U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

TIME-DOMAIN GEOELECTRIC SOUNDINGS IN JACKSON HOLE, WYOMING: PART B - DATA

by

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DESCRIPTION

During 1993-4, 13 time domain electromagnetic ("TDEM") soundings were made by the U.S. Geological Survey in Jackson Hole WY. Part A of this report describes the project for which the TDEM data were collected, and shows the results of the work. Part B, this part, consists of tables showing the data and details of its inversion.

The TDEM soundings were made using equipment owned by USGS Branch of Geophysics, consisting of an EM-37 unit manufactured by Geonics Ltd., Mississagua, Ontario, Canada. EM signals were transmitted into the ground via square loops of insulated #10 wire, and resulting signals were measured at a receiving loop located at its center which had a moment of 100 m^2. Soundings TCW01-TCW09 and TCW13 used 1000 ft square transmitter loops, TCW10 and TCW12 used 500 ft square loop, and TCW11 used a 250 ft square loop. TCW09-13 had at least one side of the square transmitter loop located only a half loop-dimension from a wire fence paralleling it. Most such fences had 3 or 4 strands of barbed wire stapled to wooden posts, not steel posts (less chance of grounding). At each sounding site 20 channels were measured at each of the base frequencies of 3 Hz (data sets "TCWnnM") and 30 Hz ("TCWnnH"). These channels measured decay voltages from a nominal 0.089 to 71.2 msec after signal turn-off. At all sites, signal quality was poor in the nominal 7.12-71.2 msec range.

Data was collected and processed using procedures described by David V. Fitterman (USGS, 1993, unpublished TDEM manual). The raw data was screened and values were deleted that had more than a 10 percent standard deviation of apparent resistivity (sd%R). For a few channels, however, the median data pair was kept in order to extend the data set. Data was interpreted using "TEMIXGL", a computer program by InterpeX Limited, PO Box 839, Golden CO.

The following pages give printout tables showing details of the above process. For each sounding there are 7-8 pages of tables. The first 2 pages list the raw data, averaged data and apparent resistivity computed by Fitterman's program at the 30 Hz repetition rate (data sets "TCWnnH"). The next 2 pages do the same for repetition rate 3 Hz ("TCWnnM"). The next page lists the data that was used for the inversion, and the last 1-2 pages give results of the TEMIXGL processing and interpretation steps.

U.S. Geological Survey
Teton County WY--WRD
TCW01M 93/09/13
L(m)=304.8 Tx I(A)=20.0
Tx Volt=180 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)=100 Rof(us)=100
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	320	318	320	324	318	319	315	321	318	321
2	202	198	201	203	201	197	197	201	201	201
3	126	116	125	121	124	117	121	121	126	121
4	84	70	83	74	82	69	79	73	84	74
5	55	46	55	49	54	45	51	51	55	50
6	138	135	134	152	129	133	120	153	136	153
7	98	84	100	100	91	81	85	101	98	102
8	72	56	69	71	62	52	54	69	72	71
9	51	34	48	49	45	29	32	50	51	51
10	35	19	34	36	31	16	16	37	40	37
11	6.9	-2.5	7.1	-.3	6.5	-2.7	4.1	-.2	7.2	.8
12	5.6	-3.7	6.1	-.7	5.3	-4.2	3.5	-.4	6.2	-.4
13	4.2	-3.0	4.0	.3	3.7	-4.5	1.4	.7	5.2	-.1
14	4.3	-2.8	3.3	-.5	4.4	-5.3	.8	-.4	5.5	-.4
15	2.2	-.6	1.5	.2	3.3	-3.3	-.5	.1	3.6	1.2
16	43.5	-45.6	46.1	-44.5	47.6	-50.1	44.5	-43.8	47.1	-43.6
17	36.8	-34.1	34.5	-35.5	41.9	-42.0	32.8	-36.1	41.0	-33.1
18	12.2	-11.7	12.4	-14.1	17.9	-17.7	12.9	-14.0	15.9	-11.1
19	-6.9	7.5	-7.1	4.3	-2.1	3.5	-5.2	4.0	-4.3	7.4
20	-11.1	11.4	-11.2	7.4	-6.0	8.1	-8.0	7.1	-8.3	10.8
Primary	2	2	3	2	1	1	1	1	5	2
Gain	8		8		8		8		8	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	23.9	24.1	23.9	23.8	24.0	23.9	.5
2	1.0660	15.0	15.1	14.9	14.9	15.1	15.0	.7
3	1.3700	9.1	9.2	9.0	9.1	9.3	9.1	1.1
4	1.7400	5.8	5.9	5.7	5.7	5.9	5.8	2.0
5	2.1700	3.8	3.9	3.7	3.8	3.9	3.8	2.3
6	2.7700	2.6	2.7	2.5	2.6	2.7	2.6	4.0
7	3.5000	1.7	1.9	1.6	1.7	1.9	1.8	6.4
8	4.3700	1.2	1.3	1.1	1.2	1.3	1.2	9.3
9	5.5600	.8	.9	.7	.8	1.0	.8	12.9
10	6.9800	.5	.7	.4	.5	.7	.6	21.1
11	8.5600	.2	.3	.1	.1	.3	.2	35.4
12	10.6400	.1	.2	.0	.1	.2	.1	60.2
13	13.7000	.0	.2	-.0	.1	.2	.1	--
14	17.4000	.1	.1	-.0	.0	.2	.1	--
15	21.7000	.1	.1	0.0	-.0	.2	.1	--
16	27.7000	-.0	.0	-.0	.0	.0	.0	--
17	35.0000	.0	-.0	-.0	-.0	.1	.0	--
18	43.7000	.0	-.0	.0	-.0	.0	.0	--
19	55.6000	.0	-.0	.0	-.0	.0	.0	--
20	70.3000	.0	-.0	.0	-.0	.0	.0	--

U.S. Geological Survey
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TCW01M 93/09/13
L(m)=304.8 Tx I(A)=20.0
Tx Volt=180 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)=100 Rof(us)=100
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	301.1	299.3	301.5	301.8	300.8	300.9	.3
2	1.0660	.0326	.0818	293.2	291.3	294.2	294.2	292.3	293.0	.4
3	1.3700	.0370	.0928	270.1	267.2	270.9	270.1	266.5	268.9	.7
4	1.7400	.0417	.1046	247.0	243.8	250.2	249.1	242.8	246.6	1.3
5	2.1700	.0466	.1168	229.4	225.0	232.5	227.9	223.6	227.6	1.6
6	2.7700	.0526	.1319	197.8	191.8	203.3	197.8	190.5	196.1	2.6
7	3.5000	.0592	.1483	174.5	163.9	181.2	172.0	163.9	170.8	4.3
8	4.3700	.0661	.1657	152.6	143.7	164.8	156.7	141.7	151.3	6.2
9	5.5600	.0746	.1869	134.4	123.1	147.5	137.7	119.1	131.4	8.6
10	6.9800	.0835	.2094	123.0	103.5	134.9	124.6	97.10	114.4	14.0
11	8.5600	.0925	.2319	183.9	137.5	202.7	199.3	123.4	160.8	23.6
12	10.6400	.1032	.2586	223.6	111.4	321.9	161.3	106.2	149.9	40.2
13	13.7000	.1170	.2934	200.1	85.46	262.2	137.8	76.27	126.8	66.7
14	17.4000	.1319	.3306	117.2	77.32	164.8	282.9	51.84	104.6	86.3
15	21.7000	.1473	.3692	78.07	74.98	0.00	196.7	37.53	80.09	88.7
16	27.7000	.1664	.4172	109.4	131.1	97.37	227.5	77.81	464.4	703.7
17	35.0000	.1871	.4689	62.43	121.1	561.9	54.61	30.52	104.9	231.1
18	43.7000	.2090	.5240	132.8	58.73	244.6	78.50	29.40	126.1	314.6
19	55.6000	.2358	.5911	78.71	28.19	44.74	49.59	26.34	153.7	693.8
20	70.3000	.2651	.6646	84.49	15.55	23.09	40.62	20.55	323.8	*****

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L(m)=304.8 Tx I(A)=20.0
Tx Volt=180 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=205 Rof(us)=205
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	3690	3769	3805	3755	3765	3720	3754	3614	3636	3675
2	2503	2532	2562	2525	2541	2506	2531	2452	2474	2482
3	1630	1648	1659	1644	1648	1635	1643	1606	1613	1622
4	1093	1094	1109	1091	1103	1086	1100	1070	1083	1078
5	745	743	752	740	748	738	746	728	738	732
6	1957	1980	1977	1975	1967	1968	1964	1947	1940	1957
7	1280	1285	1293	1282	1286	1278	1283	1265	1269	1271
8	856	855	862	854	859	851	858	842	849	846
9	545	543	550	543	547	541	546	536	540	538
10	349	346	351	345	350	344	350	341	346	343
11	59.0	59.8	59.4	59.6	59.2	59.5	59.1	59.0	58.6	59.2
12	39.7	40.1	40.0	40.0	39.8	39.9	40.2	39.6	39.4	39.7
13	25.0	25.1	25.2	25.0	25.1	24.9	25.1	24.7	24.8	24.7
14	16.1	16.2	16.2	16.2	16.7	16.1	16.1	16.0	16.0	16.0
15	11.0	11.0	11.1	11.0	11.1	11.0	11.0	10.9	10.9	10.9
16	28.5	28.9	28.6	28.9	28.7	28.6	28.6	28.6	28.3	28.7
17	19.0	19.0	19.0	18.9	19.0	18.9	19.0	18.7	18.8	18.8
18	12.9	12.9	12.9	12.9	13.0	12.9	12.8	12.8	12.8	12.8
19	8.2	8.5	8.2	8.4	8.3	8.6	8.3	8.4	8.3	8.4
20	5.1	5.3	5.1	5.4	5.2	5.4	5.0	5.3	5.1	5.4
Primary	3	1	6	3	3	3	3	3	3	3
Gain	6		6		6		6		6	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	1118.5	1133.6	1122.4	1104.8	1096.3	1115.1	1.3
2	.1080	755.0	762.8	756.8	747.2	743.2	753.0	1.0
3	.1380	491.5	495.3	492.3	487.2	485.1	490.3	.8
4	.1750	328.0	329.9	328.2	325.4	324.1	327.1	.7
5	.2180	223.1	223.7	222.8	221.0	220.4	222.2	.6
6	.2780	147.6	148.2	147.5	146.6	146.1	147.2	.6
7	.3510	96.2	96.5	96.1	95.5	95.2	95.9	.6
8	.4380	64.1	64.3	64.1	63.7	63.5	64.0	.5
9	.5580	40.8	41.0	40.8	40.6	40.4	40.7	.5
10	.7020	26.1	26.1	26.0	25.9	25.8	26.0	.4
11	.8580	17.8	17.8	17.8	17.7	17.7	17.8	.4
12	1.0660	12.0	12.0	12.0	12.0	11.9	11.9	.4
13	1.3700	7.5	7.5	7.5	7.5	7.4	7.5	.6
14	1.7400	4.8	4.9	4.9	4.8	4.8	4.8	1.0
15	2.1700	3.3	3.3	3.3	3.3	3.3	3.3	.6
16	2.7700	2.2	2.2	2.1	2.1	2.1	2.1	.3
17	3.5000	1.4	1.4	1.4	1.4	1.4	1.4	.4
18	4.3700	1.0	1.0	1.0	1.0	1.0	1.0	.5
19	5.5600	.6	.6	.6	.6	.6	.6	.7
20	7.0300	.4	.4	.4	.4	.4	.4	1.1

U.S. Geological Survey
Teton County WY--WRD
TCW01H 93/09/13
L(m)=304.8 Tx I(A)=20.0
Tx Volt=180 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=205 Rof(us)=205
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RH01	RH02	RH03	RH04	RH05	avgRH0	sd%R
1	.0867	.0093	.0233	1076.8	1067.2	1074.3	1085.7	1091.3	1079.0	.9
2	.1080	.0104	.0260	998.2	991.4	996.6	1005.1	1008.8	1000.0	.7
3	.1380	.0117	.0294	875.6	871.2	874.7	880.8	883.3	877.1	.6
4	.1750	.0132	.0332	775.8	772.7	775.3	779.8	782.0	777.1	.5
5	.2180	.0148	.0370	703.3	702.0	703.9	707.7	709.0	705.1	.4
6	.2780	.0167	.0418	615.1	613.5	615.3	617.8	619.3	616.2	.4
7	.3510	.0187	.0470	551.0	549.6	551.2	553.5	554.7	552.0	.4
8	.4380	.0209	.0525	499.0	498.1	499.2	501.2	502.2	499.9	.3
9	.5580	.0236	.0592	452.6	451.2	452.6	454.3	455.4	453.2	.4
10	.7020	.0265	.0664	412.6	412.2	413.0	414.2	415.0	413.4	.3
11	.8580	.0293	.0734	376.3	375.9	376.5	377.8	378.4	377.0	.3
12	1.0660	.0326	.0818	340.8	340.3	341.1	340.8	342.8	341.2	.3
13	1.3700	.0370	.0928	306.3	305.9	306.7	307.5	308.8	307.0	.4
14	1.7400	.0417	.1046	279.0	278.4	276.1	280.1	280.7	278.8	.6
15	2.1700	.0466	.1168	250.6	249.8	249.8	251.3	252.1	250.7	.4
16	2.7700	.0526	.1319	222.0	221.8	222.3	222.6	223.1	222.3	.2
17	3.5000	.0592	.1483	197.3	197.6	197.6	198.3	198.7	197.9	.3
18	4.3700	.0661	.1657	176.5	176.5	176.0	177.4	177.4	176.8	.3
19	5.5600	.0746	.1869	157.9	158.5	156.6	157.9	157.9	157.7	.4
20	7.0300	.0838	.2102	146.4	145.5	144.5	147.3	145.5	145.8	.7

DATA SET: TCW01

CLIENT: USGS-WRD (Tom Nolan) DATE: 14-Sep-93
LOCATION: nr Jenny Lake, Grand Teton NP SOUNDING: 01
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet

LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 8-10,18,20: YES

30.00 Hz	GAIN: 8	3.00 Hz	GAIN: 8
20.00 AMPS	EM-37	20.00 AMPS	EM-37
COIL:	100.0 m^2	COIL:	100.0 m^2
RAMP:	205.0 muSEC	RAMP:	100.0 muSEC
SHIFT:	0.0 muSEC	SHIFT:	-105.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	3935.36	1079.00		
12	0.105	2568.95	1000.00		
13	0.136	1694.51	877.10		
14	0.173	1138.22	777.10		
15	0.217	767.02	705.10		
16	0.280	2016.97	616.10		
17	0.354	1297.27	552.00		
18	0.435	862.89	499.90		
19	0.552	547.69	453.20		
20	0.702	353.84	413.40		
21	0.865	61.13	377.00	338.02	372.84
22	1.100	41.72	341.20	204.89	347.46
23	1.410	25.88	307.00	126.27	306.81
24	1.760	16.51	278.80	80.54	273.56
25	2.240	11.05	250.70	52.90	247.31
26	2.820	28.14	222.30	142.08	209.15
27	3.570	18.71	197.90	95.34	179.62
28	4.380	13.27	176.80	65.55	157.50
29	5.550	8.71	157.70	44.37	135.60
30	7.050	5.58	145.80	29.72	119.99

* USGS - Branch of Geophysics*

DATA SET: TCW01

CLIENT: USGS-WRD (Tom Nolan) DATE: 14-Sep-93
LOCATION: nr Jenny Lake, Grand Teton NP SOUNDING: 01
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 2.585 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	376.0	318.9	-318.9	0.848
2	107.8	240.6	-559.6	2.23
3	28.96			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	365.360	376.041	386.203
	2	85.199	107.629	136.879
	3	22.319	28.985	35.777
THICK	1	288.544	318.953	351.565
	2	217.271	240.648	262.907
DEPTH	1	288.544	318.953	351.565
	2	557.709	559.601	588.029

CURRENT: 20.00 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 6 RAMP TIME: 205.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	1079.0	1087.6	-0.802
2	0.108	1000.0	968.2	3.17
3	0.138	877.1	858.0	2.16
4	0.174	777.1	771.8	0.681
5	0.216	705.1	702.0	0.430
6	0.277	616.1	630.0	-2.26

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
7	0.353	552.0	566.9	-2.69
8	0.441	499.9	514.5	-2.93
9	0.561	453.2	464.1	-2.40
10	0.706	413.4	422.1	-2.11
11	0.865	377.0	387.9	-2.89
12	1.07	341.2	353.6	-3.64
13	1.38	307.0	315.5	-2.77
14	1.75	278.8	280.6	-0.664
15	2.19	250.7	250.5	0.0863
16	2.82	222.3	220.2	0.924
17	3.56	197.9	196.4	0.717
18	4.37	176.8	179.1	-1.30
19	5.54	157.7	162.7	-3.17
20	7.04	145.8	150.1	-2.98

CURRENT: 20.00 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 100.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.705	372.8	373.0	-0.0569
22	0.975	347.4	340.2	2.07
23	1.27	306.8	303.7	1.00
24	1.63	273.5	269.3	1.52
25	2.05	247.3	238.0	3.73
26	2.66	209.1	205.5	1.71
27	3.42	179.6	177.3	1.28
28	4.30	157.5	155.3	1.38
29	5.50	135.6	135.1	0.319
30	6.95	119.9	119.2	0.622

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY--WRD
TCW02M 93/09/15
L(m)=304.8 Tx I(A)=19.5
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 90 Rof(us)= 90
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-1095	-1105	-1091	-1095	-1096	-1101	-1081	-1100	-1093	-1097
2	-774	-775	-767	-767	-773	-770	-760	-770	-772	-770
3	-514	-518	-507	-511	-513	-515	-503	-513	-514	-515
4	-338	-346	-329	-341	-338	-344	-328	-342	-338	-344
5	-231	-233	-220	-228	-231	-230	-218	-227	-231	-231
6	-602	-611	-563	-592	-602	-600	-568	-588	-607	-606
7	-393	-403	-354	-387	-395	-397	-360	-383	-399	-401
8	-269	-277	-224	-260	-269	-271	-232	-261	-271	-273
9	-184	-191	-137	-178	-184	-185	-143	-177	-182	-187
10	-131	-134	-80	-118	-129	-129	-90	-123	-125	-125
11	-18.8	-21.4	-8.3	-19.3	-20.2	-20.9	-10.6	-21.3	-22.1	-20.6
12	-14.2	-16.0	-5.0	-13.6	-13.7	-15.5	-6.1	-17.1	-15.1	-14.9
13	-10.9	-12.6	-2.7	-9.4	-10.4	-11.3	-3.4	-14.0	-11.6	-9.8
14	-7.7	-10.6	.3	-5.5	-7.1	-9.2	2.0	-12.2	-8.7	-6.2
15	-7.4	-9.6	2.2	-3.0	-6.6	-8.3	5.0	-10.4	-7.1	-4.4
16	-3.0	-26.1	17.0	-17.4	.1	-22.5	19.5	-25.9	-4.8	-20.6
17	-4.1	-26.6	16.5	-18.4	-1.3	-18.6	19.0	-22.6	-5.0	-19.5
18	-4.9	-22.7	20.8	-17.0	-1.4	-16.1	16.9	-13.8	-7.1	-18.7
19	-8.0	-4.0	7.2	-1.5	-6.6	1.7	3.7	2.0	-13.4	-2.8
20	-6.7	3.2	.1	-3.5	-5.3	7.7	-.5	.9	-14.7	1.2
Primary	-1	-1	-2	-1	3	-1	-2	-2	1	-6
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-82.5	-81.9	-82.4	-81.8	-82.1	-82.1	.4
2	1.0660	-58.1	-57.5	-57.8	-57.4	-57.8	-57.7	.5
3	1.3700	-38.7	-38.2	-38.5	-38.1	-38.6	-38.4	.7
4	1.7400	-25.6	-25.1	-25.6	-25.1	-25.6	-25.4	1.0
5	2.1700	-17.4	-16.8	-17.3	-16.7	-17.3	-17.1	1.9
6	2.7700	-11.4	-10.8	-11.3	-10.8	-11.4	-11.1	2.5
7	3.5000	-7.5	-6.9	-7.4	-7.0	-7.5	-7.3	3.8
8	4.3700	-5.1	-4.5	-5.1	-4.6	-5.1	-4.9	5.8
9	5.5600	-3.5	-3.0	-3.5	-3.0	-3.5	-3.3	8.4
10	6.9800	-2.5	-1.9	-2.4	-2.0	-2.3	-2.2	12.5
11	8.5600	-1.5	-1.0	-1.5	-1.2	-1.6	-1.4	17.9
12	10.6400	-1.1	-.7	-1.1	-.9	-1.1	-1.0	19.6
13	13.7000	-.9	-.5	-.8	-.7	-.8	-.7	23.7
14	17.4000	-.7	-.2	-.6	-.4	-.6	-.5	40.6
15	21.7000	-.6	-.0	-.6	-.2	-.4	-.4	67.8
16	27.7000	-.3	-.0	-.2	-.1	-.2	-.2	75.2
17	35.0000	-.3	-.0	-.2	-.0	-.2	-.2	79.4
18	43.7000	-.3	.0	-.2	.0	-.2	-.1	--
19	55.6000	-.1	.1	-.0	.1	-.2	-.0	--
20	70.3000	-.0	-.0	.0	.0	-.1	-.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW02M 93/09/15
L(m)=304.8 Tx I(A)=19.5
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 90 Rof(us)= 90
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	129.7	130.3	129.8	130.5	130.1	130.1	.2
2	1.0660	.0326	.0818	116.9	117.7	117.2	117.9	117.3	117.4	.3
3	1.3700	.0370	.0928	101.0	101.9	101.3	102.1	101.2	101.5	.5
4	1.7400	.0417	.1046	89.87	91.12	90.05	91.12	90.05	90.44	.7
5	2.1700	.0466	.1168	81.64	83.57	81.99	83.94	81.87	82.59	1.3
6	2.7700	.0526	.1319	71.97	74.36	72.41	74.32	71.97	72.99	1.7
7	3.5000	.0592	.1483	64.17	67.31	64.39	67.19	63.96	65.36	2.6
8	4.3700	.0661	.1657	57.04	61.82	57.46	61.06	57.18	58.82	3.9
9	5.5600	.0746	.1869	49.14	55.20	49.68	54.63	49.68	51.50	5.6
10	6.9800	.0835	.2094	41.88	50.87	42.64	48.45	43.54	45.15	8.3
11	8.5600	.0925	.2319	41.37	53.15	40.76	48.26	39.74	43.96	12.0
12	10.6400	.1032	.2586	34.77	48.04	35.56	41.46	34.93	38.19	13.1
13	13.7000	.1170	.2934	27.08	42.16	28.56	33.09	28.83	30.97	15.8
14	17.4000	.1319	.3306	21.75	50.32	23.49	32.11	24.94	27.35	27.1
15	21.7000	.1473	.3692	15.88	121.9	17.34	34.12	20.61	22.75	45.2
16	27.7000	.1664	.4172	18.64	324.9	22.19	51.16	20.41	26.95	50.1
17	35.0000	.1871	.4689	12.14	77.59	16.21	50.67	14.11	18.65	53.0
18	43.7000	.2090	.5240	9.01	33.78	12.20	38.69	9.42	15.03	79.8
19	55.6000	.2358	.5911	10.51	17.26	19.09	17.26	8.60	20.69	153.8
20	70.3000	.2651	.6646	16.15	16.46	20.77	68.57	6.57	16.09	116.0

U.S. Geological Survey
Teton County WY--WRD
TCW02H 93/09/15
L(m)=304.8 Tx I(A)=19.5
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=200 Rof(us)=200
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-3085	-3120	-3085	-3077	-3028	-3144	-3097	-3093	-3141	-3121
2	-2097	-2121	-2097	-2095	-2063	-2135	-2105	-2103	-2130	-2121
3	-1300	-1309	-1301	-1294	-1283	-1315	-1306	-1299	-1318	-1308
4	-799	-810	-798	-802	-790	-813	-800	-805	-809	-809
5	-510	-516	-511	-519	-500	-518	-514	-513	-516	-516
6	-1268	-1271	-1267	-1262	-1258	-1274	-1274	-1264	-1279	-1269
7	-820	-826	-819	-821	-815	-827	-823	-821	-826	-824
8	-564	-570	-564	-567	-561	-570	-567	-568	-568	-569
9	-393	-403	-392	-396	-392	-398	-394	-396	-396	-397
10	-281	-284	-281	-282	-280	-284	-282	-283	-283	-288
11	-53.5	-53.8	-53.3	-53.6	-53.3	-53.7	-53.9	-53.6	-53.8	-53.5
12	-38.7	-39.0	-39.0	-38.9	-38.9	-39.4	-39.4	-38.9	-39.3	-38.8
13	-26.2	-26.4	-26.2	-26.4	-26.2	-26.4	-26.4	-26.3	-26.4	-26.3
14	-17.8	-17.7	-17.7	-17.6	-17.7	-17.6	-17.9	-17.6	-17.8	-17.6
15	-11.9	-11.9	-12.0	-11.9	-11.9	-11.8	-11.9	-11.8	-12.0	-11.8
16	-30.0	-30.2	-30.0	-30.1	-30.0	-30.1	-30.2	-30.0	-30.1	-30.0
17	-18.9	-19.3	-18.8	-19.2	-18.9	-19.2	-19.1	-19.1	-19.0	-19.1
18	-12.3	-12.4	-12.2	-12.3	-11.6	-12.3	-12.3	-12.3	-12.3	-12.3
19	-7.8	-7.7	-7.8	-7.7	-7.7	-7.6	-7.9	-7.6	-7.8	-7.5
20	-4.7	-4.7	-4.9	-4.7	-4.8	-4.7	-5.0	-4.6	-4.9	-4.6
Primary	-1	-1	-1	-2	-1	-1	-2	-1	-1	-1
Gain	4		4		4		4		4	
Stacks	6		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-3721.8	-3696.0	-3702.0	-3712.8	-3756.0	-3717.7	.6
2	.1080	-2530.0	-2514.4	-2518.0	-2524.0	-2549.8	-2527.2	.6
3	.1380	-1564.9	-1556.5	-1558.3	-1562.5	-1575.1	-1563.5	.5
4	.1750	-965.1	-959.7	-961.5	-962.7	-970.5	-963.9	.4
5	.2180	-615.4	-617.8	-610.6	-616.0	-619.0	-615.8	.5
6	.2780	-380.7	-379.2	-379.7	-380.6	-382.1	-380.5	.3
7	.3510	-246.8	-245.9	-246.2	-246.5	-247.4	-246.6	.2
8	.4380	-170.1	-169.6	-169.6	-170.2	-170.5	-170.0	.2
9	.5580	-119.4	-118.2	-118.5	-118.5	-118.9	-118.7	.4
10	.7020	-84.7	-84.4	-84.6	-84.7	-85.6	-84.8	.6
11	.8580	-64.4	-64.1	-64.2	-64.5	-64.4	-64.3	.2
12	1.0660	-46.6	-46.7	-47.0	-47.0	-46.8	-46.8	.3
13	1.3700	-31.6	-31.6	-31.6	-31.6	-31.6	-31.6	.1
14	1.7400	-21.3	-21.2	-21.2	-21.3	-21.2	-21.2	.3
15	2.1700	-14.3	-14.3	-14.2	-14.2	-14.3	-14.3	.4
16	2.7700	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0	.1
17	3.5000	-5.7	-5.7	-5.7	-5.7	-5.7	-5.7	.2
18	4.3700	-3.7	-3.7	-3.6	-3.7	-3.7	-3.7	1.3
19	5.5600	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	.7
20	7.0300	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	.9

