

CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES
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PUBLICATIONS

of the

DOMINION OBSERVATORY

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OTTAWA

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TELLURIC HOURLY VALUES AND DC COMPONENT AT VICTORIA FOR 1966/1967

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TELLURIC HOURLY VALUES AND DC COMPONENT AT VICTORIA FOR 1966/1967

D.R. AULD AND B. CANER

Introduction

During 1966 and part of 1967, full-time recording of the telluric (earth-current) fields was carried out at the magnetic observatory in Victoria (geographic co-ordinates $48^{\circ}31'N.$, $123^{\circ}25'W.$; geomagnetic co-ordinates $54.3^{\circ}N.$, $292.7^{\circ}E.$). Details of the instrumentation used are described by Caner and Auld (1968), as well as an interpretation of the results in terms of electrical conductivity structure in the lower crust and upper mantle.

The present publication contains the hourly mean values of the telluric field for the period January 1966 to March 1967. The telluric components are very strongly affected by the local conditions at each station. They are therefore not nearly as useful for synoptic work as the corresponding magnetic components. Nonetheless, it is of some interest to provide at least one set of telluric hourly data for each observatory. Although telluric hourly mean values are available for several observatories, the only published data set from North America was obtained at Tucson, Arizona (Rooney, 1949).

Only the telluric component in the magnetic north-south direction is provided in this publication, i.e., the potential gradients along a line bearing 23° east of true north. The telluric field at this location is strongly polarized in this direction (Caner and Auld, 1968); the fluctuations in the orthogonal direction are of such low amplitude that no useful information can be extracted. The sense of the telluric fluctuations has been defined as increasing as the south electrode becomes more positive. With this definition the electric field is positive when directed toward magnetic north and the sign convention is compatible with that normally adopted for geomagnetic field directions.

At Victoria the south electrode was usually negative with respect to the north and, in view of the above definition, most of the hourly mean values were negative. To avoid the resulting profusion of (-) signs in the tables, a fixed 'baseline' correction of + 1000 mV/km has been applied to all values. A specific hourly mean value therefore equals the printed tabular value minus 1000 mV/km.

The hourly data contained in the tables following the text were derived from strip-chart recordings at 20 mm/hour. These were processed on the semi-automatic magnetogram reader (Caner and Whitham, 1962), with output directly on punched cards. These were then processed on an IBM 650 computer to provide printout in the appropriate format, as well as various cross-checks and computations of summary mean values. The publication is then printed by direct photo-offset reproduction of the computer output sheets. The format used is exactly the same as that of the corresponding magnetic hourly mean data:

Auld and Andersen (1968) for the 1966 data, Auld and Holmes (1969) for the 1967 data. All the above telluric and magnetic data are available on punched cards (two cards per U.T. day), and duplicate decks for any specific period can be supplied on request from the Victoria Magnetic Observatory.

DC Component

The recording of the telluric field was carried out with careful attention to the DC component; in particular the 'bucking' potentials used to bring the recordings on scale were derived from calibrated ($\pm 1\%$) sources. It was hoped that some useful information could be extracted regarding any DC components. Such steady or slowly varying potential differences observed on normal-length lines (up to a few km) are generally accepted as artificial, mainly contact potentials between the metal electrodes and electrolyte solutions in the surrounding soil. Recently, interest in the DC component has been revived by suggestions (Runcorn, 1964) that the 'electric mode' field within the earth's core could provide surface leakage currents of measurable size. The expected potential differences at the surface are of the order of fractions of 1 mV/km, and detection of such small leakage currents requires very long lines. Clearly results from a short line such as ours (117 metres) cannot be expected to provide any arguments for or against such small genuine DC potentials. However, they are useful in helping to define some limits on the validity of DC potential observations in general, and, less hopefully, to detect regional gradients caused by net seawater transport in adjacent channels.

Carefully matched electrodes were made by pouring molten lead into 7 foot deep holes in the same rock formation, and the signals were fed into a high impedance differential amplifier system. Nonetheless, significant differential DC potential differences were observed. The accompanying figure shows a plot of the daily mean values of the NS telluric field; the mean potential difference is clearly not zero - it fluctuates around a mean of -76 mV (-650 mV/km). No significant 'real' DC potential difference can be inferred since this observed value is well within the range to be expected from a combination of two effects: electrode/earth contact potentials, and electrofiltration.

