.2	364.3	-364.3	0.320
2	20.91	81.70	-446.0	3.90
3	4.44	154.6	-600.6	34.75
4	18.50			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1061.369	1137.238	1202.656
	2	15.252	20.917	25.764
	3	4.008	4.449	4.878
	4	13.937	18.507	42.504
THICK	1	357.047	364.312	375.229
	2	74.467	81.707	87.303
	3	128.185	154.610	187.483
DEPTH	1	357.047	364.312	375.229
	2	442.028	446.019	452.346
	3	578.284	600.629	633.804

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	1016.2	1043.5	-2.69
2	0.106	749.3	729.0	2.70
3	0.131	537.7	516.3	3.97
4	0.161	382.3	380.0	0.602
5	0.200	282.2	285.9	-1.28
6	0.250	206.6	214.9	-4.00
7	0.314	154.4	161.0	-4.27
8	0.395	115.9	119.0	-2.65
9	0.499	87.37	87.12	0.290
10	0.631	66.20	64.27	2.91
11	0.799	50.12	47.47	5.28
12	1.01	37.56	35.58	5.27
13	1.28	27.81	26.79	3.67
14	1.63	20.45	20.26	0.886
15	2.08	15.13	15.31	-1.21
16	2.64	11.36	11.62	-2.21
17	3.37	8.67	8.83	-1.82
18	4.29	6.68	6.71	-0.403
19	5.47	5.05	5.05	0.184
20	6.97	3.77	3.70	1.83

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

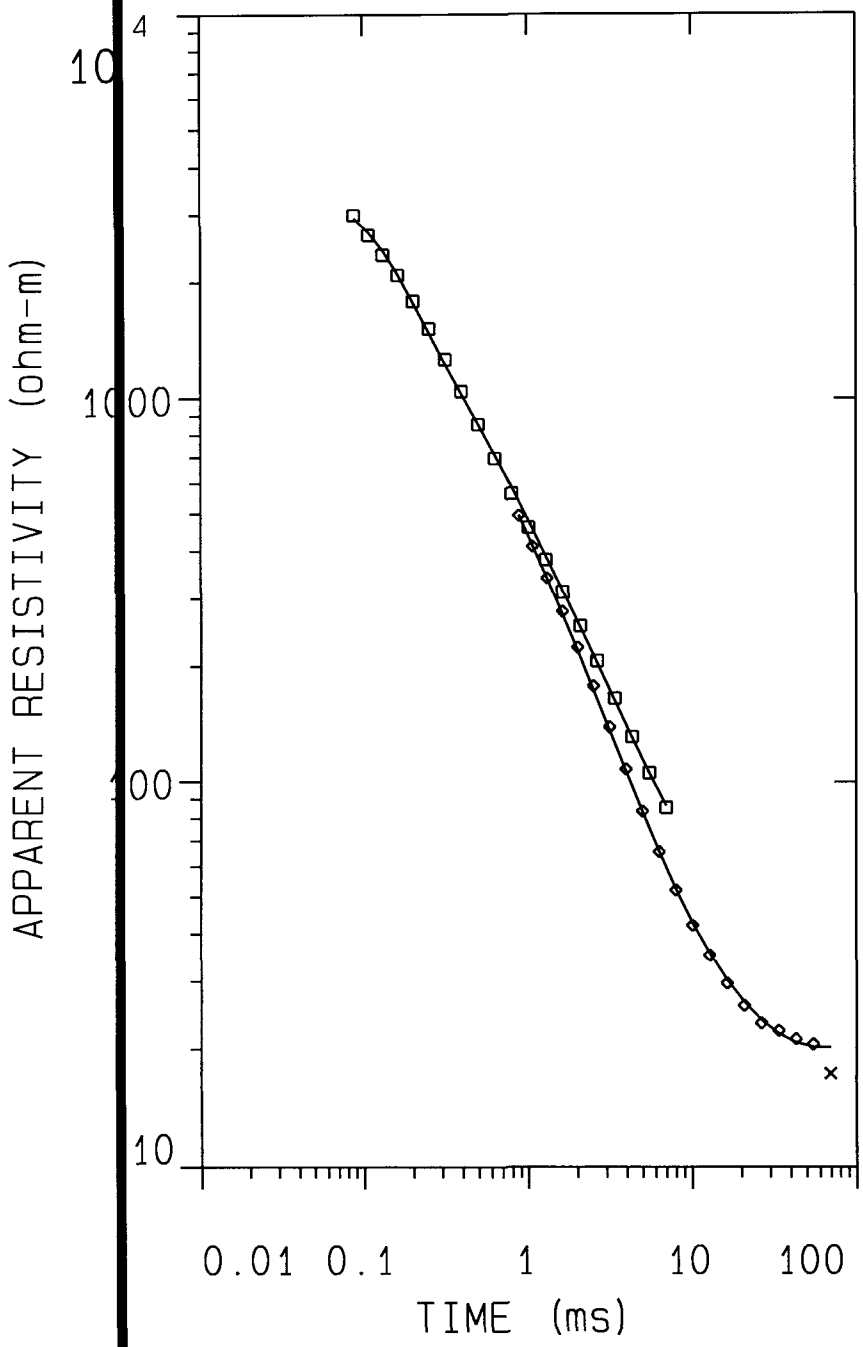
SYNTHETIC FROM LAYERED MODEL:

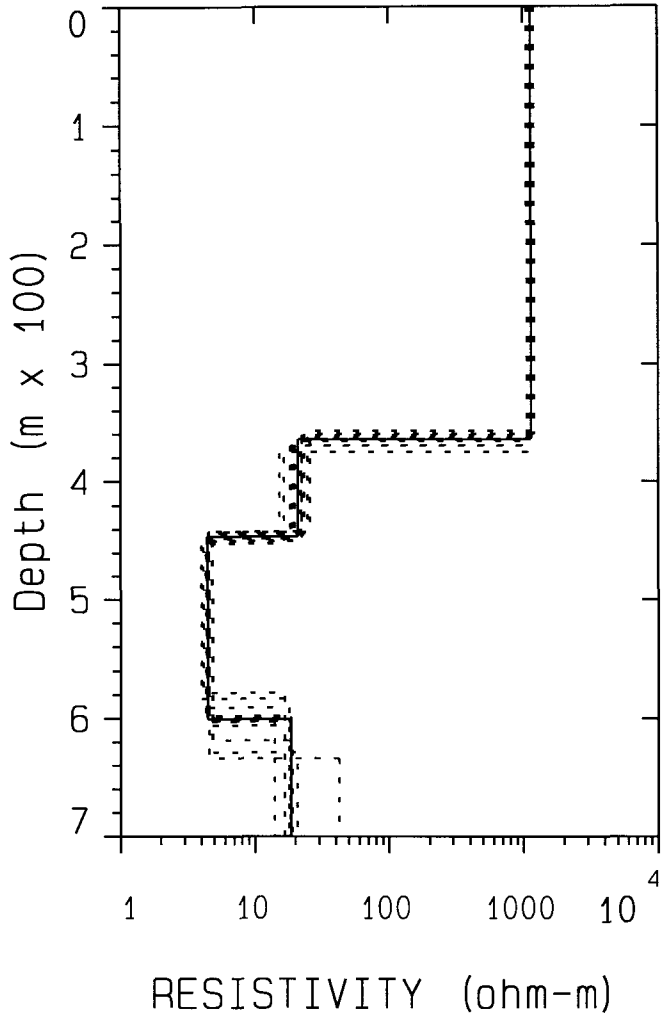
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	47.89	47.66	0.480
22	1.06	39.03	38.87	0.407
23	1.31	31.24	31.43	-0.597
24	1.61	24.89	25.58	-2.78
25	2.00	20.19	20.82	-3.12
26	2.50	16.32	16.91	-3.62
27	3.14	13.37	13.78	-3.04
28	3.95	11.02	11.21	-1.68
29	4.99	8.99	9.06	-0.746
30	6.31	7.22	7.20	0.271
31	7.99	5.65	5.58	1.16
32	10.14	4.28	4.19	2.19
33	12.87	3.09	3.04	1.72

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	2.18	2.11	2.91	
35	20.81	1.46	1.41	3.12	
36	26.48	0.935	0.910	2.66	
37	33.73	0.547	0.560	-2.52	
38	42.97	0.321	0.331	-3.20	
39	54.75	0.183	0.188	-2.63	
40	69.78	0.130	0.103	20.61	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.94						
P 2	-0.11	0.37					
P 3	0.00	-0.06	0.91				
P 4	0.00	0.00	-0.03	0.20			
T 1	0.01	0.06	0.00	0.00	0.99		
T 2	-0.04	-0.11	0.03	0.00	0.02	0.89	
T 3	-0.01	-0.12	-0.13	-0.19	0.01	0.05	0.68
	P 1	P 2	P 3	P 4	T 1	T 2	T 3





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX19 / Date: 24-June-02	TX19
Equipment: Geonics PROTEM / Sounding: Tx19	Azimuth:

DATA SET: TX20

CLIENT: Calpine Corporation DATE: 22-June-02
LOCATION: Klamath National Forest SOUNDING: Tx20
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 8.76
SOUNDING COORDINATES: E: 614065.0000 N: 4609300.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.291 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1900.6	396.9	-396.9	0.208
2	47.78	88.78	-485.7	1.85
3	12.48			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1616.506	1900.663	2997.723
	2	26.982	47.783	119.042
	3	10.817	12.486	14.575
THICK	1	352.825	396.995	421.874
	2	69.374	88.784	121.645
DEPTH	1	352.825	396.995	421.874
	2	470.949	485.778	500.011

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	547.7	571.1	-4.26
2	0.106	458.9	434.0	5.43
3	0.131	330.3	330.6	-0.0929
4	0.161	247.6	253.7	-2.46
5	0.200	195.6	194.5	0.540
6	0.250	149.8	148.3	1.04
7	0.314	116.2	112.5	3.14
8	0.395	88.77	86.27	2.81
9	0.499	67.39	66.38	1.49
10	0.631	51.61	51.34	0.531
11	0.799	39.51	39.92	-1.04
12	1.01	30.20	30.84	-2.11
13	1.28	23.09	23.73	-2.73
14	1.63	17.76	18.01	-1.44
15	2.08	13.31	13.49	-1.34
16	2.64	10.15	9.92	2.33
17	3.37	7.53	7.13	5.26
18	4.29	5.38	5.01	6.97
19	5.47	3.83	3.42	10.76
20	6.97	2.55	2.27	11.07

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

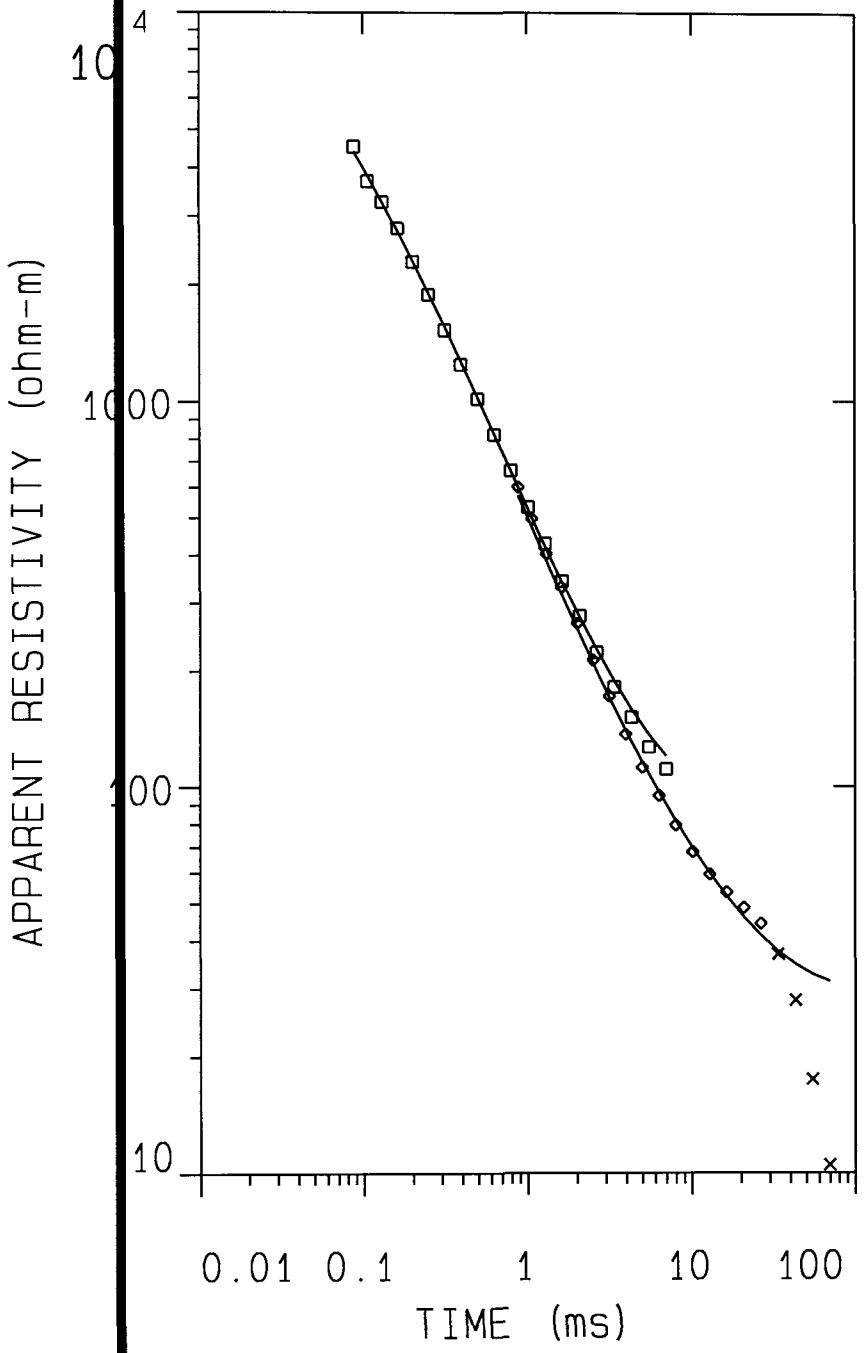
SYNTHETIC FROM LAYERED MODEL:

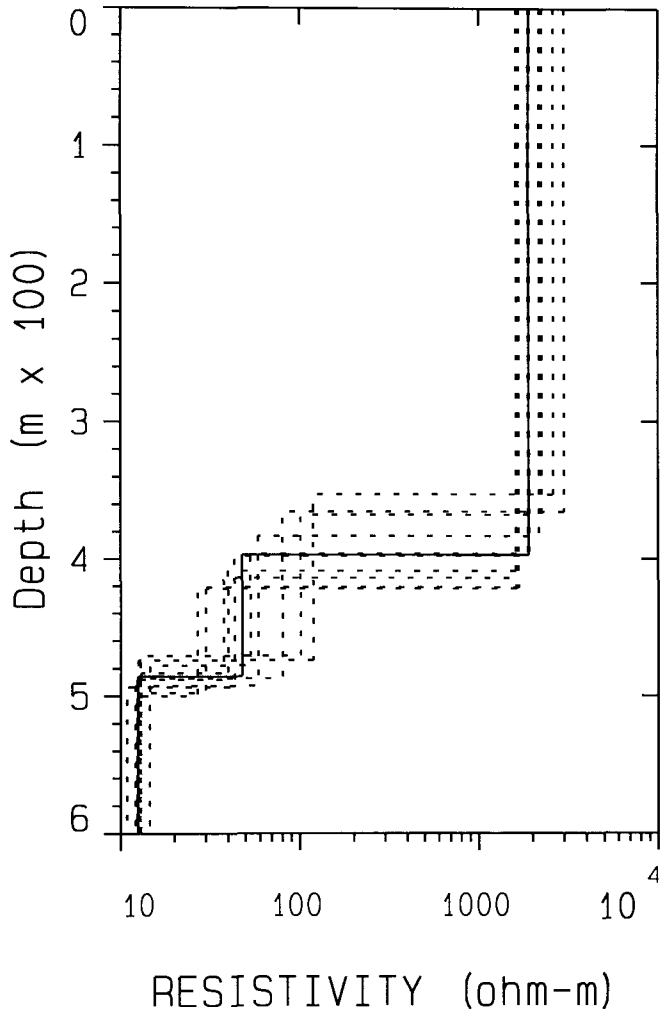
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	35.83	38.64	-7.82	
22	1.06	29.40	31.77	-8.07	
23	1.31	24.10	25.75	-6.87	
24	1.61	19.29	20.68	-7.19	
25	2.00	15.62	16.42	-5.09	
26	2.50	12.45	12.80	-2.82	
27	3.14	9.75	9.83	-0.901	
28	3.95	7.70	7.43	3.46	
29	4.99	5.80	5.52	4.85	
30	6.31	4.16	4.03	3.15	
31	7.99	3.00	2.89	3.76	
32	10.14	2.10	2.03	3.58	
33	12.87	1.41	1.39	1.13	
34	16.36	0.911	0.943	-3.50	
35	20.81	0.573	0.622	-8.51	
36	26.48	0.361	0.401	-11.07	
37	33.73	0.260	0.253	2.71	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.214	0.155	27.52 MASKED
39	54.75	0.237	0.0929	60.87 MASKED
40	69.78	0.278	0.0539	80.63 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.84				
P 2	-0.18	0.18			
P 3	0.00	-0.03	0.95		
T 1	0.03	0.08	0.00	0.99	
T 2	-0.11	-0.17	0.03	0.03	0.83
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX20 / Date: 22-June-02	TX20
Equipment: Geonics PROTEM / Sounding: Tx20	Azimuth:

DATA SET: TX21

CLIENT: Calpine Corporation DATE: 24-June-02
LOCATION: Klamath National Forest SOUNDING: Tx21
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.00
SOUNDING COORDINATES: E: 614280.0000 N: 4607030.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 8.613 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1147.0	398.2	-398.2	0.347
2	21.72	83.36	-481.5	3.83
3	4.03			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	998.264	1147.039	1518.500
	2	11.998	21.728	47.894
	3	2.954	4.031	5.398
THICK	1	363.530	398.228	420.986
	2	64.233	83.369	105.022
DEPTH	1	363.530	398.228	420.986
	2	468.553	481.597	493.408

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	647.9	1070.8	-65.27 MASKED
2	0.106	726.4	718.2	1.12
3	0.131	489.1	482.2	1.41
4	0.161	322.9	335.2	-3.83
5	0.200	235.3	241.0	-2.41
6	0.250	173.2	175.7	-1.45
7	0.314	129.9	128.1	1.37
8	0.395	96.05	93.63	2.51
9	0.499	71.16	67.59	5.01
10	0.631	52.37	49.10	6.24
11	0.799	38.16	36.24	5.02
12	1.01	27.65	26.99	2.41
13	1.28	19.66	20.48	-4.19
14	1.63	14.17	15.54	-9.68
15	2.08	10.35	11.83	-14.23
16	2.64	7.99	8.91	-11.43
17	3.37	6.27	6.63	-5.85
18	4.29	4.96	4.85	2.08
19	5.47	3.88	3.48	10.28
20	6.97	3.03	2.43	19.76

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

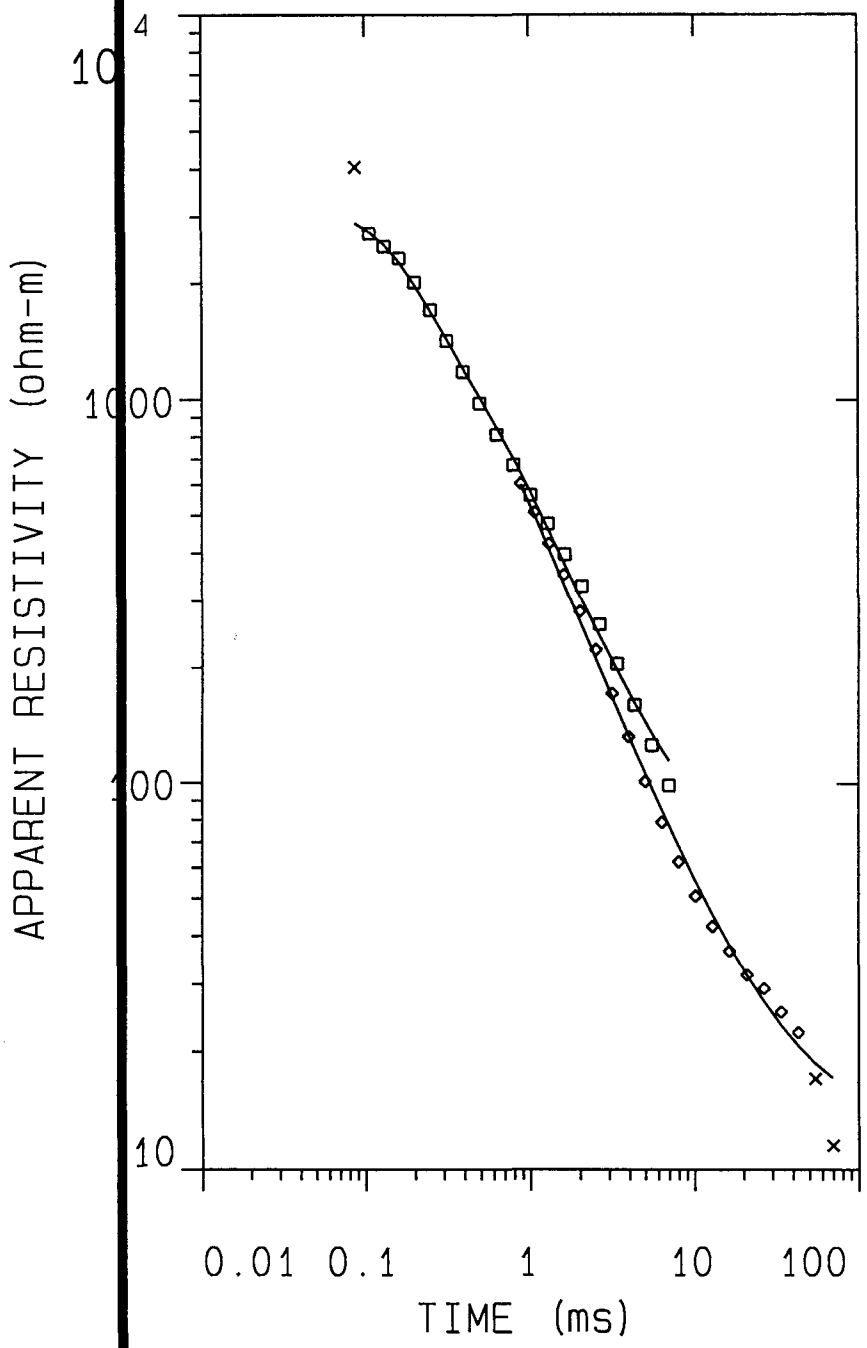
SYNTHETIC FROM LAYERED MODEL:

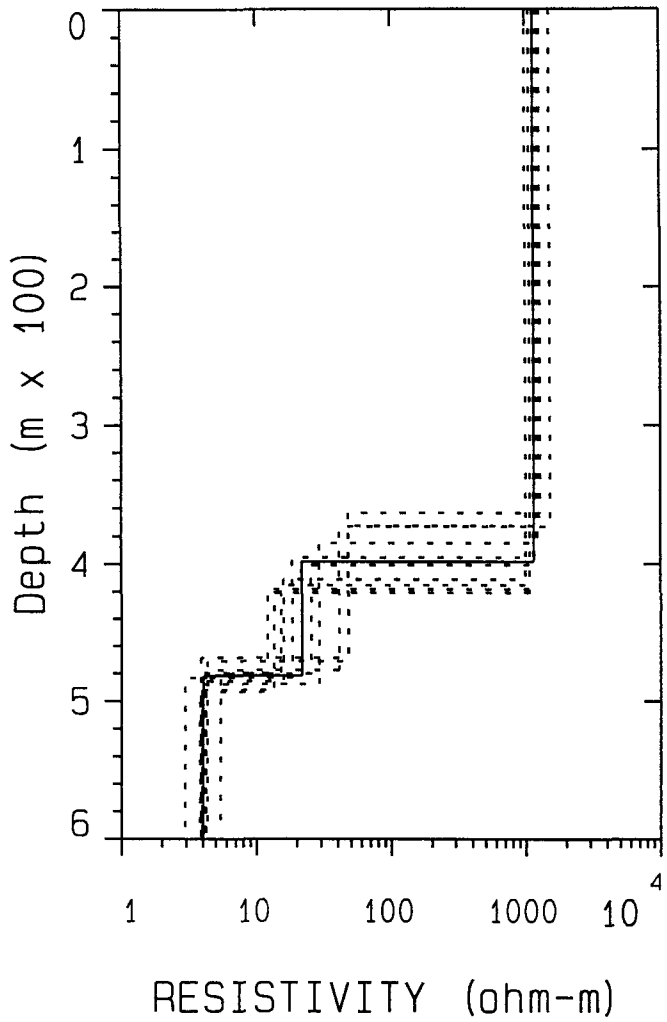
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	35.39	35.74	-0.982
22	1.06	28.20	28.98	-2.76
23	1.31	22.30	23.53	-5.53
24	1.61	17.49	19.11	-9.26
25	2.00	14.22	15.56	-9.44
26	2.50	11.60	12.56	-8.32
27	3.14	9.77	10.07	-3.08
28	3.95	8.11	8.01	1.23
29	4.99	6.78	6.30	7.07
30	6.31	5.45	4.89	10.16
31	7.99	4.30	3.75	12.91
32	10.14	3.22	2.82	12.30
33	12.87	2.32	2.09	9.99
34	16.36	1.59	1.51	4.74
35	20.81	1.07	1.07	0.0151
36	26.48	0.666	0.749	-12.31
37	33.73	0.450	0.506	-12.50

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.295	0.333	-12.68	
39	54.75	0.242	0.212	12.42	MASKED
40	69.78	0.240	0.131	45.25	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.97				
P 2	-0.07	0.35			
P 3	0.00	-0.06	0.89		
T 1	0.01	0.05	0.00	0.99	
T 2	-0.03	-0.14	0.02	0.02	0.90





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX21 / Date: 24-June-02	TX21
Equipment: Geonics PROTEM / Sounding: Tx21	Azimuth:

DATA SET: TX22

CLIENT: Calpine Corporation
LOCATION: Klamath National Forest
COUNTY: Siskiyou
PROJECT: Four Mile Hill Project
LOOP SIZE: 300.000 m by 300.000 m
COIL LOC: 0.000 m (X), 0.000 m (Y)
SOUNDING COORDINATES: E: 614220.0000 N: 4609120.0000

DATE: 22-June-02
SOUNDING: Tx22
ELEVATION: 0.00 m
EQUIPMENT: Geonics PROTEM
AZIMUTH:
TIME CONSTANT: 9.00
SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 7.588 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1894.9	349.6	-349.6	0.184
2	38.68	65.09	-414.7	1.68
3	6.50			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1362.403	1894.959	3369.871
	2	17.257	38.681	98.181
	3	5.382	6.506	7.873
THICK	1	312.472	349.669	375.837
	2	45.382	65.099	103.669
DEPTH	1	312.472	349.669	375.837
	2	409.104	414.768	425.094

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	555.5	591.6	-6.48
2	0.106	490.5	458.5	6.52
3	0.131	358.6	351.4	2.01
4	0.161	266.2	270.2	-1.51
5	0.200	213.0	208.0	2.32
6	0.250	164.6	160.3	2.65
7	0.314	128.8	125.5	2.58
8	0.395	99.71	99.12	0.591
9	0.499	77.74	78.92	-1.51
10	0.631	59.94	63.29	-5.58
11	0.799	47.70	50.48	-5.81
12	1.01	37.48	40.15	-7.11
13	1.28	29.70	31.60	-6.42
14	1.63	23.26	24.59	-5.72
15	2.08	18.37	18.83	-2.49
16	2.64	14.27	14.17	0.670
17	3.37	10.98	10.43	4.95
18	4.29	8.11	7.50	7.41
19	5.47	6.00	5.26	12.42
20	6.97	4.21	3.57	15.20

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

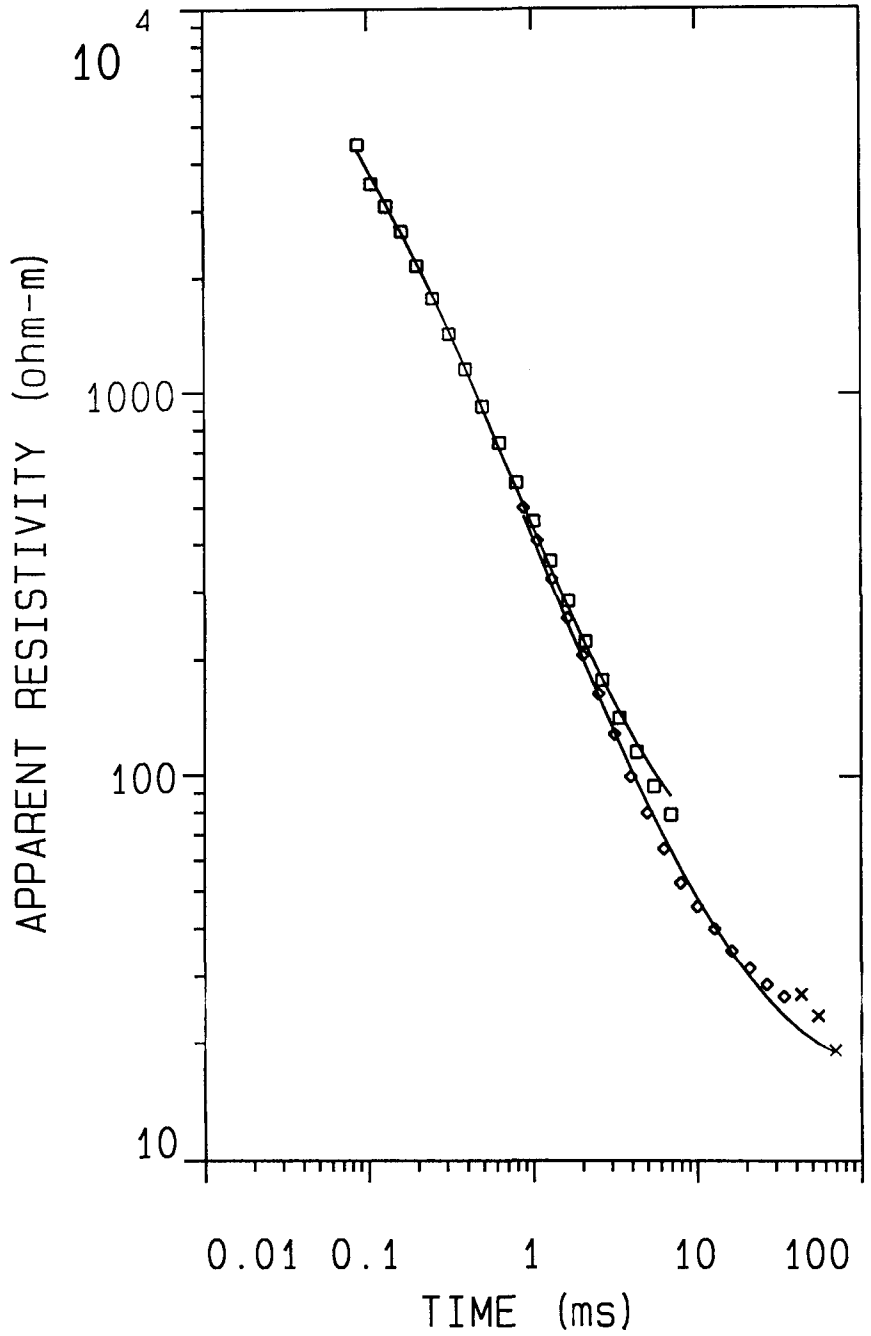
SYNTHETIC FROM LAYERED MODEL:

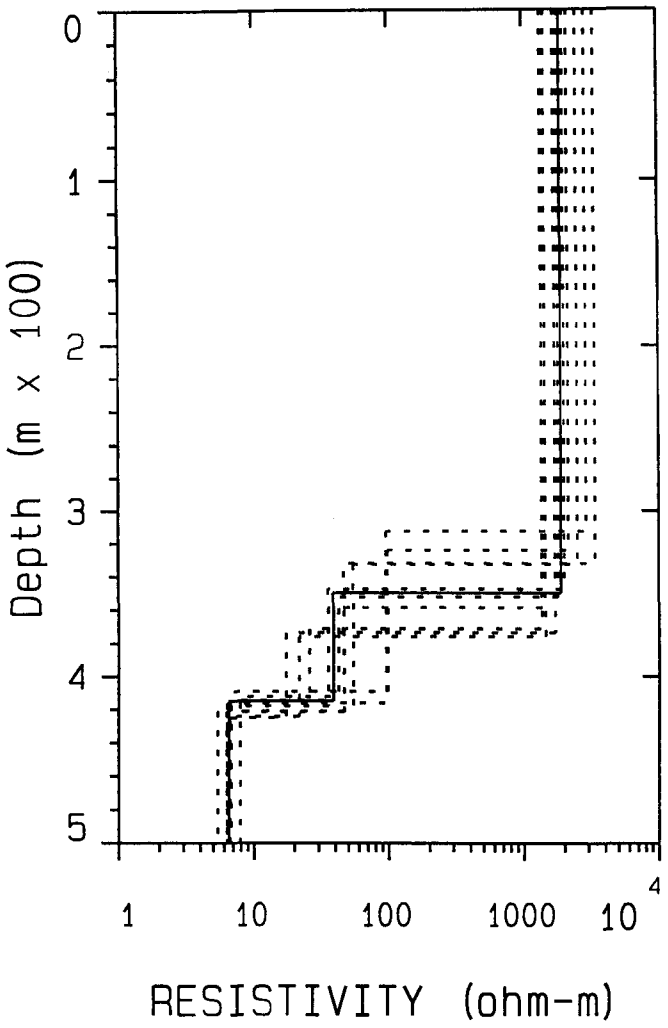
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	46.97	50.71	-7.94
22	1.06	39.22	42.68	-8.80
23	1.31	33.27	35.38	-6.34
24	1.61	27.86	29.09	-4.41
25	2.00	22.84	23.64	-3.50
26	2.50	18.56	18.91	-1.84
27	3.14	15.17	14.89	1.80
28	3.95	12.43	11.56	7.02
29	4.99	9.60	8.82	8.15
30	6.31	7.36	6.62	10.10
31	7.99	5.54	4.87	12.01
32	10.14	3.78	3.52	6.80
33	12.87	2.54	2.49	1.88
34	16.36	1.70	1.72	-1.49
35	20.81	1.08	1.17	-7.91
36	26.48	0.690	0.775	-12.20
37	33.73	0.421	0.500	-18.70

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.225	0.314	-39.60 MASKED
39	54.75	0.149	0.191	-28.57 MASKED
40	69.78	0.111	0.113	-2.16 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.64				
P 2	-0.11	0.15			
P 3	0.02	-0.03	0.94		
T 1	0.03	0.07	0.00	0.99	
T 2	-0.20	-0.24	0.02	0.04	0.78





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX22 / Date: 22-June-02	TX22
Equipment: Geonics PROTEM / Sounding: Tx22	Azimuth:

DATA SET: TX23

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx23
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 11.09
SOUNDING COORDINATES: E: 614410.0000 N: 4606840.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.992 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1753.1	429.5	-429.5	0.245
2	35.57	103.6	-533.2	2.91
3	4.29			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1564.744	1753.157	2128.196
	2	23.694	35.578	54.111
	3	3.497	4.296	5.157
THICK	1	408.643	429.547	447.317
	2	89.003	103.685	119.522
DEPTH	1	408.643	429.547	447.317
	2	527.930	533.231	539.828

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	572.2	573.4	-0.217
2	0.106	405.8	413.3	-1.84
3	0.131	316.4	301.7	4.66
4	0.161	224.6	226.1	-0.676
5	0.200	167.8	169.9	-1.29
6	0.250	121.8	125.8	-3.36
7	0.314	90.64	91.65	-1.10
8	0.395	65.69	65.15	0.825
9	0.499	47.35	46.29	2.22
10	0.631	34.58	33.14	4.16
11	0.799	25.25	24.18	4.22
12	1.01	18.67	18.12	2.92
13	1.28	13.55	13.76	-1.51
14	1.63	9.96	10.55	-5.92
15	2.08	7.51	8.06	-7.24
16	2.64	5.83	6.12	-4.97
17	3.37	4.43	4.58	-3.38
18	4.29	3.51	3.37	3.83
19	5.47	2.67	2.43	8.80
20	6.97	2.01	1.71	14.75

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

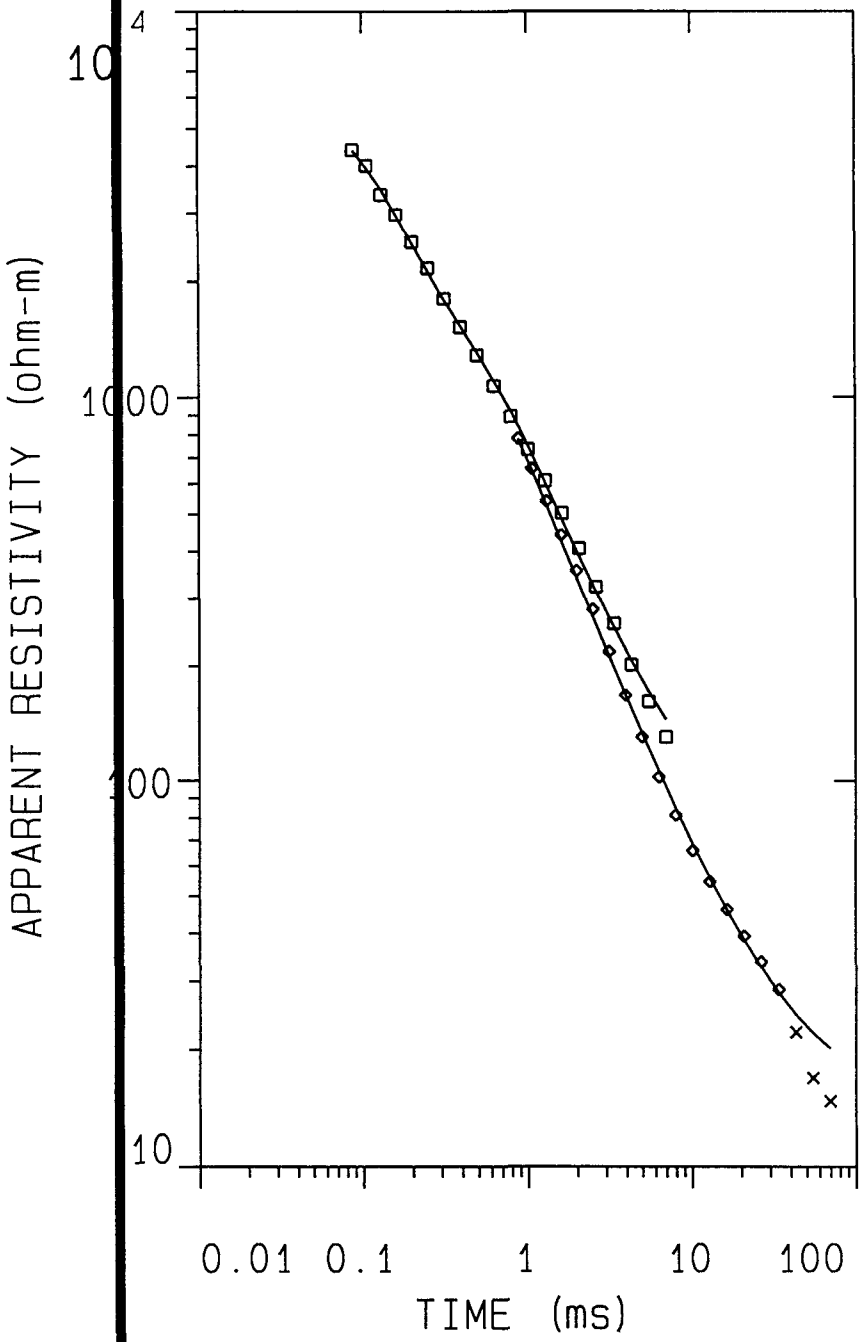
SYNTHETIC FROM LAYERED MODEL:

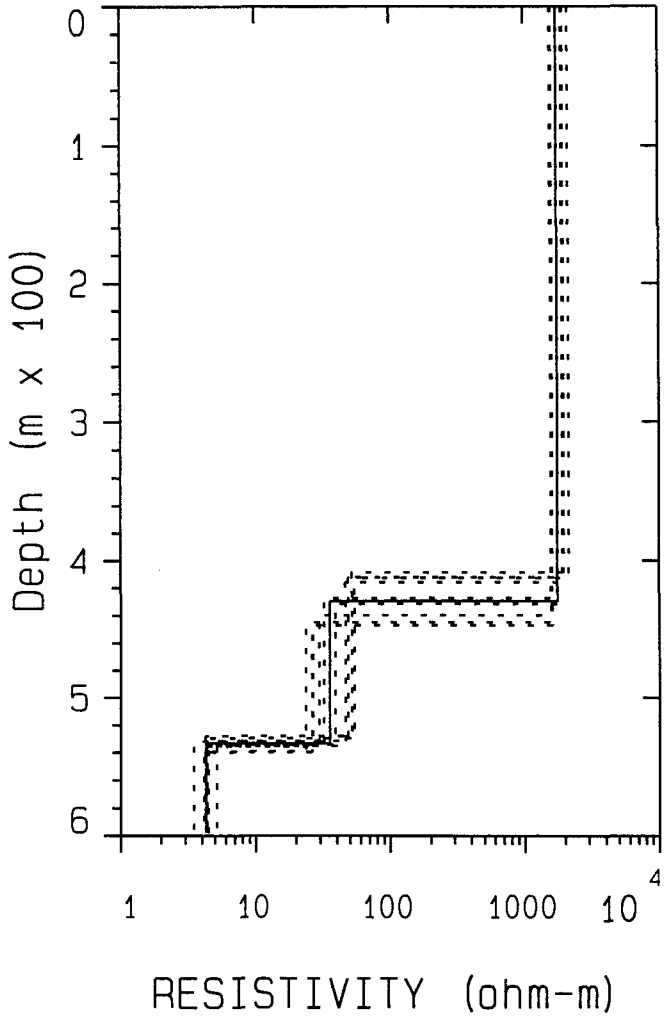
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	24.07	24.16	-0.352
22	1.06	19.37	19.66	-1.53
23	1.31	15.46	16.02	-3.56
24	1.61	12.43	13.14	-5.70
25	2.00	10.07	10.76	-6.85
26	2.50	8.18	8.76	-7.01
27	3.14	6.80	7.07	-3.97
28	3.95	5.69	5.67	0.406
29	4.99	4.64	4.49	3.28
30	6.31	3.71	3.52	5.15
31	7.99	2.88	2.72	5.76
32	10.14	2.19	2.06	5.60
33	12.87	1.59	1.54	3.16
34	16.36	1.12	1.13	-0.525
35	20.81	0.786	0.812	-3.30
36	26.48	0.542	0.569	-5.07
37	33.73	0.378	0.388	-2.85

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.302	0.258	14.54 MASKED
39	54.75	0.248	0.166	32.97 MASKED
40	69.78	0.166	0.104	37.48 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.91				
P 2	-0.14	0.37			
P 3	0.00	-0.06	0.89		
T 1	0.02	0.06	0.00	0.99	
T 2	-0.06	-0.19	0.01	0.02	0.90
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX23 / Date: 23-June-02	TX23
Equipment: Geonics PROTEM / Sounding: Tx23	Azimuth:

DATA SET: TX24

CLIENT: Calpine Corporation DATE: 22-June-02
LOCATION: Klamath National Forest SOUNDING: Tx24
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.38
SOUNDING COORDINATES: E: 614420.0000 N: 4608820.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 2.864 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1666.1	341.4	-341.4	0.204
2	27.43	66.66	-408.1	2.43
3	3.20	96.28	-504.3	30.04
4	13.07			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1369.287	1666.157	2127.071
	2	15.389	27.433	40.125
	3	2.954	3.205	3.618
	4	10.609	13.076	21.782
THICK	1	328.056	341.438	359.172
	2	54.266	66.663	77.393
	3	81.916	96.287	120.096
DEPTH	1	328.056	341.438	359.172
	2	405.238	408.101	414.279
	3	492.155	504.388	525.334

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	657.8	665.2	-1.12
2	0.106	543.0	514.4	5.25
3	0.131	395.4	393.3	0.540
4	0.161	282.4	298.8	-5.78
5	0.200	216.3	224.1	-3.61
6	0.250	162.5	165.2	-1.65
7	0.314	124.2	122.5	1.42
8	0.395	94.91	92.00	3.07
9	0.499	72.59	70.09	3.43
10	0.631	56.19	54.76	2.55
11	0.799	44.42	43.02	3.15
12	1.01	34.75	34.18	1.63
13	1.28	27.62	27.32	1.07
14	1.63	21.97	22.02	-0.247
15	2.08	17.54	17.86	-1.82
16	2.64	14.19	14.47	-1.99
17	3.37	11.40	11.59	-1.69
18	4.29	9.10	9.07	0.238
19	5.47	6.99	6.89	1.43
20	6.97	5.30	5.02	5.14

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

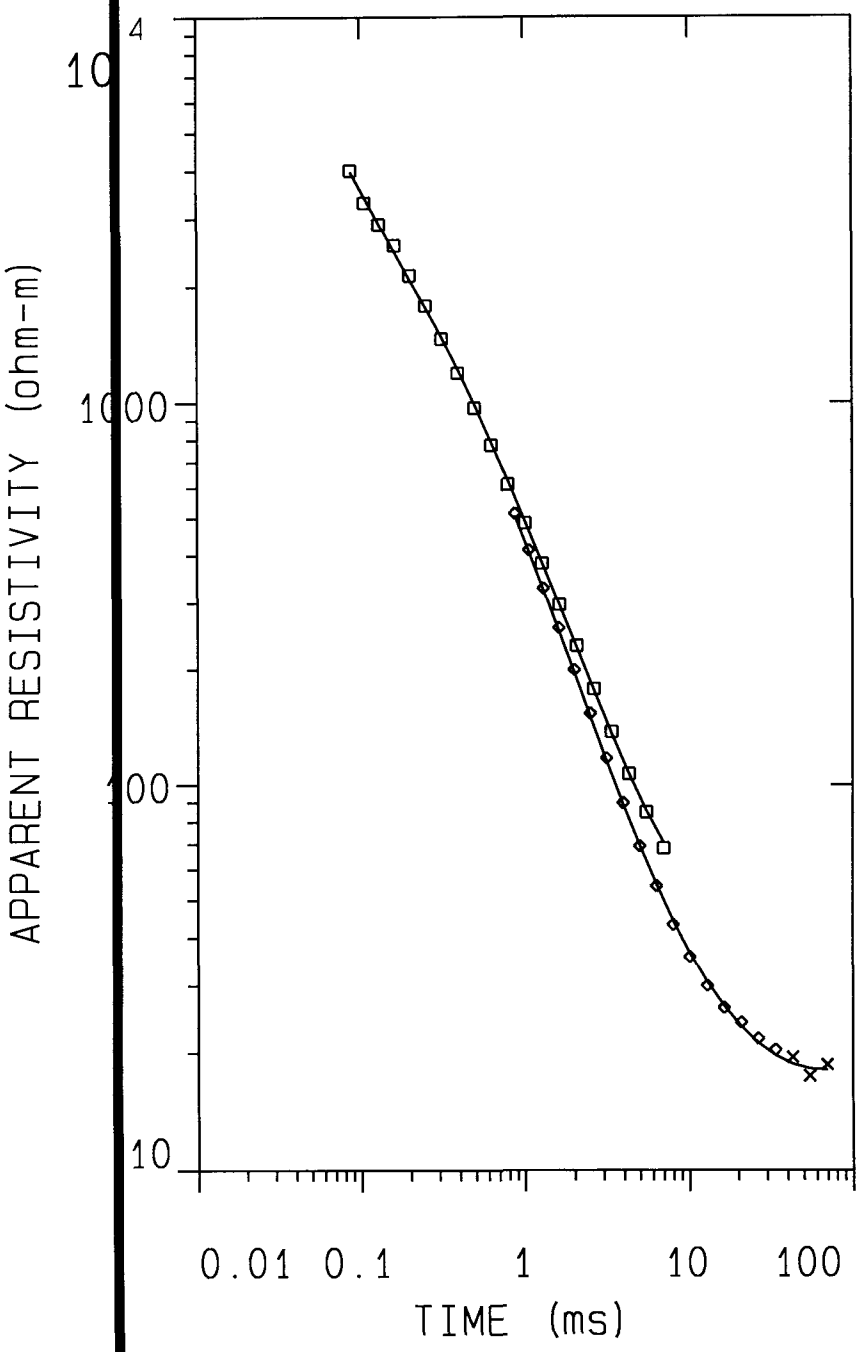
SYNTHETIC FROM LAYERED MODEL:

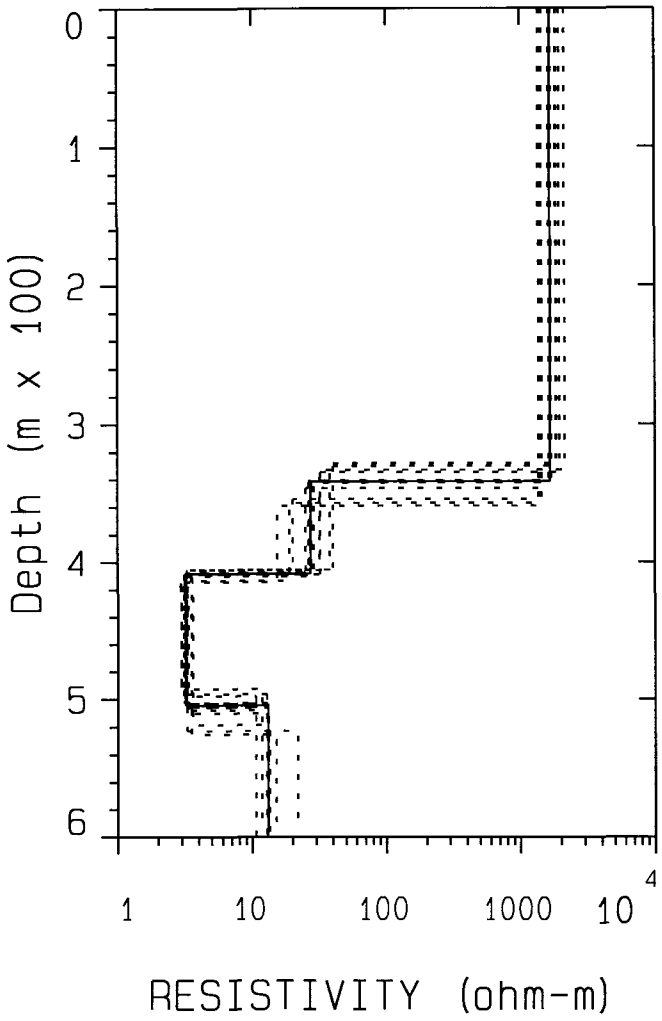
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	45.29	46.21	-2.01
22	1.06	38.86	39.44	-1.48
23	1.31	32.90	33.52	-1.89
24	1.61	27.91	28.66	-2.66
25	2.00	23.93	24.55	-2.57
26	2.50	20.32	20.92	-2.94
27	3.14	17.22	17.67	-2.63
28	3.95	14.52	14.68	-1.11
29	4.99	11.99	11.92	0.539
30	6.31	9.56	9.42	1.49
31	7.99	7.46	7.20	3.42
32	10.14	5.50	5.32	3.27
33	12.87	3.91	3.78	3.27

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	2.62	2.59	1.35	
35	20.81	1.64	1.70	-3.69	
36	26.48	1.04	1.08	-3.97	
37	33.73	0.628	0.661	-5.21	
38	42.97	0.367	0.389	-6.18	MASKED
39	54.75	0.237	0.222	6.31	MASKED
40	69.78	0.116	0.122	-4.87	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.68						
P 2	-0.20	0.22					
P 3	0.02	-0.04	0.89				
P 4	0.00	0.00	-0.03	0.40			
T 1	0.03	0.07	0.00	0.00	0.99		
T 2	-0.17	-0.26	0.04	0.01	0.03	0.83	
T 3	0.02	-0.08	-0.14	-0.21	0.00	0.05	0.67
	P 1	P 2	P 3	P 4	T 1	T 2	T 3





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX24 / Date: 22-June-02	TX24
Equipment: Geonics PROTEM / Sounding: Tx24	Azimuth:

DATA SET: TX25

CLIENT: Calpine Corporation DATE: 24-June-02
LOCATION: Klamath National Forest SOUNDING: Tx25
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.49
SOUNDING COORDINATES: E: 614320.0000 N: 4607270.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 2.162 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1065.8	381.6	-381.6	0.358
2	13.48	89.59	-471.2	6.64
3	2.29	70.38	-541.6	30.61
4	10.16			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1024.409	1065.811	1114.069
	2	11.974	13.482	15.136
	3	1.858	2.299	2.664
	4	8.504	10.166	16.344
THICK	1	377.404	381.645	386.354
	2	84.978	89.592	95.619
	3	50.233	70.382	91.073
DEPTH	1	377.404	381.645	386.354
	2	465.747	471.237	478.748
	3	528.982	541.618	556.819

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	687.5	1113.5	-61.97 MASKED
2	0.106	759.7	737.3	2.95
3	0.131	471.2	491.3	-4.26
4	0.161	343.6	343.9	-0.0833
5	0.200	259.1	253.8	2.03
6	0.250	195.5	193.3	1.08
7	0.314	149.2	148.6	0.364
8	0.395	112.5	113.7	-1.07
9	0.499	82.76	84.45	-2.05
10	0.631	60.73	61.31	-0.963
11	0.799	43.87	43.69	0.418
12	1.01	31.42	30.78	2.04
13	1.28	22.33	21.99	1.51
14	1.63	16.15	16.02	0.814
15	2.08	11.91	12.14	-1.91
16	2.64	9.22	9.46	-2.51
17	3.37	7.28	7.50	-2.94
18	4.29	5.82	5.91	-1.50
19	5.47	4.62	4.57	1.01
20	6.97	3.59	3.42	4.50

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

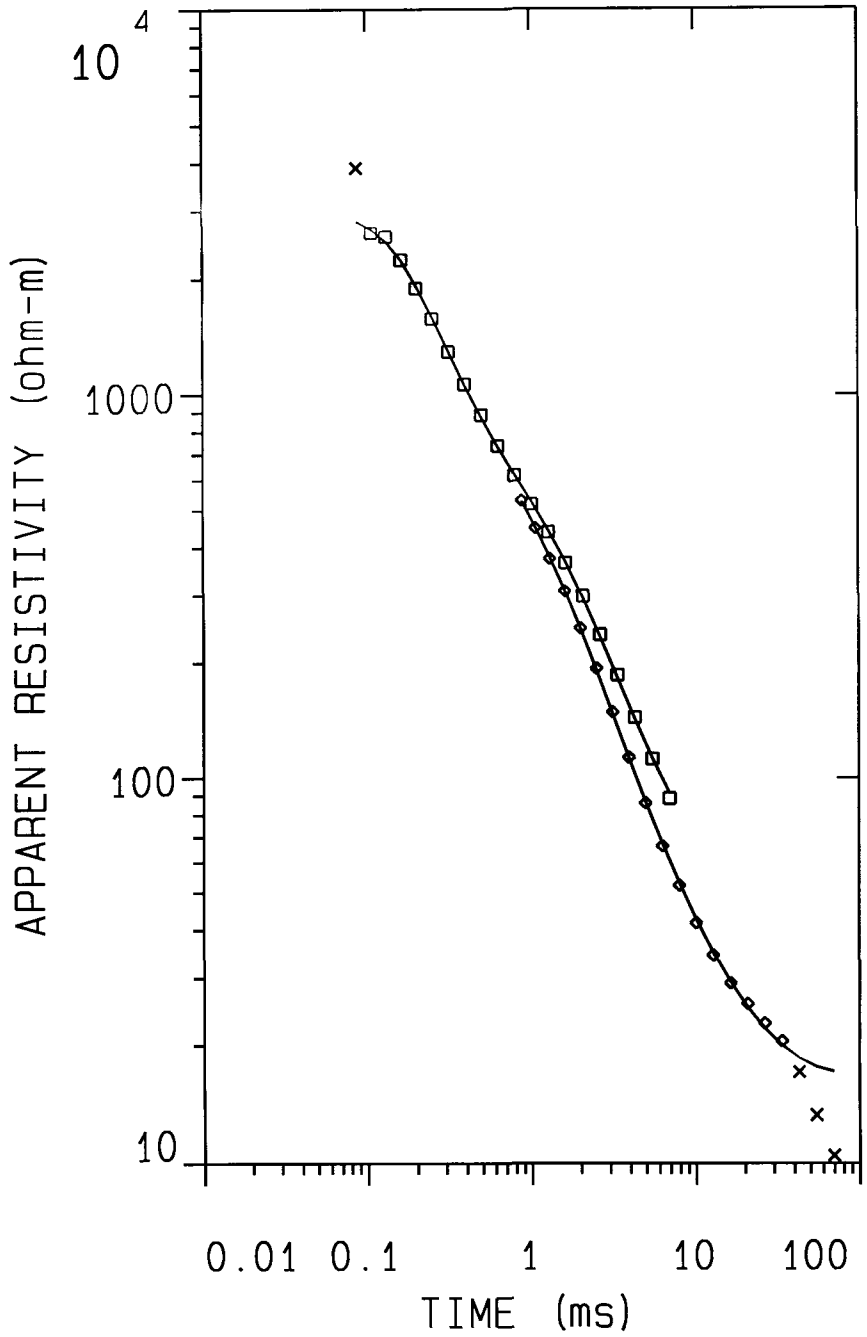
SYNTHETIC FROM LAYERED MODEL:

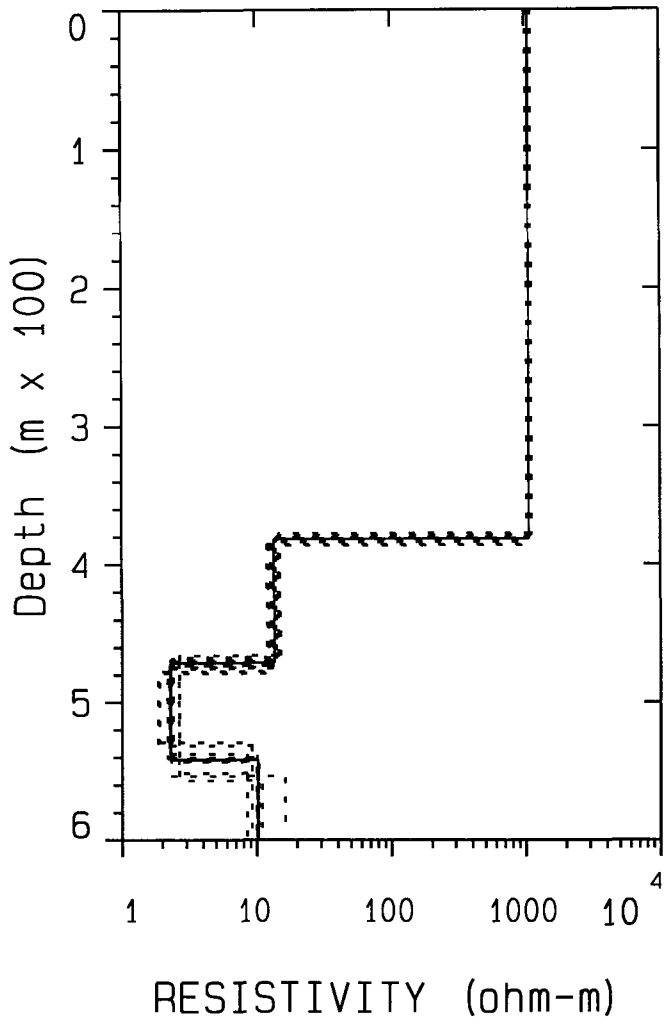
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	43.14	43.37	-0.542
22	1.06	34.15	33.98	0.500
23	1.31	26.97	26.68	1.07
24	1.61	21.40	21.33	0.326
25	2.00	17.40	17.51	-0.628
26	2.50	14.40	14.59	-1.34
27	3.14	12.13	12.31	-1.43
28	3.95	10.28	10.35	-0.650
29	4.99	8.64	8.58	0.711
30	6.31	7.12	6.97	2.08
31	7.99	5.64	5.51	2.25
32	10.14	4.36	4.22	3.09
33	12.87	3.20	3.13	2.12

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	2.25	2.23	0.870	
35	20.81	1.48	1.53	-3.31	
36	26.48	0.971	1.01	-4.64	
37	33.73	0.623	0.646	-3.69	
38	42.97	0.449	0.396	11.75	MASKED
39	54.75	0.358	0.233	34.83	MASKED
40	69.78	0.279	0.133	52.35	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	P 4	T 1	T 2	T 3
P 1	0.97						
P 2	-0.05	0.65					
P 3	-0.01	-0.06	0.75				
P 4	0.00	0.02	-0.01	0.35			
T 1	0.01	0.03	0.00	0.00	1.00		
T 2	-0.01	-0.06	0.08	-0.03	0.01	0.91	
T 3	-0.01	-0.10	-0.32	-0.17	0.01	0.11	0.44





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX25 / Date: 24-June-02	TX25
Equipment: Geonics PROTEM / Sounding: Tx25	Azimuth:

DATA SET: TX25B

CLIENT: Calpine Corporation DATE: 24-June-02
LOCATION: Klamath National Forest SOUNDING: Tx25
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.49
SOUNDING COORDINATES: E: 614320.0000 N: 4607270.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 8.917 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1080.7	366.4	-366.4	0.339
2	14.21	70.55	-436.9	4.96
3	2.31			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	927.244	1080.734	1533.814
	2	7.905	14.219	29.006
	3	1.560	2.312	3.271
THICK	1	343.894	366.416	384.103
	2	56.115	70.552	89.432
DEPTH	1	343.894	366.416	384.103
	2	426.664	436.968	446.759

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	687.5	1064.1	-54.78 MASKED
2	0.106	759.7	720.9	5.10
3	0.131	471.2	494.4	-4.91
4	0.161	343.6	354.8	-3.25
5	0.200	259.1	263.5	-1.71
6	0.250	195.5	197.2	-0.870
7	0.314	149.2	147.3	1.24
8	0.395	112.5	108.8	3.29
9	0.499	82.76	78.83	4.74
10	0.631	60.73	57.57	5.19
11	0.799	43.87	42.11	4.01
12	1.01	31.42	31.36	0.205
13	1.28	22.33	23.70	-6.14
14	1.63	16.15	18.05	-11.73
15	2.08	11.91	13.77	-15.57
16	2.64	9.22	10.44	-13.21
17	3.37	7.28	7.84	-7.69
18	4.29	5.82	5.80	0.440
19	5.47	4.62	4.21	8.91
20	6.97	3.59	2.98	16.79

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

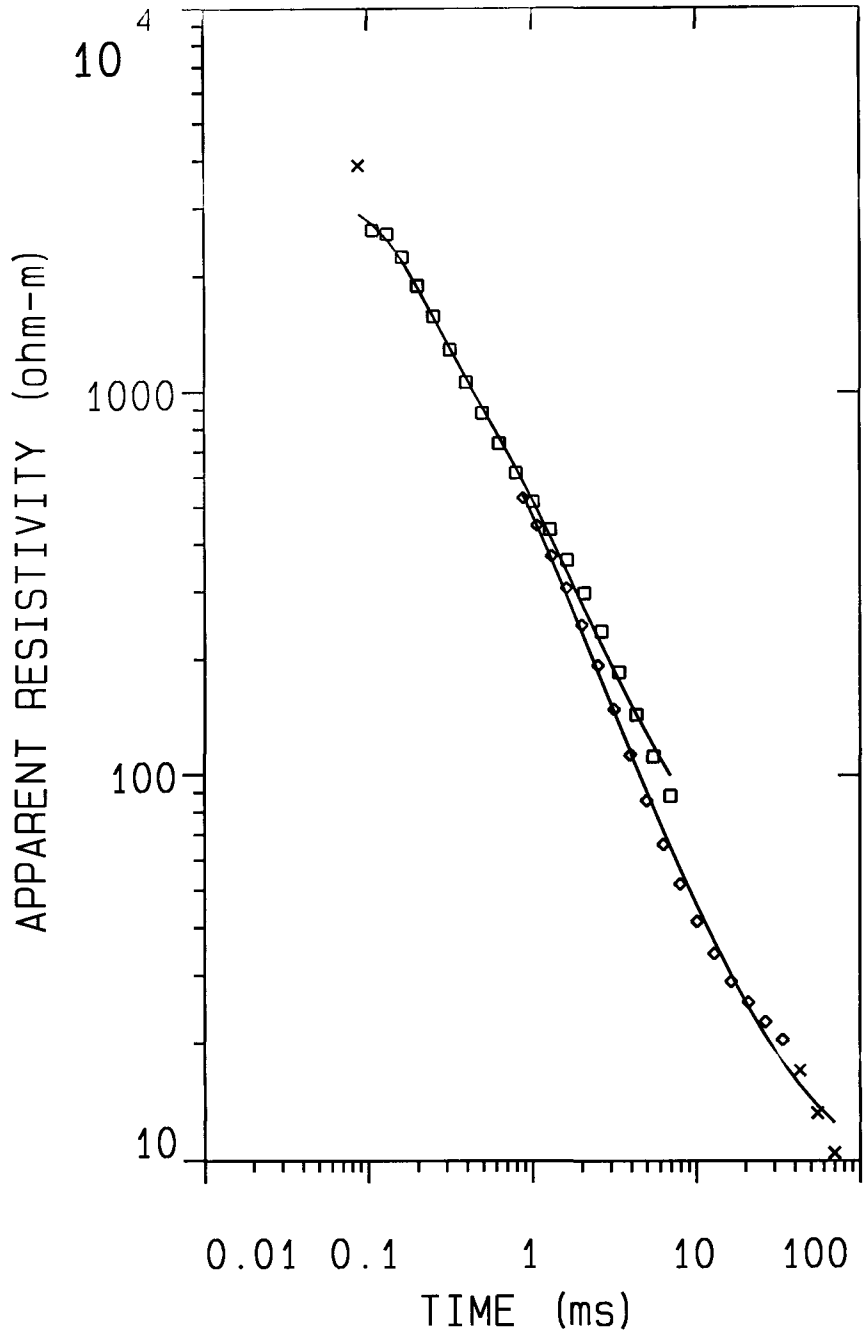
SYNTHETIC FROM LAYERED MODEL:

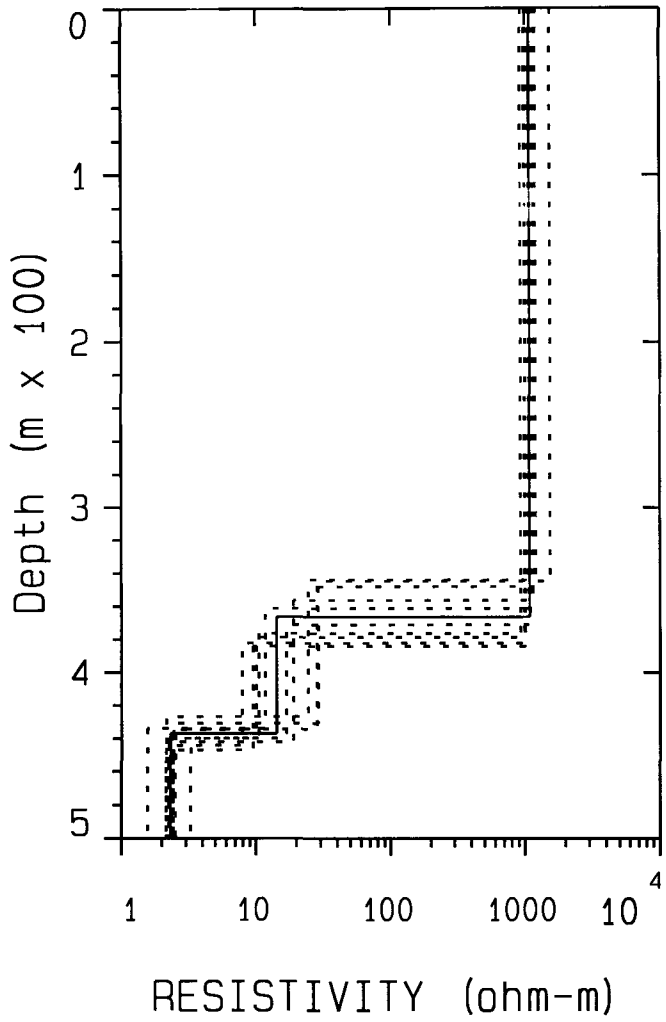
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	43.14	42.09	2.42
22	1.06	34.15	34.29	-0.414
23	1.31	26.97	27.83	-3.18
24	1.61	21.40	22.78	-6.44
25	2.00	17.40	18.68	-7.35
26	2.50	14.40	15.23	-5.78
27	3.14	12.13	12.37	-1.99
28	3.95	10.28	9.98	2.95
29	4.99	8.64	7.97	7.77
30	6.31	7.12	6.30	11.45
31	7.99	5.64	4.92	12.70
32	10.14	4.36	3.79	13.09
33	12.87	3.20	2.86	10.33
34	16.36	2.25	2.13	5.52
35	20.81	1.48	1.54	-4.16
36	26.48	0.971	1.10	-13.39
37	33.73	0.623	0.763	-22.33

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.449	0.514	-14.53	MASKED
39	54.75	0.358	0.336	6.22	MASKED
40	69.78	0.279	0.213	23.60	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.96				
P 2	-0.09	0.40			
P 3	-0.01	-0.07	0.85		
T 1	0.01	0.04	-0.01	0.99	
T 2	-0.03	-0.13	0.01	0.01	0.91
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX25B / Date: 24-June-02	TX25B
Equipment: Geonics PROTEM / Sounding: Tx25	Azimuth:

DATA SET: TX26

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx26
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.21
SOUNDING COORDINATES: E: 614560.0000 N: 4608640.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 2.245 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1198.2	337.3	-337.3	0.281
2	23.86	60.24	-397.5	2.52
3	2.99	99.25	-496.8	33.13
4	25.21			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1107.093	1198.240	1285.057
	2	13.027	23.865	31.597
	3	2.767	2.996	3.218
	4	18.426	25.214	42.542
THICK	1	328.955	337.344	353.973
	2	49.646	60.243	66.678
	3	87.264	99.258	111.996
DEPTH	1	328.955	337.344	353.973
	2	395.633	397.587	403.618
	3	486.947	496.845	507.660

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	986.0	953.7	3.27
2	0.106	555.9	683.1	-22.88 MASKED
3	0.131	474.3	489.2	-3.14
4	0.161	342.4	354.7	-3.59
5	0.200	252.0	256.7	-1.86
6	0.250	186.6	185.9	0.392
7	0.314	138.5	135.3	2.25
8	0.395	102.8	100.0	2.72
9	0.499	77.36	76.17	1.53
10	0.631	59.65	58.75	1.52
11	0.799	46.64	46.05	1.26
12	1.01	36.95	36.38	1.56
13	1.28	29.34	28.94	1.36
14	1.63	23.63	23.32	1.30
15	2.08	19.10	19.01	0.472
16	2.64	15.56	15.62	-0.381
17	3.37	12.70	12.73	-0.274
18	4.29	10.19	10.17	0.243
19	5.47	8.03	7.85	2.14
20	6.97	6.12	5.81	4.99

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

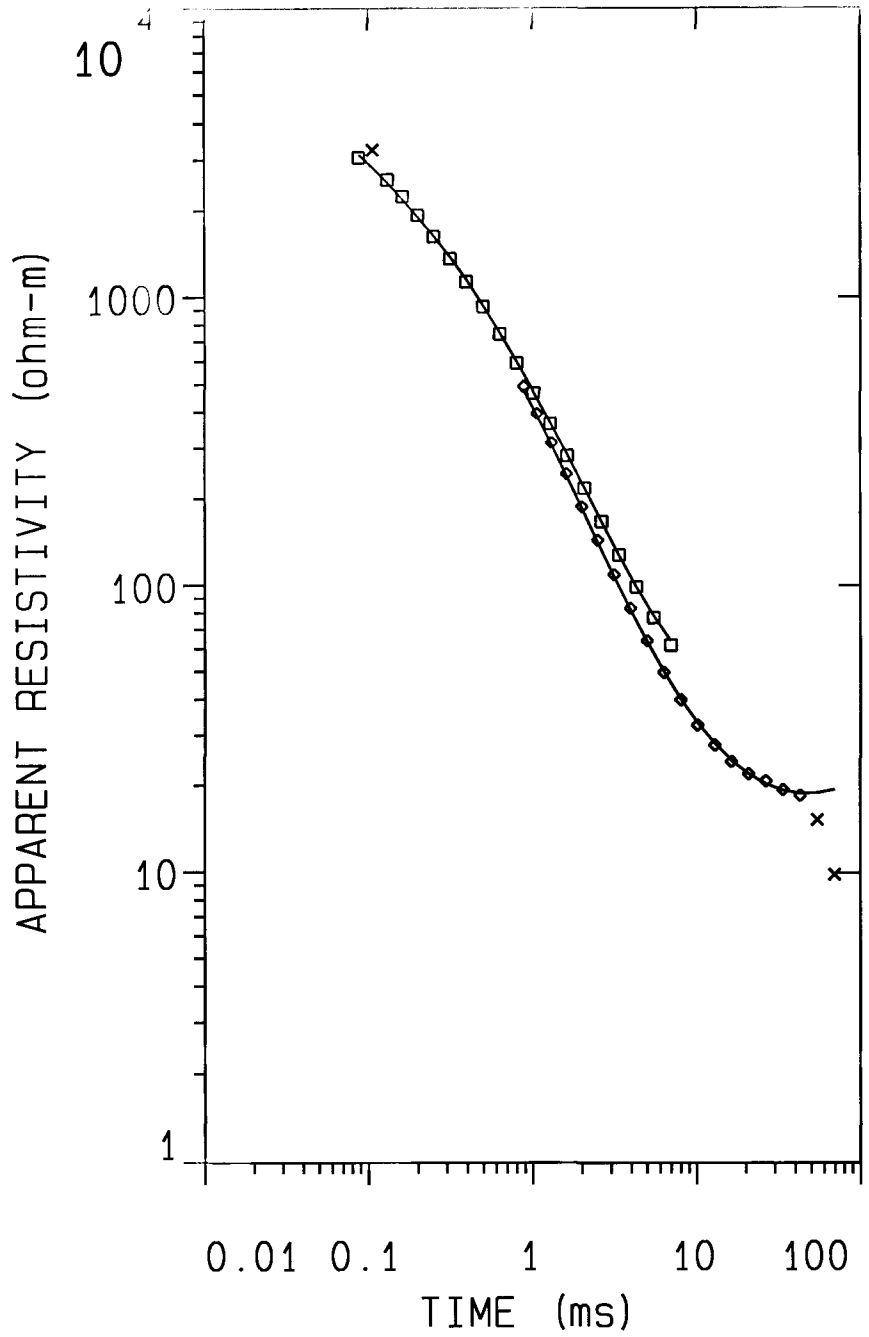
SYNTHETIC FROM LAYERED MODEL:

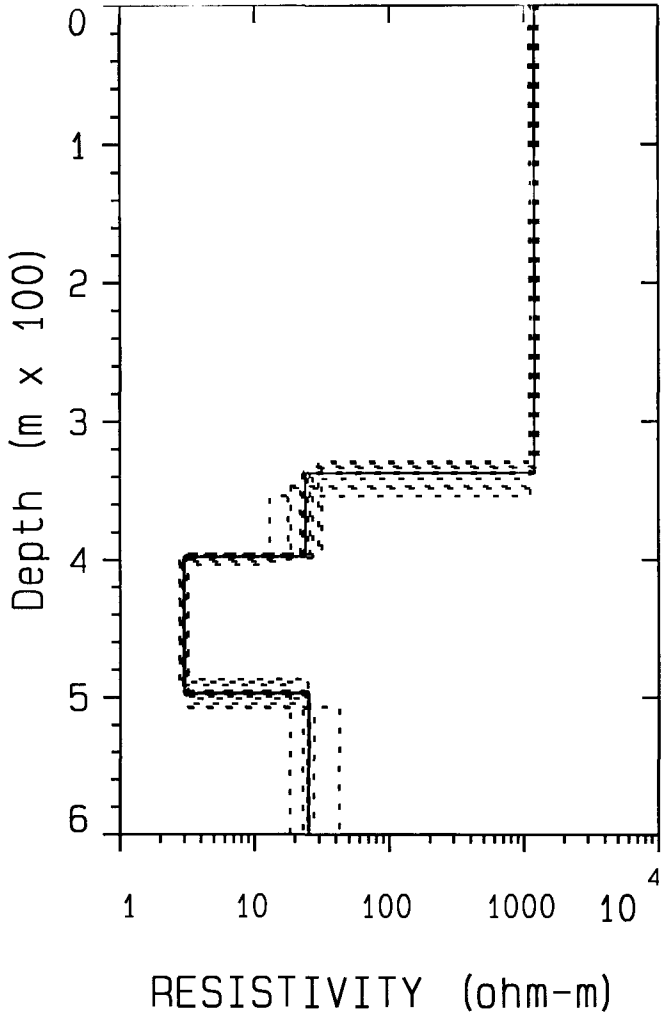
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	48.36	50.02	-3.42
22	1.06	41.39	42.49	-2.66
23	1.31	35.05	36.13	-3.06
24	1.61	30.18	30.93	-2.50
25	2.00	26.10	26.62	-2.02
26	2.50	22.30	22.92	-2.81
27	3.14	19.17	19.60	-2.24
28	3.95	16.22	16.50	-1.71
29	4.99	13.39	13.54	-1.15
30	6.31	10.89	10.78	0.962
31	7.99	8.38	8.28	1.23
32	10.14	6.28	6.10	2.76
33	12.87	4.40	4.31	2.10

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
34	16.36	2.95	2.91	1.25
35	20.81	1.88	1.88	0.0187
36	26.48	1.12	1.16	-3.35
37	33.73	0.681	0.684	-0.507
38	42.97	0.397	0.387	2.59
39	54.75	0.290	0.210	27.52 MASKED
40	69.78	0.304	0.110	63.79 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.91						
P 2	-0.10	0.15					
P 3	0.01	-0.03	0.90				
P 4	0.00	0.00	-0.02	0.21			
T 1	0.01	0.07	0.00	0.00	0.99		
T 2	-0.09	-0.27	0.04	0.01	0.03	0.81	
T 3	0.01	-0.08	-0.12	-0.16	0.00	0.05	0.78
	P 1	P 2	P 3	P 4	T 1	T 2	T 3





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX26 / Date: 23-June-02	TX26
Equipment: Geonics PROTEM / Sounding: Tx26	Azimuth:

DATA SET: TX26B

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx26
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.21
SOUNDING COORDINATES: E: 614560.0000 N: 4608640.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 14.954 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	3585.5	230.3	-230.3	0.0642
2	161.3	145.4	-375.8	0.901
3	3.29			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1365.383	3585.559	11338.533
	2	78.773	161.308	288.278
	3	2.311	3.300	4.731
THICK	1	192.793	230.361	284.207
	2	104.938	145.443	190.121
DEPTH	1	192.793	230.361	284.207
	2	372.661	375.803	389.145

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	986.0	1006.8	-2.10	
2	0.106	555.9	730.2	-31.35	MASKED
3	0.131	474.3	506.8	-6.85	
4	0.161	342.4	346.6	-1.25	
5	0.200	252.0	239.0	5.18	
6	0.250	186.6	169.7	9.09	
7	0.314	138.5	126.9	8.36	
8	0.395	102.8	98.99	3.70	
9	0.499	77.36	79.63	-2.94	
10	0.631	59.65	64.55	-8.20	
11	0.799	46.64	52.45	-12.45	
12	1.01	36.95	42.38	-14.69	
13	1.28	29.34	33.98	-15.80	
14	1.63	23.63	26.92	-13.91	
15	2.08	19.10	21.04	-10.14	
16	2.64	15.56	16.17	-3.90	
17	3.37	12.70	12.19	4.01	
18	4.29	10.19	8.99	11.81	
19	5.47	8.03	6.47	19.42	
20	6.97	6.12	4.52	26.06	

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

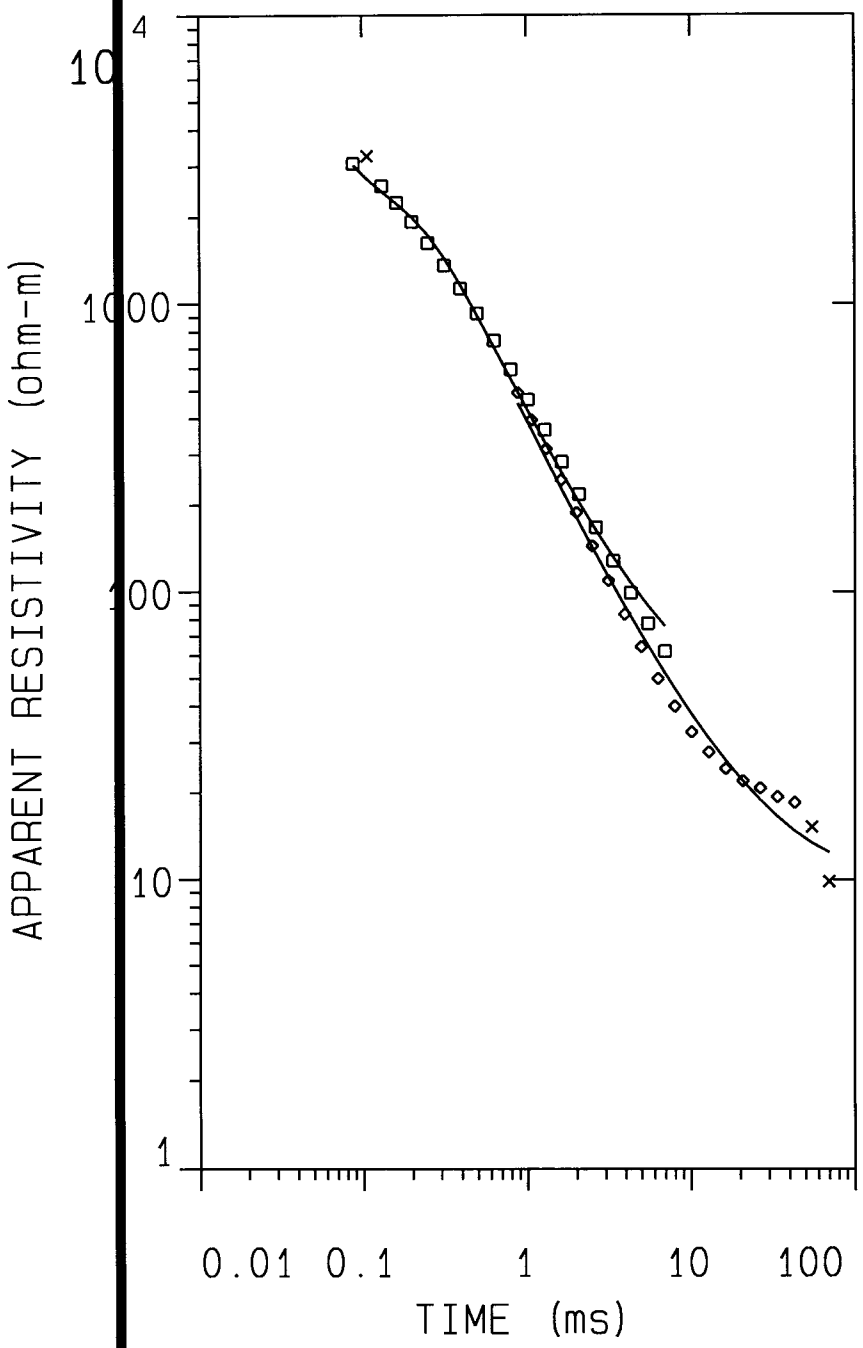
SYNTHETIC FROM LAYERED MODEL:

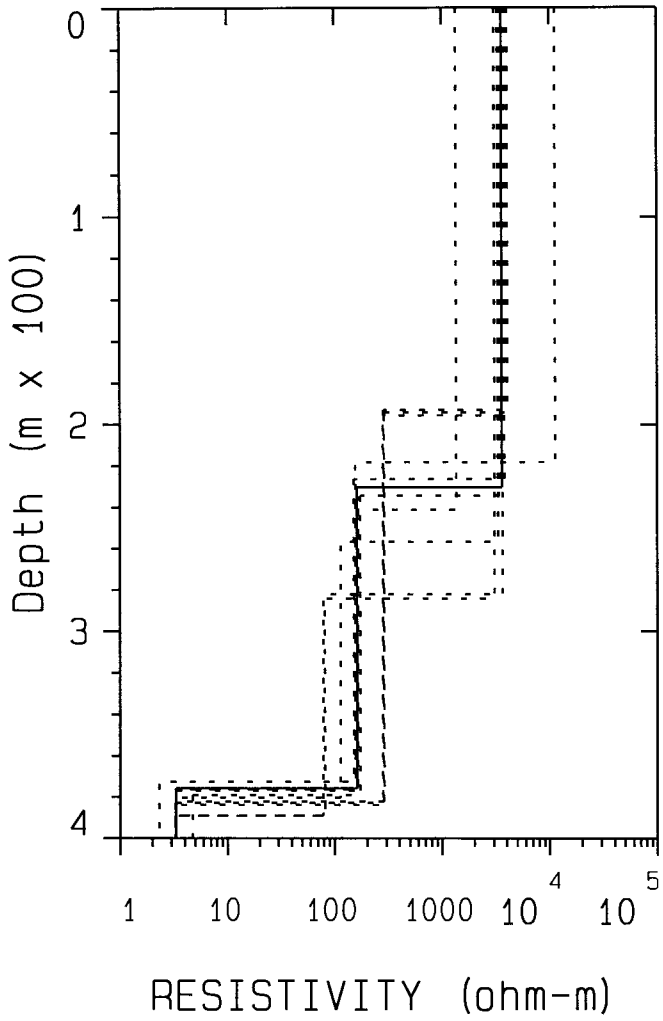
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	48.36	54.85	-13.41
22	1.06	41.39	46.90	-13.30
23	1.31	35.05	39.69	-13.21
24	1.61	30.18	33.30	-10.34
25	2.00	26.10	27.68	-6.08
26	2.50	22.30	22.68	-1.73
27	3.14	19.17	18.35	4.26
28	3.95	16.22	14.66	9.64
29	4.99	13.39	11.53	13.90
30	6.31	10.89	8.93	17.93
31	7.99	8.38	6.81	18.80
32	10.14	6.28	5.09	18.89
33	12.87	4.40	3.73	15.23
34	16.36	2.95	2.68	9.06
35	20.81	1.88	1.88	-0.151
36	26.48	1.12	1.29	-14.99
37	33.73	0.681	0.861	-26.45

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.397	0.559	-40.62	
39	54.75	0.290	0.352	-21.27	MASKED
40	69.78	0.304	0.215	29.29	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.04				
P 2	0.02	0.25			
P 3	0.01	-0.01	0.94		
T 1	0.05	0.21	0.00	0.93	
T 2	-0.07	-0.32	0.00	0.10	0.85





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX26B / Date: 23-June-02	TX26B
Equipment: Geonics PROTEM / Sounding: Tx26	Azimuth:

DATA SET: TX27

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx27
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.46
SOUNDING COORDINATES: E: 614820.0000 N: 4608380.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 2.684 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1911.4	330.6	-330.6	0.172
2	19.35	79.83	-410.4	4.12
3	2.33	67.46	-477.9	28.92
4	12.57			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1624.351	1911.485	2495.019
	2	17.366	19.360	23.025
	3	1.829	2.332	2.646
	4	10.757	12.577	20.004
THICK	1	321.037	330.624	336.621
	2	75.791	79.832	86.916
	3	49.214	67.470	84.039
DEPTH	1	321.037	330.624	336.621
	2	407.107	410.456	415.198
	3	464.412	477.925	491.147

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	645.9	638.7	1.11
2	0.106	551.2	534.4	3.04
3	0.131	448.2	442.4	1.27
4	0.161	355.2	362.1	-1.93
5	0.200	286.7	288.6	-0.656
6	0.250	221.5	222.6	-0.520
7	0.314	168.5	166.5	1.19
8	0.395	123.8	121.5	1.88
9	0.499	89.87	87.86	2.23
10	0.631	65.55	63.52	3.10
11	0.799	48.19	46.84	2.78
12	1.01	36.22	35.40	2.24
13	1.28	28.12	27.69	1.54
14	1.63	22.32	22.27	0.229
15	2.08	18.12	18.26	-0.731
16	2.64	15.02	15.01	0.0745
17	3.37	12.27	12.18	0.796
18	4.29	9.96	9.64	3.17
19	5.47	7.78	7.38	5.10
20	6.97	5.88	5.43	7.65

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

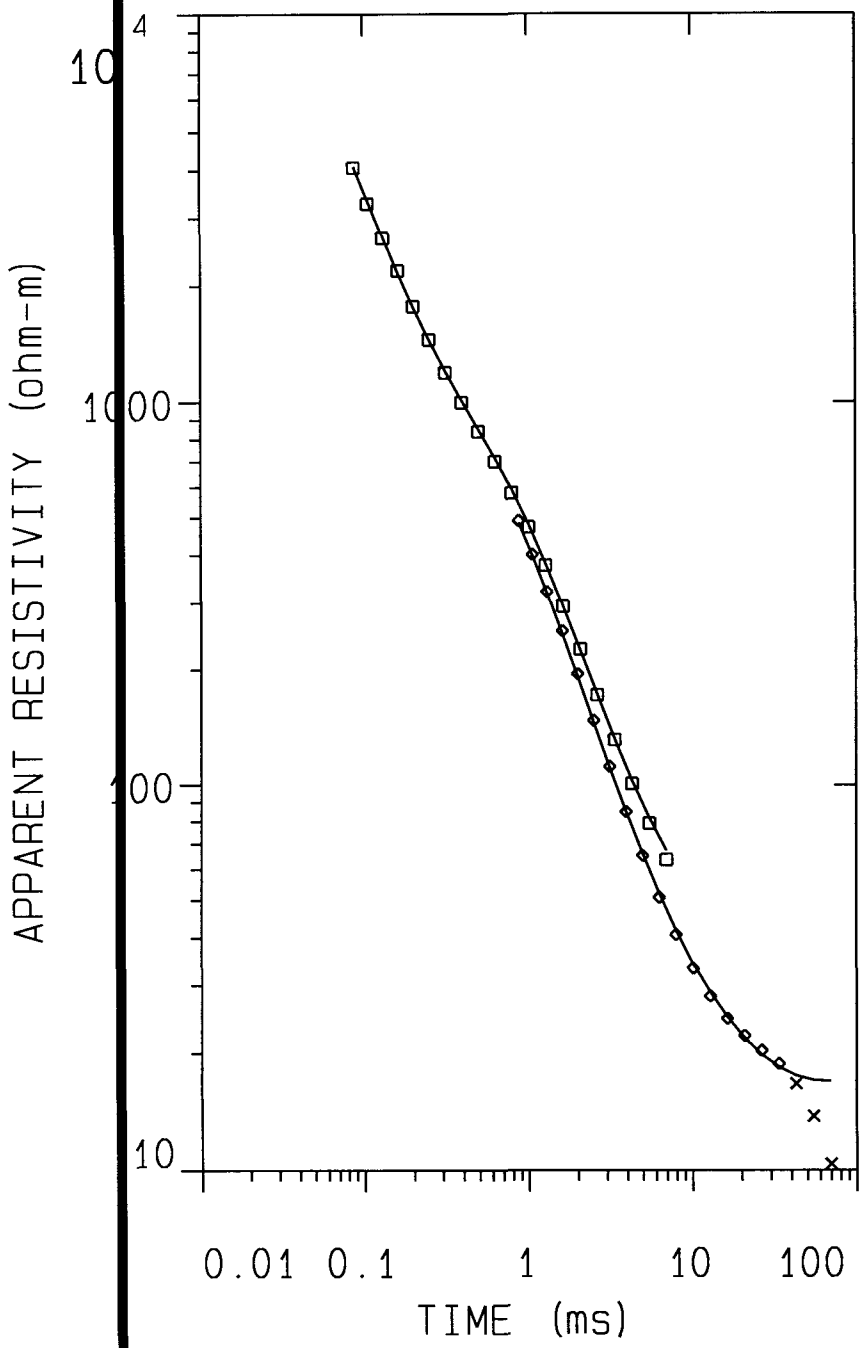
SYNTHETIC FROM LAYERED MODEL:

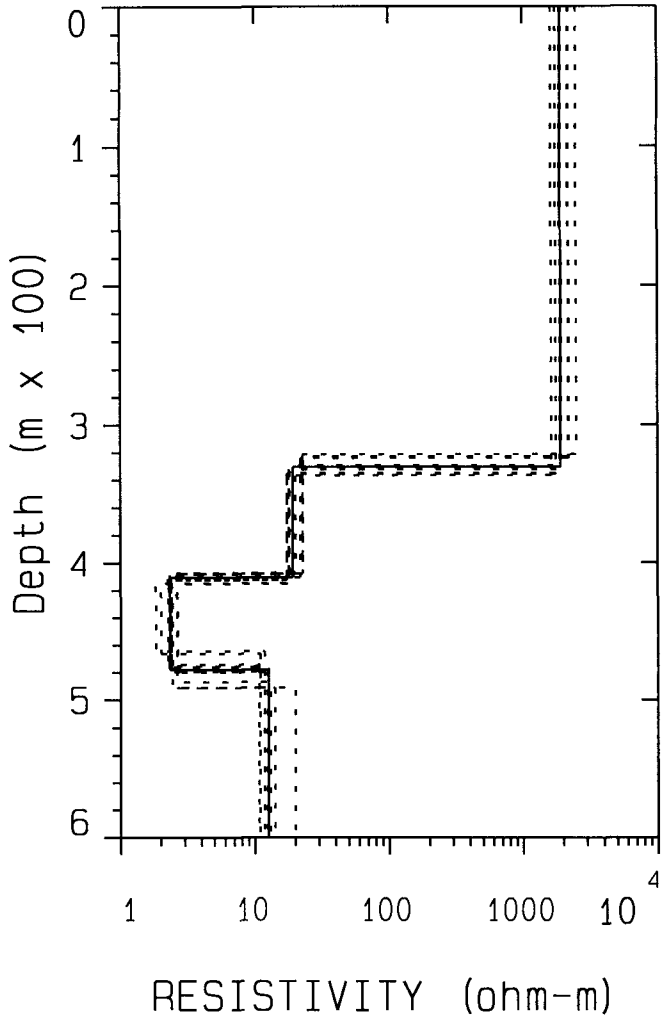
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	48.56	49.40	-1.73
22	1.06	40.57	41.02	-1.12
23	1.31	33.99	34.52	-1.56
24	1.61	28.73	29.53	-2.77
25	2.00	24.86	25.52	-2.67
26	2.50	21.66	22.01	-1.59
27	3.14	18.59	18.78	-1.03
28	3.95	15.79	15.75	0.240
29	4.99	13.09	12.88	1.60
30	6.31	10.56	10.24	3.04
31	7.99	8.16	7.87	3.55
32	10.14	6.08	5.84	4.04
33	12.87	4.31	4.17	3.27

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	2.89	2.86	1.23	
35	20.81	1.85	1.88	-1.91	
36	26.48	1.15	1.19	-3.60	
37	33.73	0.710	0.731	-3.00	
38	42.97	0.463	0.430	7.02	MASKED
39	54.75	0.336	0.244	27.28	MASKED
40	69.78	0.282	0.134	52.27	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.53						
P 2	-0.29	0.60					
P 3	0.00	-0.05	0.84				
P 4	0.00	0.00	-0.04	0.51			
T 1	0.05	0.05	0.00	0.00	0.99		
T 2	-0.15	-0.14	0.03	0.01	0.02	0.91	
T 3	-0.02	-0.08	-0.21	-0.19	0.01	0.04	0.63
	P 1	P 2	P 3	P 4	T 1	T 2	T 3





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX27 / Date: 23-June-02	TX27
Equipment: Geonics PROTEM / Sounding: Tx27	Azimuth:

DATA SET: TX27B

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx27
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.46
SOUNDING COORDINATES: E: 614820.0000 N: 4608380.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 13.434 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	2275.2	314.1	-314.1	0.138
2	23.20	69.36	-383.5	2.98
3	2.58			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1095.650	2275.229	6776.434
	2	10.574	23.201	63.897
	3	1.690	2.588	3.890
THICK	1	275.667	314.186	347.734
	2	45.153	69.367	102.778
DEPTH	1	275.667	314.186	347.734
	2	378.445	383.553	398.868

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	645.9	668.2	-3.45
2	0.106	551.2	557.0	-1.05
3	0.131	448.2	451.9	-0.829
4	0.161	355.2	357.8	-0.724
5	0.200	286.7	276.4	3.58
6	0.250	221.5	208.0	6.09
7	0.314	168.5	154.9	8.11
8	0.395	123.8	115.8	6.46
9	0.499	89.87	87.54	2.59
10	0.631	65.55	67.64	-3.17
11	0.799	48.19	52.82	-9.60
12	1.01	36.22	41.67	-15.06
13	1.28	28.12	32.85	-16.80
14	1.63	22.32	25.80	-15.59
15	2.08	18.12	20.04	-10.55
16	2.64	15.02	15.39	-2.43
17	3.37	12.27	11.61	5.44
18	4.29	9.96	8.59	13.69
19	5.47	7.78	6.22	20.04
20	6.97	5.88	4.38	25.36

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

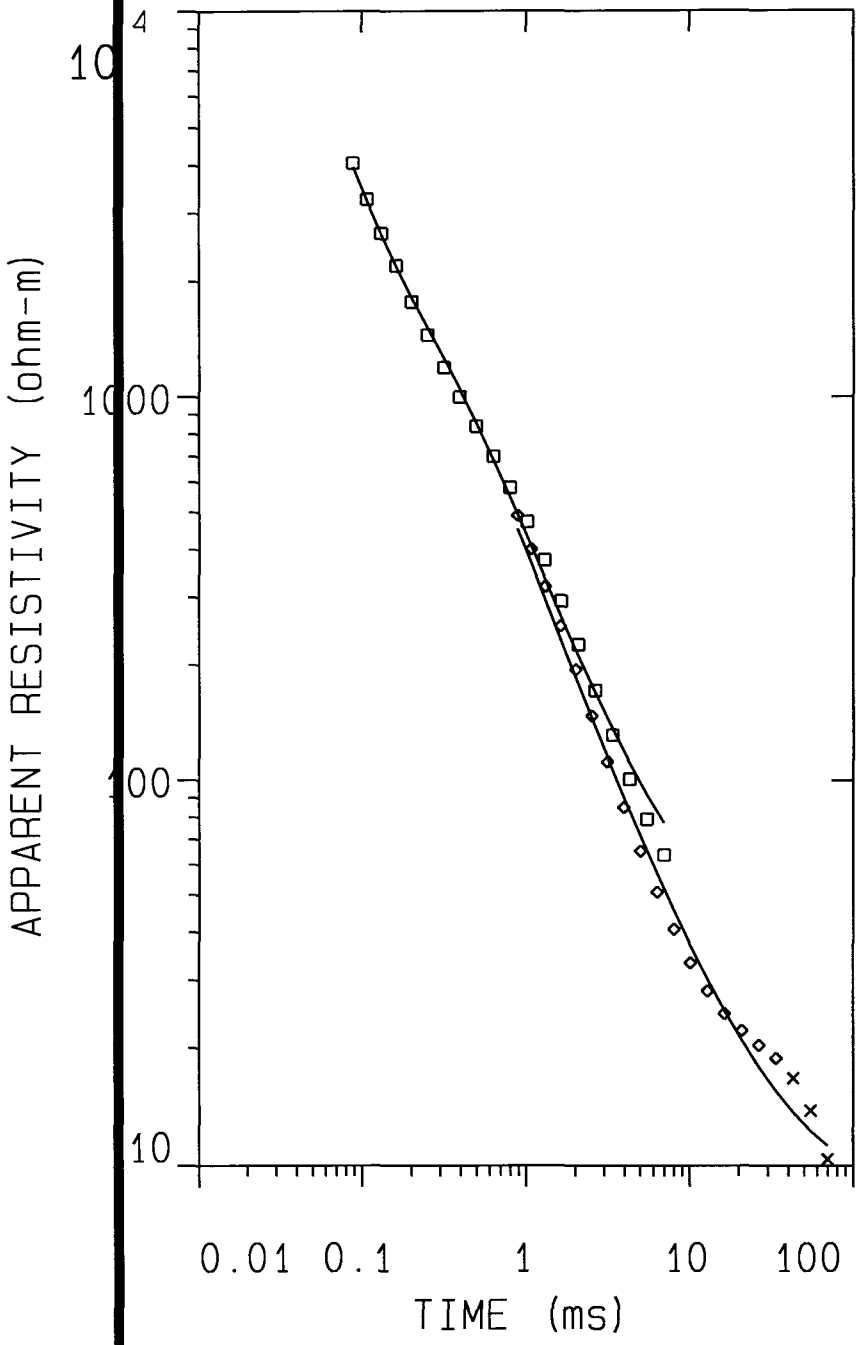
SYNTHETIC FROM LAYERED MODEL:

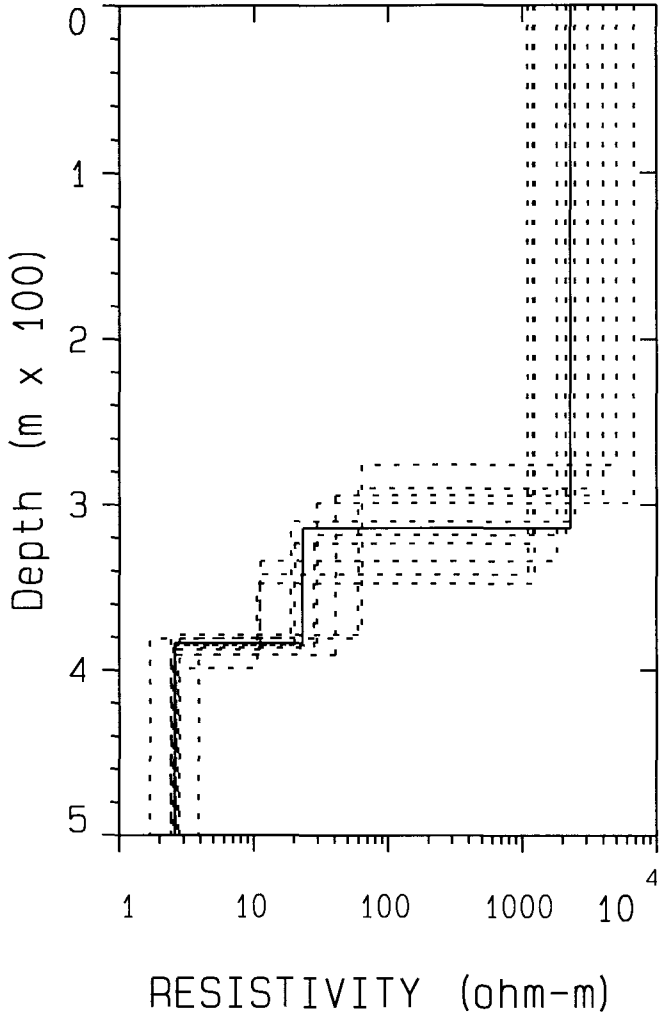
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	48.56	54.73	-12.71
22	1.06	40.57	46.20	-13.89
23	1.31	33.99	38.67	-13.77
24	1.61	28.73	32.31	-12.45
25	2.00	24.86	26.80	-7.81
26	2.50	21.66	22.00	-1.54
27	3.14	18.59	17.86	3.89
28	3.95	15.79	14.36	9.04
29	4.99	13.09	11.39	12.97
30	6.31	10.56	8.92	15.52
31	7.99	8.16	6.88	15.74
32	10.14	6.08	5.21	14.30
33	12.87	4.31	3.88	9.96
34	16.36	2.89	2.83	2.30
35	20.81	1.85	2.01	-9.01
36	26.48	1.15	1.40	-21.63
37	33.73	0.710	0.954	-34.34

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.463	0.629	-35.80 MASKED
39	54.75	0.336	0.403	-19.67 MASKED
40	69.78	0.282	0.250	11.36 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.16				
P 2	-0.19	0.42			
P 3	0.02	-0.05	0.89		
T 1	0.04	0.05	0.00	0.99	
T 2	-0.16	-0.16	0.00	0.02	0.90





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX27B / Date: 23-June-02	TX27B
Equipment: Geonics PROTEM / Sounding: Tx27	Azimuth:

DATA SET: TX28

CLIENT: Calpine Corporation DATE: 22-June-02
LOCATION: Klamath National Forest SOUNDING: Tx28
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 7.82
SOUNDING COORDINATES: E: 614660.0000 N: 4609570.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.206 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	3108.7	395.2	-395.2	0.127
2	60.04	59.94	-455.1	0.998
3	25.43			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	2237.809	3108.778	7432.203
	2	30.943	60.042	304.478
	3	23.636	25.431	27.510
THICK	1	320.389	395.253	417.558
	2	38.744	59.944	114.264
DEPTH	1	320.389	395.253	417.558
	2	433.597	455.197	475.889

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	378.7	385.0	-1.66
2	0.106	307.2	318.7	-3.76
3	0.131	256.5	262.9	-2.48
4	0.161	215.8	217.2	-0.624
5	0.200	177.9	179.0	-0.590
6	0.250	148.1	146.6	0.980
7	0.314	121.6	119.1	2.02
8	0.395	97.07	96.21	0.886
9	0.499	77.12	76.89	0.292
10	0.631	60.70	60.73	-0.0461
11	0.799	47.37	47.39	-0.0442
12	1.01	36.39	36.37	0.0567
13	1.28	27.55	27.48	0.278
14	1.63	20.49	20.33	0.757
15	2.08	15.04	14.74	1.96
16	2.64	10.73	10.44	2.76
17	3.37	7.43	7.20	3.10
18	4.29	5.06	4.83	4.53
19	5.47	3.36	3.15	6.48
20	6.97	2.21	1.98	10.38

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

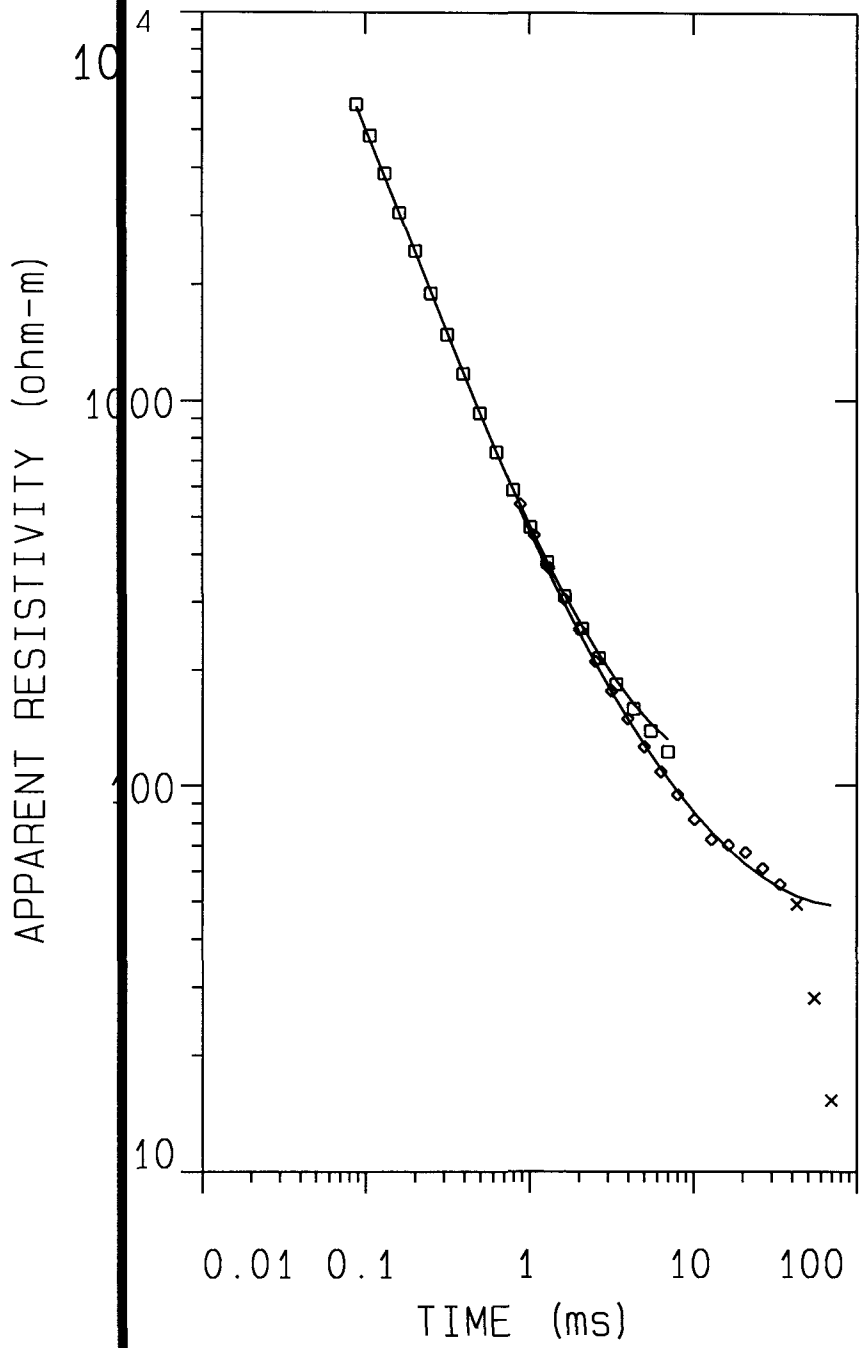
SYNTHETIC FROM LAYERED MODEL:

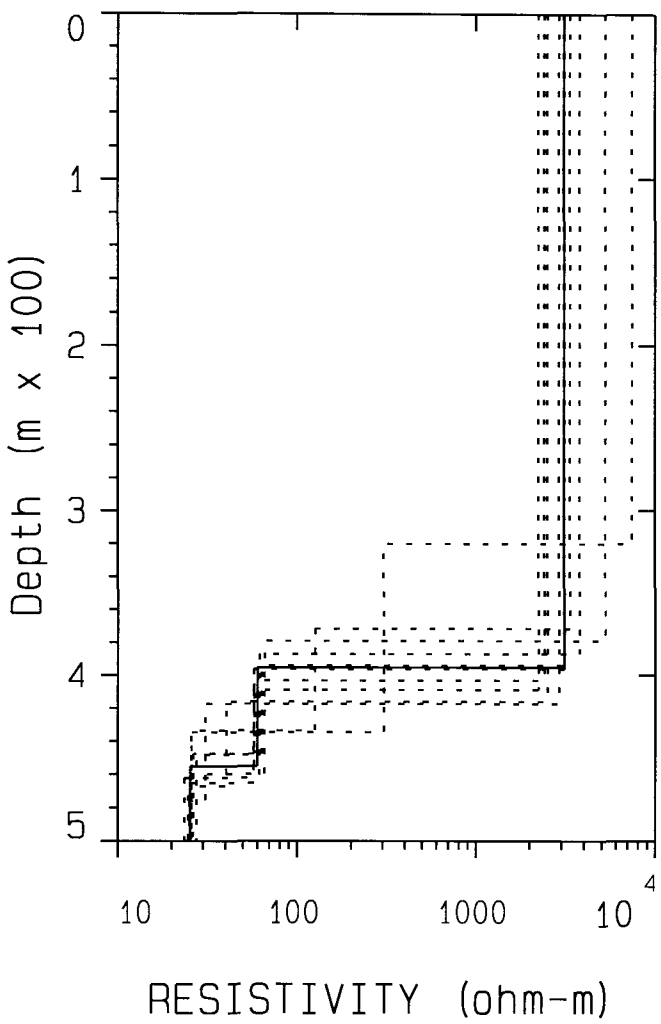
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	42.07	44.64	-6.09
22	1.06	34.34	36.21	-5.45
23	1.31	27.55	28.71	-4.20
24	1.61	21.63	22.41	-3.58
25	2.00	16.64	17.19	-3.29
26	2.50	12.71	12.87	-1.24
27	3.14	9.41	9.45	-0.433
28	3.95	6.80	6.80	0.0466
29	4.99	4.88	4.79	1.89
30	6.31	3.40	3.31	2.48
31	7.99	2.31	2.25	2.66
32	10.14	1.58	1.49	5.71
33	12.87	1.04	0.977	6.54
34	16.36	0.604	0.625	-3.44
35	20.81	0.353	0.392	-10.89
36	26.48	0.223	0.241	-8.02
37	33.73	0.141	0.145	-3.11

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.0921	0.0856	6.98	MASKED
39	54.75	0.116	0.0492	57.56	MASKED
40	69.78	0.158	0.0276	82.55	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.46				
P 2	-0.09	0.06			
P 3	0.00	-0.02	0.97		
T 1	0.04	0.08	0.00	0.99	
T 2	-0.30	-0.04	0.03	0.03	0.60
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX28 / Date: 22-June-02	TX28
Equipment: Geonics PROTEM / Sounding: Tx28	Azimuth:

DATA SET: TX29

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx29
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 8.59
SOUNDING COORDINATES: E: 614960.0000 N: 4608190.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 3.446 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1854.8	342.0	-342.0	0.184
2	30.04	104.9	-447.0	3.49
3	3.09	86.31	-533.3	27.86
4	57.17			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1427.390	1854.893	3017.895
	2	21.654	30.047	38.061
	3	2.346	3.098	3.602
	4	36.898	57.178	145.052
THICK	1	326.844	342.077	357.148
	2	92.526	104.979	119.236
	3	60.929	86.317	106.531
DEPTH	1	326.844	342.077	357.148
	2	441.670	447.056	456.287
	3	517.216	533.373	548.200

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	726.1	688.5	5.17
2	0.106	532.2	566.7	-6.49
3	0.131	467.4	462.9	0.960
4	0.161	371.6	374.8	-0.837
5	0.200	293.2	296.0	-0.955
6	0.250	224.7	225.4	-0.294
7	0.314	167.3	166.0	0.784
8	0.395	119.2	118.4	0.665
9	0.499	83.32	83.03	0.356
10	0.631	58.51	58.13	0.649
11	0.799	41.98	41.32	1.56
12	1.01	30.91	30.30	1.97
13	1.28	23.63	23.11	2.20
14	1.63	18.65	18.39	1.41
15	2.08	15.06	15.13	-0.454
16	2.64	12.47	12.64	-1.30
17	3.37	10.20	10.43	-2.30
18	4.29	8.29	8.39	-1.21
19	5.47	6.57	6.49	1.27
20	6.97	5.00	4.79	4.32

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

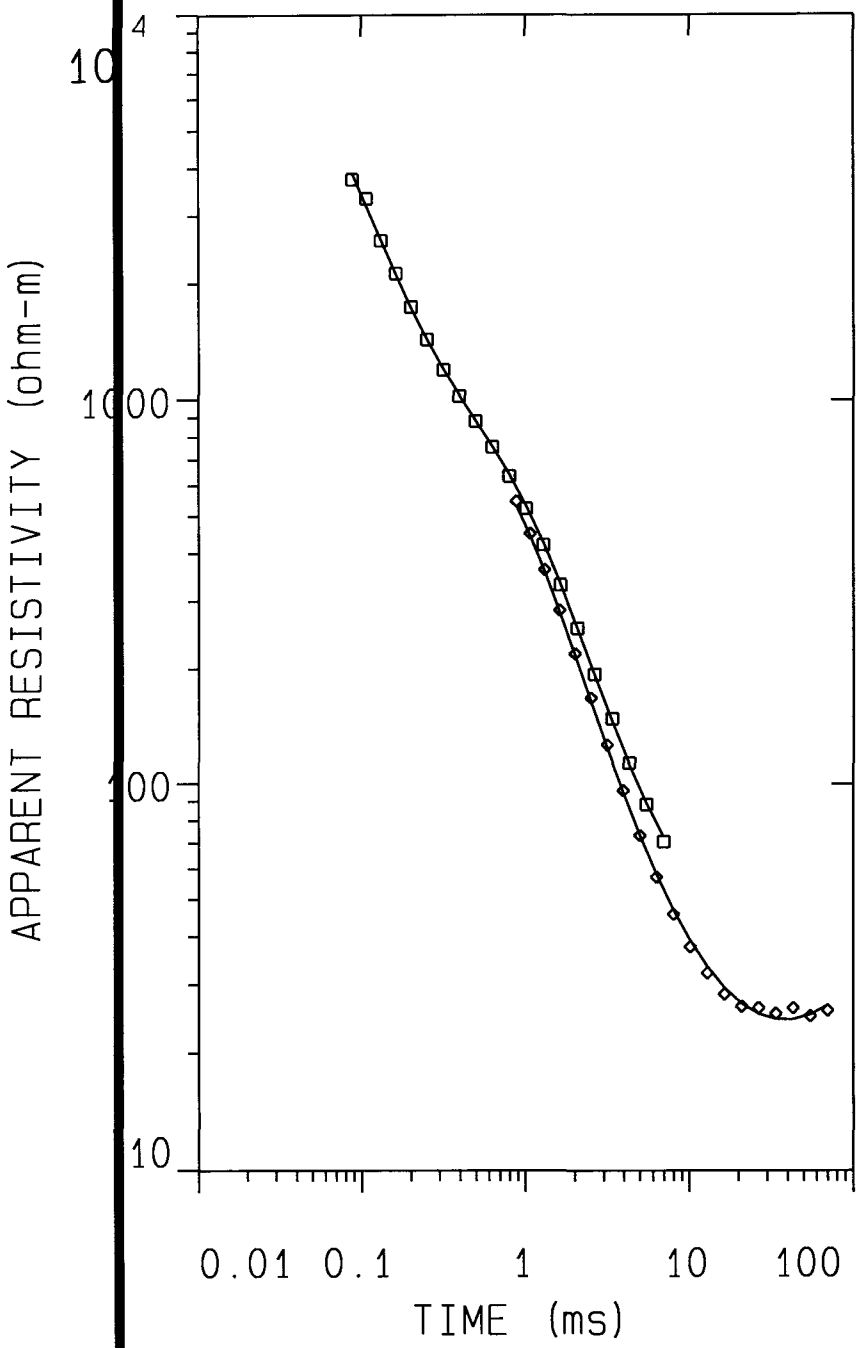
SYNTHETIC FROM LAYERED MODEL:

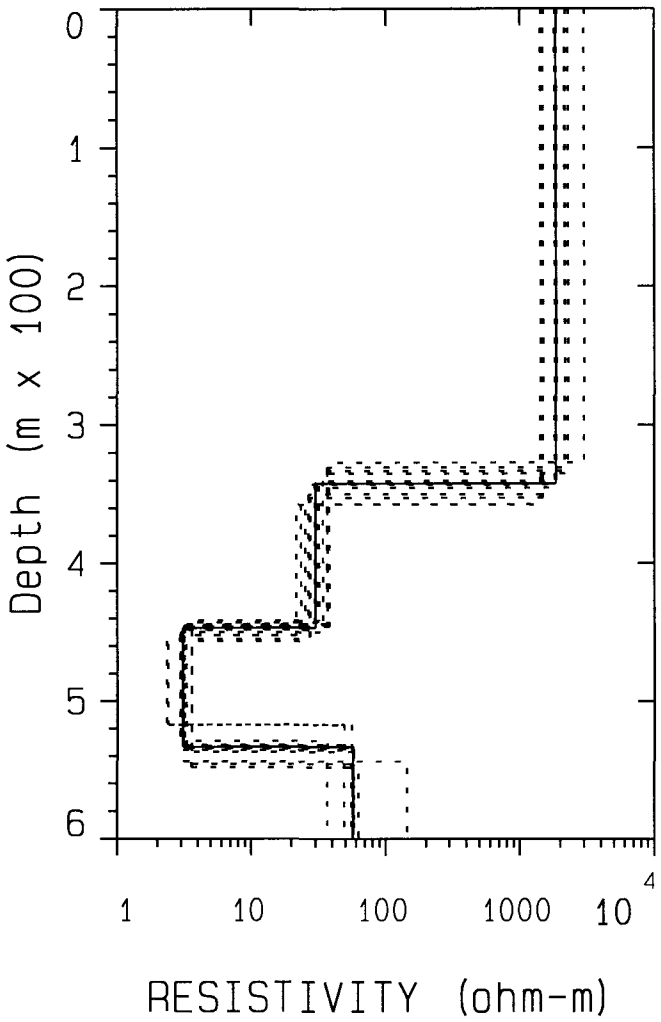
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	41.07	42.72	-4.00
22	1.06	33.97	34.68	-2.08
23	1.31	28.15	28.70	-1.96
24	1.61	23.99	24.36	-1.53
25	2.00	20.75	21.05	-1.48
26	2.50	17.75	18.31	-3.12
27	3.14	15.40	15.76	-2.32
28	3.95	13.10	13.31	-1.61
29	4.99	10.92	10.91	0.106
30	6.31	8.83	8.64	2.18
31	7.99	6.84	6.57	3.95
32	10.14	5.06	4.78	5.48
33	12.87	3.52	3.32	5.59

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
34	16.36	2.32	2.19	5.51
35	20.81	1.42	1.38	2.51
36	26.48	0.786	0.830	-5.58
37	33.73	0.452	0.474	-4.96
38	42.97	0.235	0.259	-10.34
39	54.75	0.137	0.135	1.43
40	69.78	0.0715	0.0682	4.57

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	P 4	T 1	T 2	T 3
P 1	0.40						
P 2	-0.29	0.60					
P 3	0.01	-0.05	0.83				
P 4	0.00	0.01	-0.02	0.12			
T 1	0.06	0.05	0.00	0.00	0.99		
T 2	-0.16	-0.12	0.04	0.01	0.02	0.91	
T 3	-0.01	-0.08	-0.20	-0.12	0.01	0.05	0.72





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX29 / Date: 23-June-02	TX29
Equipment: Geonics PROTEM / Sounding: Tx29	Azimuth:

DATA SET: TX29B

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx29
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 8.59
SOUNDING COORDINATES: E: 614960.0000 N: 4608190.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 11.009 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1927.3	317.5	-317.5	0.164
2	21.65	74.92	-392.4	3.45
3	1.65			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1141.253	1927.357	6939.401
	2	10.800	21.655	42.267
	3	0.978	1.659	2.678
THICK	1	289.849	317.514	342.613
	2	55.785	74.924	101.555
DEPTH	1	289.849	317.514	342.613
	2	383.090	392.438	402.602

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	726.1	704.2	3.01
2	0.106	532.2	584.5	-9.83
3	0.131	467.4	474.9	-1.61
4	0.161	371.6	377.2	-1.49
5	0.200	293.2	290.0	1.10
6	0.250	224.7	215.2	4.23
7	0.314	167.3	155.1	7.33
8	0.395	119.2	110.6	7.21
9	0.499	83.32	79.39	4.72
10	0.631	58.51	58.15	0.603
11	0.799	41.98	43.96	-4.71
12	1.01	30.91	33.84	-9.50
13	1.28	23.63	26.46	-11.97
14	1.63	18.65	20.67	-10.78
15	2.08	15.06	16.11	-6.97
16	2.64	12.47	12.41	0.539
17	3.37	10.20	9.44	7.37
18	4.29	8.29	7.06	14.77
19	5.47	6.57	5.18	21.17
20	6.97	5.00	3.71	25.78

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

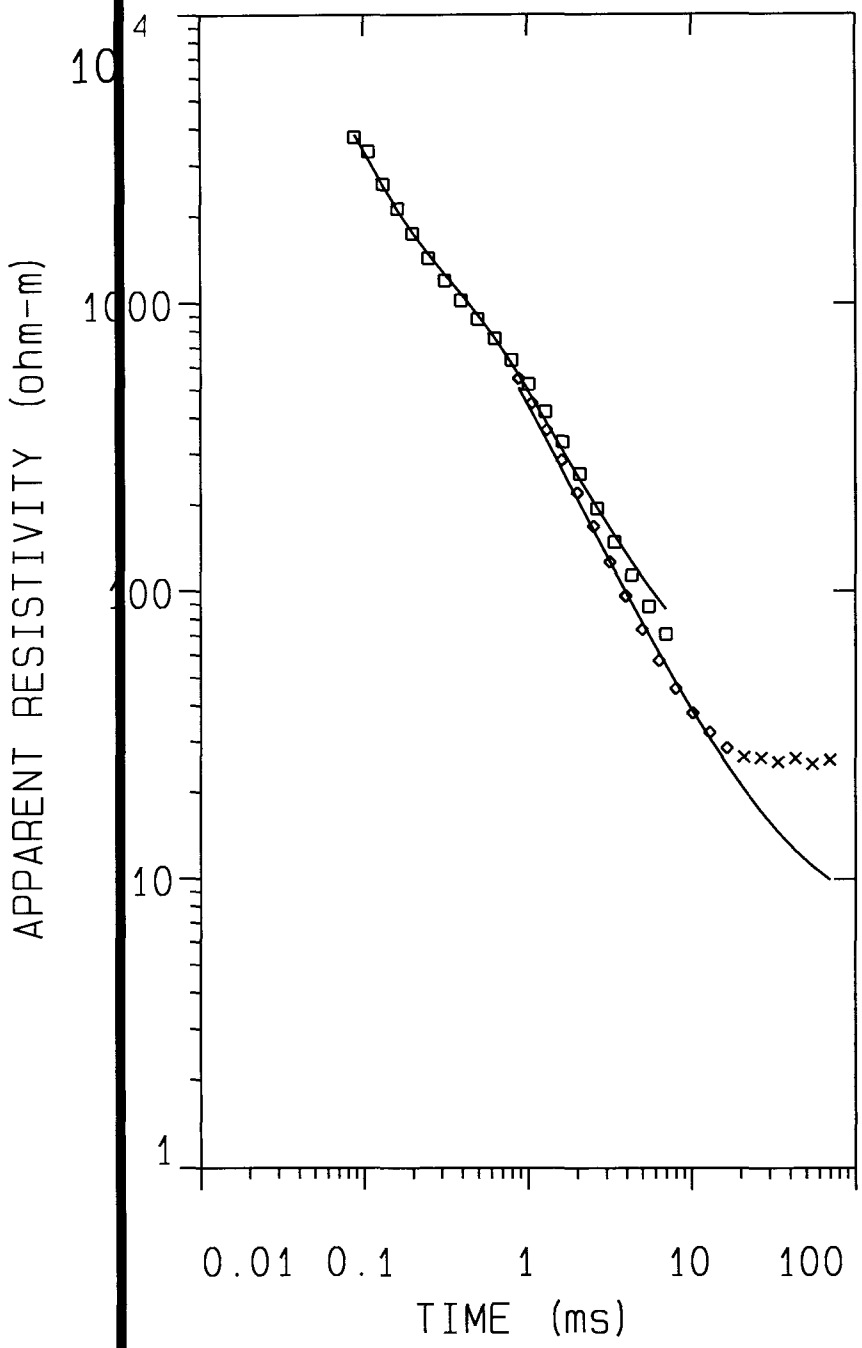
SYNTHETIC FROM LAYERED MODEL:

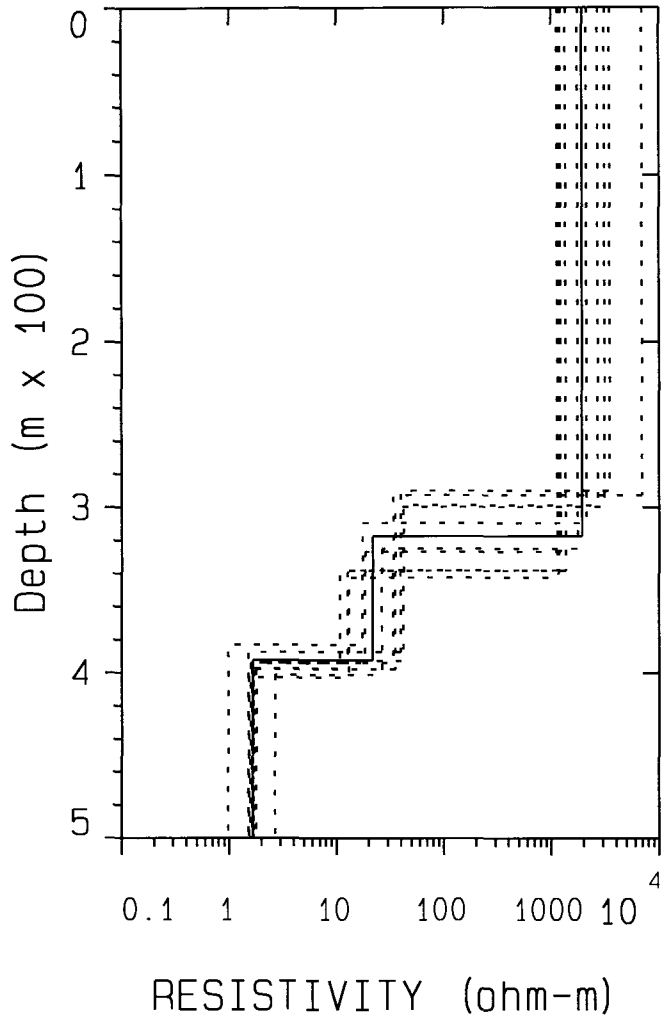
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	41.07	45.74	-11.37	
22	1.06	33.97	38.29	-12.69	
23	1.31	28.15	32.00	-13.67	
24	1.61	23.99	26.77	-11.55	
25	2.00	20.75	22.38	-7.87	
26	2.50	17.75	18.53	-4.40	
27	3.14	15.40	15.26	0.909	
28	3.95	13.10	12.46	4.92	
29	4.99	10.92	10.07	7.81	
30	6.31	8.83	8.05	8.87	
31	7.99	6.84	6.35	7.16	
32	10.14	5.06	4.93	2.42	
33	12.87	3.52	3.77	-7.26	
34	16.36	2.32	2.83	-21.77	
35	20.81	1.42	2.08	-46.62	MASKED
36	26.48	0.786	1.49	-90.13	MASKED
37	33.73	0.452	1.04	-131.4	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.235	0.713	-203.3	MASKED
39	54.75	0.137	0.471	-242.3	MASKED
40	69.78	0.0715	0.301	-322.1	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.27				
P 2	-0.26	0.48			
P 3	0.03	-0.06	0.85		
T 1	0.05	0.05	-0.01	0.99	
T 2	-0.17	-0.18	0.00	0.02	0.90





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX29B	Date: 23-June-02
Equipment: Geonics PROTEM	Sounding: Tx29
	TX29B
	Azimuth:

DATA SET: TX30

CLIENT: Calpine Corporation DATE: 22-June-02
LOCATION: Klamath National Forest SOUNDING: Tx30
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 8.57
SOUNDING COORDINATES: E: 614850.0000 N: 4609350.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 3.186 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1723.7	374.9	-374.9	0.217
2	16.01			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1591.202	1723.706	1926.726
	2	15.139	16.013	16.923
THICK	1	371.110	374.981	378.884
DEPTH	1	371.110	374.981	378.884

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	552.4	532.5	3.61
2	0.106	384.4	414.7	-7.88
3	0.131	342.5	333.1	2.77

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
4	0.161	278.4	275.4	1.08
5	0.200	232.5	230.7	0.796
6	0.250	195.7	193.0	1.34
7	0.314	161.0	160.1	0.575
8	0.395	131.1	132.1	-0.793
9	0.499	105.9	107.5	-1.43
10	0.631	84.91	86.44	-1.80
11	0.799	68.12	68.61	-0.719
12	1.01	53.67	53.49	0.333
13	1.28	41.23	41.04	0.450
14	1.63	31.36	30.84	1.67
15	2.08	23.32	22.68	2.74
16	2.64	17.07	16.30	4.53
17	3.37	11.87	11.40	3.90
18	4.29	8.17	7.76	5.01
19	5.47	5.41	5.12	5.27
20	6.97	3.48	3.27	6.02

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

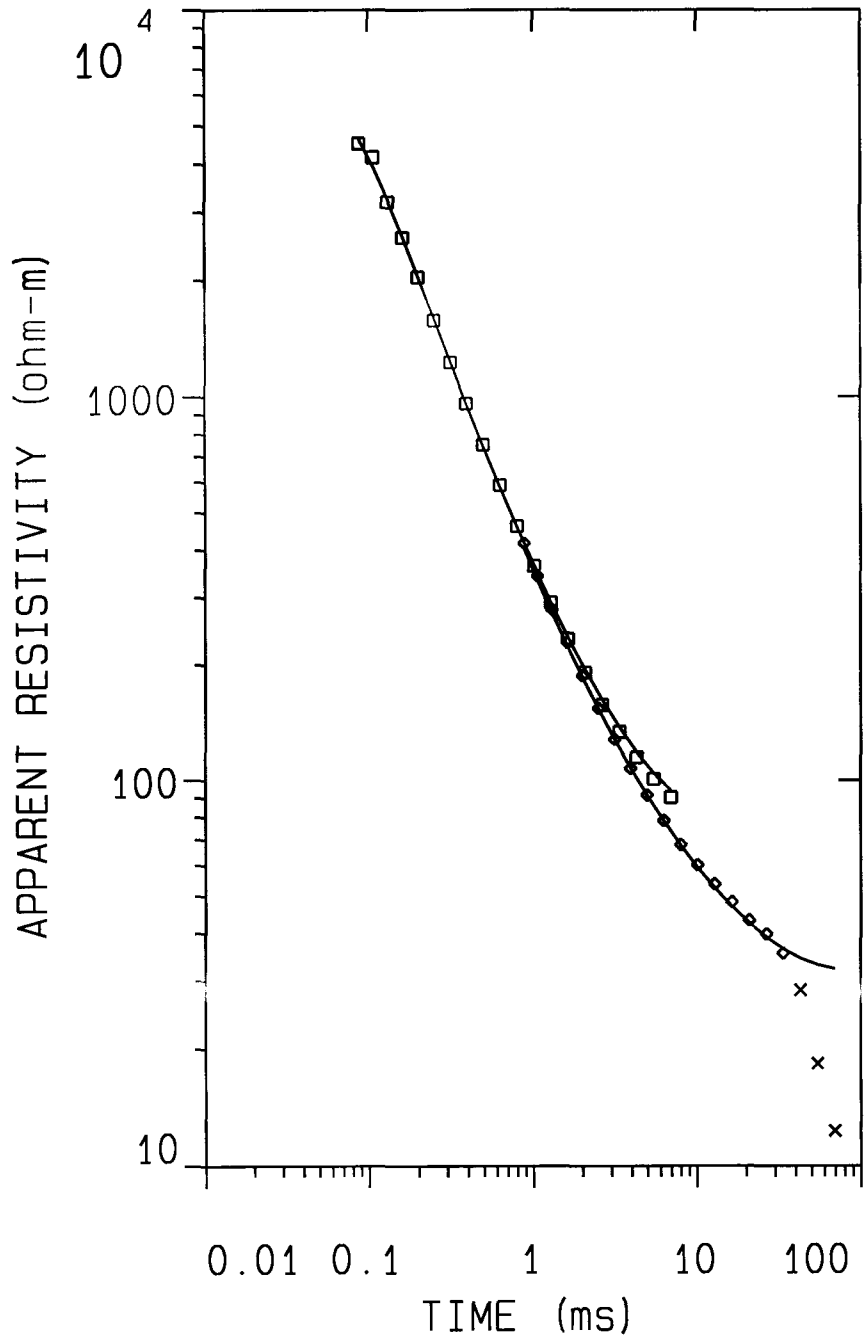
SYNTHETIC FROM LAYERED MODEL:

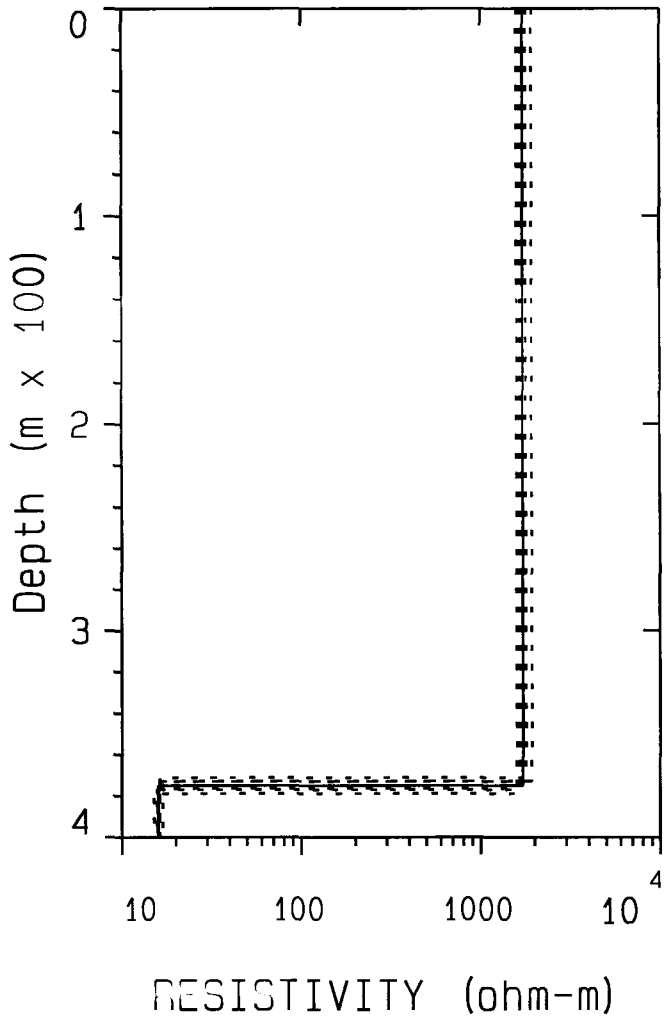
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	62.17	65.54	-5.41
22	1.06	51.61	53.92	-4.47
23	1.31	41.84	43.35	-3.62
24	1.61	33.47	34.32	-2.55
25	2.00	26.33	26.71	-1.43
26	2.50	20.19	20.29	-0.497
27	3.14	15.14	15.12	0.151
28	3.95	11.09	11.04	0.486
29	4.99	7.88	7.89	-0.217
30	6.31	5.51	5.54	-0.448
31	7.99	3.79	3.81	-0.455
32	10.14	2.50	2.56	-2.39
33	12.87	1.64	1.69	-3.55
34	16.36	1.05	1.09	-4.19
35	20.81	0.681	0.697	-2.42
36	26.48	0.422	0.434	-2.67
37	33.73	0.274	0.263	3.85

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.208	0.156	24.75 MASKED
39	54.75	0.219	0.0908	58.58 MASKED
40	69.78	0.218	0.0512	76.50 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	T 1
P 1	0.88		
P 2	-0.02	0.97	
T 1	0.01	0.00	1.00





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX30 / Date: 22-June-02	TX30
Equipment: Geonics PROTEM / Sounding: Tx30	Azimuth:

DATA SET: TX31

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx31
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 7.42
SOUNDING COORDINATES: E: 615050.0000 N: 4607850.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.308 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1665.0	389.0	-389.0	0.233
2	38.09	127.3	-516.3	3.34
3	3.56	51.10	-567.4	14.34
4	25.44			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1326.708	1665.056	2195.030
	2	25.775	38.098	51.030
	3	2.199	3.564	6.250
	4	19.886	25.448	38.512
THICK	1	369.925	389.020	411.368
	2	107.485	127.333	144.167
	3	27.537	51.109	111.000
DEPTH	1	369.925	389.020	411.368
	2	500.914	516.353	529.375
	3	556.912	567.462	611.914

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	473.5	669.3	-41.35 MASKED
2	0.106	523.5	507.7	3.01
3	0.131	390.2	390.9	-0.183
4	0.161	306.5	306.1	0.156
5	0.200	241.5	238.4	1.29
6	0.250	178.1	181.5	-1.94
7	0.314	129.9	133.4	-2.72
8	0.395	91.79	94.92	-3.41
9	0.499	64.48	65.86	-2.13
10	0.631	45.96	45.42	1.19
11	0.799	33.96	32.38	4.64
12	1.01	25.67	24.30	5.33
13	1.28	19.75	19.35	2.06
14	1.63	15.65	15.85	-1.24
15	2.08	12.68	13.06	-2.97
16	2.64	10.24	10.56	-3.14
17	3.37	8.12	8.30	-2.23
18	4.29	6.39	6.30	1.46
19	5.47	4.86	4.58	5.64
20	6.97	3.53	3.18	9.94

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

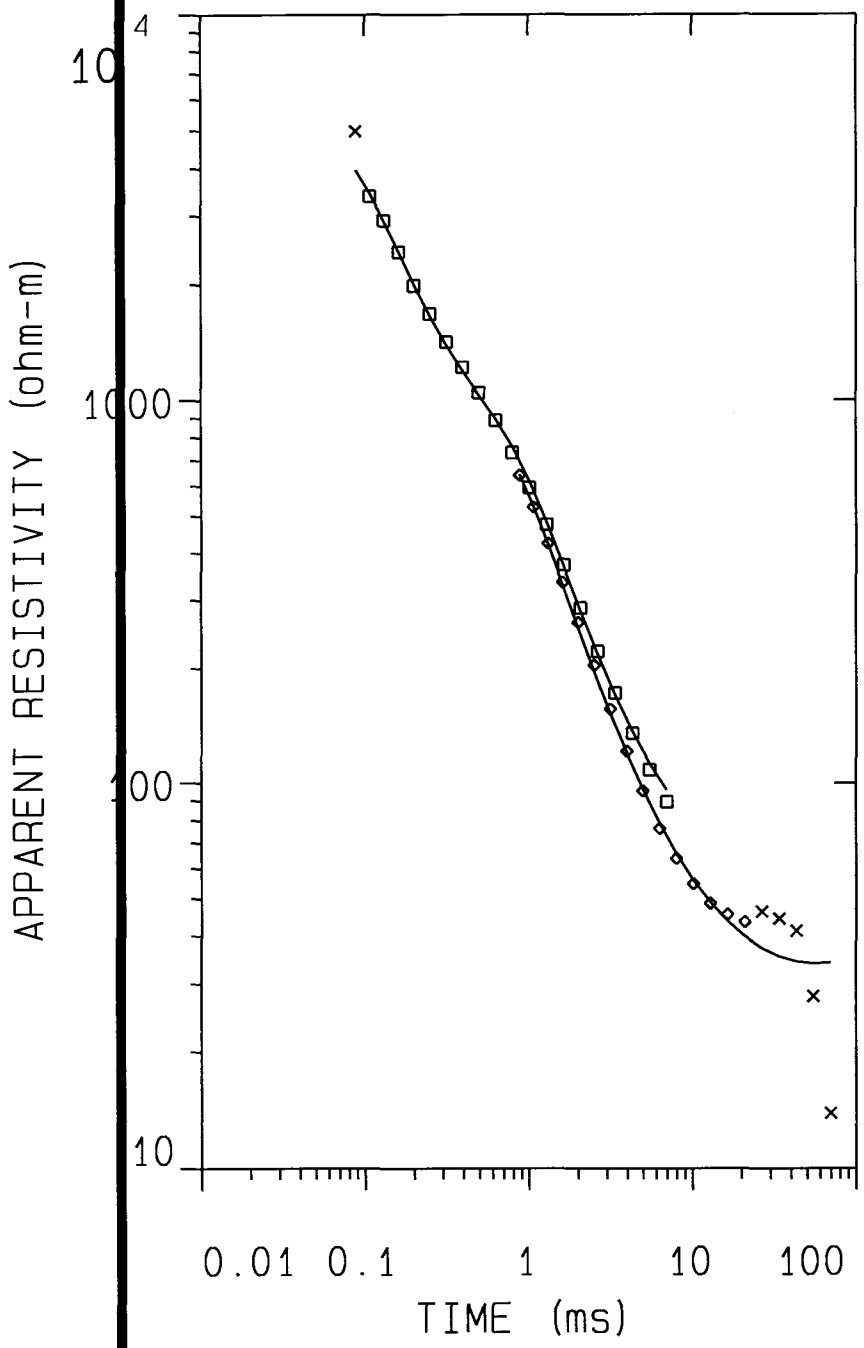
SYNTHETIC FROM LAYERED MODEL:

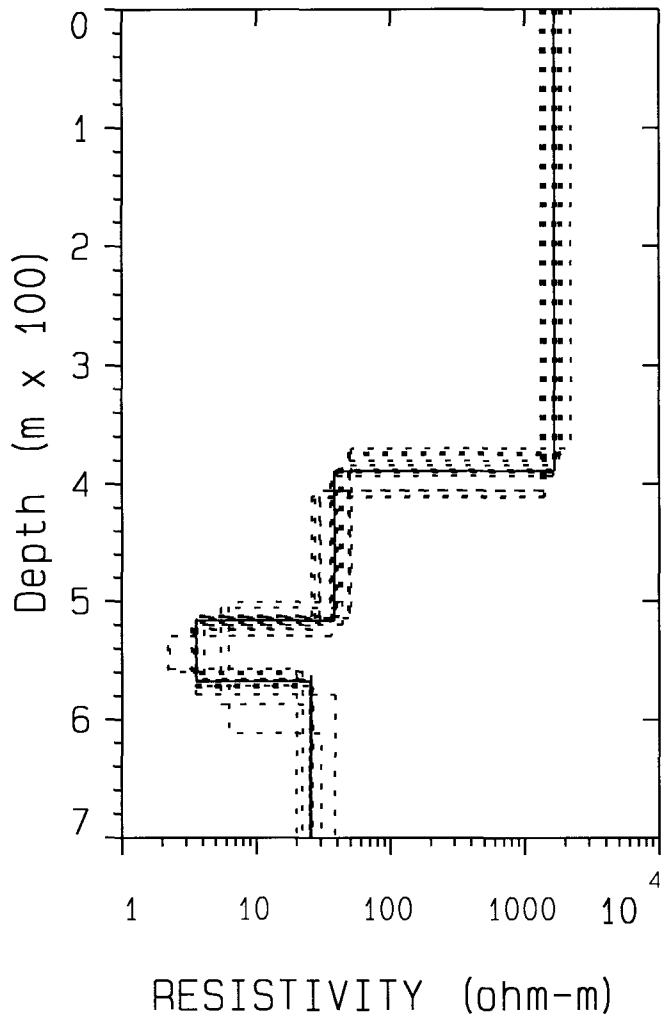
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	32.61	32.38	0.711
22	1.06	26.85	26.67	0.668
23	1.31	22.33	22.56	-1.03
24	1.61	18.85	19.36	-2.68
25	2.00	15.84	16.64	-5.09
26	2.50	13.30	14.06	-5.70
27	3.14	11.21	11.62	-3.71
28	3.95	9.25	9.36	-1.12
29	4.99	7.41	7.29	1.58
30	6.31	5.75	5.49	4.48
31	7.99	4.16	3.99	4.15
32	10.14	2.88	2.79	3.15
33	12.87	1.90	1.88	0.732

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
34	16.36	1.15	1.22	-6.50	
35	20.81	0.676	0.769	-13.79	
36	26.48	0.337	0.467	-38.72	MASKED
37	33.73	0.196	0.275	-40.32	MASKED
38	42.97	0.119	0.157	-31.77	MASKED
39	54.75	0.117	0.0875	25.24	MASKED
40	69.78	0.182	0.0472	74.07	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	P 4	T 1	T 2	T 3
P 1	0.83						
P 2	-0.18	0.57					
P 3	0.00	-0.04	0.61				
P 4	0.00	0.03	0.00	0.67			
T 1	0.03	0.06	0.00	0.00	0.99		
T 2	-0.08	-0.13	0.07	-0.01	0.02	0.92	
T 3	-0.02	-0.06	-0.42	-0.14	0.01	0.06	0.42





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX31 / Date: 23-June-02	TX31
Equipment: Geonics PROTEM / Sounding: Tx31	Azimuth:

DATA SET: TX31B

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx31
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: NONE
SOUNDING COORDINATES: E: 615050.0000 N: 4607850.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 9.965 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	2361.6	347.4	-347.4	0.147
2	49.46	108.0	-455.4	2.18
3	4.09			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1212.961	2361.618	7124.177
	2	24.573	49.464	95.761
	3	2.791	4.098	6.047
THICK	1	308.764	347.417	390.779
	2	75.126	108.031	146.919
DEPTH	1	308.764	347.417	390.779
	2	453.715	455.448	470.284

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	473.5	629.9	-33.03	MASKED
2	0.106	523.5	514.2	1.77	
3	0.131	390.2	408.5	-4.70	
4	0.161	306.5	316.3	-3.17	
5	0.200	241.5	237.1	1.80	
6	0.250	178.1	172.1	3.35	
7	0.314	129.9	122.2	5.89	
8	0.395	91.79	87.01	5.20	
9	0.499	64.48	62.85	2.52	
10	0.631	45.96	46.63	-1.44	
11	0.799	33.96	35.60	-4.82	
12	1.01	25.67	27.53	-7.24	
13	1.28	19.75	21.49	-8.79	
14	1.63	15.65	16.69	-6.59	
15	2.08	12.68	12.89	-1.61	
16	2.64	10.24	9.81	4.18	
17	3.37	8.12	7.36	9.41	
18	4.29	6.39	5.40	15.40	
19	5.47	4.86	3.88	20.01	
20	6.97	3.53	2.72	23.00	

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

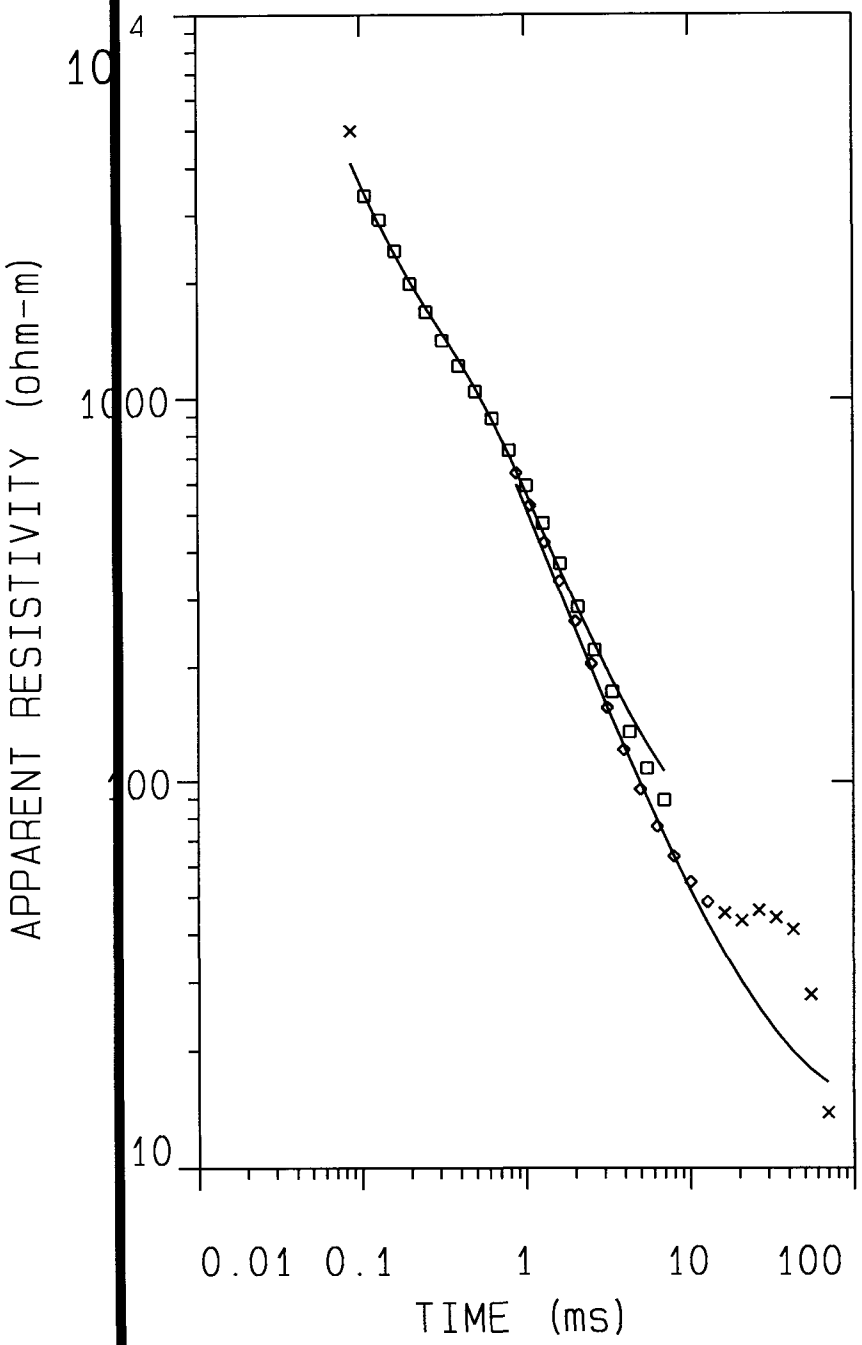
SYNTHETIC FROM LAYERED MODEL:

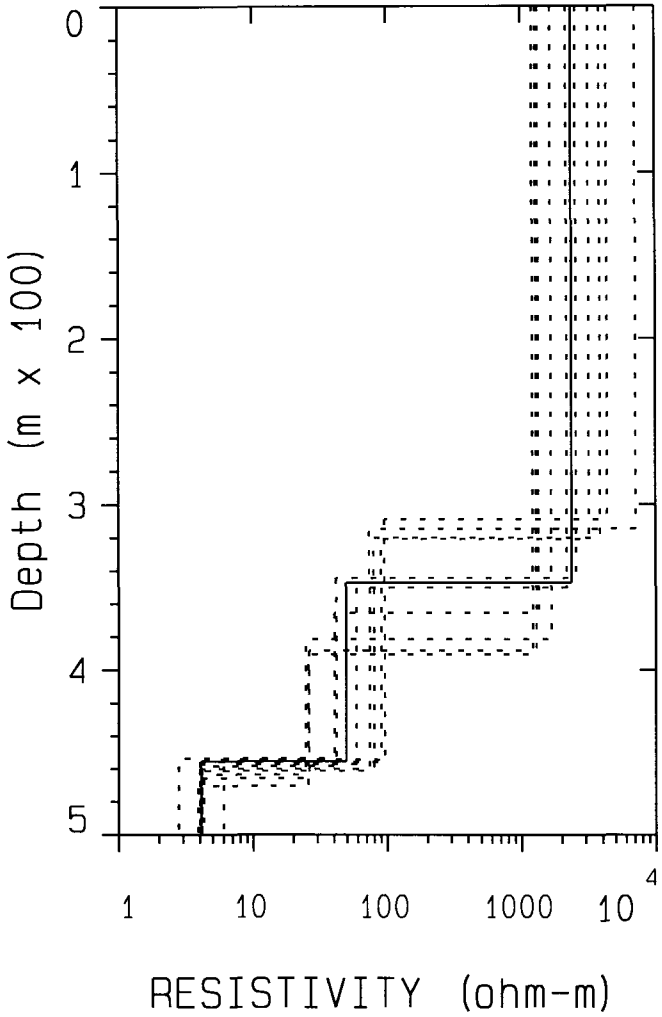
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	32.61	36.05	-10.57	
22	1.06	26.85	30.06	-11.94	
23	1.31	22.33	24.92	-11.61	
24	1.61	18.85	20.60	-9.28	
25	2.00	15.84	16.98	-7.21	
26	2.50	13.30	13.81	-3.80	
27	3.14	11.21	11.14	0.601	
28	3.95	9.25	8.88	4.05	
29	4.99	7.41	6.99	5.61	
30	6.31	5.75	5.43	5.67	
31	7.99	4.16	4.15	0.410	
32	10.14	2.88	3.12	-8.01	
33	12.87	1.90	2.30	-21.07	
34	16.36	1.15	1.66	-44.40	MASKED
35	20.81	0.676	1.17	-73.71	MASKED
36	26.48	0.337	0.811	-140.5	MASKED
37	33.73	0.196	0.545	-177.9	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.119	0.356	-198.6	MASKED
39	54.75	0.117	0.226	-93.52	MASKED
40	69.78	0.182	0.139	23.52	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.28				
P 2	-0.26	0.48			
P 3	0.02	-0.04	0.91		
T 1	0.06	0.07	0.00	0.99	
T 2	-0.19	-0.19	0.00	0.03	0.89





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX31B / Date: 23-June-02	TX31B
Equipment: Geonics PROTEM / Sounding: Tx31	Azimuth:

DATA SET: TX32

CLIENT: Calpine Corporation DATE: 21-June-02
LOCATION: Klamath National Forest SOUNDING: Tx32
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: NONE
SOUNDING COORDINATES: E: 615000.0000 N: 4609170.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 9.073 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1387.8	347.2	-347.2	0.250
2	13.59			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1237.556	1387.854	1745.428
	2	12.327	13.593	14.989
THICK	1	336.839	347.296	357.394
DEPTH	1	336.839	347.296	357.394

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0881	726.2	712.5	1.89
2	0.106	550.7	542.3	1.52
3	0.131	432.0	427.2	1.11

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
4	0.161	345.9	348.8	-0.848
5	0.200	284.9	289.8	-1.72
6	0.250	232.8	241.9	-3.89
7	0.314	189.9	200.2	-5.42
8	0.395	151.7	164.9	-8.66
9	0.499	121.3	134.3	-10.67
10	0.631	97.55	107.9	-10.60
11	0.799	78.73	85.70	-8.85
12	1.01	63.84	66.84	-4.69
13	1.28	51.16	51.33	-0.332
14	1.63	40.45	38.60	4.57
15	2.08	31.25	28.43	9.01
16	2.64	23.35	20.45	12.42
17	3.37	16.72	14.32	14.34
18	4.29	11.50	9.76	15.09
19	5.47	7.45	6.45	13.34
20	6.97	4.65	4.13	11.24

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

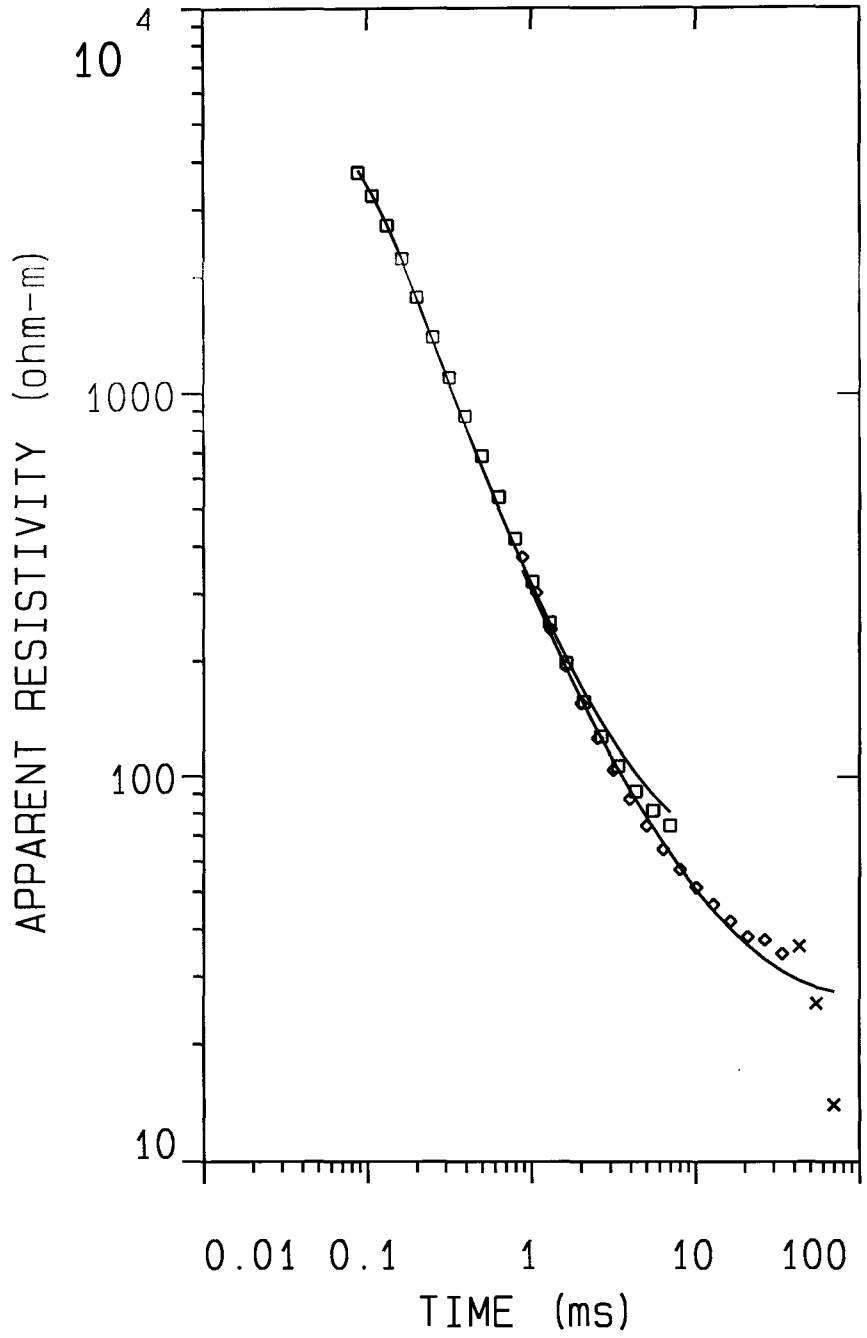
SYNTHETIC FROM LAYERED MODEL:

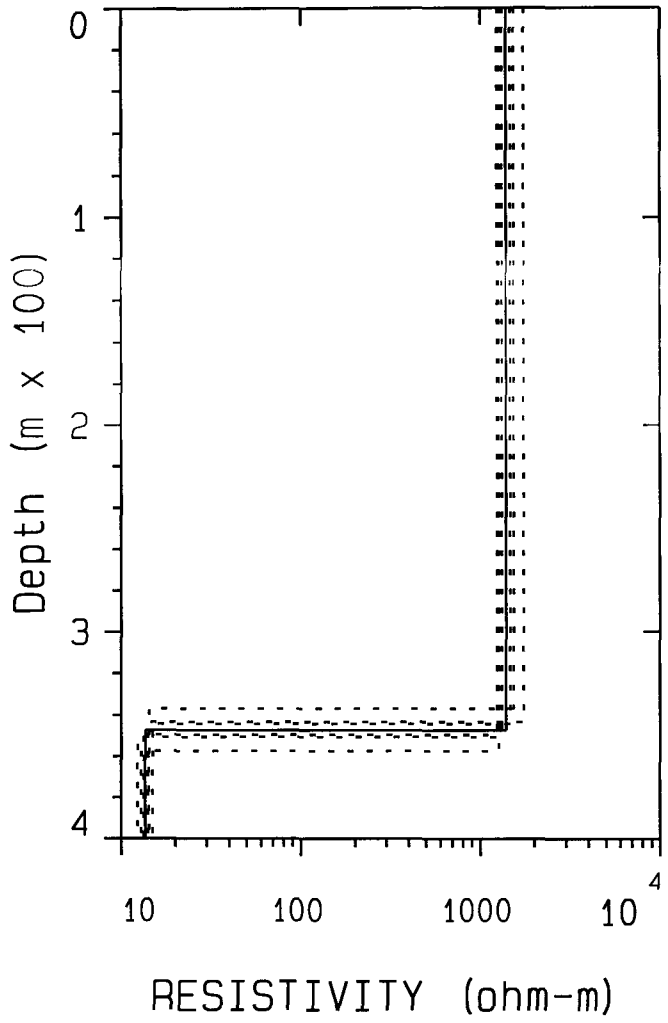
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	72.85	81.96	-12.51
22	1.06	61.92	67.42	-8.88
23	1.31	51.83	54.28	-4.71
24	1.61	42.71	43.00	-0.680
25	2.00	34.71	33.50	3.49
26	2.50	27.28	25.48	6.59
27	3.14	20.73	19.00	8.30
28	3.95	15.16	13.90	8.29
29	4.99	10.76	9.95	7.50
30	6.31	7.39	6.99	5.42
31	7.99	4.91	4.81	2.04
32	10.14	3.17	3.24	-2.30
33	12.87	2.03	2.15	-5.47
34	16.36	1.30	1.39	-7.17
35	20.81	0.820	0.885	-7.88
36	26.48	0.462	0.550	-19.10
37	33.73	0.286	0.335	-16.96

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.145	0.199	-36.56 MASKED
39	54.75	0.133	0.115	13.33 MASKED
40	69.78	0.178	0.0653	63.51 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.91		
P 2	-0.01	0.97	
T 1	0.00	0.00	1.00
	P 1	P 2	T 1





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX32 / Date: 21-June-02	TX32
Equipment: Geonics PROTEM / Sounding: Tx32	Azimuth:

DATA SET: TX33

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx33
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.71
SOUNDING COORDINATES: E: 615200.0000 N: 4607635.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 3.138 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1506.3	399.7	-399.7	0.265
2	49.61	113.4	-513.1	2.28
3	9.78			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1372.201	1506.357	1899.720
	2	38.995	49.614	76.214
	3	8.944	9.783	10.790
THICK	1	373.479	399.729	412.854
	2	102.507	113.433	135.639
DEPTH	1	373.479	399.729	412.854
	2	505.638	513.161	518.939

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	483.8	789.6	-63.21 MASKED
2	0.106	568.5	573.1	-0.809
3	0.131	400.0	418.3	-4.58
4	0.161	310.4	311.3	-0.289
5	0.200	237.3	231.9	2.26
6	0.250	175.6	170.8	2.72
7	0.314	127.4	124.8	2.08
8	0.395	91.93	90.12	1.96
9	0.499	65.83	65.53	0.457
10	0.631	48.12	48.18	-0.130
11	0.799	35.80	35.84	-0.110
12	1.01	26.97	27.06	-0.339
13	1.28	20.24	20.46	-1.08
14	1.63	15.22	15.48	-1.68
15	2.08	11.33	11.59	-2.22
16	2.64	8.55	8.57	-0.317
17	3.37	6.37	6.22	2.31
18	4.29	4.61	4.42	4.03
19	5.47	3.27	3.07	6.10
20	6.97	2.21	2.07	6.64

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

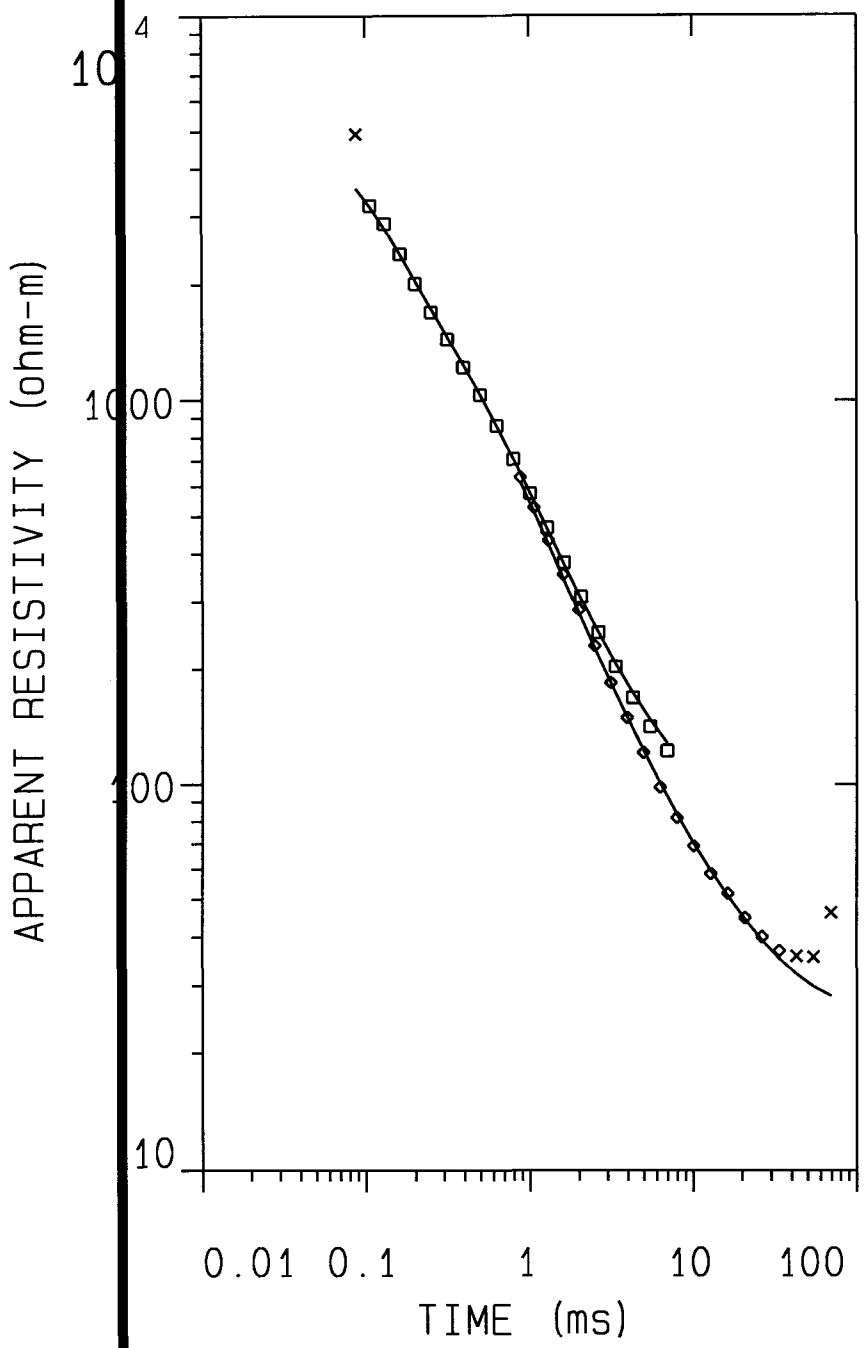
SYNTHETIC FROM LAYERED MODEL:

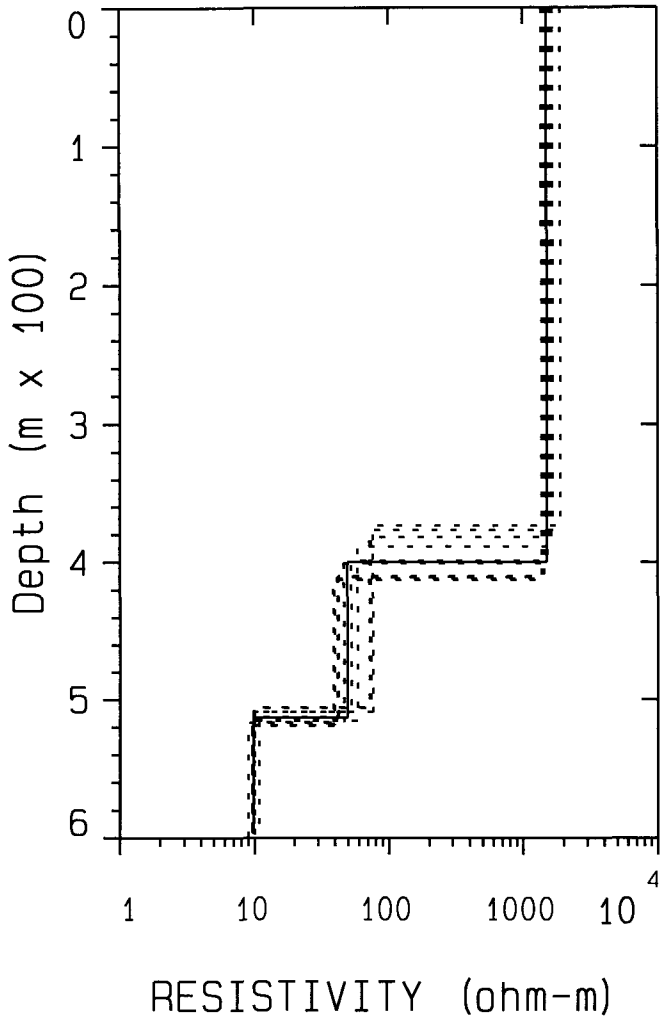
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	33.11	34.60	-4.49
22	1.06	26.90	28.03	-4.19
23	1.31	21.66	22.50	-3.87
24	1.61	17.43	18.07	-3.64
25	2.00	13.97	14.39	-3.04
26	2.50	11.08	11.32	-2.18
27	3.14	8.81	8.80	0.0776
28	3.95	6.81	6.75	0.883
29	4.99	5.20	5.11	1.84
30	6.31	3.94	3.80	3.56
31	7.99	2.86	2.78	2.97
32	10.14	2.04	1.99	2.19
33	12.87	1.44	1.40	2.77
34	16.36	0.950	0.971	-2.26
35	20.81	0.647	0.655	-1.21
36	26.48	0.419	0.432	-3.14
37	33.73	0.259	0.278	-7.35

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.148	0.174	-17.51	MASKED
39	54.75	0.0815	0.106	-30.17	MASKED
40	69.78	0.0299	0.0628	-109.4	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.93				
P 2	-0.13	0.32			
P 3	0.00	-0.04	0.94		
T 1	0.02	0.08	0.00	0.99	
T 2	-0.06	-0.16	0.02	0.03	0.89





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX33 / Date: 23-June-02	TX33
Equipment: Geonics PROTEM / Sounding: Tx33	Azimuth:

DATA SET: TX34

CLIENT: Calpine Corporation DATE: 21-June-02
LOCATION: Klamath National Forest SOUNDING: Tx34
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.60
SOUNDING COORDINATES: E: 615230.0000 N: 4608900.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 6.092 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	901.3	350.4	-350.4	0.388
2	8.34			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	830.540	901.370	985.654
	2	7.326	8.343	9.509
THICK	1	344.906	350.472	356.023
DEPTH	1	344.906	350.472	356.023

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	emf (nV/m sqrd) SYNTHETIC	DIFFERENCE (percent)
1	0.0881	853.0	1348.1	-58.02 MASKED
2	0.106	808.2	880.1	-8.90
3	0.131	565.1	578.1	-2.30

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
4	0.161	432.3	401.3	7.17
5	0.200	333.9	297.5	10.90
6	0.250	257.5	231.6	10.07
7	0.314	199.5	185.9	6.82
8	0.395	153.8	152.2	1.00
9	0.499	119.2	123.8	-3.89
10	0.631	93.98	100.4	-6.89
11	0.799	75.58	80.80	-6.90
12	1.01	60.81	63.99	-5.24
13	1.28	48.89	50.13	-2.53
14	1.63	38.86	38.50	0.923
15	2.08	30.21	29.08	3.75
16	2.64	22.94	21.46	6.43
17	3.37	16.73	15.47	7.51
18	4.29	11.82	10.85	8.19
19	5.47	7.98	7.40	7.23
20	6.97	5.17	4.88	5.59

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

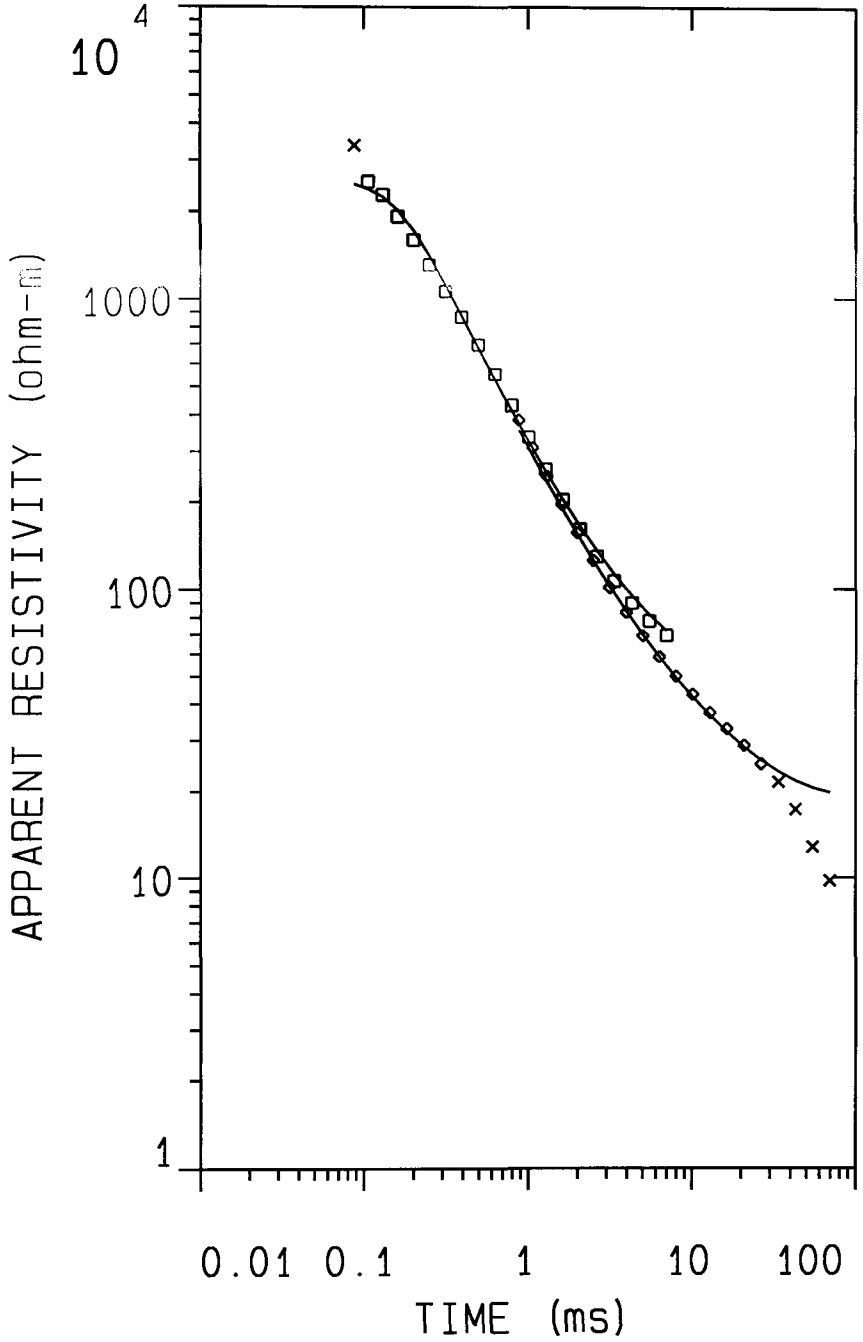
SYNTHETIC FROM LAYERED MODEL:

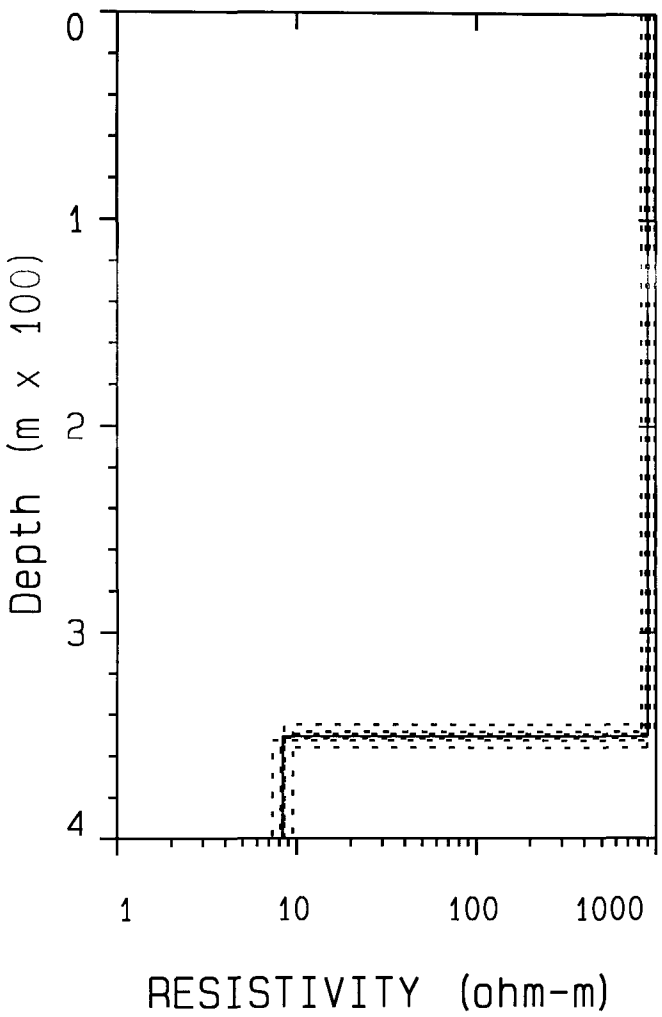
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	70.40	79.27	-12.58
22	1.06	60.08	66.30	-10.36
23	1.31	50.71	54.46	-7.39
24	1.61	42.22	44.10	-4.44
25	2.00	34.55	35.24	-1.98
26	2.50	27.60	27.55	0.174
27	3.14	21.47	21.18	1.35
28	3.95	16.24	15.99	1.56
29	4.99	11.97	11.83	1.19
30	6.31	8.59	8.60	-0.0287
31	7.99	6.02	6.12	-1.70
32	10.14	4.13	4.27	-3.31
33	12.87	2.84	2.92	-2.98
34	16.36	1.89	1.95	-3.51
35	20.81	1.26	1.28	-1.55
36	26.48	0.858	0.820	4.42
37	33.73	0.580	0.513	11.63 MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.439	0.312	28.82 MASKED
39	54.75	0.378	0.185	50.88 MASKED
40	69.78	0.310	0.107	65.47 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.98		
P 2	-0.01	0.96	
T 1	0.00	0.00	1.00
	P 1	P 2	T 1





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX34 / Date: 21-June-02	TX34
Equipment: Geonics PROTEM / Sounding: Tx34	Azimuth:

DATA SET: TX35

CLIENT: Calpine Corporation DATE: 21-June-02
LOCATION: Klamath National Forest SOUNDING: Tx35
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.07
SOUNDING COORDINATES: E: 615350.0000 N: 4608725.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 8.118 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1552.2	290.7	-290.7	0.187
2	69.65	110.8	-401.5	1.59
3	7.03			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1005.861	1552.288	3062.854
	2	35.956	69.658	122.562
	3	5.602	7.032	8.620
THICK	1	256.154	290.758	329.987
	2	80.941	110.822	148.293
DEPTH	1	256.154	290.758	329.987
	2	397.518	401.581	413.359

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	1097.5	1162.1	-5.89
2	0.106	950.1	911.4	4.07
3	0.131	691.6	693.3	-0.242
4	0.161	514.6	516.0	-0.274
5	0.200	386.1	375.3	2.80
6	0.250	281.4	268.8	4.48
7	0.314	202.3	192.4	4.87
8	0.395	143.4	140.3	2.21
9	0.499	102.2	105.1	-2.86
10	0.631	75.07	80.08	-6.67
11	0.799	57.13	62.15	-8.78
12	1.01	44.61	48.18	-8.00
13	1.28	35.32	37.32	-5.66
14	1.63	27.97	28.60	-2.22
15	2.08	22.00	21.64	1.63
16	2.64	17.12	16.10	5.93
17	3.37	12.96	11.73	9.50
18	4.29	9.53	8.35	12.38
19	5.47	6.86	5.79	15.59
20	6.97	4.70	3.89	17.08

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

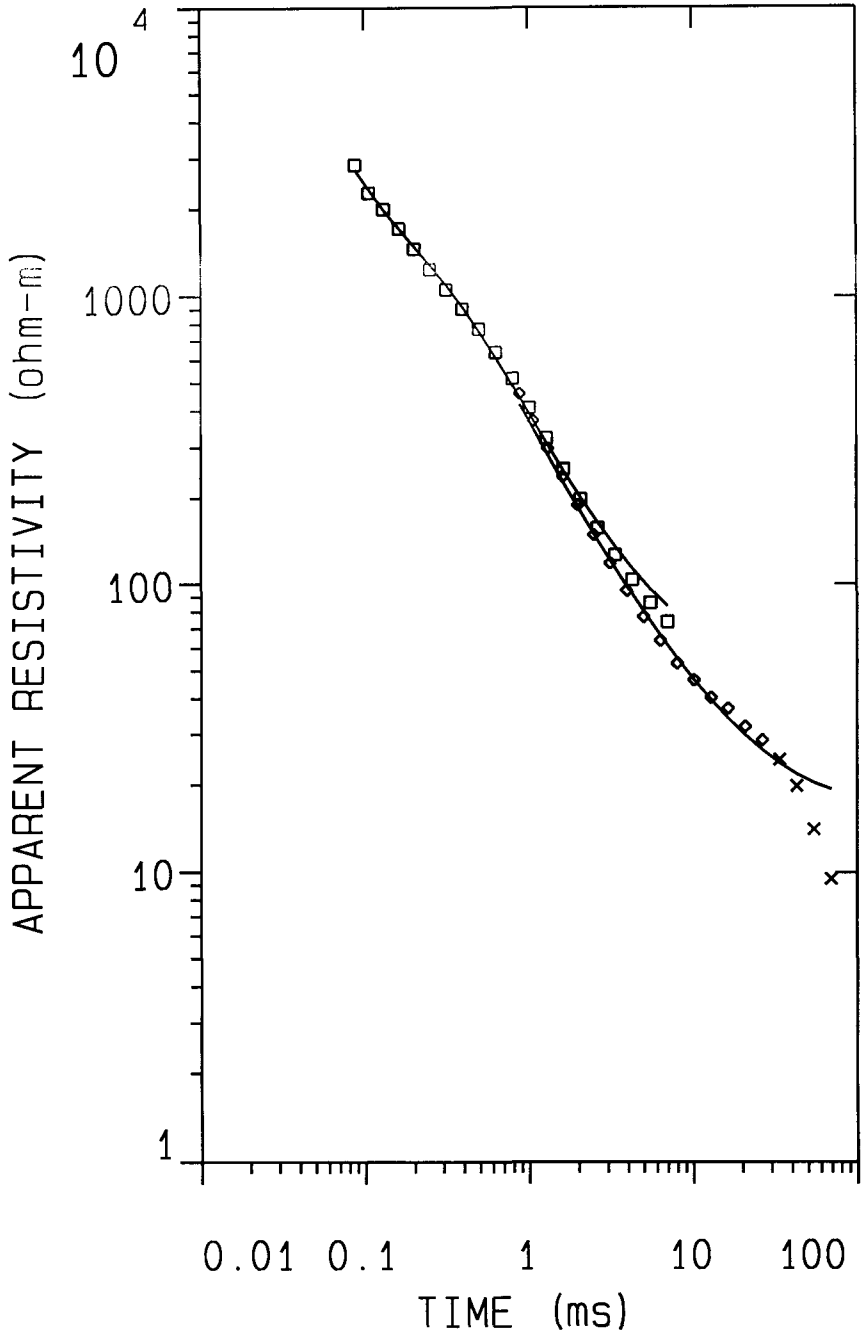
SYNTHETIC FROM LAYERED MODEL:

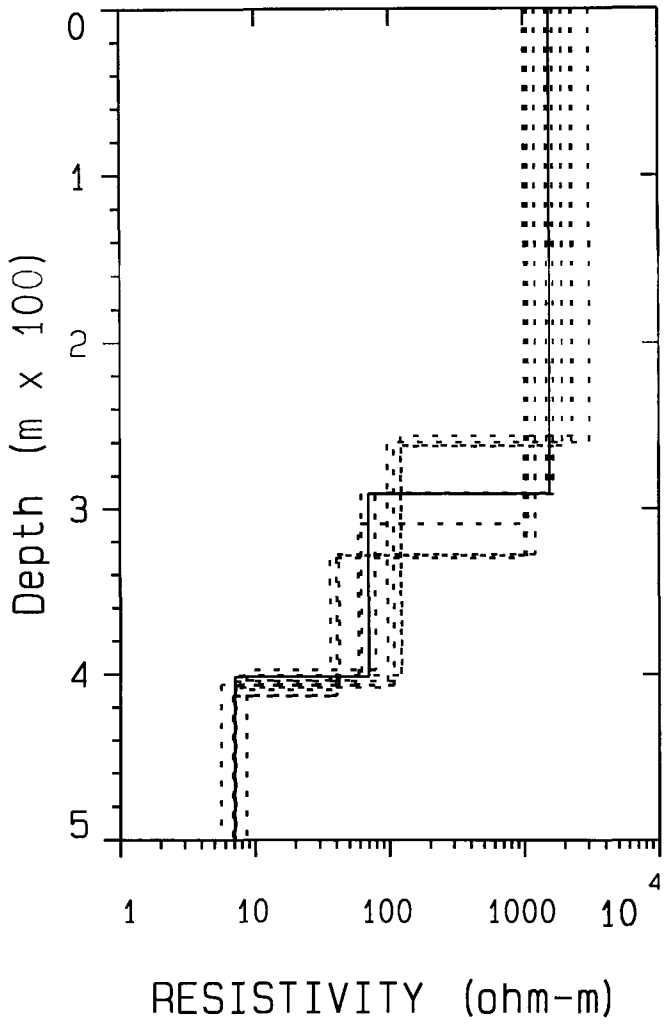
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	53.67	60.94	-13.54	
22	1.06	45.64	50.35	-10.32	
23	1.31	37.92	41.17	-8.57	
24	1.61	31.40	33.38	-6.29	
25	2.00	25.96	26.81	-3.28	
26	2.50	21.37	21.19	0.860	
27	3.14	17.08	16.50	3.37	
28	3.95	13.39	12.67	5.39	
29	4.99	10.21	9.56	6.37	
30	6.31	7.54	7.09	5.92	
31	7.99	5.49	5.17	5.81	
32	10.14	3.71	3.69	0.397	
33	12.87	2.52	2.59	-2.53	
34	16.36	1.57	1.77	-12.61	
35	20.81	1.07	1.19	-10.44	
36	26.48	0.695	0.781	-12.36	
37	33.73	0.479	0.499	-4.14	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.358	0.311	13.16	MASKED
39	54.75	0.326	0.188	42.23	MASKED
40	69.78	0.322	0.110	65.59	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.49				
P 2	-0.24	0.36			
P 3	0.01	-0.02	0.96		
T 1	0.08	0.12	0.00	0.97	
T 2	-0.22	-0.25	0.01	0.06	0.84
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX35 / Date: 21-June-02	TX35
Equipment: Geonics PROTEM / Sounding: Tx35	Azimuth:

DATA SET: TX36

CLIENT: Calpine Corporation DATE: 27-June-02
LOCATION: Klamath National Forest SOUNDING: Tx36
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 6.91
SOUNDING COORDINATES: E: 615090.0000 N: 4608400.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 8.259 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1798.1	299.9	-299.9	0.166
2	28.60	79.51	-379.4	2.77
3	2.27			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1092.344	1798.143	5030.089
	2	16.879	28.605	51.339
	3	1.793	2.275	2.888
THICK	1	273.785	299.917	325.618
	2	59.539	79.517	103.728
DEPTH	1	273.785	299.917	325.618
	2	376.941	379.434	388.200

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	845.2	874.3	-3.43
2	0.106	721.8	715.8	0.827
3	0.131	571.6	570.5	0.186
4	0.161	439.1	443.0	-0.893
5	0.200	340.0	333.5	1.89
6	0.250	252.1	243.4	3.44
7	0.314	184.0	174.3	5.26
8	0.395	130.4	125.5	3.70
9	0.499	92.65	91.84	0.871
10	0.631	66.82	69.07	-3.37
11	0.799	50.04	53.31	-6.54
12	1.01	38.69	41.63	-7.58
13	1.28	30.43	32.76	-7.64
14	1.63	24.52	25.64	-4.55
15	2.08	19.78	19.96	-0.886
16	2.64	16.14	15.31	5.15
17	3.37	12.85	11.59	9.84
18	4.29	9.92	8.59	13.36
19	5.47	7.50	6.24	16.77
20	6.97	5.49	4.42	19.50

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

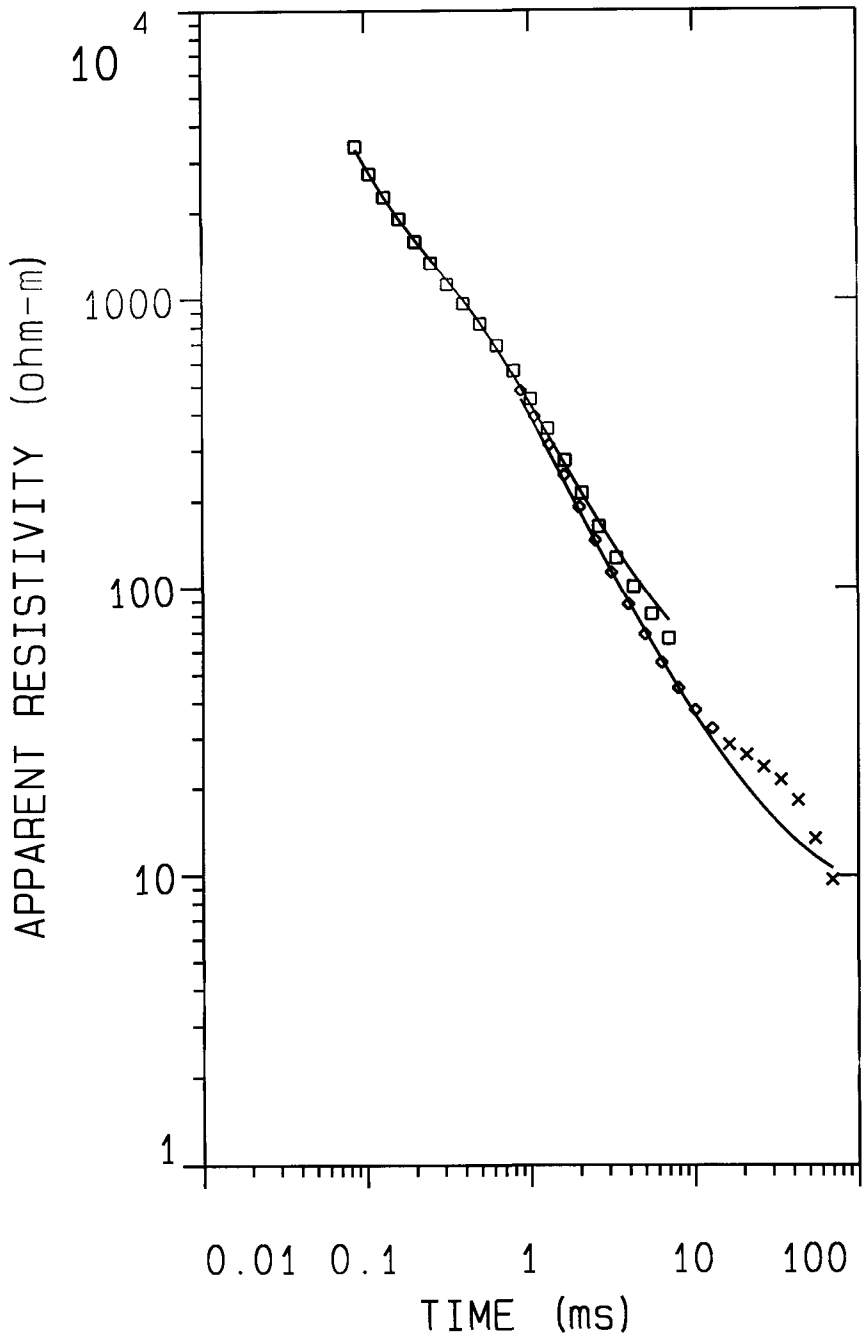
SYNTHETIC FROM LAYERED MODEL:

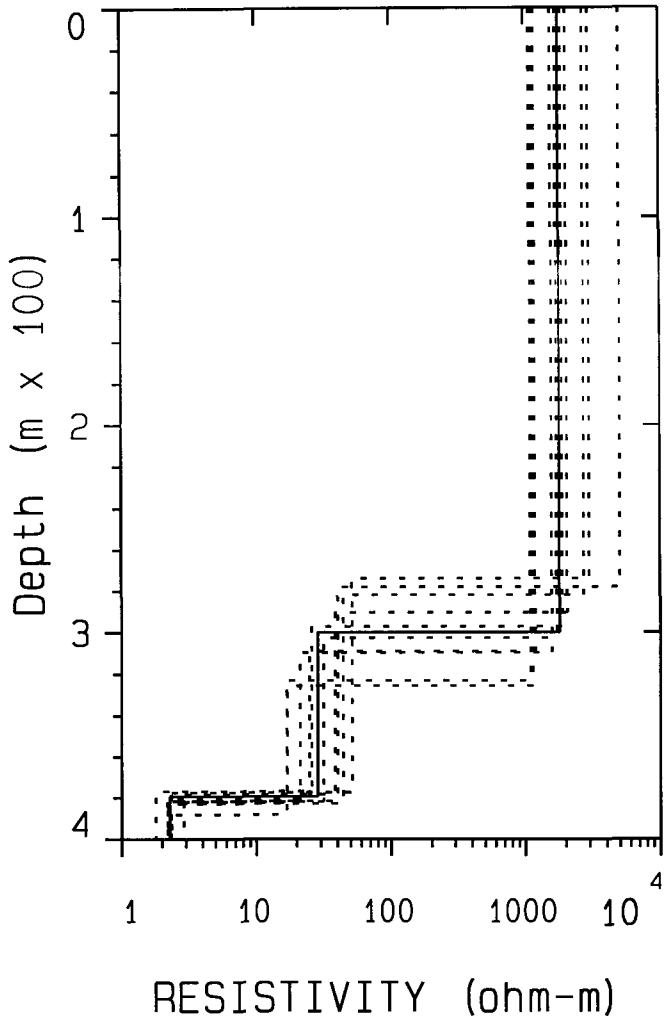
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	49.67	55.10	-10.93	
22	1.06	41.86	46.37	-10.77	
23	1.31	35.23	38.78	-10.09	
24	1.61	30.02	32.36	-7.77	
25	2.00	25.64	26.91	-4.97	
26	2.50	21.80	22.11	-1.45	
27	3.14	18.25	18.04	1.19	
28	3.95	15.04	14.54	3.32	
29	4.99	12.07	11.59	3.95	
30	6.31	9.42	9.12	3.12	
31	7.99	7.08	7.07	0.0663	
32	10.14	5.08	5.39	-6.08	
33	12.87	3.49	4.04	-15.79	
34	16.36	2.32	2.96	-27.57	MASKED
35	20.81	1.44	2.13	-47.65	MASKED
36	26.48	0.916	1.49	-63.27	MASKED
37	33.73	0.585	1.02	-74.65	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.410	0.679	-65.64 MASKED
39	54.75	0.353	0.438	-23.95 MASKED
40	69.78	0.313	0.273	12.72 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.28				
P 2	-0.24	0.44			
P 3	0.02	-0.05	0.89		
T 1	0.05	0.06	0.00	0.99	
T 2	-0.19	-0.20	0.00	0.03	0.89
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX36 / Date: 27-June-02	TX36
Equipment: Geonics PROTEM / Sounding: Tx36	Azimuth:

DATA SET: TX37

CLIENT: Calpine Corporation DATE: 27-June-02
LOCATION: Klamath National Forest SOUNDING: Tx37
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 8.75
SOUNDING COORDINATES: E: 615900.0000 N: 4609215.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 4.126 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1073.6	398.4	-398.4	0.371
2	51.92	122.4	-520.8	2.35
3	12.80			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1012.901	1073.613	1218.734
	2	39.556	51.925	120.058
	3	11.843	12.804	16.607
THICK	1	349.840	398.404	414.457
	2	107.165	122.467	149.325
DEPTH	1	349.840	398.404	414.457
	2	497.991	520.872	530.707

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	1278.1	1377.6	-7.78
2	0.106	907.9	944.0	-3.97
3	0.131	683.7	641.9	6.11
4	0.161	473.0	445.0	5.91
5	0.200	329.4	314.0	4.66
6	0.250	224.6	223.0	0.720
7	0.314	156.7	158.0	-0.828
8	0.395	107.3	112.3	-4.69
9	0.499	76.06	79.93	-5.08
10	0.631	55.68	57.09	-2.52
11	0.799	42.20	41.60	1.42
12	1.01	31.98	30.49	4.67
13	1.28	23.96	22.60	5.67
14	1.63	17.85	16.71	6.35
15	2.08	13.16	12.29	6.61
16	2.64	9.39	8.93	4.92
17	3.37	6.57	6.37	3.10
18	4.29	4.46	4.45	0.249
19	5.47	2.94	3.03	-3.12
20	6.97	1.97	2.00	-1.63

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

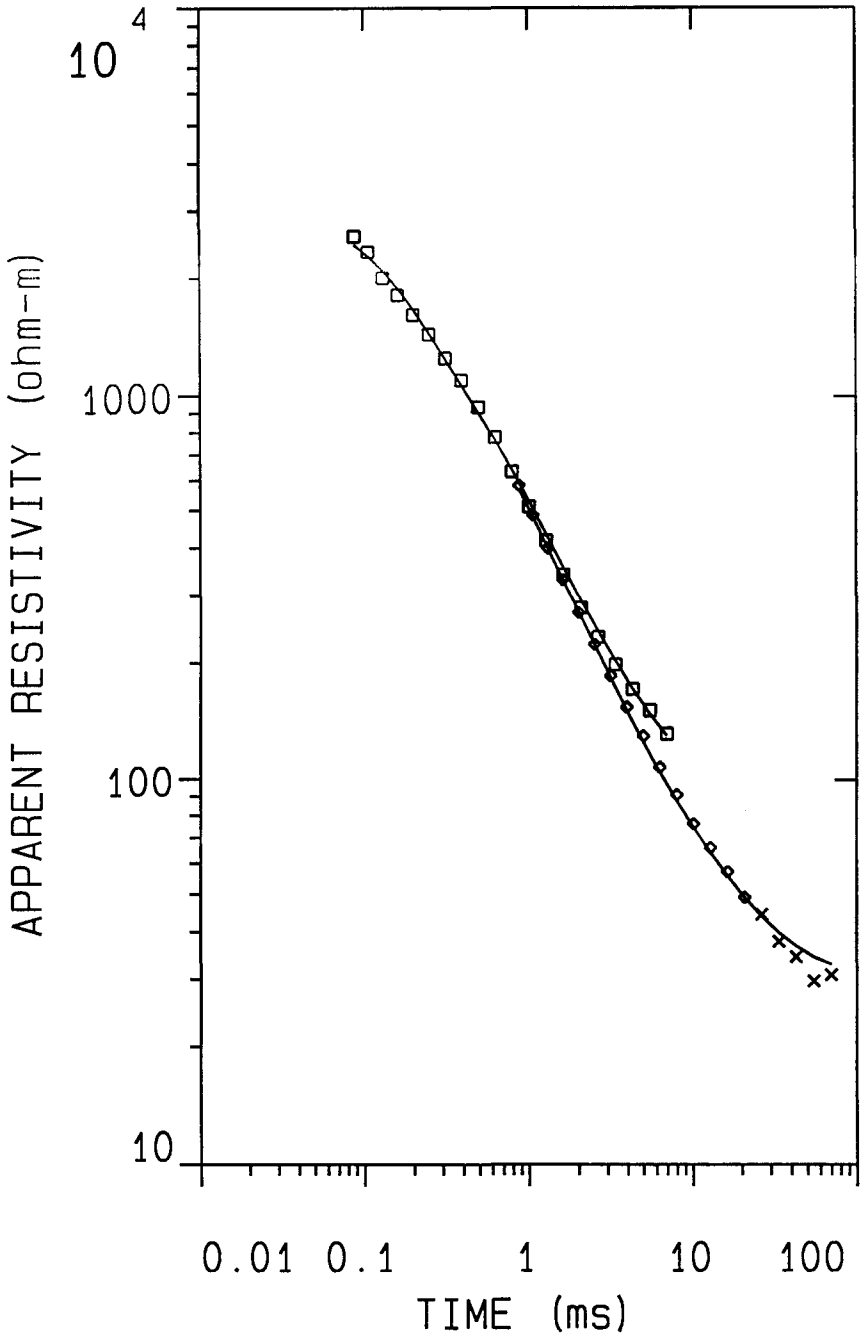
SYNTHETIC FROM LAYERED MODEL:

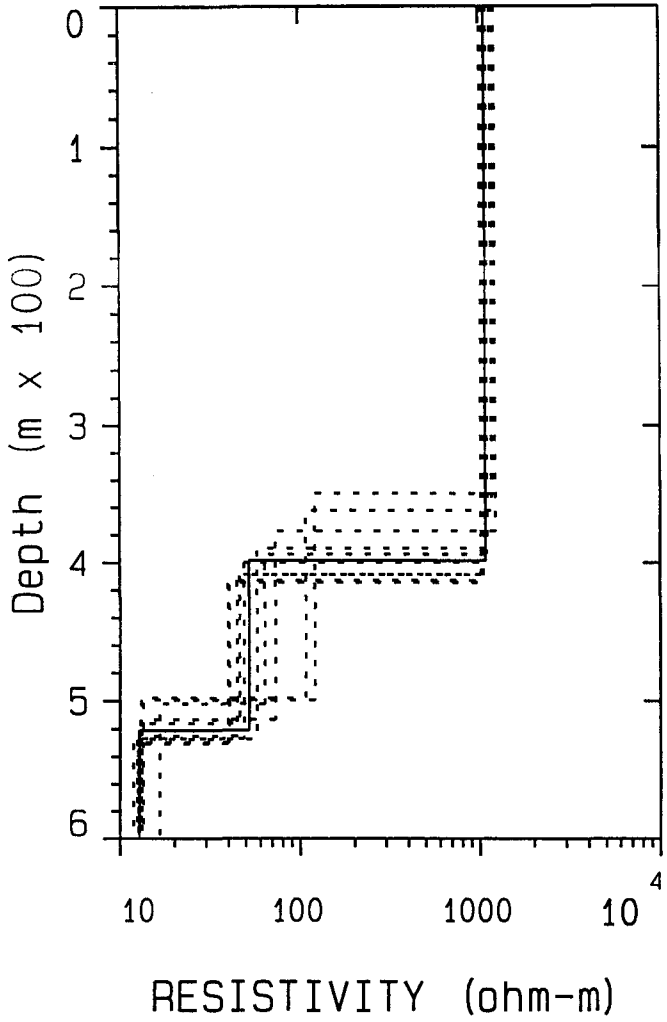
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	37.45	39.04	-4.24
22	1.06	30.23	30.86	-2.07
23	1.31	24.34	24.33	0.0412
24	1.61	19.15	19.11	0.209
25	2.00	15.04	14.94	0.629
26	2.50	11.49	11.54	-0.389
27	3.14	8.65	8.79	-1.64
28	3.95	6.44	6.62	-2.78
29	4.99	4.64	4.91	-5.63
30	6.31	3.42	3.58	-4.69
31	7.99	2.44	2.57	-5.37
32	10.13	1.75	1.81	-3.18
33	12.86	1.19	1.25	-4.42
34	16.35	0.818	0.847	-3.48
35	20.80	0.561	0.561	0.00320
36	26.47	0.357	0.363	-1.64 MASKED
37	33.72	0.249	0.230	7.62 MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.96	0.155	0.141	9.05	MASKED
39	54.74	0.106	0.0851	19.73	MASKED
40	69.77	0.0547	0.0496	9.25	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

	P 1	P 2	P 3	T 1	T 2
P 1	0.98				
P 2	-0.06	0.40			
P 3	0.00	-0.04	0.95		
T 1	0.01	0.08	0.00	0.99	
T 2	-0.02	-0.09	0.02	0.02	0.90





Calpine Corporation		Four Mile Hill Project
Quantec Geofisica Limitada		Klamath National Forest
Data Set: TX37	Date: 27-June-02	TX37
Equipment: Geonics PROTEM	Sounding: Tx37	Azimuth:

DATA SET: TX38

CLIENT: Calpine Corporation DATE: 23-June-02
LOCATION: Klamath National Forest SOUNDING: Tx38
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: NONE
SOUNDING COORDINATES: E: 615975.0000 N: 4607370.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.681 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1008.3	394.3	-394.3	0.391
2	51.87	209.9	-604.2	4.04
3	11.70			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	905.238	1008.372	1165.507
	2	39.596	51.873	67.956
	3	9.416	11.710	14.256
THICK	1	369.432	394.365	419.149
	2	184.245	209.902	232.125
DEPTH	1	369.432	394.365	419.149
	2	588.449	604.268	622.254

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	848.5	1533.5	-80.73 MASKED
2	0.106	999.4	1049.9	-5.05
3	0.131	690.0	714.1	-3.49
4	0.161	527.1	498.0	5.53
5	0.200	388.9	357.3	8.12
6	0.250	280.4	262.1	6.53
7	0.314	198.5	194.0	2.23
8	0.395	138.4	143.3	-3.51
9	0.499	96.45	104.0	-7.90
10	0.631	68.07	73.42	-7.86
11	0.799	48.18	50.75	-5.32
12	1.01	34.26	34.34	-0.243
13	1.28	24.12	23.18	3.87
14	1.63	16.88	15.67	7.14
15	2.08	11.53	10.72	6.96
16	2.64	7.92	7.39	6.67
17	3.37	5.33	5.10	4.34
18	4.29	3.52	3.49	0.838
19	5.47	2.28	2.36	-3.28
20	6.97	1.49	1.56	-4.99

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

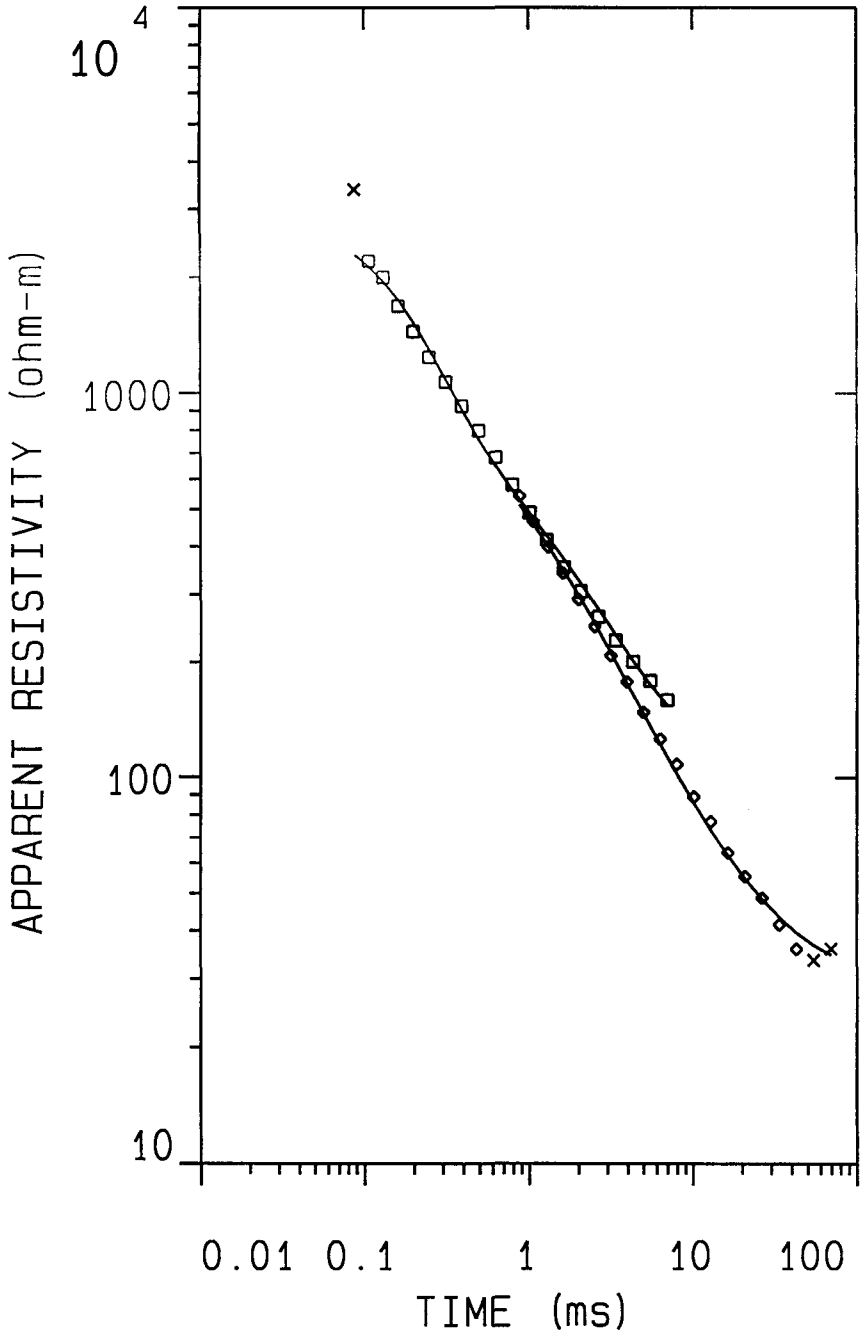
SYNTHETIC FROM LAYERED MODEL:

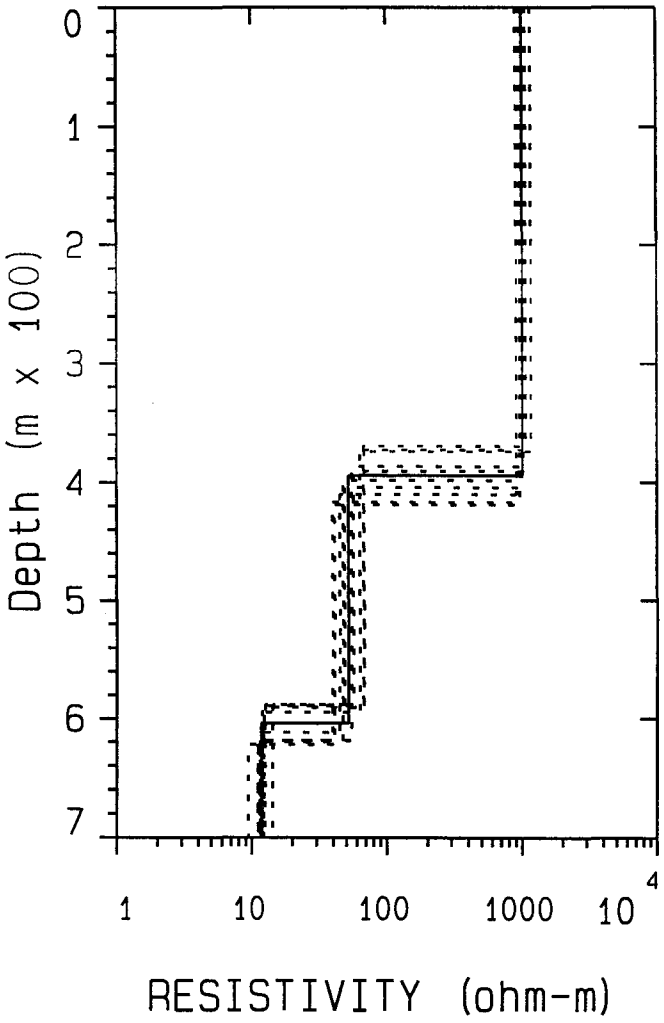
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	41.78	45.29	-8.38
22	1.06	32.44	33.37	-2.85
23	1.31	24.48	24.29	0.788
24	1.61	18.28	17.70	3.14
25	2.00	13.53	13.02	3.76
26	2.50	9.89	9.61	2.90
27	3.14	7.30	7.11	2.62
28	3.95	5.20	5.28	-1.45
29	4.99	3.84	3.89	-1.29
30	6.31	2.73	2.85	-4.46
31	7.99	1.89	2.06	-8.82
32	10.14	1.39	1.47	-5.31
33	12.87	0.954	1.03	-7.95
34	16.36	0.690	0.709	-2.63
35	20.81	0.469	0.478	-1.86
36	26.48	0.312	0.315	-0.975
37	33.73	0.216	0.203	6.38

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
38	42.97	0.147	0.127	13.51	
39	54.75	0.0887	0.0777	12.36	MASKED
40	69.78	0.0437	0.0461	-5.53	MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.98				
P 2	-0.03	0.84			
P 3	0.00	-0.03	0.93		
T 1	0.01	0.03	0.00	0.99	
T 2	-0.01	-0.02	0.02	0.01	0.96
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation		Four Mile Hill Project
Quantec Geofisica Limitada		Klamath National Forest
Data Set: TX38	Date: 23-June-02	TX38
Equipment: Geonics PROTEM	Sounding: Tx38	Azimuth:

DATA SET: TX39

CLIENT: Calpine Corporation DATE: 26-June-02
LOCATION: Klamath National Forest SOUNDING: Tx39
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 10.89
SOUNDING COORDINATES: E: 616080.0000 N: 4610145.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.154 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1384.7	495.3	-495.3	0.357
2	47.20	159.2	-654.6	3.37
3	10.22			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1287.857	1384.761	1508.400
	2	34.229	47.204	68.248
	3	7.873	10.227	12.864
THICK	1	469.190	495.373	516.916
	2	140.024	159.291	177.433
DEPTH	1	469.190	495.373	516.916
	2	641.265	654.664	667.961

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	536.9	953.5	-77.59 MASKED
2	0.106	636.1	632.8	0.513
3	0.131	387.9	412.0	-6.21
4	0.161	277.0	273.9	1.14
5	0.200	198.0	187.3	5.35
6	0.250	137.1	132.1	3.60
7	0.314	96.95	95.46	1.54
8	0.395	67.64	68.96	-1.95
9	0.499	47.02	49.51	-5.31
10	0.631	33.08	35.00	-5.79
11	0.799	24.20	24.50	-1.24
12	1.01	18.24	17.25	5.45
13	1.28	13.07	12.20	6.61
14	1.63	9.37	8.79	6.24
15	2.08	6.59	6.34	3.77
16	2.64	4.92	4.61	6.31
17	3.37	3.53	3.31	6.16
18	4.29	2.34	2.35	-0.406
19	5.47	1.56	1.64	-4.96
20	6.97	1.05	1.11	-5.87

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

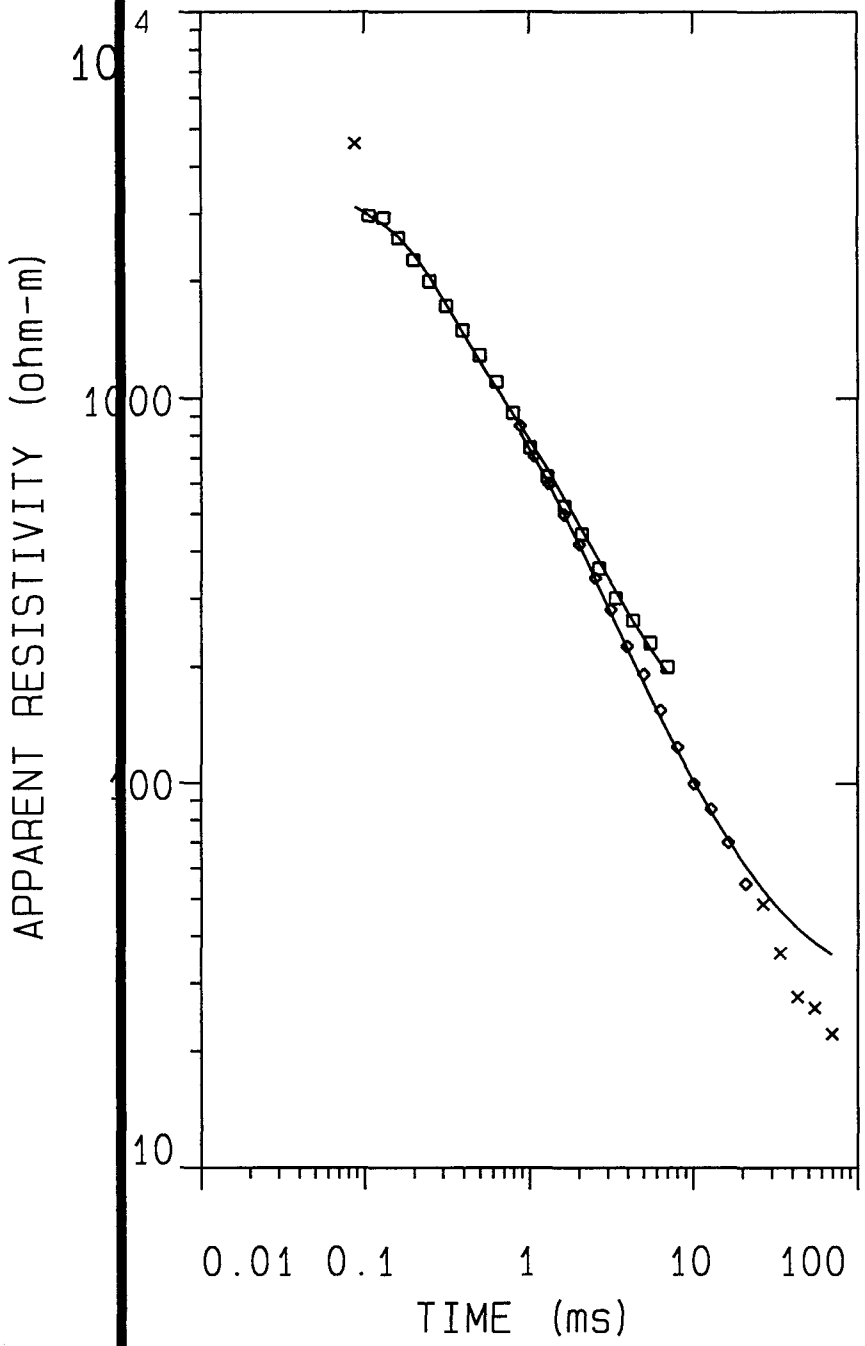
SYNTHETIC FROM LAYERED MODEL:

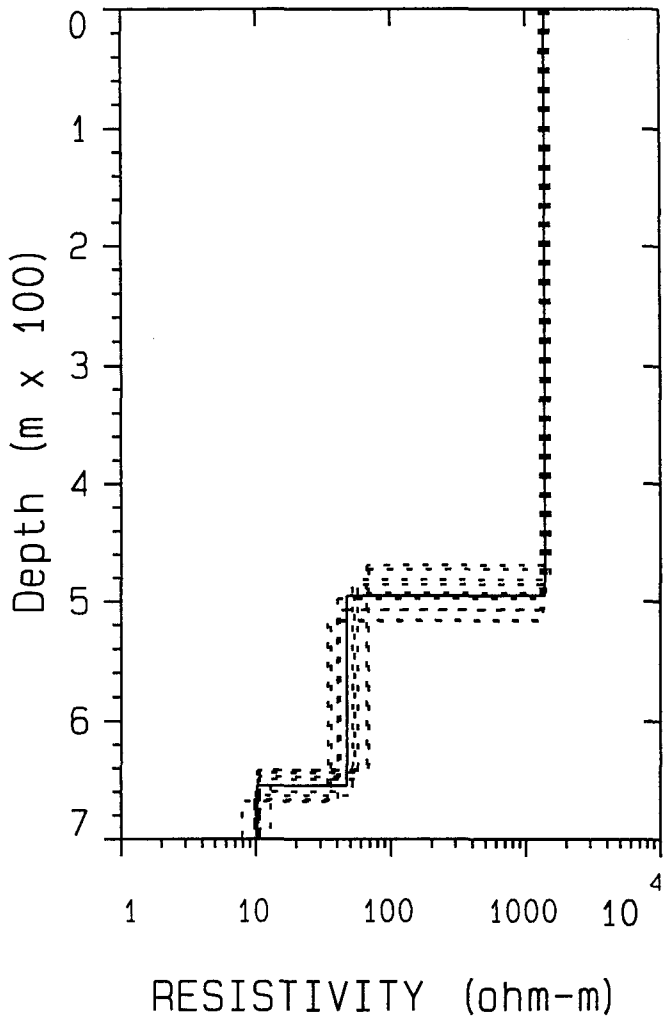
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.881	21.30	22.76	-6.86
22	1.06	17.32	17.46	-0.817
23	1.31	13.28	13.32	-0.231
24	1.61	10.38	10.30	0.735
25	2.00	7.94	7.99	-0.565
26	2.50	6.16	6.20	-0.660
27	3.14	4.65	4.80	-3.07
28	3.95	3.63	3.69	-1.68
29	4.99	2.61	2.82	-8.13
30	6.31	1.99	2.13	-6.97
31	7.99	1.53	1.58	-3.33
32	10.14	1.18	1.16	1.49
33	12.87	0.815	0.837	-2.68
34	16.36	0.604	0.591	2.18
35	20.81	0.478	0.408	14.54
36	26.48	0.314	0.276	12.04 MASKED
37	33.73	0.267	0.182	32.00 MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.217	0.116	46.26 MASKED
39	54.75	0.131	0.0728	44.40 MASKED
40	69.78	0.0902	0.0440	51.16 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.98				
P 2	-0.04	0.61			
P 3	0.00	-0.05	0.91		
T 1	0.01	0.05	0.00	0.99	
T 2	-0.01	-0.06	0.02	0.01	0.94
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX39 / Date: 26-June-02	TX39
Equipment: Geonics PROTEM / Sounding: Tx39	Azimuth:

DATA SET: TX41

CLIENT: Calpine Corporation DATE: 26-June-02
LOCATION: Klamath National Forest SOUNDING: Tx41
COUNTY: Siskiyou ELEVATION: 0.00 m
PROJECT: Four Mile Hill Project EQUIPMENT: Geonics PROTEM
LOOP SIZE: 300.000 m by 300.000 m AZIMUTH:
COIL LOC: 0.000 m (X), 0.000 m (Y) TIME CONSTANT: 9.43
SOUNDING COORDINATES: E: 616305.0000 N: 4609960.0000 SLOPE: NONE

Central Loop Configuration
Geonics PROTEM System

FITTING ERROR: 5.113 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	1379.2	525.3	-525.3	0.380
2	53.14	153.9	-679.2	2.89
3	14.07			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	1304.224	1379.202	1470.362
	2	37.863	53.147	112.502
	3	11.921	14.077	20.135
THICK	1	479.533	525.354	549.004
	2	129.834	153.943	173.808
DEPTH	1	479.533	525.354	549.004
	2	646.857	679.297	695.736

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

SYNTHETIC FROM LAYERED MODEL:

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)

1	0.0881	933.8	1008.8	-8.03
2	0.106	646.7	667.1	-3.14
3	0.131	439.4	428.1	2.55
4	0.161	290.3	277.3	4.50
5	0.200	195.8	183.0	6.49
6	0.250	127.9	123.7	3.24
7	0.314	87.17	86.38	0.902
8	0.395	58.73	61.03	-3.90
9	0.499	40.81	43.11	-5.64
10	0.631	29.08	30.60	-5.22
11	0.799	21.79	21.58	0.972
12	1.01	16.28	15.42	5.27
13	1.28	11.97	11.11	7.17
14	1.63	8.68	8.07	6.95
15	2.08	6.34	5.89	7.15
16	2.64	4.58	4.26	6.82
17	3.37	3.11	3.06	1.61
18	4.29	2.20	2.16	1.94
19	5.47	1.47	1.49	-1.50
20	6.97	0.988	1.00	-1.97

CURRENT: 8.50 AMPS EM-58 COIL AREA: 200.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 1 RAMP TIME: 98.00 muSEC