U.S. Geological Survey
Teton County WY--WRD
TCW02H 93/09/15
L(m)=304.8 Tx I(A)=19.5
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=200 Rof(us)=200
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RH01	RH02	RH03	RH04	RH05	avgRH0	sd%R
1	.0867	.0093	.0233	475.1	477.3	476.7	475.8	472.2	475.4	.4
2	.1080	.0104	.0260	438.3	440.1	439.7	439.0	436.0	438.6	.4
3	.1380	.0117	.0294	397.8	399.3	398.9	398.2	396.1	398.1	.3
4	.1750	.0132	.0332	371.4	372.8	372.4	372.1	370.1	371.8	.3
5	.2180	.0148	.0370	351.6	350.7	353.4	351.4	350.2	351.5	.3
6	.2780	.0167	.0418	321.5	322.4	322.1	321.6	320.8	321.7	.2
7	.3510	.0187	.0470	289.0	289.7	289.5	289.3	288.6	289.2	.2
8	.4380	.0209	.0525	256.2	256.6	256.6	256.0	255.7	256.2	.2
9	.5580	.0236	.0592	217.5	219.0	218.6	218.6	218.1	218.4	.3
10	.7020	.0265	.0664	184.8	185.3	185.0	184.8	183.5	184.7	.4
11	.8580	.0293	.0734	157.2	157.5	157.4	157.0	157.2	157.3	.2
12	1.0660	.0326	.0818	135.4	135.2	134.7	134.7	134.9	135.0	.2
13	1.3700	.0370	.0928	115.7	115.7	115.7	115.6	115.6	115.6	.1
14	1.7400	.0417	.1046	102.2	102.6	102.6	102.2	102.4	102.4	.2
15	2.1700	.0466	.1168	92.78	92.52	93.04	93.04	92.78	92.83	.2
16	2.7700	.0526	.1319	83.93	84.03	84.03	83.93	84.03	83.99	.1
17	3.5000	.0592	.1483	76.71	76.98	76.84	76.71	76.84	76.82	.1
18	4.3700	.0661	.1657	70.89	71.28	72.47	71.09	71.09	71.36	.9
19	5.5600	.0746	.1869	64.74	64.74	65.30	64.74	65.30	64.97	.5
20	7.0300	.0838	.2102	61.10	60.25	60.67	60.25	60.67	60.59	.6

DATA SET: TCW02

CLIENT: USGS-WRD (Tom Nolan) DATE: 15-Sep-93
LOCATION: Antelope Flat - Grand Teton NP SOUNDING: 02
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet

LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 8-10,16,20: YES

30.00 Hz	GAIN: 4	3.00 Hz	GAIN: 8
19.50 AMPS	EM-37	19.80 AMPS	EM-37
COIL:	100.0 m^2	COIL:	100.0 m^2
RAMP:	200.0 muSEC	RAMP:	90.0 muSEC
SHIFT:	0.0 muSEC	SHIFT:	-110.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	3279.99	475.40		
12	0.105	2155.75	438.60		
13	0.136	1350.75	398.10		
14	0.173	838.34	371.80		
15	0.217	531.17	351.50		
16	0.280	1303.00	321.70		
17	0.354	833.85	289.20		
18	0.435	573.26	256.20		
19	0.552	399.06	216.40		
20	0.702	288.61	184.70		
21	0.885	55.29	157.30	1165.16	162.98
22	1.100	40.66	135.00	791.66	140.42
23	1.410	27.30	115.60	533.59	116.57
24	1.760	18.08	102.40	355.38	100.64
25	2.240	11.96	92.83	237.18	90.11
26	2.820	29.54	83.99	813.15	78.09
27	3.570	18.86	76.82	394.69	68.90
28	4.360	12.62	71.36	265.02	61.35
29	5.550	8.03	64.97	177.23	53.23
30	7.050	4.90	60.59	121.52	46.35
31	8.850			19.36	44.40
32	10.700			14.30	37.97
33	13.800			10.42	30.57
34	17.500			8.42	23.64
35	21.900			7.16	18.09

* USGS - Branch of Geophysics*

DATA SET: TCW02

CLIENT: USGS-WRD (Tom Nolan) DATE: 15-Sep-93
LOCATION: Antelope Flat - Grand Teton NP SOUNDING: 02
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 6.578 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	155.0	250.5	-250.5	1.61
2	11.29	187.1	-437.7	16.57
3	1.69			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	146.163	155.027	164.436
	2	7.844	11.295	14.870
	3	0.651	1.700	3.525
THICK	1	239.358	250.535	261.434
	2	180.360	187.169	212.175
DEPTH	1	239.358	250.535	261.434
	2	415.215	437.704	459.259

CURRENT: 19.50 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 4 RAMP TIME: 200.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	475.4	504.2	-6.07
2	0.106	438.6	443.6	-1.16
3	0.136	398.1	392.9	1.28
4	0.174	371.8	358.1	3.67
5	0.216	351.5	333.4	5.13
6	0.277	321.7	309.5	3.79

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
7	0.353	289.2	285.4	1.29
8	0.441	256.2	259.8	-1.43
9	0.561	218.4	227.6	-4.25
10	0.706	184.7	194.7	-5.46
11	0.865	157.3	167.7	-6.67
12	1.07	135.0	143.1	-6.03
13	1.38	115.6	119.3	-3.25
14	1.75	102.4	103.4	-1.00
15	2.19	92.83	92.51	0.337
16	2.82	83.99	84.27	-0.333
17	3.56	76.82	78.99	-2.83
18	4.37	71.38	75.45	-5.74
19	5.54	64.97	71.57	-10.17
20	7.04	60.59	67.12	-10.78

CURRENT: 19.60 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 90.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.760	162.9	170.6	-4.69
22	0.970	140.4	143.5	-2.22
23	1.27	116.5	117.8	-1.06
24	1.63	100.8	99.77	1.05
25	2.05	90.10	87.34	3.06
26	2.66	78.08	76.78	1.67
27	3.42	68.90	68.72	0.250
28	4.30	61.34	61.90	-0.905
29	5.50	53.22	54.38	-2.13
30	6.95	46.34	46.80	-0.987
31	8.54	44.39	40.34	9.13
32	10.59	37.96	33.99	10.45
33	13.69	30.56	27.57	9.76
34	17.39	23.63	22.64	4.19
35	21.79	18.09	18.93	-4.64

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY--WRD
TCW03M 93/09/15
L(m)=304.8 Tx I(A)=19.3
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)=100 Rof(us)=100
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	389	386	386	394	391	383	383	397	405	382
2	244	251	242	261	250	248	242	260	262	247
3	147	149	147	160	152	148	146	160	164	148
4	89	86	90	99	96	86	88	97	108	86
5	53	47	52	67	60	53	52	66	72	55
6	126	132	112	175	128	110	120	188	193	137
7	75	71	77	118	73	37	69	131	147	82
8	57	37	44	76	42	21	36	108	123	50
9	32	4	29	61	8	8	24	88	103	25
10	2	-20	13	57	-16	11	17	78	89	-2
11	-2.3	-13.2	2.7	6.2	-1.5	-4.8	-.4	5.3	18.9	-9.9
12	-3.2	-9.7	-.2	4.9	-2.0	-.1	-2.8	4.5	17.7	-12.9
13	-5.6	-4.9	-3.7	6.4	-2.6	.9	-5.1	7.0	13.2	-12.8
14	-5.2	-3.4	-3.8	5.2	-1.4	-8.3	-4.5	7.7	8.5	-8.0
15	-5.7	-9.9	-5.1	4.4	-5.1	-11.2	-6.2	5.7	10.5	-4.6
16	-2.8	-27.0	1.6	1.8	-.8	-21.1	-1.0	-11.0	30.8	-30.8
17	-4.0	-21.5	6.1	4.4	-2.9	-26.2	-.1	-7.5	22.3	-22.6
18	-5.3	-23.5	3.7	5.3	-4.3	-19.7	-1.4	-14.3	23.8	-24.0
19	-11.7	-4.7	-2.1	11.9	-10.1	-3.2	-7.3	-3.5	3.5	-4.1
20	-12.2	1.9	-2.1	12.3	-11.6	4.1	-7.3	-.5	-3.0	1.8
Primary	2	2	1	1	2	2	2	-1	1	1
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	29.1	29.2	29.0	29.2	29.5	29.2	.7
2	1.0660	18.6	18.9	18.7	18.8	19.1	18.8	1.1
3	1.3700	11.1	11.5	11.2	11.5	11.7	11.4	2.1
4	1.7400	6.6	7.1	6.8	6.9	7.3	6.9	3.9
5	2.1700	3.7	4.5	4.2	4.4	4.8	4.3	8.6
6	2.7700	2.4	2.7	2.2	2.9	3.1	2.7	13.0
7	3.5000	1.4	1.8	1.0	1.9	2.1	1.6	27.0
8	4.3700	.9	1.1	.6	1.3	1.6	1.1	36.0
9	5.5600	.3	.8	.1	1.0	1.2	.7	63.4
10	6.9800	-.2	.7	-.0	.9	.8	.4	--
11	8.5600	-.6	.3	-.2	.2	.3	.0	--
12	10.6400	-.5	.2	-.1	.1	.2	-.0	--
13	13.7000	-.4	.1	-.1	.1	.0	-.1	--
14	17.4000	-.3	.1	-.4	.1	.0	-.1	--
15	21.7000	-.6	-.0	-.6	-.0	.2	-.2	--
16	27.7000	-.3	.0	-.2	-.1	0.0	-.1	--
17	35.0000	-.2	.1	-.3	-.1	-.0	-.1	--
18	43.7000	-.3	.1	-.2	-.1	-.0	-.1	--
19	55.6000	-.2	.1	-.1	-.1	-.0	-.1	--
20	70.3000	-.1	.1	-.1	-.1	-.0	-.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW03M 93/09/15
L(m)=304.8 Tx I(A)=19.3
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)=100 Rof(us)=100
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RH01	RH02	RH03	RH04	RH05	avgRHO	sd%R
1	.8570	.0293	.0734	258.3	257.2	258.5	257.2	255.7	257.4	.4
2	1.0660	.0326	.0818	248.4	245.8	247.4	246.1	243.9	246.3	.7
3	1.3700	.0370	.0928	230.6	225.1	228.6	225.6	222.7	226.5	1.4
4	1.7400	.0417	.1046	221.5	210.4	215.8	213.4	206.8	213.4	2.6
5	2.1700	.0466	.1168	225.6	200.9	207.9	202.0	192.3	205.0	5.8
6	2.7700	.0526	.1319	200.6	186.9	211.7	178.3	170.2	188.1	8.7
7	3.5000	.0592	.1483	197.4	162.8	238.4	160.1	146.2	174.3	18.0
8	4.3700	.0661	.1657	183.1	155.6	239.0	137.8	121.9	156.6	24.0
9	5.5600	.0746	.1869	232.8	126.4	399.7	109.2	99.93	141.0	42.3
10	6.9800	.0835	.2094	249.9	101.0	586.9	82.43	87.41	134.1	77.6
11	8.5600	.0925	.2319	77.55	112.3	141.3	167.1	111.4	1409.6	*****
12	10.6400	.1032	.2586	60.89	119.4	204.2	235.1	117.7	402.1	644.5
13	13.7000	.1170	.2934	46.02	113.8	154.9	143.9	406.5	173.1	247.0
14	17.4000	.1319	.3306	35.73	119.9	32.98	69.07	238.1	78.52	152.4
15	21.7000	.1473	.3692	16.71	132.3	16.22	165.6	31.94	33.72	122.0
16	27.7000	.1664	.4172	18.22	77.46	22.38	33.42	0.00	33.31	78.0
17	35.0000	.1871	.4689	13.65	24.65	12.50	30.58	263.8	24.81	107.5
18	43.7000	.2090	.5240	8.69	18.88	9.82	13.03	238.9	15.64	89.2
19	55.6000	.2358	.5911	8.47	11.94	9.74	11.19	76.87	16.10	114.8
20	70.3000	.2651	.6646	7.81	7.86	9.65	9.40	32.74	16.61	166.1

U.S. Geological Survey
Teton County WY--WRD
TCW03H 93/09/15
L(m)=304.8 Tx I(A)=19.6
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=205 Rof(us)=205
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-4502	-4547	-4455	-4517	-4499	-4531	-4500	-4567	-4486	-4487
2	-2905	-2937	-2876	-2920	-2901	-2929	-2903	-2950	-2894	-2902
3	-1716	-1726	-1702	-1718	-1713	-1722	-1713	-1732	-1710	-1708
4	-1110	-1124	-1104	-1121	-1109	-1122	-1110	-1132	-1107	-1120
5	-872	-880	-869	-878	-871	-878	-872	-884	-870	-880
6	-2548	-2556	-2539	-2550	-2547	-2553	-2548	-2564	-2545	-2548
7	-1368	-1376	-1360	-1372	-1366	-1373	-1368	-1379	-1364	-1365
8	-888	-893	-886	-892	-887	-894	-888	-898	-886	-893
9	-656	-661	-654	-660	-656	-660	-656	-662	-655	-658
10	-414	-416	-413	-416	-413	-416	-411	-418	-413	-415
11	-74.8	-75.1	-74.6	-75.4	-74.9	-75.1	-74.9	-75.3	-74.8	-74.9
12	-51.0	-50.9	-50.8	-50.9	-51.2	-50.9	-51.0	-51.2	-50.9	-50.9
13	-31.8	-32.0	-31.8	-31.9	-31.8	-32.0	-31.8	-32.1	-31.7	-31.8
14	-20.2	-20.0	-20.1	-20.1	-20.1	-20.1	-19.6	-20.1	-20.0	-20.0
15	-13.0	-12.9	-13.0	-13.0	-13.0	-13.0	-13.1	-13.1	-13.0	-13.0
16	-32.5	-31.9	-32.5	-32.7	-32.6	-32.5	-32.5	-32.7	-32.3	-31.9
17	-20.6	-20.6	-20.8	-21.0	-21.0	-20.9	-20.7	-21.4	-20.7	-20.3
18	-14.0	-13.1	-13.9	-13.9	-14.2	-14.1	-13.7	-13.9	-13.7	-13.1
19	-9.5	-8.3	-9.2	-8.9	-9.5	-9.1	-9.2	-9.1	-8.8	-8.2
20	-6.5	-5.3	-6.0	-5.6	-6.6	-6.0	-5.9	-6.2	-5.4	-5.0
Primary	-1	-5	-3	-3	4	-2	-3	-4	-3	-2
Gain	6		6		6		6		6	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-1356.9	-1345.4	-1354.1	-1359.6	-1345.5	-1352.3	.5
2	.1080	-876.0	-869.1	-874.2	-877.7	-869.1	-873.2	.5
3	.1380	-516.1	-512.8	-515.1	-516.6	-512.5	-514.6	.4
4	.1750	-335.0	-333.6	-334.5	-336.2	-333.9	-334.7	.3
5	.2180	-262.7	-262.0	-262.3	-263.3	-262.4	-262.5	.2
6	.2780	-191.3	-190.8	-191.2	-191.6	-190.9	-191.2	.2
7	.3510	-102.9	-102.4	-102.7	-103.0	-102.3	-102.7	.3
8	.4380	-66.8	-66.7	-66.8	-67.0	-66.7	-66.8	.2
9	.5580	-49.4	-49.3	-49.3	-49.4	-49.2	-49.3	.2
10	.7020	-31.1	-31.1	-31.1	-31.1	-31.0	-31.1	.1
11	.8580	-22.5	-22.5	-22.5	-22.5	-22.4	-22.5	.1
12	1.0660	-15.3	-15.3	-15.3	-15.3	-15.3	-15.3	.2
13	1.3700	-9.6	-9.6	-9.6	-9.6	-9.5	-9.6	.2
14	1.7400	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0	.5
15	2.1700	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9	.4
16	2.7700	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	.7
17	3.5000	-1.5	-1.6	-1.6	-1.6	-1.5	-1.6	1.1
18	4.3700	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	2.1
19	5.5600	-.7	-.7	-.7	-.7	-.6	-.7	3.4
20	7.0300	-.4	-.4	-.5	-.5	-.4	-.4	7.0

U.S. Geological Survey
Teton County WY--WRD
TCW03H 93/09/15
L(m)=304.8 Tx I(A)=19.6
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=205 Rof(us)=205
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	934.0	939.3	935.3	932.8	939.3	936.1	.3
2	.1080	.0104	.0260	891.9	896.6	893.1	890.8	896.6	893.8	.3
3	.1380	.0117	.0294	836.2	839.8	837.3	835.7	840.1	837.8	.2
4	.1750	.0132	.0332	754.6	756.7	755.3	752.8	756.2	755.1	.2
5	.2180	.0148	.0370	622.3	623.4	623.0	621.3	622.7	622.5	.1
6	.2780	.0167	.0418	510.4	511.4	510.7	509.9	511.1	510.7	.1
7	.3510	.0187	.0470	519.8	521.3	520.4	519.4	521.7	520.5	.2
8	.4380	.0209	.0525	479.4	479.9	479.4	478.5	479.7	479.4	.1
9	.5580	.0236	.0592	393.1	393.7	393.3	392.9	393.9	393.4	.1
10	.7020	.0265	.0664	361.6	361.9	361.9	361.9	362.2	361.9	.1
11	.8580	.0293	.0734	318.0	317.8	317.8	317.5	318.2	317.9	.1
12	1.0660	.0326	.0818	285.7	286.1	285.3	285.1	285.9	285.6	.1
13	1.3700	.0370	.0928	257.2	257.5	257.2	257.0	258.0	257.4	.2
14	1.7400	.0417	.1046	237.9	237.9	237.9	239.9	238.7	238.4	.4
15	2.1700	.0466	.1168	221.7	221.2	221.2	220.0	221.2	221.0	.3
16	2.7700	.0526	.1319	202.9	201.2	201.4	201.2	203.3	202.0	.5
17	3.5000	.0592	.1483	184.4	182.7	182.4	181.8	185.0	183.2	.8
18	4.3700	.0661	.1657	168.5	165.7	163.7	166.5	169.8	166.8	1.4
19	5.5600	.0746	.1869	149.3	147.6	145.0	146.5	153.9	148.4	2.3
20	7.0300	.0838	.2102	132.8	134.3	127.1	130.6	144.4	133.5	4.7

DATA SET: TCW03

CLIENT: USGS-WRD (Tom Nolan) DATE: 15-Sep-93
LOCATION: Baseline Flats - Grand Teton N SOUNDING: 03
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet

LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

30.00 Hz GAIN: 4	3.00 Hz GAIN: 8
19.60 AMPS EM-37	19.60 AMPS EM-37
COIL: 100.0 m^2	COIL: 100.0 m^2
RAMP: 205.0 muSEC	RAMP: 100.0 muSEC
SHIFT: 0.0 muSEC	SHIFT: -105.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	1193.18	936.10		
12	0.105	744.84	893.80		
13	0.136	444.71	837.80		
14	0.173	291.14	755.10		
15	0.217	226.54	622.50		
16	0.280	654.78	510.70		
17	0.354	347.12	520.50		
18	0.435	225.11	479.40		
19	0.552	165.91	393.40		
20	0.702	105.84	361.90		
21	0.865	19.34	317.90	418.69	318.94
22	1.100	13.35	285.60	260.52	292.08
23	1.410	8.26	257.40	160.07	258.43
24	1.760	5.12	238.40	98.05	236.73
25	2.240	3.27	221.00	60.65	222.75
26	2.820	7.96	202.00	148.45	200.40
27	3.570	5.15	183.20	91.34	182.35
28	4.380	3.55	166.80	59.74	165.31
29	5.550	2.34	148.40	177.23	53.15
30	7.050	1.50	133.50	121.52	46.29

* USGS - Branch of Geophysics*

DATA SET: TCW03

CLIENT: USGS-WRD (Tom Nolan) DATE: 15-Sep-93
LOCATION: Baseline Flats - Grand Teton N SOUNDING: 03
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 7.890 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	335.2	323.3	-323.3	0.964
2	75.79	290.4	-613.8	3.83
3	24.97			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	314.638	335.243	358.438
	2	50.972	75.799	117.917
	3	10.390	24.976	61.915
THICK	1	276.502	323.335	369.191
	2	223.828	290.477	344.095
DEPTH	1	276.502	323.335	369.191
	2	533.074	613.812	676.929

CURRENT: 19.60 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 4 RAMP TIME: 205.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0670	936.1	997.6	-6.57
2	0.106	693.6	684.7	1.00
3	0.136	837.8	779.4	6.96
4	0.174	755.1	695.7	7.86
5	0.216	622.5	627.4	-0.792
6	0.277	510.7	557.3	-9.13

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
7	0.353	520.5	496.6	4.57
8	0.441	479.4	448.8	6.79
9	0.561	393.4	399.6	-1.58
10	0.706	361.9	360.1	0.472
11	0.865	317.9	328.8	-3.43
12	1.07	285.6	299.9	-5.01
13	1.38	257.4	268.9	-4.49
14	1.75	238.4	243.5	-2.14
15	2.19	221.0	222.8	-0.856
16	2.82	202.0	202.8	-0.412
17	3.56	183.2	188.0	-2.62
18	4.37	166.8	177.2	-6.28
19	5.54	148.4	167.9	-13.19
20	7.04	133.5	161.6	-21.07

CURRENT: 19.60 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 100.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.765	318.9	319.3	-0.131
22	0.975	292.0	290.1	0.663
23	1.27	258.4	260.7	-0.908
24	1.65	236.7	235.1	0.669
25	2.05	222.7	214.0	3.90
26	2.66	200.4	192.1	4.09
27	3.42	182.3	173.8	4.67
28	4.30	165.3	159.1	3.74

U.S. Geological Survey
Teton County WY--WRD
TCW04Ha 93/09/21
L(m)=304.8 Tx I(A)=20.0
Tx Volt=160 Tx Res= 6.9
Base freq=H Sync mode=X
Tof(us)=198 Rof(us)=198
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	3730	3712	3735	3709	3722	3689	3719	3730	3763	3726
2	3028	3011	3034	3009	3023	2994	3019	3025	3054	3022
3	2277	2276	2280	2275	2273	2264	2271	2286	2296	2284
4	1678	1665	1681	1664	1676	1656	1674	1672	1692	1666
5	1215	1208	1216	1208	1213	1202	1213	1213	1224	1211
6	3250	3257	3258	3255	3245	3242	3242	3271	3272	3268
7	2121	2118	2124	2117	2117	2110	2116	2126	2135	2125
8	1363	1358	1364	1358	1361	1354	1360	1364	1371	1363
9	822	819	823	819	826	816	821	822	827	822
10	485	480	485	480	484	478	484	482	487	481
11	76.1	76.5	76.2	76.5	75.9	76.3	75.9	76.8	76.4	76.6
12	45.5	45.7	45.5	45.7	45.3	45.5	45.4	45.9	45.6	45.8
13	24.8	24.7	24.9	24.7	25.0	9.5	-3.4	9.9	-4.0	9.9
14	-2.9	-8.7	9.4	-10.0	-1.8	7.5	-3.7	7.8	-4.2	7.9
15	-5.2	-5.1	8.0	-6.4	-3.6	8.5	-5.5	8.7	-5.6	8.8
16	2.4	-21.4	14.6	-27.0	9.3	5.0	.1	4.2	-1.2	4.7
17	1.4	-17.2	9.6	-26.1	8.8	5.7	-1.3	6.2	-1.9	5.9
18	3.4	-11.7	3.1	-22.8	11.6	7.6	-.9	7.8	-2.7	8.1
19	-3.2	6.6	-12.3	-5.8	1.7	14.9	-7.1	15.7	-8.0	16.0
20	-3.2	13.9	-17.4	-1.5	.3	16.7	-7.1	18.1	-7.7	18.6
Primary	1	1	1	2	1	-1	2	1	2	-3
Gain	3		3		3		3		3	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	8927.5	8929.9	8890.4	8935.9	8983.9	8933.5	.4
2	.1080	7244.5	7249.3	7218.1	7250.5	7288.9	7250.3	.3
3	.1380	5461.9	5464.3	5442.7	5466.7	5494.2	5466.0	.3
4	.1750	4010.3	4012.7	3997.1	4013.9	4028.3	4012.5	.3
5	.2180	2906.7	2907.9	2897.1	2910.3	2921.1	2908.6	.3
6	.2780	1951.5	1953.3	1945.5	1953.3	1961.4	1953.0	.3
7	.3510	1271.3	1271.9	1267.7	1272.2	1277.6	1272.1	.3
8	.4380	816.0	816.3	814.2	816.9	819.9	816.7	.3
9	.5580	492.1	492.4	492.4	492.7	494.5	492.9	.2
10	.7020	289.4	289.4	288.5	289.7	290.3	289.5	.2
11	.8580	183.1	183.2	182.6	183.2	183.5	183.1	.2
12	1.0660	109.4	109.4	108.9	109.5	109.6	109.4	.2
13	1.3700	59.4	59.5	41.4	7.8	7.1	35.0	74.9
14	1.7400	-13.9	-.7	6.8	4.9	4.4	.3	--
15	2.1700	-12.4	1.9	5.9	3.8	3.8	.6	--
16	2.7700	-5.7	-3.7	4.3	1.3	1.0	-.6	--
17	3.5000	-4.7	-4.9	4.3	1.5	1.2	-.5	--
18	4.3700	-2.5	-5.9	5.8	2.1	1.6	.2	--
19	5.5600	1.0	-5.4	5.0	2.6	2.4	1.1	--
20	7.0300	3.2	-5.7	5.1	3.3	3.3	1.8	--