Contact potentials between metal and electrolyte can reach values as high as one volt. Using matched electrodes placed in the same soil and at the same depth and mean temperature, these potentials can be cancelled out to some extent by differential amplification. However, it is virtually impossible to match identically the concentrations of electrolyte solutions in the soil at the two sites. Thus differentials of the order of a few tens of mV are unavoidable. Special non-polarizing electrodes could considerably reduce this

effect, but these were considered impractical for a permanent installation.

The *electrofiltration effect* is caused by the electrolytic filtering of fluids in the soil under pressure differentials (Cagniard, 1956). The observatory is located on the flanks of a hill and the north electrode is 3 or 4 metres below the level of the south electrode. Cagniard reports several investigations of the potential differences observed on and inside hills; differences of around 70 mV per 100 metres of altitude change are usual, although values as high as 300 mV for a 50 metre high hill have been observed. The negative potential corresponds to the higher elevation. It is therefore not unexpected to find a significant contribution from this source to the observed potential difference at this site; the sense of the observed value is also correct in this respect: the south (upper) electrode is negative.

The preceding assumptions about the origins of the observed DC potential difference can be tested by considering the major fluctuations in its mean value (see figure). The daily mean values of the orthogonal *magnetic* field component have also been plotted on the figure; monthly means are joined by straight segments to indicate the main trend. It is clear that the long-period fluctuations in the telluric potential difference are entirely unconnected with the magnetic field. In order to explain these observed fluctuations, we have also plotted on the figure the local magnetic activity range index (daily sums over 25), the daily mean temperature, and the daily precipitation.

The plot of telluric daily mean values shows three main types of fluctuations:

Steady drifts of around 10 to 20 mV/month: These appear to be directly related to the changes in mean temperature; the section between March and August in particular shows the relation very clearly, the coefficient being 6 mV/ $^{\circ}$ C. The effect is less clearly evident on the shorter fall section (September–November), but the coefficient appears to be the same – about 4 or 5 mV/ $^{\circ}$ C. This temperature dependence confirms that the major part of the observed potential difference is caused by differential electrode contact potentials.

Spikes and small fluctuations: Some of these appear to be genuine, correlated with an increased magnetic activity index – for example, the section near August 25 to September 5. However, the majority of these spikes are not associated with any magnetic activity. Almost all the more prominent spikes follow by about one day on periods of heavy rainfall, such as, for example, February 10-12, March 8-10, July 3-4, and particularly the large change of January 20, 1967 (30 mV) which followed a rainfall of 1.63" on January 19. The telluric

potentials react in less than 24 hours to heavy rainfall, and recover very rapidly. It would therefore appear that these spikes are caused by the changes in fluid pressure during run-off, i.e., electrofiltration effect, rather than by differential changes in electrolytic concentrations near the electrodes; in particular, the latter effect could not be expected to recover so rapidly. These observations confirm that there is at least a significant contribution from elevation (electrofiltration) effects to the observed potentials.

Large shifts: Two very large shifts (about 80 mV) have been observed, lasting about one month and with relatively rapid (10-20 mV/day) rise and recovery rates. The relative suddenness of these shifts (Nov. 15 and Feb. 27) is indicative of manmade effects, but no such causes could be located – either in the telluric instrumentation itself or in electrical equipment in the vicinity of the observatory. Since there are no electric trains or other DC operated major equipment in this region, the only likely explanation is an injection of partially rectified powerline currents into ground return circuits somewhere in this area.

The conclusions to be drawn from these data are mainly negative. They provide confirmation of the well known fact that the validity of interpretation based on telluric DC potential gradients should not be accepted without a very critical examination of recordings obtained over very long periods (at least 1 or 2 years). In addition to the vaguely ‘predictable’ effects such as electrode contact potentials and the less well known electrofiltration, there are apparently random shifts of large amplitude and relatively stable duration (1 month for example); they are probably of manmade origin, but their source is not necessarily in the immediate vicinity of the observing site.