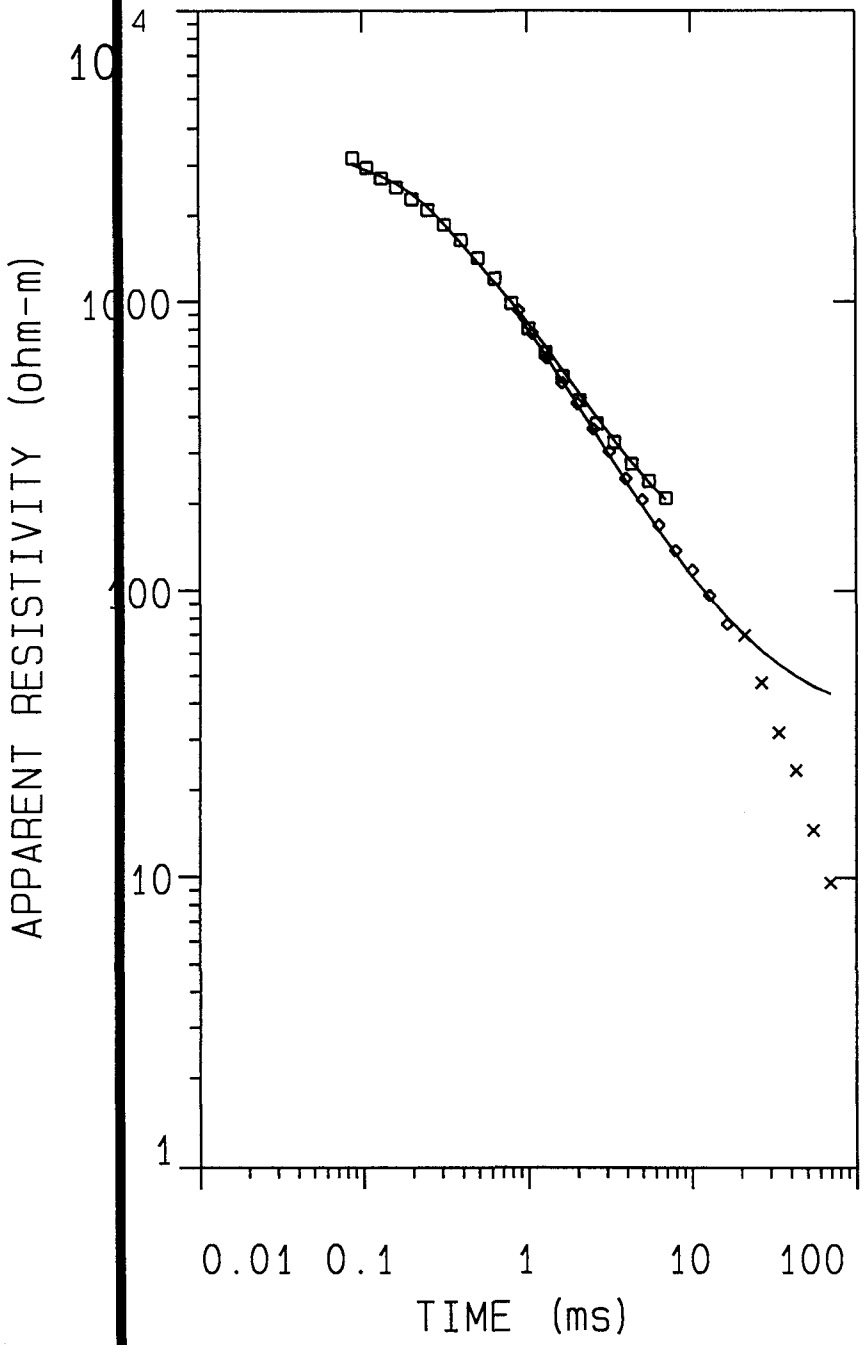
SYNTHETIC FROM LAYERED MODEL:

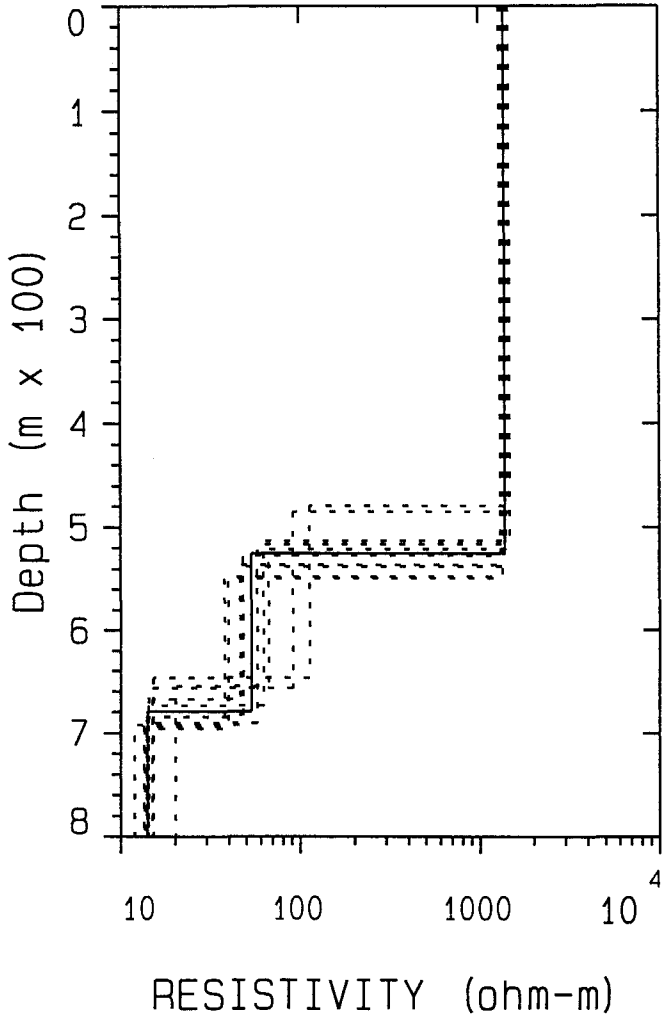
No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)	
21	0.881	18.55	20.08	-8.22	
22	1.06	15.10	15.63	-3.47	
23	1.31	12.09	12.06	0.319	
24	1.61	9.65	9.37	2.84	
25	2.00	7.22	7.31	-1.17	
26	2.50	5.60	5.65	-0.757	
27	3.14	4.15	4.35	-4.95	
28	3.95	3.23	3.32	-2.62	
29	4.99	2.33	2.50	-7.55	
30	6.31	1.75	1.86	-6.41	
31	7.99	1.31	1.37	-3.98	
32	10.14	0.916	0.989	-8.01	
33	12.87	0.686	0.701	-2.29	
34	16.36	0.532	0.487	8.51	
35	20.81	0.334	0.331	0.959	MASKED
36	26.48	0.325	0.220	32.42	MASKED
37	33.73	0.323	0.142	55.94	MASKED

No.	TIME (ms)	emf (nV/m sqrd) DATA	SYNTHETIC	DIFFERENCE (percent)
38	42.97	0.277	0.0901	67.50 MASKED
39	54.75	0.310	0.0553	82.17 MASKED
40	69.78	0.316	0.0329	89.58 MASKED

PARAMETER RESOLUTION MATRIX:
"F" INDICATES FIXED PARAMETER

P 1	0.99				
P 2	-0.04	0.50			
P 3	0.00	-0.05	0.92		
T 1	0.01	0.06	0.00	0.99	
T 2	-0.01	-0.06	0.03	0.01	0.91
	P 1	P 2	P 3	T 1	T 2





Calpine Corporation	Four Mile Hill Project
Quantec Geofisica Limitada	Klamath National Forest
Data Set: TX41 / Date: 26-June-02	TX41
Equipment: Geonics PROTEM / Sounding: Tx41	Azimuth:

APPENDIX U:
Glass Mountain MT

Attachment XX

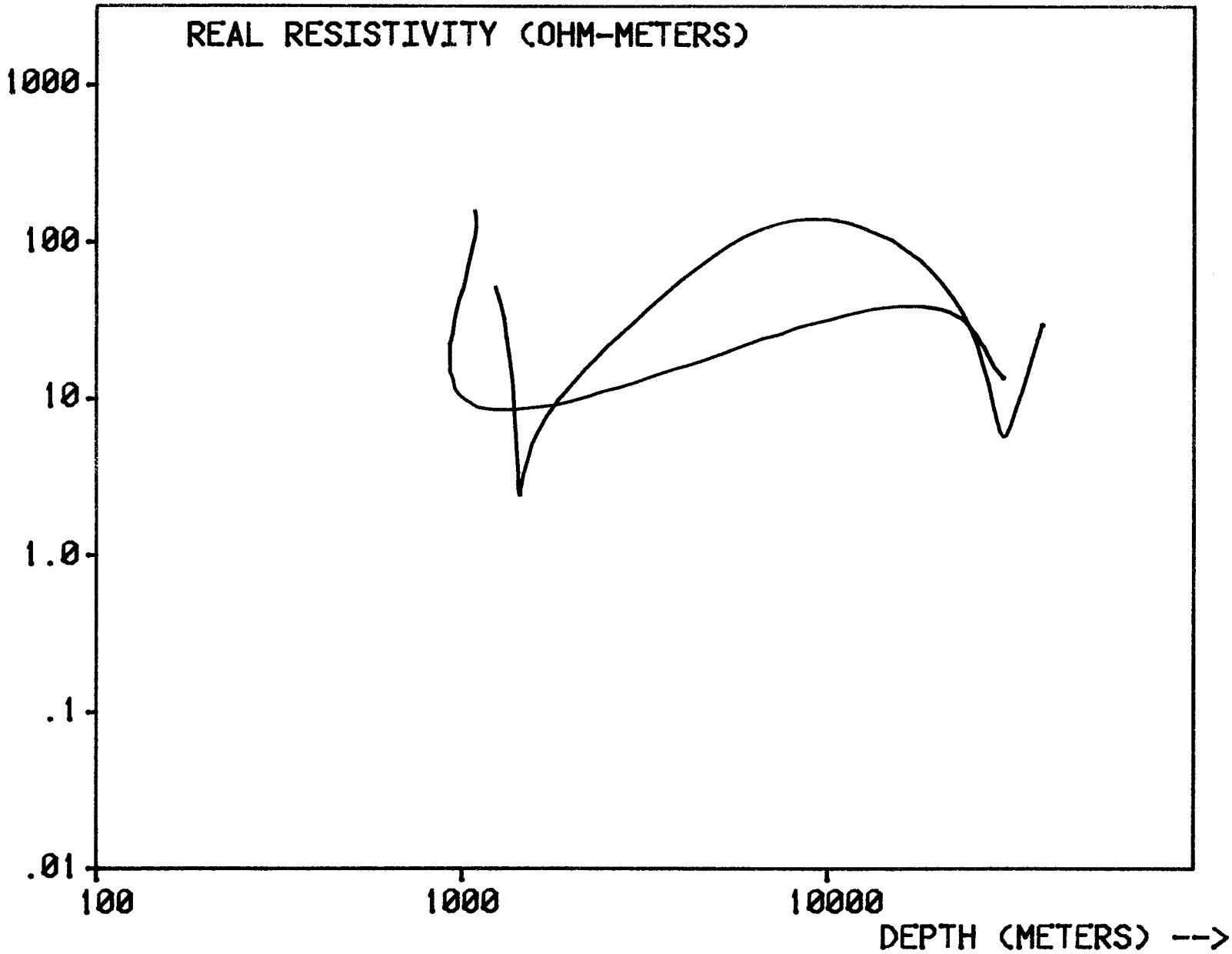
CEC-500-2007-XXX-ATXX

Glass Mountain MT

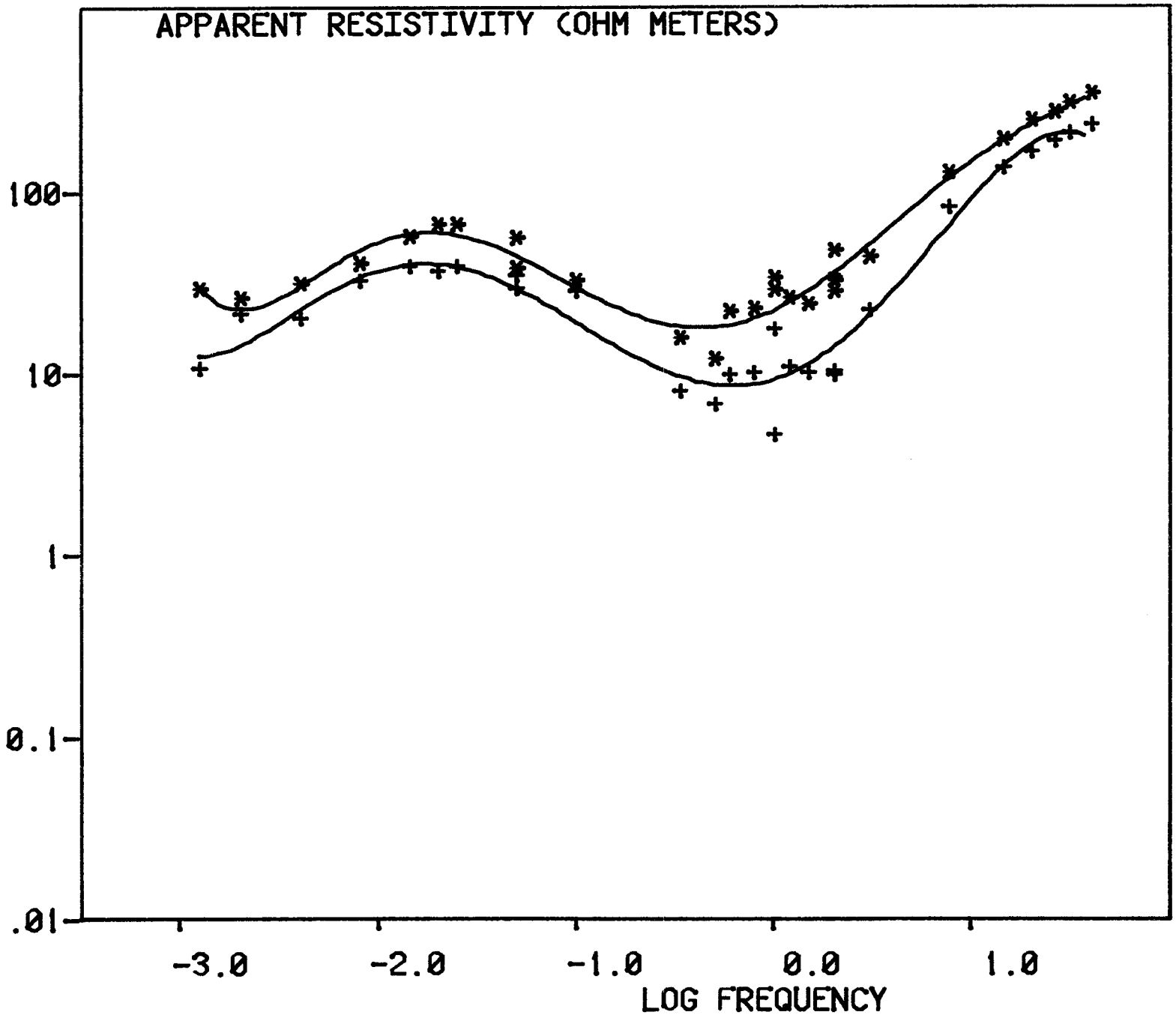
This document is an attachment to a report funded by the California Energy Commission's Geothermal Resource Development Account (GRDA) Program. The GRDA Program did not fund this document, but the authors of the GRDA funded report have attached it as a supporting document.

The California Energy Commission wishes to thank the copyright holder, Calpine Corporation, for permission to republish this document in electronic format on the Energy Commission's website.

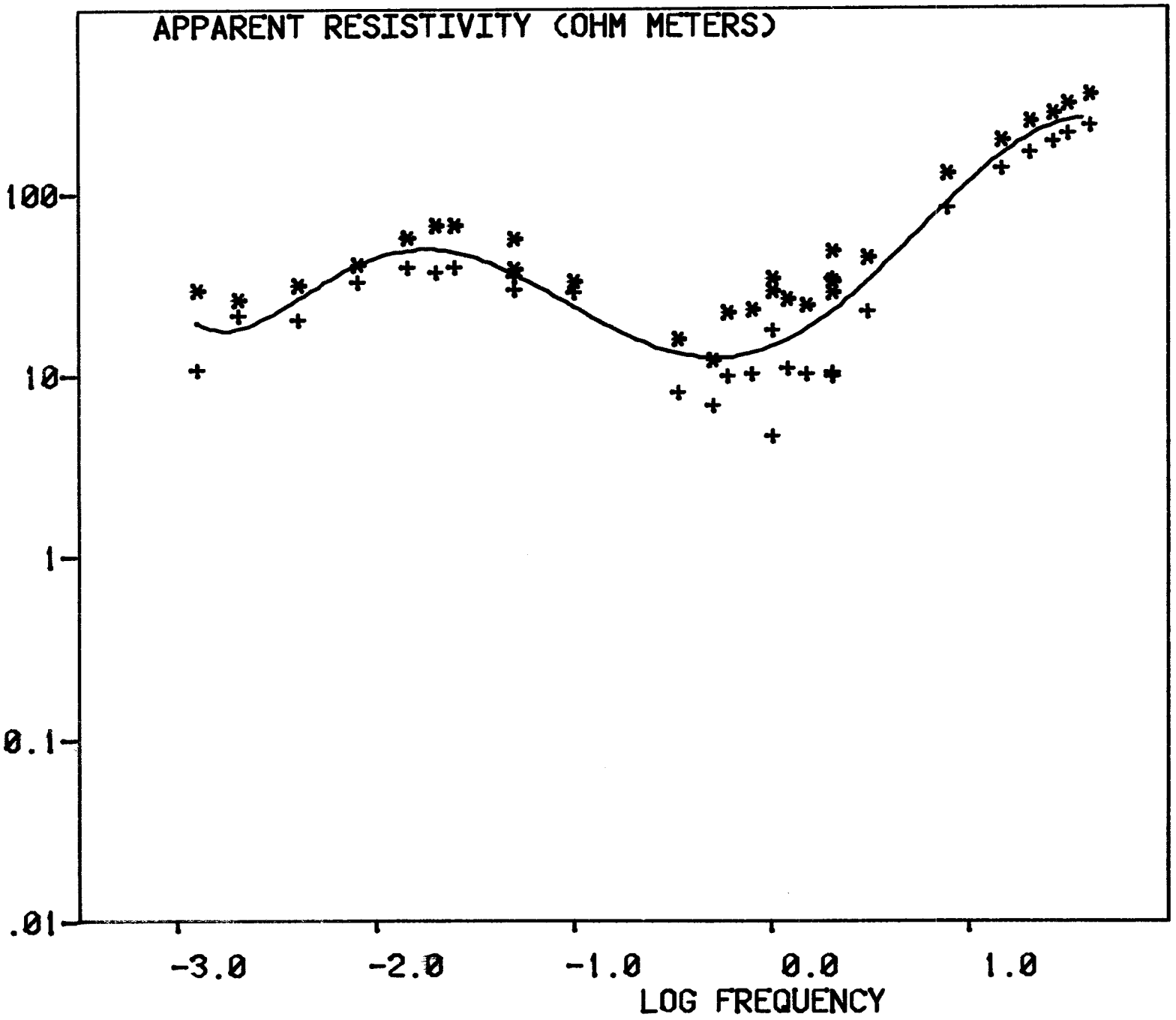
Please contact this document's author/publisher for additional information about the document.


REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

P BRUSH


APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY

P BRUSH


APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY

P BRUSH

THE SITE IS: PBRUSH 200 HZ 26-JUL-83 T44N R4E S8

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	10.29	27.82	1
0.0020	20.38	24.93	2
0.0040	19.39	29.73	3
0.0080	30.67	38.79	4
0.0143	36.59	53.97	5
0.0200	34.70	63.52	6
0.0250	37.15	63.08	7
0.0303	0.00	0.00	8
0.0500	32.63	52.39	9
0.0500	28.26	36.04	10
0.1000	26.66	30.85	11
0.3333	7.63	14.79	12
0.5000	6.41	11.52	13
0.5988	9.47	20.93	14
0.8000	9.54	21.62	15
1.0000	4.39	27.55	16
1.0000	16.63	32.23	17
1.2048	10.44	24.68	18
1.4925	9.54	23.06	19
2.0000	9.40	27.09	20
2.0000	9.88	31.15	21
2.0000	32.27	44.70	22
3.0303	21.20	41.68	23
3.0303	8.67	39.19	24
7.6923	78.08	120.35	25
14.2857	128.34	182.60	26
20.0000	155.78	233.52	27
26.3158	181.33	258.49	28
31.2500	199.58	286.06	29
40.0000	218.80	325.10	30

AVERAGE # 8
PBRUSH 200 HZ 26-JUL-83 T44N R4E S8
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (	RHO-MIN OHM-M)	RHO-MAX PHASE	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.2799E+02	0.1036E+02	-36.9	-43.8	0.99698	0.99680	0.07610
H		0.2764E+02	0.1023E+02	-36.8	-43.8	0.99698	0.99680	34.60001
E	0.00200	0.2820E+02	0.1984E+02	-45.0	-40.1	0.98484	0.96748	0.07651
H		0.2165E+02	0.2092E+02	-45.7	-39.4	0.98589	0.96886	37.80000
E	0.00400	0.3063E+02	0.2065E+02	-31.0	-23.0	0.99332	0.96363	0.11209
H		0.2884E+02	0.1813E+02	-30.0	-24.0	0.99352	0.96402	22.80000
E	0.00800	0.3938E+02	0.3104E+02	-8.3	-14.7	0.99567	0.99062	0.09355
H		0.3820E+02	0.3030E+02	-8.5	-14.5	0.99568	0.99063	74.00000
E	0.01429	0.5414E+02	0.3735E+02	3.3	0.2	0.99893	0.99871	0.06166
H		0.5380E+02	0.3582E+02	3.1	0.5	0.99893	0.99872	103.00000
E	0.02000	0.6402E+02	0.3558E+02	11.7	8.8	0.99753	0.99704	0.08898
H		0.6302E+02	0.3383E+02	11.6	8.9	0.99753	0.99706	108.30002
E	0.02500	0.6424E+02	0.3915E+02	19.1	14.7	0.99613	0.99635	0.11086
H		0.6192E+02	0.3514E+02	19.2	14.5	0.99621	0.99642	138.70001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
PBRUSH 200 HZ 26-JUL-83 T44N R4E S8
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

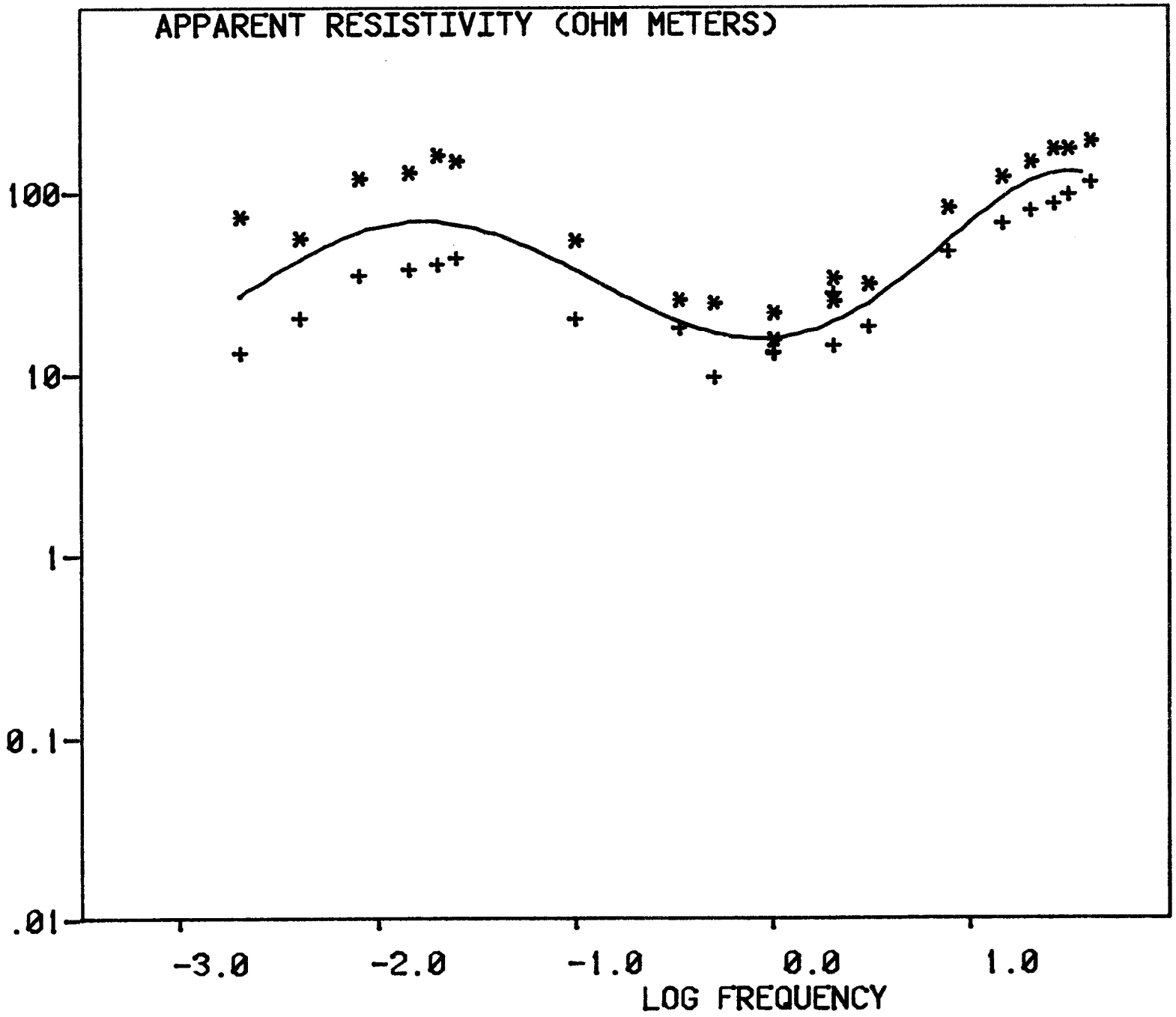
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.5522E+02	0.4078E+02	44.7	47.0	0.98102	0.95843	0.17132
H		0.4956E+02	0.2448E+02	44.7	47.0	0.98230	0.96374	76.50000
E	0.05000	0.3664E+02	0.2864E+02	16.3	48.3	0.99613	0.99953	0.10505
H		0.3544E+02	0.2788E+02	16.7	47.8	0.99625	0.99954	135.00000
E	0.10000	0.3171E+02	0.3061E+02	63.4	75.8	0.97932	0.98616	0.25953
H		0.3000E+02	0.2271E+02	63.9	75.3	0.98044	0.98655	120.30002
E	0.33333	0.1963E+02	0.1029E+02	96.8	85.6	0.86570	0.95082	0.23352
H		0.9952E+01	0.4962E+01	85.4	97.4	0.89447	0.95657	134.39999
E	0.50000	0.1704E+02	0.7664E+01	116.2	87.5	0.84200	0.90026	0.23563
H		0.6006E+01	0.5166E+01	89.0	116.0	0.85844	0.90712	128.10001
E	0.59880	0.2399E+02	0.1255E+02	145.0	167.8	0.84567	0.92783	0.11011
H		0.1787E+02	0.6384E+01	144.4	168.7	0.84611	0.92832	26.39999
E	0.80000	0.2755E+02	0.1370E+02	149.2	174.2	0.76757	0.91044	0.14827
H		0.1568E+02	0.5378E+01	148.2	176.1	0.78196	0.91707	25.39999
E	1.00000	0.4650E+02	0.6136E+01	143.4	82.4	0.75778	0.75758	1.49497
		0.8606E+01	0.2636E+01	142.2	92.2	0.78437	0.78420	115.89999

AVERAGE # 8
PBRUSH 200 HZ 26-JUL-83 T44N R4E S8
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

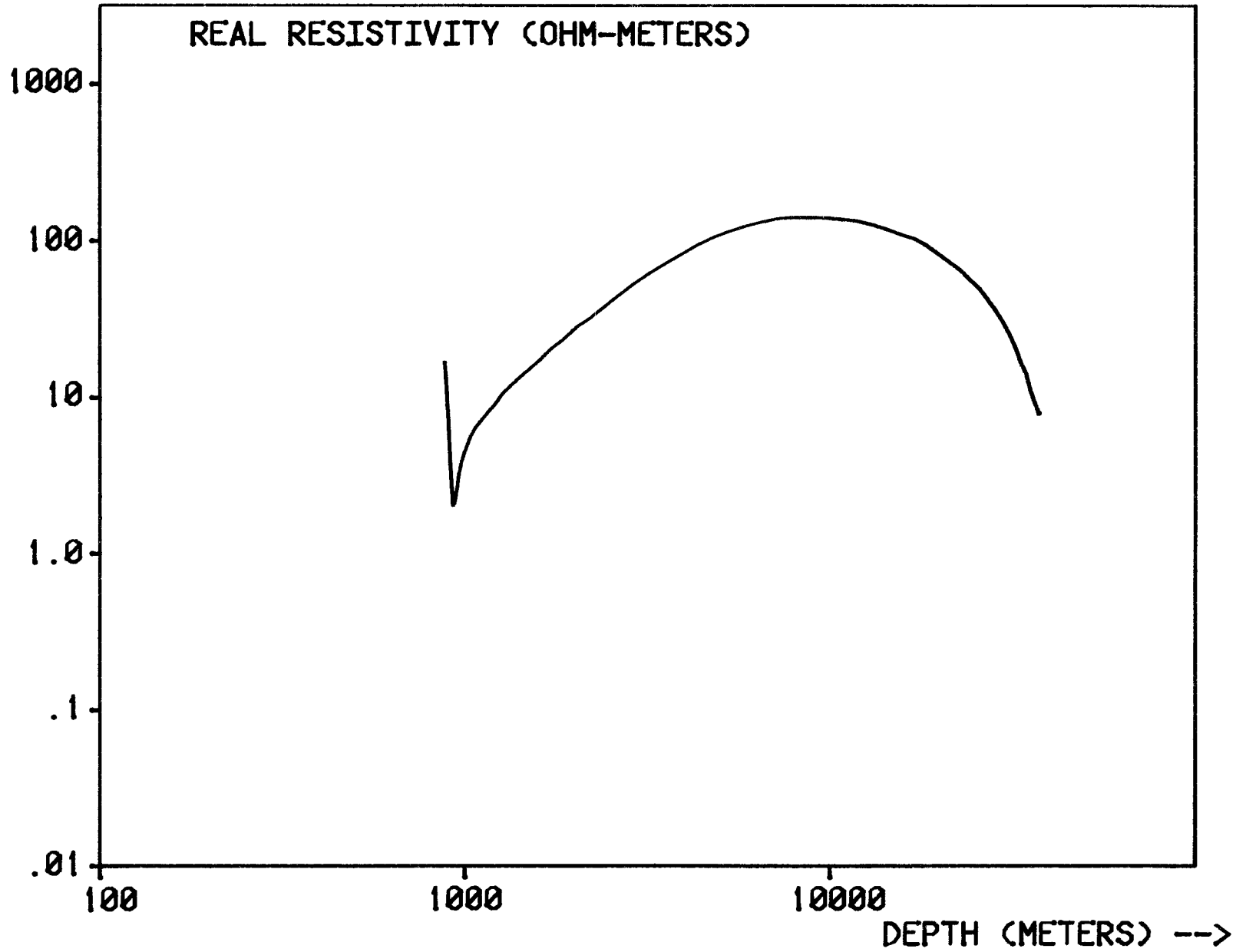
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.3483E+02	0.2206E+02	153.0	159.5	0.84904	0.97540	0.13552
H		0.2963E+02	0.1119E+02	151.2	160.9	0.85529	0.97572	17.70000
E	1.20482	0.2582E+02	0.1380E+02	162.1	179.9	0.85185	0.97128	0.17309
H		0.2353E+02	0.7066E+01	162.0	-179.7	0.85334	0.97232	14.30000
E	1.49254	0.2526E+02	0.1224E+02	165.6	172.8	0.85903	0.96080	0.18556
H		0.2086E+02	0.6841E+01	165.0	173.4	0.85943	0.96089	179.10001
E	2.00000	0.3229E+02	0.1258E+02	160.6	162.9	0.83560	0.91922	0.10876
H		0.2190E+02	0.6211E+01	159.4	164.7	0.83936	0.92063	17.50000
E	2.00000	0.4115E+02	0.1547E+02	155.4	153.0	0.74759	0.82725	0.10649
H		0.2114E+02	0.4300E+01	155.2	156.0	0.75400	0.83286	12.60001
E	2.00000	0.4604E+02	0.4343E+02	157.1	146.2	0.83680	0.98496	0.09770
H		0.4335E+02	0.2111E+02	156.8	146.2	0.83763	0.98502	9.60001

AVERAGE # 8
PBRUSH 200 HZ 26-JUL-83 T44N R4E S8
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.5781E+02	0.3656E+02	159.9	145.1	0.70022	0.71384	0.09897
H		0.2555E+02	0.5842E+01	155.4	154.7	0.73843	0.75219	21.30000
E	3.03030	0.4819E+02	0.9729E+01	153.1	148.1	0.93875	0.89941	0.09189
H		0.3020E+02	0.7616E+01	152.6	149.3	0.93891	0.90036	26.89999
E	7.69231	0.1257E+03	0.9409E+02	163.2	167.0	0.90665	0.97994	0.14924
H		0.1150E+03	0.6207E+02	163.3	166.9	0.90806	0.98008	23.39999
E	14.28571	0.1893E+03	0.1477E+03	163.2	164.1	0.93118	0.98244	0.11275
H		0.1759E+03	0.1090E+03	163.3	164.1	0.93173	0.98245	22.20000
E	20.00000	0.2464E+03	0.1779E+03	163.4	160.9	0.93221	0.97385	0.13121
H		0.2207E+03	0.1336E+03	163.4	160.9	0.93244	0.97387	21.39999
E	26.31579	0.2735E+03	0.2061E+03	161.3	159.7	0.93416	0.97133	0.12718
H		0.2435E+03	0.1566E+03	161.3	159.6	0.93420	0.97133	24.70000
E	31.25000	0.3030E+03	0.2262E+03	160.4	158.9	0.93658	0.97073	0.14520
H		0.2691E+03	0.1730E+03	160.4	158.9	0.93668	0.97073	26.39999
E	40.00000	0.3582E+03	0.2589E+03	158.1	157.6	0.91845	0.95459	0.27491
		0.2920E+03	0.1787E+03	158.0	157.7	0.91988	0.95511	33.80000


APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY

(ML) INDIAN


REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

(ML) INDIAN

THE SITE IS: INDIAN 200 HZ 27-JUL-83 T44N R4E S21

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	6.40	35.60	1
0.0020	12.42	70.13	2
0.0040	19.03	53.13	3
0.0080	33.10	111.43	4
0.0143	35.38	121.41	5
0.0200	37.54	151.62	6
0.0250	40.91	138.41	7
0.0303	0.00	0.00	8
0.0500	0.00	0.00	9
0.0500	0.00	0.00	10
0.1000	18.76	50.87	11
0.3333	16.58	24.10	12
0.5000	9.08	22.96	13
0.5988	0.00	0.00	14
0.8000	0.00	0.00	15
1.0000	12.54	14.45	16
1.0000	12.12	20.45	17
1.2048	0.00	0.00	18
1.4925	0.00	0.00	19
2.0000	0.00	0.00	20
2.0000	13.35	23.38	21
2.0000	25.76	31.73	22
3.0303	17.09	29.36	23
3.0303	0.00	0.00	24
7.6923	44.16	77.05	25
14.2857	62.47	111.36	26
20.0000	74.29	136.97	27
26.3158	80.11	160.01	28
31.2500	89.04	159.85	29
40.0000	105.70	174.71	30

AVERAGE # 8
INDIAN 200 HZ 27-JUL-83 T44N R4E S21
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.3716E+02	0.6682E+01	-40.6	-32.0	0.99030	0.97603	0.09485
H		0.3403E+02	0.6119E+01	-40.9	-31.4	0.99043	0.97703	46.40001
E	0.00200	0.7288E+02	0.1276E+02	-42.5	-22.9	0.99296	0.99497	0.07619
H		0.6738E+02	0.1207E+02	-41.5	-22.7	0.99322	0.99515	42.10001
E	0.00400	0.7269E+02	0.2212E+02	-42.6	-25.8	0.81833	0.86894	0.08548
H		0.3356E+02	0.1595E+02	-51.3	-23.3	0.84232	0.89808	16.00000
E	0.00800	0.1556E+03	0.3359E+02	-12.3	-1.4	0.83341	0.79684	0.09155
H		0.6727E+02	0.3261E+02	-8.7	-13.9	0.85432	0.80621	37.30000
E	0.01429	0.1620E+03	0.3253E+02	1.6	-13.7	0.88943	0.84855	0.07965
H		0.8085E+02	0.3823E+02	2.7	-0.6	0.90556	0.85906	63.40001
E	0.02000	0.2418E+03	0.3800E+02	14.3	-9.9	0.75797	0.71514	0.09683
H		0.6140E+02	0.3708E+02	9.7	17.8	0.81852	0.75965	73.20000
E	0.02500	0.2199E+03	0.4025E+02	16.9	-1.1	0.73493	0.71335	0.08874
H		0.5688E+02	0.4156E+02	12.8	24.4	0.77487	0.74063	35.80000
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
INDIAN 200 HZ 27-JUL-83 T44N R4E S21
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

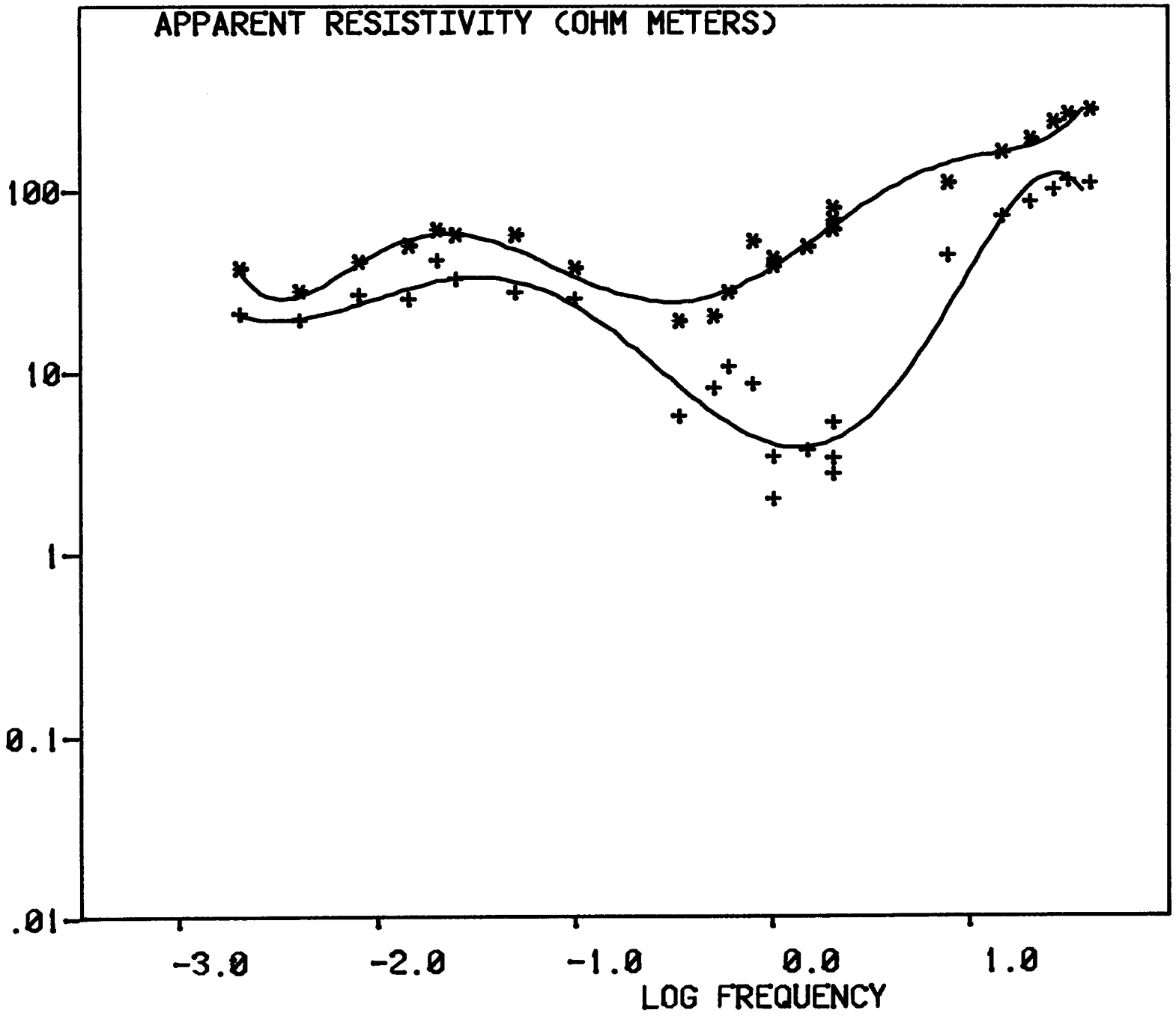
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.8474E+02	0.2271E+02	72.4	63.2	0.72009	0.80525	0.24480
H		0.1699E+02	0.1482E+02	73.7	59.4	0.75259	0.84480	145.60001
E	0.33333	0.3685E+02	0.2347E+02	115.3	89.5	0.76824	0.76452	0.25951
H		0.1135E+02	0.9690E+01	93.4	116.1	0.78440	0.78073	56.60001
E	0.50000	0.3328E+02	0.1221E+02	117.7	91.7	0.76201	0.82711	0.22256
H		0.1264E+02	0.5955E+01	119.5	91.7	0.76619	0.83564	61.40001
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.00000	0.2060E+02	0.1913E+02	114.0	143.1	0.70285	0.84746	0.20751
		0.8297E+01	0.5951E+01	140.7	113.4	0.71818	0.86038	41.30000

AVERAGE # 8
INDIAN 200 HZ 27-JUL-83 T44N R4E S21
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

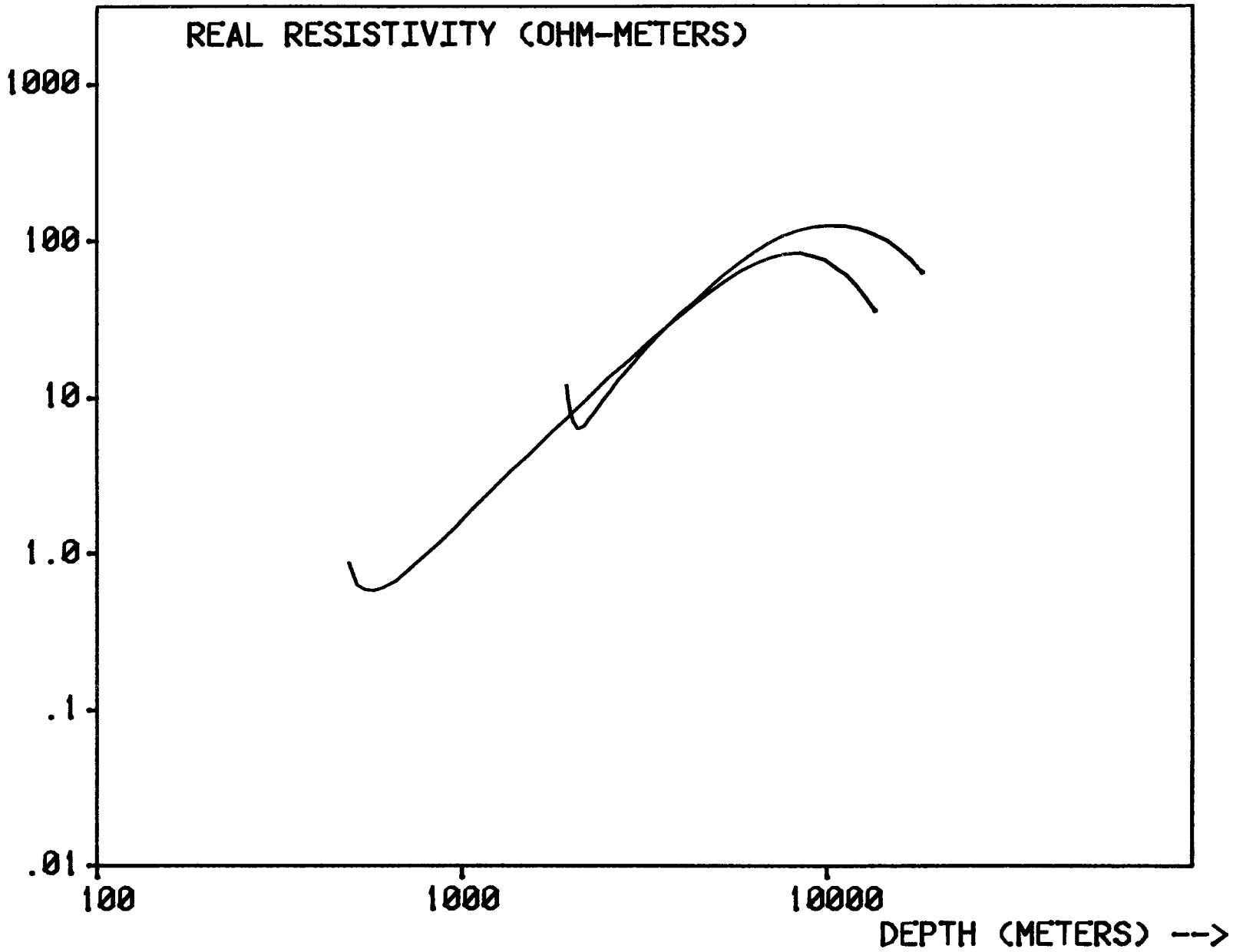
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.2562E+02	0.1315E+02	152.4	119.8	0.91424	0.89193	0.16537
H		0.1528E+02	0.1108E+02	151.1	118.2	0.91896	0.89680	26.20000
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.3389E+02	0.1788E+02	150.6	152.2	0.77954	0.84833	0 22802
H		0.1287E+02	0.8810E+01	148.4	152.0	0.78374	0.85141	29.70000
E	2.00000	0.4117E+02	0.2952E+02	156.2	152.0	0.87852	0.86856	0.13398
H		0.2229E+02	0.2200E+02	158.3	146.3	0.88395	0.87370	34.60001

AVERAGE # 8
INDIAN 200 HZ 27-JUL-83 T44N R4E S21
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.4322E+02	0.2337E+02	151.9	156.7	0.75943	0.83797	0.20365
H		0.1551E+02	0.1080E+02	154.9	153.4	0.76057	0.83943	21.30000
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.8212E+02	0.5173E+02	162.6	166.5	0.93529	0.94649	0.16683
H		0.7198E+02	0.3658E+02	162.7	166.8	0.93641	0.94770	26.80000
E	14.28571	0.1182E+03	0.6728E+02	163.0	164.1	0.95963	0.97354	0 15434
H		0.1045E+03	0.5766E+02	163.2	164.0	0.95966	0.97356	23.30000
E	20.00000	0.1495E+03	0.8262E+02	162.1	162.3	0.94371	0.95737	0 16900
H		0.1245E+03	0.6597E+02	162.2	162.2	0.94371	0.95740	23.39999
E	26.31579	0.1755E+03	0.8791E+02	161.3	159.4	0.95008	0.95560	0.16931
H		0.1445E+03	0.7230E+02	161.4	159.3	0.95009	0.95560	27.10001
E	31.25000	0.1865E+03	0.9732E+02	159.7	157.3	0.94625	0.92911	0.32165
H		0.1332E+03	0.8075E+02	159.5	157.4	0.94661	0.92962	48.60001
E	40.00000	0.2189E+03	0.1157E+03	156.1	153.5	0.93381	0.91312	0.45434
		0.1305E+03	0.9565E+02	156.1	153.9	0.93549	0.91581	58.10001


APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY

(ML) CINDER


REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

(ML) CINDER

THE SITE IS: CINDER 200 HZ 27-JUL-83 T44N R4E SEC 7

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	25.54	83.88	1
0.0020	20.14	35.39	2
0.0040	18.61	26.41	3
0.0080	25.51	38.61	4
0.0143	23.70	46.83	5
0.0200	39.00	56.64	6
0.0250	30.97	54.08	7
0.0303	0.00	0.00	8
0.0500	25.98	53.82	9
0.0500	0.00	0.00	10
0.1000	23.84	35.52	11
0.3333	5.41	18.26	12
0.5000	7.76	19.30	13
0.5988	10.18	26.00	14
0.8000	8.19	49.94	15
1.0000	1.91	40.06	16
1.0000	3.27	35.86	17
1.2048	0.00	0.00	18
1.4925	3.49	46.32	19
2.0000	3.16	57.00	20
2.0000	2.59	63.91	21
2.0000	5.03	74.71	22
3.0303	1.15	99.38	23
3.0303	0.00	0.00	24
7.6923	41.32	103.71	25
14.2857	68.75	152.52	26
20.0000	81.85	181.27	27
26.3158	95.16	223.87	28
31.2500	106.38	244.64	29
40.0000	104.18	262.95	30

AVERAGE # 8
CINDER 200 HZ 27-JUL-83 T44N R4E SEC 7
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.1336E+03	0.2584E+02	4.2	-50.9	0.93839	0.99963	0.16537
H		0.3412E+02	0.2524E+02	9.5	-51.7	0.96507	0.99972	67.80000
E	0.00200	0.3612E+02	0.2030E+02	-62.5	-27.0	0.99675	0.99767	0.15100
H		0.3465E+02	0.1997E+02	-62.3	-27.7	0.99676	0.99767	63.50000
E	0.00400	0.2677E+02	0.2224E+02	-20.7	-44.6	0.97215	0.99863	0.09801
H		0.2604E+02	0.1498E+02	-20.3	-44.3	0.97575	0.99866	52.60001
E	0.00800	0.3919E+02	0.2947E+02	-8.2	-12.7	0.95989	0.99780	0.12959
H		0.3804E+02	0.2154E+02	-8.9	-11.8	0.96304	0.99782	35.30000
E	0.01429	0.4684E+02	0.2631E+02	2.2	3.3	0.94769	0.99901	0.07057
H		0.4682E+02	0.2108E+02	2.5	3.0	0.94790	0.99901	25.10001
E	0.02000	0.6096E+02	0.5123E+02	11.6	12.7	0.89259	0.99580	0.17720
H		0.5233E+02	0.2677E+02	12.6	11.8	0.91037	0.99641	155.89999
E	0.02500	0.5455E+02	0.3530E+02	19.0	19.5	0.98003	0.99785	0.13714
H		0.5361E+02	0.2663E+02	19.5	19.0	0.98187	0.99791	160.10001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
CINDER 200 HZ 27-JUL-83 T44N R4E SEC 7
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

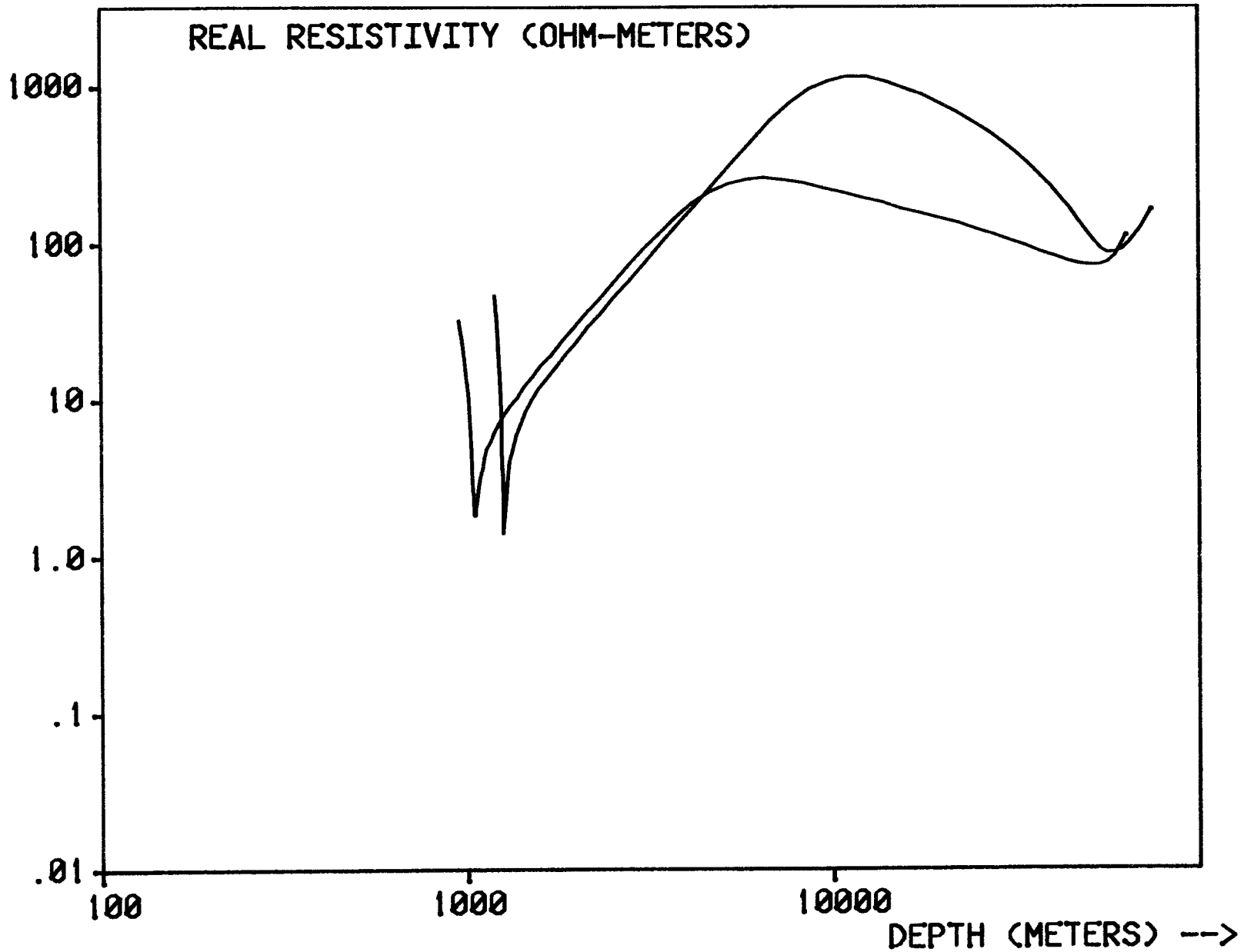
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.5533E+02	0.2823E+02	43.7	45.7	0.98930	0.98979	0.20953
H		0.5231E+02	0.2374E+02	43.8	45.6	0.99003	0.99048	3.80000
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.3903E+02	0.3277E+02	73.7	68.1	0.85915	0.96233	0.26095
H		0.3201E+02	0.1490E+02	68.8	72.5	0.87483	0.96603	152.60001
E	0.33333	0.2296E+02	0.8416E+01	86.3	79.7	0.83658	0.87055	0.62479
H		0.1356E+02	0.2411E+01	86.1	79.9	0.86187	0.88764	161.80002
E	0.50000	0.3092E+02	0.1390E+02	107.5	93.8	0.62112	0.77982	0.23666
H		0.7671E+01	0.1625E+01	98.1	108.8	0.72000	0.82192	177.20000
E	0.59880	0.3434E+02	0.2011E+02	92.2	145.3	0.49209	0.78724	0.55381
H		0.1767E+02	0.2497E+00	146.8	111.6	0.80498	0.90387	154.60001
E	0.80000	0.7643E+02	0.1499E+02	129.5	127.2	0.58028	0.76496	0.32082
H		0.2345E+02	0.1392E+01	147.8	121.1	0.73983	0.87471	18.60001
E	1.00000	0.6567E+02	0.2583E+01	153.1	81.5	0.87655	0.69464	0.35539
H		0.1446E+02	0.1236E+01	149.9	83.0	0.88072	0.71981	155.30002

AVERAGE # 8
CINDER 200 HZ 27-JUL-83 T44N R4E SEC 7
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

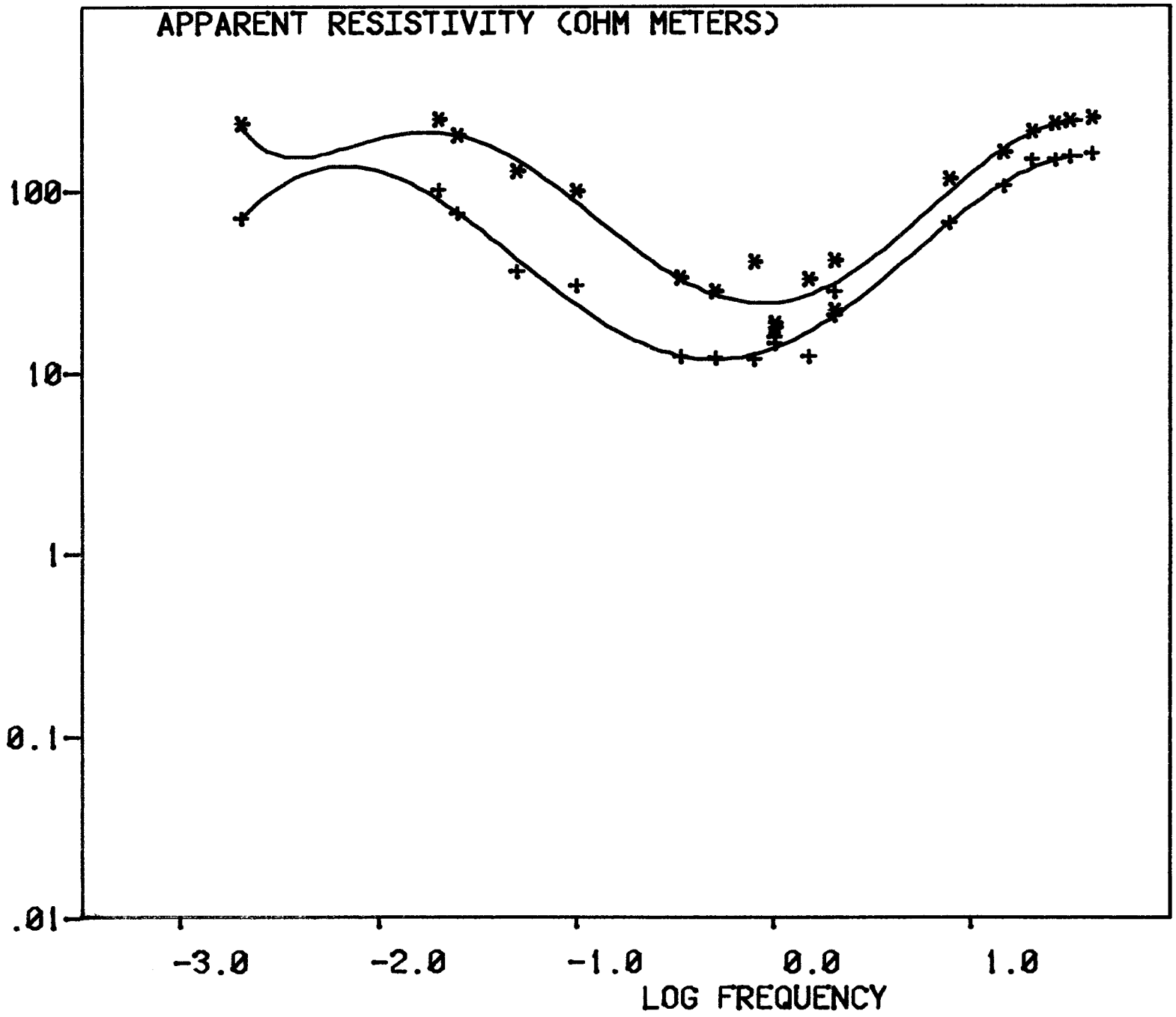
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.5520E+02	0.6012E+01	-174.6	141.1	0.72851	0.72971	0.34765
H		0.1651E+02	0.5239E+00	-179.1	163.2	0.75782	0.75876	26.39999
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.7204E+02	0.5856E+01	176.0	158.7	0.70572	0.68670	0.63700
H		0.2060E+02	0.1115E+01	167.9	170.0	0.77503	0.75626	139.80002
E	2.00000	0.7126E+02	0.5109E+01	165.1	176.6	0.72874	0.87731	0.56449
H		0.4274E+02	0.1213E+01	164.6	176.2	0.74549	0.88383	152.39999
E	2.00000	0.1062E+03	0.4812E+01	159.7	86.9	0.56619	0.66372	0.45888
H		0.2166E+02	0.3745E+00	159.6	74.6	0.61833	0.69078	162.50000
E	2.00000	0.1017E+03	0.8869E+01	176.7	143.8	0.88045	0.84964	0.54362
H		0.4770E+02	0.1193E+01	145.1	-113.3	0.97911	0.97637	51.60001

AVERAGE # 8
CINDER 200 HZ 27-JUL-83 T44N R4E SEC 7
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.1623E+03	0.1898E+01	171.5	86.4	0.72478	0.68897	0.53292
H		0.3644E+02	0.3963E+00	170.8	74.2	0.75580	0.72750	161.50000
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.1081E+03	0.5408E+02	165.7	163.1	0.87800	0.98215	0 23513
H		0.9932E+02	0.2855E+02	165.8	162.4	0.88512	0.98232	26.00000
E	14.28571	0.1598E+03	0.8968E+02	166.4	163.9	0.87614	0.97686	0.20751
H		0.1452E+03	0.4782E+02	166.4	163.7	0.88177	0.97727	28.10001
E	20.00000	0.1996E+03	0.1098E+03	163.6	162.4	0.87187	0.95057	0.27045
H		0.1629E+03	0.5387E+02	163.7	162.3	0.87913	0.95144	35 30000
E	26.31579	0.2474E+03	0.1251E+03	163.3	161.5	0.88372	0.95235	0.24326
H		0.2004E+03	0.6521E+02	163.6	161.0	0.88996	0.95289	32.00000
E	31.25000	0.2684E+03	0.1360E+03	162.3	157.4	0.89727	0.95552	0.26008
H		0.2209E+03	0.7671E+02	162.4	157.3	0.90197	0.95591	36.70000
E	40.00000	0.3148E+03	0.1395E+03	158.6	154.9	0.88654	0.91575	0.74103
"		0.2111E+03	0.6882E+02	158.3	155.1	0.89452	0.91969	64.40001


REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

RAIL


APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY

RAIL

THE SITE IS: RAIL 200 HZ 26-JUL-83 T44N R4E S9

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	73.99	370.87	1
0.0020	67.46	218.17	2
0.0040	0.00	0.00	3
0.0080	0.00	0.00	4
0.0143	0.00	0.00	5
0.0200	95.82	231.59	6
0.0250	70.27	188.87	7
0.0303	0.00	0.00	8
0.0500	69.03	261.73	9
0.0500	33.84	121.37	10
0.1000	28.29	93.73	11
0.3333	11.71	31.45	12
0.5000	11.48	26.13	13
0.5988	0.00	0.00	14
0.8000	11.30	38.48	15
1.0000	13.77	16.65	16
1.0000	14.91	17.85	17
1.2048	0.00	0.00	18
1.4925	11.64	30.86	19
2.0000	19.79	20.77	20
2.0000	0.00	0.00	21
?.0000	26.47	39.07	22
3.0303	0.00	0.00	23
3.0303	0.00	0.00	24
7.6923	63.40	109.65	25
14.2857	98.64	153.81	26
20.0000	138.05	196.39	27
26.3158	140.11	220.11	28
31.2500	143.23	228.72	29
40.0000	150.84	238.98	30

AVERAGE # 8
RAIL 200 HZ 26-JUL-83 T44N R4E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.4840E+03	0.1001E+03	82.1	-25.4	0.90171	0.89528	0.22395
H		0.2578E+03	0.4791E+02	85.9	-33.1	0.92513	0.91963	47.70000
E	0.00200	0.3269E+03	0.1050E+03	-86.0	-40.2	0.70057	0.92429	0.32534
H		0.1095E+03	0.2991E+02	-86.4	-46.2	0.72232	0.94646	99.30002
E	0.00400	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.00800	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.01429	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.02000	0.3201E+03	0.1528E+03	17.1	10.3	0.80458	0.74962	0.96987
H		0.1430E+03	0.3886E+02	19.4	7.7	0.80704	0.75762	96.50000
E	0.02500	0.2071E+03	0.1049E+03	15.3	28.2	0.93477	0.84274	0.38906
H		0.1706E+03	0.3569E+02	20.1	23.9	0.93824	0.85858	98.80002
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
RAIL 200 HZ 26-JUL-83 T44N R4E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

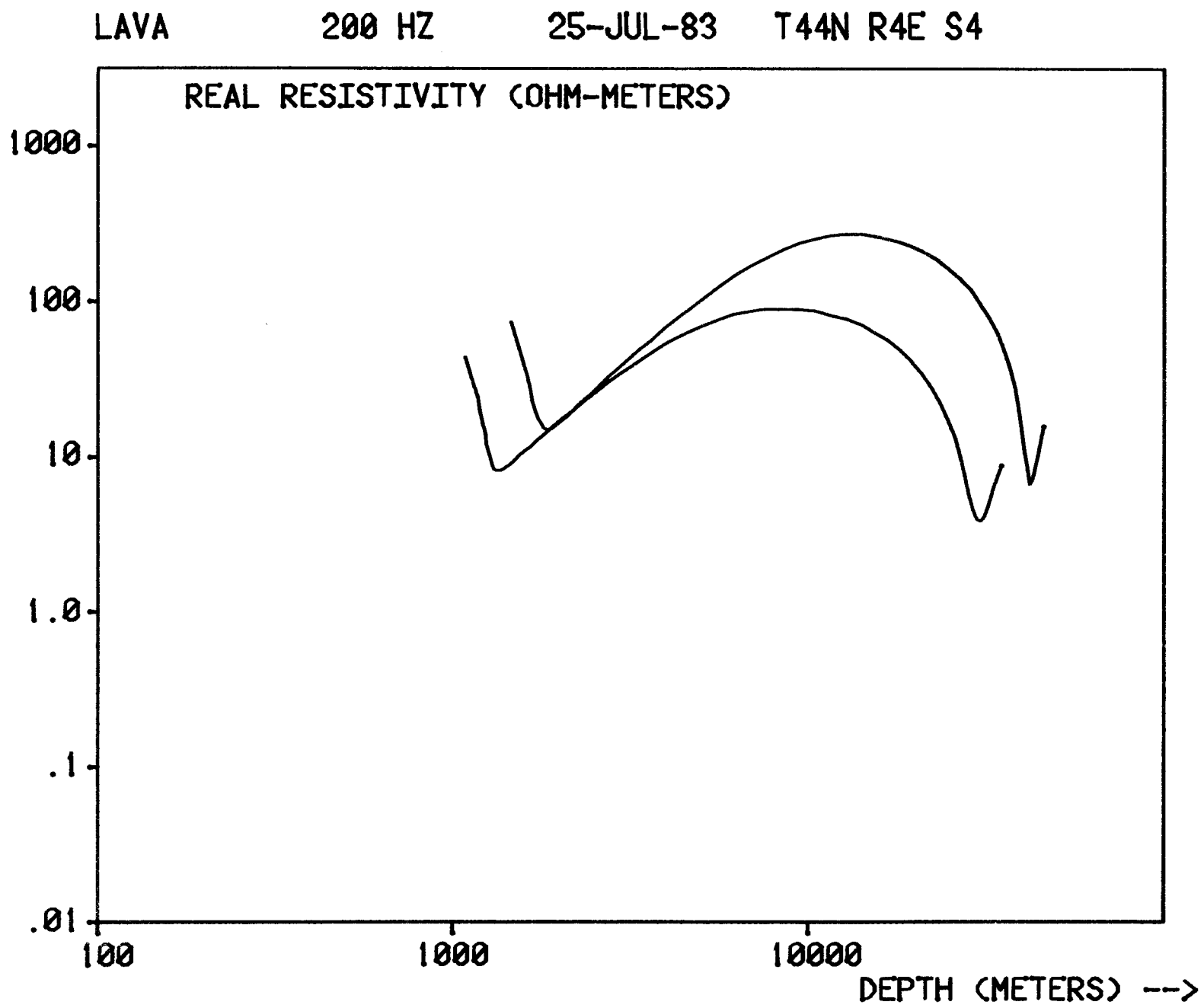
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.3716E+03	0.1004E+03	47.3	46.7	0.93350	0.73997	0.97318
H		0.1519E+03	0.3761E+02	45.9	44.1	0.94198	0.80995	103.00000
E	0.05000	0.1419E+03	0.5771E+02	41.0	39.6	0.92649	0.73798	0.45270
H		0.1008E+03	0.9970E+01	39.8	41.2	0.92902	0.78843	135.80002
E	0.10000	0.9696E+02	0.3215E+02	64.6	75.7	0.98317	0.97873	0.42087
H		0.9049E+02	0.2442E+02	65.7	74.6	0.98355	0.97951	117.39999
E	0.33333	0.3850E+02	0.1784E+02	77.8	-82.9	0.91128	0.95134	1.17865
H		0.2441E+02	0.5579E+01	78.6	-83.7	0.93038	0.95437	127.10001
E	0.50000	0.3379E+02	0.1659E+02	-72.7	84.4	0.90826	0.93576	0.43407
H		0.1847E+02	0.6379E+01	85.2	-70.3	0.92612	0.94343	176.50000
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.4551E+02	0.1344E+02	-56.7	-12.4	0.91043	0.94759	0.31998
H		0.3145E+02	0.9151E+01	-55.8	-12.5	0.91732	0.95138	125.10001
E	1.00000	0.2174E+02	0.1676E+02	-32.9	-85.8	0.87806	0.89121	0 56372
		0.1156E+02	0.1077E+02	-33.0	-85.6	0.87949	0.89198	147.89999

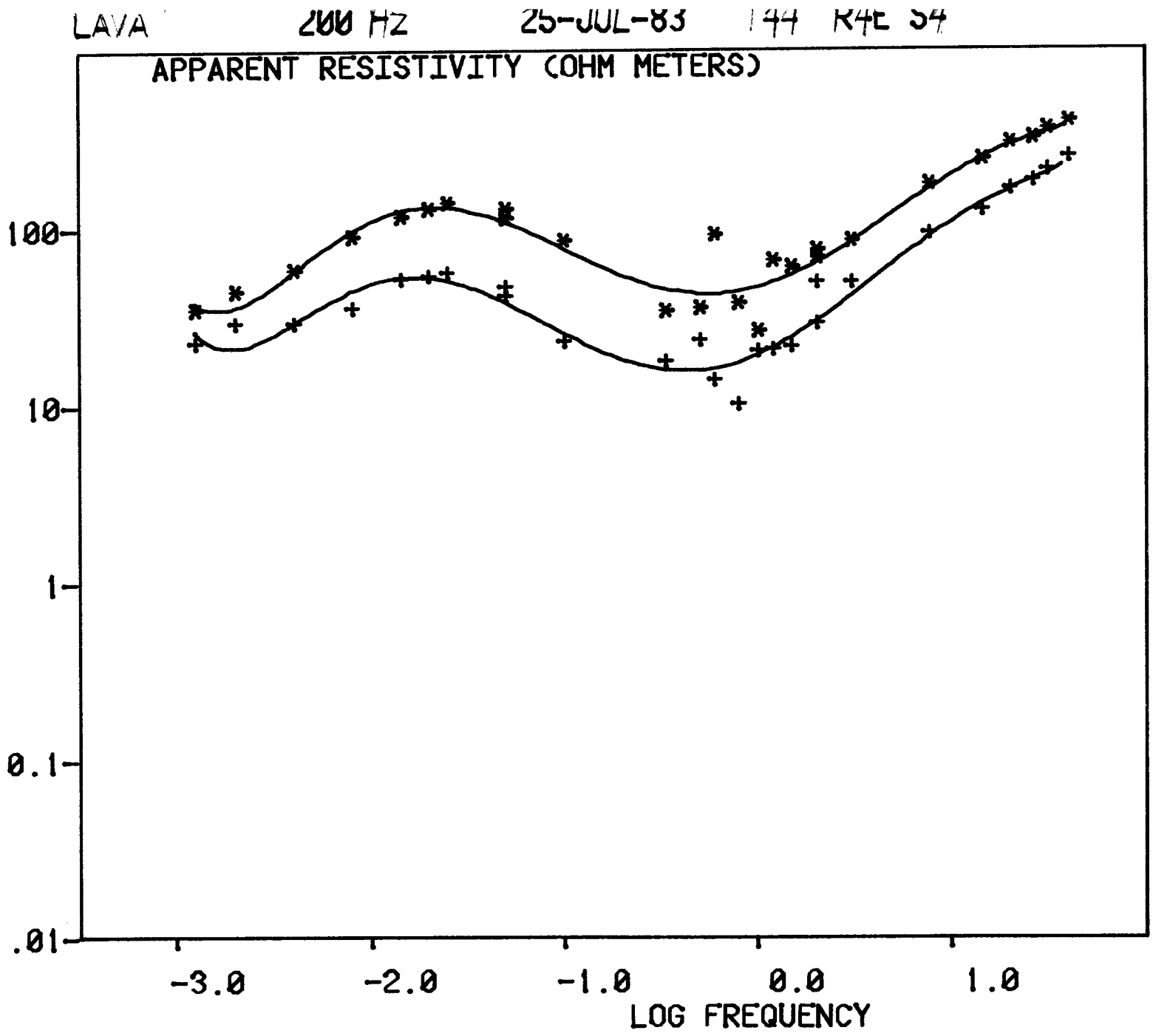
AVERAGE # 8
RAIL 200 HZ 26-JUL-83 T44N R4E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.1825E+02	0.1524E+02	-14.4	-44.2	0.99207	0.99662	0.19005
H		0.1745E+02	0.1458E+02	-14.3	-43.9	0.99230	0.99674	173.20001
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.4531E+02	0.1272E+02	-4 2	-44.1	0.81193	0.90023	0.19476
H		0.1640E+02	0.1055E+02	-0.7	-46.6	0.84017	0.92469	27.80000
E	2.00000	0.2780E+02	0.2749E+02	-41.4	5.8	0.82356	0.84357	0.15564
H		0.1375E+02	0.1208E+02	-40.6	6.0	0.84295	0.86077	22.70000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.4951E+02	0.3874E+02	-57.4	-18.4	0.74421	0.94419	0.22686
H		0.2863E+02	0.1420E+02	-21.0	-53.8	0.75587	0.94548	157.30002

AVERAGE # 8
RAIL 200 HZ 26-JUL-83 T44N R4E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.1298E+03	0.9150E+02	-19.2	-17.6	0.75990	0.98403	0.14734
H		0.8954E+02	0.3530E+02	-16.4	-20.0	0.78134	0.98462	0.50000
E	14.28571	0.1757E+03	0.1298E+03	-16.6	-18.0	0.82827	0.97770	0.17101
H		0.1320E+03	0.6745E+02	-15.0	-20.1	0.83646	0.97770	1.10001
E	20.00000	0.2450E+03	0.1688E+03	-17.6	-16.8	0.82403	0.95809	0.20965
H		0.1478E+03	0.1073E+03	-16.6	-17.9	0.82487	0.95810	7.00000
E	26.31579	0.2705E+03	0.1905E+03	-21.4	-17.9	0.79762	0.94173	0 36229
H		0.1697E+03	0.8974E+02	-18.7	-20.6	0.80595	0.94402	32.90001
E	31.25000	0.2886E+03	0.2161E+03	-27.1	-19.5	0.77711	0.86998	1.24549
H		0.1688E+03	0.7040E+02	-21.8	-24.8	0.78753	0.87612	74.60001
E	40.00000	0.3048E+03	0.2078E+03	-25.4	-22.2	0.80396	0.89558	1.18691
		0.1732E+03	0.9386E+02	-24.6	-23.0	0.80790	0.89702	24.10001


LAVA 200 HZ 25-JUL-83 T44N R4E S4
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


LAVA 200 HZ 25-JUL-83 144 RAE 54
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY

THE SITE IS: LAVA 200 HZ 25-JUL-83 T44N R4E S4

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	21.76	33.51	1
0.0020	27.81	42.28	2
0.0040	28.24	55.59	3
0.0080	33.96	86.07	4
0.0143	49.59	112.44	5
0.0200	51.68	124.27	6
0.0250	53.31	132.69	7
0.0303	0.00	0.00	8
0.0500	45.36	123.95	9
0.0500	40.34	110.34	10
0.1000	22.04	82.19	11
0.3333	16.94	32.81	12
0.5000	22.43	34 09	13
0.5988	13.38	88.06	14
0.8000	9.90	36.27	15
1.0000	19.73	25.16	16
1.0000	49.66	72.74	17
1.2048	20.05	63.02	18
1.4925	20.62	58.16	19
2.0000	59.49	134.67	20
2.0000	47.70	64.99	21
2.0000	27.89	72.92	22
3.0303	47.52	80.88	23
3.0303	117.11	137.61	24
7.6923	89.47	167.94	25
14.2857	121.13	230.46	26
20.0000	159.18	290.01	27
26.3158	175.75	306.29	28
31.2500	203.81	346.23	29
40.0000	240.97	380.10	30

AVERAGE # 8
LAVA 200 HZ 25-JUL-83 T44N R4E S4
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.3389E+02	0.2297E+02	-43.8	-19.7	0.98604	0.99173	0.06954
H		0.3313E+02	0.2054E+02	-44.4	-19.2	0.98633	0.99186	14.89999
E	0.00200	0.5362E+02	0.2947E+02	-36.1	-34.6	0.95316	0.99170	0.06372
H		0.3095E+02	0.2614E+02	-37.8	-30.5	0.96144	0.99182	22.70000
E	0.00400	0.5915E+02	0.3035E+02	-30.6	-27.1	0.96940	0.98820	0.07602
H		0.5202E+02	0.2612E+02	-27.9	-30.1	0.97031	0.98821	177.60001
E	0.00800	0.9037E+02	0.3457E+02	-8.1	-12.6	0.97684	0.98409	0.10479
H		0.8176E+02	0.3335E+02	-8.0	-12.7	0.97688	0.98421	117.89999
E	0.01429	0.1140E+03	0.5062E+02	3.7	-0.1	0.99671	0.99752	0.09488
H		0.1108E+03	0.4856E+02	3.8	0.0	0.99675	0.99754	112.60001
E	0.02000	0.1257E+03	0.5216E+02	14.8	8.9	0.99595	0.99772	0.09692
H		0.1228E+03	0.5119E+02	14.8	9.0	0.99597	0.99772	115.89999
E	0.02500	0.1341E+03	0.5411E+02	22.3	15.7	0.99651	0.99790	0.10022
H		0.1313E+03	0.5250E+02	22.4	15.7	0.99653	0.99790	119.70001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
LAVA 200 HZ 25-JUL-83 T44N R4E S4
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

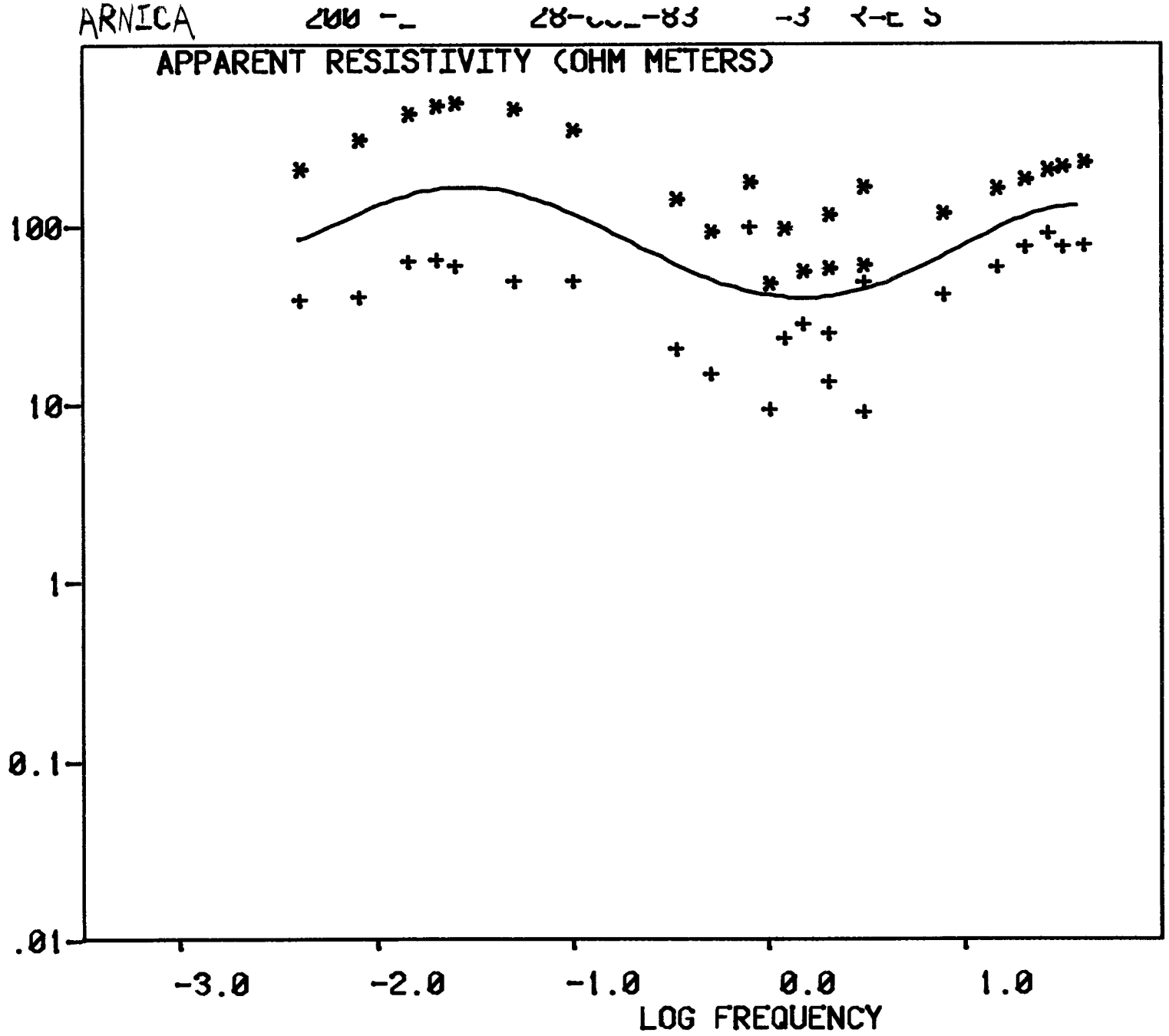
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.1286E+03	0.4871E+02	47.7	46.3	0.99203	0.99459	0.09645
H		0.1193E+03	0.4201E+02	47.9	46.3	0.99231	0.99466	113.80002
E	0.05000	0.1135E+03	0.4254E+02	46.5	47.7	0.99799	0.99934	0.08511
H		0.1072E+03	0.3814E+02	46.2	48.1	0.99810	0.99935	124.00000
E	0.10000	0.9995E+02	0.2739E+02	68.6	68.2	0.92015	0.91214	0.23494
H		0.6443E+02	0.1669E+02	69.9	65.7	0.92483	0.91787	126.20001
E	0.33333	0.4079E+02	0.2653E+02	89.7	-72.2	0.87041	0.85226	0.30525
H		0.2483E+02	0.7352E+01	89.9	-71.7	0.87507	0.86177	98.70001
E	0.50000	0.4853E+02	0.3531E+02	-65.7	-50.6	0.80554	0.73136	0.28446
H		0.1965E+02	0.9555E+01	-64.6	-51.6	0.80591	0.73518	91.50000
E	0.59880	0.1342E+03	0.1924E+02	-43.0	-83.2	0.93300	0.85866	0.15701
H		0.4191E+02	0.7518E+01	-55.7	-45 7	0.95776	0.90128	94.10001
E	0.80000	0.3864E+02	0.1073E+02	-39 3	-48.4	0.96615	0.96321	0.15283
H		0.3390E+02	0.9062E+01	-39.0	-48.9	0.96635	0.96343	132.80002
E	1.00000	0.3745E+02	0.3047E+02	-49.7	-35 1	0.77994	0.71447	0.14590
		0.1286E+02	0.8978E+01	-33.0	-51.7	0.78678	0.72102	66.60001

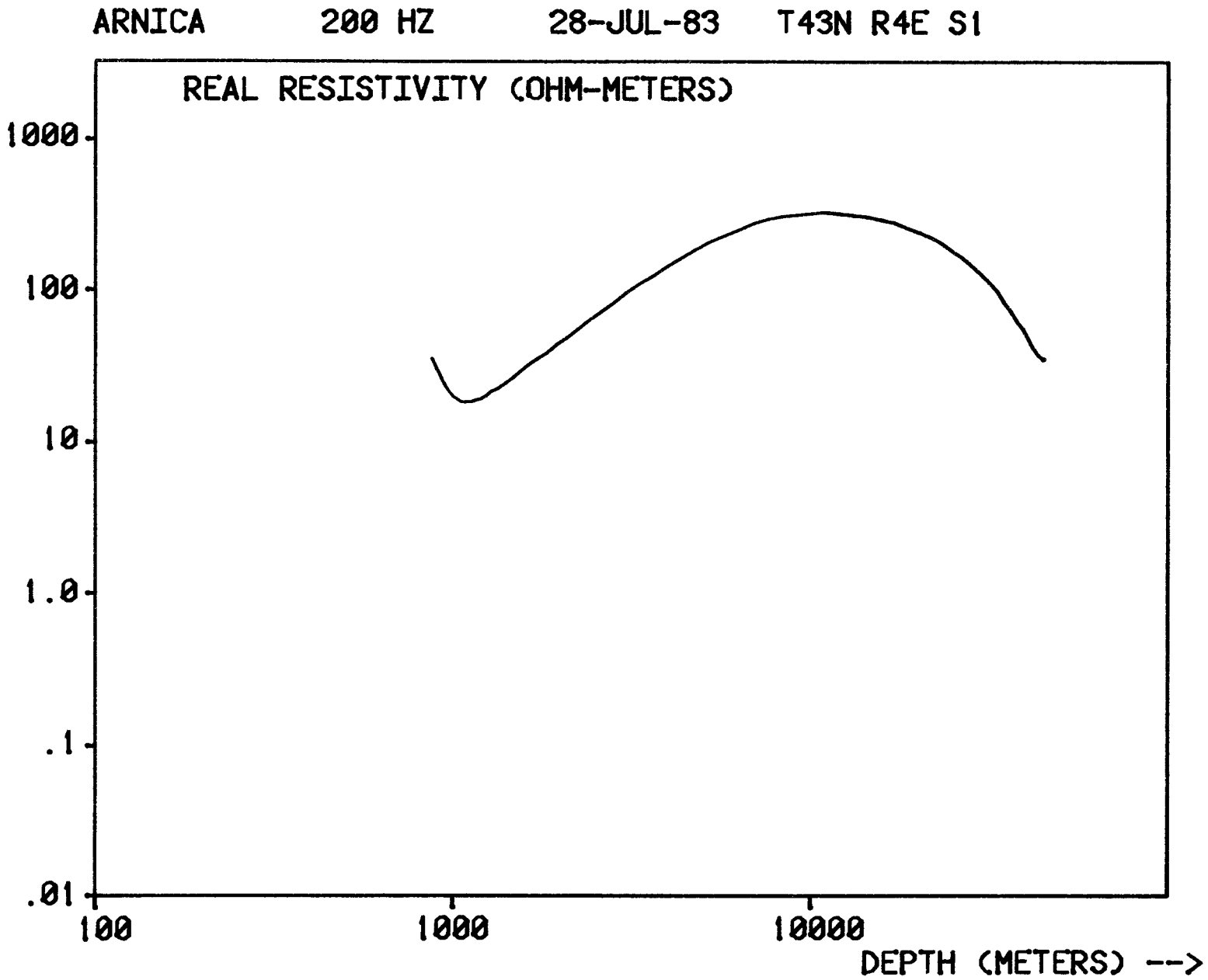
AVERAGE # 8
LAVA 200 HZ 25-JUL-83 T44N R4E S4
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.9023E+02	0.6262E+02	-14.6	-40.3	0.92432	0.87638	0.10912
H		0.5525E+02	0.3670E+02	-39.5	-14.9	0.93292	0.89046	31.70000
E	1.20482	0.6492E+02	0.2188E+02	-31.1	-14.0	0.98753	0.98325	0 11349
H		0.6112E+02	0.1822E+02	-32.8	-11.1	0.98764	0.98369	15.39999
E	1.49254	0.6643E+02	0.2368E+02	-17.4	-23.2	0.89769	0.96723	0.22789
H		0.4990E+02	0.1756E+02	-21.6	-18.3	0.89846	0.96726	20.50000
E	2.00000	0.1830E+03	0.9353E+02	-9.9	-42.2	0.83005	0.91629	0.11854
H		0.8635E+02	0.2546E+02	-23.0	-30.9	0.88933	0.94456	15.70000
E	2.00000	0.9265E+02	0.8149E+02	-22.0	-25.8	0.73971	0.72178	0.26664
H		0.3732E+02	0.1392E+02	-23.8	-24.3	0.75825	0.74225	38.60001
E	2.00000	0.8471E+02	0.3879E+02	-25.4	-25.1	0.84061	0.95221	0.11990
H		0.6113E+02	0.1699E+02	-26.6	-23.7	0.85372	0.95271	24.60001

AVERAGE # 8
LAVA 200 HZ 25-JUL-83 T44N R4E S4
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.1141E+03	0.7446E+02	-24.9	-19.7	0.76700	0.78268	0.18713
H		0.4766E+02	0.2057E+02	-24.5	-19.6	0.77319	0.78790	46.90001
E	3.03030	0.2209E+03	0.1861E+03	-73.2	-19.2	0.73027	0.72154	0.12536
H		0.5433E+02	0.4815E+02	-13.7	-71.9	0.75034	0.74285	30.20000
E	7.69231	0.1861E+03	0.9982E+02	-16.9	-15.5	0.93731	0.96028	0.11435
H		0.1497E+03	0.7913E+02	-16.8	-15.8	0.93774	0.96039	26.10001
E	14.28571	0.2486E+03	0.1402E+03	-19.7	-18.2	0.92711	0.97200	0.12642
H		0.2123E+03	0.1020E+03	-19.4	-18.5	0.92838	0.97202	23.89999
E	20.00000	0.3173E+03	0.1904E+03	-21.4	-16.7	0.91538	0.97196	0.12002
H		0.2628E+03	0.1279E+03	-20.8	-17.2	0.91857	0.97204	29.30000
E	26.31579	0.3370E+03	0.2094E+03	-25.3	-19.5	0.92031	0.96144	0.12680
H		0.2756E+03	0.1421E+03	-25.0	-19.7	0.92233	0.96154	31.00000
E	31.25000	0.3778E+03	0.2418E+03	-27.4	-21.6	0.92624	0.96076	0 14734
H		0.3146E+03	0.1658E+03	-26.7	-22.3	0.92793	0.96095	32 80000
E	40.00000	0.4230E+03	0.2921E+03	-31.2	-26.3	0.93032	0.93800	0.25636
H		0.3372E+03	0.1899E+03	-30.9	-26.5	0.93168	0.93894	45.50000


ARNICA
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY


ARNICA 200 HZ 28-JUL-83 T43N R4E S1
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: ARNICA 200 HZ 28-JUL-83 T43N R4E S1

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	16.48	40.99	1
0.0020	26.39	******	2
0.0040	36.12	193.72	3
0.0080	37.95	283.16	4
0.0143	59.34	392.60	5
0.0200	60.49	436.18	6
0.0250	55.61	455.39	7
0.0303	******	******	8
0.0500	45.91	419.62	9
0.0500	******	******	10
0.1000	46.06	318.86	11
0.3333	19.26	131.09	12
0.5000	14.14	85.99	13
0.5988	77.34	417.64	14
0.8000	91.05	162.14	15
1.0000	8.97	44.34	16
1.0000	22.26	202.45	17
1.2048	22.11	90.44	18
1.4925	26.35	51.69	19
2.0000	43.59	214.79	20
2.0000	12.73	54.02	21
2.0000	23.46	108.02	22
3.0303	8.56	55.82	23
3.0303	45.05	153.66	24
7.6923	38.67	109.99	25
14.2857	55.09	151.20	26
20.0000	70.72	168.69	27
26.3158	84.59	189.82	28
31.2500	70.31	198.59	29
40.0000	71.82	208.97	30

AVERAGE # 8
ARNICA 200 HZ 28-JUL-83 T43N R4E S1
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.5848E+02	0.2296E+02	78.9	-22.5	0.79696	0.82320	6.73810
H		0.2351E+02	0.1001E+02	-81.1	-11.4	0.81469	0.84581	79.60001
E	0.00200	0.1586E+04	0.2796E+02	-32.6	-13.8	0.90000	0.87896	13.30333
H		0.1232E+04	0.2483E+02	-34.0	-20.8	0.90787	0.88951	95.39999
E	0.00400	0.2036E+03	0.3811E+02	-11.5	-30.6	0.97307	0.98014	5.00845
H		0.1839E+03	0.3413E+02	-11.4	-30.6	0.97315	0.98016	98.20001
E	0.00800	0.2934E+03	0.3978E+02	-7.7	-10.9	0.98095	0.98543	6.16907
H		0.2729E+03	0.3611E+02	-7.5	-11.1	0.98105	0.98545	105.89999
E	0.01429	0.3957E+03	0.6333E+02	5.0	2.5	0.99733	0.99815	1.95516
H		0.3895E+03	0.5535E+02	5.4	2.2	0.99741	0.99817	84.70001
E	0.02000	0.4394E+03	0.6342E+02	12.6	12.0	0.99801	0.99896	2.68740
H		0.4329E+03	0.5756E+02	12.8	11.9	0.99806	0.99896	112.39999
E	0.02500	0.4567E+03	0.5647E+02	19.4	20.6	0.99896	0.99949	2.13849
H		0.4541E+03	0.5475E+02	19.5	20.5	0.99897	0.99949	128.50000
E	0.03030	0.2977E+04	0.2066E+04	-14.6	-40.3	0.92432	0.87638	0.10912
H		0.1823E+04	0.1211E+04	-39.5	-14.9	0.93292	0.89046	31.70000

AVERAGE # 8
ARNICA 200 HZ 28-JUL-83 T43N R4E S1
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

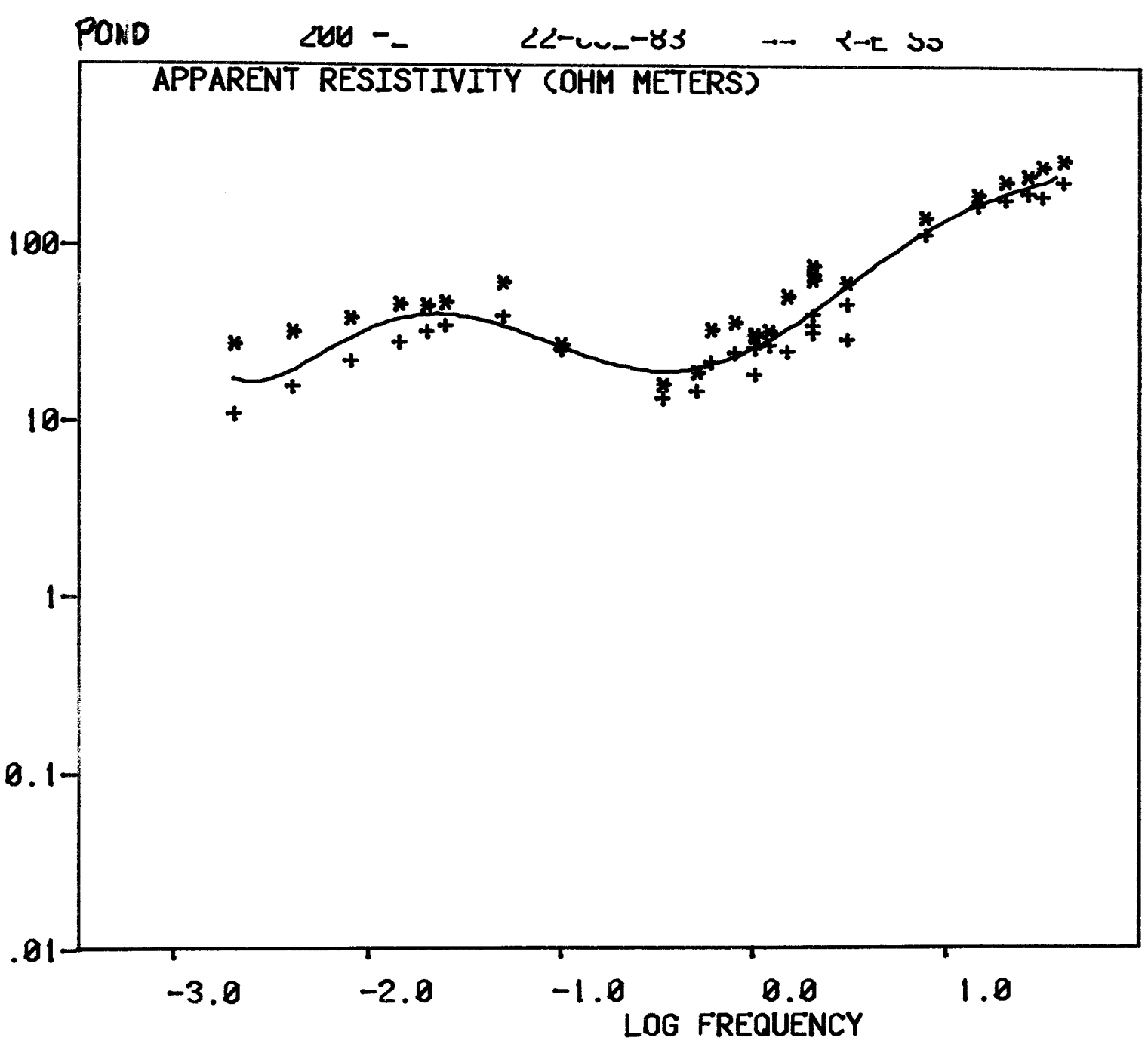
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.4496E+03	0.5436E+02	41.5	51.8	0.98495	0.93939	1.76161
H		0.3896E+03	0.3745E+02	41.2	51.6	0.98676	0.94542	24.70000
E	0.05000	0.3388E+04	0.1552E+04	-25.4	-25.1	0.84061	0.95221	0.11990
H		0.2445E+04	0.6794E+03	-26.6	-23.7	0.85372	0.95271	24.60001
E	0.10000	0.3228E+03	0.4950E+02	65 0	76.3	0.99704	0.99390	0.63533
H		0.3149E+03	0.4262E+02	65 1	76.1	0.99707	0.99415	116.30002
E	0.33333	0.1338E+03	0.2172E+02	80.3	84.5	0.98850	0.98700	1.71026
H		0.1284E+03	0.1679E+02	80.5	84.5	0.98861	0.98726	83.30002
E	0.50000	0.8884E+02	0.1671E+02	83.2	85.4	0.98143	0.98242	1 68818
H		0.8313E+02	0.1157E+02	83.2	85.4	0.98184	0.98271	72.60001
E	0.59880	0.4116E+03	0.6261E+02	17.9	35.5	0.88333	0.94513	0.84804
H		0.4237E+03	0.9208E+02	17.4	66.5	0.89297	0.95606	162.89999
E	0.80000	0.2896E+03	0.1740E+03	-65.1	-7.6	0.56571	0.52743	0.31392
H		0.3472E+02	0.8058E+01	-44.7	-63.9	0.70893	0.64486	114.00000
E	1.00000	0.4606E+02	0.1242E+02	84.0	86.5	0.97740	0.95615	1.45980
H		0.4262E+02	0.5524E+01	84.2	86.8	0.97794	0.96253	55.80000

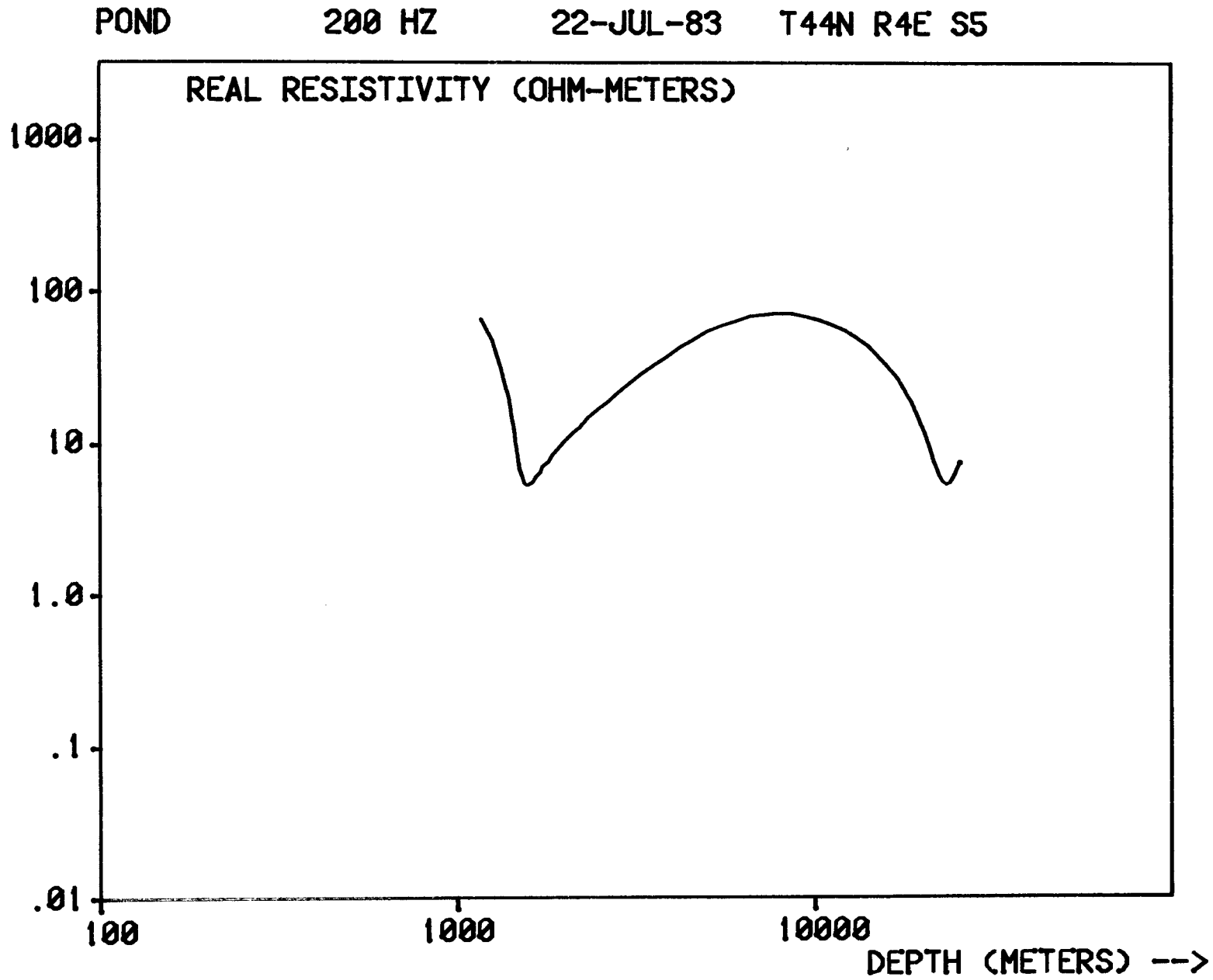
AVERAGE # 8
ARNICA 200 HZ 28-JUL-83 T43N R4E S1
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.2778E+03	0.4446E+02	-47.9	-56.2	0.49651	0.73340	0.36647
H		0.1271E+03	0.5433E-01	-52.7	79.4	0.72580	0.88515	126.00000
E	1.20482	0.1290E+03	0.3122E+02	-37.8	-61.2	0.70403	0.87795	0.75361
H		0.5185E+02	0.1299E+02	-39.2	-61.1	0.72090	0.89777	113.39999
E	1.49254	0.5631E+02	0.3698E+02	-57.2	-40.4	0.85922	0.95901	0.83621
H		0.4707E+02	0.1571E+02	-49.9	-48.3	0.87005	0.95951	108.70001
E	2.00000	0.2419E+03	0.4808E+02	-68.0	-39.3	0.93703	0.95979	1.78126
H		0.1877E+03	0.3911E+02	-67.5	-39.8	0.93758	0.95984	99.60001
E	2.00000	0.7965E+02	0.1853E+02	-84 7	-87.1	0.80774	0.88707	2.28246
H		0.2839E+02	0.6936E+01	-90.0	-82.5	0.84010	0.89369	103.20001
E	2.00000	0.1357E+03	0.2764E+02	-47.9	-44.2	0.87840	0.88871	0.30592
H		0.8037E+02	0.1928E+02	-48.3	-44.4	0.88002	0.89081	123.60001

AVERAGE # 8
ARNICA 200 HZ 28-JUL-83 T43N R4E S1
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.8538E+02	0.1256E+02	-81.5	-87.3	0.78453	0.86025	1.96772
H		0.2626E+02	0.4568E+01	-86.1	-83.3	0.81732	0.86920	112.10001
E	3.03030	0.1604E+03	0.5023E+02	-72.1	-36.0	0.97826	0.96087	1.84190
H		0.1469E+03	0.3987E+02	-71.7	-36.2	0.97836	0.96173	107.50000
E	7.69231	0.1169E+03	0.4301E+02	-29.5	-20.3	0.97328	0.96806	0.20691
H		0.1031E+03	0.3434E+02	-29.7	-20.0	0.97353	0.96860	126.10001
E	14.28571	0.1614E+03	0.6526E+02	-27.2	-18.8	0.95802	0.96280	0.59409
H		0.1410E+03	0.4491E+02	-27.3	-18.7	0.95891	0.96326	92.80002
E	20.00000	0.1852E+03	0.8489E+02	-28.2	-17.4	0.94023	0.94958	0.46043
H		0.1522E+03	0.5654E+02	-28.1	-17.4	0.94115	0.94983	161.20001
E	26.31579	0.2055E+03	0.9895E+02	-28.6	-19.5	0.95774	0.95146	0.24425
H		0.1742E+03	0.7023E+02	-28.7	-19.5	0.95806	0.95219	11.80000
E	31.25000	0.2125E+03	0.1043E+03	-30.0	-21.2	0.95383	0.91154	0.96770
H		0.1846E+03	0.3628E+02	-29.7	-22.5	0.95674	0.92528	110.10001
E	40.00000	0.2552E+03	0.1118E+03	-31.1	-32.4	0.88027	0.84463	0 92472
H		0.1628E+03	0.3189E+02	-30.6	-34.4	0.88425	0.85640	133.39999


POND
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
-3.0
-2.0
-1.0
0.0
1.0
LOG FREQUENCY


POND 200 HZ 22-JUL-83 T44N R4E S5
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: POND 200 HZ 22-JUL-83 T44N R4E S5

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
~~0.0012~~	~~9.68~~	~~32.82~~	~~1~~
0.0020	10.42	25.82	2
0.0040	14.90	30.31	3
0.0080	20.91	36.35	4
0.0143	26.40	43.22	5
0.0200	30.32	42.77	6
0.0250	32.80	44.11	7
~~0.0303~~	~~0.00~~	~~0.00~~	~~8~~
0.0500	37.09	57.02	9
~~0.0500~~	~~0.00~~	~~0.00~~	~~10~~
0.1000	23.82	25.15	11
0.3333	12.59	15.21	12
0.5000	14.00	17.81	13
0.5988	20.46	31.05	14
0.8000	22.76	34.38	15
1.0000	17.45	29.27	16
1.0000	24.23	28.32	17
1.2048	25.48	30.13	18
1.4925	23.30	47.93	19
2.0000	29.50	59.47	20
2.0000	32.52	62.57	21
2.0000	37.91	70.23	22
3.0303	27.30	56.56	23
3.0303	43.07	56.69	24
7.6923	108.41	132.76	25
14.2857	155.91	179.20	26
20.0000	169.12	213.24	27
26.3158	182.95	233.14	28
31.2500	176.51	262 90	29
40.0000	213.09	285.34	30

AVERAGE # 8
POND 200 HZ 22-JUL-83 T44N R4E S5
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.3391E+02	0.9835E+01	-32.6	-39.1	0.99634	0.99811	0.09769
H		0.3173E+02	0.9526E+01	-31.3	-39.8	0.99642	0.99813	35 10001
E	0.00200	0.2594E+02	0.1067E+02	-33.5	-34.3	0.99416	0.99681	0.08440
H		0.2570E+02	0.1016E+02	-32 6	-34.9	0.99425	0.99686	27.00000
E	0.00400	0.3066E+02	0.1500E+02	-32.1	-18.5	0.99698	0.99905	0.06058
H		0.2995E+02	0.1481E+02	-31.4	-19.1	0.99700	0.99905	26.10001
E	0.00800	0.3664E+02	0.2101E+02	-18.1	-4 8	0.99811	0.99930	0.04057
H		0.3606E+02	0.2082E+02	-17.9	-5.0	0.99812	0.99930	21.50000
E	0.01429	0.4363E+02	0.2664E+02	-2.1	6.7	0.99811	0.99736	0.05443
H		0.4280E+02	0.2616E+02	-2.1	6.8	0.99811	0.99737	26.39999
E	0.02000	0.4309E+02	0.3129E+02	7.5	16.3	0.99726	0.99089	0.08432
H		0.4244E+02	0.2935E+02	7.5	16.5	0.99729	0.99103	147.30002
E	0.02500	0.4453E+02	0.3495E+02	15.3	23.3	0.99440	0.98139	0.07918
H		0.4368E+02	0.3066E+02	15.1	23.6	0.99453	0.98190	142.60001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
POND 200 HZ 22-JUL-83 T44N R4E S5
NSAMP = 1024 SI = 0.0050 TO = 5.1200

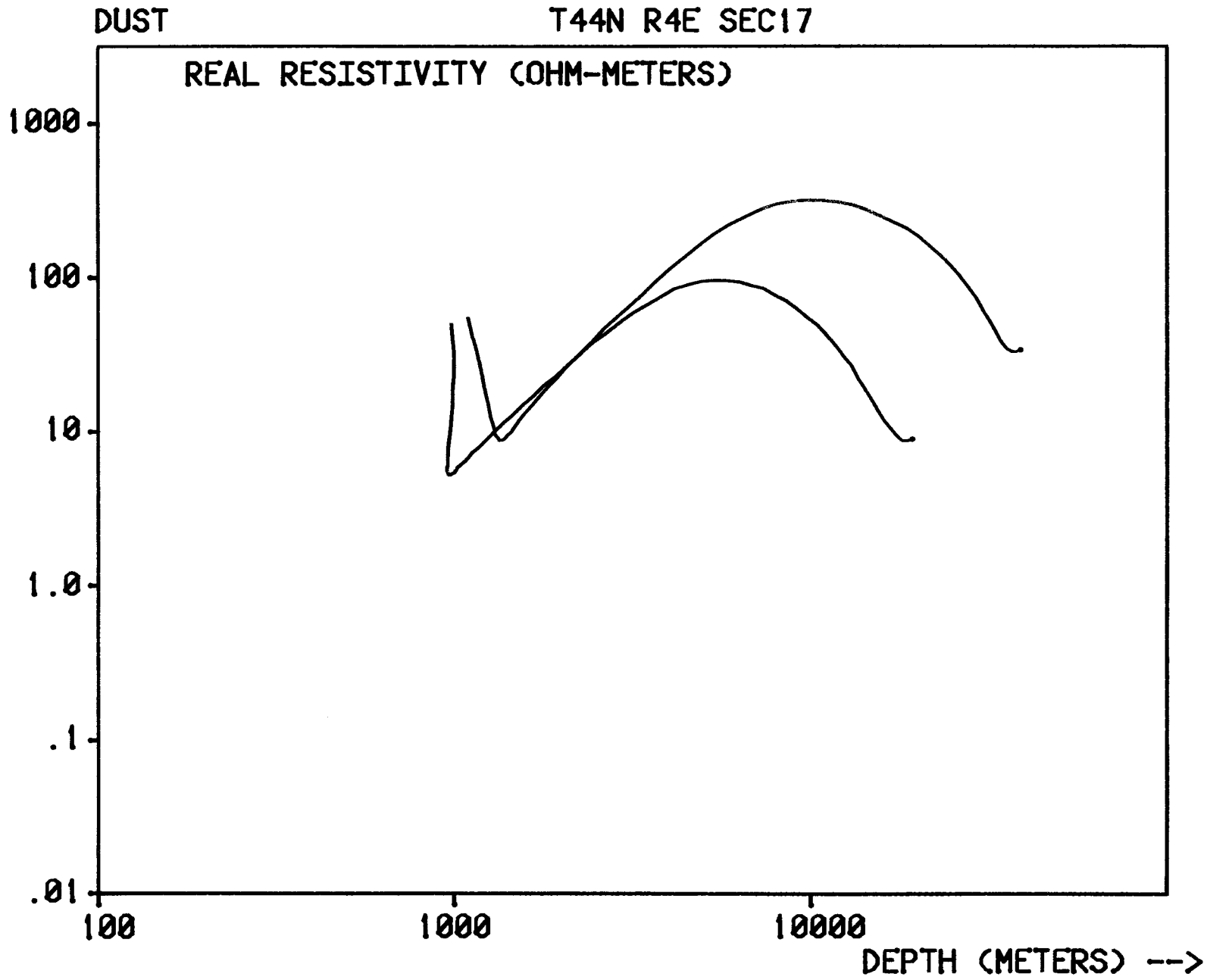
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.7361E+02	0.3949E+02	47.8	46.2	0.95831	0.86635	0.09358
H		0.4043E+02	0.3468E+02	47.6	46.2	0.96025	0.86870	125.89999
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.2690E+02	0.2669E+02	69.6	79.6	0.96097	0.96110	0.08820
H		0.2340E+02	0.2094E+02	78.9	70.6	0.96180	0.96193	123.20001
E	0.33333	0.2075E+02	0.1707E+02	-75.1	-56.4	0.84702	0.81392	0.26168
H		0.9672E+01	0.8098E+01	-73.6	-57.6	0.85253	0.81979	97.50000
E	0.50000	0.2232E+02	0.2015E+02	-58.9	-44.8	0.86710	0.80156	0.24766
H		0.1331E+02	0.7862E+01	-58.0	-45 4	0.86786	0.80206	35.60001
E	0.59880	0.3951E+02	0.2084E+02	-45.6	-5.3	0.89250	0.99361	0.08883
H		0.2259E+02	0.2008E+02	-44.3	-7.2	0.89949	0.99466	5.10001
E	0.80000	0.3548E+02	0.2393E+02	-23.0	-28.3	0.97810	0.98560	0.09190
H		0.3329E+02	0.2158E+02	-23.3	-27.7	0.97837	0.98583	6.60001
E	1.00000	0.3627E+02	0.2092E+02	-22 0	-30.2	0.90450	0.88722	0.14070
H		0.2227E+02	0.1397E+02	-23.0	-28.6	0.90479	0.88766	8.89999

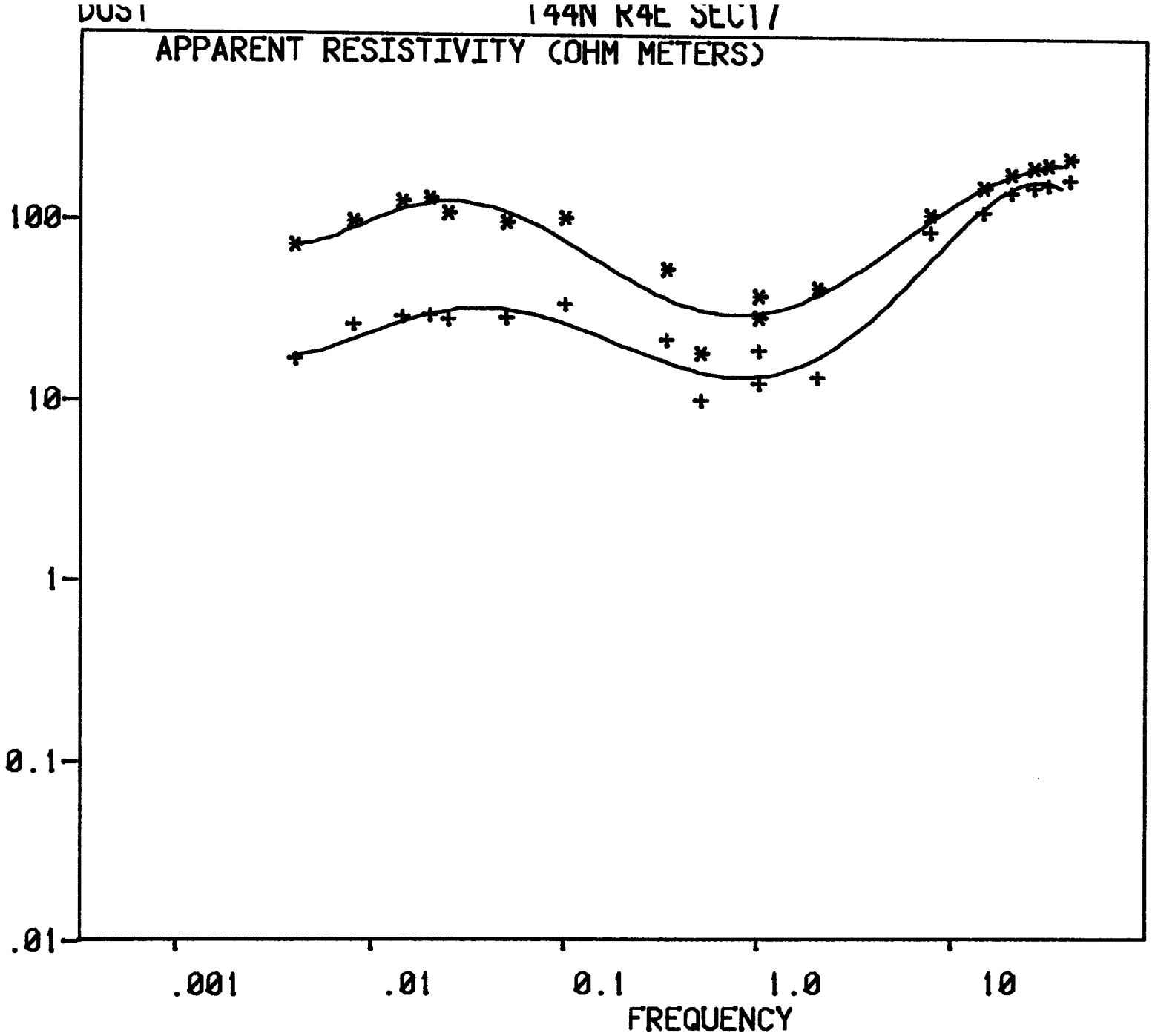
AVERAGE # 8
POND 200 HZ 22-JUL-83 T44N R4E S5
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.3027E+02	0.2772E+02	-32.2	-22.8	0.97087	0.92449	0.10099
H		0.2638E+02	0.2074E+02	-31.8	-23.0	0.97201	0.92524	11.30000
E	1.20482	0.3181E+02	0.2596E+02	-19.4	-29.5	0.98736	0.97806	0.09109
H		0.2845E+02	0.2499E+02	-18.8	-30.1	0.98741	0.97819	9.30000
E	1.49254	0.5414E+02	0.2388E+02	-20.0	-19.4	0.98063	0.95096	0.10156
H		0.4173E+02	0.2273E+02	-18.0	-22.7	0.98121	0.95211	32.70000
E	2.00000	0.6518E+02	0.3064E+02	-21.7	-13.7	0.97169	0.96383	0.11101
H		0.5375E+02	0.2836E+02	-22.1	-13.2	0.97183	0.96408	26.00000
E	2.00000	0.8078E+02	0.4138E+02	-16.5	-23.4	0.87248	0.88010	0.12040
H		0.4436E+02	0.2367E+02	-19.3	-18.6	0.87543	0.88265	10.20000
E	2.00000	0.8600E+02	0.3972E+02	-24.7	-24.1	0.97610	0.89097	0.11832
H		0.5446E+02	0.3610E+02	-24.4	-24.4	0.97658	0.89130	16.00000

AVERAGE # 8
POND 200 HZ 22-JUL-83 T44N R4E S5
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.7217E+02	0.3289E+02	-19.2	-18.2	0.87192	0.92166	0.10335
H		0.4094E+02	0.2171E+02	-20.0	-16.3	0.87506	0.92202	12.80000
E	3.03030	0.6186E+02	0.4554E+02	-17.1	-19.4	0.97150	0.95813	0.11092
H		0.5152E+02	0.4061E+02	-17.3	-19.2	0.97162	0.95833	169.00000
E	7.69231	0.1475E+03	0.1165E+03	-14.7	-14.6	0.97189	0.94877	0.10933
H		0.1181E+03	0.1003E+03	-14.1	-15.5	0.97236	0.94977	24.89999
E	14.28571	0.1937E+03	0.1660E+03	-13.1	-14.8	0.96868	0.96132	0.13613
H		0.1648E+03	0.1458E+03	-12.8	-15.1	0.96876	0.96143	27.10001
E	20.00000	0.2330E+03	0.1860E+03	-14.7	-18.6	0.95123	0.95459	0.16678
H		0.1935E+03	0.1522E+03	-14.7	-18.6	0.95124	0.95460	29.20000
E	26.31579	0.2573E+03	0.2058E+03	-16.2	-20.4	0.94244	0.94924	0.19580
H		0.2090E+03	0.1601E+03	-16.3	-20.3	0.94261	0.94937	36.30000
E	31.25000	0.2974E+03	0.2111E+03	-17.5	-23.8	0.90885	0.93555	0.45849
H		0.2284E+03	0.1419E+03	-17.6	-23.8	0.90911	0.93565	57.30000
E	40.00000	0.3382E+03	0.2520E+03	-22.1	-23.5	0.92824	0.91650	1.58771
H		0.2325E+03	0.1742E+03	-21.6	-23.9	0.92952	0.91841	123.89999


DUST
T44N R4E SEC17
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: DUST 200 HZ T44N R4E SEC17

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN.	MEAN OF RHOMX	PERIOD #
0.0012	9.81	46.87	1
0.0020	0.00	0.00	2
0.0040	16.20	68.76	3
0.0080	24.65	91.66	4
0.0143	27.17	118.91	5
0.0200	28.00	123.56	6
0.0250	26.42	101.77	7
0.0303	0.00	0.00	8
0.0500	26.93	89.56	9
0.0500	0.00	0.00	10
0.1000	32.11	95.47	11
0.3333	20.59	49.73	12
0.5000	9.49	17.09	13
0.5988	0.00	0.00	14
0.8000	0.00	0.00	15
1.0000	11.81	35.43	16
1.0000	17.68	26.66	17
1.2048	0.00	0.00	18
1.4925	0.00	0.00	19
2.0000	0.00	0.00	20
2.0000	12.63	39.36	21
3.0000	0.00	0.00	22
3.0303	0.00	0.00	23
3.0303	0.00	0.00	24
7.6923	80.62	98.28	25
14.2857	102.72	141.15	26
20.0000	132.87	169.99	27
26.3158	141.67	183.12	28
31.2500	146.13	191.15	29
40.0000	156.26	205.22	30

AVERAGE # 8
DUST 200 HZ T44N R4E SEC17
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.4942E+02	0.1125E+02	-43.9	-82 3	0.97817	0.95119	0.14088
H		0.4432E+02	0.8368E+01	-41.3	-83.9	0.98076	0.95493	13.80000
E	0.00200	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.00400	0.8040E+02	0.1623E+02	-36.2	-21.5	0.92619	0.96684	0.39989
H		0.5713E+02	0.1617E+02	-37.0	-21.1	0.92687	0.96965	54.20000
E	0.00800	0.9322E+02	0.2513E+02	-13.6	-7.5	0.99285	0.98860	0.81768
H		0.9009E+02	0.2417E+02	-14.0	-7.2	0.99294	0.98869	59.10001
E	0.01429	0.1264E+03	0.2969E+02	2.4	2.4	0.97535	0.95540	0.71658
H		0.1114E+03	0.2465E+02	0.1	4.2	0.97704	0.95749	17.20000
E	0.02000	0.1597E+03	0.3436E+02	16.3	14.4	0.90075	0.89778	1.18573
H		0.8744E+02	0.2165E+02	6.6	19.9	0.92529	0.92277	39.50000
E	0.02500	0.1274E+03	0.3083E+02	18.2	22.9	0.89672	0.91704	0.98425
H		0.7619E+02	0.2202E+02	11.2	26.2	0.91631	0.93446	29.20000
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
DUST 200 HZ T44N R4E SEC17
NSAMP = 1024 SI = 0.0050 TO = 5.1200

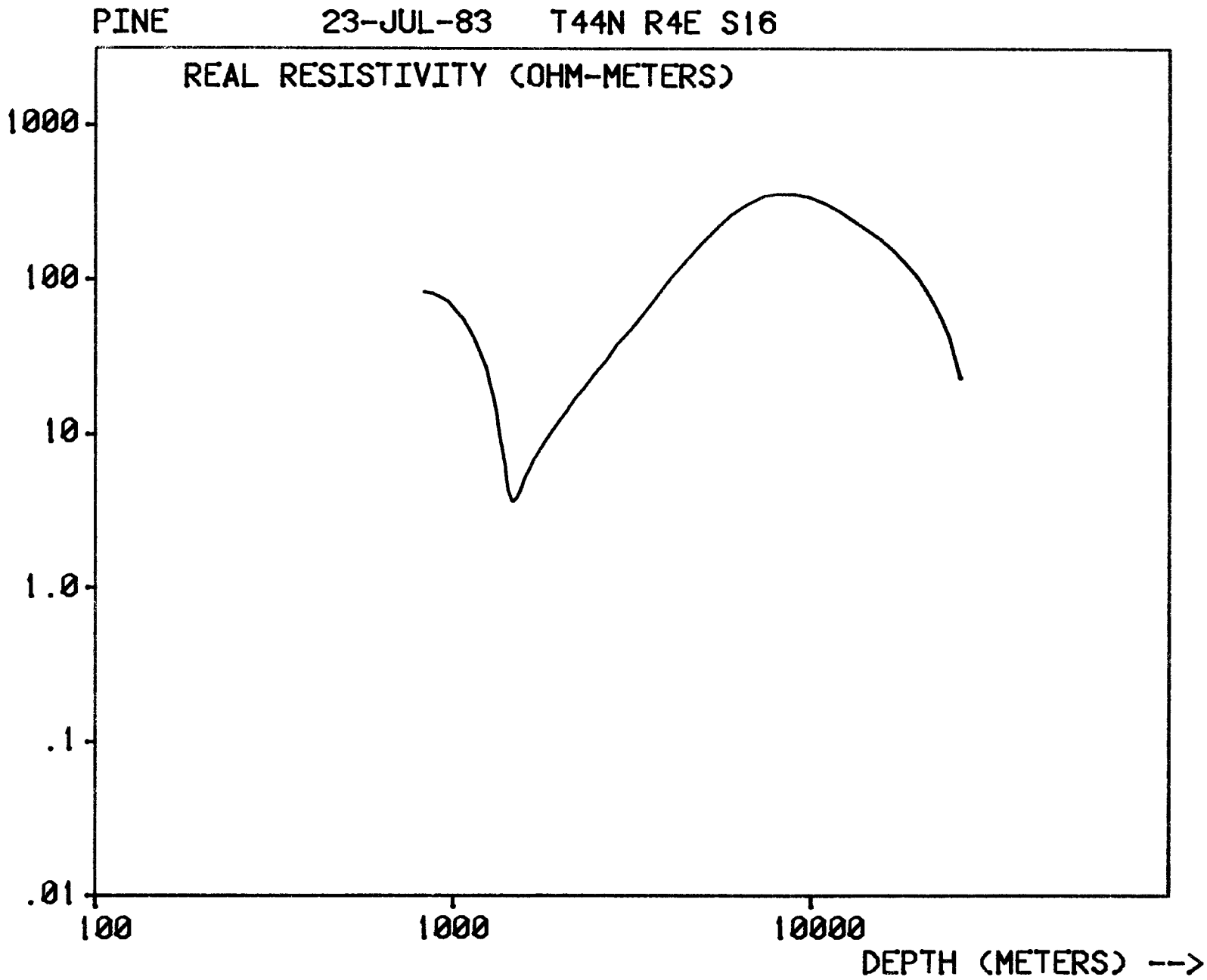
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.1037E+03	0.3805E+02	42.6	48.1	0.87160	0.82785	0.94731
H		0.7538E+02	0.1580E+02	41.5	47.5	0.88487	0.84034	21.00000
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.1304E+03	0.5304E+02	61.2	80.3**********			1.64322
H		0.6057E+02	0.1118E+02	63.8	78.6	0.81256	0.81052	105.89999
E	0.33333	0.8351E+02	0.3785E+02	87.7	82.7	0.66179	0.56357	3.41472
H		0.1595E+02	0.3333E+01	82.2	86.8	0.67253	0.58220	96.50000
E	0.50000	0.2163E+02	0.1457E+02	80.7	-82.0	0.85165	0.85167	0.88203
H		0.1256E+02	0.4412E+01	84.0	-83.4	0.86119	0.86121	123.00000
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.00000	0.5555E+02	0.1824E+02	-38.7	-88.1	0.75089	0.77639	2.25254
		0.1531E+02	0.5386E+01	-39.7	-87.5	0.77797	0.79931	3.50000

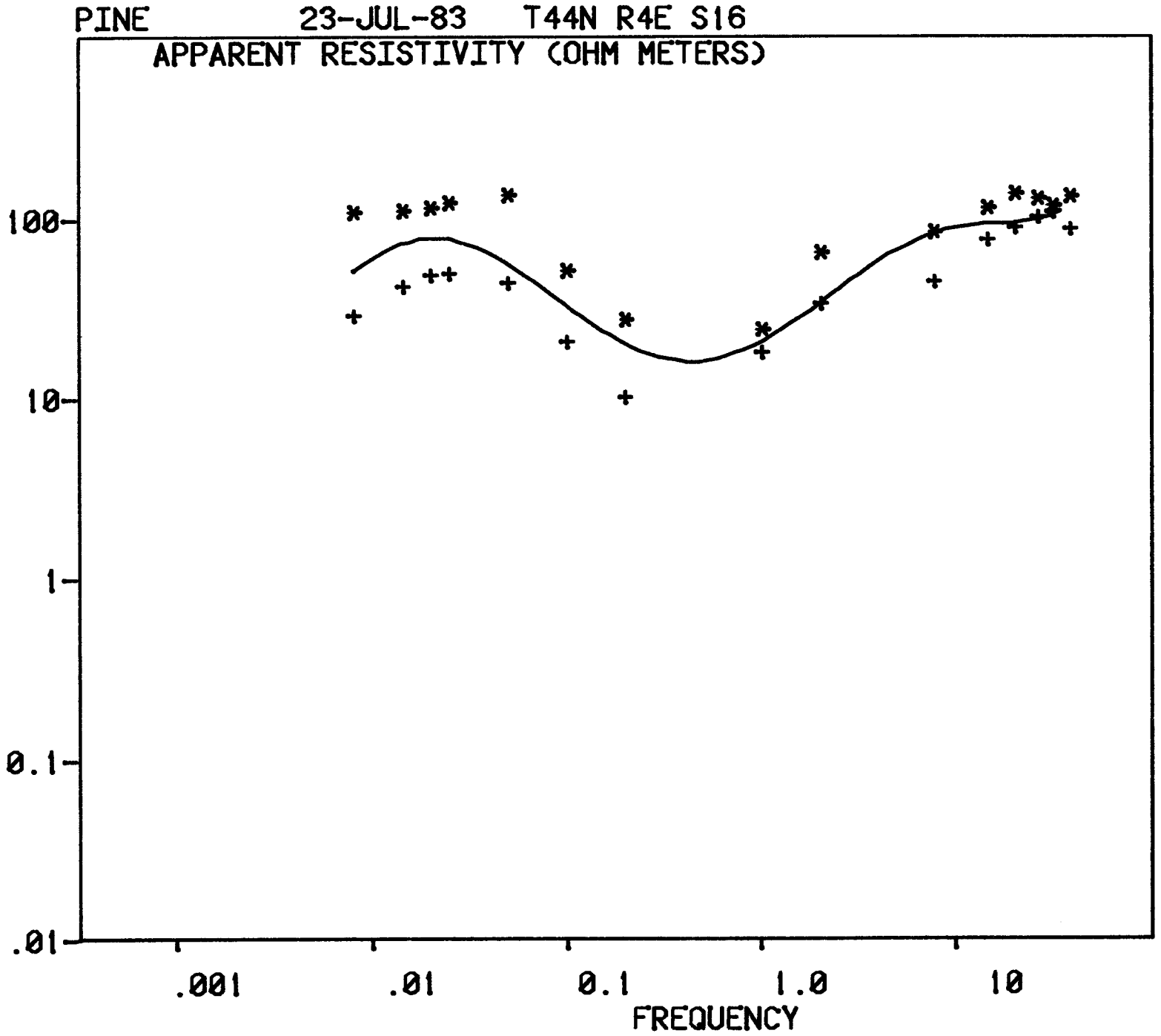
AVERAGE # 8
DUST 200 HZ T44N R4E SEC17
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.3467E+02	0.2832E+02	-66.2	-25.8	0.67103	0.87911	0.38377
H		0.1864E+02	0.7039E+01	-25.3	-68.2	0.68338	0.90680	122.89999
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.5448E+02	0.2032E+02	-18.1	87.5	0.74126	0.82187	0.33287
H		0.2423E+02	0.4933E+01	-19.2	86.8	0.76050	0.83646	105.50000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
DUST 200 HZ T44N R4E SEC17
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.1028E+03	0.9419E+02	-17.8	-13.6	0.92345	0.97824	2.37308
H		0.9372E+02	0.6705E+02	-16.5	-15.3	0.92434	0.97840	12.20000
E	14.28571	0.1484E+03	0.1215E+03	-17.5	-19.7	0.92894	0.97294	1.29008
H		0.1339E+03	0.8393E+02	-17.6	-19.9	0.93055	0.97316	21.89999
E	20.00000	0.1855E+03	0.1569E+03	-18.5	-19.2	0.93187	0.95246	1.88966
H		0.1544E+03	0.1088E+03	-18.6	-19.3	0.93302	0.95290	34.50000
E	26.31579	0.2021E+03	0.1654E+03	-20.4	-22.6	0.93145	0.94836	1.74184
H		0.1641E+03	0.1179E+03	-20.3	-23.2	0.93253	0.94901	41.30000
E	31.25000	0.2164E+03	0.1836E+03	-20.9	-25.2	0.90007	0.93104	2.75944
H		0.1659E+03	0.1087E+03	-20.8	-26.2	0.90377	0.93336	80.50000
E	40.00000	0.2415E+03	0.1913E+03	-22.5	-29.5	0.90350	0.92289	6.86808
		0.1689E+03	0.1212E+03	-23.9	-28.3	0.90487	0.92348	11.00000


PINE 23-JUL-83 T44N R4E S16
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


PINE 23-JUL-83 T44N R4E S16
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: PINE 200 HZ 23-JUL-83 T44N R4E S16

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOYY	MEAN OF RHOXX	PERIOD #
0.0012	6.71	38.46	1
0.0020	13.29	40.26	2
0.0040	0.00	0.00	3
0.0080	27.23	103.01	4
0.0143	40.12	104.69	5
0.0200	45.75	108.75	6
0.0200	0.00	0.00	7
0.0250	47.19	117.25	8
0.0250	0.00	0.00	9
0.0500	41.85	127.09	10
0.0500	0.00	0.00	11
0.1000	19.58	46.61	12
0.2000	9.70	26.11	13
0.5000	0.00	0.00	14
0.5988	0.00	0.00	15
0.8000	0.00	0.00	16
0.8000	0.00	0.00	17
1.0000	17.06	22.92	18
1.2048	0.00	0.00	19
1.6129	0.00	0.00	20
2.0000	0.00	0.00	21
2.0000	31.98	61.53	22
3.0303	0.00	0.00	23
3.0303	0.00	0.00	24
7.6923	42.09	79.89	25
14.2857	71.97	110.17	26
20.0000	84.98	130.66	27
26.3158	97.99	122.53	28
31.2500	102.88	112.49	29
38.4615	83.44	126.52	30

AVERAGE # 8
PINE 200 HZ 23-JUL-83 T44N R4E S16
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.4350E+02	0.5953E+01	23.1	30.4	0.99510	0.99527	0.09860
H		0.3345E+02	0.7462E+01	13.7	59.7	0.99676	0.99684	99.70001
E	0.00200	0.5843E+02	0.1725E+02	-36.6	-82.5	0.78043	0.98908	0.12483
H		0.2212E+02	0.9329E+01	-36.2	-63.7	0.81780	0.98920	43.20000
E	0.00400	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.00800	0.1444E+03	0.2714E+02	-28.6	-8.7	0.81365	0.99720	0.13322
H		0.6161E+02	0.2731E+02	-27.4	-9.8	0.81766	0.99721	46.60001
E	0.01429	0.1189E+03	0.4318E+02	3.7	5.0	0.92554	0.99257	0.10888
H		0.9047E+02	0.3705E+02	5.3	3.4	0.92810	0.99266	78.80002
E	0.02000	0.1294E+03	0.4891E+02	10.2	13.4	0.91586	0.99282	0.12326
H		0.8811E+02	0.4259E+02	11.8	12.3	0.92155	0.99336	86.80002
E	0.02000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.02500	0.1408E+03	0.5159E+02	19.0	22.0	0.92706	0.99204	0.15098
H		0.9371E+02	0.4279E+02	19.1	22.6	0.93525	0.99251	90.80002

AVERAGE # 8
PINE 200 HZ 23-JUL-83 T44N R4E S16
NSAMP = 1024 SI = 0.0050 TO = 5.1200

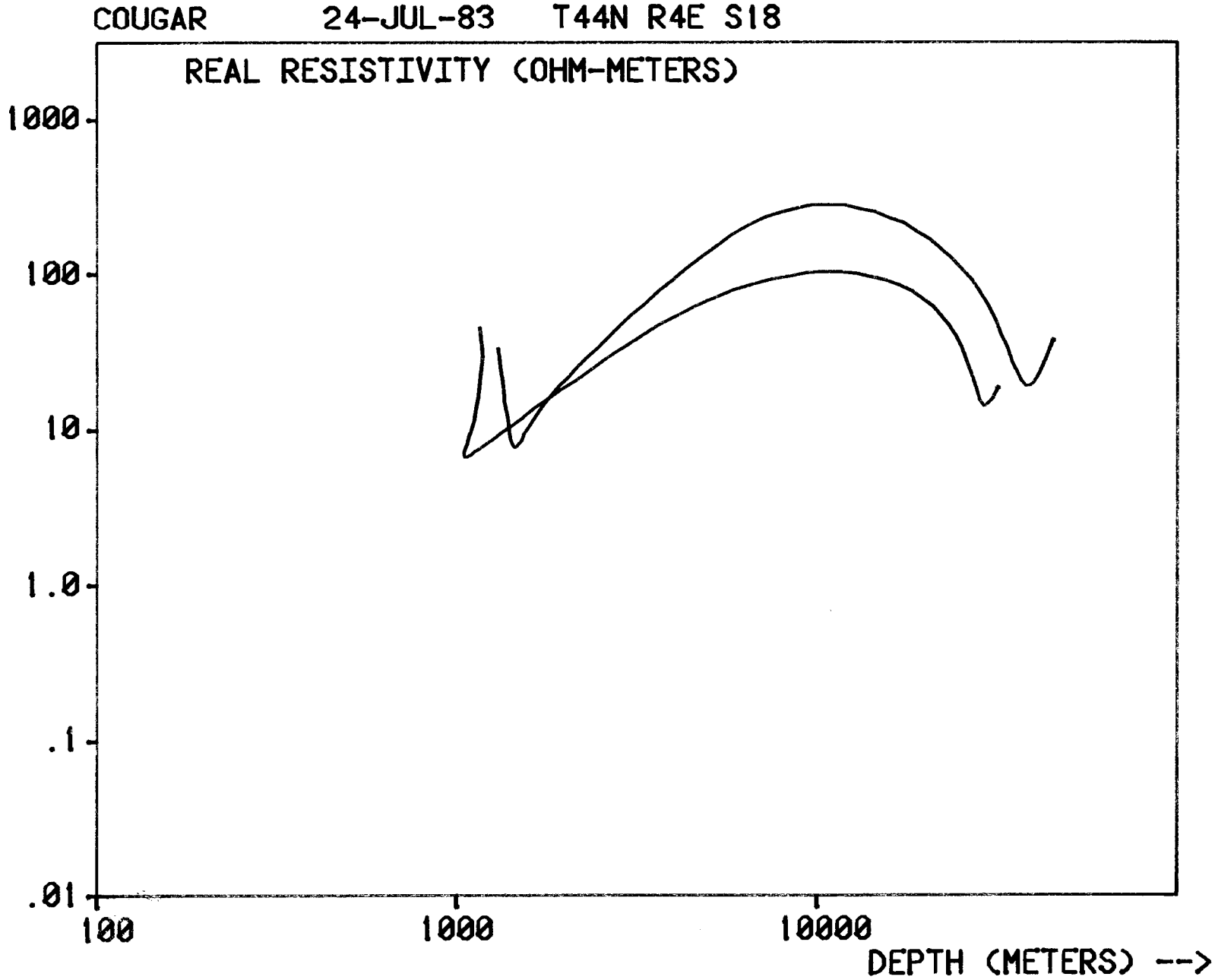
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.02500	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.05000	0.1895E+03	0.4387E+02	43.5	50.4	0.78504	0.94907	0.27004
H		0.6466E+02	0.3983E+02	45.1	48.3	0.79940	0.96140	93.80002
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.6701E+02	0.2496E+02	55.2	76.3	0.81927	0.79514	0.58821
H		0.3022E+02	0.1421E+02	77.5	52.1	0.84831	0.82055	160.60001
E	0.20000	0.3137E+02	0.1245E+02	86.0	89.7	0.90384	0.85112	0.35889
H		0.2086E+02	0.6959E+01	83.6	-87.9	0.90546	0.85148	29.10001
E	0.50000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

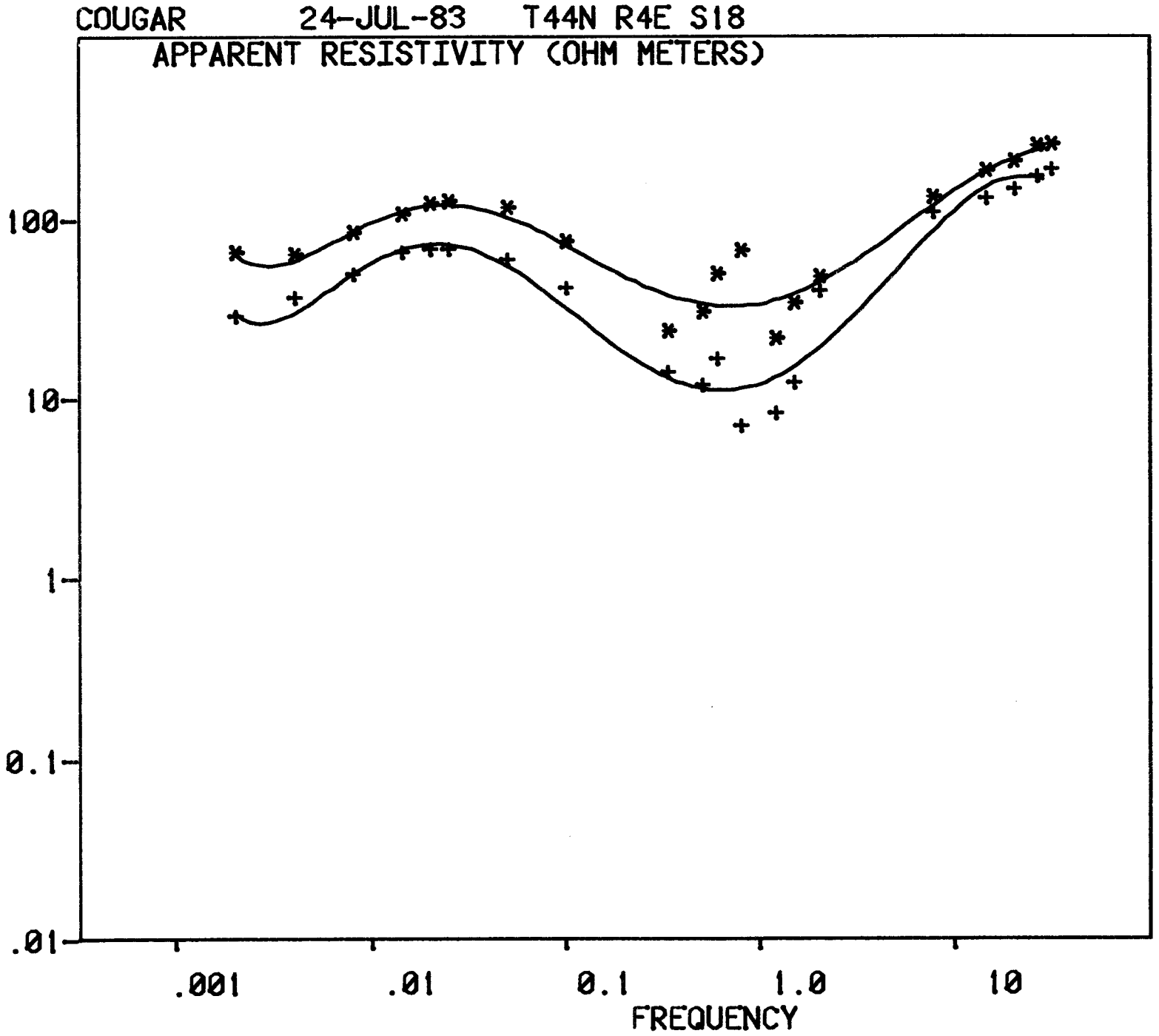
AVERAGE # 8
PINE 200 HZ 23-JUL-83 T44N R4E S16
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.00000	0.4033E+02	0.3399E+02	40.0	-25.1	0.31371	0.41121	0.39937
H		0.5505E+01	0.1243E+00	-25.2	41.4	0.48250	0.57832	48.60001
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.61290	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.8808E+02	0.6088E+02	-31.3	-18.5	0.57088	0.64806	0.41188
H		0.3498E+02	0.3083E+01	-25.5	-25.0	0.69507	0.76460	53.50000

AVERAGE # 8
PINE 200 HZ 23-JUL-83 T44N R4E S16
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.8974E+02	0.1580E+02	-17.6	-49.2	0.82009	0.89022	0.41596
H		0.7004E+02	0.6839E+02	-13.0	-43.1	0.43008	0.79646	64.80000
E	14.28571	0.1324E+03	0.9082E+02	-19.2	-16.7	0.88914	0.89185	0.36762
H		0.8795E+02	0.5312E+02	-19.1	-17.2	0.89024	0.89293	149.00000
E	20.00000	0.1687E+03	0.1074E+03	-22.5	-19.5	0.85626	0.87683	0.40299
H		0.9262E+02	0.6255E+02	-21.9	-20.2	0.85700	0.87759	160.30002
E	26.31579	0.1588E+03	0.1318E+03	-25.3	-18.8	0.83037	0.86141	1.67518
H		0.8624E+02	0.6416E+02	-21.8	-23.2	0.83426	0.86528	87.10001
E	31.25000	0.1586E+03	0.1463E+03	-27.8	-18.3	0.80479	0.79316	1.13815
H		0.6638E+02	0.5946E+02	-18.9	-28.9	0.81478	0.80327	58.90001
E	38.46154	0.1640E+03	0.1244E+03	-38.9	-29.3	0.81841	0.88543	0.63583
H		0.8908E+02	0.4243E+02	-29.2	-38.5	0.84302	0.89658	17.20000


COUGAR 24-JUL-83 T44N R4E S18
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


COUGAR 24-JUL-83 T44N R4E S18
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: COUGAR 200 HZ 24-JUL-83 T44N R4E S18

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	31.76	80.10	1
0.0020	27.26	61.32	2
0.0040	34.67	59.95	3
0.0080	47.01	79.90	4
0.0143	61.15	101.01	5
0.0200	64.64	115.98	6
0.0250	64.69	119.55	7
0.0303	0.00	0.00	8
0.0500	56.09	109.73	9
0.0500	0.00	0.00	10
0.1000	38.89	70.58	11
0.3333	13.21	22.52	12
0.5000	11.31	28.48	13
0.5988	15.84	47.17	14
0.8000	6.68	62.94	15
1.0000	7.49	24.59	16
1.0000	48.15	62.05	17
1.2048	7.91	20.41	18
1.4925	11.63	31.95	19
2.0000	37.46	45.09	20
2.0000	4.67	35.87	21
2.0000	0.00	0.00	22
3.0303	3.86	58.37	23
3.0303	0.00	0.00	24
7.6923	103.23	126.29	25
14.2857	123.65	176.97	26
20.0000	140.05	198.60	27
26.3158	161.35	242.88	28
31.2500	179.59	246.73	29
40.0000	0.00	0.00	30

AVERAGE # 8
COUGAR 200 HZ 24-JUL-83 T44N R4E S18
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.9663E+02	0.5273E+01	-23.4	81.7	0.71472	0.80255	0.13069
H		0.2011E+02	0.2454E+01	-22.8	81.5	0.73301	0.81233	20.39999
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.1445E+03	0.1223E+03	-19.2	-16.0	0.89241	0.95498	0.29479
H		0.1080E+03	0.8414E+02	-15.2	-20.1	0.89353	0.95529	28.50000
E	14.28571	0.1946E+03	0.1476E+03	-15.2	-17.1	0.90581	0.96491	0.37926
H		0.1594E+03	0.9969E+02	-15.3	-17.0	0.90754	0.96505	30.30000
E	20.00000	0.2313E+03	0.1683E+03	-17.6	-19.5	0.89600	0.92809	0.46887
H		0.1658E+03	0.1118E+03	-17.4	-19.7	0.89609	0.92812	31.50000
E	26.31579	0.2723E+03	0.1924E+03	-20.2	-24.4	0.91329	0.94196	0.31667
H		0.2135E+03	0.1303E+03	-20.0	-24.6	0.91387	0.94210	38.30000
E	31.25000	0.2967E+03	0.2406E+03	-19.2	-30.2	0.89082	0.87186	0.72867
H		0.1968E+03	0.1186E+03	-20.6	-29.1	0.89427	0.87633	80.70001
E	40.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
COUGAR 200 HZ 24-JUL-83 T44N R4E S18
NSAMP = 1024 SI = 0.0050 TO = 5.1200