U.S. Geological Survey
Teton County WY--WRD
TCW04Ha 93/09/21
L(m)=304.8 Tx I(A)=20.0
Tx Volt=160 Tx Res= 6.9
Base freq=H Sync mode=X
Tof(us)=198 Rof(us)=198
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	269.6	269.6	270.4	269.5	268.5	269.5	.2
2	.1080	.0104	.0260	221.1	221.0	221.6	220.9	220.2	220.9	.2
3	.1380	.0117	.0294	175.8	175.8	176.3	175.7	175.2	175.8	.2
4	.1750	.0132	.0332	146.2	146.1	146.5	146.1	145.7	146.1	.2
5	.2180	.0148	.0370	127.0	127.0	127.3	126.9	126.6	127.0	.2
6	.2780	.0167	.0418	110.0	109.9	110.2	109.9	109.6	109.9	.2
7	.3510	.0187	.0470	98.55	98.52	98.74	98.51	98.23	98.51	.2
8	.4380	.0209	.0525	91.57	91.55	91.70	91.50	91.28	91.52	.2
9	.5580	.0236	.0592	86.03	85.99	85.99	85.96	85.75	85.95	.1
10	.7020	.0265	.0664	82.87	82.87	83.05	82.82	82.70	82.86	.1
11	.8580	.0293	.0734	79.61	79.58	79.75	79.58	79.47	79.60	.1
12	1.0660	.0326	.0818	77.95	77.95	78.18	77.90	77.84	77.96	.2
13	1.3700	.0370	.0928	77.19	77.09	98.20	298.8	318.7	109.8	49.9
14	1.7400	.0417	.1046	138.0	994.3	221.7	276.1	295.7	1736.7	*****
15	2.1700	.0466	.1168	103.9	359.5	170.5	226.5	226.5	760.5	789.7
16	2.7700	.0526	.1319	116.0	154.2	140.2	312.4	358.3	546.1	485.1
17	3.5000	.0592	.1483	88.53	86.01	93.75	193.2	221.2	379.5	515.0
18	4.3700	.0661	.1657	93.97	52.81	53.73	106.3	125.2	488.6	*****
19	5.5600	.0746	.1869	114.0	37.41	39.63	61.43	64.47	107.8	235.7
20	7.0300	.0838	.2102	35.91	24.57	26.37	35.25	35.47	52.00	154.7

U.S. Geological Survey
Teton County WY--WRD
TCW04Ma 93/09/21
L(m)=304.8 Tx I(A)=20.0
Tx Volt=160 Tx Res= 6.9
Base freq=M Sync mode=X
Tof(us)=198 Rof(us)=198
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	3245	3152	3198	3176	3206	3198	3215	3243	3215	3245
2	1898	1860	1883	1885	1874	1905	1884	1923	1886	1921
3	983	961	988	975	975	994	978	999	978	999
4	522	505	532	512	517	530	520	531	519	530
5	292	278	305	287	290	305	290	304	291	302
6	614	610	671	624	611	691	615	687	609	688
7	326	323	397	330	328	405	333	397	326	396
8	179	179	252	180	181	255	183	252	185	248
9	90	95	165	93	94	163	94	166	99	166
10	32	46	114	48	39	113	43	118	47	122
11	1.2	-1.2	16.4	-1.1	2.2	14.2	1.8	11.7	2.1	11.3
12	-.8	-5.6	13.0	-5.8	.3	10.5	-1.3	9.6	-.9	9.6
13	-2.7	-8.3	9.6	-9.0	-1.5	9.5	-3.4	9.9	-4.0	9.9
14	-2.9	-8.7	9.4	-10.0	-1.8	7.5	-3.7	7.8	-4.2	7.9
15	-5.2	-5.1	8.0	-6.4	-3.6	8.5	-5.5	8.7	-5.6	8.8
16	2.4	-21.4	14.6	-27.0	9.3	5.0	.1	4.2	-1.2	4.7
17	1.4	-17.2	9.6	-26.1	8.8	5.7	-1.3	6.2	-1.9	5.9
18	3.4	-11.7	3.1	-22.8	11.6	7.6	-.9	7.8	-2.7	8.1
19	-3.2	6.6	-12.3	-5.8	1.7	14.9	-7.1	15.7	-8.0	16.0
20	-3.2	13.9	-17.4	-1.5	.3	16.7	-7.1	18.1	-7.7	18.6
Primary	1	1	1	2	1	-1	2	1	2	-3
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	239.8	239.0	240.1	242.1	242.2	240.6	.6
2	1.0660	140.9	141.3	141.7	142.7	142.7	141.9	.6
3	1.3700	72.9	73.6	73.8	74.1	74.1	73.7	.7
4	1.7400	38.5	39.1	39.3	39.4	39.3	39.1	.9
5	2.1700	21.4	22.2	22.3	22.3	22.2	22.1	1.8
6	2.7700	11.5	12.1	12.2	12.2	12.2	12.0	2.6
7	3.5000	6.1	6.8	6.9	6.8	6.8	6.7	5.0
8	4.3700	3.4	4.0	4.1	4.1	4.1	3.9	8.1
9	5.5600	1.7	2.4	2.4	2.4	2.5	2.3	13.7
10	6.9800	.7	1.5	1.4	1.5	1.6	1.4	26.0
11	8.5600	0.0	.6	.6	.5	.5	.4	56.9
12	10.6400	-.2	.3	.4	.3	.3	.2	--
13	13.7000	-.4	.0	.3	.2	.2	.1	--
14	17.4000	-.4	-.0	.2	.2	.1	.0	--
15	21.7000	-.4	.1	.2	.1	.1	.0	--
16	27.7000	-.2	-.1	.1	.0	.0	-.0	--
17	35.0000	-.1	-.2	.1	.0	.0	-.0	--
18	43.7000	-.1	-.2	.2	.1	.1	.0	--
19	55.6000	.0	-.2	.2	.1	.1	.0	--
20	70.3000	.1	-.2	.2	.1	.1	.1	--

U.S. Geological Survey
Teton County WY--WRD
TCW04Ma 93/09/21
L(m)=304.8 Tx I(A)=20.0
Tx Volt=160 Tx Res= 6.9
Base freq=M Sync mode=X
Tof(us)=198 Rof(us)=198
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	64.76	64.92	64.72	64.35	64.34	64.62	.4
2	1.0660	.0326	.0818	65.86	65.74	65.61	65.29	65.29	65.56	.4
3	1.3700	.0370	.0928	67.34	66.91	66.77	66.59	66.59	66.84	.5
4	1.7400	.0417	.1046	69.71	68.95	68.82	68.64	68.73	68.97	.6
5	2.1700	.0466	.1168	72.38	70.58	70.34	70.42	70.50	70.83	1.2
6	2.7700	.0526	.1319	72.76	70.07	69.82	69.82	70.00	70.47	1.7
7	3.5000	.0592	.1483	74.78	69.33	68.95	69.14	69.65	70.29	3.3
8	4.3700	.0661	.1657	76.87	67.82	67.40	67.51	67.71	69.23	5.4
9	5.5600	.0746	.1869	80.05	64.13	64.30	63.80	63.00	66.38	9.2
10	6.9800	.0835	.2094	96.27	59.14	61.70	59.38	57.49	63.85	17.4
11	8.5600	.0925	.2319	0.00	80.10	76.48	87.08	87.51	95.68	38.0
12	10.6400	.1032	.2586	99.49	91.98	70.19	83.66	81.08	107.2	80.4
13	13.7000	.1170	.2934	45.69	317.7	56.50	64.88	69.21	142.4	259.5
14	17.4000	.1319	.3306	29.97	215.9	48.14	59.96	64.21	377.0	*****
15	21.7000	.1473	.3692	22.56	78.07	37.02	49.18	49.18	165.2	789.9
16	27.7000	.1664	.4172	25.19	33.48	30.45	67.83	77.81	118.6	485.1
17	35.0000	.1871	.4689	19.23	18.68	20.36	41.96	48.04	82.41	515.0
18	43.7000	.2090	.5240	20.41	11.47	11.67	23.08	27.18	106.1	*****
19	55.6000	.2358	.5911	24.77	8.12	8.60	13.34	14.00	23.41	235.6
20	70.3000	.2651	.6646	7.80	5.34	5.73	7.65	7.70	11.29	154.7

DATA SET: TCW04

CLIENT: USGS-WRD (Tom Nolan) DATE: 15-Sep-93
LOCATION: Moosehead Ranch nr Teton NP SOUNDING: 04
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet

LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 8-10,16,20: YES

30.00 Hz	GAIN: 4	3.00 Hz	GAIN: 8
19.50 AMPS	EM-37	19.80 AMPS	EM-37
COIL:	100.0 m^2	COIL:	100.0 m^2
RAMP:	198.0 muSEC	RAMP:	100.0 muSEC
SHIFT:	0.0 muSEC	SHIFT:	-98.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	7684.64	289.50		
12	0.105	6031.24	220.90		
13	0.136	4563.93	176.80		
14	0.173	3403.39	146.10		
15	0.217	2445.79	127.00		
16	0.280	6525.65	109.90		
17	0.354	4194.33	98.51		
18	0.435	2685.03	91.52		
19	0.552	1616.38	85.95		
20	0.702	960.80	82.88		
21	0.885	153.59	79.60	3328.53	78.86
22	1.100	93.11	77.96	1897.07	76.82
23	1.410	50.21	77.00	998.50	75.57
24	1.760	5.12	237.59	533.63	75.97
25	2.240	3.27	220.25	298.64	76.53
26	2.820	7.96	201.31	646.33	74.83
27	3.570	5.15	182.58	353.90	73.67
28	4.360	3.55	166.23	207.55	71.87
29	5.550	2.34	147.90	128.51	65.71
30	7.050	1.50	135.05	80.47	60.83

* USGS - Branch of Geophysics*

DATA SET: TCW04

CLIENT: USGS-WRD (Tom Nolan) DATE: 15-Sep-93
LOCATION: Moosehead Ranch nr Teton NP SOUNDING: 04
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 5.042 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	41.00	7.77	-7.77	0.189
2	64.36	472.2	-480.0	7.33
3	6.47			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

LAYER		MINIMUM	BEST	MAXIMUM
RHO	1	16.801	41.003	64.975
	2	60.133	64.364	67.951
	3	2.907	6.473	14.392
THICK	1	0.323	7.773	26.066
	2	437.235	472.281	520.157
DEPTH	1	0.323	7.773	26.066
	2	445.654	480.054	527.190

CURRENT: 19.50 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 4 RAMP TIME: 198.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	269.5	255.2	5.29
2	0.108	220.9	211.4	4.27
3	0.138	176.8	174.8	1.10
4	0.174	146.1	149.2	-2.17
5	0.216	127.0	131.0	-3.19

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
6	0.277	109.9	115.0	-4.71
7	0.353	98.51	103.2	-4.66
8	0.441	91.52	94.98	-3.79
9	0.561	85.95	88.15	-2.56
10	0.706	82.88	83.48	-0.727
11	0.865	79.60	80.72	-1.41
12	1.07	77.96	79.26	-1.67
13	1.38	77.00	79.33	-3.03

CURRENT: 19.60 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 100.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
14	0.772	78.86	74.99	4.90
15	0.982	76.82	73.55	4.25
16	1.26	75.57	73.60	2.59
17	1.64	75.96	74.84	1.47
18	2.06	76.52	76.50	0.0331
19	2.67	74.83	77.26	-3.25
20	3.45	73.66	75.24	-2.14
21	4.31	71.87	70.50	1.90
22	5.51	65.71	62.71	4.56
23	6.96	60.83	54.67	10.12

U.S. Geological Survey
Teton County WY--WRD
TCW05H 93/09/16
L(m)=304.8 Tx I(A)=20.2
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=200 Rof(us)=200
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	2455	2494	2496	2386	2459	2444	2509	2483	2460	2441
2	1935	1956	1957	1889	1933	1924	1966	1949	1934	1923
3	1482	1503	1496	1459	1482	1482	1503	1498	1481	1481
4	1161	1166	1170	1137	1160	1153	1176	1164	1160	1152
5	923	925	925	903	917	914	931	923	922	914
6	2799	2830	2817	2768	2796	2799	2829	2823	2796	2799
7	2129	2151	2142	2105	2127	2128	2151	2145	2127	2128
8	1614	1628	1622	1591	1612	1612	1630	1624	1611	1612
9	1181	1191	1187	1168	1179	1179	1191	1188	1179	1179
10	848	856	853	840	847	848	856	854	847	848
11	159.1	160.6	159.8	157.6	158.9	159.1	160.5	160.2	159.0	159.0
12	113.2	114.5	113.6	112.4	112.9	113.5	114.1	114.2	112.9	113.5
13	74.3	75.0	74.6	73.7	74.2	74.4	75.0	74.9	74.2	74.3
14	48.5	49.2	48.7	48.3	48.4	48.8	49.0	49.0	48.4	48.7
15	31.6	32.0	31.7	31.5	31.5	31.8	31.8	31.9	31.6	31.2
16	76.7	77.3	77.0	76.0	76.6	76.7	77.7	77.1	76.5	76.6
17	46.0	46.1	46.1	45.4	45.8	45.8	46.3	46.0	45.8	45.7
18	27.4	27.7	27.5	27.3	27.4	27.5	27.6	27.6	27.4	27.5
19	15.4	15.7	15.3	15.5	15.3	15.6	15.5	15.6	15.4	15.1
20	8.2	8.7	8.1	8.6	8.2	8.6	8.3	8.6	8.3	8.6
Primary	3	1	2	1	2	2	2	1	2	1
Gain	4		4		4		4		4	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	2968.5	2928.3	2940.9	2994.2	2939.7	2954.3	.9
2	.1080	2333.9	2306.9	2313.5	2348.2	2313.5	2323.2	.7
3	.1380	1790.4	1772.4	1777.8	1800.0	1776.6	1783.4	.6
4	.1750	1395.8	1383.8	1387.4	1403.6	1386.8	1391.5	.6
5	.2180	1108.4	1096.4	1098.2	1112.0	1101.2	1103.2	.6
6	.2780	844.1	837.5	839.0	847.5	839.0	841.4	.5
7	.3510	641.8	636.9	638.1	644.2	638.1	639.8	.5
8	.4380	486.1	481.8	483.5	487.9	483.3	484.5	.5
9	.5580	355.7	353.1	353.6	356.7	353.6	354.6	.4
10	.7020	255.5	253.9	254.2	256.4	254.2	254.8	.4
11	.8580	191.8	190.4	190.7	192.4	190.7	191.2	.4
12	1.0660	136.6	135.6	135.8	136.9	135.8	136.1	.4
13	1.3700	89.6	89.0	89.1	89.9	89.1	89.3	.4
14	1.7400	58.6	58.2	58.3	58.8	58.2	58.4	.4
15	2.1700	38.1	37.9	38.0	38.2	37.7	38.0	.6
16	2.7700	23.1	22.9	23.0	23.2	23.0	23.0	.5
17	3.5000	13.8	13.7	13.7	13.8	13.7	13.8	.4
18	4.3700	8.3	8.2	8.2	8.3	8.2	8.2	.3
19	5.5600	4.7	4.6	4.6	4.7	4.6	4.6	.8
20	7.0300	2.5	2.5	2.5	2.5	2.5	2.5	.5

U.S. Geological Survey
Teton County WY--WRD
TCW05H 93/09/16
L(m)=304.8 Tx I(A)=20.2
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=200 Rof(us)=200
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	565.5	570.7	569.0	562.3	569.2	567.3	.6
2	.1080	.0104	.0260	473.5	477.2	476.3	471.6	476.3	475.0	.5
3	.1380	.0117	.0294	372.3	374.8	374.1	371.0	374.3	373.3	.4
4	.1750	.0132	.0332	297.4	299.1	298.6	296.2	298.6	298.0	.4
5	.2180	.0148	.0370	243.2	244.9	244.7	242.6	244.2	243.9	.4
6	.2780	.0167	.0418	193.6	194.6	194.4	193.1	194.4	194.0	.3
7	.3510	.0187	.0470	156.5	157.3	157.1	156.1	157.1	156.8	.3
8	.4380	.0209	.0525	130.2	131.0	130.7	129.9	130.7	130.5	.3
9	.5580	.0236	.0592	107.5	108.1	108.0	107.3	108.0	107.8	.3
10	.7020	.0265	.0664	90.65	91.04	90.97	90.43	90.97	90.81	.3
11	.8580	.0293	.0734	77.70	78.08	77.98	77.54	77.98	77.85	.3
12	1.0660	.0326	.0818	67.68	68.02	67.94	67.56	67.94	67.83	.3
13	1.3700	.0370	.0928	59.09	59.35	59.28	58.93	59.30	59.19	.3
14	1.7400	.0417	.1046	53.28	53.54	53.47	53.17	53.50	53.39	.3
15	2.1700	.0466	.1168	49.32	49.53	49.48	49.27	49.74	49.47	.4
16	2.7700	.0526	.1319	45.94	46.14	46.08	45.78	46.12	46.01	.3
17	3.5000	.0592	.1483	43.68	43.87	43.84	43.61	43.87	43.77	.3
18	4.3700	.0661	.1657	42.51	42.67	42.62	42.46	42.62	42.57	.2
19	5.5600	.0746	.1869	41.67	41.94	41.85	41.67	42.21	41.86	.5
20	7.0300	.0838	.2102	42.31	42.64	42.47	42.31	42.31	42.41	.4

U.S. Geological Survey
Teton County WY--WRD
TCW05M 93/09/16
L(m)=304.8 Tx I(A)=20.2
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 88 Rof(us)= 88
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-3184	-3169	-3172	-3200	-3178	-3184	-3165	-3166	-3156	-3154
2	-2267	-2245	-2255	-2255	-2265	-2249	-2255	-2246	-2243	-2225
3	-1459	-1452	-1448	-1452	-1463	-1449	-1456	-1456	-1440	-1435
4	-924	-926	-916	-926	-927	-925	-923	-928	-911	-914
5	-592	-587	-588	-588	-597	-588	-594	-592	-585	-579
6	-1411	-1404	-1414	-1443	-1344	-1454	-1344	-1322	-1421	-1362
7	-857	-867	-850	-866	-810	-871	-812	-834	-853	-822
8	-531	-525	-520	-530	-518	-536	-523	-529	-520	-500
9	-307	-304	-294	-305	-317	-313	-316	-309	-298	-290
10	-187	-174	-164	-172	-189	-185	-188	-176	-171	-165
11	-9.4	-24.2	-5.3	-15.9	-16.6	-20.1	-16.9	-23.7	-5.4	-17.4
12	-8.0	-11.0	-4.3	-11.1	-15.2	-13.7	-14.6	-15.3	-3.4	-12.3
13	-9.8	-5.3	-7.5	-7.6	-10.1	-9.5	-9.6	-7.2	-5.8	-8.2
14	-4.8	-3.6	-3.7	-4.9	-2.3	-6.8	-2.1	-5.3	-4.8	-4.7
15	-1.3	-1.0	.8	-2.5	-1.6	-4.0	-1.8	-2.7	-.8	-3.3
16	38.7	-39.3	43.1	-45.7	29.7	-53.6	31.8	-35.5	43.8	-42.4
17	30.1	-33.4	29.7	-27.3	34.0	-33.7	35.5	-36.8	27.0	-38.1
18	13.1	-9.5	11.8	-11.2	8.9	-17.0	10.1	-9.4	11.6	-15.4
19	-3.6	7.0	-6.7	7.4	-5.6	4.0	-4.6	7.0	-6.9	2.4
20	-6.9	10.4	-10.7	11.2	-8.2	8.5	-7.4	10.6	-10.9	5.9
Primary	-2	-2	-1	-2	-1	-1	-2	-2	4	-2
Gain	8		8		8		8		8	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8900	-238.2	-238.9	-238.5	-237.3	-236.6	-237.9	.4
2	1.0900	-169.2	-169.1	-169.2	-168.7	-167.5	-168.7	.4
3	1.4000	-109.1	-108.7	-109.2	-109.2	-107.8	-108.8	.5
4	1.7700	-69.4	-69.1	-69.4	-69.4	-68.4	-69.1	.6
5	2.1900	-44.2	-44.1	-44.4	-44.5	-43.6	-44.2	.8
6	2.8000	-26.4	-26.8	-26.2	-25.0	-26.1	-26.1	2.6
7	3.5500	-16.2	-16.1	-15.8	-15.4	-15.7	-15.8	1.9
8	4.4300	-9.9	-9.8	-9.9	-9.9	-9.6	-9.8	1.4
9	5.6300	-5.7	-5.6	-5.9	-5.9	-5.5	-5.7	2.9
10	7.1200	-3.4	-3.1	-3.5	-3.4	-3.1	-3.3	4.9
11	8.7600	-1.3	-.8	-1.4	-1.5	-.9	-1.2	27.7
12	10.9000	-.7	-.6	-1.1	-1.1	-.6	-.8	32.6
13	14.0000	-.6	-.6	-.7	-.6	-.5	-.6	13.6
14	17.6500	-.3	-.3	-.3	-.3	-.4	-.3	9.3
15	21.9500	-.1	-.1	-.2	-.2	-.2	-.1	44.2
16	28.0000	-.0	-.0	-.2	-.0	.0	-.1	--
17	35.4500	-.0	.0	.0	-.0	-.1	-.0	--
18	44.2500	.0	.0	-.1	.0	-.0	-.0	--
19	56.3000	.0	.0	-.0	.0	-.0	.0	--
20	71.2000	.0	.0	.0	.0	-.0	.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW05M 93/09/16
L(m)=304.8 Tx I(A)=20.2
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 88 Rof(us)= 88
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8900	.0298	.0748	65.50	65.37	65.43	65.65	65.79	65.55	.3
2	1.0900	.0330	.0828	58.69	58.71	58.67	58.78	59.07	58.78	.3
3	1.4000	.0374	.0938	51.79	51.92	51.78	51.78	52.22	51.90	.4
4	1.7700	.0421	.1055	47.40	47.54	47.37	47.38	47.83	47.50	.4
5	2.1900	.0468	.1173	44.88	44.96	44.73	44.71	45.27	44.91	.5
6	2.8000	.0529	.1326	42.04	41.62	42.21	43.59	42.36	42.35	1.7
7	3.5500	.0596	.1493	39.25	39.37	39.91	40.48	40.01	39.80	1.3
8	4.4300	.0666	.1668	37.62	37.76	37.67	37.72	38.50	37.85	1.0
9	5.6300	.0750	.1881	36.34	36.82	35.60	35.79	37.28	36.35	1.9
10	7.1200	.0844	.2115	34.89	36.60	34.08	34.70	36.60	35.34	3.3
11	8.7600	.0936	.2346	47.73	64.88	45.00	42.07	61.81	50.38	18.5
12	10.9000	.1044	.2617	48.49	55.78	36.66	35.84	55.06	44.27	21.8
13	14.0000	.1183	.2966	37.24	37.24	31.29	34.68	39.16	35.65	9.0
14	17.6500	.1329	.3330	37.42	36.84	35.47	40.72	34.47	36.84	6.2
15	21.9500	.1482	.3714	61.70	75.48	34.09	39.44	41.97	45.43	29.5
16	28.0000	.1673	.4194	253.8	95.49	21.76	75.48	144.3	55.42	116.3
17	35.4500	.1883	.4720	54.98	67.98	271.9	102.3	24.49	64.45	133.1
18	44.2500	.2104	.5273	35.85	118.4	20.88	106.8	34.58	67.29	218.3
19	56.3000	.2373	.5948	24.93	71.50	41.21	31.45	20.68	303.6	*****
20	71.2000	.2668	.6689	16.53	60.50	85.05	17.55	13.04	60.50	455.0

DATA SET: TCW05

CLIENT: USGS-WRD (Tom Nolan) DATE: 16-Sep-93
LOCATION: Lost Creek Road - Teton NP SOUNDING: 05
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet

LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

30.00 Hz	GAIN: 4	3.00 Hz	GAIN: 8	
20.00 AMPS	EM-37	20.00 AMPS	EM-37	
COIL:	100.0 m^2	COIL:	100.0 m^2	
RAMP:	200.0 muSEC	RAMP:	88.0 muSEC	
SHIFT:	0.0 muSEC	SHIFT:	-112.0 muSEC	

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	2580.70	567.30		
12	0.105	1961.80	475.00		
13	0.136	1525.71	373.30		
14	0.173	1198.28	298.00		
15	0.217	942.55	243.90		
16	0.280	2853.73	194.00		
17	0.354	2142.20	156.80		
18	0.435	1617.35	130.50		
19	0.552	1180.27	107.80		
20	0.702	859.22	90.81		
21	0.865	182.86	77.85	3324.44	82.48
22	1.100	117.67	67.83	2280.19	70.55
23	1.410	78.42	59.19	1489.11	59.76
24	1.760	49.26	53.39	952.71	53.07
25	2.240	31.52	49.47	603.57	49.08
26	2.820	74.72	46.01	1415.65	45.37
27	3.570	44.97	43.77	847.57	42.00
28	4.380	28.08	42.57	523.89	39.51
29	5.550	15.92	41.86	304.98	37.59
30	7.050	8.57	42.41	179.07	36.29

* USGS - Branch of Geophysics*

DATA SET: TCW05

CLIENT: USGS-WRD (Tom Nolan) DATE: 16-Sep-93
LOCATION: Lost Creek Road - Teton NP SOUNDING: 05
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 4.944 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	207.2	110.3	-110.3	0.532
2	23.26			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	182.096	207.241	347.423
	2	21.722	23.269	25.081
THICK	1	97.032	110.353	118.957
DEPTH	1	97.032	110.353	118.957