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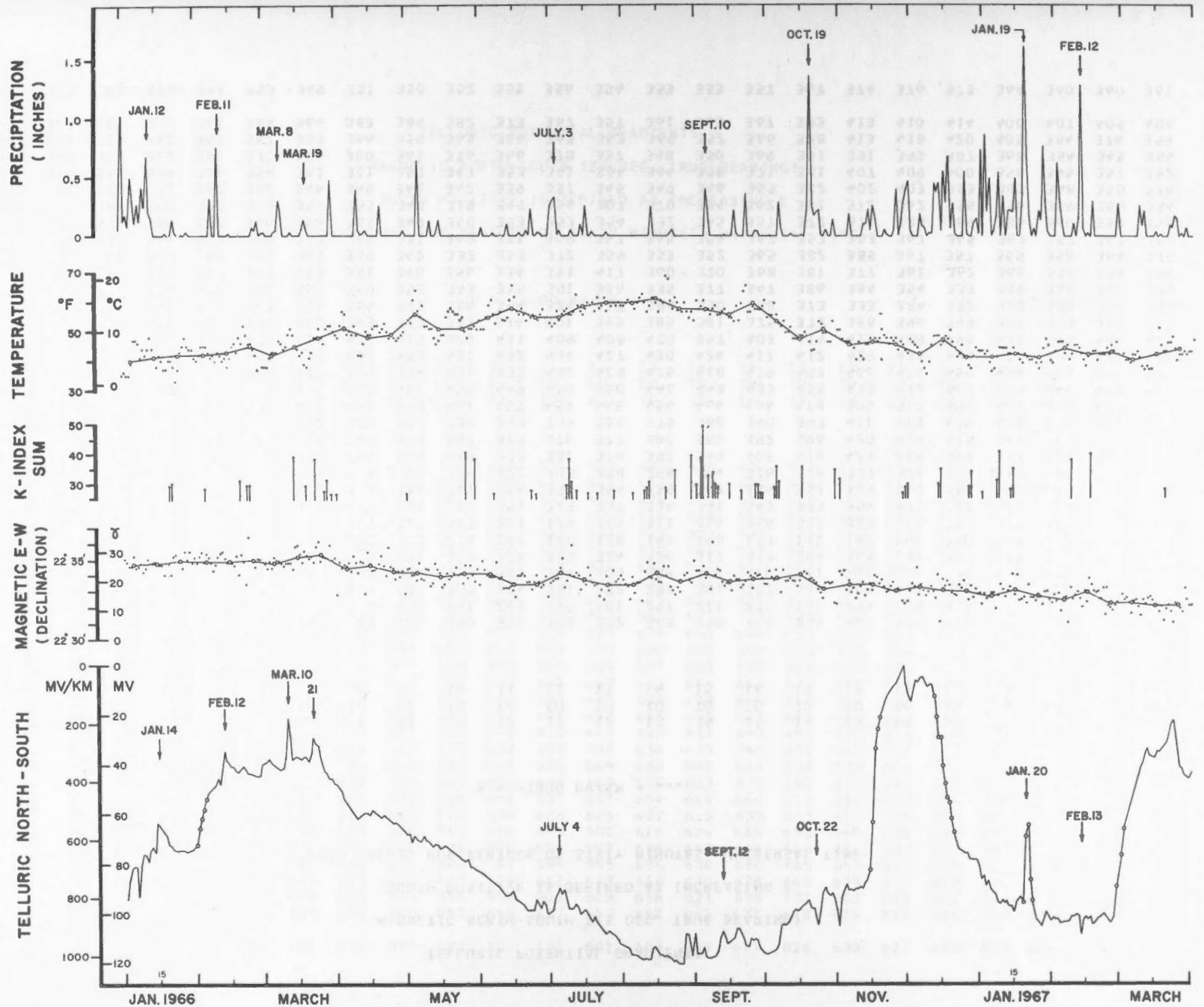


FIGURE 1. Daily mean values of the telluric NS and magnetic EW components at Victoria; local magnetic activity index (daily sums over 25); daily mean temperature, and daily precipitation.

TELLURIC POTENTIAL GRADIENTS

MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)

SOUTH POSITIVE IS DEFINED AS INCREASING E

MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 1 VICTORIA

E = -1000 MV/KM + ...