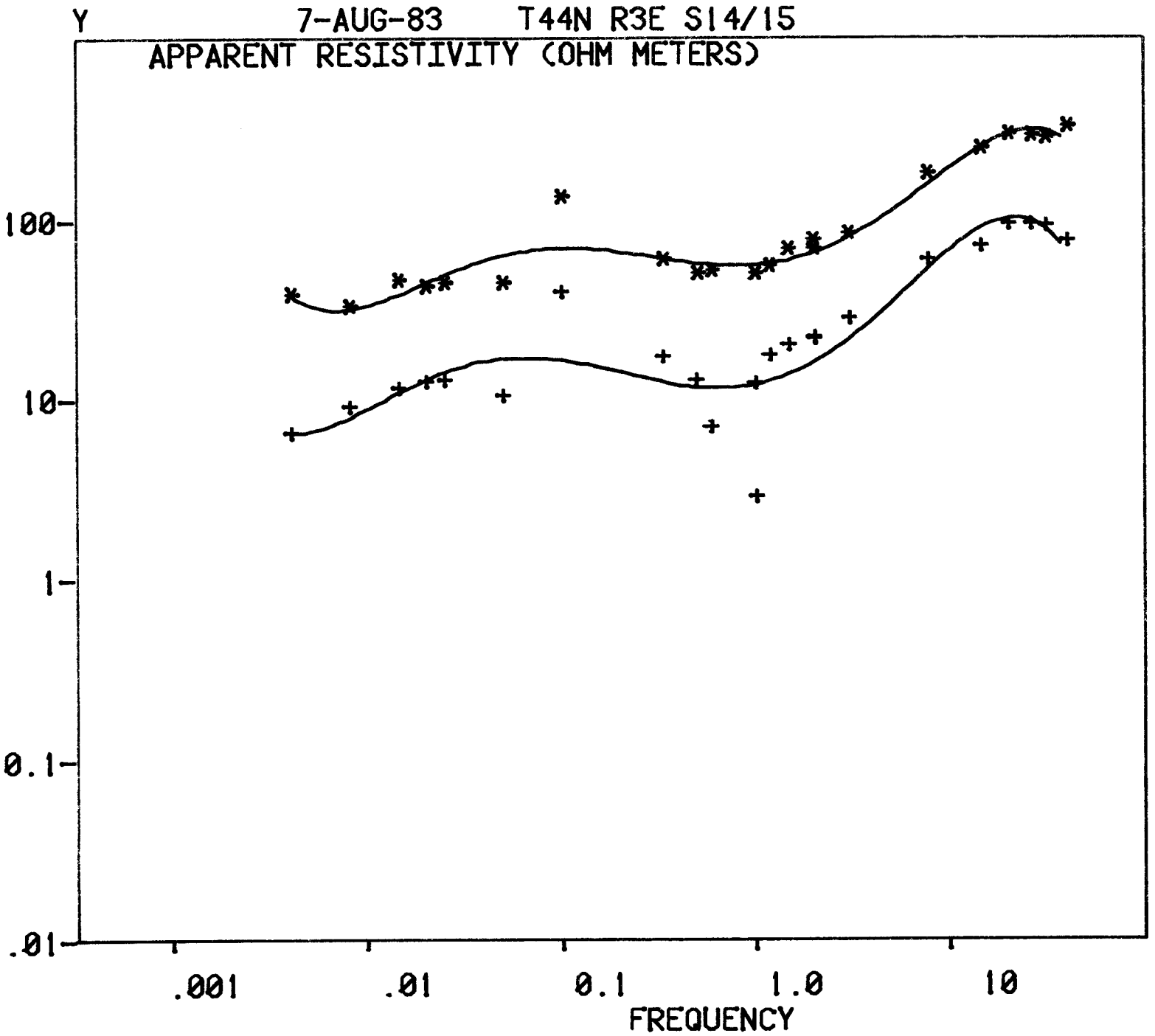
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.7256E+02	0.6398E+02	15.5	-51.0	0.87383	0.90701	0.89722
H		0.5154E+02	0.3233E+02	-47.9	16.6	0.88863	0.91921	25.30000
E	1.20482	0.2395E+02	0.1258E+02	-58.0	46.0	0.77801	0.97689	0.23208
H		0.1686E+02	0.3242E+01	-59.5	48.3	0.81662	0.97841	68.80000
E	1.49254	0.3876E+02	0.1663E+02	-46.3	29.2	0.80421	0.92601	0.19636
H		0.2513E+02	0.6633E+01	-46.7	28.2	0.81919	0.94221	82.89999
E	2.00000	0.6713E+02	0.5244E+02	34.7	-37.3	0.78193	0.82992	0.13057
H		0.2304E+02	0.2249E+02	32.3	-36.9	0.78651	0.83158	50.70000
E	2.00000	0.6189E+02	0.6086E+01	-34.0	82.6	0.71123	0.82998	0.14917
H		0.9859E+01	0.3258E+01	-33.0	81.7	0.75471	0.84716	17.20000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

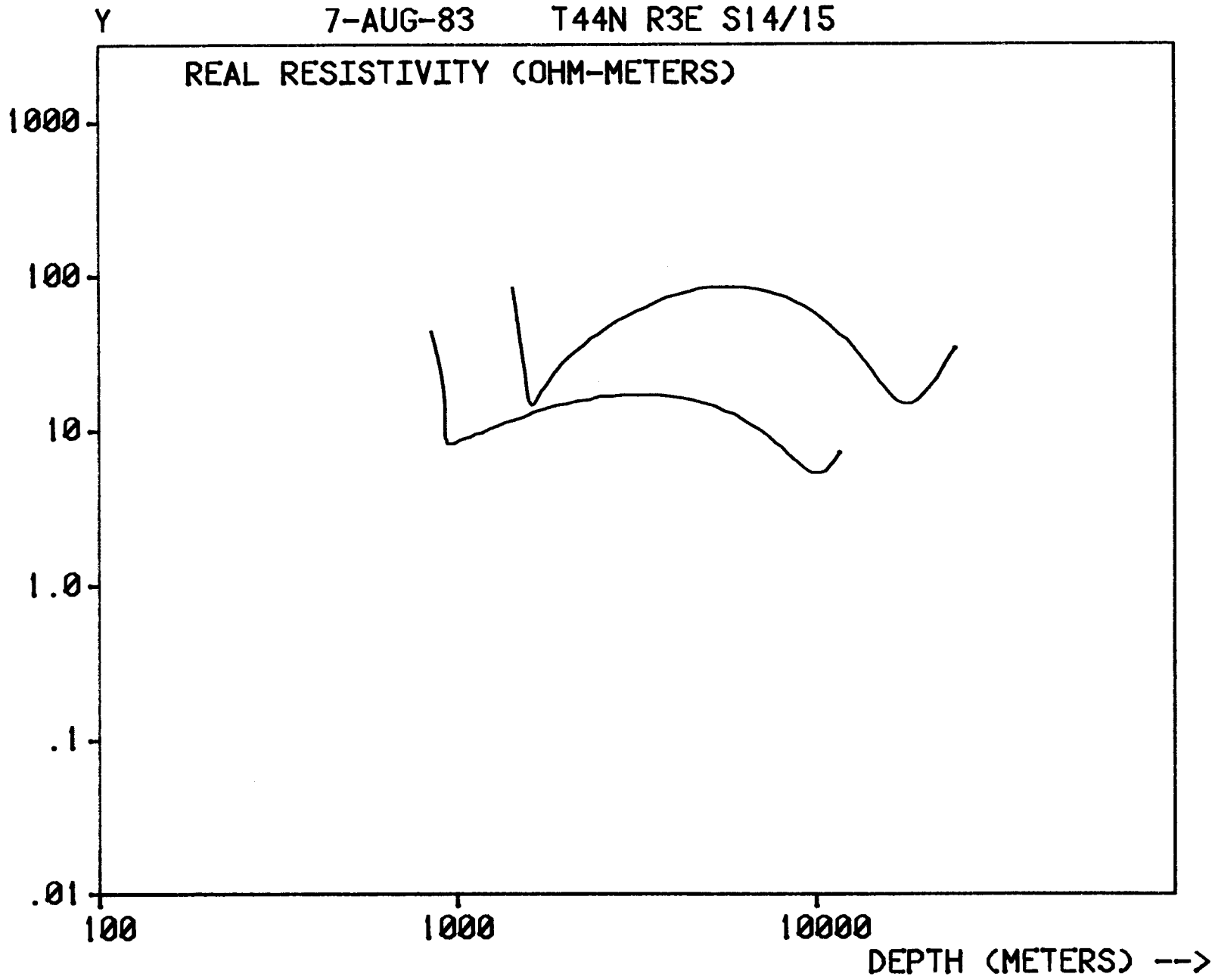
AVERAGE # 8
COUGAR 200 HZ 24-JUL-83 T44N R4E S18
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.8017E+02	0.3253E+02	-44.1	-25.0	0.99668	0.99193	1.86500
H		0.8002E+02	0.3100E+02	-44.1	-24.8	0.99669	0.99194	40.60001
E	0.00200	0.6530E+02	0.2929E+02	-38.4	-18.2	0.96131	0.98756	1.86390
H		0.5734E+02	0.2523E+02	-38.5	-18.2	0.96350	0.98870	113.20001
E	0.00400	0.6129E+02	0.3562E+02	-26.0	-20.7	0.98199	0.99523	2.22693
H		0.5862E+02	0.3372E+02	-25.9	-20.7	0.98215	0.99533	98.70001
E	0.00800	0.8058E+02	0.4805E+02	-8.8	-11.8	0.98845	0.99585	0.98525
H		0.7922E+02	0.4597E+02	-8.8	-11.7	0.98849	0.99589	163.70001
E	0.01429	0.1018E+03	0.6236E+02	1.3	-1.2	0.99130	0.99717	0.75306
H		0.1002E+03	0.5994E+02	1.6	-1.6	0.99136	0.99721	97.60001
E	0.02000	0.1168E+03	0.6668E+02	12.3	10.6	0.99390	0.99724	0.74075
H		0.1151E+03	0.6259E+02	12.3	10.5	0.99401	0.99727	133.20001
E	0.02500	0.1206E+03	0.6627E+02	20.5	17.5	0.99735	0.99851	0.22722
H		0.1185E+03	0.6311E+02	20.4	17.5	0.99739	0.99853	167.89999
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
COUGAR 200 HZ 24-JUL-83 T44N R4E S18
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.1108E+03	0.5791E+02	43.7	46.2	0.99203	0.99811	0.34722
H		0.1087E+03	0.5426E+02	43.9	46.0	0.99218	0.99812	172.50000
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.7513E+02	0.4492E+02	69.3	72.2	0.95559	0.96961	0.13322
H		0.6603E+02	0.3286E+02	69.3	72.0	0.95677	0.96985	8.80000
E	0.33333	0.2516E+02	0.1923E+02	77.5	84.6	0.94338	0.98651	0.14013
H		0.1988E+02	0.7188E+01	81.6	79.8	0.95992	0.98718	1.70000
E	0.50000	0.4024E+02	0.1578E+02	-85.0	82.9	0.90302	0.96918	0.12954
H		0.1671E+02	0.6837E+01	81.8	-84.2	0.94042	0.97550	164.00000
E	0.59880	0.7343E+02	0.1988E+02	44.0	29.8	0.91193	0.88578	0.26803
H		0.2092E+02	0.1181E+02	35.1	24.4	0.94343	0.92246	22.50000
E	0.80000	0.7947E+02	0.8693E+01	73.3	-75.4	0.71963	0.97361	0.51919
H		0.4641E+02	0.4666E+01	63.8	-78.9	0.73322	0.98626	25.89999
E	1.00000	0.4145E+02	0.8859E+01	-51.9	84.3	0.76577	0.95280	0.17847
H		0.7740E+01	0.6111E+01	84.4	-50.7	0.83667	0.95750	30.50000


Y
7-AUG-83 T44N R3E S14/15
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY


Y
7-AUG-83
T44N R3E S14/15
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: Y 200 HZ 7-AUG-83 T44N R3E S14/15

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #	
0.0012	8.88	62.93	1	
0.0020	0.00	0.00	2	→
0.0040	6.23	36.76	3	
0.0080	8.76	31.56	4	
0.0143	11.11	44.13	5	
0.0200	11.98	40.80	6	
0.0250	12.12	42.34	7	
0.0303	0.37	2.60	8	→
0.0500	9.98	42.11	9	
0.0500	203.55	******	10	→
0.1000	37.[illegible]			→
[illegible]	10.54	37.23	12	
0.5000	12.17	47.47	13	
0.5938	6.74	49.94	14	
0.8000	36.89	256.37	15	→
1.0000	11.78	47.50	16	
1.0000	2.77	47.64	17	
1.2048	16.88	53.19	18	
1.4925	19.35	65.90	19	
2.0000	20.82	65.85	20	
2.0000	10.00	39.12	21	→
2.0000	21.40	74.00	22	
3.0303	34.93	123.44	23	→
3.0303	26.75	80.29	24	
7.6923	56.76	173.03	25	
14.2857	68.70	235.52	26	
20.0000	90.14	280.64	27	
26.3158	90.23	277.70	28	
31.2500	88.28	269.46	29	
40.0000	72.85	312.90	30	

AVERAGE # 8
Y 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.6153E+02	0.1747E+02	78.5	-15.1	0.80735	0.96699	0.07306
H		0.6433E+02	0.2848E+00	-53.3	41.2	0.88634	0.98181	28.30000
E	0.00200	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	577.35681
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999
E	0.00400	0.4119E+02	0.6225E+01	-22.3	-18.4	0.98115	0.94802	0.10975
H		0.3233E+02	0.6242E+01	-22.4	-19.5	0.98249	0.94866	139.89999
E	0.00800	0.3264E+02	0.8828E+01	-8.4	-13.0	0.98884	0.98956	0.09405
H		0.3048E+02	0.8694E+01	-8.5	-13.2	0.98895	0.98967	152.20001
E	0.01429	0.4544E+02	0.1115E+02	7.1	-1.0	0.99240	0.98940	0.08095
H		0.4282E+02	0.1107E+02	7.1	-1.0	0.99248	0.98947	137.30002
E	0.02000	0.4184E+02	0.1203E+02	15.1	8.0	0.99394	0.98792	0.08945
H		0.3977E+02	0.1193E+02	15.2	8.0	0.99399	0.98794	137.39999
E	0.02500	0.4327E+02	0.1221E+02	21.0	14.9	0.99243	0.98936	0.09980
H		0.4140E+02	0.1203E+02	21.0	14.9	0.99245	0.98937	138.10001
E	0.03030	0.2538E+01	0.7207E+00	78.5	-15.1	0.80735	0.96699	0.07306
H		0.2654E+01	0.1175E-01	-53.3	41.2	0.88634	0.98181	28.30000

AVERAGE # 8
Y 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 TO = 5.1200

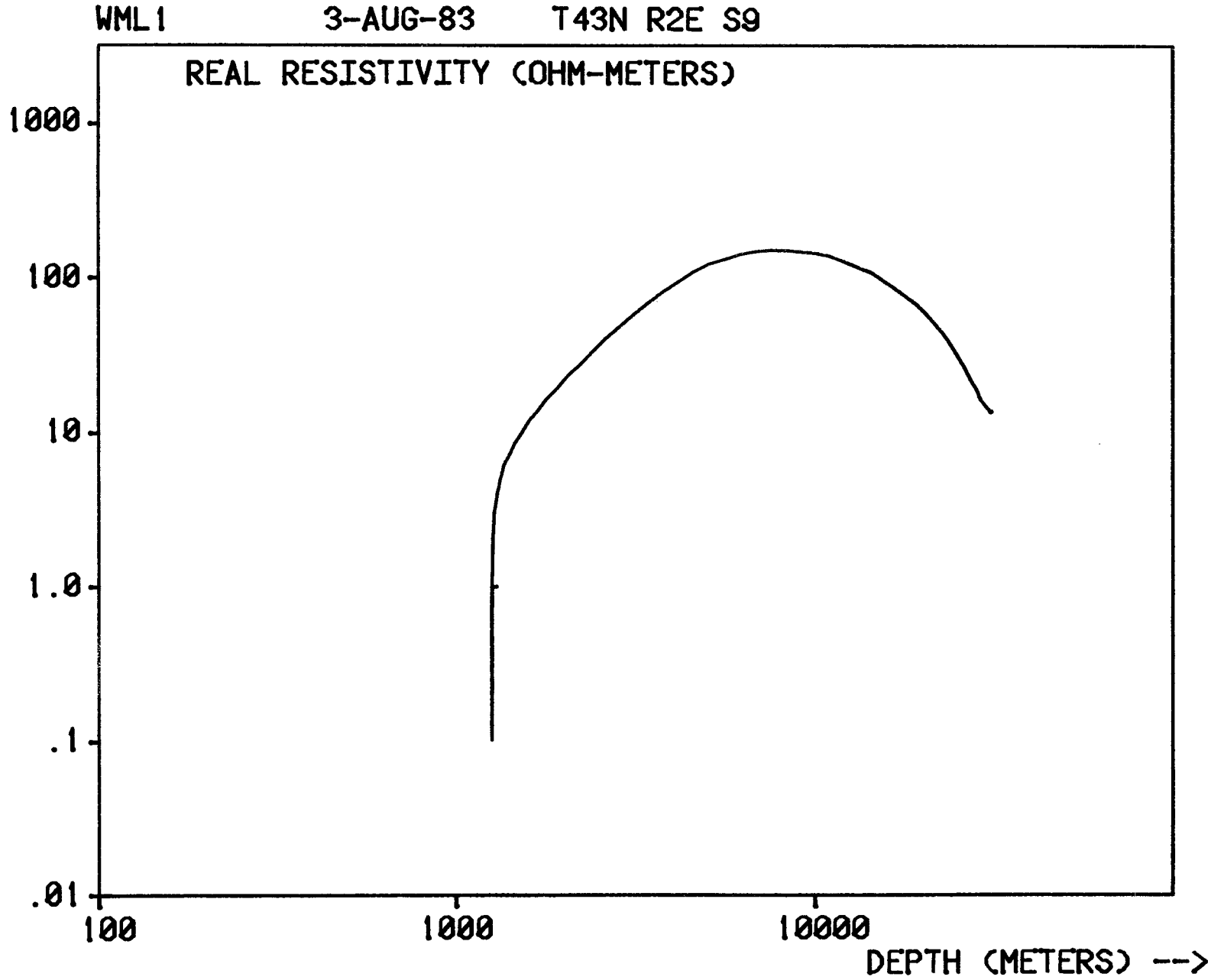
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.4746E+02	0.1027E+02	43.4	43.6	0.96586	0.94252	0.12367
H		0.3676E+02	0.9693E+01	43.8	43.6	0.96717	0.94311	149.39999
E	0.05000	0.6968E+04	0.2468E+03	24.5	60.6	0.93461	0.93880	0.41956
H		0.5129E+04	0.1603E+03	24.5	61.9	0.93608	0.94073	71.90001
E	0.10000	0.1326E+03	0.3922E+02	70.2	74.1	0.98754	0.98867	0.12149
H		0.1265E+03	0.3566E+02	69.9	74.6	0.98760	0.98871	108.60001
E	0.33333	0.6181E+02	0.1860E+02	-74.3	-64.1	0.93377	0.97164	0.17399
H		0.5265E+02	0.1448E+02	-74.3	-64.3	0.93434	0.97198	116.70001
E	0.50000	0.5308E+02	0.1699E+02	-67.1	-75.8	0.89682	0.93455	0.19914
H		0.4185E+02	0.7356E+01	-67.1	-75.8	0.90503	0.93622	174.80002
E	0.59880	0.7988E+02	0.8610E+01	-61.1	-58.3	0.87309	0.76931	0.24822
H		0.2000E+02	0.4873E+01	-62.1	-50.5	0.89182	0.80705	129.39999
E	0.80000	0.2841E+03	0.3907E+02	-58.0	-19.8	0.95898	0.94771	0.23302
H		0.2287E+03	0.3470E+02	-55.6	-16.2	0.96124	0.94939	178.30000
E	1.00000	0.5932E+02	0.1644E+02	-60.9	-77.3	0.84479	0.88522	0.33315
H		0.3567E+02	0.7108E+01	-59.8	-77.0	0.84989	0.88645	80.50000

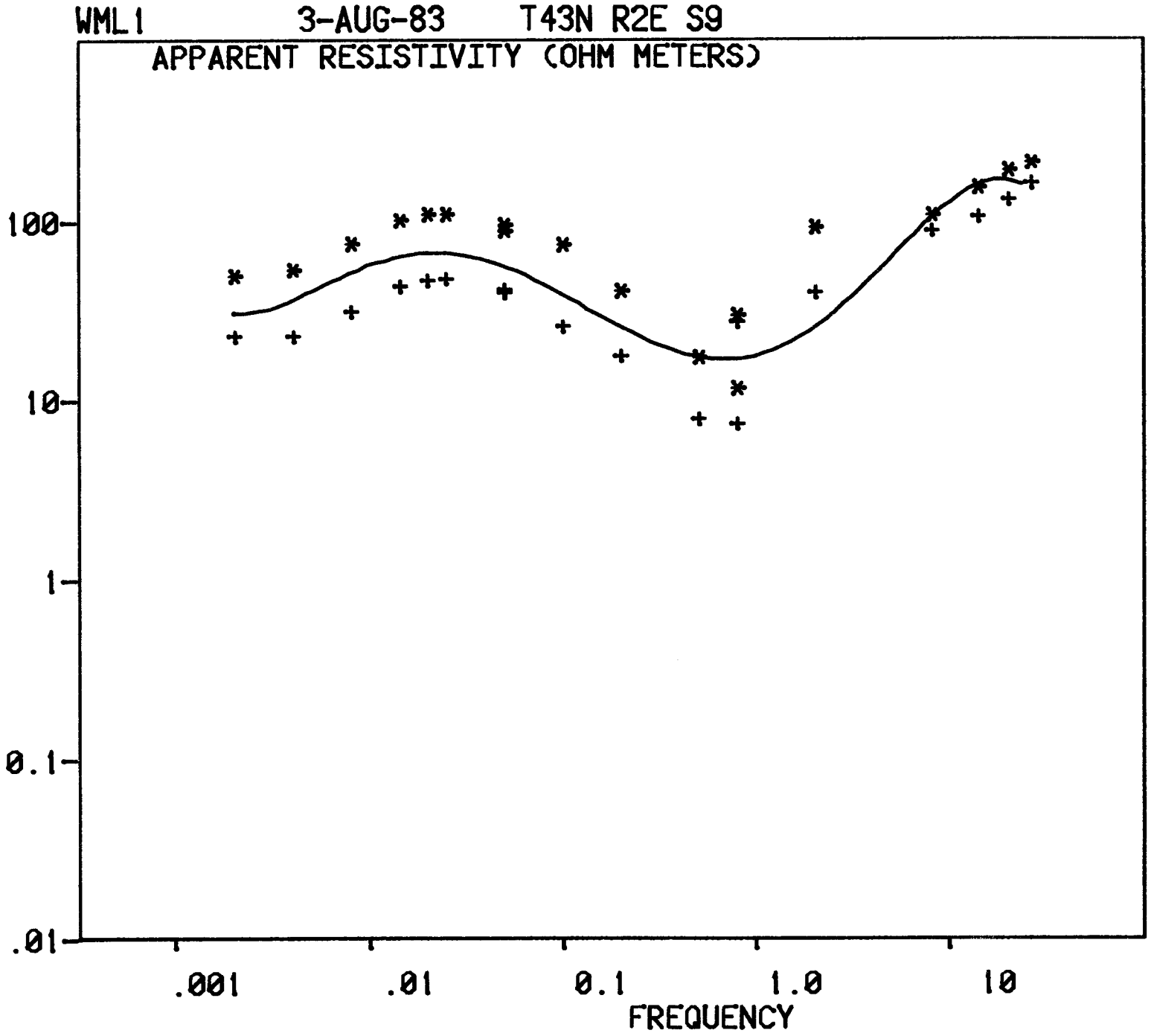
AVERAGE # 8
Y 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.4865E+02	0.3846E+01	-20.2	-28.9	0.89686	0.96982	0.22826
H		0.4663E+02	0.1699E+01	-24.0	-23.3	0.91612	0.97841	54.20000
E	1.20482	0.5921E+02	0.2601E+02	-44.6	-26.6	0.88230	0.94149	0.21249
H		0.4717E+02	0.7747E+01	-43.8	-24.6	0.90421	0.94661	2.20000
E	1.49254	0.7427E+02	0.2475E+02	-36.8	-32.3	0.89753	0.94463	0.19232
H		0.5754E+02	0.1396E+02	-37.3	-31.7	0.90136	0.94474	12.30000
E	2.00000	0.7228E+02	0.2579E+02	-33.3	-33.3	0.92290	0.95353	0.16708
H		0.5942E+02	0.1584E+02	-33.4	-32.7	0.92575	0.95397	5.50000
E	2.00000	0.5528E+02	0.1593E+02	-54.3	-75.7	0.78846	0.76910	0.23767
H		0.2295E+02	0.4070E+01	-53.8	-76.0	0.79016	0.77348	94.10001
E	2.00000	0.8827E+02	0.2656E+02	-29.4	-32.7	0.89641	0.90558	0.16920
H		0.5974E+02	0.1624E+02	-29.2	-32.8	0.89669	0.90565	9.30000

AVERAGE # 8
Y 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.1634E+03	0.4479E+02	-19.9	-21.0	0.82595	0.86745	0.22411
H		0.8350E+02	0.2507E+02	-20.3	-20.6	0.82608	0.86940	16.50000
E	3.03030	0.9453E+02	0.3405E+02	-28.9	-27.6	0.90723	0.91419	0.28580
H		0.6606E+02	0.1946E+02	-29.1	-26.0	0.90913	0.91551	3.39999
E	7.69231	0.1810E+03	0.6147E+02	-20.0	-20.5	0.98401	0.97464	0.12895
H		0.1651E+03	0.5204E+02	-20.2	-20.5	0.98407	0.97515	19.00000
E	14.28571	0.2493E+03	0.7903E+02	-19.4	-18.8	0.96173	0.96827	0.19417
H		0.2217E+03	0.5836E+02	-19.5	-18.9	0.96244	0.96856	20.80000
E	20.00000	0.3019E+03	0.1035E+03	-20.1	-18.8	0.96112	0.95725	0.21671
H		0.2594E+03	0.7675E+02	-20.2	-18.6	0.96139	0.95775	24.80000
E	26.31579	0.3228E+03	0.1069E+03	-21.4	-22.5	0.90671	0.92440	0.70291
H		0.2326E+03	0.7361E+02	-21.0	-23.3	0.90695	0.92481	2.89999
E	31.25000	0.3463E+03	0.1135E+03	-22.7	-23.5	0.85236	0.86753	1.25338
H		0.1926E+03	0.6307E+02	-22.3	-24.5	0.85267	0.86813	53.30000
E	40.00000	0.3820E+03	0.1182E+03	-29.9	-17.5	0.90333	0.82175	0.80274
H		0.2438E+03	0.2752E+02	-30.9	-15.4	0.90369	0.84734	138.70001


WML1 3-AUG-83 T43N R2E S9
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML1 3-AUG-83 T43N R2E S9
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: WML1 200 HZ 3-AUG-83 T43N R2E S9

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	13.78	92.68	1
0.0020	21.82	46.89	2
0.0040	21.59	50.36	3
0.0080	29.63	70.73	4
0.0143	40.73	95.20	5
0.0200	44.31	102.40	6
0.0200	0.00	0.00	7
0.0250	44.69	102.92	8
0.0250	0.00	0.00	9
0.0500	39.06	90.01	10
0.0500	37.94	82.45	11
0.1000	24.42	70.15	12
0.2000	16.71	38.62	13
0.5000	7.39	16.49	14
0.5000	0.00	0.00	15
0.5988	0.00	0.00	16
0.8000	0.00	0.00	17
0.8000	6.99	11.06	18
0.8000	26.12	28.09	19
1.2048	0.00	0.00	20
1.4925	0.00	0.00	21
2.0000	0.00	0.00	22
2.0000	37.39	85.73	23
3.0303	0.00	0.00	24
3.0303	0.00	0.00	25
5.0000	60.95	83.81	26
8.0000	82.62	102.13	27
14.0000	99.49	145.03	28
20.0000	124.31	180.08	29
26.0000	154.66	198.43	30

AVERAGE # 8
WHL1 200 HZ 3-AUG-83 T43N R2E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.9885E+02	0.1408E+02	-54.1	-26.8	0.99046	0.98500	0.18010
H		0.8652E+02	0.1347E+02	-55.6	-25.3	0.99122	0.98606	13.50000
E	0.00200	0.4895E+02	0.2448E+02	-34.5	-44.9	0.94881	0.95178	0.17463
H		0.4483E+02	0.1916E+02	-33.0	-45.6	0.95199	0.95504	100.39999
E	0.00400	0.5134E+02	0.2492E+02	-25.0	-18.8	0.94246	0.96948	0.14243
H		0.4938E+02	0.1827E+02	-22.2	-20.4	0.94529	0.97209	177.89999
E	0.00800	0.7138E+02	0.3003E+02	-10.3	-13.2	0.99733	0.99538	0.16099
H		0.7008E+02	0.2922E+02	-10.4	-13.2	0.99734	0.99541	152.80002
E	0.01429	0.9575E+02	0.4089E+02	2.6	-1.0	0.99891	0.99709	0.15334
H		0.9465E+02	0.4057E+02	2.6	-1.0	0.99892	0.99710	160.39999
E	0.02000	0.1035E+03	0.4490E+02	13.3	9.8	0.99800	0.99477	0.17140
H		0.1012E+03	0.4373E+02	13.6	9.5	0.99800	0.99481	166.70001
E	0.02000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.02500	0.1035E+03	0.4545E+02	19.8	18.2	0.99684	0.99649	0.18538
H		0.1023E+03	0.4392E+02	19.9	18.1	0.99685	0.99651	171.10001

AVERAGE # 8
WELL 200 HZ 3-AUG-83 T43N R2E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

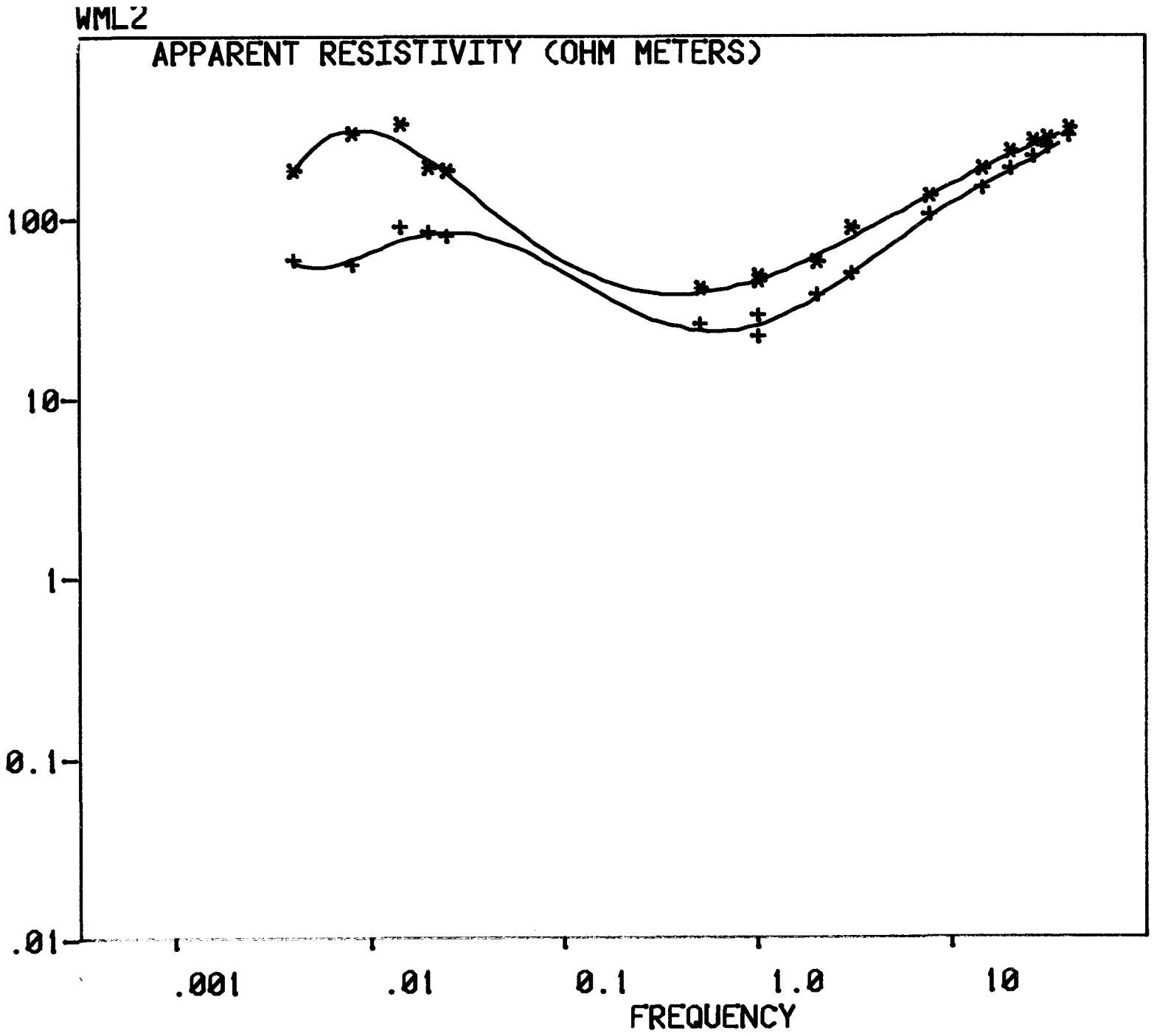
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN VALUE (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN PHASE (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.02500	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.05000	0.9109E+02	0.4199E+02	45.5	47.3	0.98755	0.99298	0.20842
H		0.8893E+02	0.3612E+02	45.6	47.4	0.98786	0.99304	177.00000
E	0.05000	0.8245E+02	0.3873E+02	43.9	47.8	0.99944	0.99764	0.24449
H		0.8246E+02	0.3716E+02	44.3	47.4	0.99944	0.99768	29.10001
E	0.10000	0.6998E+02	0.2610E+02	63.1	69.5	0.99555	0.99006	0.20197
H		0.7032E+02	0.2273E+02	63.4	69.4	0.99560	0.99035	178.00000
E	0.20000	0.3892E+02	0.1745E+02	76.8	77.6	0.99235	0.99080	0.22102
H		0.3831E+02	0.1597E+02	77.1	77.3	0.99239	0.99087	162.20001
E	0.50000	0.1719E+02	0.8650E+01	87.9	85.2	0.96262	0.97428	0.22051
H		0.1580E+02	0.6138E+01	86.9	86.0	0.96408	0.97471	165.89999
E	0.50000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

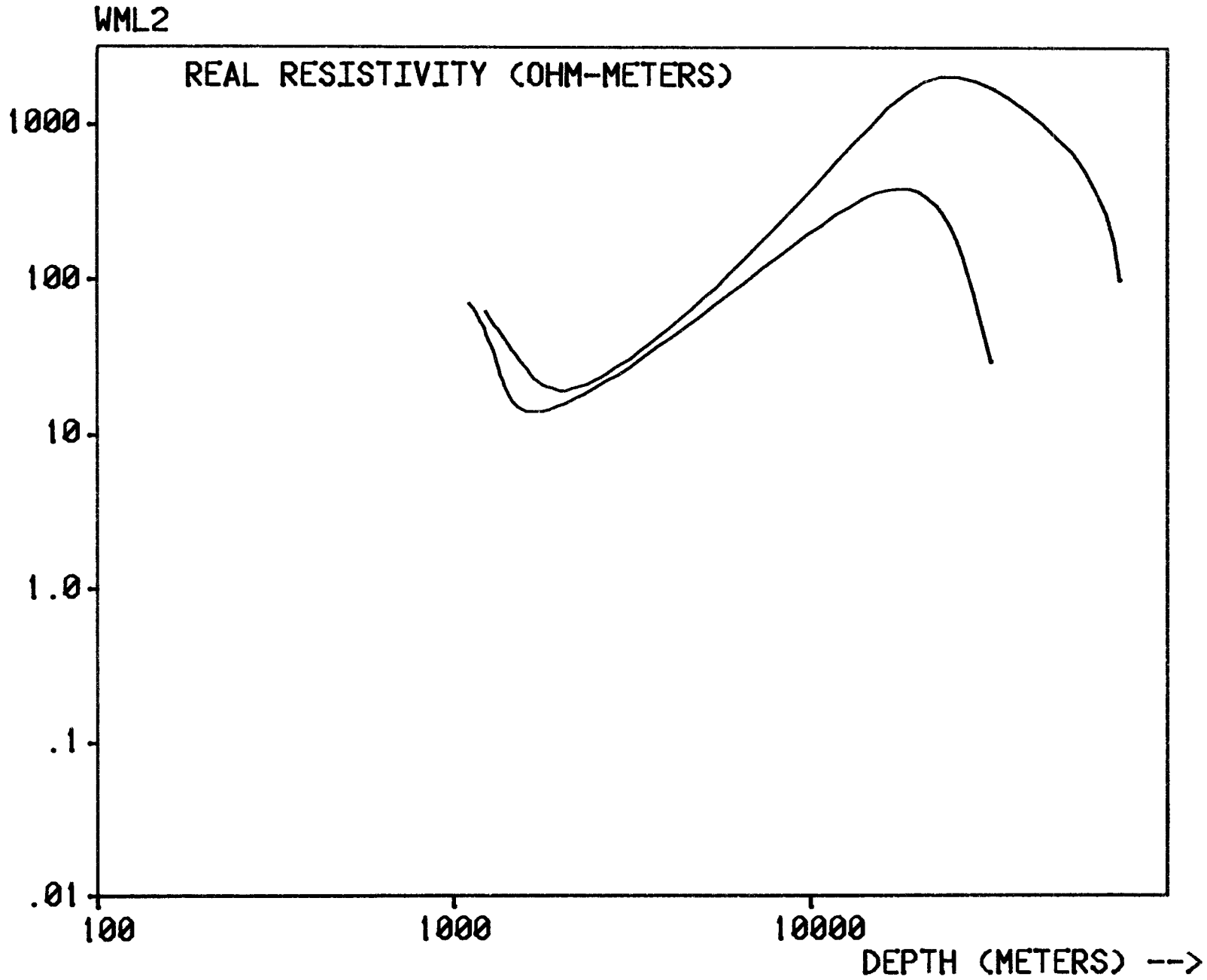
AVERAGE # 8
WIL1 200 HZ 3-AUG-83 T43N R2E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.1170E+02	0.9807E+01	85.0	-83.0	0.91742	0.95703	0.19534
H		0.1043E+02	0.4181E+01	85.4	-83.8	0.92657	0.95815	165.30002
E	0.80000	0.3176E+02	0.3155E+02	-25.0	-41.6	0.90163	0.94210	0.09970
H		0.2442E+02	0.2068E+02	-41.7	-23.9	0.90442	0.94426	168.89999
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
WML1 200 HZ 3-AUG-83 T43N R2E S9
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	2.00000	0.1374E+03	0.4095E+02	-25.5	-20.4	0.73786	0.94816	0.08860
H		0.3411E+02	0.3384E+02	-25.3	-20.7	0.75899	0.95149	153.39999
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	5.00000	0.1061E+03	0.7454E+02	-18.0	-15.1	0.86327	0.94139	0.14217
H		0.6155E+02	0.4736E+02	-15.3	-17.6	0.87271	0.94365	136.20001
E	8.00000	0.1152E+03	0.1011E+03	-14.6	-16.2	0.89587	0.96119	0.17370
H		0.8904E+02	0.6413E+02	-16.2	-14.3	0.90066	0.96241	126.00000
E	14.00001	0.1592E+03	0.1153E+03	-15.9	-17.5	0.95916	0.95085	1.28600
H		0.1308E+03	0.8367E+02	-16.7	-16.9	0.96043	0.95276	131.39999
E	20.00000	0.1963E+03	0.1431E+03	-17.1	-20.0	0.95753	0.95724	0.55026
H		0.1639E+03	0.1056E+03	-18.1	-19.1	0.95871	0.95844	139.70001
E	26.00003	0.2182E+03	0.1664E+03	-19.4	-21.8	0.96851	0.95909	0.35861
H		0.1787E+03	0.1429E+03	-20.5	-20.7	0.96862	0.95950	137.70001


WML2
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY


WML2
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WIL2 200 HZ

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN, MEAN OF RHOMX		PERIOD #
0.0012	0.00	0.00	1
0.0020	39.42	398.78	2
0.0040	56.05	172.89	3
0.0080	52.72	276.67	4
0.0143	84.40	310.71	5
0.0200	79.13	178.75	6
0.0250	74.64	173.05	7
0.0303	0.00	0.00	8
0.0500	0.00	0.00	9
0.0500	0.00	0.00	10
0.1000	7.79	16.14	11
0.3333	5.54	8.63	12
0.5000	24.13	38.06	13
0.5988	0.00	0.00	14
0.8000	0.00	0.00	15
1.0000	27.65	45.04	16
1.0000	20.80	42.50	17
1.2048	0.00	0.00	18
1.4925	0.00	0.00	19
2.0000	0.00	0.00	20
2.0000	35.16	53.63	21
2.0000	0.00	0.00	22
3.0303	47.20	83.83	23
3.0303	0.00	0.00	24
7.6923	99.44	125.98	25
14.2857	138.80	174.84	26
20.0000	174.70	217.91	27
26.3158	205.46	252.80	28
31.2500	234.35	261.48	29
40.0000	264.24	294.47	30

AVERAGE # 8
WML2 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.1227E+03	0.5811E+02	-24.0	-23.5	0.76324	0.89676	0.34540
H		0.4497E+02	0.3629E+02	-22.8	-24.6	0.76921	0.90454	117.80002
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.1357E+03	0.1042E+03	-18.5	-17.3	0.96722	0.97888	0.15253
H		0.1163E+03	0.9471E+02	-18.7	-17.2	0.96747	0.97895	127.39999
E	14.28571	0.1917E+03	0.1484E+03	-20.1	-17.6	0.95956	0.96996	0.33776
H		0.1579E+03	0.1292E+03	-20.7	-17.1	0.96001	0.97016	125.10001
E	20.00000	0.2428E+03	0.1848E+03	-20.7	-19.1	0.95511	0.96993	0.22621
H		0.1930E+03	0.1646E+03	-22.0	-17.9	0.95564	0.97013	122.50000
E	26.31579	0.2761E+03	0.2186E+03	-21.7	-22.0	0.95899	0.96764	0.18340
H		0.2295E+03	0.1924E+03	-21.8	-21.9	0.95907	0.96766	124.89999
E	31.25000	0.2895E+03	0.2400E+03	-24.2	-23.4	0.96389	0.97225	0.23855
H		0.2335E+03	0.2288E+03	-26.4	-21.3	0.96394	0.97227	127.20001
E	40.00000	0.3341E+03	0.2817E+03	-26.5	-29.1	0.94299	0.96335	0.58037
H		0.2548E+03	0.2467E+03	-25.6	-29.9	0.94324	0.96339	117.10001

AVERAGE # 8
WML2 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

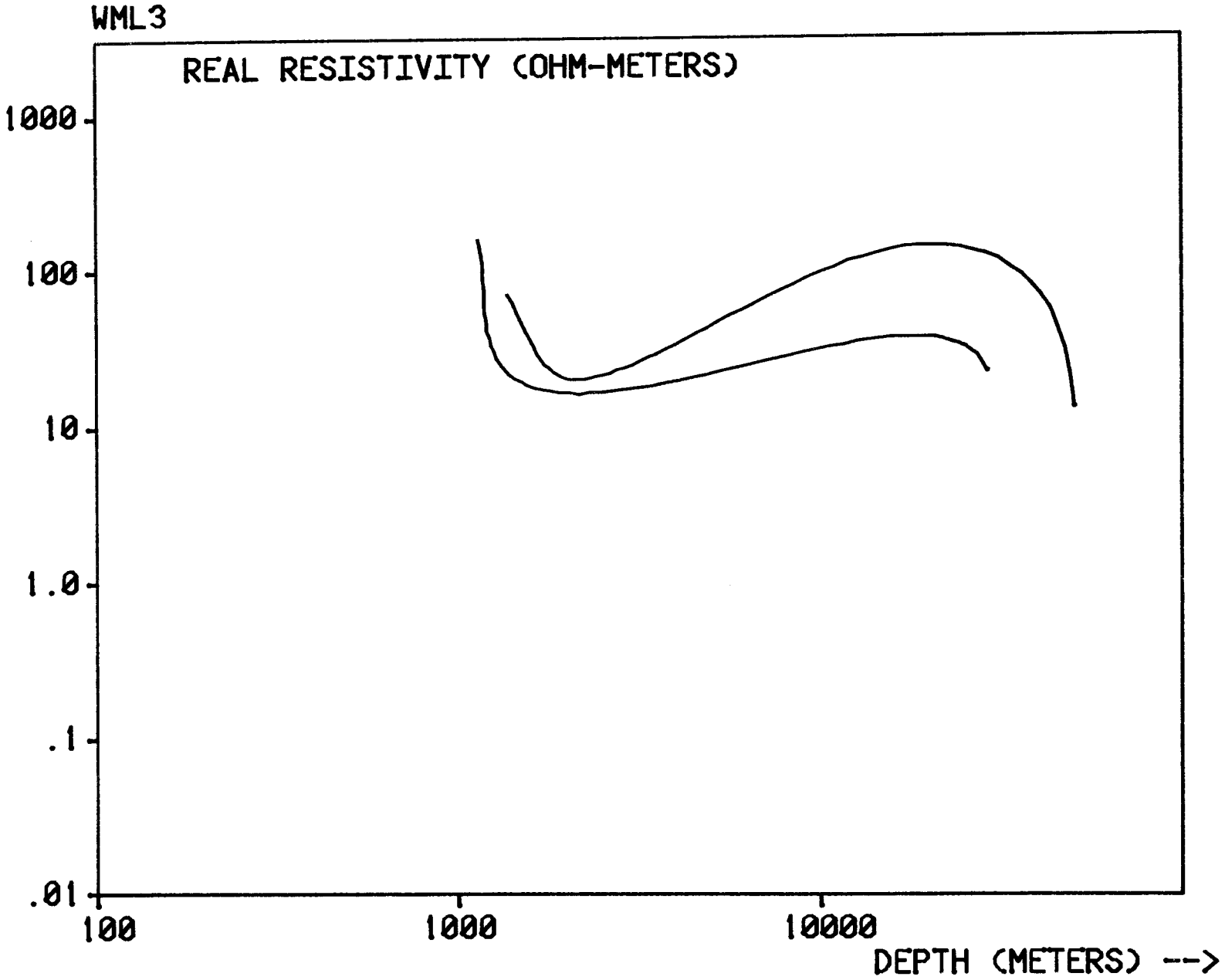
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.4543E+02	0.2828E+02	-34.2	-60.9	0.86730	0.93355	0.11324
H		0.3956E+02	0.1331E+02	-32.6	-66.5	0.87735	0.94069	164.80002
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.7551E+02	0.4555E+02	-26.1	-28.9	0.78623	0.87349	0.55252
H		0.3176E+02	0.2478E+02	-27.4	-27.1	0.79114	0.87961	44.20000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

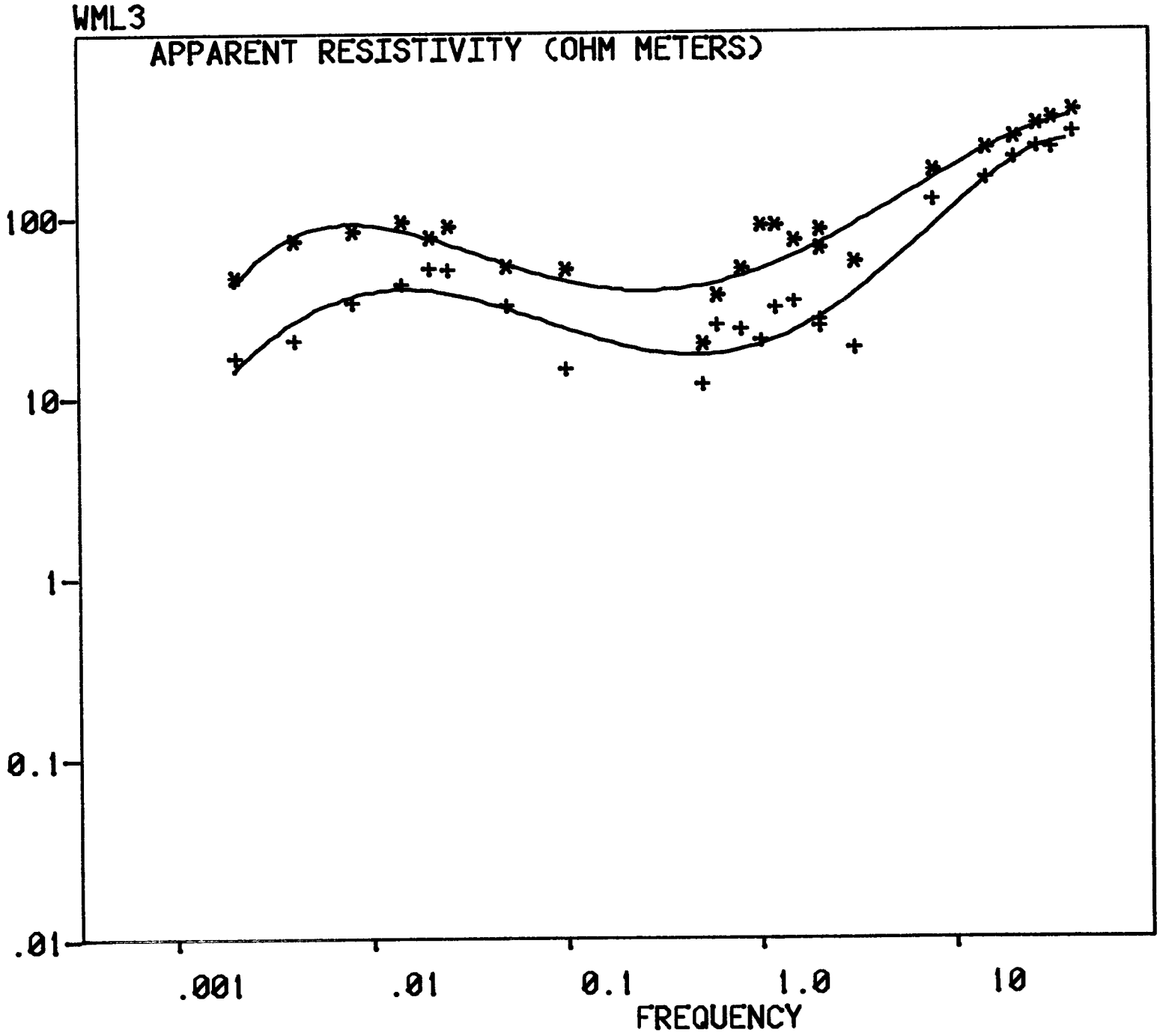
AVERAGE # 8
WML2 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.2548E+02	0.1429E+02	63.0	76.3	0.57686	0.74888	0.32647
H		0.6799E+01	0.1291E+01	69.4	69.9	0.61470	0.75442	24.89999
E	0.33333	0.1523E+02	0.9779E+01	-89.8	-73.7	0.61173	0.60975	0.16870
H		0.2036E+01	0.1300E+01	-79.2	-83.6	0.63948	0.63764	3.39999
E	0.50000	0.5423E+02	0.3305E+02	-53.1	-60.4	0.78457	0.82010	0.30009
H		0.2189E+02	0.1522E+02	-62.3	-50.3	0.80416	0.83917	37.20000
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.00000	0.6351E+02	0.3902E+02	-38.2	-40.3	0.75809	0.85104	0.47140
H		0.2657E+02	0.1628E+02	-40.8	-37.5	0.77305	0.86454	37.80000

AVERAGE # 8
WML2 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.00200	0.4435E+03	0.4471E+02	-11.5	-40.5	0.98216	0.94126	0.35309
H		0.3541E+03	0.3414E+02	-12.1	-41.3	0.98334	0.94467	65.60001
E	0.00400	0.2665E+03	0.6412E+02	-10.7	-28.1	0.83684	0.94548	0.35655
H		0.7924E+02	0.4797E+02	-19.9	-18.0	0.87774	0.96520	108.70001
E	0.00800	0.4477E+03	0.5381E+02	4.9	-16.8	0.67737	0.93878	0.48881
H		0.1056E+03	0.5162E+02	7.5	-17.7	0.67981	0.96023	109.60001
E	0.01429	0.5165E+03	0.9695E+02	-0.2	-3.7	0.70942	0.95800	0.39047
H		0.1049E+03	0.7186E+02	3.4	-5.9	0.77178	0.97151	110.89999
E	0.02000	0.2380E+03	0.9658E+02	5.2	9.4	0.77088	0.97478	0.23643
H		0.1195E+03	0.6167E+02	11.6	2.6	0.77467	0.97664	152.10001
E	0.02500	0.2241E+03	0.8893E+02	20.1	19.2	0.81304	0.97597	0.29670
H		0.1220E+03	0.6035E+02	20.6	18.2	0.82207	0.97807	131.20001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000


WML3
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML3
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: WHL3 200 HZ

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	0.00	0.00	1
0.0020	15.88	43.76	2
0.0040	19.66	69.48	3
0.0080	31.38	77.65	4
0.0143	39.63	87.39	5
0.0200	48.89	72.86	6
0.0250	48.20	82.45	7
0.0303	0.00	0.00	8
0.0500	30.49	49.87	9
0.0500	0.00	0.00	10
0.1000	13.48	48.09	11
0.3333	0.00	0.00	12
0.5000	11.05	18.53	13
0.5988	23.37	33.78	14
0.8000	21.91	47.67	15
1.0000	0.00	0.00	16
1.0000	19.21	83.44	17
1.2048	28.92	82.29	18
1.4925	31.45	68.36	19
2.0000	24.84	78.33	20
2.0000	0.00	0.00	21
2.0000	23.07	61.67	22
3.0303	0.00	0.00	23
3.0303	17.27	51.80	24
7.6923	113.89	165.07	25
14.2857	149.63	217.14	26
20.0000	193.50	253.42	27
26.3158	221.75	292.76	28
31.2500	218.53	321.06	29
40.0000	267.06	349.15	30

AVERAGE # 8
WAL3 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999
E	0.00200	0.4505E+02	0.1709E+02	-20.8	-29.7	0.98056	0.97453	0.15302
H		0.4247E+02	0.1468E+02	-22.2	-28.5	0.98132	0.97546	5.60001
E	0.00400	0.8294E+02	0.2595E+02	-12.0	-14.2	0.95465	0.93747	0.21462
H		0.5602E+02	0.1338E+02	-9.7	-20.0	0.96450	0.95235	8.30000
E	0.00800	0.1041E+03	0.3553E+02	-6.6	-8.8	0.96945	0.95944	0.39603
H		0.5124E+02	0.2723E+02	-9.8	-4.3	0.97589	0.96882	75.20000
E	0.01429	0.1076E+03	0.4242E+02	-0.3	8.5	0.96861	0.98475	0.24850
H		0.6721E+02	0.3685E+02	-1.8	10.4	0.97426	0.98709	39.70000
E	0.02000	0.8570E+02	0.5083E+02	7.5	17.7	0.97581	0.99301	0.21632
H		0.6003E+02	0.4695E+02	5.8	19.8	0.97930	0.99372	20.30000
E	0.02500	0.8945E+02	0.5097E+02	14.8	26.5	0.97436	0.99414	0.23509
H		0.7546E+02	0.4544E+02	14.2	27.4	0.97632	0.99445	18.60001
E	0.03030	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999

AVERAGE # 8
WML3 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

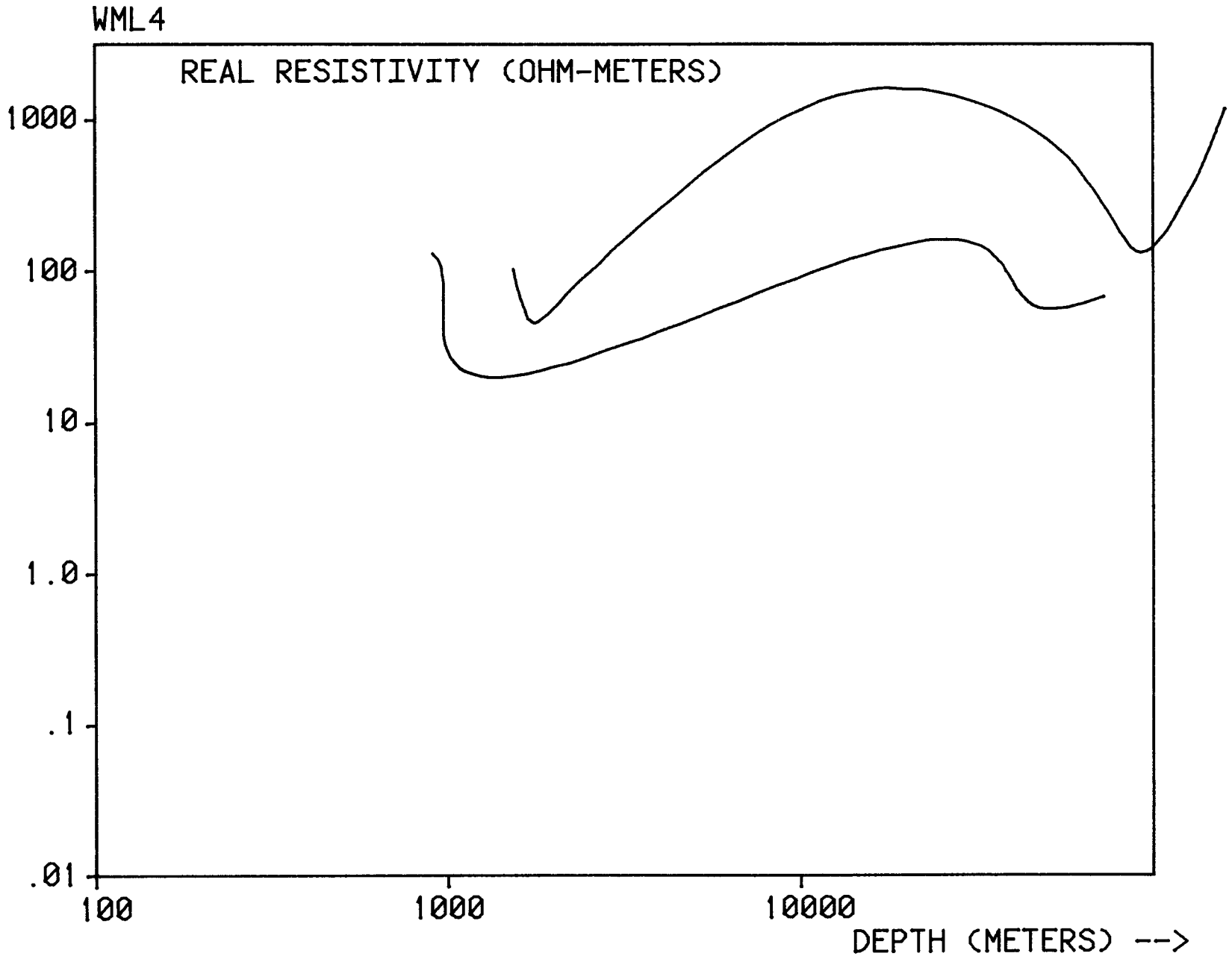
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.6251E+02	0.4562E+02	37.8	87.9	0.79030	0.86225	0.89118
H		0.3722E+02	0.1535E+02	38.5	84.8	0.79528	0.86618	121.80002
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.5595E+02	0.1847E+02	80.0	49.9	0.82552	0.95653	0.39862
H		0.4023E+02	0.8487E+01	75.9	54.2	0.83298	0.95747	134.10001
E	0.33333	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.50000	0.2727E+02	0.1513E+02	-53.7	85.9	0.72006	0.88362	0.30647
H		0.9792E+01	0.6978E+01	86.7	-53.4	0.72094	0.88414	152.80002
E	0.59880	0.3482E+02	0.2811E+02	-21.1	-73.9	0.91982	0.96903	0.23390
H		0.3274E+02	0.1862E+02	-22.3	-73.1	0.92400	0.97229	159.10001
E	0.80000	0.7014E+02	0.3305E+02	-44.3	-33.0	0.64107	0.91760	0.22950
H		0.2521E+02	0.1078E+02	-35.5	-41.8	0.64260	0.91914	178.39999
E	1.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

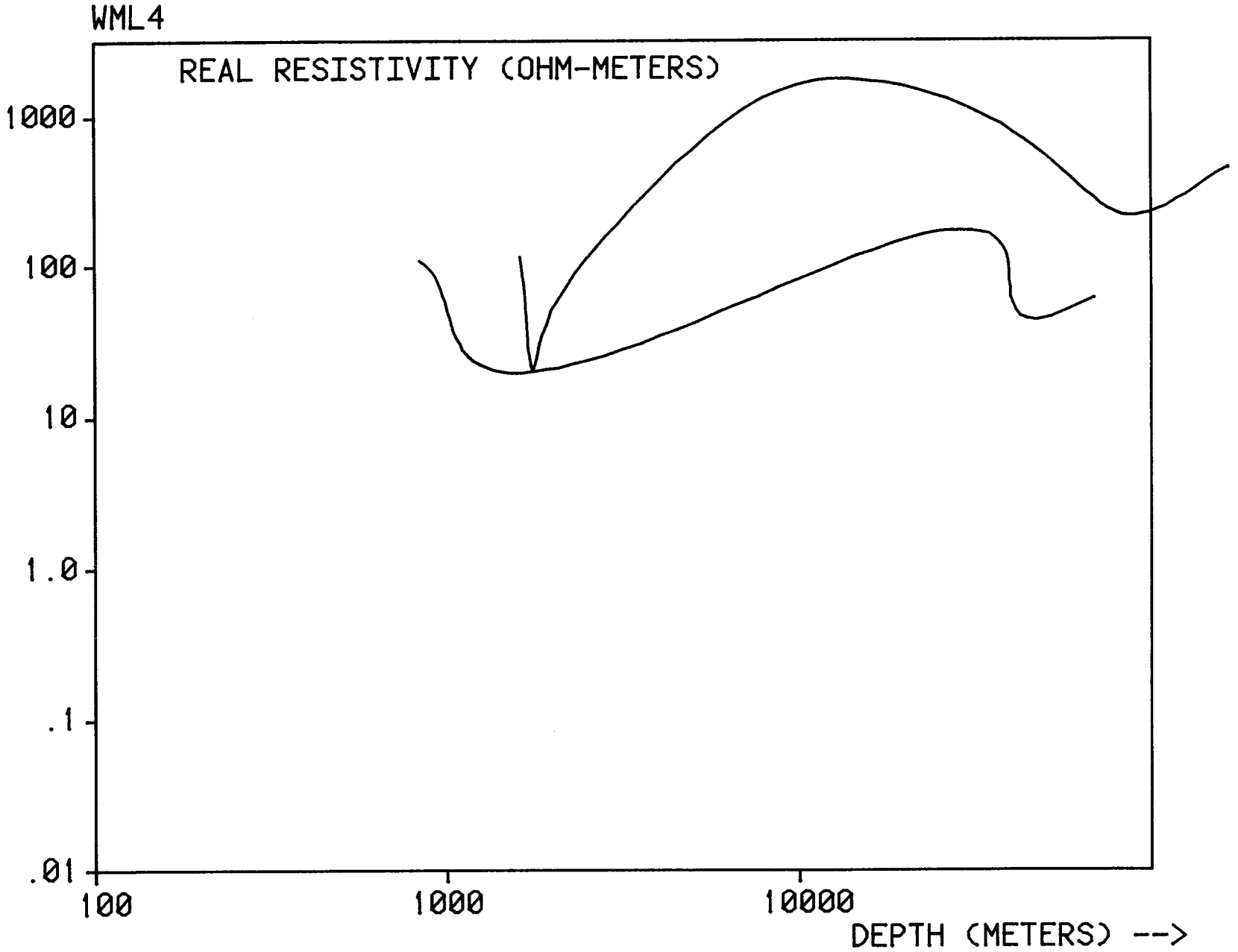
AVERAGE # 8
WML3 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

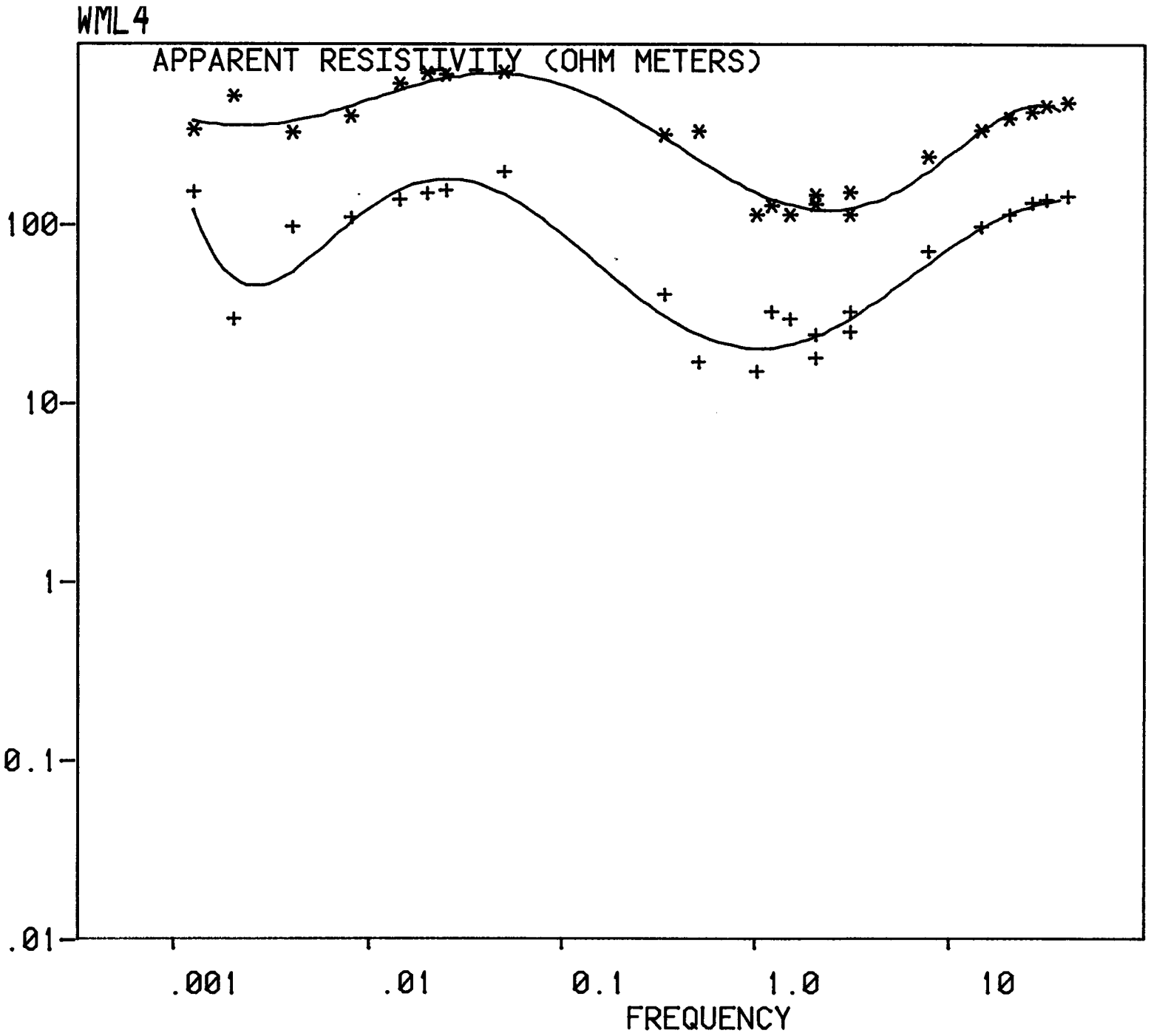
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.1472E+03	0.2127E+02	5.6	-10.1	0.62716	0.83815	0.12702
H		0.1972E+02	0.1715E+02	-15.3	10.0	0.65733	0.87230	150.89999
E	1.20482	0.1229E+03	0.5005E+02	-25.2	-20.2	0.53002	0.91610	0.29219
H		0.4163E+02	0.7785E+01	-25.0	-19.1	0.56101	0.92808	149.89999
E	1.49254	0.8370E+02	0.5013E+02	-28.1	-16.3	0.67788	0.94511	0.17269
H		0.5303E+02	0.1276E+02	-25.5	-17.2	0.68924	0.94829	145.89999
E	2.00000	0.8722E+02	0.3601E+02	-22.9	-27.2	0.77919	0.95176	0.15761
H		0.6944E+02	0.1367E+02	-23.1	-27.5	0.78001	0.95288	145.20001
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.7982E+02	0.3206E+02	-34.2	-17.4	0.77539	0.90489	0.10780
H		0.4353E+02	0.1408E+02	-28.1	-24.9	0.78672	0.91562	153.39999

AVERAGE # 8
WIL3 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	3.03030	0.4809E+02	0.1980E+02	-12.1	-47.3	0.94824	1.03927	0.17905
H		0.5550E+02	0.1474E+02	-14.4	-45.9	0.95270	1.04455	173.89999
E	7.69231	0.1942E+03	0.1429E+03	-24.5	-18.2	0.85874	0.93701	0.21392
H		0.1360E+03	0.8490E+02	-21.9	-21.1	0.85998	0.93843	136.00000
E	14.28571	0.2515E+03	0.1765E+03	-18.4	-18.3	0.87876	0.96015	0.22052
H		0.1828E+03	0.1228E+03	-18.0	-18.6	0.88002	0.96116	135.10001
E	20.00000	0.2992E+03	0.2286E+03	-19.2	-19.7	0.88172	0.94433	0.39182
H		0.2076E+03	0.1584E+03	-18.8	-20.1	0.88186	0.94448	121.70001
E	26.31579	0.3517E+03	0.2610E+03	-23.7	-22.1	0.88466	0.93693	0.31132
H		0.2338E+03	0.1825E+03	-22.8	-23.0	0.88542	0.93729	127.20001
E	31.25000	0.3887E+03	0.2717E+03	-27.2	-24.6	0.86492	0.91908	0.83551
H		0.2535E+03	0.1653E+03	-26.2	-25.6	0.86508	0.91914	109.20001
E	40.00000	0.4249E+03	0.3276E+03	-35.0	-27.4	0.86980	0.92089	1.02181
H		0.2734E+03	0.2065E+03	-28.5	-34.2	0.87276	0.92329	114.80002


WML4
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML4
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML4
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: WIL4 200 EZ

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHOIN	MEAN OF RHOMX	PERIOD #
0.0012	143.80	316.71	1
0.0020	27.72	494.46	2
0.0040	92.50	305.76	3
0.0080	103.15	382.59	4
0.0143	130.59	580.09	5
0.0200	141.05	661.07	6
0.0250	147.25	652.01	7
0.0303	0.00	0.00	8
0.0500	0.00	0.00	9
0.0500	188.67	679.11	10
0.1000	26.40	******	11
0.3333	38.74	299.54	12
0.5000	16.10	310.84	13
0.5988	9.40	53.83	14
0.8000	315.78	******	15
1.0000	14.32	106.79	16
1.0000	0.00	0.00	17
1.2048	30.65	120.38	18
1.4925	28.08	107.96	19
2.0000	38.70	110.30	20
2.0000	17.13	124.59	21
2.0000	23.02	139.87	22
3.0303	23.76	145.85	23
3.0303	30.60	107.29	24
7.6923	66.31	229.60	25
14.2857	90.85	321.57	26
20.0000	106.94	374.53	27
26.3158	124.98	405.27	28
31.2500	130.86	438.26	29
40.0000	136.47	452.12	30

AVERAGE # 5
WML4 200 HZ
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.4475E+03	0.1587E+03	54.7	-69.8	0.90163	0.82119	0.41524
H		0.1859E+03	0.1289E+03	-72.4	56.5	0.93768	0.86890	57.90001
E	0.00200	0.7177E+03	0.4151E+02	-19.2	-78.6	0.72163	0.76891	0.55893
H		0.2713E+03	0.1393E+02	-25.9	-53.8	0.74749	0.79752	84.20001
E	0.00400	0.3482E+03	0.9938E+02	-23.0	-11.8	0.96408	0.94408	0.34805
H		0.2633E+03	0.8562E+02	-25.6	-10.2	0.96690	0.94730	15.89999
E	0.00800	0.4068E+03	0.1078E+03	-14.9	-5.1	0.97000	0.97672	0.23387
H		0.3583E+03	0.9848E+02	-15.3	-5.1	0.97007	0.97680	161.70001
E	0.01429	0.6578E+03	0.1447E+03	13.5	-0.4	0.98031	0.96546	0.22480
H		0.5024E+03	0.1164E+03	10.0	0.7	0.98159	0.96847	2.39999
E	0.02000	0.7136E+03	0.1635E+03	13.7	9.3	0.97781	0.96745	0.21036
H		0.6085E+03	0.1186E+03	9.9	11.3	0.97867	0.96964	3.20000
E	0.02500	0.7061E+03	0.1995E+03	19.2	15.6	0.96589	0.94254	0.27014
H		0.5980E+03	0.9504E+02	13.7	18.7	0.96810	0.95086	7.39999
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 5
WML4 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

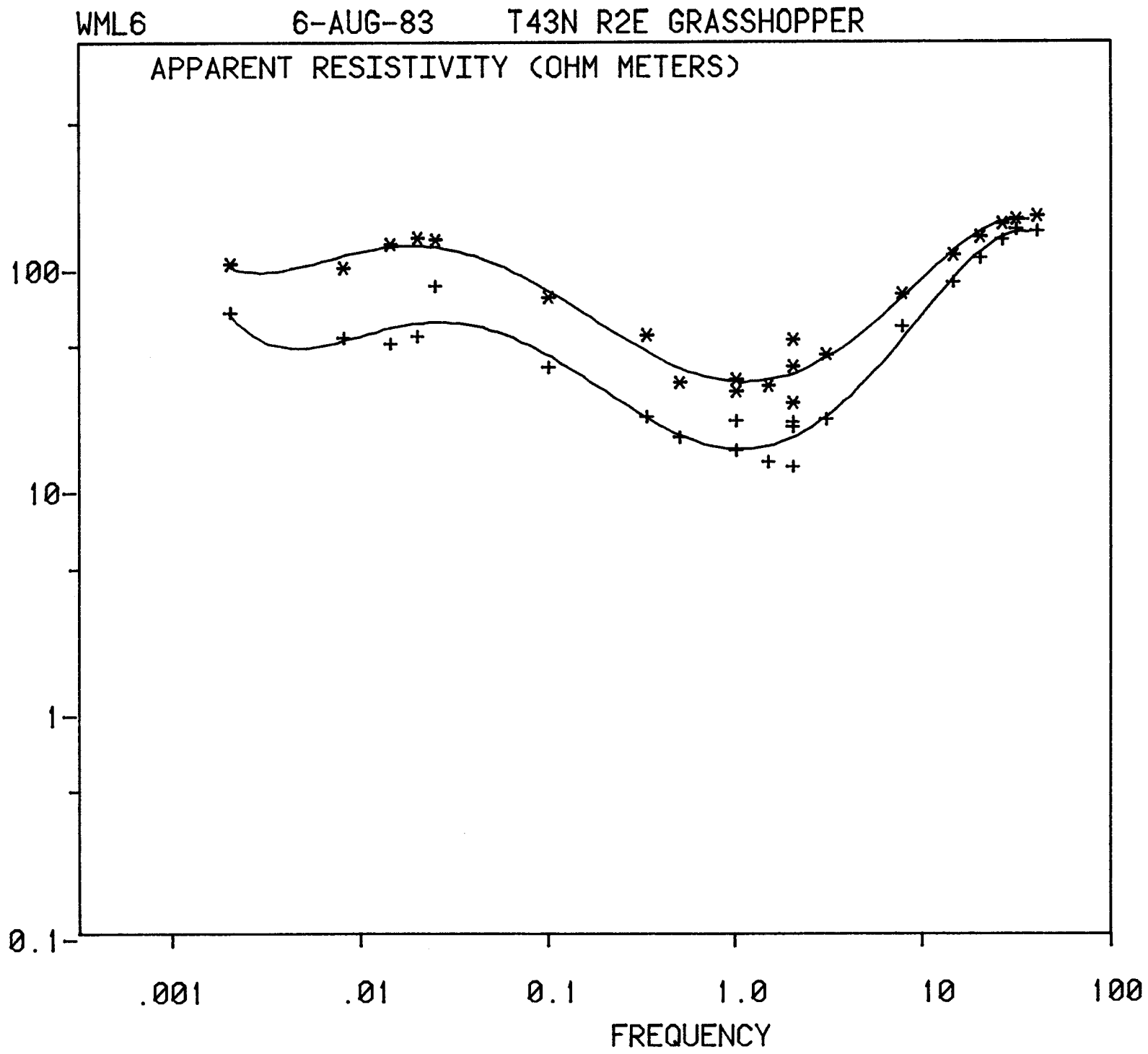
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.05000	0.6387E+03	0.2156E+03	15.4	69.3	0.99964	0.99934	0.28895
H		0.7195E+03	0.1618E+03	18.8	70.4	0.99965	0.99936	161.80002
E	0.10000	0.2254E+04	0.3086E+02	73.8	84.4	0.98131	0.97408	0.35456
H		0.2039E+04	0.2193E+02	75.3	84.7	0.98194	0.97543	98.00000
E	0.33333	0.5639E+03	0.6444E+02	-54.8	-11.4	0.77342	0.53733	0.33837
H		0.3523E+02	0.1304E+02	62.1	-40.2	0.81678	0.63501	27.89999
E	0.50000	0.5631E+03	0.1759E+02	-84.9	-85.9	0.83930	0.59992	0.32394
H		0.5856E+02	0.1460E+02	89.7	-57.5	0.84522	0.68023	37.00000
E	0.59880	0.9545E+02	0.1528E+02	-65.4	84.7	0.70157	0.55691	0.42110
H		0.1222E+02	0.3520E+01	-62.0	86.9	0.72433	0.60672	19.89999
E	0.80000	0.2472E+04	0.6310E+03	-48.5	35.0	0.28195	0.18642	0.43503
H		0.1139E+02	0.5768E+00	-64.7	15.2	0.41538	0.34357	26.30000
E	1.00000	0.1523E+03	0.2050E+02	-43.8	-74.2	0.84417	0.80068	0.34776
I		0.6123E+02	0.8136E+01	-47.7	-63.2	0.84564	0.80616	21.80000