CURRENT: 20.00 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 20.20 Hz GAIN: 4 RAMP TIME: 200.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	567.3	597.1	-5.25
2	0.108	475.0	467.6	1.55
3	0.138	373.3	357.8	4.13
4	0.174	298.0	281.3	5.59
5	0.218	243.9	227.4	6.76
6	0.277	194.0	180.6	6.86
7	0.355	156.8	146.7	6.38
8	0.441	130.5	123.0	5.69
9	0.561	107.8	103.3	4.14
10	0.706	90.81	88.75	2.26

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
11	0.865	77.85	78.56	-0.920
12	1.07	67.83	69.92	-3.08
13	1.38	59.19	61.77	-4.36
14	1.75	53.39	55.79	-4.49
15	2.19	49.47	51.29	-3.69
16	2.82	46.01	47.27	-2.74
17	3.56	43.77	44.42	-1.48
18	4.37	42.57	42.44	0.291
19	5.54	41.86	40.80	2.51
20	7.04	42.41	39.73	6.31

CURRENT: 20.00 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 88.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.758	82.47	78.89	4.57
22	0.968	70.54	69.10	2.04
23	1.26	59.76	60.76	-1.66
24	1.62	53.07	54.69	-3.05
25	2.04	49.07	50.16	-2.21
26	2.65	45.36	46.00	-1.41
27	3.41	41.99	42.72	-1.73
28	4.29	39.50	40.24	-1.87
29	5.49	37.59	38.05	-1.23
30	6.94	36.29	36.30	-0.0172

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY--WRD
TCW06H 93/09/16
L(m)=304.8 Tx I(A)=20.1
Tx Volt=160 Tx Res= 7.5
Base freq=H Sync mode=X
Tof(us)=207 Rof(us)=207
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-4285	-4408	-4450	-4528	-4388	-4355	-4262	-4279	-4304	-4347
2	-3027	-3110	-3124	-3181	-3088	-3077	-3016	-3032	-3038	-3074
3	-1999	-2038	-2050	-2079	-2033	-2019	-1993	-1994	-2005	-2018
4	-1317	-1351	-1347	-1374	-1336	-1341	-1312	-1326	-1319	-1340
5	-888	-905	-904	-922	-897	-898	-882	-890	-886	-898
6	-2256	-2278	-2295	-2310	-2282	-2264	-2250	-2243	-2258	-2261
7	-1418	-1436	-1441	-1454	-1432	-1428	-1413	-1417	-1420	-1427
8	-900	-913	-912	-924	-908	-909	-897	-901	-900	-909
9	-544	-553	-552	-559	-549	-551	-543	-547	-545	-551
10	-322	-330	-327	-334	-325	-328	-321	-326	-322	-328
11	-51.8	-51.8	-52.5	-52.6	-51.6	-51.6	-51.7	-51.3	-51.8	-51.7
12	-30.7	-30.7	-31.1	-31.2	-30.9	-30.6	-30.6	-30.4	-30.4	-30.7
13	-16.0	-16.4	-16.2	-16.6	-16.2	-16.4	-16.0	-16.3	-15.9	-16.4
14	-8.5	-8.7	-8.7	-8.8	-8.6	-8.7	-8.5	-8.6	-8.6	-8.7
15	-4.7	-4.8	-4.8	-4.9	-4.8	-4.9	-4.7	-4.8	-4.6	-4.9
16	-10.2	-10.2	-10.6	-10.6	-10.4	-10.4	-10.2	-10.1	-10.3	-10.3
17	-5.7	-6.1	-6.0	-6.7	-5.9	-6.2	-5.7	-6.0	-5.7	-6.4
18	-3.6	-3.7	-3.9	-4.3	-3.8	-3.9	-3.6	-3.6	-3.6	-4.2
19	-2.3	-2.3	-2.6	-2.8	-2.5	-2.5	-2.3	-2.3	-2.3	-2.6
20	-1.4	-1.5	-1.7	-1.9	-1.7	-1.7	-1.5	-1.4	-1.4	-1.7
Primary	-2	-3	-2	-3	-2	-4	-2	-3	-1	-4
Gain	5		5		5		5		5	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-2607.1	-2692.5	-2622.1	-2561.5	-2594.5	-2615.5	1.9
2	.1080	-1840.5	-1890.9	-1848.9	-1813.8	-1833.0	-1845.4	1.5
3	.1380	-1210.7	-1238.3	-1215.2	-1195.7	-1206.5	-1213.3	1.3
4	.1750	-800.1	-816.0	-802.8	-791.2	-797.4	-801.5	1.1
5	.2180	-537.7	-547.6	-538.3	-531.4	-535.0	-538.0	1.1
6	.2780	-339.9	-345.3	-340.8	-336.9	-338.8	-340.4	.9
7	.3510	-214.0	-217.1	-214.4	-212.2	-213.5	-214.2	.8
8	.4380	-135.9	-137.7	-136.2	-134.8	-135.6	-136.1	.8
9	.5580	-82.2	-83.3	-82.5	-81.7	-82.2	-82.4	.7
10	.7020	-48.9	-49.6	-49.0	-48.5	-48.7	-48.9	.8
11	.8580	-31.1	-31.5	-31.0	-30.9	-31.0	-31.1	.8
12	1.0660	-18.4	-18.7	-18.4	-18.3	-18.3	-18.4	.8
13	1.3700	-9.7	-9.8	-9.8	-9.7	-9.7	-9.7	.7
14	1.7400	-5.2	-5.2	-5.2	-5.1	-5.2	-5.2	.9
15	2.1700	-2.8	-2.9	-2.9	-2.8	-2.8	-2.9	1.1
16	2.7700	-1.5	-1.6	-1.6	-1.5	-1.5	-1.5	1.7
17	3.5000	-.9	-1.0	-.9	-.9	-.9	-.9	3.2
18	4.3700	-.5	-.6	-.6	-.5	-.6	-.6	5.3
19	5.5600	-.3	-.4	-.4	-.3	-.4	-.4	6.8
20	7.0300	-.2	-.3	-.3	-.2	-.2	-.2	9.8

U.S. Geological Survey
Teton County WY--WRD
TCW06H 93/09/16
L(m)=304.8 Tx I(A)=20.1
Tx Volt=160 Tx Res= 7.5
Base freq=H Sync mode=X
Tof(us)=207 Rof(us)=207
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	614.6	601.5	612.2	621.9	616.6	613.3	1.2
2	.1080	.0104	.0260	552.9	543.1	551.2	558.3	554.4	551.9	1.0
3	.1380	.0117	.0294	481.7	474.5	480.5	485.7	482.8	481.0	.9
4	.1750	.0132	.0332	429.5	423.9	428.5	432.7	430.4	429.0	.8
5	.2180	.0148	.0370	392.5	387.8	392.3	395.6	393.9	392.4	.7
6	.2780	.0167	.0418	353.8	350.2	353.2	356.0	354.6	353.6	.6
7	.3510	.0187	.0470	324.4	321.3	323.9	326.2	324.9	324.1	.6
8	.4380	.0209	.0525	303.5	300.9	303.0	305.2	303.9	303.3	.5
9	.5580	.0236	.0592	284.5	282.1	284.0	285.7	284.7	284.2	.5
10	.7020	.0265	.0664	272.1	269.6	271.8	273.5	272.7	272.0	.5
11	.8580	.0293	.0734	260.6	258.1	261.3	261.6	260.7	260.4	.5
12	1.0660	.0326	.0818	256.6	254.1	256.3	257.7	257.4	256.4	.6
13	1.3700	.0370	.0928	258.9	256.8	257.8	259.4	259.4	258.5	.4
14	1.7400	.0417	.1046	268.4	265.3	267.4	269.4	267.4	267.6	.6
15	2.1700	.0466	.1168	277.2	273.4	273.4	277.2	277.2	275.7	.8
16	2.7700	.0526	.1319	279.7	272.6	276.1	280.6	277.9	277.4	1.2
17	3.5000	.0592	.1483	271.9	258.9	267.4	273.5	267.4	267.7	2.2
18	4.3700	.0661	.1657	258.8	239.5	249.8	261.2	247.6	251.1	3.5
19	5.5600	.0746	.1869	235.7	211.8	223.0	235.7	226.0	226.0	4.5
20	7.0300	.0838	.2102	216.8	187.7	195.0	216.8	207.3	203.8	6.5

U.S. Geological Survey
Teton County WY--WRD
TCW06M 93/09/16
L(m)=304.8 Tx I(A)=19.7
Tx Volt=160 Tx Res= 7.5
Base freq=M Sync mode=X
Tof(us)=102 Rof(us)=102
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-590	-587	-584	-590	-598	-599	-594	-600	-590	-593
2	-332	-328	-330	-328	-338	-333	-334	-335	-331	-332
3	-167	-169	-165	-168	-171	-172	-167	-174	-165	-171
4	-77	-90	-80	-90	-85	-93	-80	-94	-79	-92
5	-48	-48	-42	-46	-48	-49	-44	-51	-44	-49
6	-117	-103	-106	-96	-119	-106	-102	-112	-100	-103
7	-72	-63	-61	-56	-72	-66	-56	-72	-54	-63
8	-51	-43	-39	-36	-52	-46	-33	-52	-33	-44
9	-36	-30	-25	-23	-37	-34	-20	-39	-18	-33
10	-29	-19	-18	-14	-30	-25	-13	-30	-12	-22
11	-.7	-4.8	1.5	-4.3	-1.0	-6.4	2.4	-7.2	2.5	-5.8
12	-.3	-4.0	1.9	-3.6	-.7	-6.1	2.8	-6.4	3.2	-5.0
13	-.5	-2.5	1.5	-2.4	-1.3	-4.4	2.1	-5.0	2.3	-3.7
14	.1	-2.2	2.3	-2.4	-.5	-4.5	2.6	-4.7	2.8	-3.7
15	-2.0	.4	.5	-.4	-2.5	-2.2	.3	-2.3	.1	-1.5
16	47.6	-46.9	51.9	-50.6	45.1	-53.8	49.1	-53.6	49.8	-53.4
17	40.6	-38.3	44.7	-43.0	37.6	-45.8	40.5	-45.3	41.0	-45.8
18	16.1	-11.8	19.2	-17.5	12.3	-19.4	13.8	-18.7	14.4	-19.7
19	-3.4	7.7	-2.2	3.0	-6.3	2.2	-6.7	3.6	-6.3	2.1
20	-6.6	11.2	-6.0	6.3	-9.2	5.9	-10.7	7.9	-10.3	5.9
Primary	-1	-1	-1	-1	3	-1	-1	-1	1	-2
Gain	8		8		8		8		8	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-44.1	-44.0	-44.9	-44.8	-44.3	-44.4	.9
2	1.0660	-24.7	-24.7	-25.2	-25.1	-24.9	-24.9	.8
3	1.3700	-12.6	-12.5	-12.9	-12.8	-12.6	-12.7	1.2
4	1.7400	-6.3	-6.4	-6.7	-6.5	-6.4	-6.4	2.4
5	2.1700	-3.6	-3.3	-3.6	-3.6	-3.5	-3.5	3.8
6	2.7700	-2.1	-1.9	-2.1	-2.0	-1.9	-2.0	4.8
7	3.5000	-1.3	-1.1	-1.3	-1.2	-1.1	-1.2	7.7
8	4.3700	-.9	-.7	-.9	-.8	-.7	-.8	11.8
9	5.5600	-.6	-.4	-.7	-.6	-.5	-.6	16.5
10	6.9800	-.4	-.3	-.5	-.4	-.3	-.4	22.7
11	8.5600	-.2	-.1	-.3	-.2	-.1	-.2	38.6
12	10.6400	-.2	-.1	-.3	-.1	-.1	-.1	57.6
13	13.7000	-.1	-.0	-.2	-.1	-.1	-.1	67.4
14	17.4000	-.1	-.0	-.2	-.1	-.0	-.1	91.2
15	21.7000	-.1	.0	-.2	-.1	-.1	-.1	90.9
16	27.7000	.0	.0	-.1	-.0	-.0	-.0	--
17	35.0000	.0	.0	-.1	-.0	-.0	-.0	--
18	43.7000	.0	.0	-.1	-.0	-.0	-.0	--
19	55.6000	.0	.0	-.0	-.0	-.0	-.0	--
20	70.3000	.0	.0	-.0	-.0	-.0	-.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW06M 93/09/16
L(m)=304.8 Tx I(A)=19.7
Tx Volt=160 Tx Res= 7.5
Base freq=M Sync mode=X
Tof(us)=102 Rof(us)=102
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	198.2	198.5	196.0	196.3	197.5	197.3	.6
2	1.0660	.0326	.0818	207.9	208.3	205.6	206.0	207.3	207.0	.6
3	1.3700	.0370	.0928	214.9	216.1	211.9	212.8	214.9	214.1	.8
4	1.7400	.0417	.1046	231.6	228.9	222.0	225.4	228.0	227.1	1.6
5	2.1700	.0466	.1168	235.0	249.0	233.3	236.6	240.0	238.6	2.5
6	2.7700	.0526	.1319	226.2	239.4	222.8	230.4	238.6	231.2	3.2
7	3.5000	.0592	.1483	210.9	232.0	207.8	218.5	232.0	219.6	5.2
8	4.3700	.0661	.1657	185.6	215.7	180.5	198.5	212.0	197.2	7.9
9	5.5600	.0746	.1869	157.6	194.8	150.1	169.8	187.1	169.8	11.0
10	6.9800	.0835	.2094	131.7	172.6	120.3	141.7	165.8	143.1	15.1
11	8.5600	.0925	.2319	156.9	246.0	128.7	171.8	220.5	172.7	25.7
12	10.6400	.1032	.2586	128.4	238.4	94.59	144.5	229.5	143.5	38.4
13	13.7000	.1170	.2934	107.6	240.0	70.11	110.0	178.8	113.2	44.9
14	17.4000	.1319	.3306	92.72	705.8	52.00	92.72	163.1	94.53	60.8
15	21.7000	.1473	.3692	77.29	490.8	37.68	66.61	84.48	68.44	60.6
16	27.7000	.1664	.4172	225.2	149.1	41.98	65.15	75.60	86.13	92.4
17	35.0000	.1871	.4689	68.78	84.13	29.47	42.12	42.12	60.91	110.3
18	43.7000	.2090	.5240	31.32	58.14	22.42	28.71	27.24	48.09	146.3
19	55.6000	.2358	.5911	20.96	64.33	21.64	26.07	21.30	47.52	196.6
20	70.3000	.2651	.6646	13.55	83.64	16.91	18.87	13.96	34.75	216.8

DATA SET: TCW06

CLIENT: USGS-WRD (Tom Nolan) DATE: 16-Sep-93
LOCATION: Pot Holes - Grand Teton NP SOUNDING: 06
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

30.00 Hz	GAIN: 5		3.00 Hz	GAIN: 8	
20.10 AMPS	EM-37		20.10 AMPS	EM-37	
COIL:	100.0 m^2		COIL:	100.0 m^2	
RAMP:	207.0 muSEC		RAMP:	102.0 muSEC	
SHIFT:	0.0 muSEC		SHIFT:	-105.0 muSEC	

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	4614.70	613.30		
12	0.105	3148.48	551.90		
13	0.136	2096.70	481.00		
14	0.173	1394.42	429.00		
15	0.217	928.38	392.40		
16	0.280	2331.01	353.60		
17	0.354	1448.96	324.10		
18	0.435	917.50	303.30		
19	0.553	554.20	284.20		
20	0.702	333.15	272.00		
21	0.865	53.51	260.40	639.81	244.47
22	1.100	32.18	256.40	348.76	245.47
23	1.410	16.83	258.50	178.62	244.29
24	1.760	8.82	267.60	91.59	251.92
25	2.240	4.82	275.70	49.53	259.26
26	2.820	10.14	277.40	111.54	246.58
27	3.570	5.98	267.70	65.72	230.94
28	4.380	3.94	251.10	44.27	205.28
29	5.550	2.55	226.00	29.80	177.40
30	7.050	1.64	203.80	21.34	150.10

* USGS - Branch of Geophysics*

DATA SET: TCW06

CLIENT: USGS-WRD (Tom Nolan) DATE: 16-Sep-93
LOCATION: Pot Holes - Grand Teton NP SOUNDING: 06
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 4.103 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	206.5	739.8	-739.8	3.58
2	12.85			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	201.054	206.557	211.818
	2	8.925	12.852	19.085
THICK	1	713.820	739.859	768.380
DEPTH	1	713.820	739.859	768.380

CURRENT: 20.10 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 20.20 Hz GAIN: 5 RAMP TIME: 207.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	613.3	629.5	-2.65
2	0.108	551.9	548.2	0.662
3	0.136	481.0	475.1	1.22
4	0.174	429.0	420.5	1.97
5	0.216	392.4	379.7	3.23
6	0.277	353.6	342.3	3.19
7	0.353	324.1	313.8	3.14
8	0.441	303.3	293.7	3.16
9	0.561	284.2	277.7	2.28
10	0.706	272.0	268.2	1.37

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
11	0.865	260.4	264.4	-1.56
12	1.07	256.4	264.9	-3.31
13	1.38	258.5	270.3	-4.57
14	1.75	267.6	277.7	-3.79
15	2.19	275.7	281.4	-2.09
16	2.82	277.4	276.2	0.405
17	3.56	267.7	260.9	2.50
18	4.37	251.1	239.3	4.68
19	5.54	226.0	212.1	6.14
20	7.04	203.8	185.8	8.80

CURRENT: 20.10 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 102.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.765	244.4	240.4	1.63
22	0.975	245.4	241.8	1.46
23	1.27	244.2	248.0	-1.53
24	1.63	251.9	256.3	-1.76
25	2.05	259.2	261.1	-0.740
26	2.66	246.5	255.6	-3.69
27	3.42	230.9	236.9	-2.61
28	4.30	205.2	209.8	-2.24
29	5.50	177.3	178.2	-0.458
30	6.95	150.1	150.1	-0.0310

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY--WRD
TCW07H 93/09/17
L(m)=304.8 Tx I(A)=19.9
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=202 Rof(us)=202
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-4064	-4142	-4104	-4098	-4046	-4109	-4028	-4084	-4123	-4168
2	-3281	-3339	-3309	-3305	-3270	-3318	-3261	-3300	-3320	-3358
3	-2657	-2689	-2681	-2660	-2646	-2671	-2636	-2655	-2689	-2704
4	-1950	-1991	-1971	-1970	-1947	-1977	-1942	-1967	-1977	-2001
5	-1620	-1646	-1632	-1636	-1617	-1639	-1614	-1631	-1636	-1652
6	-4789	-4836	-4824	-4802	-4774	-4810	-4763	-4787	-4838	-4857
7	-3627	-3667	-3654	-3638	-3617	-3648	-3607	-3630	-3664	-3682
8	-2670	-2696	-2687	-2676	-2664	-2683	-2654	-2671	-2694	-2705
9	-1885	-1901	-1896	-1888	-1880	-1892	-1876	-1886	-1900	-1906
10	-1294	-1306	-1302	-1297	-1291	-1305	-1288	-1294	-1305	-1310
11	-231.8	-233.6	-233.3	-232.0	-231.3	-232.7	-231.0	-231.4	-233.9	-234.1
12	-158.1	-159.2	-159.0	-158.2	-157.5	-158.6	-157.5	-157.7	-159.5	-159.6
13	-100.8	-101.9	-101.3	-101.1	-100.4	-101.3	-100.4	-100.8	-101.7	-101.9
14	-65.0	-65.4	-65.4	-65.3	-65.0	-65.2	-64.9	-64.9	-65.8	-65.6
15	-43.1	-43.7	-43.5	-43.4	-43.2	-43.5	-43.4	-43.5	-43.9	-43.8
16	-110.5	-112.1	-112.0	-111.2	-110.6	-111.7	-111.1	-111.7	-112.2	-112.8
17	-70.6	-71.9	-71.5	-71.4	-70.7	-71.6	-71.0	-71.5	-71.8	-72.3
18	-45.0	-45.5	-45.6	-45.3	-45.2	-45.5	-45.3	-45.6	-45.8	-46.0
19	-26.9	-26.8	-27.0	-26.6	-27.0	-26.6	-26.8	-26.9	-27.1	-27.2
20	-15.5	-15.5	-15.7	-15.4	-15.6	-15.5	-15.7	-15.6	-15.7	-15.5
Primary	-2	-3	-4	-3	-3	-4	-1	-3	-3	-3
Gain	5		5		5		5		5	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-2461.0	-2459.8	-2445.7	-2432.8	-2486.5	-2457.2	.8
2	.1080	-1985.4	-1983.6	-1975.8	-1967.7	-2002.8	-1983.1	.7
3	.1380	-1603.3	-1601.8	-1594.6	-1586.8	-1617.4	-1600.8	.7
4	.1750	-1181.9	-1181.9	-1176.8	-1172.3	-1193.0	-1181.2	.7
5	.2180	-979.5	-980.1	-976.5	-973.2	-986.1	-979.1	.5
6	.2780	-721.6	-721.7	-718.6	-716.0	-726.9	-721.0	.6
7	.3510	-546.9	-546.7	-544.7	-542.6	-550.8	-546.3	.6
8	.4380	-402.3	-402.1	-400.9	-399.3	-404.8	-401.9	.5
9	.5580	-283.9	-283.7	-282.8	-282.1	-285.4	-283.6	.4
10	.7020	-194.9	-194.9	-194.6	-193.6	-196.1	-194.8	.5
11	.8580	-139.6	-139.6	-139.2	-138.7	-140.4	-139.5	.4
12	1.0660	-95.2	-95.1	-94.8	-94.5	-95.7	-95.1	.5
13	1.3700	-60.8	-60.7	-60.5	-60.3	-61.1	-60.7	.5
14	1.7400	-39.1	-39.2	-39.0	-38.9	-39.4	-39.1	.5
15	2.1700	-26.0	-26.1	-26.0	-26.1	-26.3	-26.1	.5
16	2.7700	-16.7	-16.7	-16.7	-16.7	-16.9	-16.7	.5
17	3.5000	-10.7	-10.7	-10.7	-10.7	-10.8	-10.7	.5
18	4.3700	-6.8	-6.8	-6.8	-6.8	-6.9	-6.8	.5
19	5.5600	-4.0	-4.0	-4.0	-4.0	-4.1	-4.0	.5
20	7.0300	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	.4

U.S. Geological Survey
Teton County WY--WRD
TCW07H 93/09/17
L(m)=304.8 Tx I(A)=19.9
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=202 Rof(us)=202
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	634.4	634.6	637.1	639.3	630.1	635.1	.5
2	.1080	.0104	.0260	522.2	522.5	523.9	525.3	519.2	522.6	.4
3	.1380	.0117	.0294	396.8	397.0	398.2	399.5	394.5	397.2	.5
4	.1750	.0132	.0332	328.9	328.9	329.9	330.7	326.9	329.1	.4
5	.2180	.0148	.0370	261.4	261.3	262.0	262.6	260.3	261.5	.3
6	.2780	.0167	.0418	212.8	212.8	213.4	213.9	211.8	212.9	.4
7	.3510	.0187	.0470	172.4	172.4	172.8	173.3	171.6	172.5	.4
8	.4380	.0209	.0525	146.2	146.3	146.6	147.0	145.6	146.3	.3
9	.5580	.0236	.0592	123.7	123.8	124.1	124.3	123.3	123.8	.3
10	.7020	.0265	.0664	107.5	107.5	107.6	108.0	107.1	107.5	.3
11	.8580	.0293	.0734	95.07	95.08	95.26	95.48	94.72	95.12	.3
12	1.0660	.0326	.0818	85.26	85.28	85.48	85.64	84.94	85.32	.3
13	1.3700	.0370	.0928	75.74	75.82	75.99	76.12	75.52	75.84	.3
14	1.7400	.0417	.1046	69.08	68.98	69.15	69.29	68.73	69.05	.3
15	2.1700	.0466	.1168	63.01	62.96	63.05	62.96	62.57	62.91	.3
16	2.7700	.0526	.1319	56.48	56.38	56.53	56.44	56.07	56.38	.3
17	3.5000	.0592	.1483	51.32	51.22	51.36	51.32	50.94	51.23	.3
18	4.3700	.0661	.1657	48.00	47.86	47.93	47.86	47.54	47.83	.4
19	5.5600	.0746	.1869	45.50	45.55	45.55	45.50	45.16	45.45	.4
20	7.0300	.0838	.2102	44.37	44.28	44.28	44.09	44.18	44.24	.2