JANUARY 1966

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	TO	MFAN	
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
DAY																											
1 Q	294	256	301	308	311	307	294	297	301	296	300	302	302	303	299	299	304	303	309	317	295	277	251	237	296		
2	224	216	215	206	210	215	221	226	253	261	283	295	301	297	271	277	298	294	299	313	318	303	293	287	266		
3	293	304	284	279	297	297	302	301	304	305	304	301	298	298	291	292	304	308	317	311	315	311	310	314	302		
4	315	299	285	290	306	311	302	307	317	313	321	306	305	308	308	318	321	289	310	338	296	277	312	326	308		
5	319	305	309	312	296	300	314	318	321	324	328	323	324	320	317	313	299	305	298	302	293	303	269	258	307		
6	244	242	243	245	228	217	223	222	211	198	160	138	142	146	157	171	182	196	210	209	221	242	251	205			
7	261	272	275	253	283	305	318	327	325	327	323	329	315	311	316	316	312	322	348	357	325	337	364	388	319		
8	378	399	392	383	374	345	348	355	356	348	354	343	337	334	341	342	353	354	333	327	325	328	334	346	351		
9	352	352	355	352	347	344	330	333	338	341	344	351	354	359	362	366	352	355	359	354	348	345	313	321	347		
10	326	348	351	338	346	337	329	318	318	328	322	305	298	298	304	316	326	327	326	323	319	321	341	359	326		
11	364	372	366	355	339	319	304	299	309	319	333	351	376	392	399	405	414	429	419	399	377	385	376	366	365		
12 Q	358	367	376	374	378	364	341	343	353	367	370	375	377	380	385	392	396	420	429	418	392	369	364	350	377		
13 Q	305	288	277	276	283	296	312	322	330	338	343	354	366	375	386	390	397	411	419	425	421	428	451	472	361		
14	468	470	460	434	438	431	426	440	458	461	455	459	448	454	464	466	478	506	512	499	462	458	450	445	460		
15	444	433	444	451	461	467	441	452	457	455	449	459	450	446	443	433	455	471	472	467	455	444	438	431	451		
16 Q	434	429	426	428	428	424	419	429	434	438	435	432	429	426	418	419	437	462	464	459	454	451	446	435	436		
17	430	421	422	437	437	434	432	433	433	431	433	434	427	427	430	424	417	412	429	434	434	416	424	421	423	428	
18	418	414	414	416	415	420	414	412	413	409	411	409	408	408	397	403	414	413	409	398	427	428	426	413	413		
19	398	388	386	379	369	376	381	393	377	383	374	401	395	385	381	375	377	388	396	399	381	383	389	381	385		
20 D	380	378	369	372	362	367	395	389	372	384	394	384	415	394	390	388	373	333	384	382	380	382	376	386	380		
21 D	381	377	384	377	376	394	355	358	353	343	355	391	354	335	377	347	386	384	354	333	354	366	372	379	366		
22 D	370	367	369	380	367	359	337	381	340	356	334	351	417	360	320	368	381	377	361	362	366	358	354	356	362		
23 D	376	380	367	363	360	366	348	359	342	332	353	372	359	353	352	365	382	385	367	357	355	358	364	375	362		
24 D	383	377	381	381	377	386	363	344	331	369	381	369	347	345	354	362	353	363	367	365	363	357	367	361	364		
25	358	378	392	386	373	366	356	331	349	350	353	353	354	332	345	357	377	371	384	364	386	360	359	358	362		
26	355	371	384	390	383	378	394	353	345	319	349	354	307	370	384	362	381	372	362	358	356	359	354	354	362		
27	351	366	370	382	362	362	346	345	341	342	339	337	345	349	346	355	382	402	403	383	363	348	350	338	359		
28	336	345	351	359	356	354	361	361	357	347	353	341	364	364	358	371	381	407	409	400	358	345	351	352	362		
29	336	345	355	363	367	377	376	380	361	376	366	370	357	348	350	369	391	391	393	387	368	354	345	354	366		
30	347	348	353	362	367	357	363	366	359	365	364	365	363	369	352	366	388	413	418	420	405	384	376	359	372		
31 Q	352	363	363	369	369	369	364	383	384	382	373	367	357	361	363	367	393	413	410	414	400	407	405	406	381		
MEAN	353	355	355	356	354	353	349	351	350	352	355	356	354	353	353	357	367	374	376	373	364	360	361	358			