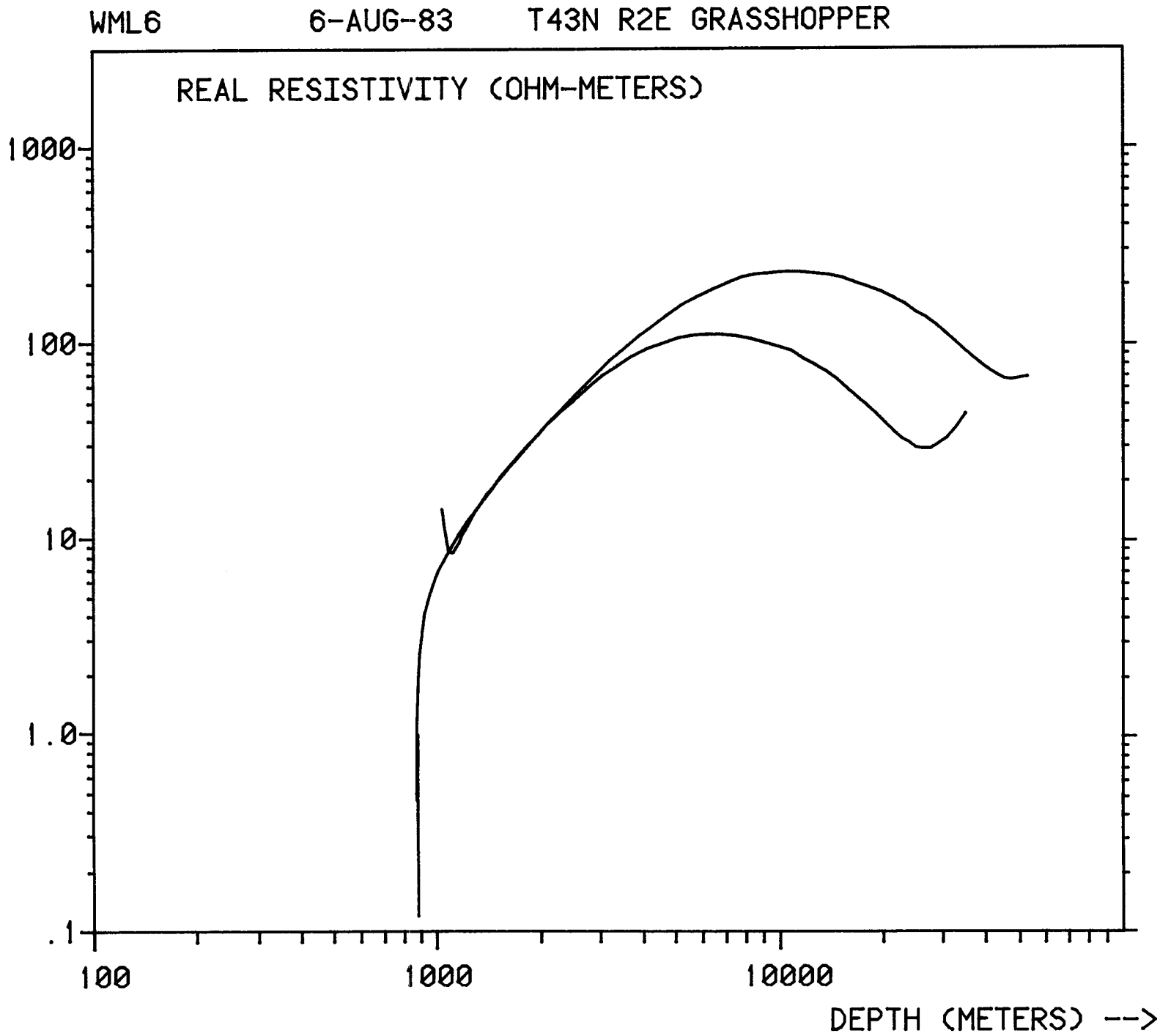
AVERAGE # 5
WML4 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.20482	0.1377E+03	0.3627E+02	-45.7	-57.3	0.92259	0.94864	0.16902
H		0.1031E+03	0.2502E+02	-47.7	-54.0	0.92747	0.95143	34.70000
E	1.49254	0.1177E+03	0.3062E+02	-45.4	-50.1	0.96393	0.96157	0.13672
H		0.9820E+02	0.2553E+02	-45.7	-49.6	0.96453	0.96226	17.50000
E	2.00000	0.1224E+03	0.4719E+02	-36.4	-50.6	0.91638	0.94559	0.19757
H		0.9821E+02	0.3020E+02	-38.3	-47.2	0.91859	0.94678	7.70000
E	2.00000	0.1633E+03	0.2440E+02	-41.0	-58.5	0.82390	0.86865	0.24288
H		0.8590E+02	0.9859E+01	-43.9	-51.2	0.83350	0.87332	30.30000
E	2.00000	0.1542E+03	0.3207E+02	-38.9	-43.3	0.82987	0.95867	4.65367
H		0.1256E+03	0.1397E+02	-39.7	-42.1	0.83582	0.95890	53.70000

AVERAGE # 5
WHL4 200 HZ
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.1764E+03	0.3654E+02	-39.1	-49.4	0.78245	0.89436	0.23731
H		0.1153E+03	0.1098E+02	-40.4	-46.0	0.78809	0.89602	48.50000
E	3.03030	0.1241E+03	0.3648E+02	-36.7	-37.9	0.90547	0.93459	0.19649
H		0.9048E+02	0.2473E+02	-37.0	-37.4	0.90722	0.93554	174.30002
E	7.69231	0.2446E+03	0.7382E+02	-27.2	-24.3	0.94839	0.96978	0.28944
H		0.2146E+03	0.5881E+02	-26.9	-25.1	0.94882	0.96998	17.39999
E	14.28571	0.3375E+03	0.1056E+03	-27.0	-21.8	0.92585	0.97655	0.16830
H		0.3056E+03	0.7605E+02	-26.9	-22.0	0.92636	0.97657	22.80000
E	20.00000	0.3995E+03	0.1272E+03	-28.0	-22.1	0.91402	0.96804	0.18030
H		0.3495E+03	0.8672E+02	-27.9	-22.3	0.91460	0.96805	22.10001
E	26.31579	0.4418E+03	0.1476E+03	-30.1	-23.7	0.91820	0.95347	0.23257
H		0.3688E+03	0.1024E+03	-29.8	-24.5	0.91853	0.95377	29.70000
E	31.25000	0.4902E+03	0.1615E+03	-31.7	-24.3	0.89370	0.93508	0.32184
H		0.3863E+03	0.1002E+03	-31.1	-25.8	0.89458	0.93644	28.00000
E	40.00000	0.5207E+03	0.1695E+03	-36.0	-28.6	0.90374	0.93101	0.36252
H		0.3835E+03	0.1034E+03	-35.3	-29.6	0.90651	0.93215	1.39999


WML6 6-AUG-83 T43N R2E GRASSHOPPER
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.001
.01
0.1
1.0
10
100
FREQUENCY


WML6
6-AUG-83
T43N R2E GRASSHOPPER
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WML6 200 HZ 6-AUG-83 T43N R2E GRASSHOPPER

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	47.09	583.07	1
0.0020	61.31	101.14	2
0.0040	36.03	71.38	3
0.0080	47.37	97.68	4
0.0143	44.66	123.69	5
0.0200	47.73	133.00	6
0.0250	80.35	129.40	7
0.0303	0.00	0.00	8
0.0500	******	******	9
0.0500	0.00	0.00	10
0.1000	34.77	71.10	11
0.3333	21.04	48.43	12
0.5000	16.80	29.98	13
0.5988	0.00	0.00	14
0.8000	0.00	0.00	15
1.0000	14.63	30.91	16
1.0000	19.95	27.05	17
1.2048	0.00	0.00	18
1.4925	13.07	29.09	19
2.0000	12.44	24.23	20
2.0000	18.80	35.37	21
2.0000	19.70	46.59	22
3.0303	20.29	39.85	23
3.0303	14.71	28.98	24
7.6923	53.22	74.96	25
14.2857	84.55	111.85	26
20.0000	108.71	134.63	27
26.3158	129.89	153.46	28
31.2500	144.26	162.46	29
40.0000	142.80	167.31	30

AVERAGE # 8
WHL6 200 HZ 6-AUG-83 T43N R2E GRASSHOPPER
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.7321E+03	0.4747E+02	-31.8	-42.5	0.97953	0.92785	0.44184
H		0.4340E+03	0.4672E+02	-32.8	-41.4	0.98300	0.93626	141.30002
E	0.00200	0.1376E+03	0.6834E+02	-83.5	-37.0	0.96862	0.93045	0.29447
H		0.6468E+02	0.5428E+02	-38.6	-82.1	0.97567	0.94729	111.20001
E	0.00400	0.7370E+02	0.4396E+02	-25.7	-30.5	0.96549	0.94941	0.43560
H		0.6906E+02	0.2810E+02	-26.5	-29.9	0.96765	0.95280	66.10001
E	0.00800	0.1158E+03	0.7672E+02	11.2	-8.7	0.93775	0.97262	0.31880
H		0.7954E+02	0.1802E+02	-9.7	12.9	0.96681	0.98323	12.30000
E	0.01429	0.1458E+03	0.6224E+02	4.0	1.6	0.93223	0.96847	0.39155
H		0.1016E+03	0.2708E+02	4.6	2.3	0.94830	0.97223	8.39999
E	0.02000	0.1585E+03	0.6058E+02	12.9	4.4	0.90912	0.94805	0.50788
H		0.1075E+03	0.3488E+02	14.2	3.7	0.91578	0.94846	17.30000
E	0.02500	0.1463E+03	0.1252E+03	23.8	4.9	0.92171	0.92094	0.46192
H		0.1125E+03	0.3554E+02	24.2	3.2	0.93345	0.93296	30.39999
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
WIL6 200 HZ 6-AUG-83 T43N R2E GRASSHOPPER
NSAMP = 1024 SI = 0.0050 TO = 5.1200

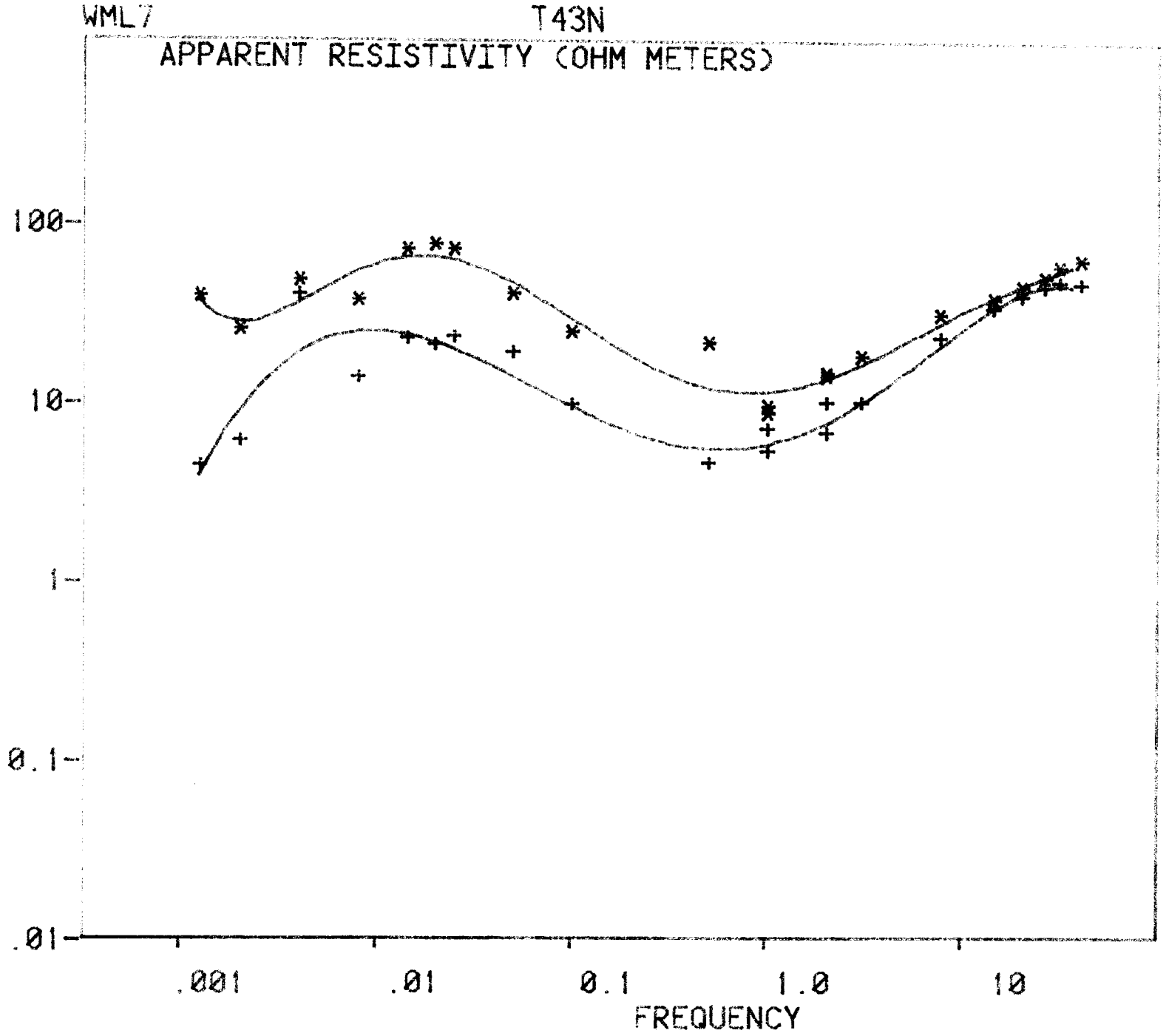
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.2305E+06	0.1255E+06	-28.3	-32.7	0.90151	0.88057	2.24429
H		0.1521E+06	0.7526E+05	-30.4	-32.1	0.90178	0.88116	103.50000
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.10000	0.7770E+02	0.4852E+02	61.8	70.2	0.90552	0.93858	7.99906
H		0.6450E+02	0.2102E+02	65.9	66.4	0.91686	0.94446	61.30000
E	0.33333	0.7779E+02	0.3093E+02	-67.9	-80.5	0.71679	0.81251	0.75759
H		0.1906E+02	0.1116E+02	-80.1	-66.1	0.76704	0.84664	75.80000
E	0.50000	0.4422E+02	0.2329E+02	-47.7	-68.2	0.78775	0.89632	0.13659
H		0.1574E+02	0.1032E+02	-68.7	-44.8	0.82525	0.90829	66.10001
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.00000	0.4620E+02	0.2120E+02	-32.9	-44.7	0.74451	0.86686	0.08950
H		0.1561E+02	0.8062E+01	-41.7	-34.4	0.77809	0.88152	81.80002

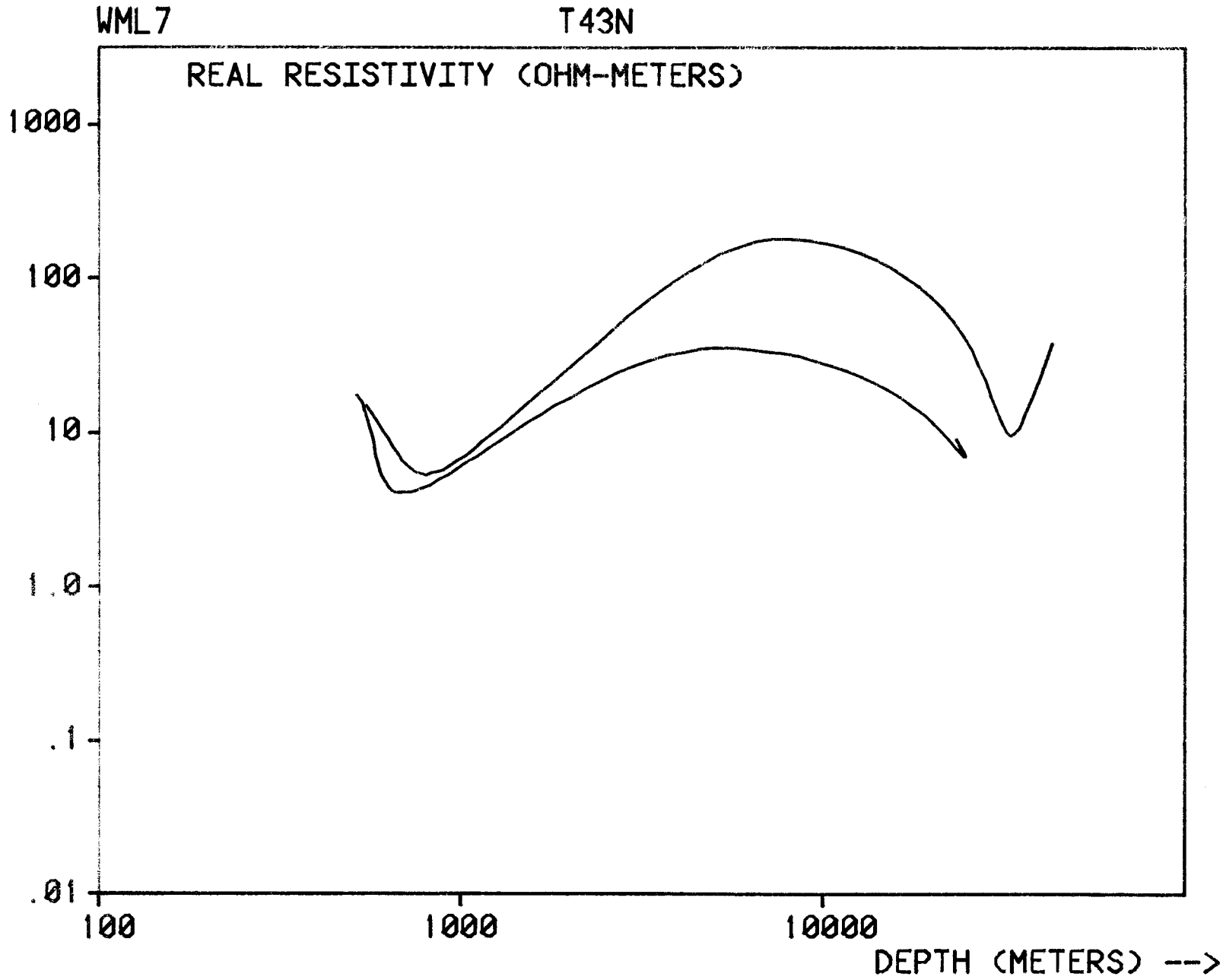
AVERAGE # 8
WML6 200 HZ 6-AUG-83 T43N R2E GRASSHOPPER
NSAMP = 1024 SI = 0.0050 TO = 5.1200

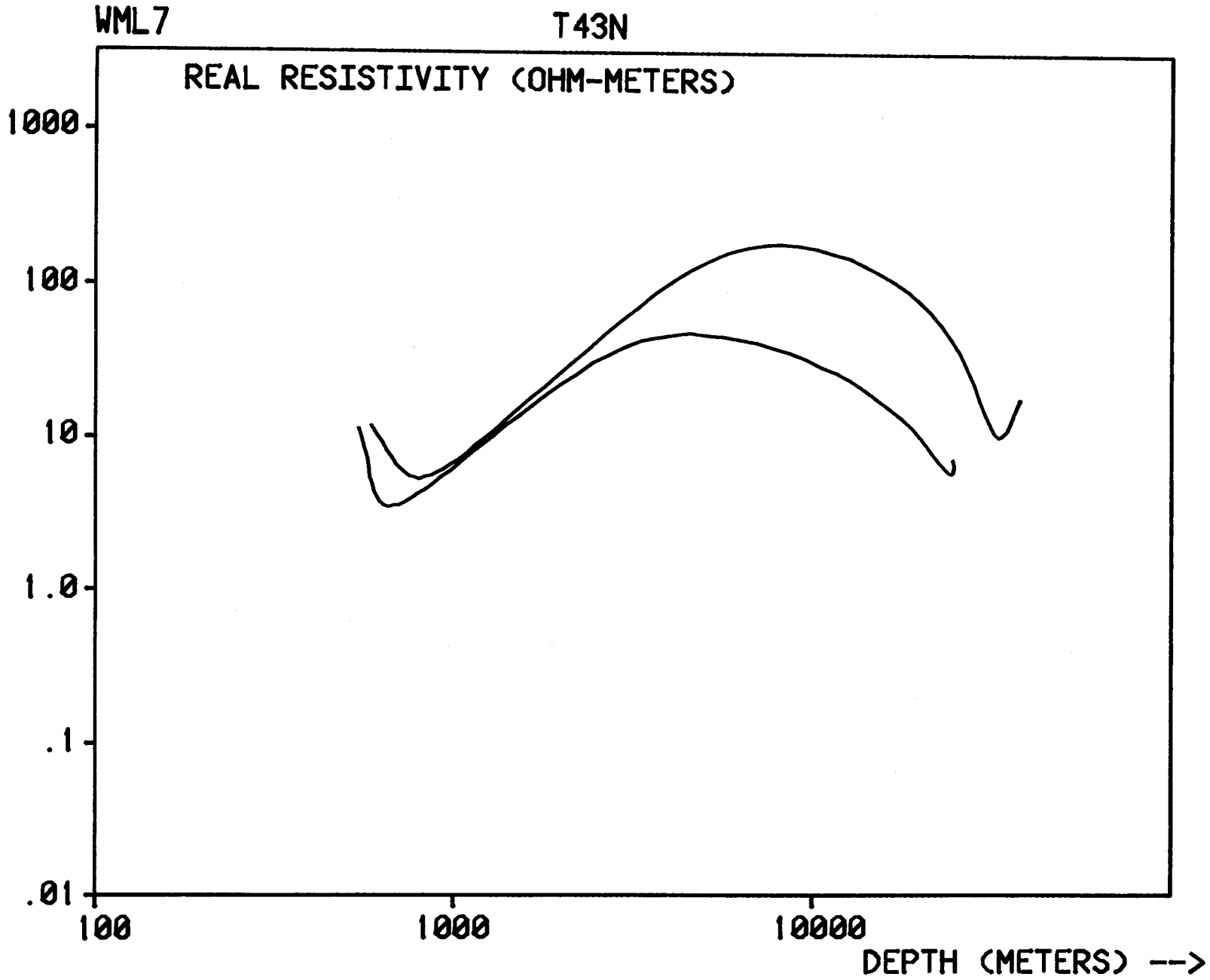
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.3657E+02	0.2933E+02	-64.1	-53.8	0.79024	0.85154	0.07901
H		0.1754E+02	0.1058E+02	-54.9	-61.6	0.79525	0.85200	91.00000
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.3345E+02	0.1848E+02	-33.5	-42.6	0.84988	0.95440	0.07458
H		0.2473E+02	0.7653E+01	-34.7	-41.2	0.86857	0.95737	90.70001
E	2.00000	0.2740E+02	0.1777E+02	-34.8	-33.9	0.84108	0.94948	0.23011
H		0.2106E+02	0.7121E+01	-35.1	-32.4	0.85987	0.95374	175.70000
E	2.00000	0.4864E+02	0.2830E+02	-24.7	-29.0	0.70593	0.92722	0.11839
H		0.2210E+02	0.9291E+01	-29.4	-23.6	0.72797	0.92775	160.30002
E	2.00000	0.6016E+02	0.2338E+02	-33.6	-27.4	0.81300	0.96832	0.09299
H		0.3301E+02	0.1603E+02	-32.5	-28.3	0.81360	0.96834	146.70001

AVERAGE # 8
WML6 200 HZ 6-AUG-83 T43N R2E GRASSHOPPER
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.5020E+02	0.3201E+02	-26.0	-27.7	0.71243	0.93362	0.08416
H		0.2949E+02	0.8577E+01	-25.4	-27.6	0.74447	0.94358	175.10001
E	3.03030	0.3483E+02	0.2325E+02	-24.0	-28.4	0.78131	0.94769	0.08071
H		0.2313E+02	0.6171E+01	-25.5	-26.3	0.82480	0.95279	165.89999
E	7.69231	0.8630E+02	0.6827E+02	-19.6	-18.0	0.84838	0.98049	0.08434
H		0.6363E+02	0.3818E+02	-18.5	-19.5	0.85813	0.98076	3.00000
E	14.28571	0.1293E+03	0.9897E+02	-23.0	-18.8	0.89189	0.98324	0.08726
H		0.9439E+02	0.7014E+02	-18.7	-23.2	0.89802	0.98339	3.10001
E	20.00000	0.1556E+03	0.1232E+03	-25.3	-20.3	0.91252	0.97284	0.09389
H		0.1136E+03	0.9419E+02	-20.3	-25.5	0.91571	0.97295	13.39999
E	26.31579	0.1728E+03	0.1442E+03	-28.6	-22.5	0.93174	0.97079	0.09019
H		0.1341E+03	0.1155E+03	-22.4	-28.9	0.93323	0.97088	19.00000
E	31.25000	0.1761E+03	0.1646E+03	-31.6	-23.8	0.93768	0.97115	0.11896
H		0.1488E+03	0.1239E+03	-24.0	-31.5	0.93906	0.97130	17.10001
E	40.00000	0.1880E+03	0.1793E+03	-35.0	-28.2	0.90850	0.94749	0.30153
H		0.1466E+03	0.1063E+03	-28.4	-34.9	0.91314	0.94884	174.60001


WML7
T43N
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY


WML7
T43N
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML7
T43N
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WML7 200 HZ T43N

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	4.24	37.44	1
0.0020	5.90	24.47	2
0.0040	38.18	46.14	3
0.0080	13.15	35.76	4
0.0143	21.68	68.38	5
0.0200	19.86	72.40	6
0.0250	22.23	68.30	7
~~0.0303~~	~~0.00~~	~~0.00~~	~~8~~
0.0500	18.12	38.40	9
~~0.0500~~	~~24.48~~	~~134.76~~	~~10~~
0.1000	9.31	23.62	11
~~0.3333~~	~~0.00~~	~~0.00~~	~~12~~
0.5000	4.35	20.58	13
~~0.5988~~	~~0.00~~	~~0.00~~	~~14~~
~~0.8000~~	~~0.00~~	~~0.00~~	~~15~~
1.0000	5.02	8.29	16
1.0000	6.75	9.03	17
~~1.2048~~	~~0.00~~	0.00	18
~~1.4925~~	~~0.00~~	0.00	19
~~2.0000~~	~~0.00~~	0.00	20
2.0000	6.41	13.24	21
2.0000	9.36	13.73	22
3.0303	9.34	17.12	23
~~3.0303~~	~~0.00~~	~~0.00~~	~~24~~
7.6923	21.48	29.21	25
14.2857	31.43	35.64	26
20.0000	36.91	41.28	27
26.3158	41.93	47.21	28
31.2500	44.52	53.76	29
40.0000	43.28	58.03	30

NOTE: NO NARROW BAND

AVERAGE # 5
WIL7 200 HZ T43N
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.5859E+02	0.4369E+01	-61.9	4.6	0.98267	0.97814	0.11697
H		0.1629E+02	0.4107E+01	-61.9	4.6	0.98922	0.98666	56.40001
E	0.00200	0.3819E+02	0.5792E+01	-42.5	2.3	0.99470	0.99858	0.12651
H		0.1074E+02	0.6015E+01	-42.2	3.6	0.99688	0.99897	57.50000
E	0.00400	0.5970E+02	0.5714E+02	-62.0	-13.1	0.91261	0.93608	0.21366
H		0.3259E+02	0.1922E+02	-22.9	-66.0	0.94768	0.95329	61.00000
E	0.00800	0.3722E+02	0.1673E+02	-15.5	-16.3	0.96724	0.98874	0.09212
H		0.3429E+02	0.9560E+01	-15.4	-16.5	0.97385	0.99081	40.60001
E	0.01429	0.7919E+02	0.2668E+02	5.0	-3.9	0.95300	0.97714	0.14372
H		[illegible]	[illegible]1669E+02	5.4	-4.5	0.96235	0.98090	165.89999
E	0.02000	0.9649E+02	0.2784E+02	13.5	7.0	0.86310	0.94484	0.18745
H		0.4831E+02	0.1188E+02	5.8	13.7	0.90363	0.95840	16.60001
E	0.02500	0.9170E+02	0.2919E+02	18.4	19.1	0.99354	0.77704	0.12601
H		0.4490E+02	0.1526E+02	18.2	19.1	0.99380	0.82822	24.39999
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 5
WHL7 200 HZ T43N
NSAMP = 1024 SI = 0.0050 TO = 5.1200

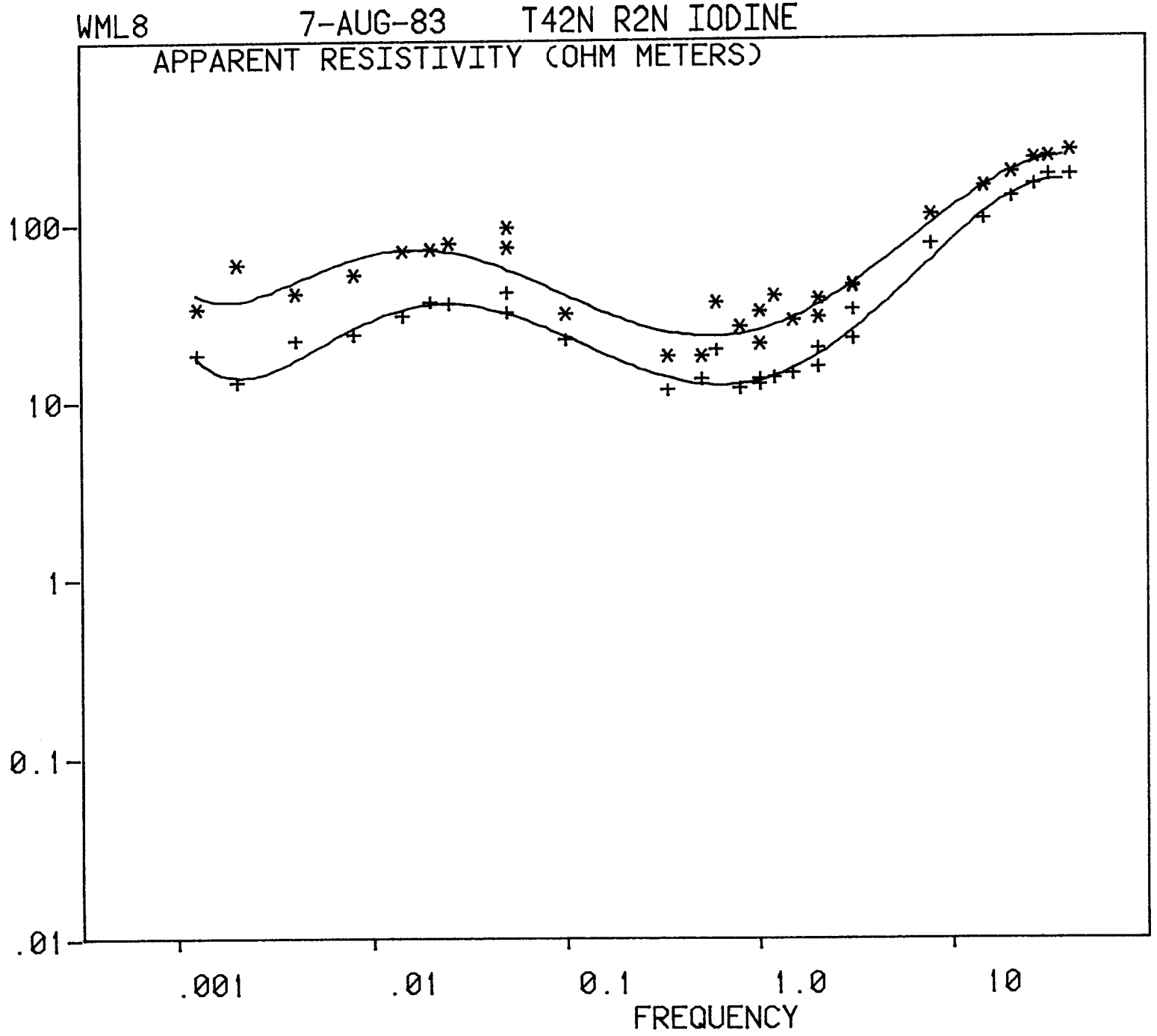
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN VALUE (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN PHASE (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.3910E+02	0.2731E+02	48.4	47.0	0.98275	0.83061	0.19457
H		0.3770E+02	0.8933E+01	35.5	57.5	0.98437	0.86394	30.20000
E	0.05000	0.1405E+03	0.2797E+02	72.2	29.7	0.97664	0.96459	0.20603
H		0.1290E+03	0.2099E+02	72.1	24.3	0.97691	0.96674	177.00000
E	0.10000	0.2784E+02	0.1355E+02	69.9	70.8	0.87585	0.90151	0.18076
H		0.1940E+02	0.5061E+01	66.1	72.7	0.89593	0.91725	23.60001
E	0.33333	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.50000	0.3606E+02	0.4926E+01	-50.1	-60.8	0.77544	0.81602	0.10911
H		0.5105E+01	0.3776E+01	-62.5	-44.7	0.85212	0.88251	21.80000
E	0.59880	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.80000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.00000	0.1115E+02	0.5869E+01	-34.0	-39.4	0.88884	0.90829	0.16314
		0.5425E+01	0.4166E+01	-34.0	-39.6	0.89339	0.91091	7.50000

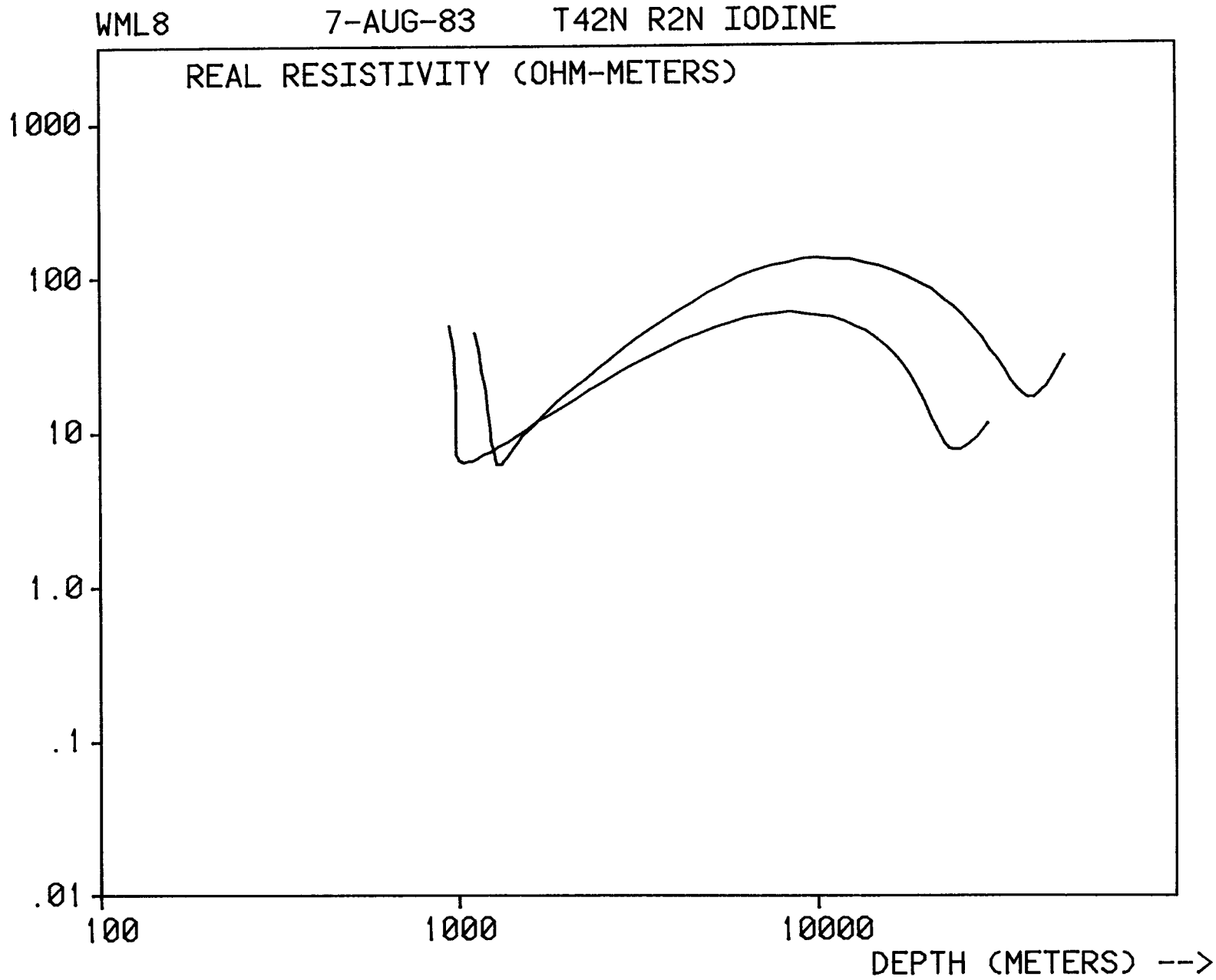
AVERAGE # 5
WML7 200 HZ T43N
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.1020E+02	0.7724E+01	-36.7	-42.2	0.94649	0.92401	0.14078
H		0.7870E+01	0.5768E+01	-36.2	-42.7	0.94703	0.92473	6.89999
E	1.20482	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	1.49254	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.1837E+02	0.7197E+01	-26.5	-27.0	0.87649	0.91364	0.17875
H		0.8106E+01	0.5628E+01	-26.9	-26.6	0.88547	0.91929	1.80000
E	2.00000	0.1581E+02	0.1076E+02	-26.0	-29.4	0.95296	0.92457	0.18494
H		0.1164E+02	0.7959E+01	-27.5	-28.0	0.95394	0.92697	1.50000

AVERAGE # 5
WIL7 200 HZ T43N
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.2338E+02	0.1077E+02	-21.8	-22.9	0.86325	0.90589	0.18987
H		0.1086E+02	0.7912E+01	-23.3	-21.6	0.86909	0.90968	3.60001
E	3.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	7.69231	0.3641E+02	0.2460E+02	-18.9	-19.1	0.90787	0.93633	0.22426
H		0.2201E+02	0.1835E+02	-19.0	-19.0	0.91177	0.93820	1.30000
E	14.28571	0.4180E+02	0.3418E+02	-22.3	-18.9	0.93152	0.95465	0.22186
H		0.2948E+02	0.2868E+02	-22.4	-18.9	0.93249	0.95498	1.00000
E	20.00000	0.4875E+02	0.4172E+02	-25.5	-20.3	0.92268	0.93413	0.24771
H		0.3381E+02	0.3210E+02	-25.7	-20.2	0.92311	0.93436	3.30000
E	26.31579	0.5433E+02	0.4752E+02	-27.9	-23.9	0.92788	0.95286	0.22280
H		0.4008E+02	0.3634E+02	-23.8	-28.0	0.92911	0.95311	179.80000
E	31.25000	0.5928E+02	0.5095E+02	-28.8	-25.4	0.95651	0.95094	0.24463
H		0.4824E+02	0.3809E+02	-25.9	-28.4	0.95749	0.95224	173.00000
E	40.00000	0.6155E+02	0.5998E+02	-27.6	-33.9	0.95531	0.89462	0.38776
		0.5451E+02	0.2659E+02	-27.7	-33.7	0.95717	0.90542	165.30002


WML8
7-AUG-83
T42N R2N IODINE
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY


WML8 7-AUG-83 T42N R2N IODINE
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WML8 200 HZ 7-AUG-83 T42N R2N IODINE

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	17.44	31.78	1
0.0020	12.13	55.60	2
0.0040	20.79	38.42	3
0.0080	22.58	48.54	4
0.0143	28.33	65.03	5
0.0200	33.80	66.30	6
0.0250	33.69	72.72	7
~~0.0303~~	~~0.00~~	~~0.00~~	~~8~~
0.0500	29.80	68.06	9
0.0500	38.28	88.10	10
0.1000	20.70	28.87	11
0.3333	10.93	16.74	12
0.5000	12.33	16.82	13
0.5988	17.95	33.65	14
0.8000	11.02	24.41	15
1.0000	12.33	19.65	16
1.0000	11.65	29.50	17
1.2048	12.71	36.23	18
1.4925	13.55	26.29	19
2.0000	14.47	27.67	20
~~2.0000~~	~~0.00~~	~~0.00~~	~~21~~
[illegible]000	18.42	34.98	22
[illegible]303	20.80	40.87	23
3.0303	30.33	41.91	24
7.6923	69.97	100.58	25
14.2857	94.65	145.82	26
20.0000	126.35	173.61	27
26.3158	148.02	204.34	28
31.2500	165.43	211.26	29
40.0000	164.52	228.06	30

AVERAGE # 5
WML8 200 HZ 7-AUG-83 T42N R2N IODINE
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.4068E+02	0.1553E+02	-56.5	-23.6	0.99685	0.95690	0.12377
H		0.2288E+02	0.1935E+02	-29.0	-61.3	0.99740	0.96221	28.10001
E	0.00200	0.5992E+02	0.1116E+02	-34.0	19.8	0.97548	0.96359	0.23198
H		0.5128E+02	0.1311E+02	-36.4	19.9	0.97604	0.96397	70.10001
E	0.00400	0.4031E+02	0.2096E+02	-26.9	-27.6	0.99766	0.98260	0.07718
H		0.3654E+02	0.2063E+02	-27.4	-27.1	0.99771	0.98285	177.20000
E	0.00800	0.4949E+02	0.2282E+02	-8.7	-12.4	0.99588	0.99005	0.07731
H		0.4759E+02	0.2233E+02	-8.8	-12.2	0.99589	0.99007	174.10001
E	0.01429	0.6705E+02	0.2887E+02	2.0	1.6	0.99281	0.98989	0.11063
H		0.6300E+02	0.2778E+02	1.6	2.5	0.99286	0.99000	163.70001
E	0.02000	0.6762E+02	0.3444E+02	9.1	14.4	0.99439	0.99365	0.12505
H		0.6498E+02	0.3316E+02	9.1	14.6	0.99442	0.99370	168.30002
E	0.02500	0.7467E+02	0.3471E+02	15.0	21.2	0.99104	0.99095	0.15860
H		0.7077E+02	0.3267E+02	14.9	21.4	0.99114	0.99106	166.60001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 5
WML8 200 HZ 7-AUG-83 T42N R2N IODINE
NSAMP = 1024 SI = 0.0050 TO = 5.1200

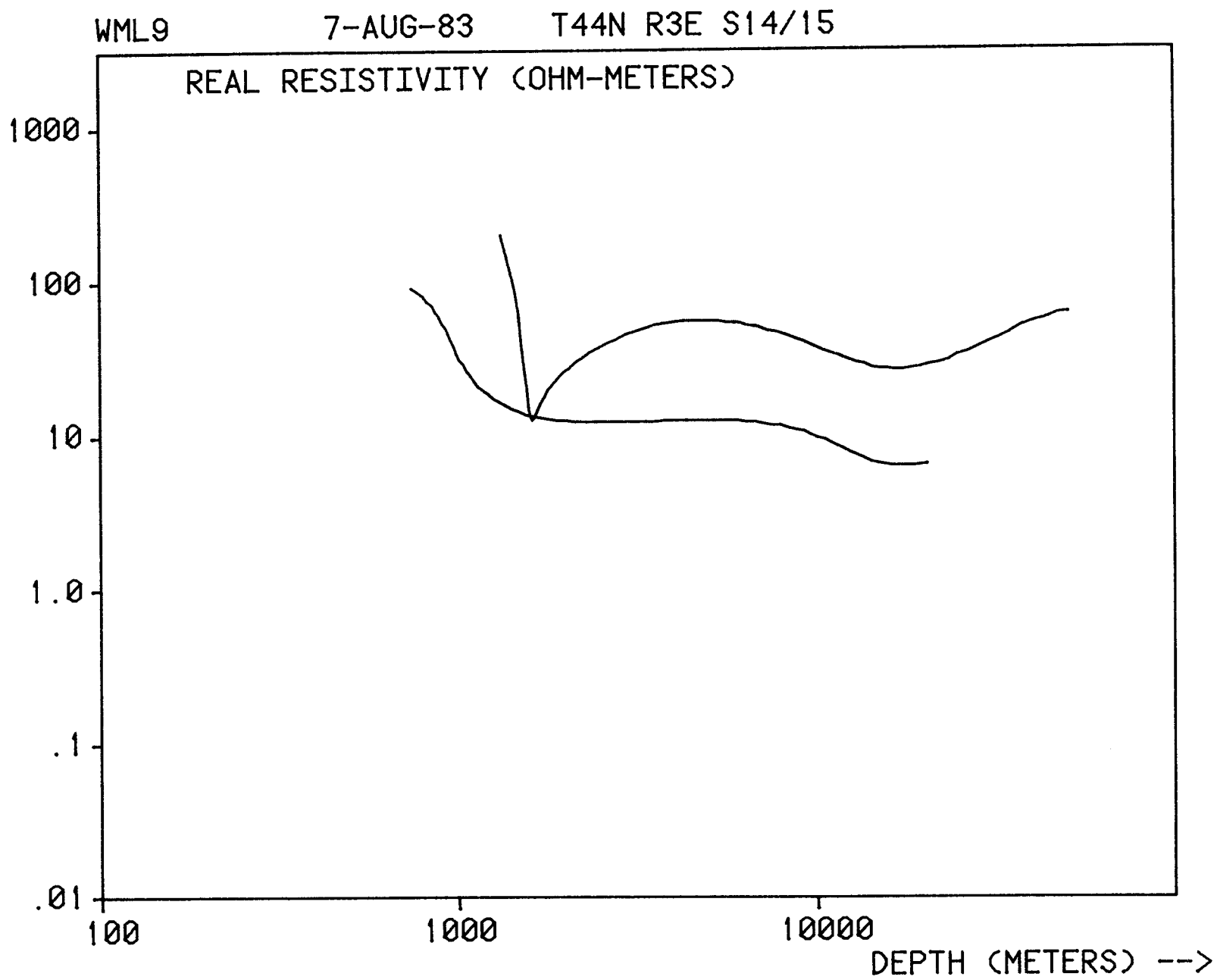
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	[illegible]	[illegible] PHASE (DEGREES)	RHO-MIN	PHEDEX	PHEDEY	TIPPER MAG/DIR
E	0.05000	0.8397E+02	0.3428E+02	49.8	45.8	0.94115	0.89579	0.19408
H		0.5214E+02	0.2533E+02	46.6	51.2	0.94381	0.90062	17.50000
E	0.05000	0.1145E+03	0.6045E+02	-4.0	58.4	0.62806	0.83526	0.30859
H		0.6173E+02	0.1610E+02	53.1	-19.7	0.63963	0.88268	60.40001
E	0.10000	0.3188E+02	0.2187E+02	70.8	84.5	0.97752	0.95128	0.19276
H		0.2586E+02	0.1953E+02	70.9	84.2	0.97754	0.95170	17.80000
E	0.33333	0.2299E+02	0.1463E+02	-61.8	-70.2	0.80802	0.87097	0.18563
H		0.1050E+02	0.7229E+01	-72.6	-58.6	0.81439	0.87414	165.39999
E	0.50000	0.2471E+02	0.1672E+02	-54.6	-50.1	0.81036	0.81489	0.21485
H		0.8939E+01	0.7931E+01	-57.6	-47.4	0.81372	0.81798	166.00000
E	0.59880	0.3493E+02	0.2575E+02	-64.6	-62.1	0.96545	0.97808	0.07931
H		0.3236E+02	0.1015E+02	-63.2	-75.3	0.97664	0.98553	17.30000
E	0.80000	0.3284E+02	0.1486E+02	-16.7	-13.8	0.83961	0.85643	0.18442
H		0.1599E+02	0.7176E+01	-16.9	-12.9	0.84339	0.85921	4.30000
E	1.00000	0.3245E+02	0.1842E+02	-41.3	-28.4	0.74909	0.72173	0.18273
H		0.6842E+01	0.6228E+01	-26.8	-43.0	0.75743	0.73333	173.70001

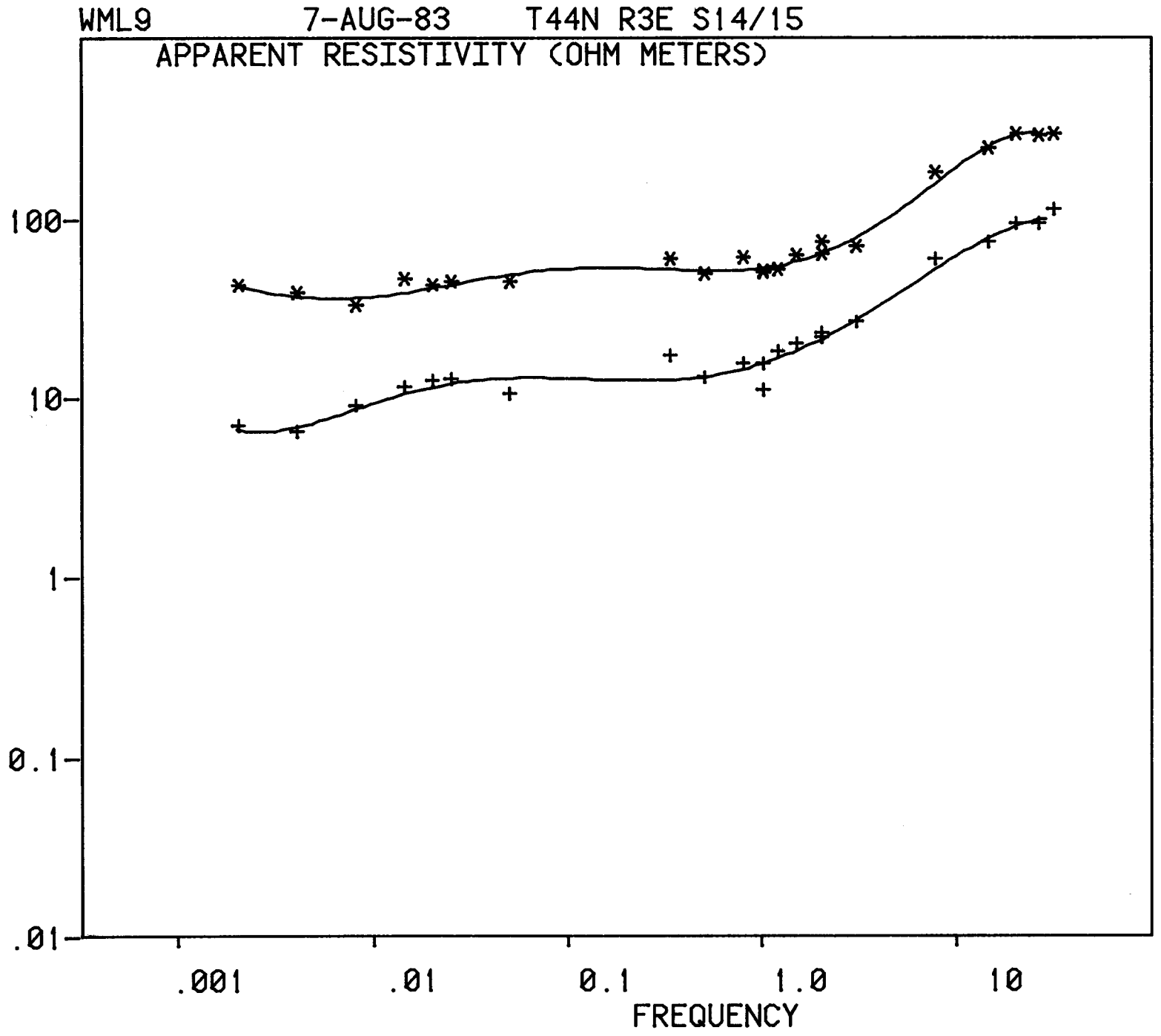
AVERAGE # 5
WML8 200 HZ 7-AUG-83 T42N R2N IODINE
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.4015E+02	0.1774E+02	-19.5	-35.2	0.81667	0.86941	0.17328
H		0.1885E+02	0.5574E+01	-23.0	-31.0	0.84665	0.88751	172.50000
E	1.20482	0.4980E+02	0.1614E+02	-10.6	-27.0	0.86039	0.90377	0.14309
H		0.2267E+02	0.9276E+01	-25.9	-8.9	0.88776	0.92345	172.00000
E	1.49254	0.2957E+02	0.1830E+02	-18.3	-27.8	0.89572	0.94590	0.15182
H		0.2301E+02	0.8807E+01	-18.6	-27.1	0.90371	0.94684	167.50000
E	2.00000	0.3035E+02	0.1932E+02	-31.6	-9.4	0.89444	0.94334	0.14038
H		0.2500E+02	0.9608E+01	-25.9	-14.0	0.89830	0.94396	171.70001
E	2.00000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	2.00000	0.4207E+02	0.2585E+02	-15.4	-32.1	0.88899	0.90063	0.20901
H		0.2790E+02	0.1099E+02	-19.7	-29.3	0.89484	0.90459	165.60001

AVERAGE # 5
WIL8 200 HZ 7-AUG-83 T42N R2N IODINE
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.6099E+02	0.3452E+02	-11.7	-19.9	0.79445	0.78282	0.26696
H		0.2074E+02	0.7078E+01	-17.0	-13.9	0.82926	0.82165	170.00000
E	3.03030	0.4586E+02	0.3671E+02	-19.7	-42.4	0.91293	0.95367	0.13723
H		0.3796E+02	0.2395E+02	-19.2	-43.8	0.91490	0.95373	177.89999
E	7.69231	0.1189E+03	0.8312E+02	-17.5	-15.6	0.89888	0.96292	0.17473
H		0.8227E+02	0.5682E+02	-15.4	-17.8	0.90539	0.96404	173.39999
E	14.28571	0.1617E+03	0.1115E+03	-16.6	-18.0	0.91958	0.97202	0.16031
H		0.1299E+03	0.7776E+02	-15.6	-19.0	0.92348	0.97256	178.30000
E	20.00000	0.1944E+03	0.1484E+03	-17.5	-18.5	0.91843	0.96537	0.17077
H		0.1529E+03	0.1042E+03	-17.0	-19.0	0.92131	0.96566	179.30000
E	26.31579	0.2282E+03	0.1666E+03	-20.8	-22.1	0.93914	0.96516	0.16178
H		0.1805E+03	0.1295E+03	-19.4	-23.4	0.94057	0.96535	178.60001
E	31.25000	0.2515E+03	0.1775E+03	-23.5	-23.2	0.95472	0.95149	0.22724
H		0.1711E+03	0.1534E+03	-21.1	-25.7	0.95611	0.95313	170.10001
E	40.00000	0.2742E+03	0.2004E+03	-28.9	-26.8	0.94449	0.93377	0.33941
H		0.1819E+03	0.1286E+03	-25.4	-30.6	0.94926	0.94032	160.60001


WML9
7-AUG-83
T44N R3E S14/15
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML9 7-AUG-83 T44N R3E S14/15
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: WHL9 200 HZ 7-AUG-83 T44N R3E S14/15

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
~~0.0012~~	~~69.36~~	~~95.99~~	~~1~~
0.0020	6.69	40.92	2
0.0040	6.23	36.76	3
0.0080	8.76	31.56	4
0.0143	11.11	44.13	5
0.0200	11.98	40.80	6
0.0250	12.12	42.34	7
~~0.0303~~	~~0.00~~	~~0.00~~	~~8~~
0.0500	9.98	42.11	9
~~0.0500~~	~~66.57~~	~~219.61~~	~~10~~
~~0.1000~~	~~37.49~~	~~129.69~~	~~11~~
0.3333	16.55	57.28	12
0.5000	12.34	47.23	13
~~0.5988~~	~~6.09~~	~~57.74~~	~~14~~
0.8000	14.85	58.41	15
1.0000	10.54	48.21	16
1.0000	14.89	48.51	17
1.2048	17.53	49.65	18
1.4925	19.20	59.08	19
2.0000	20.93	60.05	20
~~2.0000~~	~~5.28~~	~~76.92~~	~~21~~
2.0000	22.21	70.85	22
~~3.0303~~	~~2.50~~	~~77.83~~	~~23~~
3.0303	25.42	66.58	24
7.6923	57.07	173.68	25
14.2857	71.02	236.47	26
20.0000	90.10	284.20	27
26.3158	90.50	277.98	28
31.2500	106.64	284.87	29
~~40.0000~~	~~71.30~~	~~345.97~~	~~30~~

AVERAGE # 5
WML9 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.1521E+03	0.1137E+03	-71.0	-58.9	0.82652	0.92440	0.08914
H		0.3992E+02	0.2496E+02	-60.4	-64.3	0.89538	0.95637	44.30000
E	0.00200	0.5617E+02	0.6846E+01	-34.9	-38.1	0.99087	0.94485	0.10055
H		0.2567E+02	0.6539E+01	-36.8	-43.8	0.99336	0.96073	51.50000
E	0.00400	0.4119E+02	0.6225E+01	-22.3	-18.4	0.98115	0.94802	0.10975
H		0.3233E+02	0.6242E+01	-22.4	-19.5	0.98249	0.94866	139.89999
E	0.00800	0.3264E+02	0.8828E+01	-8.4	-13.0	0.98884	0.98956	0.09405
H		0.3048E+02	0.8694E+01	-8.5	-13.2	0.98895	0.98967	152.20001
E	0.01429	0.4544E+02	0.1115E+02	7.1	-1.0	0.99240	0.98940	0.08095
H		0.4282E+02	0.1107E+02	7.1	-1.0	0.99248	0.98947	137.30002
E	0.02000	0.4184E+02	0.1203E+02	15.1	8.0	0.99394	0.98792	0.08945
H		0.3977E+02	0.1193E+02	15.2	8.0	0.99399	0.98794	137.39999
E	0.02500	0.4327E+02	0.1221E+02	21.0	14.9	0.99243	0.98936	0.09980
H		0.4140E+02	0.1203E+02	21.0	14.9	0.99245	0.98937	138.10001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 5
WML9 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 TO = 5.1200

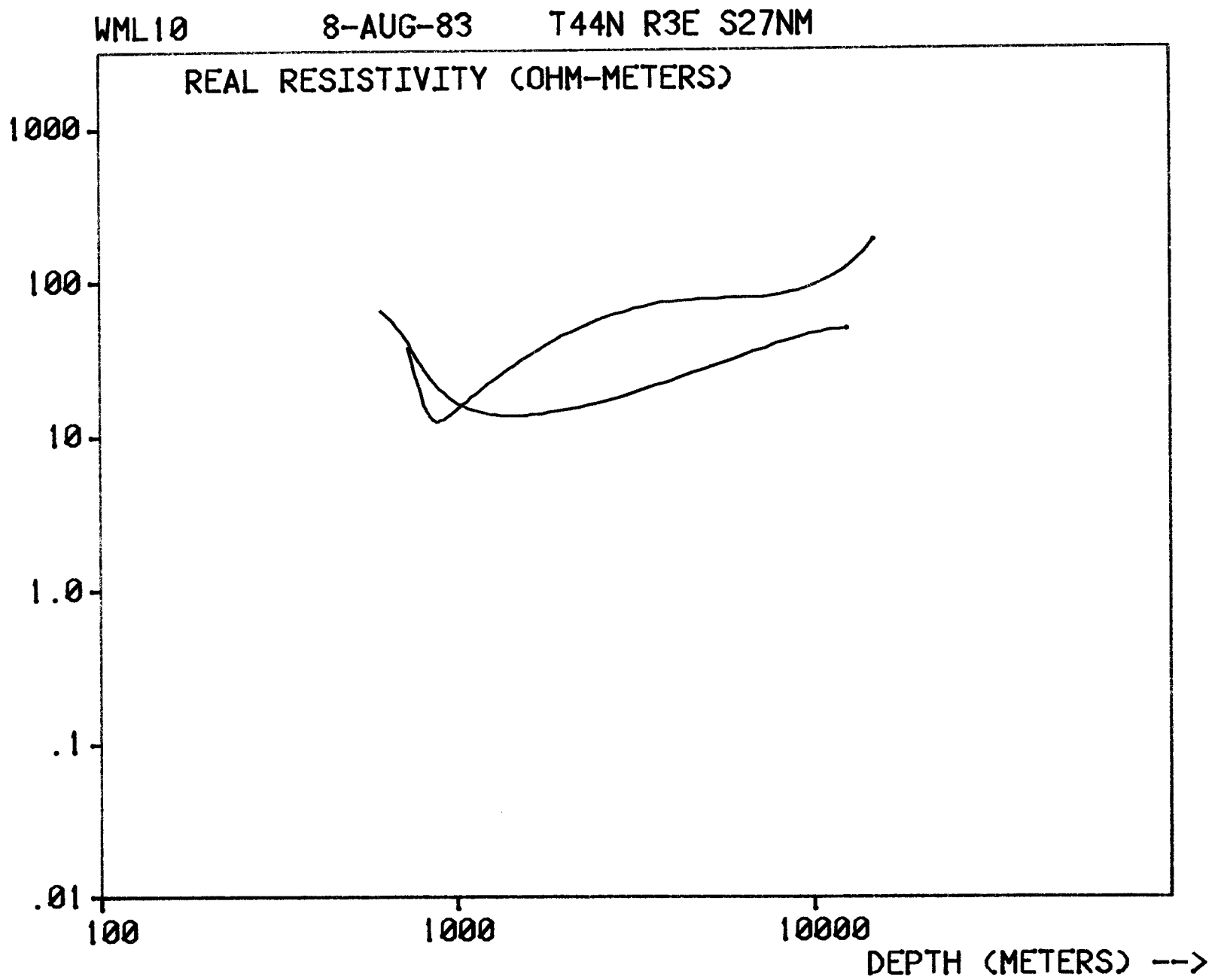
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.4746E+02	0.1027E+02	43.4	43.6	0.96586	0.94252	0.12367
H		0.3676E+02	0.9693E+01	43.8	43.6	0.96717	0.94311	149.39999
E	0.05000	0.2200E+03	0.6797E+02	46.4	45.6	0.99715	0.99651	0.12314
H		0.2192E+03	0.6516E+02	46.2	45.7	0.99717	0.99653	138.10001
E	0.10000	0.1327E+03	0.3924E+02	70.2	74.1	0.98765	0.98888	0.12021
H		0.1267E+03	0.3574E+02	69.9	74.7	0.98771	0.98891	108.39999
E	0.33333	0.6183E+02	0.1858E+02	-74.3	-64.1	0.93463	0.97176	0.17407
H		0.5273E+02	0.1452E+02	-74.3	-64.3	0.93518	0.97209	116.39999
E	0.50000	0.5283E+02	0.1712E+02	-67.2	-76.3	0.89858	0.93464	0.19602
H		0.4163E+02	0.7565E+01	-67.2	-76.2	0.90622	0.93622	175.50000
E	0.59880	0.6212E+02	0.8988E+01	-51.6	-57.5	0.94295	0.97614	0.17654
H		0.5336E+02	0.3186E+01	-52.3	-59.1	0.95532	0.97699	30.10001
E	0.80000	0.6094E+02	0.1850E+02	-50.9	-49.0	0.96245	0.97539	0.15507
H		0.5589E+02	0.1120E+02	-51.0	-48.8	0.96510	0.97595	30.70000
E	1.00000	0.5936E+02	0.1427E+02	-59.2	-81.3	0.85366	0.89700	0.27502
		0.3706E+02	0.6806E+01	-58.2	-80.9	0.85818	0.89817	80.50000

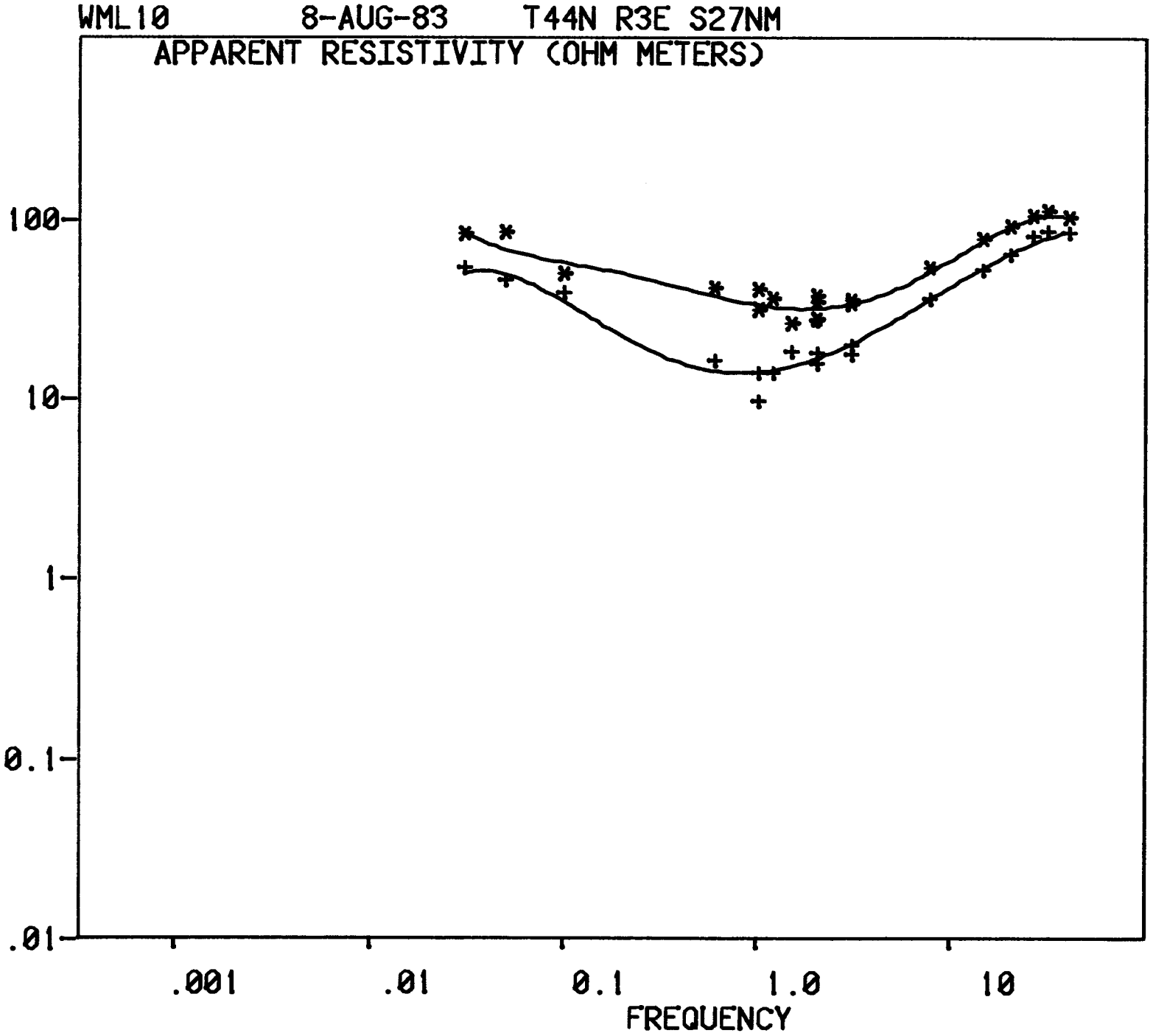
AVERAGE # 5
WML9 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN VALUE (OHM-M)	RHO-MAX PHASE (DEGREES)	RHO-MIN PHASE (DEGREES)	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.6068E+02	0.2238E+02	-58.6	-36.3	0.84715	0.85527	0.44965
H		0.3635E+02	0.7410E+01	-51.6	-45.1	0.85375	0.86096	30.30000
E	1.20482	0.5385E+02	0.2602E+02	-51.0	-30.5	0.91721	0.95929	0.14831
H		0.4546E+02	0.9043E+01	-50.3	-28.5	0.93202	0.96165	1.89999
E	1.49254	0.6821E+02	0.2384E+02	-38.9	-32.3	0.90017	0.93925	0.16296
H		0.4994E+02	0.1456E+02	-39.5	-31.2	0.90300	0.93951	11.50000
E	2.00000	0.6620E+02	0.2550E+02	-33.5	-33.3	0.93121	0.95017	0.15646
H		0.5389E+02	0.1635E+02	-33.6	-32.7	0.93318	0.95070	7.10001
E	2.00000	0.8593E+02	0.7861E+01	-33.6	-88.9	0.83638	0.94646	0.17982
H		0.6791E+02	0.2697E+01	-33.6	-85.7	0.85531	0.95070	56.00000
E	2.00000	0.8209E+02	0.2666E+02	-29.4	-35.3	0.91710	0.91894	0.16687
H		0.5961E+02	0.1775E+02	-29.6	-34.9	0.91729	0.91908	12.10001

AVERAGE # 5
WML9 200 HZ 7-AUG-83 T44N R3E S14/15
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.9235E+02	0.3719E+01	-27.8	78.5	0.81534	0.91387	0.16255
H		0.6332E+02	0.1275E+01	-27.3	81.8	0.82775	0.91861	60.80000
E	3.03030	0.8418E+02	0.3254E+02	-29.9	-26.0	0.90031	0.86821	0.23686
H		0.4897E+02	0.1831E+02	-28.8	-25.1	0.90282	0.87341	4.60001
E	7.69231	0.1814E+03	0.6196E+02	-20.1	-20.4	0.98382	0.97558	0.13205
H		0.1659E+03	0.5217E+02	-20.3	-20.4	0.98390	0.97608	20.00000
E	14.28571	0.2502E+03	0.8159E+02	-19.4	-19.1	0.96188	0.96879	0.20259
H		0.2227E+03	0.6045E+02	-19.5	-19.2	0.96259	0.96905	21.60001
E	20.00000	0.3065E+03	0.1039E+03	-20.0	-18.9	0.95917	0.95660	0.22886
H		0.2619E+03	0.7629E+02	-20.1	-18.8	0.95948	0.95706	26.30000
E	26.31579	0.3230E+03	0.1072E+03	-21.2	-22.6	0.90575	0.92457	0.73826
H		0.2329E+03	0.7376E+02	-20.8	-23.4	0.90598	0.9[illegible]	[illegible]
E	31.25000	0.3619E+03	0.1392E+03	-21.7	-23.5	0.86718	0.86946	1.47665
H		0.2078E+03	0.7408E+02	-21.2	-24.5	0.86754	0.86975	7.20000
E	40.00000	0.3959E+03	0.1304E+03	-31.6	-9.7	0.94991	0.83370	0.85768
		0.2961E+03	0.1221E+02	-32.6	-5.1	0.95007	0.89820	132.80002


WML10 8-AUG-83 T44N R3E S27NM
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->


WML10 8-AUG-83 T44N R3E S27NM
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: WML10 200 HZ 8-AUG-83 T44N R3E S27NM

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	0.00	0.00	1
0.0020	0.00	0.00	2
0.0040	0.00	0.00	3
0.0080	0.00	0.00	4
0.0143	0.00	0.00	5
0.0200	0.00	0.00	6
0.0303	50.22	77.78	7
0.0303	0.00	0.00	8
0.0500	43.44	79.12	9
0.0500	91.18	329.24	10
0.1000	36.56	46.58	11
0.3333	0.00	0.00	12
0.5000	0.00	0.00	13
0.5988	15.59	39.03	14
0.8000	3.49	24.07	15
1.0000	13.09	29.41	16
1.0000	9.27	38.70	17
1.2048	13.09	34.10	18
1.4925	17.54	25.05	19
2.0000	17.06	26.31	20
2.0000	14.99	32.47	21
2.0000	25.62	35.60	22
3.0303	16.66	31.98	23
3.0303	19.03	33.40	24
7.6923	34.31	51.06	25
14.2857	49.66	73.72	26
20.0000	60.94	86.12	27
26.3158	76.37	99.61	28
31.2500	81.01	104.49	29
40.0000	79.48	98.21	30

AVERAGE # 8
WHL10 200 HZ 8-AUG-83 T44N R3E S27NW
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.00200	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999
E	0.00400	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.00800	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.01429	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999
E	0.02000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.03030	0.9941E+02	0.6759E+02	27.6	18.0	0.84767	0.84992	1.35440
H		0.5616E+02	0.3285E+02	18.8	24.3	0.88604	0.88805	20.10001
E	0.03030	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000

AVERAGE # 8
WML10 200 HZ 8-AUG-83 T44N R3E S27NM
NSAMP = 1024 SI = 0.0050 TO = 5.1200

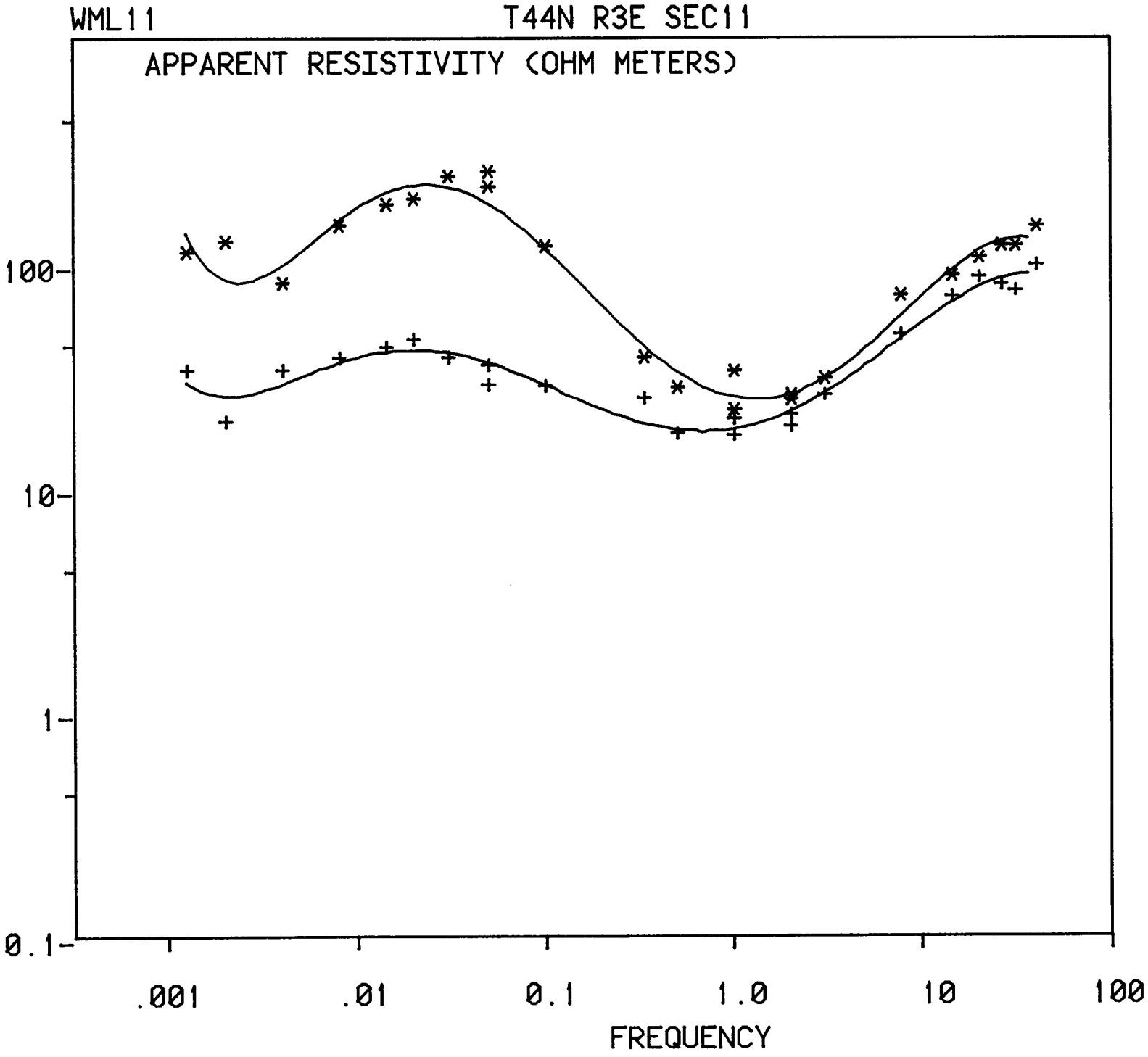
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.1035E+03	0.5161E+02	47.2	45.5	0.85612	0.94551	1.66618
H		0.5473E+02	0.3528E+02	43.9	49.9	0.86520	0.94663	160.70001
E	0.05000	0.4153E+03	0.8306E+02	-61.0	87.5	0.82851	0.83855	0.30495
H		0.2432E+03	0.9929E+02	-63.8	-89.7	0.86057	0.87193	155.60001
E	0.10000	0.6104E+02	0.4200E+02	60.7	72.7	0.88464	0.96689	5.06939
H		0.3212E+02	0.3112E+02	73.6	59.8	0.89616	0.96695	125.20001
E	0.33333	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.50000	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999
E	0.59880	0.3326E+02	0.1958E+02	-51.1	-88.5	0.96339	0.88796	0.24838
H		0.4480E+02	0.1160E+02	-50.5	-78.8	0.97272	0.90200	155.20001
E	0.80000	0.2894E+02	0.2351E+01	-72.4	-41.8	0.97502	0.96141	0.11832
H		0.1919E+02	0.4627E+01	-81.9	-28.2	0.98008	0.96839	152.20001
E	1.00000	0.4386E+02	0.1524E+02	-49.2	-45.7	0.87567	0.86281	0.21252
H		0.1496E+02	0.1093E+02	-49.1	-45.7	0.88572	0.87474	167.00000