U.S. Geological Survey
Teton County WY--WRD
TCW07M 93/09/17
L(m)=304.8 Tx I(A)=19.6
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 88 Rof(us)= 88
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-2480	-2461	-2457	-2471	-2465	-2474	-2456	-2459	-2456	-2456
2	-1621	-1602	-1598	-1609	-1608	-1606	-1602	-1602	-1603	-1599
3	-998	-994	-987	-995	-990	-992	-985	-990	-989	-988
4	-620	-619	-612	-625	-614	-621	-611	-621	-614	-619
5	-403	-399	-397	-404	-398	-400	-397	-402	-400	-399
6	-1061	-1039	-1042	-1052	-1048	-1042	-1040	-1046	-1047	-1044
7	-680	-663	-667	-677	-668	-666	-665	-671	-669	-674
8	-442	-429	-431	-440	-433	-432	-429	-439	-435	-435
9	-268	-262	-259	-268	-264	-259	-257	-269	-265	-264
10	-165	-159	-156	-163	-161	-154	-153	-164	-163	-159
11	-26.7	-25.1	-25.0	-26.4	-24.8	-23.2	-23.5	-26.5	-27.5	-24.8
12	-17.3	-14.9	-15.1	-16.0	-16.2	-13.4	-15.0	-16.7	-17.5	-15.2
13	-9.6	-7.8	-8.3	-9.6	-9.3	-7.0	-7.6	-9.5	-9.8	-8.4
14	-5.9	-3.8	-4.4	-5.5	-5.5	-3.0	-3.7	-5.4	-5.7	-4.6
15	-4.3	-1.9	-3.1	-3.2	-4.1	-.5	-1.9	-3.0	-4.3	-2.3
16	25.1	-30.9	26.9	-35.0	24.8	-28.1	29.9	-32.5	23.5	-33.8
17	22.0	-25.8	21.2	-26.4	18.0	-20.4	24.7	-28.3	21.8	-26.4
18	9.1	-11.3	7.6	-13.0	5.7	-6.7	11.8	-12.3	7.6	-12.8
19	-2.7	1.7	-5.2	1.4	-6.2	5.6	-1.9	1.8	-3.3	1.4
20	-5.2	4.5	-8.5	4.7	-8.9	8.2	-5.3	5.0	-5.5	4.5
Primary	-1	-1	-1	-1	-1	-1	-1	-1	1	-1
Gain	8		8		8		8		8	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-185.2	-184.7	-185.2	-184.3	-184.1	-184.7	.3
2	1.0660	-120.8	-120.2	-120.5	-120.1	-120.0	-120.3	.3
3	1.3700	-74.7	-74.3	-74.3	-74.0	-74.1	-74.3	.3
4	1.7400	-46.4	-46.4	-46.3	-46.2	-46.2	-46.3	.2
5	2.1700	-30.1	-30.0	-29.9	-30.0	-30.0	-30.0	.2
6	2.7700	-19.7	-19.6	-19.6	-19.6	-19.6	-19.6	.2
7	3.5000	-12.6	-12.6	-12.5	-12.5	-12.6	-12.6	.3
8	4.3700	-8.2	-8.2	-8.1	-8.1	-8.2	-8.1	.3
9	5.5600	-5.0	-4.9	-4.9	-4.9	-5.0	-4.9	.5
10	6.9800	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	1.1
11	8.5600	-1.9	-1.9	-1.8	-1.9	-2.0	-1.9	3.4
12	10.6400	-1.2	-1.2	-1.1	-1.2	-1.2	-1.2	3.8
13	13.7000	-.7	-.7	-.6	-.6	-.7	-.7	4.3
14	17.4000	-.4	-.4	-.3	-.3	-.4	-.4	7.4
15	21.7000	-.2	-.2	-.2	-.2	-.2	-.2	15.8
16	27.7000	-.1	-.1	-.0	-.0	-.1	-.1	53.7
17	35.0000	-.0	-.0	-.0	-.0	-.0	-.0	27.1
18	43.7000	-.0	-.1	-.0	-.0	-.0	-.0	80.9
19	55.6000	-.0	-.0	-.0	-.0	-.0	-.0	98.3
20	70.3000	-.0	-.0	-.0	-.0	-.0	-.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW07M 93/09/17
L(m)=304.8 Tx I(A)=19.6
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 88 Rof(us)= 88
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	75.90	76.04	75.92	76.17	76.20	76.05	.2
2	1.0660	.0326	.0818	71.98	72.22	72.12	72.27	72.30	72.18	.2
3	1.3700	.0370	.0928	65.37	65.59	65.59	65.74	65.70	65.60	.2
4	1.7400	.0417	.1046	60.69	60.75	60.82	60.92	60.89	60.81	.2
5	2.1700	.0466	.1168	56.88	56.92	57.07	57.02	57.02	56.98	.1
6	2.7700	.0526	.1319	50.09	50.18	50.25	50.31	50.23	50.21	.2
7	3.5000	.0592	.1483	45.43	45.41	45.64	45.59	45.43	45.50	.2
8	4.3700	.0661	.1657	41.92	41.92	42.12	42.02	41.96	41.99	.2
9	5.5600	.0746	.1869	39.16	39.30	39.50	39.35	39.20	39.30	.3
10	6.9800	.0835	.2094	36.76	37.14	37.45	37.30	36.91	37.11	.8
11	8.5600	.0925	.2319	35.05	35.23	36.88	35.89	34.83	35.56	2.3
12	10.6400	.1032	.2586	33.43	34.22	35.36	33.78	33.09	33.95	2.5
13	13.7000	.1170	.2934	33.20	32.58	34.68	33.59	32.22	33.23	2.8
14	17.4000	.1319	.3306	33.32	32.87	36.39	34.77	32.01	33.79	5.0
15	21.7000	.1473	.3692	31.22	30.89	38.10	36.53	29.95	32.95	10.5
16	27.7000	.1664	.4172	54.82	43.88	79.84	93.59	37.38	53.48	35.8
17	35.0000	.1871	.4689	49.05	39.79	66.63	50.85	43.18	48.04	18.1
18	43.7000	.2090	.5240	48.79	26.81	82.53	131.0	27.50	40.96	53.9
19	55.6000	.2358	.5911	55.25	22.69	77.66	256.4	36.01	42.54	65.5
20	70.3000	.2651	.6646	47.38	15.34	47.38	83.36	37.36	31.36	72.8

DATA SET: TCW07

CLIENT: USGS-WRD (Tom Nolan) DATE: 17-Sep-93
LOCATION: Jackson Airport SOUNDING: 07
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 8-10,16,20: YES
30.00 Hz GAIN: 5 3.00 Hz GAIN: 8
19.90 AMPS EM-37 19.90 AMPS EM-37
COIL: 100.0 m^2 COIL: 100.0 m^2
RAMP: 202.0 muSEC RAMP: 88.0 muSEC
SHIFT: 0.0 muSEC SHIFT: -114.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	4335.58	635.10		
12	0.105	3382.94	522.60		
13	0.136	2766.28	397.20		
14	0.173	2054.68	329.10		
15	0.217	1689.53	261.50		
16	0.280	4938.76	212.90		
17	0.354	3694.43	172.50		
18	0.435	2711.47	146.30		
19	0.552	1908.45	123.80		
20	0.702	1327.53	107.50		
21	0.885	239.97	95.12	2648.98	96.11
22	1.100	165.99	85.32	1667.30	86.93
23	1.410	104.85	75.84	1042.67	75.74
24	1.760	66.65	69.05	654.43	68.08
25	2.240	43.74	62.91	420.22	62.37
26	2.820	109.61	56.38	1091.12	53.85
27	3.570	70.67	51.23	689.93	48.06
28	4.360	46.95	47.83	446.11	43.86
29	5.550	28.00	45.45	269.94	40.67
30	7.050	16.01	44.24	155.58	38.13
31	8.850			28.56	36.36
32	10.700			16.73	34.56
33	13.800			9.15	33.69
34	17.500			4.93	34.16
35	21.900			3.03	32.43

* USGS - Branch of Geophysics*

DATA SET: TCW07

CLIENT: USGS-WRD (Tom Nolan) DATE: 17-Sep-93
LOCATION: Jackson Airport SOUNDING: 07
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 5.540 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	181.1	135.8	-135.8	0.750
2	24.81			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	158.018	181.105	229.896
	2	23.076	24.813	26.635
THICK	1	124.029	135.867	148.578
DEPTH	1	124.029	135.867	148.578

CURRENT: 19.90 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 20.20 Hz GAIN: 5 RAMP TIME: 202.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	635.1	636.6	-0.248
2	0.108	522.6	517.6	0.951
3	0.138	397.2	408.2	-2.77
4	0.174	329.1	326.7	0.715
5	0.216	261.5	266.9	-2.07
6	0.277	212.9	213.7	-0.380
7	0.353	172.5	174.1	-0.967
8	0.441	146.3	146.1	0.0997

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
9	0.561	123.8	122.4	1.06
10	0.708	107.5	104.9	2.38
11	0.865	95.12	92.56	2.68
12	1.07	85.32	81.97	3.92
13	1.38	75.84	72.02	5.02
14	1.75	69.05	64.63	6.39
15	2.19	62.91	59.10	6.04
16	2.82	56.38	54.10	4.03
17	3.56	51.23	50.55	1.31
18	4.37	47.83	48.06	-0.483
19	5.54	45.45	45.97	-1.14
20	7.04	44.24	44.50	-0.606

CURRENT: 19.90 AMPS EM-37 COIL AREA: 100.00 sq m
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 88.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.756	96.10	93.05	3.17
22	0.966	86.92	81.28	6.49
23	1.26	75.73	71.02	6.22
24	1.62	68.08	63.46	6.77
25	2.04	62.36	57.89	7.18
26	2.65	53.85	52.68	2.16
27	3.41	48.05	48.61	-1.16
28	4.29	43.86	45.52	-3.77
29	5.49	40.66	42.79	-5.22
30	6.94	38.13	40.57	-6.42
31	8.53	36.35	38.98	-7.24
32	10.58	34.56	37.50	-8.52
33	13.66	33.69	36.09	-7.14
34	17.38	34.16	35.01	-2.49
35	21.76	32.43	34.22	-5.53

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY--WRD
TCW08H 93/09/17
L(m)=304.8 Tx I(A)=20.0
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=205 Rof(us)=205
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-3877	-3896	-3813	-3944	-4059	-3877	-3807	-4073	-4060	-4010
2	-2998	-3014	-2953	-3048	-3125	-3001	-2949	-3140	-3124	-3094
3	-2184	-2185	-2155	-2206	-2266	-2177	-2152	-2262	-2265	-2235
4	-1580	-1595	-1562	-1608	-1634	-1588	-1560	-1645	-1633	-1627
5	-1168	-1180	-1155	-1185	-1203	-1171	-1154	-1209	-1203	-1197
6	-3336	-3334	-3301	-3359	-3427	-3321	-3298	-3418	-3425	-3389
7	-2396	-2399	-2371	-2412	-2455	-2396	-2369	-2457	-2449	-2438
8	-1755	-1760	-1740	-1769	-1797	-1753	-1739	-1797	-1796	-1785
9	-1273	-1276	-1263	-1282	-1302	-1271	-1261	-1301	-1301	-1292
10	-930	-932	-922	-936	-950	-929	-921	-950	-950	-946
11	-180.4	-180.0	-178.9	-180.8	-184.1	-179.4	-178.8	-183.4	-184.0	-182.1
12	-134.8	-134.5	-133.7	-135.0	-137.4	-133.9	-133.6	-136.8	-137.4	-136.0
13	-94.7	-94.8	-94.0	-95.3	-96.6	-94.5	-93.9	-96.5	-96.6	-95.9
14	-67.0	-66.8	-66.5	-67.2	-68.4	-66.6	-66.4	-68.0	-68.3	-67.6
15	-47.0	-46.9	-46.6	-47.3	-48.0	-46.7	-46.6	-47.7	-47.9	-47.4
16	-123.5	-123.3	-122.5	-123.7	-126.0	-122.8	-122.5	-125.3	-125.8	-124.6
17	-78.8	-79.1	-78.2	-79.3	-80.4	-78.8	-78.3	-80.4	-80.3	-79.9
18	-49.7	-49.5	-49.3	-49.7	-50.6	-49.4	-49.2	-50.2	-50.5	-50.0
19	-28.7	-28.4	-28.4	-28.5	-29.2	-28.3	-28.4	-28.8	-29.1	-28.7
20	-15.7	-15.2	-15.5	-15.3	-16.0	-15.2	-15.5	-15.4	-15.9	-15.4
Primary	-1	-1	-1	-1	1	-1	-1	-1	-1	-1
Gain	4		4		4		4		4	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-4662.3	-4652.7	-4760.1	-4726.5	-4840.5	-4728.4	1.6
2	.1090	-3606.0	-3599.4	-3674.4	-3652.2	-3729.6	-3652.3	1.5
3	.1380	-2620.6	-2615.8	-2664.9	-2647.6	-2699.1	-2649.6	1.3
4	.1750	-1904.4	-1901.4	-1932.6	-1922.4	-1955.4	-1923.2	1.1
5	.2180	-1408.3	-1403.6	-1423.9	-1417.3	-1439.5	-1418.5	1.0
6	.2790	-1000.2	-998.7	-1011.9	-1007.1	-1021.8	-1007.9	.9
7	.3510	-719.0	-717.2	-727.4	-723.7	-732.8	-724.0	.9
8	.4380	-527.1	-526.2	-532.3	-530.2	-537.0	-530.6	.8
9	.5580	-382.2	-381.6	-385.8	-384.2	-388.8	-384.5	.8
10	.7020	-279.2	-278.6	-281.8	-280.6	-284.3	-280.9	.8
11	.8580	-216.2	-215.8	-218.0	-217.3	-219.6	-217.4	.7
12	1.0660	-161.5	-161.2	-162.7	-162.2	-164.0	-162.3	.7
13	1.3700	-113.7	-113.5	-114.6	-114.2	-115.5	-114.3	.7
14	1.7400	-80.3	-80.2	-81.0	-80.6	-81.5	-80.7	.7
15	2.1700	-56.3	-56.3	-56.8	-56.6	-57.2	-56.6	.6
16	2.7700	-37.0	-36.9	-37.3	-37.2	-37.5	-37.2	.7
17	3.5000	-23.7	-23.6	-23.9	-23.8	-24.0	-23.8	.7
18	4.3700	-14.9	-14.8	-15.0	-14.9	-15.1	-14.9	.6
19	5.5600	-8.6	-8.5	-8.6	-8.6	-8.7	-8.6	.6
20	7.0300	-4.6	-4.6	-4.7	-4.6	-4.7	-4.7	.7

U.S. Geological Survey
Teton County WY--WRD
TCW08H 93/09/17
L(m)=304.8 Tx I(A)=20.0
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=205 Rof(us)=205
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	415.8	416.3	410.0	412.0	405.5	411.9	1.1
2	.1080	.0104	.0260	352.0	352.4	347.6	349.0	344.1	349.0	1.0
3	.1380	.0117	.0294	286.9	287.3	283.7	285.0	281.3	284.8	.9
4	.1750	.0132	.0332	240.1	240.4	237.8	238.6	235.9	238.6	.8
5	.2180	.0148	.0370	205.9	206.4	204.4	205.0	202.9	204.9	.7
6	.2780	.0167	.0418	171.8	171.9	170.4	171.0	169.3	170.9	.6
7	.3510	.0187	.0470	144.1	144.4	143.0	143.5	142.3	143.4	.6
8	.4380	.0209	.0525	122.6	122.7	121.7	122.1	121.0	122.0	.5
9	.5580	.0236	.0592	101.8	101.9	101.2	101.5	100.7	101.4	.5
10	.7020	.0265	.0664	84.88	85.00	84.37	84.61	83.86	84.54	.5
11	.8580	.0293	.0734	71.26	71.35	70.86	71.02	70.52	71.00	.5
12	1.0660	.0326	.0818	60.12	60.21	59.82	59.96	59.52	59.92	.5
13	1.3700	.0370	.0928	50.07	50.11	49.79	49.92	49.55	49.89	.5
14	1.7400	.0417	.1046	42.92	42.94	42.67	42.79	42.48	42.76	.5
15	2.1700	.0466	.1168	37.79	37.79	37.58	37.68	37.42	37.65	.4
16	2.7700	.0526	.1319	33.32	33.38	33.15	33.23	33.00	33.22	.4
17	3.5000	.0592	.1483	30.29	30.34	30.13	30.19	30.00	30.19	.4
18	4.3700	.0661	.1657	28.54	28.57	28.38	28.50	28.29	28.46	.4
19	5.5600	.0746	.1869	27.60	27.67	27.48	27.57	27.38	27.54	.4
20	7.0300	.0838	.2102	28.11	28.17	27.93	28.11	27.87	28.03	.5

U.S. Geological Survey
Teton County WY--WRD
TCW08M 93/09/17
L(m)=304.8 Tx I(A)=19.7
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 99 Rof(us)= 99
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	3447	-3399	-3438	-3419	-3415	-3465	-3425	-3459	-3426	-3424
2	2582	-2542	-2603	-2561	-2585	-2599	-2594	-2593	-2590	-2560
3	1794	-1764	-1804	-1780	-1792	-1802	-1794	-1801	-1797	-1780
4	1240	-1219	-1233	-1230	-1232	-1245	-1228	-1245	-1235	-1229
5	855	-841	-855	-846	-851	-855	-851	-855	-852	-843
6	2234	-2220	-2229	-2225	-2252	-2264	-2263	-2250	-2231	-2210
7	1448	-1428	-1453	-1435	-1449	-1455	-1447	-1458	-1447	-1430
8	922	-905	-924	-915	-921	-925	-911	-927	-923	-909
9	536	-528	-538	-533	-538	-538	-526	-543	-536	-523
10	298	-295	-302	-297	-301	-300	-295	-302	-303	-288
11	38.9	-34.6	-34.9	-35.3	-31.3	-32.9	-33.7	-35.6	-37.9	-38.8
12	21.0	-19.0	-21.3	-19.9	-16.0	-19.5	-11.7	-22.0	-21.5	-21.5
13	11.2	-11.2	-11.9	-10.8	-9.5	-11.2	-9.7	-10.7	-12.2	-9.3
14	5.3	-5.0	-5.4	-5.5	-5.4	-6.1	-4.6	-5.4	-6.3	-2.8
15	1.2	-2.3	-4.0	-1.7	-3.2	-2.8	-2.3	-2.4	-4.6	.6
16	31.8	-40.3	29.4	-32.1	35.5	-42.8	40.1	-37.8	28.4	-28.7
17	25.7	-24.8	24.6	-23.5	17.7	-21.8	23.2	-23.0	23.3	-23.4
18	8.8	-15.0	10.5	-9.2	12.1	-14.9	14.5	-10.8	9.4	-7.4
19	-5.5	1.7	-2.7	5.4	-2.6	1.9	-1.8	4.8	-3.6	5.9
20	-9.0	5.1	-5.4	9.1	-5.2	5.5	-5.0	8.4	-5.9	8.5
Primary	1	-1	-1	-6	-2	-1	-1	-1	-1	-1
Gain	8		8		8		8		8	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	1.8	-257.1	-257.9	-258.1	-256.8	-205.6	56.4
2	1.0660	1.5	-193.6	-194.3	-194.5	-193.1	-154.8	56.4
3	1.3700	1.1	-134.4	-134.7	-134.8	-134.1	-107.4	56.5
4	1.7400	.8	-92.3	-92.9	-92.7	-92.4	-73.9	56.5
5	2.1700	.5	-63.8	-64.0	-64.0	-63.5	-50.9	56.5
6	2.7700	.1	-41.7	-42.3	-42.3	-41.6	-33.6	56.1
7	3.5000	.2	-27.1	-27.2	-27.2	-27.0	-21.7	56.4
8	4.3700	.2	-17.2	-17.3	-17.2	-17.2	-13.8	56.5
9	5.5600	.1	-10.0	-10.1	-10.0	-9.9	-8.0	56.4
10	6.9600	.0	-5.6	-5.6	-5.6	-5.5	-4.5	56.3
11	8.5600	.2	-2.6	-2.4	-2.6	-2.9	-2.1	60.8
12	10.6400	.1	-1.5	-1.3	-1.3	-1.6	-1.1	60.9
13	13.7000	0.0	-.9	-.8	-.8	-.8	-.6	56.1
14	17.4000	.0	-.4	-.4	-.4	-.3	-.3	59.0
15	21.7000	-.0	-.2	-.2	-.2	-.1	-.2	45.5
16	27.7000	-.1	-.0	-.1	.0	-.0	-.0	--
17	35.0000	.0	.0	-.0	.0	-.0	-.0	--
18	43.7000	-.1	.0	-.0	.0	.0	-.0	--
19	55.6000	-.0	.0	-.0	.0	.0	.0	--
20	70.3000	-.0	.0	.0	.0	.0	.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW08M 93/09/17
L(m)=304.8 Tx I(A)=19.7
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 99 Rof(us)= 99
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	1672.8	61.21	61.08	61.05	61.26	71.04	37.6
2	1.0660	.0326	.0818	1347.4	52.75	52.61	52.59	52.85	61.23	37.6
3	1.3700	.0370	.0928	1075.6	44.34	44.26	44.25	44.40	51.49	37.7
4	1.7400	.0417	.1046	922.9	38.52	38.37	38.41	38.51	44.68	37.7
5	2.1700	.0466	.1168	848.1	34.57	34.50	34.50	34.65	40.16	37.7
6	2.7700	.0526	.1319	1418.8	30.45	30.17	30.18	30.51	35.21	37.4
7	3.5000	.0592	.1483	753.2	27.36	27.26	27.26	27.43	31.75	37.6
8	4.3700	.0661	.1657	580.3	25.56	25.50	25.57	25.63	29.71	37.7
9	5.5600	.0746	.1869	643.3	24.58	24.50	24.61	24.77	28.60	37.6
10	6.9800	.0835	.2094	836.4	24.48	24.43	24.54	24.70	28.50	37.5
11	8.5600	.0925	.2319	184.8	28.72	30.48	28.97	27.07	33.70	40.5
12	10.6400	.1032	.2586	213.9	28.46	31.43	32.54	27.66	34.95	40.6
13	13.7000	.1170	.2934	0.00	27.91	29.68	29.97	28.93	33.76	37.4
14	17.4000	.1319	.3306	339.3	30.93	29.85	32.76	34.89	37.27	39.3
15	21.7000	.1473	.3692	99.22	33.13	32.02	37.68	41.96	39.98	30.4
16	27.7000	.1664	.4172	42.63	91.58	47.19	101.9	396.2	80.11	92.4
17	35.0000	.1871	.4689	128.6	112.5	46.78	350.4	556.2	220.7	354.3
18	43.7000	.2090	.5240	24.54	69.52	41.69	34.62	52.17	152.5	671.1
19	55.6000	.2358	.5911	22.76	28.59	70.31	26.65	31.81	70.32	277.9
20	70.3000	.2651	.6646	15.13	15.67	83.64	16.58	19.82	32.83	172.5

DATA SET: TCW08

CLIENT: USGS-WRD (Tom Nolan) DATE: 17-Sep-93
LOCATION: Gros Ventre River-Lucas Farm SOUNDING: 08
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES
30.00 Hz GAIN: 4 3.00 Hz GAIN: 8
20.00 AMPS EM-37 19.60 AMPS EM-37
COIL: 100.0 m^2 COIL: 100.0 m^2
RAMP: 205.0 muSEC RAMP: 99.0 muSEC
SHIFT: 0.0 muSEC SHIFT: -106.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	4171.28	411.90		
12	0.105	3115.00	349.00		
13	0.136	2289.54	284.60		
14	0.173	1672.54	238.60		
15	0.217	1224.07	204.90		
16	0.280	3451.46	170.90		
17	0.354	2449.37	143.40		
18	0.435	1759.28	122.00		
19	0.552	1293.75	101.40		
20	0.702	956.56	84.54		
21	0.885	186.99	71.00	3615.83	75.93
22	1.100	141.72	59.92	2632.24	62.60
23	1.410	98.75	49.89	1849.91	50.62
24	1.760	68.72	42.76	1281.99	42.70
25	2.240	47.48	37.65	875.45	37.61
26	2.820	121.78	33.22	2289.04	32.37
27	3.570	78.50	30.19	1459.71	28.75
28	4.380	51.38	28.46	923.55	26.65
29	5.550	29.83	27.54	536.19	25.42
30	7.050	15.96	28.03	303.28	25.17
31	8.650			35.87	29.41
32	10.700			19.82	30.52
33	13.800			11.12	29.24
34	17.500			5.24	32.44
35	21.900			2.50	36.49

* USGS - Branch of Geophysics*

DATA SET: TCW08

CLIENT: USGS-WRD (Tom Nolan) DATE: 17-Sep-93
LOCATION: Gros Ventre River-Lucas Farm SOUNDING: 08
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 5.196 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	95.42	138.9	-138.9	1.45
2	11.64	159.9	-298.8	13.72
3	435.0			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	88.746	95.423	103.711
	2	9.981	11.650	13.527
	3	128.121	435.080	4350.795
THICK	1	126.647	138.958	148.208
	2	129.190	159.935	202.437
DEPTH	1	126.647	138.958	148.208
	2	276.673	298.893	333.497

CURRENT: 20.00 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 4 RAMP TIME: 205.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	411.9	381.2	7.43
2	0.106	349.0	329.8	5.48
3	0.136	284.8	283.7	0.377
4	0.174	238.6	246.8	-3.43
5	0.216	204.9	215.5	-5.17

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
6	0.277	170.9	181.8	-6.42
7	0.353	143.4	151.6	-5.77
8	0.441	122.0	127.0	-4.15
9	0.561	101.4	103.9	-2.49
10	0.706	84.54	85.34	-0.953
11	0.865	71.00	71.77	-1.08
12	1.07	59.92	59.94	-0.0418
13	1.38	49.89	49.05	1.67
14	1.75	42.76	41.62	2.66
15	2.19	37.65	36.52	3.00
16	2.82	33.22	32.63	1.77
17	3.56	30.19	30.38	-0.656
18	4.37	28.46	29.31	-3.01
19	5.54	27.54	29.04	-5.47
20	7.04	28.03	29.78	-6.27

CURRENT: 19.60 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 5.00 Hz GAIN: 8 RAMP TIME: 99.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.764	75.93	75.07	1.12
22	0.974	62.60	61.59	1.61
23	1.27	50.62	49.67	1.86
24	1.63	42.69	41.56	2.65
25	2.05	37.60	36.05	4.12
26	2.66	32.36	31.71	2.01
27	3.43	28.75	28.98	-0.814
28	4.30	26.64	27.48	-3.13
29	5.50	25.41	26.75	-5.28
30	6.85	25.16	26.81	-6.52
31	8.54	29.40	27.40	6.81
32	10.59	30.52	28.62	6.22
33	13.69	29.24	30.80	-5.32
34	17.39	32.43	33.70	-3.91
35	21.79	36.49	37.17	-1.85