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E

MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 2 VICTORIA

$E = -1000 \text{ MV/KM} + \dots$

FEBRUARY 1966

HCUR	00	01	02	03	04	05	C6	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO
01	02	03	04	05	06	07	C8	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
DAY																										
1 Q	394	401	413	410	427	437	428	434	437	426	429	433	436	436	453	479	477	480	467	458	455	454	439			
2	441	448	449	455	456	463	457	467	473	475	477	476	475	473	463	472	485	500	507	500	476	480	478	478	472	
3	486	481	480	476	473	482	501	517	498	505	504	502	533	476	490	511	511	524	524	508	492	520	529	523	502	
4	517	523	518	507	513	511	536	540	572	532	560	527	564	548	533	538	535	544	541	550	547	547	547	573	538	
5 D	550	565	566	553	579	536	533	558	559	514	622	612	531	613	585	584	561	562	549	547	552	545	578	562		
6	581	577	585	596	579	558	545	533	549	552	556	575	563	570	583	578	582	585	568	560	555	552	574	578	568	
7	592	600	593	565	583	583	567	564	562	566	567	573	576	580	584	584	601	607	590	581	561	551	557	568	578	
8	573	575	584	573	572	565	558	555	556	551	548	578	575	586	580	612	638	647	639	625	605	584	585	591	586	
9 Q	600	617	636	629	625	609	600	594	590	592	595	598	603	603	610	634	644	650	645	629	598	575	576	584	610	
10	601	609	620	619	618	620	599	593	585	588	587	579	560	564	577	597	620	606	610	580	570	564	553	553	591	
11	571	578	592	582	609	611	591	581	594	579	577	564	587	604	661	644	689	742	782	795	783	788	775	742	651	
12	741	736	742	739	744	731	703	698	701	694	694	686	678	680	680	691	705	718	716	715	700	684	674	671	705	
13	672	684	699	678	680	694	691	667	668	664	655	656	659	657	661	670	686	692	678	675	669	667	671	669	673	
14 Q	670	661	661	661	674	666	665	649	647	656	647	661	647	643	644	662	672	666	674	673	664	664	658	656	660	
15	656	647	637	644	655	656	638	640	650	648	648	651	649	643	648	646	658	661	666	669	654	656	655	656	651	
16	659	652	657	659	652	649	663	629	637	643	652	646	643	645	640	643	648	653	657	661	665	670	662	662	652	
17	654	642	639	644	647	630	617	624	633	637	646	639	645	629	611	648	656	645	644	635	632	637	640	640	638	
18	644	637	634	644	648	630	630	617	623	631	632	639	638	636	635	644	655	646	631	617	610	613	622	642	633	
19 D	658	644	645	642	647	648	660	624	625	624	632	638	649	638	650	648	668	654	651	636	610	631	661	666	644	
20 D	672	689	667	664	662	736	636	632	586	587	659	687	665	600	683	673	681	652	643	635	630	632	638	638	652	
21	647	659	662	652	654	654	644	631	627	624	651	637	657	654	658	660	673	656	637	624	619	620	624	626	644	
22	642	641	639	645	639	621	614	619	623	619	623	628	626	627	615	635	643	657	638	599	611	623	631	643	629	
23 D	640	632	637	666	770	609	606	614	624	588	618	605	601	615	624	634	650	640	635	633	642	605	604	614	629	
24 D	614	622	645	637	644	667	629	582	612	596	600	604	599	634	643	644	643	641	632	627	599	606	613	633	624	
25	621	631	642	617	645	637	600	602	605	597	599	594	595	636	636	650	665	642	627	613	612	613	618	611	621	
26 Q	608	611	620	625	619	623	626	611	605	613	606	612	615	616	630	638	646	639	630	618	616	601	604	616	619	
27	602	613	619	622	622	637	613	607	599	565	594	602	608	616	621	628	651	652	645	641	633	627	633	635	620	
28 Q	625	641	651	658	664	673	664	643	645	652	649	657	659	662	663	672	678	671	666	662	664	659	653	659		
MEAN	605	608	612	610	618	612	601	594	596	590	601	602	601	603	609	617	628	630	625	618	608	606	609	613	609	

TELLURIC POTENTIAL GRADIENTS

MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)

SOUTH POSITIVE IS DEFINED AS INCREASING E

MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 3 VICTORIA

E = -1000 MV/KM + ...