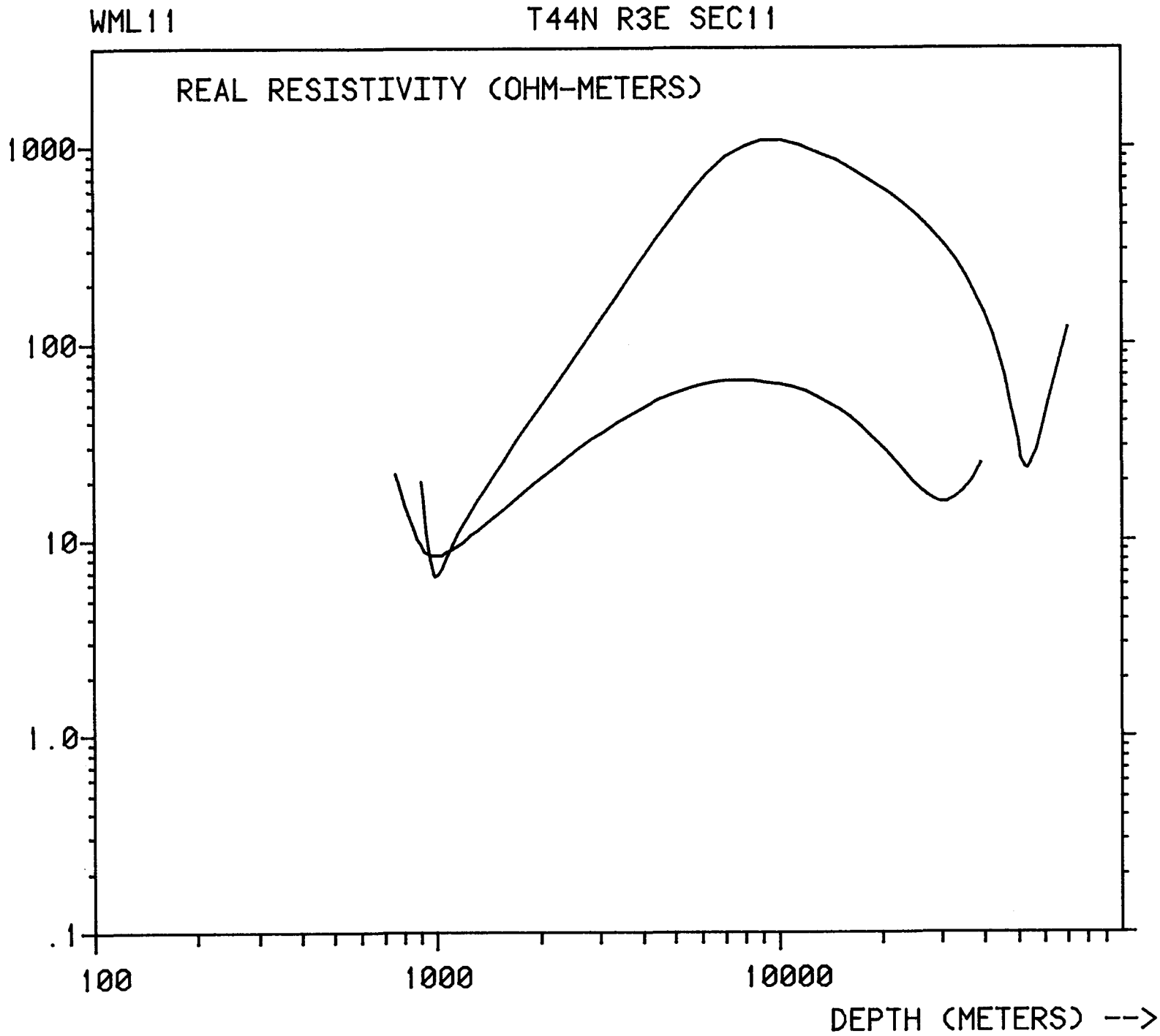
AVERAGE # 8
WML10 200 HZ 8-AUG-83 T44N R3E S27NM
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.4940E+02	0.1093E+02	-31.2	12.8	0.85931	0.85605	0.11751
H		0.2799E+02	0.7616E+01	-31.4	18.1	0.86485	0.86149	163.10001
E	1.20482	0.5452E+02	0.1399E+02	-45.2	-40.7	0.91896	0.78196	1.86662
H		0.1369E+02	0.1219E+02	-40.2	-45.7	0.92381	0.80796	115.80002
E	1.49254	0.3238E+02	0.2034E+02	-42.4	-38.7	0.93999	0.88197	0.09207
H		0.1772E+02	0.1473E+02	-42.4	-38.1	0.94217	0.89006	177.20000
E	2.00000	0.3154E+02	0.2009E+02	-33.4	-33.4	0.94015	0.89086	0.24137
H		0.2108E+02	0.1403E+02	-35.9	-30.8	0.94029	0.89273	1.20000
E	2.00000	0.4213E+02	0.1920E+02	-35.8	-34.4	0.92198	0.83499	0.84862
H		0.2280E+02	0.1078E+02	-33.9	-35.9	0.92310	0.84311	12.50000
E	2.00000	0.5046E+02	0.3082E+02	-12.8	-46.2	0.90565	0.80349	0.15082
H		0.2073E+02	0.2041E+02	-47.2	-10.2	0.90641	0.80777	164.30002

AVERAGE # 8
WML10 200 HZ 8-AUG-83 T44N R3E S27NM
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.3974E+02	0.2055E+02	-28.4	-27.0	0.92190	0.88525	0.43384
H		0.2423E+02	0.1277E+02	-26.7	-28.7	0.92310	0.88938	32.30000
E	3.03030	0.3967E+02	0.2257E+02	-25.3	-29.8	0.92234	0.90650	0.32520
H		0.2714E+02	0.1549E+02	-23.8	-31.4	0.92257	0.90712	27.60001
E	7.69231	0.5626E+02	0.3596E+02	-19.4	-17.8	0.95802	0.97680	0.17101
H		0.4586E+02	0.3267E+02	-19.5	-17.9	0.95860	0.97703	9.39999
E	14.28571	0.7983E+02	0.5277E+02	-20.9	-16.4	0.96746	0.96630	0.17673
H		0.6761E+02	0.4654E+02	-21.2	-16.2	0.96762	0.96647	12.00000
E	20.00000	0.9656E+02	0.6702E+02	-21.5	-17.2	0.95083	0.94749	0.22076
H		0.7568E+02	0.5485E+02	-21.7	-17.1	0.95106	0.94777	15.39999
E	26.31579	0.1073E+03	0.8120E+02	-23.5	-18.8	0.96752	0.96702	0.17630
H		0.9190E+02	0.7155E+02	-23.5	-18.8	0.96757	0.96708	16.50000
E	31.25000	0.1151E+03	0.8813E+02	-25.0	-20.3	0.96815	0.95119	0.26027
H		0.9388E+02	0.7389E+02	-25.6	-19.8	0.96841	0.95191	32.20000
E	40.00000	0.1215E+03	0.1026E+03	-29.4	-24.8	0.87870	0.88672	1.19858
H		0.7490E+02	0.5633E+02	-26.4	-27.9	0.88270	0.89036	65.40001


WML11
T44N R3E SEC11
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.001
.01
0.1
1.0
10
100
FREQUENCY


WML11
T44N R3E SEC11
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WIL11 200 HZ T44N R3E SEC11

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	33.61	113.15	1
0.0020	19.93	126.32	2
0.0040	33.77	82.63	3
0.0080	38.44	147.61	4
0.0143	42.28	183.54	5
0.0200	46.16	194.65	6
0.0303	38.04	243.50	7
0.0303	0.00	0.00	8
0.0500	28.89	220.41	9
0.0500	35.18	256.65	10
0.1000	28.45	118.04	11
0.3333	25.38	38.40	12
0.5000	17.32	28.10	13
1.0000	17.27	22.45	14
1.0000	0.00	0.00	15
1.0000	20.36	33.05	16
2.0000	0.00	0.00	17
2.0000	18.80	24.73	18
2.0000	21.45	26.16	19
3.0303	25.99	30.81	20
7.6923	0.00	0.00	21
7.6923	47.90	71.33	22
14.2857	0.00	0.00	23
14.2857	70.19	87.58	24
20.0000	0.00	0.00	25
20.0000	86.32	104.67	26
26.3158	0.00	0.00	27
26.3158	80.10	119.19	28
31.2500	75.06	119.53	29
40.0000	97.85	145.45	30

AVERAGE # 5
WIL11 200 HZ T44N R3E SEC11
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.0012	0.1666E+03	0.3561E+02	63.5	20.6	64.07	0.9583	0.9954	0.1587
H		0.5973E+02	0.3160E+02	65.3	26.1	59.36	0.9712	0.9962	58.20
E	0.0020	0.1301E+03	0.2006E+02	28.8	36.9	55.82	0.9888	0.9904	0.1333
H		0.1225E+03	0.1980E+02	29.2	36.6	55.91	0.9889	0.9905	38.30
E	0.0040	0.1064E+03	0.3511E+02	28.7	27.3	51.14	0.8870	0.9819	0.3120
H		0.5889E+02	0.3242E+02	24.1	33.0	29.12	0.8959	0.9856	51.20
E	0.0080	0.1883E+03	0.4222E+02	6.7	9.7	54.29	0.8904	0.9710	0.3444
H		0.1070E+03	0.3467E+02	7.0	8.3	37.63	0.8990	0.9761	60.40
E	0.0143	0.2401E+03	0.4929E+02	1.2	1.1	51.99	0.8592	0.9215	0.2672
H		0.1270E+03	0.3528E+02	1.8	5.5	36.56	0.8812	0.9403	17.40
E	0.0200	0.2627E+03	0.5688E+02	13.4	8.3	50.76	0.8485	0.9227	0.2440
H		0.1266E+03	0.3545E+02	18.6	12.1	38.72	0.8855	0.9470	26.20
E	0.0303	0.3076E+03	0.4732E+02	25.4	27.5	55.49	0.9368	0.9603	0.1891
H		0.1794E+03	0.2875E+02	42.4	10.6	54.74	0.9644	0.9776	27.40
E	0.0303	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00

AVERAGE # 5
WIL11 200 HZ T44N R3E SEC11
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

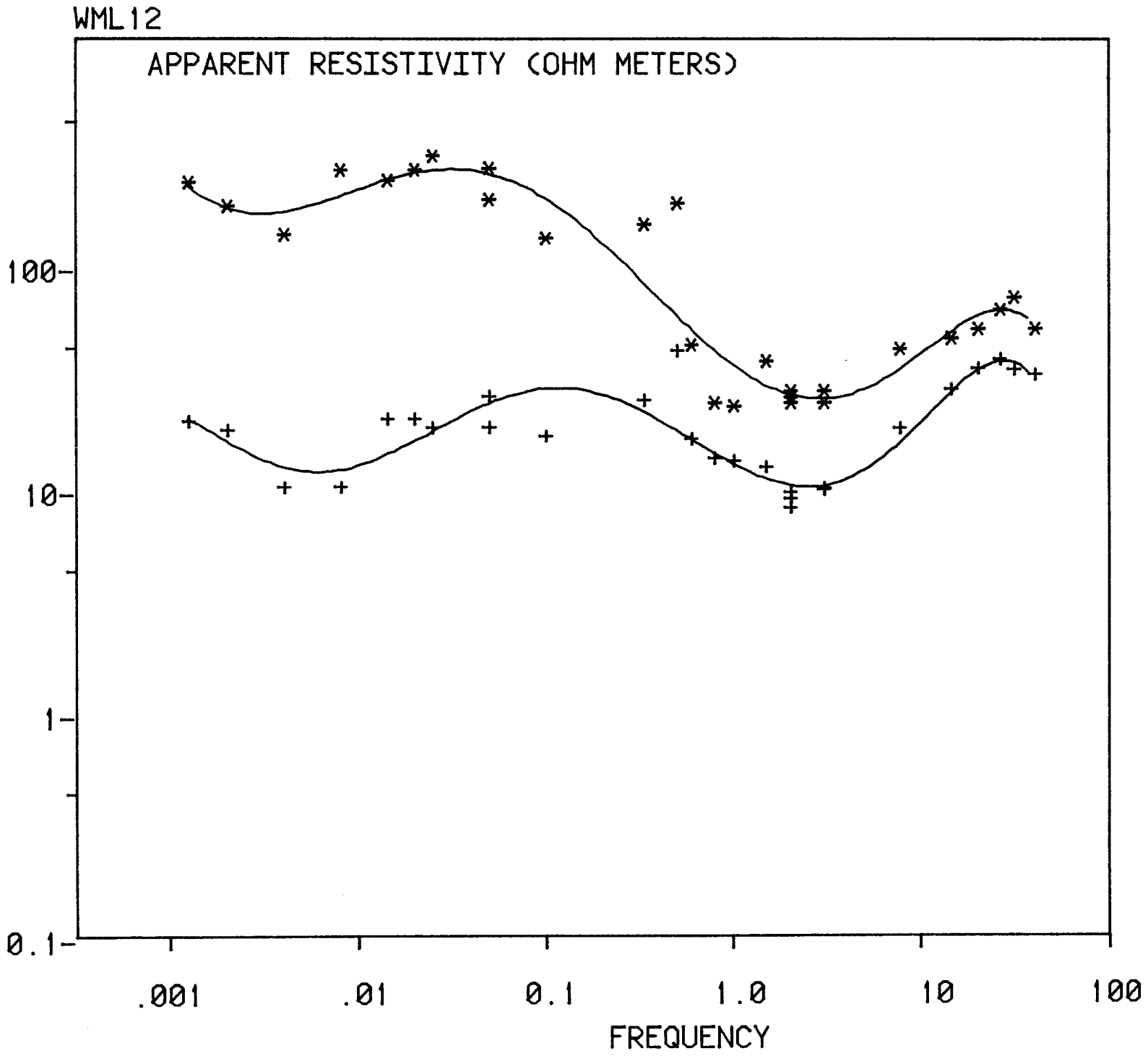
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.0500	0.2618E+03	0.4815E+02	32.4	50.4	52.83	0.9146	0.8886	0.1854
H		0.1790E+03	0.9634E+01	51.0	21.9	54.78	0.9710	0.9631	62.80
E	0.0500	0.3110E+03	0.4916E+02	33.5	40.4	53.80	0.8876	0.8998	0.2438
H		0.2023E+03	0.2121E+02	33.8	40.1	50.54	0.8913	0.9013	173.60
E	0.1000	0.1284E+03	0.4254E+02	63.3	78.6	49.72	0.9490	0.8853	0.2072
H		0.1077E+03	0.1436E+02	64.7	77.6	52.40	0.9511	0.9043	158.90
E	0.3333	0.4497E+02	0.3568E+02	87.8	62.0	63.99	0.9182	0.8938	0.1819
H		0.3183E+02	0.1508E+02	83.3	65.0	50.88	0.9243	0.9045	168.70
E	0.5000	0.3291E+02	0.2421E+02	75.8	45.4	58.76	0.9174	0.8706	0.2342
H		0.2330E+02	0.1043E+02	73.8	47.2	54.72	0.9201	0.8796	153.40
E	1.0000	0.2613E+02	0.2294E+02	40.4	56.3	146.96	0.9112	0.8934	0.2041
H		0.1877E+02	0.1161E+02	53.9	41.3	30.34	0.9123	0.8961	143.30
E	1.0000	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	1.0000	0.3553E+02	0.2906E+02	64.0	16.6	66.23	0.9560	0.8509	0.2637
		0.3057E+02	0.1167E+02	61.9	16.4	64.69	0.9568	0.8608	146.40

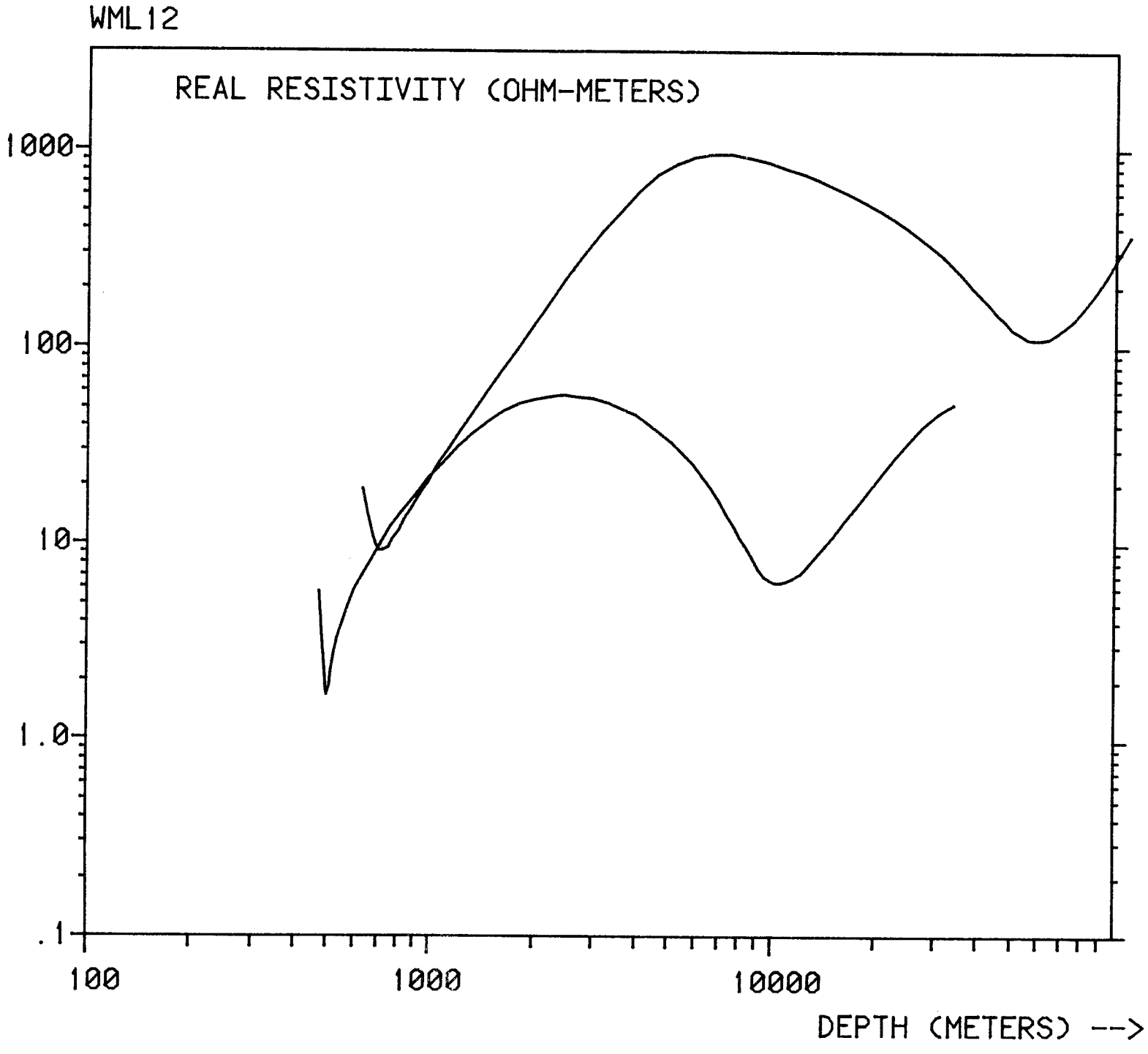
AVERAGE # 5
WML11 200 HZ T44N R3E SEC11
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	2.0000	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	2.0000	0.2935E+02	0.2444E+02	24.9	35.4	160.69	0.9279	0.8822	0.2105
H		0.2010E+02	0.1315E+02	33.5	26.3	49.08	0.9284	0.8872	138.10
E	2.0000	0.2978E+02	0.2745E+02	14.1	40.7	154.08	0.9424	0.8968	0.2690
H		0.2254E+02	0.1545E+02	37.9	15.5	62.42	0.9433	0.9016	143.00
E	3.0303	0.3615E+02	0.3489E+02	30.2	17.0	58.39	0.9124	0.8723	0.2094
H		0.2546E+02	0.1709E+02	27.9	18.7	51.66	0.9134	0.8762	135.70
E	7.6923	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	7.6923	0.7978E+02	0.5411E+02	16.0	16.4	23.36	0.9668	0.9176	0.2703
H		0.6288E+02	0.4168E+02	20.2	12.0	54.38	0.9673	0.9190	138.20

AVERAGE # 5
WELL11 200 HZ T44N R3E SEC11
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	14.2857	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	14.2857	0.9252E+02	0.7652E+02	21.0	16.8	42.66	0.9751	0.9604	0.2391
H		0.8264E+02	0.6387E+02	21.4	16.4	48.84	0.9751	0.9606	134.60
E	20.0000	0.0000E+00	0.00	.	.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	20.0000	0.1115E+03	0.9461E+02	22.6	19.5	39.12	0.9737	0.9539	0.2340
H		0.9783E+02	0.7803E+02	23.0	19.0	51.69	0.9737	0.9542	135.80
E	26.3158	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	26.3158	0.1305E+03	0.1034E+03	24.8	24.2	19.84	0.9520	0.9208	0.4952
H		0.1079E+03	0.5676E+02	25.2	23.9	45.10	0.9538	0.9267	143.80
E	31.2500	0.1289E+03	0.1092E+03	27.1	25.7	19.75	0.9386	0.8970	1.3246
H		0.1102E+03	0.4096E+02	28.1	24.6	47.70	0.9462	0.9135	47.40
E	40.0000	0.1701E+03	0.1371E+03	32.2	29.0	174.06	0.9257	0.8954	1.3024
		0.1208E+03	0.5865E+02	31.5	29.9	43.04	0.9329	0.9090	146.90


WML12
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.001
.01
0.1
1.0
10
100
FREQUENCY


WML12
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WML12 200 HZ

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	20.46	232.56	1
0.0020	18.44	181.53	2
0.0040	10.25	136.97	3
0.0080	10.20	264.85	4
0.0143	20.53	235.32	5
0.0200	20.76	263.76	6
0.0250	18.83	302.47	7
0.0303	0.00	0.00	8
0.0500	18.79	266.88	9
0.0500	26.14	194.57	10
0.1000	17.23	129.73	11
0.3333	24.88	149.28	12
0.5000	41.30	184.94	13
0.5988	16.59	43.88	14
0.8000	13.61	24.07	15
1.0000	13.24	23.41	16
1.0000	13.26	75.71	17
1.2048	7.38	64.34	18
1.4925	12.48	36.94	19
2.0000	9.59	23.93	20
2.0000	8.16	27.16	21
2.0000	9.04	25.57	22
3.0303	9.98	27.26	23
3.0303	9.90	24.03	24
7.6923	18.55	41.77	25
14.2857	27.71	46.30	26
20.0000	34.35	50.81	27
26.3158	37.42	62.66	28
31.2500	33.53	70.84	29
40.0000	32.16	50.94	30

AVERAGE # 5
WBL12 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.0012	0.3209E+03	0.2987E+02	44.9	12.0	21.55	0.8573	0.6886	0.1865
H		0.1442E+03	0.1105E+02	56.9	53.7	58.22	0.9178	0.7241	166.70
E	0.0020	0.2392E+03	0.3632E+02	55.8	36.7	118.76	0.9698	0.6919	0.2444
H		0.1239E+03	0.5509E+00	55.2	42.9	95.71	0.9773	0.7799	174.60
E	0.0040	0.1550E+03	0.1416E+02	34.6	7.7	86.90	0.9290	0.8147	0.2485
H		0.1190E+03	0.6326E+01	33.4	11.3	80.30	0.9304	0.8217	120.00
E	0.0080	0.4574E+03	0.1380E+02	30.5	83.4	107.25	0.8272	0.7037	0.2222
H		0.7229E+02	0.6607E+01	18.4	8.7	80.39	0.9067	0.8340	176.50
E	0.0143	0.2939E+03	0.2763E+02	0.9	11.9	90.78	0.9179	0.8452	1.0097
H		0.1768E+03	0.1344E+02	0.5	0.8	79.28	0.9346	0.8739	60.70
E	0.0200	0.2965E+03	0.2635E+02	0.2	19.9	86.72	0.9588	0.8896	0.3489
H		0.2310E+03	0.1518E+02	0.7	17.8	80.79	0.9634	0.8997	177.80
E	0.0250	0.3223E+03	0.2027E+02	11.3	25.4	84.58	0.9812	0.9705	0.1696
H		0.2827E+03	0.1738E+02	11.1	25.7	82.33	0.9821	0.9719	162.90
E	0.0303	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00

AVERAGE # 5
WIL12 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

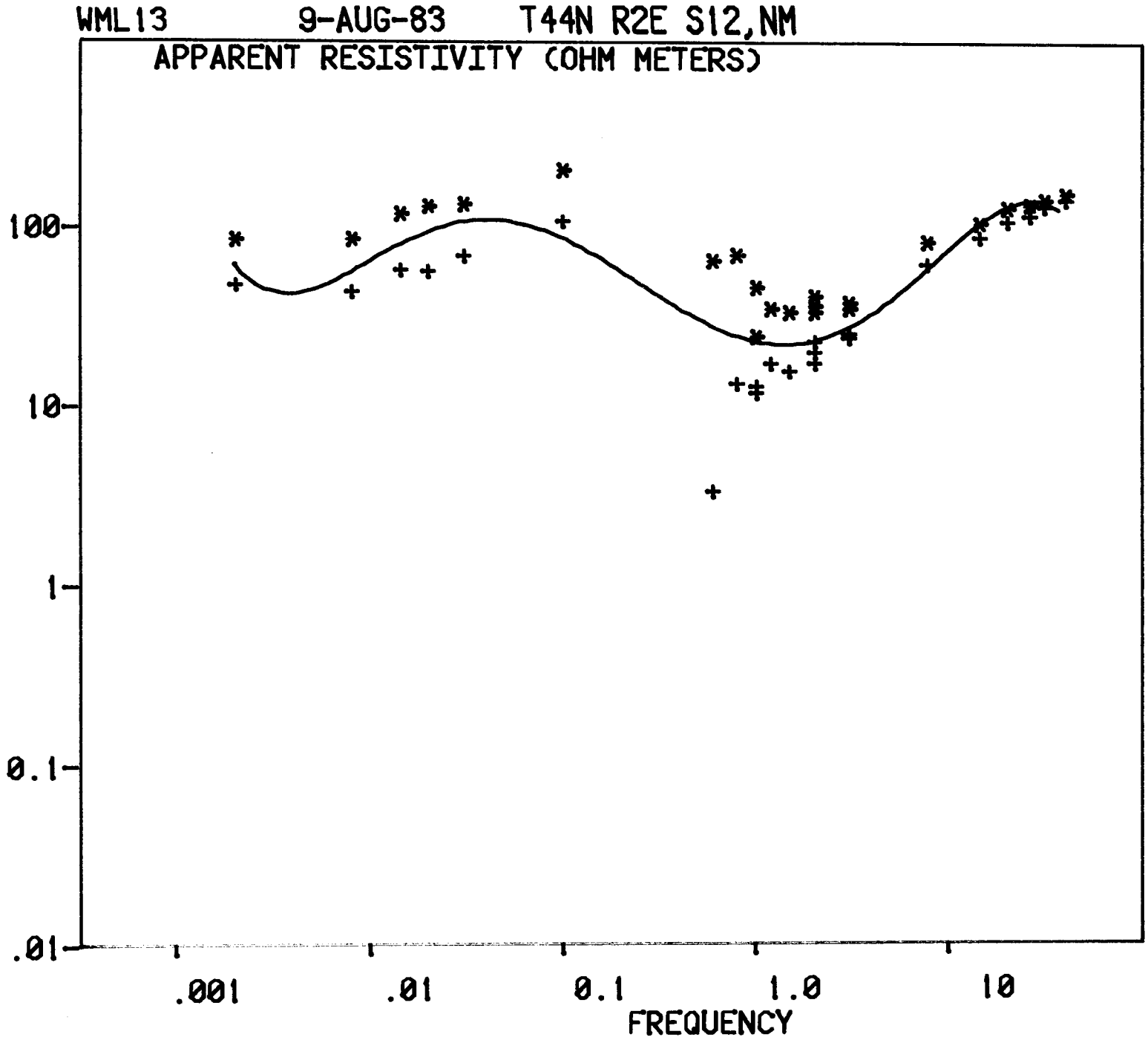
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.0500	0.2717E+03	0.2120E+02	36.9	52.6	82.85	0.9964	0.9550	0.1867
H		0.2621E+03	0.1637E+02	36.9	53.2	81.34	0.9965	0.9564	14.50
E	0.0500	0.2107E+03	0.2905E+02	33.3	53.7	82.52	0.9618	0.9520	0.1929
H		0.1784E+03	0.2324E+02	32.1	53.5	82.54	0.9620	0.9523	45.60
E	0.1000	0.1472E+03	0.2616E+02	54.2	64.0	82.61	0.9475	0.8169	0.2065
H		0.1122E+03	0.8302E+01	57.3	64.0	73.48	0.9499	0.8338	19.40
E	0.3333	0.2683E+03	0.3867E+02	66.2	83.2	151.10	0.7805	0.5066	0.4846
H		0.3027E+02	0.1110E+02	89.1	66.6	96.04	0.7822	0.5130	163.90
E	0.5000	0.3051E+03	0.6741E+02	68.4	84.5	161.06	0.7072	0.6393	0.4541
H		0.6479E+02	0.1519E+02	83.1	66.5	144.63	0.7375	0.6696	1.40
E	0.5988	0.5048E+02	0.1900E+02	65.9	4.5	92.35	0.9132	0.8810	0.3272
H		0.3728E+02	0.1418E+02	65.7	0.3	88.02	0.9242	0.8882	168.20
E	0.8000	0.1026E+02	0.4763E+00	87.5	4.3	112.45	0.8763	0.7636	0.1812
H		0.3787E+02	0.2674E+02	87.4	69.8	83.74	0.9651	1.3483	61.10
E	1.0000	0.3469E+02	0.1855E+02	48.1	83.0	158.08	0.8282	0.7874	0.4744
H		0.1213E+02	0.7922E+01	48.0	78.3	158.69	0.8379	0.8014	104.70

AVERAGE # 5
WML12 200 HZ
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.0000	0.1361E+03	0.2061E+02	28.6	77.8	153.94	0.8743	0.5503	0.9676
H		0.1531E+02	0.5903E+01	63.0	38.2	98.41	0.9066	0.6802	157.50
E	1.2048	0.1007E+03	0.8856E+01	71.2	49.3	155.48	0.8585	0.7543	0.6107
H		0.2801E+02	0.5904E+01	71.2	50.8	154.15	0.8624	0.7655	125.40
E	1.4925	0.5176E+02	0.1658E+02	32.1	54.6	156.43	0.9142	0.7814	0.4089
H		0.2211E+02	0.8389E+01	51.9	31.3	117.15	0.9264	0.8109	151.10
E	2.0000	0.2800E+02	0.1274E+02	47.7	32.9	119.18	0.9127	0.8609	0.4552
H		0.1985E+02	0.6446E+01	48.1	33.1	120.64	0.9139	0.8634	128.80
E	2.0000	0.4008E+02	0.1081E+02	48.4	53.1	133.86	0.8076	0.8222	0.4645
H		0.1423E+02	0.5500E+01	49.7	48.8	133.26	0.8228	0.8365	104.80
E	2.0000	0.3515E+02	0.1041E+02	41.1	42.4	137.12	0.9071	0.8672	0.8275
H		0.1598E+02	0.7677E+01	47.3	35.7	121.43	0.9158	0.8803	99.30

AVERAGE # 5
WML12 200 HZ
NSAMP = 1024 SI = 0.0050 T0 = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN OHM-M)	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.0303	0.3634E+02	0.1263E+02	43.2	35.2	122.72	0.8523	0.8641	0.3493
H		0.1819E+02	0.7322E+01	44.2	33.8	121.59	0.8562	0.8678	94.30
E	3.0303	0.2918E+02	0.1214E+02	39.9	34.3	131.28	0.9208	0.8661	0.2385
H		0.1889E+02	0.7665E+01	43.7	29.6	120.52	0.9215	0.8675	98.10
E	7.6923	0.4455E+02	0.1972E+02	27.3	18.9	122.65	0.9750	0.9624	0.1647
H		0.3898E+02	0.1739E+02	27.2	19.0	120.55	0.9750	0.9624	91.30
E	14.2857	0.5912E+02	0.2945E+02	24.0	18.0	121.45	0.8947	0.9509	0.2050
H		0.3347E+02	0.2597E+02	24.0	18.1	124.83	0.8996	0.9542	70.30
E	20.0000	0.6736E+02	0.3763E+02	22.7	18.3	125.23	0.8740	0.9414	0.1993
H		0.3425E+02	0.3107E+02	18.1	22.9	17.46	0.8835	0.9473	56.50
E	26.3158	0.8519E+02	0.4642E+02	25.0	20.1	124.29	0.8218	0.9270	0.1779
H		0.4012E+02	0.2841E+02	18.7	26.4	7.51	0.8442	0.9391	72.10
E	31.2500	0.1014E+03	0.5159E+02	25.7	22.4	129.31	0.7024	0.8588	0.3233
H		0.4027E+02	0.1546E+02	21.0	26.7	20.05	0.7639	0.9023	42.20
E	40.0000	0.8371E+02	0.6057E+02	24.1	25.9	149.60	0.5760	0.6012	0.5341
H		0.1816E+02	0.3755E+01	26.1	21.4	40.18	0.6392	0.6612	7.40


WML13 9-AUG-83 T44N R2E S12,NM
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY

THE SITE IS: WML13 200 HZ 9-AUG-83 T44N R2E S12,NM

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	******	******	1
0.0020	44.76	79.65	2
0.0040	24.91	36.99	3
0.0080	40.65	80.41	4
0.0143	53.27	109.93	5
0.0200	52.72	122.03	6
0.0303	64.20	122.80	7
0.0303	577.03	******	8
0.0500	0.00	0.00	9
0.0500	22.89	570.01	10
0.1000	99.66	191.44	11
0.3333	0.98	1.93	12
0.5000	1.52	3.14	13
0.5988	3.10	59.53	14
0.8000	12.39	64.05	15
1.0000	11.02	22.38	16
1.0000	11.86	42.20	17
1.2048	16.05	32.09	18
1.4925	14.43	31.10	19
2.0000	16.07	30.85	20
2.0000	18.31	33.53	21
2.0000	21.23	37.72	22
3.0303	22.06	35.11	23
3.0303	23.34	32.28	24
7.6923	56.81	75.93	25
14.2857	79.81	95.10	26
20.0000	96.98	116.56	27
26.3158	105.61	121.60	28
31.2500	118.99	128.85	29
40.0000	128.47	139.39	30

AVERAGE # 8
WML13 200 HZ 9-AUG-83 T44N R2E S12,NM
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.1892E+06	0.2434E+05	-65.7	-20.8	0.37225	0.78449	0.54798
H		0.1035E+05	0.3634E+04	-20.9	-69.5	0.41782	0.80346	179.39999
E	0.00200	0.8477E+02	0.5865E+02	-32.5	-65.0	0.97463	0.96491	0.12615
H		0.7453E+02	0.3086E+02	-35.9	-61.8	0.97677	0.96922	41.60001
E	0.00400	0.4146E+02	0.2630E+02	-14.1	-27.5	0.92799	0.98376	0.09637
H		0.3252E+02	0.2352E+02	-13.3	-27.8	0.92824	0.98459	27.60001
E	0.00800	0.8193E+02	0.4910E+02	-12.2	-9.6	0.98086	0.98686	0.08430
H		0.7889E+02	0.3221E+02	-12.5	-9.0	0.98263	0.98770	10.89999
E	0.01429	0.1132E+03	0.6208E+02	2.4	-4.1	0.99202	0.99221	0.11790
H		0.1067E+03	0.4445E+02	2.3	-3.7	0.99252	0.99268	8.39999
E	0.02000	0.1273E+03	0.6923E+02	12.6	11.3	0.98038	0.97935	0.15438
H		0.1168E+03	0.3620E+02	12.5	11.0	0.98206	0.98129	7.70000
E	0.03030	0.1445E+03	0.9619E+02	26.9	25.7	0.90132	0.91954	0.21532
H		0.1011E+03	0.3221E+02	25.6	27.1	0.91433	0.92686	7.60001
E	0.03030	0.7804E+04	0.1004E+04	-65.7	-20.8	0.37225	0.78449	0.54798
H		0.4269E+03	0.1499E+03	-20.9	-69.5	0.41782	0.80346	179.39999

AVERAGE # 8
WML13 200 HZ 9-AUG-83 T44N R2E S12,NM
NSAMP = 1024 SI = 0.0050 TO = 5.1200

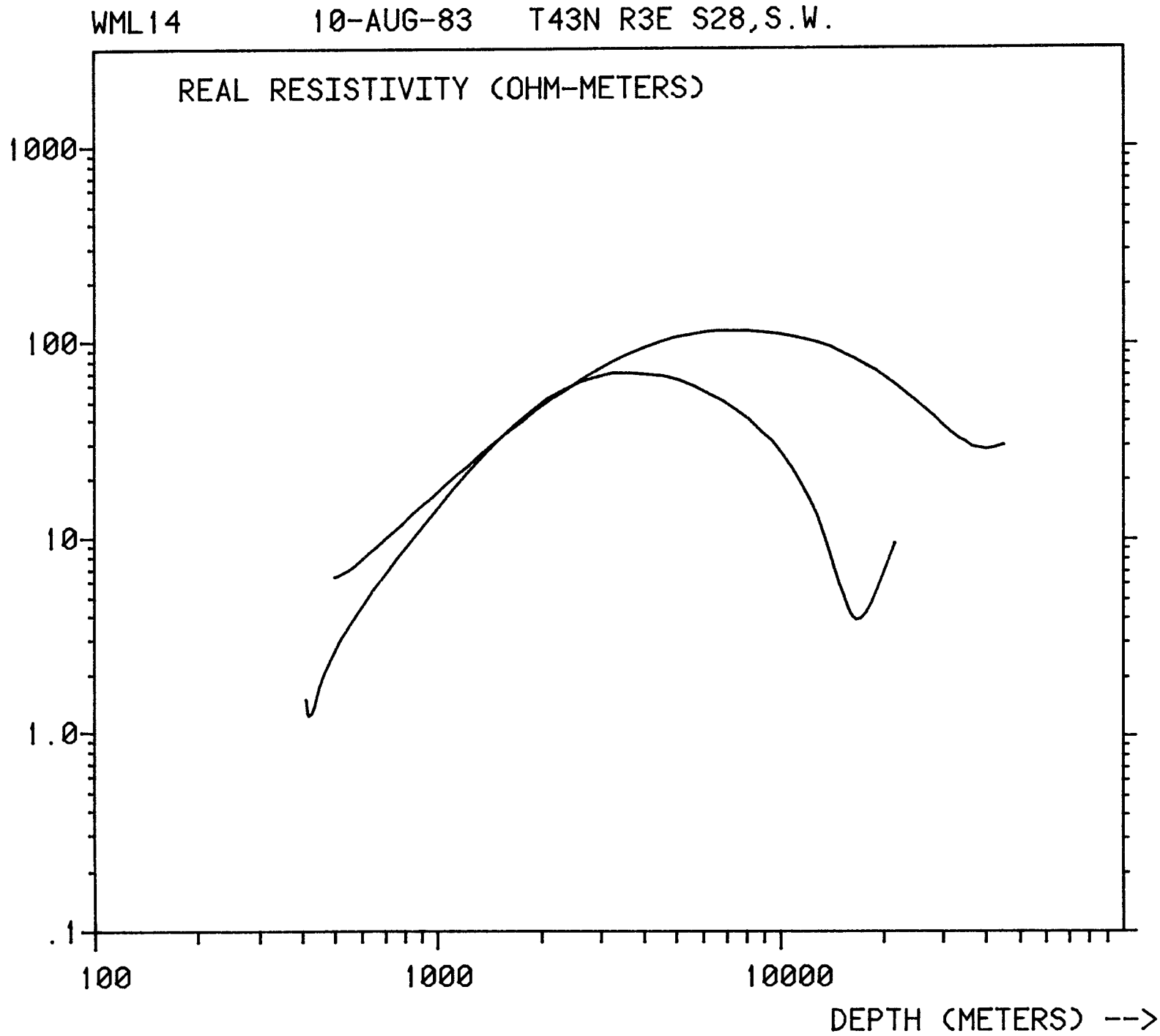
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00000	0.00000	0.00000
E	0.05000	0.1128E+04	0.3512E+02	-2.1	-66.2	0.52508	0.71100	0.53100
H		0.1186E+02	0.1065E+02	-26.3	26.7	0.68373	0.77606	72.50000
E	0.10000	0.2964E+03	0.1535E+03	87.2	50.3	0.80885	0.62217	0.25720
H		0.8651E+02	0.4578E+02	-86.9	51.4	0.86723	0.70158	18.20000
E	0.33333	0.1966E+01	0.1178E+01	-12.2	-9.6	0.98086	0.98686	0.08430
H		0.1893E+01	0.7730E+00	-12.5	-9.0	0.98263	0.98770	10.89999
E	0.50000	0.3234E+01	0.1774E+01	2.4	-4.1	0.99202	0.99221	0.11790
H		0.3047E+01	0.1270E+01	2.3	-3.7	0.99252	0.99268	8.39999
E	0.59880	0.6791E+02	0.3342E+01	-65.8	-40.4	0.97166	0.90750	0.11672
H		0.5116E+02	0.2849E+01	-60.0	-56.0	0.97560	0.90860	30.50000
E	0.80000	0.8247E+02	0.1361E+02	-85.8	-25.5	0.91423	0.91170	0.12751
H		0.4563E+02	0.1117E+02	-88.7	-27.1	0.91990	0.91769	22.89999
E	1.00000	0.3081E+02	0.1355E+02	-28.6	-58.0	0.89918	0.86449	0.12548
H		0.1394E+02	0.8481E+01	-33.3	-50.6	0.90427	0.87299	53.50000

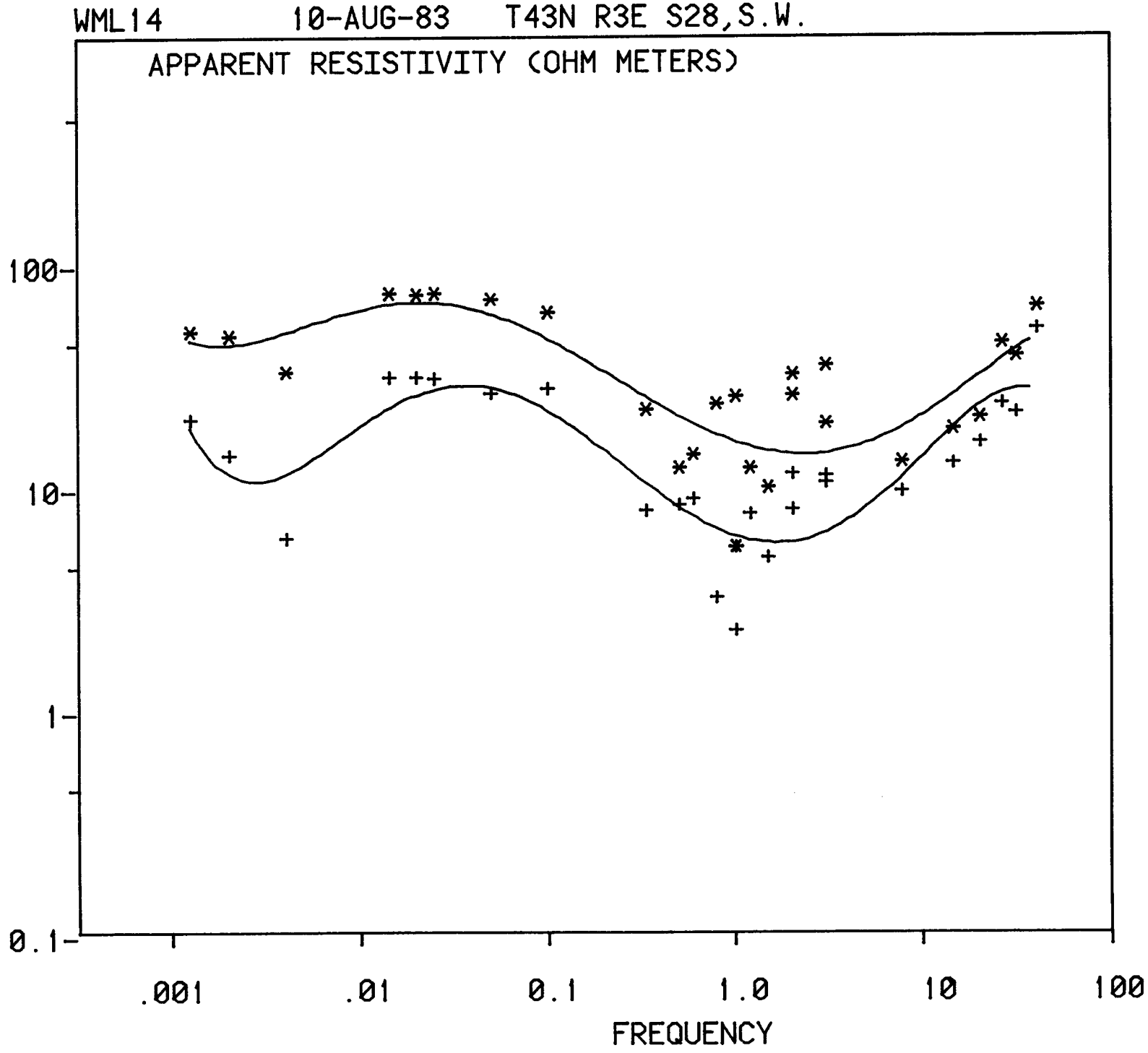
AVERAGE # 8
WML13 200 HZ 9-AUG-83 T44N R2E S12,NW
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.7192E+02	0.1716E+02	-35.1	-58.9	0.74328	0.77208	0.13547
H		0.1247E+02	0.6554E+01	-40.6	-46.6	0.80308	0.82431	19.60001
E	1.20482	0.3905E+02	0.2006E+02	-35.4	-40.9	0.89552	0.88667	0.13600
H		0.2513E+02	0.1204E+02	-36.0	-40.1	0.89585	0.88710	24.10001
E	1.49254	0.3560E+02	0.1766E+02	-27.5	-31.5	0.91180	0.92507	0.13677
H		0.2659E+02	0.1120E+02	-29.4	-29.2	0.91352	0.92628	11.10001
E	2.00000	0.3523E+02	0.1977E+02	-29.7	-31.9	0.89863	0.93418	0.13869
H		0.2646E+02	0.1237E+02	-30.2	-31.3	0.90031	0.93479	9.50000
E	2.00000	0.4441E+02	0.2096E+02	-19.2	-35.6	0.85993	0.90691	0.12556
H		0.2266E+02	0.1566E+02	-19.6	-34.8	0.86246	0.90986	0.30000
E	2.00000	0.4821E+02	0.2571E+02	-31.5	-36.8	0.87654	0.91156	0.12981
H		0.2723E+02	0.1675E+02	-33.0	-34.6	0.87977	0.91299	6.30000

AVERAGE # 8
WHL13 200 HZ 9-AUG-83 T44N R2E S12,NM
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.4961E+02	0.2500E+02	-18.8	-28.7	0.83618	0.89890	0.13655
H		0.2062E+02	0.1913E+02	-18.0	-29.4	0.84118	0.90261	156.20001
E	3.03030	0.3921E+02	0.2928E+02	-19.8	-29.4	0.86685	0.91553	0.14332
H		0.2536E+02	0.1739E+02	-27.1	-21.7	0.86820	0.91639	163.39999
E	7.69231	0.9047E+02	0.6209E+02	-19.3	-16.8	0.92826	0.94081	0.14643
H		0.6139E+02	0.5153E+02	-18.9	-17.3	0.92947	0.94182	139.60001
E	14.28571	0.1068E+03	0.8448E+02	-19.5	-17.6	0.94785	0.96751	0.16742
H		0.8343E+02	0.7514E+02	-19.5	-17.6	0.94821	0.96769	134.89999
E	20.00000	0.1266E+03	0.1029E+03	-21.0	-19.6	0.96280	0.96691	0.18084
H		0.1065E+03	0.9108E+02	-21.1	-19.5	0.96290	0.96699	134.30002
E	26.31579	0.1363E+03	0.1169E+03	-24.9	-22.8	0.95762	0.94083	0.30492
H		0.1069E+03	0.9432E+02	-24.3	-23.4	0.95838	0.94191	139.00000
E	31.25000	0.1469E+03	0.1281E+03	-28.3	-23.6	0.95662	0.94384	0.35925
H		0.1108E+03	0.1099E+03	-28.4	-23.5	0.95734	0.94473	138.10001
E	40.00000	0.1669E+03	0.1522E+03	-33.6	-26.4	0.90784	0.91364	0.59480
H		0.1119E+03	0.1047E+03	-26.6	-33.5	0.90837	0.91409	125.89999


WML14 10-AUG-83 T43N R3E S28,S.W.
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
100
1000
10000
DEPTH (METERS) -->


WML14 10-AUG-83 T43N R3E S28,S.W.
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.001
.01
0.1
1.0
10
100
FREQUENCY

THE SITE IS: WML14 200 HZ 10-AUG-83 T43N R3E S28,S.W.

MEANS OF MERGED AVERAGE NUMBER: 5

FREQUENCY	MEAN OF RHONN	MEAN OF RHOMX	PERIOD #
0.0012	20.05	49.87	1
0.0020	13.79	47.06	2
0.0040	5.86	32.56	3
0.0080	0.00	0.00	4
0.0143	30.82	72.85	5
0.0200	30.88	71.41	6
0.0250	30.46	72.66	7
0.0303	0.00	0.00	8
0.0500	26.13	68.85	9
0.0500	29.34	111.93	10
0.1000	27.10	59.96	11
0.3333	7.68	21.85	12
0.5000	8.21	12.06	13
0.5988	8.76	13.89	14
0.8000	3.16	23.34	15
1.0000	5.38	25.17	16
1.0000	2.26	5.35	17
1.2048	7.46	12.06	18
1.4925	4.77	9.84	19
2.0000	7.87	25.73	20
2.0000	11.28	31.97	21
2.0000	0.00	0.00	22
3.0303	10.37	35.02	23
3.0303	11.14	18.99	24
7.6923	9.37	12.81	25
14.2857	12.69	18.11	26
20.0000	15.77	20.45	27
26.3158	23.48	43.47	28
31.2500	21.33	38.36	29
40.0000	50.26	63.23	30

AVERAGE # 5
WML14 200 HZ 10-AUG-83 T43N R3E S28,S.W.
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.0012	0.7370E+02	0.2803E+02	35.5	36.7	87.24	0.7957	0.9976	0.3231
H		0.2603E+02	0.1207E+02	37.7	35.3	178.27	0.8881	0.9988	107.40
E	0.0020	0.7987E+02	0.1481E+02	26.2	11.1	79.66	0.6377	0.9877	0.5718
H		0.1425E+02	0.1277E+02	14.6	30.4	167.61	0.6966	0.9919	89.60
E	0.0040	0.3382E+02	0.8449E+01	23.9	0.5	6.10	0.8613	0.9665	0.2113
H		0.3131E+02	0.3263E+01	25.4	7.6	176.20	0.8744	0.9745	86.60
E	0.0080	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00
E	0.0143	0.8870E+02	0.3638E+02	13.5	2.5	67.82	0.8899	0.9940	0.8880
H		0.5701E+02	0.2526E+02	3.5	7.7	33.76	0.9055	0.9942	66.60
E	0.0200	0.7722E+02	0.3813E+02	9.2	12.2	49.80	0.9141	0.9871	0.3124
H		0.6560E+02	0.2363E+02	9.2	12.2	35.19	0.9224	0.9872	8.40
E	0.0250	0.7472E+02	0.3313E+02	16.2	20.1	45.44	0.9710	0.9924	0.1670
H		0.7060E+02	0.2778E+02	16.4	19.9	41.26	0.9720	0.9924	6.60
E	0.0303	0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00

AVERAGE # 5
WEL14 200 HZ 10-AUG-83 T43N R3E S28,S.W.
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.0500	0.6963E+02	0.2760E+02	39.8	48.4	45.49	0.9881	0.9960	0.1874
H		0.6808E+02	0.2466E+02	39.7	48.4	43.86	0.9884	0.9960	23.20
E	0.0500	0.1477E+03	0.4802E+02	35.7	51.2	82.00	0.8011	0.9506	0.2882
H		0.7616E+02	0.1065E+02	42.5	43.1	48.20	0.8741	0.9617	3.90
E	0.1000	0.6921E+02	0.4577E+02	48.7	67.9	178.31	0.9353	0.8756	0.3175
H		0.5071E+02	0.8438E+01	60.0	55.6	51.04	0.9395	0.9044	75.40
E	0.3333	0.2359E+02	0.1016E+02	87.0	80.5	35.63	0.9494	0.9477	0.2986
H		0.2010E+02	0.5205E+01	87.0	81.3	37.69	0.9522	0.9508	75.10
E	0.5000	0.1609E+02	0.1146E+02	47.9	87.1	155.00	0.8820	0.9038	0.3112
H		0.8022E+01	0.4955E+01	88.9	48.1	55.50	0.8988	0.9140	68.70
E	0.5988	0.2024E+02	0.1527E+02	4.8	55.1	109.95	0.6540	0.7075	0.1779
H		0.7532E+01	0.2249E+01	57.0	12.9	6.73	0.7186	0.7784	9.10
E	0.8000	0.3153E+02	0.5327E+01	7.9	44.5	146.52	0.7363	0.8811	0.1527
H		0.1515E+02	0.9833E+00	19.4	26.3	162.98	0.8192	0.9150	24.80
E	1.0000	0.3707E+02	0.6474E+01	31.9	86.3	159.43	0.8935	0.8275	0.3182
		0.1326E+02	0.4288E+01	33.3	89.1	159.26	0.8976	0.8390	54.20

AVERAGE # 5
WIL14 200 HZ 10-AUG-83 T43N R3E S28,S.W.
NSAMP = 1024 SI = 0.0050 TO = 5.1200

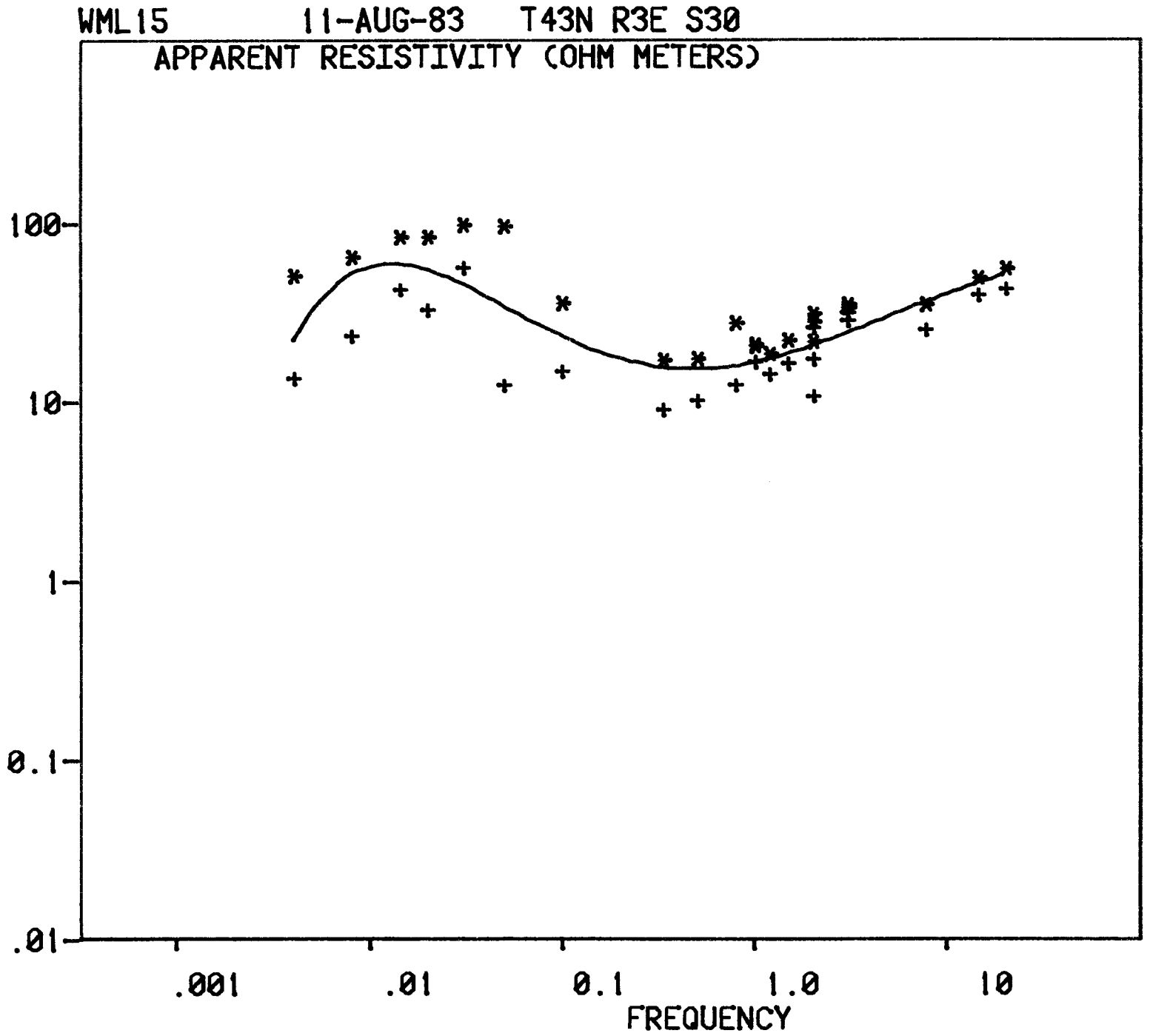
	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.0000	0.7276E+01	0.4309E+01	19.8	28.4	141.98	0.4721	0.8481	0.1211
H		0.3430E+01	0.2061E+00	22.3	29.1	176.92	0.5318	0.8676	1.00
E	1.2048	0.1854E+02	0.1209E+02	12.8	33.7	114.88	0.6696	0.7627	0.1867
H		0.5574E+01	0.2825E+01	36.0	12.6	174.32	0.7169	0.8117	3.30
E	1.4925	0.1234E+02	0.7224E+01	22.4	21.0	8.63	0.7524	0.8856	0.1766
H		0.7335E+01	0.2318E+01	22.2	21.0	177.85	0.7612	0.8909	2.70
E	2.0000	0.3267E+02	0.1383E+02	28.6	22.1	2.64	0.6081	0.8028	0.1685
H		0.1878E+02	0.1909E+01	29.3	24.4	0.63	0.7024	0.8923	3.80
E	2.0000	0.4344E+02	0.2046E+02	18.2	67.5	157.25	0.5640	0.8228	0.3167
H		0.2050E+02	0.2091E+01	20.5	68.8	164.57	0.5720	0.8363	45.30
E	2.0000	0.0000E+	[illegible]	0.0	0.0	0.00	0.0000	0.0000	0.0000
H		0.0000E+00	0.0000E+00	0.0	0.0	0.00	0.0000	0.0000	0.00

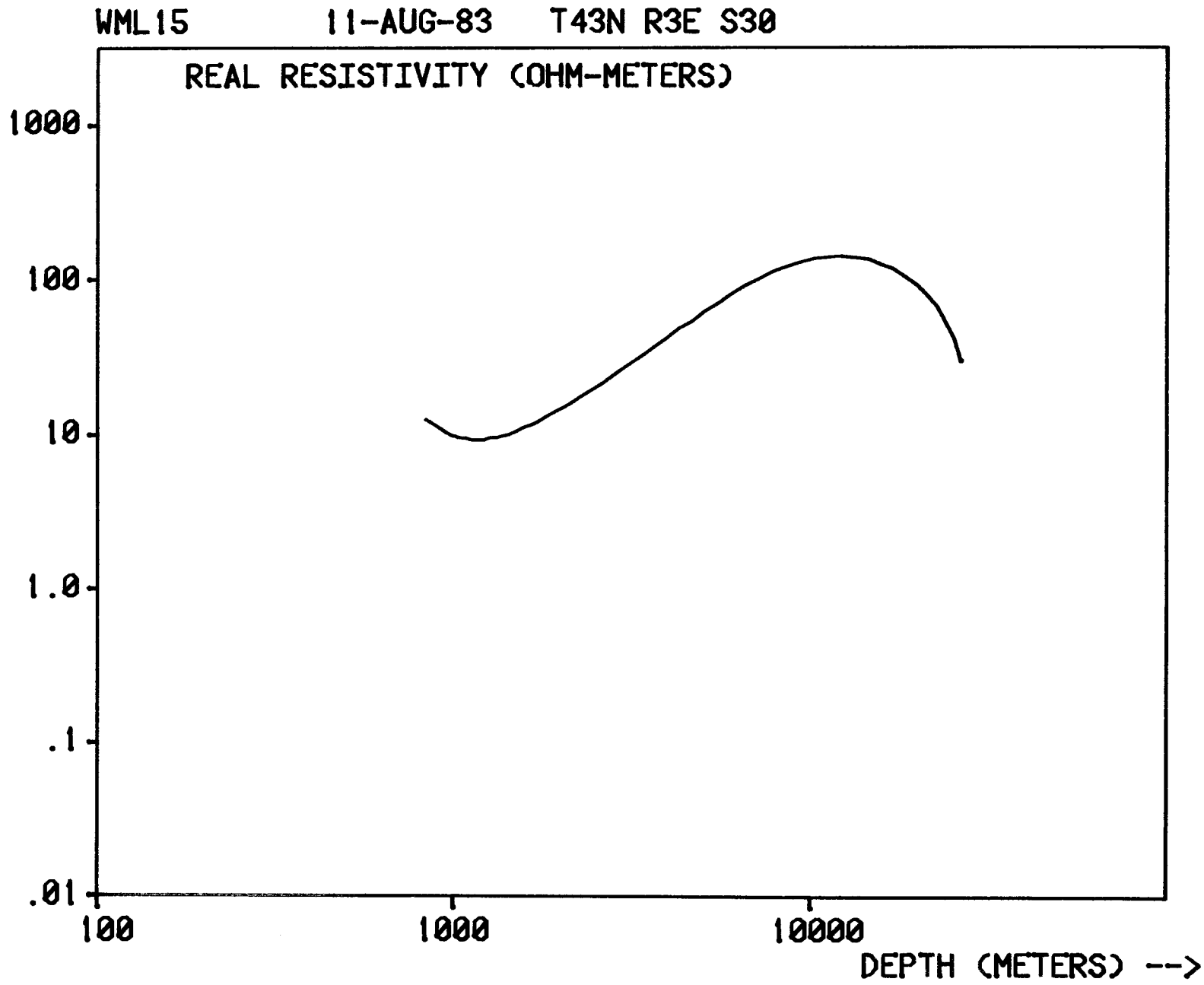
AVERAGE # 5
WIL14 200 HZ 10-AUG-83 T43N R3E S28,S.W.
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE(DEGREES)	RHO-MIN	STRIKE (E OF N)	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.0303	0.4333E+02	0.1898E+02	20.4	67.5	159.75	0.5625	0.8381	0.3117
H		0.2670E+02	0.1771E+01	20.6	71.7	165.60	0.5637	0.8583	45.10
E	3.0303	0.2601E+02	0.1204E+02	33.7	27.7	118.46	0.8828	0.9353	0.1578
H		0.1197E+02	0.1024E+02	33.8	27.6	115.12	0.8947	0.9420	8.30
E	7.6923	0.1677E+02	0.1307E+02	17.0	15.0	147.51	0.8095	0.8776	0.1205
H		0.8843E+01	0.5675E+01	16.8	14.8	0.37	0.8144	0.8786	178.80
E	14.2857	0.2390E+02	0.1622E+02	16.8	17.4	127.22	0.8360	0.9007	0.1292
H		0.1232E+02	0.9155E+01	15.1	19.1	168.37	0.8399	0.9007	178.40
E	20.0000	0.2766E+02	0.2185E+02	18.5	18.3	144.80	0.8189	0.8574	0.1681
H		0.1325E+02	0.9693E+01	15.0	21.2	3.76	0.8230	0.8586	175.50
E	26.3158	0.6643E+02	0.3786E+02	4.7	19.8	142.37	0.7462	0.8039	0.1660
H		0.2051E+02	0.9111E+01	18.5	5.7	33.10	0.7789	0.8215	165.50
E	31.2500	0.5678E+02	0.3768E+02	1.0	22.0	143.58	0.7157	0.7590	0.1857
H		0.1993E+02	0.4986E+01	21.1	0.4	39.34	0.7695	0.7996	158.20
E	40.0000	0.9317E+02	0.8103E+02	25.2	28.2	165.10	0.7420	0.7863	0.2666
		0.3328E+02	0.1950E+02	24.7	28.6	24.15	0.7506	0.7884	168.30

AVERAGE # 8
WIL15 200 HZ 11-AUG-83 T43N R3E S30
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	3.03030	0.3806E+02	0.3516E+02	169.5	160.1	0.92358	0.91542	0.18259
H		0.2492E+02	0.2367E+02	167.9	162.3	0.92573	0.91818	141.60001
E	3.03030	0.3777E+02	0.3582E+02	162.3	164.3	0.87531	0.91229	0.17004
H		0.2719E+02	0.1827E+02	162.3	164.5	0.87934	0.91419	143.39999
E	7.69231	0.4672E+02	0.3207E+02	166.8	164.8	0.83012	0.80269	0.18968
H		0.1843E+02	0.1572E+02	167.8	163.7	0.83024	0.80314	135.60001
E	14.28571	0.6284E+02	0.5196E+02	163.3	168.0	0.81966	0.81973	0.23602
H		0.2911E+02	0.2239E+02	163.2	168.2	0.81979	0.81986	137.00000
E	20.00000	0.7394E+02	0.5762E+02	163.6	162.3	0.78348	0.79464	0.30333
H		0.2967E+02	0.2167E+02	164.0	161.9	0.78363	0.79482	144.60001
E	26.31579	0.1241E+03	0.7058E+02	160.2	161.9	0.75773	0.75301	0.25986
H		0.3722E+02	0.2899E+02	159.9	162.5	0.75968	0.75460	133.10001
E	31.25000	0.1182E+03	0.6777E+02	159.5	159.1	0.76350	0.73153	0.28114
H		0.3749E+02	0.2036E+02	160.9	157.1	0.76375	0.73221	130.50000
E	40.00000	0.2817E+03	0.2146E+03	157.5	152.5	0.92301	0.88518	0.37883
H		0.1949E+03	0.1140E+03	153.0	157.2	0.93041	0.89641	132.70001


WML15 11-AUG-83 T43N R3E S30
APPARENT RESISTIVITY (OHM METERS)
100
10
1
0.1
.01
.001
.01
0.1
1.0
10
FREQUENCY


WML15 11-AUG-83 T43N R3E S30
REAL RESISTIVITY (OHM-METERS)
1000
100
10
1.0
.1
.01
100
1000
10000
DEPTH (METERS) -->

THE SITE IS: WML15 200 HZ 11-AUG-83 T43N R3E S30

MEANS OF MERGED AVERAGE NUMBER: 8

FREQUENCY	MEAN OF RHOMN	MEAN OF RHOMX	PERIOD #
0.0012	******	******	1
0.0020	0.00	0.00	2
0.0040	13.05	48.11	3
0.0080	22.28	60.42	4
0.0143	39.59	77.68	5
0.0200	31.02	78.81	6
0.0303	52.46	92.40	7
0.0303	686.25	******	8
0.0500	******	******	9
0.0500	11.70	89.67	10
0.1000	14.05	33.44	11
0.3333	8.52	16.08	12
0.5000	9.57	16.56	13
0.5988	17.01	43.83	14
0.8000	11.71	25.65	15
1.0000	15.78	19.09	16
1.0000	15.81	19.48	17
1.2048	13.50	17.35	18
1.4925	15.41	20.81	19
2.0000	16.29	26.35	20
2.0000	24.43	29.10	21
2.0000	10.28	20.32	22
3.0303	29.41	31.49	23
3.0303	27.05	32.48	24
7.6923	23.90	32.58	25
14.2857	37.17	45.97	26
20.0000	39.64	51.81	27
26.3158	49.79	80.67	28
31.2500	44.07	77.85	29
40.0000	164.27	238.31	30

AVERAGE # 8
WIL15 200 HZ 11-AUG-83 T43N R3E S30
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.00125	0.3635E+05	0.2262E+05	-34.2	-60.9	0.86730	0.93355	0.11324
H		0.3165E+05	0.1065E+05	-32.6	-66.5	0.87735	0.94069	164.80002
E	0.00200	0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	0.00000
H		0.0000E+00	0.0000E+00	90.0	-90.0	0.00000	0.00000	179.89999
E	0.00400	0.4981E+02	0.1623E+02	-19.9	-21.2	0.89625	0.98941	0.06167
H		0.4642E+02	0.9868E+01	-20.9	-19.5	0.90148	0.99007	79.70001
E	0.00800	0.6266E+02	0.2555E+02	-11.9	-12.8	0.94288	0.98225	0.08925
H		0.5818E+02	0.1902E+02	-12.1	-12.5	0.94446	0.98256	101.70001
E	0.01429	0.8171E+02	0.6000E+02	-0.1	17.0	0.92670	0.97110	0.09897
H		0.7364E+02	0.1918E+02	0.3	15.3	0.94503	0.97401	54.20000
E	0.02000	0.8303E+02	0.4747E+02	7.6	19.4	0.95354	0.95715	0.32026
H		0.7458E+02	0.1458E+02	10.0	15.7	0.96674	0.96897	97.20001
E	0.03030	0.9898E+02	0.9870E+02	19.1	40.7	0.89990	0.91899	0.20627
H		0.8583E+02	0.6224E+01	23.1	34.0	0.95621	0.96272	37.60001
E	0.03030	0.1499E+04	0.9333E+03	-34.2	-60.9	0.86730	0.93355	0.11324
H		0.1306E+04	0.4392E+03	-32.6	-66.5	0.87735	0.94069	164.80002

AVERAGE # 8
WHL15 200 HZ 11-AUG-83 T43N R3E S30
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	0.05000	0.2673E+06	0.2254E+06	-26.5	-29.1	0.94299	0.96335	0.58037
H		0.2038E+06	0.1974E+06	-25.6	-29.9	0.94324	0.96339	117.10001
E	0.05000	0.1298E+03	0.1249E+02	-92.2	-138.8	0.88885	0.89607	0.19555
H		0.4950E+02	0.1091E+02	-84.1	-163.4	0.90982	0.91703	42.30000
E	0.10000	0.3563E+02	0.1442E+02	47.4	137.3	0.97523	0.97531	0.08122
H		0.3124E+02	0.1368E+02	47.5	137.5	0.97638	0.97645	173.80002
E	0.33333	0.2165E+02	0.1138E+02	120.6	117.7	0.80903	0.86262	0.23094
H		0.1050E+02	0.5652E+01	122.7	111.7	0.81488	0.86805	142.80002
E	0.50000	0.2096E+02	0.1333E+02	131.5	129.9	0.82985	0.89281	0.12171
H		0.1217E+02	0.5812E+01	129.8	132.6	0.83922	0.89619	152.50000
E	0.59880	0.6348E+02	0.2064E+02	-114.6	127.4	0.83763	0.96666	0.13312
H		0.2418E+02	0.1338E+02	-120.2	141.0	0.85882	0.97811	121.60001
E	0.80000	0.3700E+02	0.1544E+02	116.0	142.0	0.83357	0.89159	0.11605
H		0.1430E+02	0.7979E+01	138.3	121.1	0.86796	0.91941	143.89999
E	1.00000	0.2467E+02	0.2347E+02	154.8	157.8	0.83727	0.84981	0.14268
H		0.1351E+02	0.8095E+01	154.9	156.5	0.84992	0.86064	145.80002

AVERAGE # 8
WELL5 200 HZ 11-AUG-83 T43N R3E S30
NSAMP = 1024 SI = 0.0050 TO = 5.1200

	FREQ (HZ)	RHO-MAX VALUE (OHM-M)	RHO-MIN	RHO-MAX PHASE (DEGREES)	RHO-MIN	PREDEX	PREDEY	TIPPER MAG/DIR
E	1.00000	0.2450E+02	0.1968E+02	124.5	106.2	0.92533	0.91981	0.20118
H		0.1446E+02	0.1194E+02	131.9	103.9	0.94522	0.94056	152.70001
E	1.20482	0.1951E+02	0.1837E+02	158.2	172.1	0.94030	0.93186	0.16905
H		0.1520E+02	0.8641E+01	171.7	156.9	0.94611	0.93948	150.30002
E	1.49254	0.2773E+02	0.1750E+02	160.1	171.2	0.90660	0.94546	0.16966
H		0.1389E+02	0.1332E+02	159.6	171.8	0.91504	0.94745	148.50000
E	2.00000	0.3390E+02	0.1983E+02	162.7	169.4	0.91859	0.88011	0.17742
H		0.1881E+02	0.1275E+02	161.5	169.8	0.92089	0.88640	147.89999
E	2.00000	0.3757E+02	0.2880E+02	167.7	160.0	0.91634	0.87404	0.17435
H		0.2063E+02	0.2007E+02	160.9	167.2	0.91747	0.87716	142.39999
E	2.00000	0.2721E+02	0.1498E+02	153.2	174.5	0.82452	0.81472	0.15671
H		0.1343E+02	0.5583E+01	154.0	173.6	0.82631	0.81693	145.89999