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY--WRD
TCW09H 93/09/17
L(m)=304.8 Tx I(A)=19.9
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=200 Rof(us)=200
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	3845	3836	3812	3764	3854	3809	3815	3833	3839	3818
2	3162	3151	3135	3094	3170	3129	3138	3148	3158	3136
3	2402	2406	2382	2364	2409	2390	2386	2395	2399	2395
4	1779	1769	1765	1739	1784	1757	1767	1766	1777	1761
5	1290	1283	1279	1263	1293	1275	1282	1282	1288	1276
6	3439	3452	3413	3400	3445	3432	3417	3450	3433	3438
7	2235	2233	2221	2202	2239	2222	2222	2232	2231	2227
8	1429	1424	1419	1404	1431	1418	1420	1423	1426	1421
9	858	854	852	2202	859	850	853	854	856	847
10	506	501	503	494	507	499	505	500	506	500
11	80.5	80.9	80.0	80.1	80.6	80.6	79.9	80.9	80.2	80.8
12	49.7	49.8	49.4	49.3	49.7	49.6	49.5	49.8	49.6	49.7
13	29.1	28.9	28.8	28.5	29.1	28.6	28.9	28.8	29.0	28.8
14	17.6	17.7	17.5	17.5	17.6	17.6	17.6	17.7	17.6	17.6
15	11.3	11.2	11.3	11.0	11.3	11.1	11.3	11.2	11.2	11.1
16	27.2	27.5	27.1	27.2	27.2	27.4	27.1	27.4	27.1	27.4
17	16.8	16.6	16.7	16.4	16.8	16.4	16.7	16.6	16.8	16.6
18	10.4	10.4	10.4	10.2	10.3	10.3	10.3	10.3	10.4	10.3
19	6.1	6.3	6.1	6.1	6.0	5.8	6.0	6.2	6.0	6.2
20	3.6	3.6	3.7	3.6	3.6	3.5	3.5	3.6	3.5	3.6
Primary	1	1	1	1	1	1	1	1	1	-1
Gain	3		3		3		3		3	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	9214.3	9088.3	9192.7	9174.7	9185.5	9171.1	.5
2	.1080	7573.2	7472.4	7556.4	7540.8	7550.4	7538.6	.5
3	.1380	5767.8	5693.4	5757.0	5735.4	5751.0	5740.9	.5
4	.1750	4256.2	4203.5	4247.8	4238.2	4244.2	4238.0	.5
5	.2180	3086.6	3049.4	3080.6	3075.8	3075.8	3073.6	.5
6	.2780	2066.6	2043.2	2062.4	2059.4	2060.6	2058.4	.4
7	.3510	1340.0	1326.5	1337.9	1335.8	1337.0	1335.4	.4
8	.4380	855.6	846.6	854.4	852.6	853.8	852.6	.4
9	.5580	513.4	915.9	512.5	511.9	510.7	592.9	30.5
10	.7020	302.0	299.0	301.7	301.4	301.7	301.2	.4
11	.8580	193.6	192.1	193.4	192.9	193.1	193.0	.3
12	1.0660	119.4	118.4	119.1	119.1	119.1	119.0	.3
13	1.3700	69.6	68.7	69.2	69.2	69.3	69.2	.4
14	1.7400	42.3	42.0	42.2	42.3	42.2	42.2	.3
15	2.1700	27.0	26.8	26.9	27.0	26.8	26.9	.4
16	2.7700	16.4	16.3	16.4	16.3	16.3	16.4	.3
17	3.5000	10.0	9.9	10.0	10.0	10.0	10.0	.4
18	4.3700	6.2	6.2	6.2	6.2	6.2	6.2	.4
19	5.5600	3.7	3.7	3.5	3.7	3.7	3.6	1.8
20	7.0300	2.2	2.2	2.1	2.1	2.1	2.1	1.2

U.S. Geological Survey
Teton County WY--WRD
TCW09H 93/09/17
L(m)=304.8 Tx I(A)=19.9
Tx Volt=160 Tx Res= 7.0
Base freq=H Sync mode=X
Tof(us)=200 Rof(us)=200
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	263.1	265.5	263.5	263.9	263.7	263.9	.4
2	.1080	.0104	.0260	213.9	215.8	214.2	214.5	214.3	214.6	.3
3	.1380	.0117	.0294	169.0	170.5	169.2	169.6	169.3	169.5	.3
4	.1750	.0132	.0332	140.0	141.2	140.2	140.4	140.3	140.4	.3
5	.2180	.0148	.0370	121.6	122.6	121.8	121.9	121.9	122.0	.3
6	.2780	.0167	.0418	105.5	106.3	105.7	105.8	105.7	105.8	.3
7	.3510	.0187	.0470	94.84	95.48	94.94	95.04	94.98	95.05	.3
8	.4380	.0209	.0525	88.42	89.05	88.51	88.63	88.55	88.63	.3
9	.5580	.0236	.0592	83.35	56.67	83.45	83.52	83.65	75.73	20.3
10	.7020	.0265	.0664	80.28	80.82	80.34	80.39	80.34	80.43	.3
11	.8580	.0293	.0734	76.44	76.85	76.50	76.63	76.56	76.59	.2
12	1.0660	.0326	.0818	73.31	73.70	73.41	73.41	73.41	73.45	.2
13	1.3700	.0370	.0928	69.22	69.78	69.46	69.46	69.38	69.46	.3
14	1.7400	.0417	.1046	65.51	65.89	65.64	65.51	65.64	65.64	.2
15	2.1700	.0466	.1168	61.50	61.87	61.69	61.50	61.87	61.69	.3
16	2.7700	.0526	.1319	57.13	57.41	57.20	57.27	57.27	57.25	.2
17	3.5000	.0592	.1483	53.57	53.89	53.79	53.68	53.57	53.70	.3
18	4.3700	.0661	.1657	50.76	51.09	51.09	51.09	50.93	50.99	.3
19	5.5600	.0746	.1869	47.97	48.50	49.58	48.50	48.50	48.60	1.2
20	7.0300	.0838	.2102	46.60	46.18	46.91	47.04	47.04	46.75	.8

U.S. Geological Survey
Teton County WY--WRD
TCW09M 93/09/17
L(m)=304.8 Tx I(A)=19.7
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 90 Rof(us)= 90
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-3423	-3486	-3453	-3466	-3467	-3467	-3454	-3477	-3434	-3466
2	-2094	-2105	-2104	-2105	-2112	-2095	-2105	-2099	-2103	-2098
3	-1158	-1164	-1156	-1167	-1161	-1159	-1157	-1159	-1163	-1157
4	-673	-682	-669	-683	-673	-679	-670	-688	-675	-677
5	-419	-422	-413	-423	-418	-421	-416	-421	-419	-420
6	-921	-1041	-1000	-1041	-1053	-1033	-1048	-1040	-944	-1035
7	-576	-644	-599	-648	-646	-644	-642	-646	-593	-642
8	-400	-415	-383	-418	-415	-415	-411	-415	-415	-413
9	-262	-259	-230	-260	-258	-259	-254	-257	-263	-255
10	-161	-164	-149	-165	-166	-164	-158	-162	-162	-159
11	-27.5	-28.3	-23.2	-27.7	-23.9	-25.1	-27.1	-18.5	-27.2	-23.5
12	-14.6	-14.7	-18.6	-18.7	-9.0	-17.8	-8.6	-15.1	-16.4	-12.6
13	-10.4	-10.2	-11.9	-10.9	-9.2	-11.0	-1.1	-12.0	-10.8	-8.5
14	-.7	-7.4	-5.5	-7.2	-7.7	-7.5	-6.4	-8.3	-2.6	-6.9
15	-1.8	-4.5	2.1	-4.2	-5.3	-5.1	-4.4	-5.8	-3.7	-3.6
16	10.6	-46.7	-7.2	-18.7	34.4	-13.9	35.5	-38.6	10.7	-46.9
17	38.6	-9.2	29.4	-30.8	-7.5	-30.4	2.3	-14.5	32.9	-11.0
18	.6	-15.0	1.6	-5.9	6.9	-8.4	6.9	-14.0	-.7	-15.1
19	-1.4	.8	-1.6	2.8	-5.3	1.0	-5.2	.3	-4.7	.4
20	-3.5	4.5	-5.5	6.1	-7.2	3.9	-7.7	3.8	-7.0	3.2
Primary	-1	-3	1	-1	-1	-3	-1	-1	-1	-2
Gain	8		8		8		8		8	
Stacks	10		10		10		10		10	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-259.0	-259.4	-259.9	-259.8	-258.7	-259.4	.2
2	1.0660	-157.4	-157.8	-157.7	-157.6	-157.5	-157.6	.1
3	1.3700	-87.0	-87.1	-87.0	-86.8	-87.0	-87.0	.1
4	1.7400	-50.8	-50.7	-50.7	-50.9	-50.7	-50.8	.2
5	2.1700	-31.5	-31.3	-31.5	-31.4	-31.5	-31.4	.2
6	2.7700	-18.4	-19.1	-19.6	-19.6	-18.5	-19.0	2.9
7	3.5000	-11.4	-11.7	-12.1	-12.1	-11.6	-11.8	2.5
8	4.3700	-7.6	-7.5	-7.8	-7.7	-7.8	-7.7	1.5
9	5.5600	-4.9	-4.6	-4.8	-4.8	-4.9	-4.8	2.4
10	6.9900	-3.0	-2.9	-3.1	-3.0	-3.0	-3.0	1.9
11	8.5600	-2.1	-1.9	-1.8	-1.7	-1.9	-1.9	7.3
12	10.6400	-1.1	-1.4	-1.0	-.9	-1.1	-1.1	17.3
13	13.7000	-.8	-.9	-.8	-.5	-.7	-.7	19.0
14	17.4000	-.3	-.5	-.6	-.6	-.4	-.5	26.1
15	21.7000	-.2	-.1	-.4	-.4	-.3	-.3	46.7
16	27.7000	-.3	-.2	.2	-.0	-.3	-.2	--
17	35.0000	.3	-.0	-.4	-.1	.2	-.0	--
18	43.7000	-.1	-.0	-.0	-.1	-.1	-.1	72.6
19	55.8000	-.0	.0	-.0	-.0	-.0	-.0	--
20	70.3000	.0	.0	-.0	-.0	-.0	-.0	--

U.S. Geological Survey
Teton County WY--WRD
TCW09M 93/09/17
L(m)=304.8 Tx I(A)=19.7
Tx Volt=160 Tx Res= 7.0
Base freq=M Sync mode=X
Tof(us)= 90 Rof(us)= 90
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	60.91	60.85	60.76	60.78	60.96	60.85	.1
2	1.0660	.0326	.0818	60.55	60.45	60.47	60.50	60.53	60.50	.1
3	1.3700	.0370	.0928	59.22	59.20	59.25	59.32	59.25	59.25	.1
4	1.7400	.0417	.1046	57.37	57.45	57.45	57.28	57.45	57.40	.1
5	2.1700	.0466	.1168	55.29	55.51	55.38	55.47	55.38	55.40	.2
6	2.7700	.0526	.1319	52.59	51.22	50.48	50.45	52.29	51.39	1.9
7	3.5000	.0592	.1483	48.60	47.90	46.83	46.88	48.21	47.67	1.7
8	4.3700	.0661	.1657	43.97	44.48	43.44	43.58	43.51	43.79	1.0
9	5.5600	.0746	.1869	39.74	41.40	39.94	40.26	39.89	40.24	1.6
10	6.9800	.0835	.2094	36.80	37.66	36.43	37.19	37.11	37.03	1.2
11	8.5600	.0925	.2319	33.47	35.59	36.50	38.29	35.68	35.82	4.9
12	10.6400	.1032	.2586	35.72	30.41	37.91	41.15	35.97	35.79	11.5
13	13.7000	.1170	.2934	29.77	27.82	30.16	40.26	31.09	31.20	12.7
14	17.4000	.1319	.3306	37.70	27.93	24.78	25.34	33.90	28.95	17.4
15	21.7000	.1473	.3692	31.00	64.47	22.19	22.48	28.10	28.20	31.2
16	27.7000	.1664	.4172	16.26	20.29	23.71	83.52	16.23	27.78	101.2
17	35.0000	.1871	.4689	12.58	95.76	10.62	22.61	15.31	1025.8	*****
18	43.7000	.2090	.5240	13.99	31.32	63.20	22.42	13.15	19.70	48.4
19	55.6000	.2358	.5911	77.93	49.09	20.96	19.22	20.96	29.47	70.2
20	70.3000	.2651	.6646	37.48	52.69	16.91	15.13	15.39	24.61	87.3

DATA SET: TCW09

CLIENT: USGS-WRD (Tom Nolan) DATE: 17-Sep-93
LOCATION: Oliver farm hay field SOUNDING: 09
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

	30.00 Hz GAIN: 6	3.00 Hz GAIN: 8
	19.90 AMPS EM-37	19.90 AMPS EM-37
	COIL: 100.0 m^2	COIL: 100.0 m^2
	RAMP: 200.0 muSEC	RAMP: 90.0 muSEC
	SHIFT: 0.0 muSEC	SHIFT: -110.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	32372.87	263.90		
12	0.105	25711.91	214.60		
13	0.136	19846.60	169.50		
14	0.173	14747.37	140.40		
15	0.217	10603.87	122.00		
16	0.280	28201.38	105.80		
17	0.354	18064.81	95.05		
18	0.435	11500.87	88.63		
19	0.552	6882.02	83.57		
20	0.702	4102.60	80.43		
21	0.865	664.26	76.59	3698.36	76.23
22	1.100	415.61	75.45	2172.73	72.36
23	1.410	239.24	69.46	1246.11	66.90
24	1.760	143.81	65.64	713.60	64.00
25	2.240	90.10	61.69	438.33	60.44
26	2.820	214.25	57.25	1053.76	54.98
27	3.570	131.71	53.70	643.36	50.25
28	4.380	85.26	50.99	418.89	45.67
29	5.550	50.64	48.60	260.53	41.59
30	7.050	29.48	46.75	166.12	38.01
31	8.650			26.27	36.59
32	10.700			15.46	36.41
33	13.800			10.05	31.62
34	17.500			6.21	29.26
35	21.900			4.18	26.16

* USGS - Branch of Geophysics*

DATA SET: TCW09

CLIENT: USGS-WRD (Tom Nolan) DATE: 17-Sep-93
LOCATION: Oliver farm hay field SOUNDING: 09
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 4.254 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	56.35	278.4	-278.4	4.94
2	16.09			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	54.659	56.356	58.000
	2	14.040	16.092	18.309
THICK	1	258.994	278.482	299.100
DEPTH	1	258.994	278.482	299.100

CURRENT: 19.90 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 6 RAMP TIME: 200.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	263.9	253.8	3.82
2	0.108	214.6	208.6	2.75
3	0.138	169.5	171.1	-0.987
4	0.174	140.4	145.1	-3.38
5	0.216	122.0	126.8	-3.99
6	0.277	105.8	111.1	-5.05
7	0.353	95.05	99.90	-5.11
8	0.441	88.63	92.23	-4.06
9	0.561	83.57	85.98	-2.89

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
10	0.706	80.43	81.33	-1.12
11	0.865	76.59	77.74	-1.50
12	1.07	73.45	74.05	-0.823
13	1.38	69.46	69.55	-0.140
14	1.75	65.64	65.14	0.749
15	2.19	61.69	60.87	1.31
16	2.82	57.25	56.45	1.38
17	3.56	53.70	52.76	1.73
18	4.37	50.99	50.09	1.75
19	5.54	48.60	47.70	1.83
20	7.04	46.75	45.99	1.61

CURRENT: 19.90 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 90.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.760	76.22	72.31	5.13
22	0.970	72.36	69.63	3.76
23	1.27	66.89	66.10	1.18
24	1.63	64.00	62.24	2.74
25	2.05	60.44	58.11	3.84
26	2.66	54.98	53.32	3.00
27	3.42	50.25	48.80	2.87
28	4.30	45.67	44.99	1.48
29	5.50	41.59	41.39	0.477
30	6.95	38.01	38.33	-0.845
31	8.54	36.59	36.04	1.49
32	10.59	36.41	33.91	6.85
33	13.69	31.61	31.78	-0.535
34	17.39	29.25	30.12	-2.97
35	21.79	26.15	28.86	-10.35

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY
TCW10H 94/09/14
L(m)=152.4 Tx I(A)=20.9
Tx Volt= 80 Tx Res= 3.8
Base freq=H Sync mode=X
Tof(us)=125 Rof(us)=125
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-3681	-3722	-3680	-3740	-3713	-3733	-3639	-3699	-3670	-3739
2	-2391	-2421	-2390	-2430	-2407	-2428	-2364	-2406	-2380	-2428
3	-1421	-1432	-1420	-1435	-1429	-1433	-1402	-1422	-1414	-1433
4	-831	-843	-829	-846	-834	-843	-821	-838	-826	-844
5	-499	-503	-496	-505	-498	-504	-492	-501	-494	-512
6	-1111	-1109	-1109	-1109	-1103	-1110	-1099	-1103	-1105	-1107
7	-610	-619	-614	-619	-616	-619	-609	-616	-611	-618
8	-354	-359	-352	-366	-354	-358	-349	-357	-351	-358
9	-200	-205	-200	-205	-199	-204	-198	-203	-198	-204
10	-117	-120	-116	-120	-116	-120	-114	-120	-114	-120
11	-19.7	-19.3	-19.5	-19.4	-19.7	-19.4	-19.2	-19.4	-19.3	-19.3
12	-12.6	-12.3	-12.4	-12.3	-12.4	-12.3	-12.3	-12.4	-12.2	-12.2
13	-7.5	-7.5	-7.5	-7.8	-7.6	-7.6	-7.3	-7.6	-7.3	-7.5
14	-5.2	-5.0	-5.2	-5.1	-5.2	-5.0	-5.1	-5.1	-5.1	-4.9
15	-3.8	-3.8	-3.8	-3.8	-3.9	-3.9	-3.7	-3.9	-3.7	-3.8
16	-11.2	-10.7	-10.9	-10.4	-11.2	-10.9	-10.6	-10.9	-10.5	-10.5
17	-7.7	-7.5	-7.2	-7.4	-8.1	-7.6	-7.2	-7.5	-7.5	-7.3
18	-5.6	-4.4	-5.3	-5.4	-5.7	-5.5	-5.0	-5.1	-5.5	-5.0
19	-4.1	-2.7	-3.8	-3.5	-4.2	-4.0	-4.0	-3.2	-3.9	-3.4
20	-3.0	-1.6	-2.5	-2.1	-3.1	-2.7	-2.8	-1.9	-2.3	-2.1
Primary	-2	-2	-1	-3	-1	-2	-1	-2	1	-2
Gain	6		6		6		6		6	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-1110.1	-1112.6	-1116.5	-1100.3	-1111.0	-1110.1	.5
2	.1080	-721.6	-722.8	-725.0	-715.3	-721.0	-721.1	.5
3	.1380	-427.8	-428.1	-429.2	-423.5	-426.9	-427.1	.5
4	.1750	-251.0	-251.2	-251.5	-248.8	-250.4	-250.6	.4
5	.2180	-150.3	-150.1	-150.3	-148.9	-150.9	-150.1	.5
6	.2780	-83.2	-83.1	-83.0	-82.5	-82.9	-83.0	.3
7	.3510	-46.1	-46.2	-46.3	-45.9	-46.1	-46.1	.3
8	.4380	-26.7	-26.9	-26.7	-26.5	-26.6	-26.7	.6
9	.5580	-15.2	-15.2	-15.1	-15.0	-15.1	-15.1	.4
10	.7020	-8.9	-8.8	-8.8	-8.8	-8.8	-8.8	.6
11	.8580	-5.8	-5.8	-5.9	-5.8	-5.8	-5.8	.6
12	1.0660	-3.7	-3.7	-3.7	-3.7	-3.7	-3.7	.7
13	1.3700	-2.2	-2.3	-2.3	-2.2	-2.2	-2.3	1.4
14	1.7400	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	1.1
15	2.1700	-1.1	-1.1	-1.2	-1.1	-1.1	-1.1	1.4
16	2.7700	-.8	-.8	-.8	-.8	-.8	-.8	2.1
17	3.5000	-.6	-.5	-.6	-.6	-.6	-.6	3.0
18	4.3700	-.4	-.4	-.4	-.4	-.4	-.4	4.6
19	5.5600	-.3	-.3	-.3	-.3	-.3	-.3	7.0
20	7.0300	-.2	-.2	-.2	-.2	-.2	-.2	11.6

U.S. Geological Survey
Teton County WY
TCW10H 94/09/14
L(m)=152.4 Tx I(A)=20.9
Tx Volt= 80 Tx Res= 3.8
Base freq=H Sync mode=X
Tof(us)=125 Rof(us)=125
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	462.0	461.3	460.2	464.8	461.8	462.0	.4
2	.1080	.0104	.0260	426.9	426.5	425.6	429.4	427.2	427.1	.3
3	.1380	.0117	.0294	402.1	401.9	401.2	404.8	402.6	402.5	.3
4	.1750	.0132	.0332	386.1	386.0	385.7	388.4	386.7	386.6	.3
5	.2180	.0148	.0370	377.0	377.2	377.0	379.2	376.0	377.3	.3
6	.2780	.0167	.0418	372.7	372.9	373.5	374.7	373.6	373.5	.2
7	.3510	.0187	.0470	374.8	374.0	373.6	375.6	374.8	374.5	.2
8	.4380	.0209	.0525	372.5	370.8	372.9	375.0	373.9	373.0	.4
9	.5580	.0236	.0592	362.8	362.8	364.0	365.2	364.6	363.9	.3
10	.7020	.0265	.0664	353.7	354.7	354.7	356.7	356.7	355.3	.4
11	.8580	.0293	.0734	334.5	335.1	334.0	336.8	336.8	335.5	.4
12	1.0660	.0326	.0818	314.2	315.9	315.9	315.9	318.5	316.1	.5
13	1.3700	.0370	.0928	290.0	286.2	287.4	291.3	292.6	289.5	.9
14	1.7400	.0417	.1046	251.8	250.1	251.8	251.8	255.1	252.1	.7
15	2.1700	.0466	.1168	212.0	212.0	208.4	212.0	213.9	211.6	1.0
16	2.7700	.0526	.1319	175.6	178.9	174.6	177.8	180.6	177.5	1.4
17	3.5000	.0592	.1483	151.7	155.8	148.5	155.1	154.4	153.1	2.0
18	4.3700	.0661	.1657	138.5	132.4	128.4	137.6	134.1	134.1	3.1
19	5.5600	.0746	.1869	119.9	114.4	105.8	115.4	114.4	113.8	4.6
20	7.0300	.0838	.2102	105.3	105.3	90.18	103.8	108.4	102.0	7.7

U.S. Geological Survey
Teton County WY
TCW10M 94/09/19
L(m)=152.4 Tx I(A)=20.9
Tx Volt= 80 Tx Res= 3.8
Base freq=M Sync mode=X
Tof(us)=125 Rof(us)=125
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	73	84	87	73	89	72	94	88	79	75
2	43	57	56	45	58	47	64	61	47	48
3	29	35	38	24	40	26	56	38	30	26
4	20	20	32	11	32	12	40	26	20	14
5	13	19	24	8	24	11	30	23	12	13
6	11	76	76	18	71	24	85	75	14	46
7	4	53	69	-7	58	-1	69	52	1	36
8	4	40	63	-20	47	-12	66	52	1	37
9	-3	40	58	-39	38	-36	71	59	-18	29
10	-20	31	59	-75	28	-43	51	45	-39	41
11	-4.2	2.6	15.4	-15.5	5.7	-12.6	10.2	6.3	-3.8	-.9
12	-4.7	3.1	16.3	-13.9	4.5	-12.6	7.2	5.4	-4.6	-.6
13	-5.9	4.6	9.3	-6.7	2.0	-5.9	9.1	7.0	-5.9	-.1
14	-5.1	4.3	1.9	-5.5	1.5	-5.0	14.7	6.3	-5.4	-.5
15	-6.0	6.0	5.8	-12.6	-1.3	-8.5	12.8	7.1	-6.8	2.8
16	-3.0	4.2	16.7	-29.2	-.1	-16.2	23.5	3.5	-3.3	.1
17	-3.6	5.9	5.1	-22.6	-3.6	-9.6	29.3	5.6	-5.5	3.0
18	-5.8	7.7	3.8	-22.8	-7.4	-4.0	21.5	7.6	-7.2	7.7
19	-11.9	16.3	-12.9	-1.6	-16.4	12.8	6.0	15.5	-14.7	16.8
20	-12.5	18.0	-18.3	5.6	-19.5	18.6	1.2	17.6	-16.4	19.7
Primary	1	1	8	1	1	-1	1	1	1	1
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	5.9	6.0	6.0	6.8	5.8	6.1	6.8
2	1.0660	3.7	3.8	3.9	4.7	3.6	3.9	11.1
3	1.3700	2.4	2.3	2.5	3.5	2.1	2.6	21.6
4	1.7400	1.5	1.6	1.6	2.5	1.3	1.7	26.8
5	2.1700	1.2	1.2	1.3	2.0	.9	1.3	29.7
6	2.7700	.8	.9	.9	1.5	.6	.9	37.1
7	3.5000	.5	.6	.5	1.1	.3	.6	47.6
8	4.3700	.4	.4	.3	1.1	.4	.5	63.1
9	5.5600	.3	.2	.0	1.2	.1	.4	--
10	6.9800	.1	-.1	-.1	.9	.0	.1	--
11	8.5600	-.1	-.0	-.3	.6	-.2	.0	--
12	10.6400	-.1	.1	-.3	.5	-.2	.0	--
13	13.7000	-.0	.1	-.1	.6	-.2	.1	--
14	17.4000	-.0	-.1	-.1	.8	-.2	.1	--
15	21.7000	0.0	-.3	-.4	.7	-.1	-.0	--
16	27.7000	.0	-.1	-.2	.3	-.0	-.0	--
17	35.0000	.0	-.2	-.1	.3	-.0	.0	--
18	43.7000	.0	-.2	-.1	.3	.0	.0	--
19	55.6000	.0	-.1	-.0	.2	.0	.0	--
20	70.3000	.1	-.1	-.0	.2	.0	.0	--