MARCH 1966

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MEAN
	TO																								
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	

DAY

1 Q	656	664	679	670	686	672	676	658	656	656	649	654	657	653	662	668	668	666	676	675	672	682	680	671	667	
2 Q	659	672	680	685	688	692	666	663	666	672	674	670	670	667	668	680	698	688	702	704	693	682	665	673	678	
3	676	665	671	672	674	663	655	654	666	668	719	644	638	642	640	642	658	663	658	666	664	678	687	671	664	
4	690	670	667	666	671	656	651	653	657	654	665	664	660	648	649	652	647	648	651	653	658	646	658	663	658	658
5	651	658	651	649	648	654	637	642	635	634	647	654	658	660	641	646	654	649	655	648	643	641	652	665	649	649
6	669	661	668	653	654	646	629	633	637	643	669	646	646	660	658	660	651	634	634	621	617	624	632	648	646	646
7 Q	657	658	647	638	642	634	634	614	623	631	633	648	653	659	643	665	668	666	642	626	625	626	632	630	647	641
8	658	662	662	650	652	635	612	611	624	629	632	642	654	656	661	663	670	658	647	650	629	638	633	641	645	645
9	654	658	671	674	671	663	638	635	637	642	650	654	670	686	697	723	728	737	729	716	712	702	716	732	683	683
10	762	774	802	805	804	787	772	774	781	773	792	799	816	808	830	886	892	884	875	862	837	833	843	845	818	818
11	835	842	843	823	820	802	779	773	763	751	743	741	739	735	737	749	756	740	727	703	693	695	681	684	756	756
12	683	686	691	688	698	687	670	658	674	678	657	676	652	648	669	684	694	706	694	690	674	666	669	664	677	677
13	669	677	687	704	693	692	690	673	658	665	671	669	668	677	681	673	694	719	672	685	676	690	710	680	682	682
14 D	694	660	689	730	700	750	763	841	672	678	618	594	611	620	659	685	689	703	679	767	672	679	689	685	685	685
15	696	687	686	701	686	676	681	680	688	686	679	688	648	654	674	691	689	686	669	667	671	673	662	674	679	679
16	694	676	673	692	698	686	678	668	671	661	670	669	670	661	667	681	687	685	681	684	672	668	667	690	677	677
17	683	672	677	683	694	687	680	678	684	689	687	687	687	691	687	704	719	708	698	667	669	683	679	694	687	687
18	656	703	712	698	716	695	675	672	670	679	681	679	679	676	671	680	688	685	683	680	683	682	676	665	684	684
19 D	676	665	653	662	660	663	664	673	696	685	636	693	675	687	673	669	669	685	640	654	634	651	686	664	667	667
20	657	701	712	659	670	682	682	666	672	685	686	690	683	690	674	706	713	729	716	710	704	702	727	723	695	695
21	730	746	754	766	759	768	738	731	733	746	749	756	761	763	765	772	789	778	778	751	715	729	725	732	751	751
22	754	751	758	752	746	712	721	706	708	716	720	723	725	729	740	753	764	748	733	730	708	702	718	708	730	730
23 D	738	733	740	738	761	723	709	722	733	937	674	766	683	640	648	676	781	732	793	648	666	677	713	725	723	723
24 Q	722	719	720	703	700	696	665	661	666	672	678	684	688	693	695	709	716	716	694	672	643	618	629	633	683	683
25	660	659	668	672	678	666	651	643	643	641	646	654	640	676	690	706	701	678	657	631	601	606	606	616	653	653
26 D	625	647	659	656	664	671	618	614	620	615	618	640	677	661	670	657	651	638	609	613	606	594	600	608	635	635
27	617	637	666	648	654	644	645	613	601	593	601	582	609	639	654	631	659	664	651	628	598	577	575	586	624	624
28 D	605	618	612	617	624	625	684	610	618	601	634	649	621	541	580	622	581	617	654	634	598	515	550	585	608	608
29	612	637	618	618	690	591	599	619	600	600	586	589	579	594	613	629	640	638	640	611	582	569	566	570	609	609
30	571	573	585	593	609	584	583	571	569	588	588	583	587	594	587	618	615	628	631	622	611	585	577	570	593	593
31 Q	562	588	589	587	591	601	590	607	597	590	596	593	588	574	589	601	606	610	613	603	567	572	569	565	590	590
MEAN	676	678	684	685	684	676	669	662	667	669	665	668	664	664	669	683	691	689	684	670	658	654	660	664	672	672

TELLURIC POTENTIAL GRADIENTS

MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)