U.S. Geological Survey
Teton County WY
TCW10M 94/09/19
L(m)=152.4 Tx I(A)=20.9
Tx Volt= 80 Tx Res= 3.8
Base freq=M Sync mode=X
Tof(us)=125 Rof(us)=125
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	333.8	329.6	328.2	302.5	338.1	325.8	4.5
2	1.0660	.0326	.0818	313.4	311.3	303.4	270.1	324.3	303.0	7.4
3	1.3700	.0370	.0928	277.8	283.7	272.1	215.0	303.6	265.7	14.4
4	1.7400	.0417	.1046	255.1	243.1	239.4	182.7	284.3	234.5	17.9
5	2.1700	.0466	.1168	204.9	204.9	193.0	146.3	241.5	191.5	19.8
6	2.7700	.0526	.1319	176.4	167.6	166.4	117.5	226.0	161.7	24.8
7	3.5000	.0592	.1483	158.4	149.7	158.4	95.88	211.3	142.5	31.7
8	4.3700	.0661	.1657	130.0	132.0	151.4	67.35	143.3	111.2	42.1
9	5.5600	.0746	.1869	97.67	152.3	683.2	42.26	219.3	93.04	87.2
10	6.9800	.0835	.2094	150.1	116.9	122.1	35.41	467.7	118.9	198.2
11	8.5600	.0925	.2319	153.3	973.2	57.85	32.35	74.73	282.3	963.9
12	10.6400	.1032	.2586	106.7	81.40	36.18	26.95	48.61	1979.9	*****
13	13.7000	.1170	.2934	80.38	50.64	38.65	15.02	29.00	73.07	389.7
14	17.4000	.1319	.3306	74.59	27.37	27.89	8.45	19.69	50.41	513.1
15	21.7000	.1473	.3692	0.00	12.39	9.71	6.06	17.66	165.0	*****
16	27.7000	.1664	.4172	66.09	13.86	11.61	8.29	34.37	89.61	*****
17	35.0000	.1871	.4689	29.00	7.50	9.05	4.73	27.43	58.64	*****
18	43.7000	.2090	.5240	22.75	4.90	6.89	3.69	55.41	95.76	*****
19	55.6000	.2358	.5911	8.70	3.93	9.95	3.02	14.25	14.82	442.1
20	70.3000	.2651	.6646	5.07	2.90	16.95	2.24	7.13	7.96	270.8

DATA SET: TCW10

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: Resor's Quarry SOUNDING: 10
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 152.400 m by 152.400 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 152.40 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES
30.00 Hz GAIN: 8 3.00 Hz GAIN: 8
20.90 AMPS EM-37 20.90 AMPS EM-37
COIL: 100.0 m^2 COIL: 100.0 m^2
RAMP: 125.0 muSEC RAMP: 125.0 muSEC
SHIFT: 0.0 muSEC SHIFT: 0.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	14678.12	462.00		
12	0.105	9617.84	427.10		
13	0.136	5696.20	402.50		
14	0.173	3389.73	386.60		
15	0.217	2047.70	377.30		
16	0.280	4465.36	373.50		
17	0.354	2425.92	374.50		
18	0.435	1399.05	373.00		
19	0.552	795.45	363.90		
20	0.702	464.07	355.30		
21	0.865	76.09	335.50	78.38	325.80
22	1.100	48.89	316.10	50.90	303.00
23	1.410	29.53	289.50	31.41	277.80
24	1.760	20.07	252.10	21.50	243.10
25	2.240	14.90	211.60	16.18	204.90
26	2.820	41.22	177.50	46.98	167.60
27	3.570	28.73	153.10	27.89	158.40
28	4.380	21.00	134.10	21.02	132.00
29	5.550	14.84	113.80		
30	7.050	9.61	102.00		

* USGS - Branch of Geophysics*

DATA SET: TCW10

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: Resor's Quarry SOUNDING: 10
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 8.003 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	234.5	249.9	-249.9	1.06
2	1196.8	194.2	-444.2	0.162
3	19.47			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	218.009	234.541	246.430
	2	364.937	1196.886	26144.473
	3	13.526	19.477	28.047
THICK	1	194.842	249.975	317.695
	2	136.795	194.296	253.239
DEPTH	1	194.824	249.975	317.695
	2	426.580	444.271	461.944

CURRENT: 20.90 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 8 RAMP TIME: 125.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.087	462.0	498.8	-7.97
2	0.108	427.1	450.7	-5.54
3	0.138	402.5	407.3	-1.20
4	0.174	386.6	376.4	2.61
5	0.216	377.3	356.3	5.54

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
6	0.277	373.5	342.5	8.28
7	0.353	374.5	337.7	9.80
8	0.441	373.0	339.2	9.05
9	0.561	363.9	342.1	5.97
10	0.706	355.3	341.6	3.84
11	0.865	335.5	334.7	0.237
12	1.07	316.1	315.6	0.155
13	1.38	289.5	282.8	2.31
14	1.75	252.1	247.7	1.71
15	2.19	211.6	215.3	-1.77
16	2.82	177.5	184.4	-3.93
17	3.56	153.1	160.5	-4.83
18	4.37	134.1	143.8	-7.30
19	5.54	113.8	128.3	-12.75
20	7.04	102.0	116.4	-14.19

CURRENT: 20.90 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 125.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.870	325.8	328.1	-0.735
22	1.08	303.0	305.9	-0.959
23	1.38	277.8	271.3	2.31
24	1.74	243.1	235.0	3.32
25	2.16	204.9	201.9	1.49
26	2.77	167.6	169.3	-1.05
27	3.53	158.4	142.4	10.06
28	4.41	132.0	122.5	7.17

* USGS - Branch of Geophysics*

U.S. Geological Survey
Teton County WY
TCW11H 94/09/14
L(m)= 76.2 Tx I(A)=26.3
Tx Volt= 55 Tx Res= 2.2
Base freq=H Sync mode=X
Tof(us)= 81 Rof(us)= 81
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	2484	2456	2497	2474	2500	2476	2503	2479	2503	2482
2	1434	1414	1436	1419	1434	1419	1439	1414	1449	1423
3	944	934	942	930	947	934	940	937	950	941
4	608	596	609	594	608	596	612	594	611	593
5	412	389	402	392	405	392	397	391	402	393
6	954	942	953	947	955	948	938	939	939	945
7	541	527	546	540	554	536	542	534	540	534
8	338	328	347	337	345	336	345	338	340	337
9	219	214	216	209	216	212	218	207	220	215
10	149	142	146	137	150	140	150	147	149	141
11	26.6	27.1	26.7	26.9	26.4	26.3	26.5	26.3	26.0	27.2
12	19.4	19.3	18.9	20.0	18.2	19.2	18.1	20.3	18.7	18.3
13	12.5	13.6	12.9	13.2	11.9	13.1	13.1	12.6	11.7	13.2
14	8.1	7.9	9.0	8.6	8.4	8.1	8.2	8.5	7.5	9.0
15	5.6	6.6	5.9	5.7	4.9	5.0	5.1	6.0	4.6	5.9
16	18.0	-15.9	13.5	13.1	12.4	14.5	10.9	14.8	9.1	12.9
17	20.4	-14.8	8.6	1.7	7.8	11.7	8.5	10.7	7.2	-13.4
18	20.1	-6.0	6.5	-6.8	5.8	3.1	8.4	6.4	6.9	-22.5
19	-8.9	4.8	-15.1	7.1	4.8	2.5	-16.9	19.6	-18.2	14.7
20	.5	5.9	-21.8	1.3	.1	7.7	-25.2	27.4	-27.1	16.0
Primary	1	-1	3	1	1	-1	2	-1	2	1
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	185.2	186.4	186.5	186.8	186.9	186.4	.4
2	.1080	106.8	107.0	107.0	107.0	107.7	107.1	.3
3	.1380	70.4	70.2	70.5	70.4	70.9	70.5	.4
4	.1750	45.1	45.1	45.1	45.2	45.1	45.1	.1
5	.2180	30.0	29.8	29.9	29.5	29.8	29.8	.6
6	.2780	17.8	17.8	17.8	17.6	17.7	17.7	.6
7	.3510	10.0	10.2	10.2	10.1	10.1	10.1	.8
8	.4380	6.2	6.4	6.4	6.4	6.3	6.4	1.1
9	.5580	4.1	4.0	4.0	4.0	4.1	4.0	1.1
10	.7020	2.7	2.7	2.7	2.8	2.7	2.7	1.7
11	.8580	2.0	2.0	2.0	2.0	2.0	2.0	.9
12	1.0660	1.5	1.5	1.4	1.4	1.4	1.4	2.2
13	1.3700	1.0	1.0	.9	1.0	.9	1.0	2.3
14	1.7400	.6	.7	.6	.6	.6	.6	3.5
15	2.1700	.5	.4	.4	.4	.4	.4	8.2
16	2.7700	.0	.2	.3	.2	.2	.2	51.1
17	3.5000	.1	.1	.2	.2	-.1	.1	--
18	4.3700	.1	-.0	.1	.1	-.1	.0	--
19	5.5600	-.0	-.1	.1	.0	-.0	-.0	--
20	7.0300	.1	-.2	.1	.0	-.1	-.0	--

U.S. Geological Survey
Teton County WY
TCW11H 94/09/14
L(m)= 76.2 Tx I(A)=26.3
Tx Volt= 55 Tx Res= 2.2
Base freq=H Sync mode=X
Tof(us)= 81 Rof(us)= 81
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	705.2	702.3	701.8	701.2	700.9	702.3	.2
2	.1080	.0104	.0260	705.9	704.8	705.1	705.1	702.0	704.6	.2
3	.1380	.0117	.0294	619.3	620.6	618.6	619.5	616.5	618.9	.2
4	.1750	.0132	.0332	560.6	561.0	560.6	560.0	560.6	560.6	.1
5	.2180	.0148	.0370	510.1	513.1	511.8	515.7	512.7	512.7	.4
6	.2780	.0167	.0418	482.6	481.9	481.4	485.8	484.6	483.3	.4
7	.3510	.0187	.0470	479.7	474.4	473.3	477.3	477.9	476.5	.6
8	.4380	.0209	.0525	454.4	446.4	447.7	446.8	449.5	448.9	.7
9	.5580	.0236	.0592	404.4	409.5	407.6	409.5	403.2	406.8	.7
10	.7020	.0265	.0664	359.5	366.3	360.3	354.7	360.3	360.2	1.1
11	.8580	.0293	.0734	315.0	315.4	319.0	318.6	317.0	317.0	.6
12	1.0660	.0326	.0818	273.0	272.0	279.2	274.4	281.3	275.9	1.5
13	1.3700	.0370	.0928	233.6	233.6	240.4	236.1	241.1	236.9	1.5
14	1.7400	.0417	.1046	217.4	204.0	212.9	211.2	212.9	211.6	2.3
15	2.1700	.0466	.1168	180.2	186.4	207.2	192.0	199.2	192.4	5.4
16	2.7700	.0526	.1319	977.1	179.8	178.5	184.0	204.1	212.8	34.1
17	3.5000	.0592	.1483	344.1	229.2	149.8	151.3	321.5	238.9	73.6
18	4.3700	.0661	.1657	128.4	1672.3	174.5	124.3	120.0	279.9	193.2
19	5.5600	.0746	.1869	195.8	125.4	133.3	258.7	217.6	465.2	361.3
20	7.0300	.0838	.2102	98.44	45.30	86.27	200.6	68.19	161.7	269.4

U.S. Geological Survey
Teton County WY
TCW11M 94/09/14
L(m)= 76.2 Tx I(A)=26.3
Tx Volt= 55 Tx Res= 2.2
Base freq=M Sync mode=X
Tof(us)= 81 Rof(us)= 81
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-29	-15	-47	-30	-43	-24	-32	-1	-19	-59
2	-25	-6	-37	-20	-36	-20	-27	10	-11	-50
3	-18	1	-25	-19	-31	-19	-23	17	1	-42
4	-15	6	-16	-21	-25	-20	-17	19	11	-37
5	-18	9	-10	-15	-23	-18	-16	12	11	-25
6	-69	38	-4	-44	-64	-54	-59	2	58	-42
7	-55	40	18	-54	-58	-64	-52	-6	67	-18
8	15	50	28	-1	-56	-26	45	-44	-5	18
9	64	56	20	33	-59	-33	87	-46	-45	34
10	99	18	29	23	-55	-45	112	-29	-48	47
11	19.4	-8.3	9.6	-4.6	-3.1	2.0	21.4	-13.9	.2	4.6
12	20.7	-8.3	-4.4	-7.0	6.2	4.3	21.0	.2	1.5	1.0
13	2.8	-5.6	-6.2	1.4	11.9	7.1	-1.9	7.4	1.6	-18.9
14	-5.2	5.8	-4.5	-3.3	-5.0	4.4	-6.5	5.9	10.3	-20.5
15	6.6	7.6	6.1	1.6	-3.4	-10.1	10.7	-5.4	-6.2	5.5
16	29.1	-26.6	-1.4	-26.4	15.4	2.3	30.7	4.2	17.8	-18.6
17	-4.8	5.6	-1.5	.8	8.1	2.5	-7.3	5.6	8.7	-28.7
18	18.3	-13.4	-1.3	-23.0	1.4	5.5	22.2	5.5	18.2	-13.9
19	-6.1	14.1	-7.6	-4.9	-2.0	11.9	-2.9	10.9	2.3	.5
20	-12.4	16.5	-8.2	.8	-1.9	14.9	-9.1	12.4	.5	-.6
Primary	1	-3	1	-1	-1	-1	-1	-1	-1	-2
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-1.6	-2.9	-2.5	-1.2	-2.9	-2.2	33.9
2	1.0660	-1.2	-2.1	-2.1	-.6	-2.3	-1.7	43.6
3	1.3700	-.6	-1.6	-1.9	-.2	-1.5	-1.2	60.2
4	1.7400	-.3	-1.4	-1.7	.1	-1.0	-.9	84.5
5	2.1700	-.3	-.9	-1.5	-.1	-.5	-.7	79.3
6	2.7700	-.3	-.4	-1.1	-.5	.1	-.4	--
7	3.5000	-.1	-.3	-1.1	-.5	.5	-.3	--
8	4.3700	.6	.3	-.8	.0	.1	.0	--
9	5.5600	1.1	.5	-.9	.4	-.1	.2	--
10	6.9800	1.1	.5	-.9	.8	-.0	.3	--
11	8.5600	.4	.2	-.0	.3	.2	.2	81.7
12	10.6400	.5	-.4	.4	.8	.1	.3	--
13	13.7000	-.1	-.2	.7	.2	-.6	-.0	--
14	17.4000	.0	-.3	-.0	-.0	-.4	-.1	--
15	21.7000	.5	.3	-.5	.2	-.0	.1	--
16	27.7000	.0	-.3	.2	.3	-.0	.0	--
17	35.0000	.0	-.0	.1	-.0	-.2	-.0	--
18	43.7000	.0	-.2	.1	.3	.0	.0	--
19	55.6000	.1	-.1	.1	.1	.0	.0	--
20	70.3000	.0	-.1	.1	.0	-.0	.0	--

U.S. Geological Survey
Teton County WY
TCW11M 94/09/14
L(m)= 76.2 Tx I(A)=26.3
Tx Volt= 55 Tx Res= 2.2
Base freq=M Sync mode=X
Tof(us)= 81 Rof(us)= 81
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	360.5	248.2	272.4	436.7	246.1	293.8	22.6
2	1.0660	.0326	.0818	316.5	210.9	213.4	472.4	201.5	249.1	29.1
3	1.3700	.0370	.0928	310.9	164.9	151.5	622.6	172.9	205.7	40.2
4	1.7400	.0417	.1046	319.0	124.3	109.1	869.4	157.3	170.6	56.3
5	2.1700	.0466	.1168	220.8	111.7	80.33	379.1	164.4	136.1	52.8
6	2.7700	.0526	.1319	162.4	121.3	66.60	108.2	252.3	122.0	67.8
7	3.5000	.0592	.1483	178.4	99.52	44.11	72.41	81.03	98.78	114.2
8	4.3700	.0661	.1657	46.36	83.27	39.71	749.4	135.6	263.4	752.2
9	5.5600	.0746	.1869	20.62	35.55	24.62	42.19	101.4	63.51	237.5
10	6.9800	.0835	.2094	14.36	24.65	15.94	18.05	343.4	35.41	187.1
11	8.5600	.0925	.2319	19.49	33.17	91.01	25.31	34.08	31.28	54.5
12	10.6400	.1032	.2586	12.60	13.33	14.08	8.81	36.64	18.37	116.2
13	13.7000	.1170	.2934	22.29	15.57	6.22	14.21	6.62	238.5	*****
14	17.4000	.1319	.3306	41.80	7.56	41.80	41.80	6.32	12.39	88.1
15	21.7000	.1473	.3692	3.51	5.28	3.63	6.77	26.10	10.88	268.3
16	27.7000	.1664	.4172	18.74	3.76	5.08	3.23	40.06	11.36	293.0
17	35.0000	.1871	.4689	27.13	29.65	4.84	16.41	3.17	13.82	336.1
18	43.7000	.2090	.5240	5.60	1.92	4.45	1.76	6.11	6.52	316.6
19	55.6000	.2358	.5911	2.70	2.01	2.34	2.70	5.44	4.94	189.0
20	70.3000	.2651	.6646	2.85	1.93	1.32	3.30	33.93	3.89	190.8

DATA SET: TCW11

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: AMT 20 -- Hardeman farm SOUNDING: 11
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 76.200 m by 76.200 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 76.20 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

	30.00 Hz GAIN: 8		3.00 Hz GAIN: 8	
	26.30 AMPS EM-37		26.30 AMPS EM-37	
	COIL: 100.0 m^2		COIL: 100.0 m^2	
	RAMP: 81.0 muSEC		RAMP: 81.0 muSEC	
	SHIFT: 0.0 muSEC		SHIFT: 0.0 muSEC	

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	2463.76	702.30		
12	0.105	1427.93	704.60		
13	0.136	939.84	618.90		
14	0.173	610.70	560.60		
15	0.217	406.68	512.70		
16	0.280	954.37	483.30		
17	0.354	531.75	476.50		
18	0.435	333.37	448.90		
19	0.552	211.72	406.80		
20	0.702	145.03	360.20		
21	0.885	26.06	317.00	78.38	150.70
22	1.100	18.86	275.90	50.90	140.16
23	1.410	12.55	236.90	31.41	128.50
24	1.760	8.21	211.60	21.50	112.45
25	2.240	5.40	192.40	16.18	94.78

* USGS - Branch of Geophysics*

DATA SET: TCW11

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: AMT 20 -- Hardeman farm SOUNDING: 11
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 5.858 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	391.4	352.0	-352.0	0.899
2	72.96	361.4	-713.4	4.95
3	1039.3			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	377.490	391.484	405.468
	2	55.589	72.969	90.311
	3	103.937	1039.369	10393.682
THICK	1	325.916	352.039	372.158
	2	244.685	361.449	675.939
DEPTH	1	328.916	352.039	372.158
	2	607.800	713.488	1010.910

CURRENT: 26.30 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 8 RAMP TIME: 81.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0670	702.3	686.6	2.23
2	0.106	704.6	642.6	8.79
3	0.138	618.9	603.7	2.44
4	0.174	560.6	574.4	-2.46
5	0.216	512.7	550.0	-7.28
6	0.277	483.3	519.2	-7.44

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
7	0.353	476.5	483.0	-1.36
8	0.441	448.9	443.2	1.24
9	0.561	406.8	394.0	3.14
10	0.706	360.2	346.2	3.86
11	0.865	317.0	307.8	2.88
12	1.07	275.9	273.0	1.04
13	1.38	236.9	241.1	-1.80
14	1.75	211.6	219.9	-3.95
15	2.19	192.4	206.8	-7.48

U.S. Geological Survey
Teton County WY
TCW12H 94/09/15
L(m)=152.4 Tx I(A)=20.6
Tx Volt= 80 Tx Res= 3.6
Base freq=H Sync mode=X
Tof(us)=119 Rof(us)=119
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-3017	-3045	-3004	-3063	-3031	-3064	-2976	-3045	-3014	-3085
2	-1943	-1963	-1933	-1969	-1949	-1969	-1919	-1959	-1937	-1979
3	-1210	-1217	-1205	-1218	-1214	-1218	-1197	-1214	-1208	-1223
4	-768	-781	-766	-780	-771	-780	-760	-778	-762	-781
5	-514	-520	-510	-518	-515	-517	-506	-517	-510	-518
6	-1342	-1352	-1339	-1355	-1350	-1351	-1336	-1347	-1340	-1351
7	-889	-902	-892	-910	-897	-905	-894	-902	-890	-907
8	-629	-638	-632	-644	-631	-646	-632	-634	-629	-650
9	-455	-462	-453	-454	-457	-460	-445	-456	-454	-462
10	-274	-276	-274	-277	-276	-278	-270	-280	-273	-279
11	-49.4	-49.5	-49.7	-50.6	-49.3	-48.9	-50.4	-48.0	-49.8	-50.5
12	-36.6	-35.5	-36.3	-35.9	-37.4	-36.8	-31.1	-36.8	-37.2	-35.5
13	-22.0	-22.1	-22.9	-22.7	-23.5	-22.6	-28.6	-22.4	-22.4	-23.9
14	-14.9	-13.5	-15.2	-14.5	-15.7	-14.5	-13.4	-14.8	-15.6	-8.9
15	-9.9	-9.6	-10.7	-9.9	-11.4	-9.8	-9.9	-9.7	-10.4	-14.0
16	-24.6	-21.9	-23.6	-24.4	-19.0	-22.7	-23.9	-25.2	-26.9	-23.2
17	-14.4	-14.9	-17.2	-13.6	-13.0	-12.0	-18.9	-13.0	-16.5	-15.6
18	-11.6	-8.8	-11.2	-5.7	-13.8	-7.3	-14.0	-9.5	-9.5	-11.1
19	-8.5	-5.6	-5.8	12.9	-6.6	-.7	-17.4	1.3	-5.1	5.0
20	-24.1	7.6	-5.6	22.2	-1.6	-3.1	-27.8	-2.7	-5.5	20.9
Primary	-1	-1	-1	-2	-1	-2	-1	-2	-1	-1
Gain	5		5		5		5		5	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	-1818.0	-1819.5	-1827.9	-1805.7	-1829.1	-1820.0	.5
2	.1080	-1171.4	-1170.2	-1175.0	-1163.0	-1174.4	-1170.8	.4
3	.1390	-727.9	-726.7	-729.4	-723.1	-729.1	-727.2	.4
4	.1750	-464.6	-463.7	-465.2	-461.3	-462.8	-463.5	.3
5	.2180	-310.1	-308.3	-309.5	-306.8	-308.3	-308.6	.4
6	.2780	-202.0	-202.0	-202.5	-201.2	-201.8	-201.9	.2
7	.3510	-134.3	-135.1	-135.1	-134.7	-134.7	-134.8	.3
8	.4380	-95.0	-95.7	-95.7	-94.9	-95.9	-95.4	.5
9	.5580	-68.8	-68.0	-68.8	-67.6	-68.7	-68.3	.8
10	.7020	-41.2	-41.3	-41.5	-41.2	-41.4	-41.3	.3
11	.8580	-29.7	-30.1	-29.5	-29.5	-30.1	-29.8	1.0
12	1.0660	-21.6	-21.7	-22.3	-20.4	-21.8	-21.5	3.3
13	1.3700	-13.2	-13.7	-13.8	-15.3	-13.9	-14.0	5.6
14	1.7400	-8.5	-8.9	-9.1	-8.5	-7.3	-8.5	7.9
15	2.1700	-5.8	-6.2	-6.4	-5.9	-7.3	-6.3	9.5
16	2.7700	-3.5	-3.6	-3.1	-3.7	-3.8	-3.5	7.0
17	3.5000	-2.2	-2.3	-1.9	-2.4	-2.4	-2.2	9.8
18	4.3700	-1.5	-1.3	-1.6	-1.8	-1.5	-1.5	11.5
19	5.5600	-1.1	.5	-.5	-1.2	-.0	-.5	--
20	7.0300	-1.2	1.2	-.4	-2.3	1.2	-.3	--

U.S. Geological Survey
Teton County WY
TCW12H 94/09/15
L(m)=152.4 Tx I(A)=20.6
Tx Volt= 80 Tx Res= 3.6
Base freq=H Sync mode=X
Tof(us)=119 Rof(us)=119
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.0867	.0093	.0233	329.3	329.2	328.2	330.8	328.0	329.1	.3
2	.1080	.0104	.0260	306.1	306.3	305.5	307.6	305.6	306.2	.3
3	.1380	.0117	.0294	279.4	279.7	279.0	280.6	279.1	279.6	.2
4	.1750	.0132	.0332	253.7	254.0	253.5	254.9	254.4	254.1	.2
5	.2180	.0148	.0370	230.3	231.2	230.6	232.0	231.2	231.1	.3
6	.2780	.0167	.0418	204.4	204.4	204.0	204.9	204.5	204.5	.2
7	.3510	.0187	.0470	181.9	181.2	181.2	181.6	181.5	181.5	.2
8	.4380	.0209	.0525	158.4	157.7	157.6	158.5	157.4	157.9	.3
9	.5580	.0236	.0592	131.3	132.2	131.3	132.8	131.4	131.8	.5
10	.7020	.0265	.0664	125.9	125.7	125.3	125.9	125.6	125.7	.2
11	.8580	.0293	.0734	112.2	111.2	112.8	112.6	111.2	112.0	.7
12	1.0660	.0326	.0818	96.50	96.41	94.67	100.4	95.97	96.75	2.2
13	1.3700	.0370	.0928	88.16	86.21	85.59	80.02	85.34	84.95	3.7
14	1.7400	.0417	.1046	79.36	77.03	76.18	79.74	87.58	79.74	5.3
15	2.1700	.0466	.1168	70.57	68.04	66.75	70.33	60.78	67.04	6.3
16	2.7700	.0526	.1319	66.33	64.94	71.32	63.96	63.11	65.78	4.7
17	3.5000	.0592	.1483	61.11	59.11	67.93	57.74	57.50	60.40	6.5
18	4.3700	.0661	.1657	53.73	60.92	52.54	48.90	53.38	53.56	7.7
19	5.5600	.0746	.1869	46.01	72.69	71.36	42.12	1246.4	80.44	105.9
20	7.0300	.0838	.2102	28.03	27.91	64.73	18.61	29.34	72.81	344.7