SOUTH POSITIVE IS DEFINED AS INCREASING E

MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 4 VICTORIA

$$E = -1000 \text{ MV/KM} + \dots$$

APRIL 1968

HCUR = 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
 TO TO TG TO TO TO TO TO TO TC TO MEAN
 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	MEAN
D	571	572	574	577	586	593	585	581	575	581	580	581	557	560	604	604	588	620	595	587	550	558	546	566	579						
D	556	551	581	599	588	664	584	565	552	565	567	550	576	567	572	578	577	564	555	536	530	534	531	538	566						
D	548	548	556	559	527	535	541	532	548	545	560	562	558	562	561	549	554	544	535	521	518	513	496	501	541						
D	526	530	535	532	551	518	506	545	537	543	536	540	545	546	545	550	542	515	513	500	493	483	498	506	527						
D	508	513	531	513	508	516	525	502	487	522	520	525	537	545	539	544	536	527	514	489	461	469	487	486	513						
D	505	508	521	517	509	499	500	510	497	488	505	542	539	537	527	554	545	539	514	463	452	461	468	450	506						
D	467	458	506	512	496	486	479	477	488	499	494	499	511	518	527	523	518	508	487	470	449	446	455	463	491						
D	472	486	533	491	543	486	463	468	464	478	470	476	495	495	515	524	520	502	464	450	453	446	445	442	483						
D	448	467	477	489	494	480	469	462	460	463	461	476	489	498	503	523	513	508	484	462	450	442	430	429	474						
C	447	468	474	472	471	469	481	450	462	458	463	470	471	475	506	524	535	539	505	471	477	461	461	475	479						
Q	474	480	484	450	498	490	490	490	484	486	483	484	495	505	511	534	520	519	516	489	472	467	468	473	492						
D	484	488	492	493	488	490	475	482	490	492	501	502	496	499	508	524	529	535	511	492	475	475	470	475	494						
D	478	481	496	516	490	491	474	482	483	496	487	541	538	507	494	530	519	498	460	466	464	473	464	490	492						
D	452	490	482	473	483	480	471	462	502	503	497	461	473	493	504	507	491	488	469	479	479	490	485	478	485						
D	512	503	506	502	497	510	503	502	502	508	501	499	498	503	515	532	527	506	498	492	484	484	487	486	502						
D	491	490	499	495	487	489	483	486	494	500	503	505	501	518	526	530	512	492	475	471	471	474	479	483	494						
D	451	502	495	478	479	487	489	491	499	514	509	497	494	501	507	518	507	489	470	462	465	455	467	473	489						
D	481	488	488	478	480	476	475	472	485	492	497	501	500	505	506	508	500	495	480	459	439	442	450	460	482						
Q	472	469	465	468	475	479	474	482	475	481	488	493	496	499	495	506	498	492	476	457	446	425	433	442	475						
C	435	458	473	471	467	465	468	475	508	489	501	502	532	536	508	514	489	480	470	480	478	468	481	478	484						
D	468	491	501	474	461	459	456	461	474	477	477	487	493	506	511	517	502	503	485	466	439	436	437	430	475						
D	451	465	477	472	485	500	467	463	474	455	458	482	459	489	526	529	485	470	465	430	428	443	449	449	470						
D	439	451	459	509	553	442	448	407	450	441	454	463	481	489	500	502	486	475	455	448	442	430	428	424	462						
D	447	450	458	470	457	459	456	443	442	443	445	458	468	485	493	497	485	467	456	441	419	422	426	449	456						
Q	445	456	459	466	473	454	446	450	449	454	452	458	468	473	489	493	496	475	462	435	428	441	437	433	458						
D	443	450	450	448	455	450	458	449	448	449	449	457	465	466	484	476	489	469	460	447	435	431	428	428	454						
Q	429	439	447	450	440	446	449	445	441	446	446	447	450	462	466	471	470	466	450	438	440	424	406	446							
D	400	410	430	435	435	450	456	440	433	432	458	446	439	435	433	448	462	455	453	441	428	419	407	390	435						
D	399	426	440	437	438	450	444	442	448	426	428	427	439	446	439	449	446	451	440	421	407	409	408	404	432						
D	397	406	420	431	455	431	424	446	442	436	445	444	448	422	440	424	444	392	424	432	422	420	411	417	428						
MEAN	473	481	491	491	492	488	481	479	483	485	488	492	497	501	508	516	510	500	485	470	460	459	459	461	485						

TELEKOM HOUKEI VALUES AND DC COMPONENT, VICTORIA, 1966/1967

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 5 VICTORIA

E = -1000 MV/KM + ...