U.S. Geological Survey
Teton County WY
TCW12M 94/09/21
L(m)=152.4 Tx I(A)=20.6
Tx Volt= 80 Tx Res= 3.6
Base freq=M Sync mode=X
Tof(us)=119 Rof(us)=119
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-130	-300	-126	-179	178	-116	-294	-224	-395	-151
2	-127	-206	-139	-122	122	-225	-227	-324	-309	-79
3	-85	-115	-128	-123	124	-58	-162	-215	-188	-34
4	-69	-126	-173	-76	76	-14	-113	-149	-138	-33
5	-86	-91	-113	-11	11	-130	-67	-113	-109	-31
6	-183	-231	-200	-697	77	-203	-32	-112	18	-136
7	-102	-217	-85	-297	296	-196	-10	-74	67	-142
8	-25	-131	-41	-811	80	-252	-9	67	216	-226
9	-19	-49	63	-151	151	-297	-78	115	241	-206
10	126	-75	62	-70	69	-301	-78	233	152	-115
11	14.1	-33.4	4.9	-20.5	20.5	-29.9	26.1	18.0	14.8	-29.9
12	.7	2.5	31.7	-22.3	21.8	-17.8	30.8	3.8	11.1	-22.5
13	21.7	-9.1	20.2	2.7	-2.6	1.4	25.2	-38.0	-8.3	.8
14	19.4	.2	17.6	-6.0	6.0	10.1	-6.6	-43.7	3.2	-1.1
15	-.4	-15.3	3.5	-19.8	17.9	-21.6	-2.3	17.0	34.6	-21.2
16	35.6	-22.4	22.7	-4.7	4.7	-16.0	41.0	61.3	-9.7	43.2
17	11.2	33.3	-116.3	-6.7	6.6	44.2	7.8	-56.2	41.5	-13.0
18	6.6	-15.2	5.0	3.4	-3.2	-13.4	24.1	69.9	-21.4	83.7
19	-18.5	20.4	-8.1	3.0	-2.8	13.9	-40.5	24.6	13.8	10.1
20	-21.1	24.6	-11.7	11.2	-11.0	22.6	-14.2	27.6	1.2	19.4
Primary	1	-1	-1	-279	1	-10	1	-2	1	-1
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-16.1	-11.4	2.3	-19.4	-20.5	-13.0	71.2
2	1.0660	-12.5	-9.8	-3.9	-20.7	-14.5	-12.3	50.3
3	1.3700	-7.5	-9.4	2.5	-14.1	-8.3	-7.4	82.4
4	1.7400	-7.3	-9.3	2.3	-9.8	-6.4	-6.1	80.5
5	2.1700	-6.6	-4.6	-4.5	-6.7	-5.2	-5.5	19.5
6	2.7700	-3.9	-8.4	-1.2	-1.3	-1.1	-3.2	98.6
7	3.5000	-3.0	-3.6	.9	-.8	-.7	-1.4	--
8	4.3700	-1.5	-8.0	-1.6	.5	-.1	-2.1	--
9	5.5600	-.6	-.8	-1.4	.3	.3	-.4	--
10	6.9800	.5	-.1	-2.2	1.5	.3	.0	--
11	8.5600	-.7	-.6	-.4	1.7	-.6	-.1	--
12	10.6400	.1	.4	.1	1.3	-.4	.3	--
13	13.7000	.5	.9	-.0	-.5	-.3	.1	--
14	17.4000	.7	.4	.6	-1.9	.1	-.0	--
15	21.7000	-.6	-.6	-.1	.6	.5	-.1	--
16	27.7000	.1	.2	-.1	1.0	.3	.3	--
17	35.0000	.4	-1.2	.5	-.5	.3	-.1	--
18	43.7000	-.1	.1	-.2	.9	.6	.3	--
19	55.6000	.0	-.0	.1	-.1	.2	.0	--
20	70.3000	.0	-.0	.1	.1	.2	.1	85.9

U.S. Geological Survey
Teton County WY
TCW12M 94/09/21
L(m)=152.4 Tx I(A)=20.6
Tx Volt= 80 Tx Res= 3.6
Base freq=M Sync mode=X
Tof(us)=119 Rof(us)=119
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	168.9	212.3	614.1	149.2	144.0	194.7	47.5
2	1.0660	.0326	.0818	139.2	163.7	304.3	99.49	125.7	140.8	33.6
3	1.3700	.0370	.0928	128.7	110.6	269.5	84.34	120.1	130.1	54.9
4	1.7400	.0417	.1046	87.88	74.66	188.6	72.17	95.92	99.03	53.7
5	2.1700	.0466	.1168	64.87	82.24	84.53	64.15	75.85	73.09	13.0
6	2.7700	.0526	.1319	61.76	36.89	136.5	124.9	142.6	70.45	65.7
7	3.5000	.0592	.1483	49.76	44.13	107.8	121.1	130.6	81.57	86.3
8	4.3700	.0661	.1657	55.37	17.86	51.88	107.1	345.7	43.20	106.9
9	5.5600	.0746	.1869	64.47	54.29	38.74	96.74	100.4	83.67	116.2
10	6.9800	.0835	.2094	53.46	191.9	19.47	25.48	66.22	931.9	*****
11	8.5600	.0925	.2319	28.86	33.26	46.62	16.64	33.99	98.52	579.5
12	10.6400	.1032	.2586	66.55	32.45	57.35	13.61	28.53	36.25	140.5
13	13.7000	.1170	.2934	17.51	11.76	83.98	17.33	24.75	47.76	350.4
14	17.4000	.1319	.3306	8.76	12.41	9.98	4.67	38.82	202.9	*****
15	21.7000	.1473	.3692	7.03	6.85	18.42	7.34	7.81	33.33	661.5
16	27.7000	.1664	.4172	13.23	10.76	14.68	3.38	7.11	7.47	91.9
17	35.0000	.1871	.4689	3.99	2.02	3.65	3.77	5.36	11.14	523.9
18	43.7000	.2090	.5240	8.24	8.37	5.31	1.67	2.20	3.76	114.9
19	55.6000	.2358	.5911	15.09	7.81	4.65	3.66	2.79	10.70	319.0
20	70.3000	.2651	.6646	6.79	24.85	3.05	2.77	2.08	3.44	57.2

DATA SET: TCW12

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: Teton Village North SOUNDING: 12
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 152.400 m by 152.400 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 152.40 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

	30.00 Hz GAIN: 5	3.00 Hz GAIN: 8
	20.60 AMPS EM-37	20.60 AMPS EM-37
	COIL: 100.0 m^2	COIL: 100.0 m^2
	RAMP: 119.0 muSEC	RAMP: 119.0 muSEC
	SHIFT: 0.0 muSEC	SHIFT: 0.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.065	3007.96	329.10		
12	0.105	1952.07	306.20		
13	0.136	1212.16	279.60		
14	0.175	783.76	254.10		
15	0.217	526.29	231.10		
16	0.260	1357.95	204.50		
17	0.354	885.87	181.50		
18	0.435	625.82	157.90		
19	0.552	449.62	131.80		
20	0.702	271.71	125.70		
21	0.865	48.61	112.00	78.38	322.68
22	1.100	35.57	96.75	50.90	300.09
23	1.410	22.89	84.95	31.41	275.14
24	1.760	13.90	79.74	21.50	240.77
25	2.240	10.29	67.04	16.18	202.94
26	2.820	22.51	65.78	46.98	165.99
27	3.570	14.29	60.40	27.89	156.88
28	4.380	10.25	53.56	21.02	130.73

* USGS - Branch of Geophysics*

DATA SET: TCW12

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: Teton Village North SOUNDING: 12
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 4.105 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	147.4	187.5	-187.5	1.27
2	24.75			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	142.468	147.465	152.953
	2	21.999	24.758	27.663
THICK	1	178.741	187.551	195.654
DEPTH	1	178.741	187.551	195.654

CURRENT: 20.60 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 5 RAMP TIME: 119.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0870	329.1	338.7	-2.94
2	0.108	306.2	309.2	-1.00
3	0.136	279.6	279.7	-0.0456
4	0.174	254.1	253.3	0.288
5	0.216	231.1	229.3	0.747
6	0.277	204.5	202.1	1.12
7	0.353	181.5	176.7	2.61

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
8	0.441	157.9	155.6	1.45
9	0.561	131.8	135.3	-2.70
10	0.706	125.7	118.7	5.55
11	0.865	112.0	106.4	4.94
12	1.07	96.75	95.36	1.42
13	1.38	84.95	84.53	0.486
14	1.75	79.74	76.37	4.22
15	2.19	67.04	70.04	-4.48
16	2.82	65.78	64.44	2.03
17	3.56	60.40	60.43	-0.0654
18	4.37	53.56	57.80	-7.93

U.S. Geological Survey
Teton County WY
TCW13H 94/09/15
L(m)=304.8 Tx I(A)=20.1
Tx Volt=160 Tx Res= 7.2
Base freq=H Sync mode=X
Tof(us)=203 Rof(us)=203
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	4169	4167	4154	4013	4127	4150	4164	4151	4193	4153
2	3165	3163	3154	3065	3136	3155	3161	3155	3180	3160
3	2259	2280	2253	2217	2242	2273	2257	2272	2269	2276
4	1658	1667	1654	1627	1647	1662	1656	1662	1664	1664
5	1234	1254	1232	1219	1227	1240	1233	1248	1239	1248
6	3648	3675	3638	3602	3625	3667	3643	3665	3657	3671
7	2641	2662	2634	2612	2627	2656	2638	2656	2648	2660
8	1885	1903	1881	1871	1875	1902	1883	1901	1890	1903
9	1299	1323	1297	1299	1293	1319	1298	1319	1302	1320
10	874	898	873	883	870	895	873	895	875	896
11	157.8	161.1	157.5	158.4	157.2	160.7	157.9	160.6	158.1	160.7
12	105.7	107.8	105.5	106.5	104.7	108.0	105.1	108.0	105.3	108.1
13	64.1	66.7	64.0	65.6	63.7	66.5	64.0	66.4	64.1	66.6
14	38.6	41.5	38.5	40.8	38.4	41.3	38.4	41.3	38.7	41.3
15	23.2	25.9	23.2	25.6	23.1	25.9	23.1	25.9	23.3	25.9
16	58.7	61.8	58.7	60.9	58.4	61.7	58.6	61.6	58.7	61.8
17	33.8	36.4	33.8	35.9	33.7	36.4	33.8	36.4	33.8	36.4
18	19.1	22.1	19.1	21.5	18.9	21.9	19.0	22.0	19.0	21.8
19	9.5	12.6	9.7	12.4	9.5	12.6	9.7	12.6	9.5	12.6
20	4.0	7.0	4.2	6.9	4.0	7.1	4.0	7.0	3.9	7.0
Primary	1	-1	1	-1	1	-1	1	-1	1	-1
Gain	4		4		4		4		4	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.0867	5000.0	4898.6	4964.6	4987.4	5006.0	4971.3	.9
2	.1080	3795.6	3730.2	3773.4	3788.4	3802.8	3778.1	.8
3	.1380	2722.5	2681.1	2708.1	2716.5	2726.1	2710.9	.7
4	.1750	1994.4	1968.0	1984.8	1990.2	1996.2	1986.7	.6
5	.2180	1492.3	1470.1	1479.7	1488.1	1491.7	1484.4	.6
6	.2780	1098.1	1085.7	1093.5	1095.8	1098.8	1094.4	.5
7	.3510	795.2	786.7	792.2	793.9	796.0	792.8	.5
8	.4380	568.0	562.6	566.4	567.4	568.8	566.6	.4
9	.5580	393.2	389.3	391.7	392.4	393.2	391.9	.4
10	.7020	265.7	263.3	264.7	265.1	265.6	264.9	.4
11	.8580	191.3	189.5	190.7	191.0	191.2	190.7	.4
12	1.0660	128.1	127.2	127.6	127.8	128.0	127.7	.3
13	1.3700	78.5	77.7	78.1	78.2	78.4	78.2	.4
14	1.7400	48.0	47.6	47.8	47.8	48.0	47.8	.4
15	2.1700	29.5	29.3	29.4	29.4	29.5	29.4	.3
16	2.7700	18.1	17.9	18.0	18.0	18.1	18.0	.3
17	3.5000	10.5	10.5	10.5	10.5	10.5	10.5	.3
18	4.3700	6.2	6.1	6.1	6.1	6.1	6.1	.6
19	5.5600	3.3	3.3	3.3	3.3	3.3	3.3	.4
20	7.0300	1.6	1.7	1.7	1.6	1.6	1.7	.8

U.S. Geological Survey
Teton County WY
TCW13H 94/09/15
L(m)=304.8 Tx I(A)=20.1
Tx Volt=160 Tx Res= 7.2
Base freq=H Sync mode=X
Tof(us)=203 Rof(us)=203
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RH01	RH02	RH03	RH04	RH05	avgRH0	sd%R
1	.0867	.0093	.0233	415.9	421.6	417.9	416.6	415.6	417.5	.6
2	.1080	.0104	.0260	346.6	350.6	347.9	347.0	346.1	347.6	.5
3	.1380	.0117	.0294	287.4	290.4	288.5	287.9	287.2	288.3	.4
4	.1750	.0132	.0332	238.1	240.2	238.9	238.4	237.9	238.7	.4
5	.2180	.0148	.0370	200.3	202.3	201.4	200.7	200.4	201.0	.4
6	.2780	.0167	.0418	163.9	165.1	164.3	164.1	163.8	164.2	.3
7	.3510	.0187	.0470	137.8	138.8	138.1	137.9	137.7	138.1	.3
8	.4380	.0209	.0525	119.2	120.0	119.4	119.3	119.1	119.4	.3
9	.5580	.0236	.0592	101.8	102.4	102.0	101.9	101.8	102.0	.3
10	.7020	.0265	.0664	90.12	90.67	90.36	90.26	90.15	90.31	.2
11	.8580	.0293	.0734	80.30	80.81	80.47	80.37	80.32	80.46	.3
12	1.0660	.0326	.0818	73.08	73.42	73.26	73.17	73.10	73.21	.2
13	1.3700	.0370	.0928	66.69	67.10	66.89	66.83	66.72	66.85	.2
14	1.7400	.0417	.1046	62.08	62.50	62.29	62.29	62.14	62.26	.3
15	2.1700	.0466	.1168	59.54	59.79	59.62	59.62	59.46	59.61	.2
16	2.7700	.0526	.1319	54.90	55.18	55.02	54.99	54.90	55.00	.2
17	3.5000	.0592	.1483	53.29	53.55	53.35	53.29	53.29	53.36	.2
18	4.3700	.0661	.1657	52.52	53.03	52.86	52.69	52.86	52.79	.4
19	5.5600	.0746	.1869	53.25	53.25	53.25	52.93	53.25	53.19	.3
20	7.0300	.0838	.2102	57.35	57.00	57.00	57.35	57.70	57.28	.5

U.S. Geological Survey
Teton County WY
TCW13M 94/09/15
L(m)=304.8 Tx I(A)=20.1
Tx Volt=160 Tx Res= 7.2
Base freq=M Sync mode=X
Tof(us)=203 Rof(us)=203
Rx moment(m^2)= 100

CHANNEL	+C1	-C1	+C2	-C2	+C3	-C3	+C4	-C4	+C5	-C5
1	-2694	-2683	-2664	-2689	-2688	-2685	-2705	-2688	-2713	-2686
2	-1822	-1802	-1803	-1806	-1819	-1796	-1826	-1796	-1823	-1798
3	-1131	-1114	-1119	-1123	-1129	-1120	-1134	-1108	-1130	-1111
4	-697	-684	-683	-691	-694	-691	-699	-682	-693	-681
5	-446	-425	-431	-434	-435	-429	-445	-433	-440	-425
6	-1071	-1040	-1061	-1065	-1001	-1030	-1091	-1071	-1077	-1059
7	-658	-620	-644	-656	-633	-627	-678	-654	-646	-611
8	-390	-388	-376	-391	-380	-370	-411	-417	-383	-365
9	-230	-224	-222	-238	-228	-232	-258	-227	-228	-192
10	-131	-114	-121	-144	-142	-149	-171	-114	-148	-109
11	-22.2	-17.3	-20.2	-21.7	-22.6	-23.6	-25.5	-22.2	-23.6	-16.7
12	-12.3	-10.6	-11.6	-10.5	-13.4	-14.5	-12.0	-11.0	-9.8	-4.9
13	-6.4	-3.2	-6.5	-6.0	-7.7	-8.9	-6.2	-7.7	-4.3	-4.3
14	-2.2	-1.6	-2.1	-4.0	-3.7	-2.6	-5.3	-5.3	.1	-1.1
15	-.5	-.1	.1	-3.4	-1.9	-1.0	-8.7	-2.9	-2.3	.9
16	6.6	-3.5	.1	-6.4	-5.6	-15.7	-8.1	-4.8	.2	1.5
17	.1	-1.4	3.4	-2.9	.1	-.1	-5.4	-16.3	5.2	3.2
18	8.1	-5.2	2.1	-1.7	-1.0	-6.7	-3.0	-2.8	.1	3.9
19	2.8	-2.4	-2.8	6.8	-6.9	4.8	-2.5	-.1	-5.3	7.0
20	1.1	-1.1	-7.1	10.4	-10.7	7.8	-1.3	3.4	-9.7	6.2
Primary	1	-1	1	-1	1	-1	1	-1	1	-1
Gain	8		8		8		8		8	
Stacks	8		8		8		8		8	

CHN	T(ms)	V1(uV)	V2(uV)	V3(uV)	V4(uV)	V5(uV)	avg V	sd%V
1	.8570	-201.6	-200.7	-201.4	-202.2	-202.4	-201.7	.3
2	1.0660	-135.9	-135.3	-135.5	-135.8	-135.7	-135.6	.2
3	1.3700	-84.2	-84.0	-84.3	-84.0	-84.0	-84.1	.1
4	1.7400	-51.8	-51.5	-51.9	-51.8	-51.5	-51.7	.4
5	2.1700	-32.7	-32.4	-32.4	-32.9	-32.4	-32.6	.7
6	2.7700	-19.8	-19.9	-19.0	-20.3	-20.0	-19.8	2.3
7	3.5000	-12.0	-12.2	-11.8	-12.5	-11.8	-12.0	2.4
8	4.3700	-7.3	-7.2	-7.0	-7.8	-7.0	-7.3	4.2
9	5.5600	-4.3	-4.3	-4.3	-4.5	-3.9	-4.3	5.1
10	6.9800	-2.3	-2.5	-2.7	-2.7	-2.4	-2.5	7.2
11	8.5600	-1.5	-1.6	-1.7	-1.8	-1.5	-1.6	8.4
12	10.6400	-.9	-.8	-1.0	-.9	-.6	-.8	21.4
13	13.7000	-.4	-.5	-.6	-.5	-.3	-.5	26.5
14	17.4000	-.1	-.2	-.2	-.4	-.0	-.2	63.7
15	21.7000	-.0	-.1	-.1	-.4	-.1	-.1	--
16	27.7000	.0	-.1	-.2	-.1	.0	-.1	--
17	35.0000	-.0	.0	0.0	-.2	.1	-.0	--
18	43.7000	.0	.0	-.1	-.1	.0	-.0	--
19	55.6000	.0	.0	-.0	-.0	.0	.0	--
20	70.3000	0.0	.0	-.0	.0	-.0	-.0	--

U.S. Geological Survey
Teton County WY
TCW13M 94/09/15
L(m)=304.8 Tx I(A)=20.1
Tx Volt=160 Tx Res= 7.2
Base freq=M Sync mode=X
Tof(us)=203 Rof(us)=203
Rx moment(m^2)= 100

CHN	T(ms)	sq(T)	Tau	RHO1	RHO2	RHO3	RHO4	RHO5	avgRHO	sd%R
1	.8570	.0293	.0734	77.70	77.93	77.74	77.55	77.49	77.68	.2
2	1.0660	.0326	.0818	70.25	70.45	70.37	70.28	70.30	70.33	.1
3	1.3700	.0370	.0928	63.64	63.70	63.56	63.70	63.72	63.66	.1
4	1.7400	.0417	.1046	59.07	59.27	58.96	59.07	59.27	59.13	.2
5	2.1700	.0466	.1168	55.59	55.84	55.88	55.29	55.84	55.69	.5
6	2.7700	.0526	.1319	51.68	51.44	53.03	50.86	51.28	51.64	1.6
7	3.5000	.0592	.1483	48.90	48.35	49.36	47.57	49.44	48.71	1.6
8	4.3700	.0661	.1657	47.02	47.47	48.19	45.11	48.27	47.18	2.8
9	5.5600	.0746	.1869	45.08	44.68	44.68	43.13	47.48	44.96	3.4
10	6.9800	.0835	.2094	46.55	44.18	41.50	42.09	45.09	43.78	4.8
11	8.5600	.0925	.2319	44.38	42.67	39.98	39.14	43.79	41.86	5.6
12	10.6400	.1032	.2586	44.42	45.49	38.94	44.29	59.70	45.46	14.3
13	13.7000	.1170	.2934	52.04	43.64	36.12	40.66	56.00	44.26	17.7
14	17.4000	.1319	.3306	64.81	47.27	46.27	32.71	157.8	50.29	42.4
15	21.7000	.1473	.3692	153.5	49.28	53.71	21.31	87.27	43.64	74.2
16	27.7000	.1664	.4172	86.18	53.71	23.85	33.31	128.6	49.41	95.4
17	35.0000	.1871	.4689	104.2	197.0	0.00	15.95	30.02	62.16	265.3
18	43.7000	.2090	.5240	42.14	157.9	21.98	26.55	34.01	74.25	281.7
19	55.6000	.2358	.5911	105.7	22.77	34.98	30.34	40.27	134.0	650.2
20	70.3000	.2651	.6646	0.00	17.51	19.08	23.66	16.83	113.5	996.7

DATA SET: TCW13

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: Halpin's Hayfield SOUNDING: 13
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37
LOOP SIZE: 304.800 m by 304.800 m
COIL LOC: 0.000 m (X), 0.000 m (Y)

Geonics EM-37 Data Worksheet
LOOP SIZE: 304.80 m PREAMP GAIN: 52.10
4x GAIN, CHANS 6-10,16,20: YES

30.00 Hz GAIN: 4	3.00 Hz GAIN: 8
20.10 AMPS EM-37	20.10 AMPS EM-37
COIL: 100.0 m^2	COIL: 100.0 m^2
RAMP: 203.0 muSEC	RAMP: 203.0 muSEC
SHIFT: 0.0 muSEC	SHIFT: 0.0 muSEC

CHNL	T (mSEC)	mVOLT	RHO-A	mVOLT	RHO-A
11	0.085	4108.08	417.50		
12	0.105	3149.50	347.60		
13	0.136	2259.21	288.30		
14	0.175	1679.85	238.70		
15	0.217	1266.17	201.00		
16	0.280	3683.17	164.20		
17	0.354	2604.68	138.10		
18	0.435	1857.28	119.40		
19	0.552	1288.77	102.00		
20	0.702	870.69	90.31		
21	0.865	155.78	80.46	2589.88	77.68
22	1.100	105.46	73.21	1750.94	70.33
23	1.410	63.98	66.85	1101.65	63.66
24	1.760	39.31	62.26	689.38	59.13
25	2.240	23.95	59.61	439.28	55.69
26	2.820	57.45	55.00	1056.63	51.64
27	3.570	33.58	53.36	629.13	48.71
28	4.360	20.44	52.79	379.29	47.10
29	5.550	11.17	53.19	222.82	44.96
30	7.050	5.49	57.28	130.52	43.78
31	8.650			21.00	41.86
32	10.700			11.29	44.42
33	13.600			6.14	43.64

* USGS - Branch of Geophysics*

DATA SET: TCW13

CLIENT: USGS-WRD (Tom Nolan) DATE: 09-Sep-94
LOCATION: Halpin's Hayfield SOUNDING: 13
COUNTY: Teton County WY
PROJECT: Teton County Water Resources EQUIPMENT: Geonics EM-37

FITTING ERROR: 6.121 PERCENT

L #	RESISTIVITY (ohm-m)	THICKNESS (meters)	ELEVATION (meters)	CONDUCTANCE (Siemens)
			0.0	
1	232.7	74.40	-74.40	0.319
2	35.59			

ALL PARAMETERS ARE FREE

PARAMETER BOUNDS FROM EQUIVALENCE ANALYSIS

	LAYER	MINIMUM	BEST	MAXIMUM
RHO	1	137.976	232.725	602.293
	2	33.479	35.597	37.655
THICK	1	61.937	74.407	85.343
DEPTH	1	61.937	74.407	85.343

CURRENT: 20.10 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 30.00 Hz GAIN: 4 RAMP TIME: 203.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0670	417.5	443.3	-6.19
2	0.108	347.6	352.4	-1.40
3	0.138	288.3	275.9	4.27
4	0.174	238.7	222.5	6.78
5	0.216	201.0	184.6	8.12
6	0.277	164.2	151.7	7.56
7	0.353	138.1	127.6	7.55
8	0.441	119.4	110.6	7.30
9	0.561	102.0	96.38	5.50

* USGS - Branch of Geophysics*

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
10	0.706	90.31	85.79	5.00
11	0.865	80.46	78.29	2.68
12	1.07	73.21	71.96	1.70
13	1.38	66.85	65.96	1.31
14	1.75	62.26	61.62	1.01
15	2.19	59.61	58.43	1.96
16	2.82	55.00	55.74	-1.35
17	3.56	53.36	54.03	-1.26
18	4.37	52.79	53.11	-0.623
19	5.54	53.19	52.75	0.812
20	7.04	57.28	53.20	7.12

CURRENT: 20.10 AMPS EM-37 COIL AREA: 100.00 sq m.
FREQUENCY: 3.00 Hz GAIN: 8 RAMP TIME: 203.00 muSEC

No.	TIME (ms)	Apparent Res (ohm-m) DATA	SYNTHETIC	DIFFERENCE (percent)
21	0.870	77.68	77.73	-0.0652
22	1.08	70.33	71.22	-1.27
23	1.36	63.66	65.28	-2.55
24	1.74	59.13	60.77	-2.78
25	2.16	55.69	57.33	-2.94
26	2.77	51.64	54.07	-4.70
27	3.53	48.71	51.47	-5.68
28	4.41	47.10	49.51	-5.12
29	5.61	44.96	47.75	-6.22
30	7.06	43.78	46.36	-5.90
31	8.65	41.86	45.32	-8.28
32	10.70	44.42	44.41	0.0209
33	13.80	43.64	43.53	0.245

* USGS - Branch of Geophysics*