MAY 1966

HCLR	CC	C1	02	C3	C4	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO
01	02	03	04	05	06	07	C8	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
DAY																										
1	408	420	418	434	414	464	398	405	430	449	436	447	445	445	441	425	443	414	406	395	397	386	378	373	420	
2 D	370	394	379	366	365	385	395	383	439	411	402	408	382	419	418	393	393	385	377	364	375	394	405	405	392	
3	405	406	407	411	411	406	402	416	413	425	434	431	437	441	443	429	434	426	404	381	378	385	379	381	412	
4 D	408	405	418	406	405	395	380	418	412	409	403	441	427	424	416	412	417	414	396	360	355	359	373	369	401	
5	388	406	416	401	397	398	414	373	380	386	405	412	409	424	441	433	435	413	396	365	357	361	371	361	398	
6	372	405	409	407	385	362	371	383	363	376	376	369	397	417	430	439	447	429	407	393	388	376	382	382	394	
7	399	417	424	421	408	397	389	393	4C2	406	412	411	432	444	460	457	440	423	420	394	375	384	381	386	411	
8	359	4C7	410	4C7	412	401	383	380	381	383	398	406	414	430	424	419	416	427	402	379	370	362	369	372	398	
9	376	391	414	404	404	421	394	380	368	375	383	387	394	406	428	426	431	433	412	391	390	383	368	363	397	
10 Q	365	370	376	388	395	390	382	385	376	376	371	376	385	394	412	419	421	400	377	365	375	369	369	358	383	
11 D	356	366	372	383	383	380	381	376	368	364	368	373	385	412	407	402	403	391	372	361	354	336	359	344	375	
12	350	361	373	372	381	371	367	360	366	386	389	377	380	388	410	431	427	411	391	381	386	381	375	374	383	
13	378	371	380	380	376	366	378	385	418	397	377	381	382	391	399	395	390	380	377	376	372	364	352	381		
14 Q	349	363	374	374	368	366	371	379	381	370	373	373	375	374	376	384	391	384	370	364	355	359	359	370		
15 Q	344	361	357	358	363	366	369	366	371	366	372	375	375	383	398	395	397	386	375	359	361	372	379	385	372	
16	369	372	373	381	371	372	372	375	381	387	391	390	392	397	414	405	390	378	367	355	376	365	377	357	379	
17	364	375	381	380	367	361	356	369	370	397	391	387	393	396	408	405	403	383	361	337	343	344	367	379	376	
18	367	382	381	371	374	360	358	367	382	385	383	386	393	400	396	395	379	359	332	332	335	336	335	347	369	
19	361	374	373	360	355	361	348	353	363	369	374	381	385	387	397	397	392	375	348	312	304	322	331	339	361	
20	350	370	372	360	351	348	343	346	357	357	355	368	382	380	372	374	374	390	370	353	331	327	313	315	320	354
21	331	364	369	364	357	347	340	339	338	343	348	366	363	385	389	387	378	344	326	310	308	306	317	331	348	
22	341	349	366	354	352	340	334	322	314	326	336	349	359	378	382	394	390	353	321	310	308	303	311	322	342	
23 Q	325	348	358	355	334	319	334	322	315	323	337	340	350	362	376	377	375	353	319	297	287	283	289	302	333	
24 Q	321	338	339	333	332	324	326	326	309	306	310	314	326	334	344	360	370	368	359	327	309	300	296	293	307	
25	310	318	337	331	324	332	315	313	314	317	319	327	332	336	348	363	382	361	320	302	296	298	306	275	324	
26 D	294	309	319	296	313	319	331	330	295	343	464	513	318	295	338	393	377	325	374	241	297	260	281	281	329	
27	292	335	321	311	303	3C1	297	309	306	309	305	305	310	312	323	324	331	323	306	287	285	290	302	287	307	
28	290	306	304	307	314	313	326	309	306	310	307	308	310	315	329	348	329	296	279	274	290	290	293	274	305	
29	269	278	287	287	289	289	307	312	313	311	308	306	303	315	320	330	321	322	299	286	281	276	286	281	299	
30 C	289	293	298	297	300	302	292	294	307	304	321	305	311	295	314	310	285	278	245	263	267	285	279	294		
31 D	284	307	291	305	346	268	247	334	290	383	341	268	264	295	300	303	294	286	309	255	197	207	234	264	286	
MEAN	350	363	368	364	363	359	355	358	359	366	371	374	372	380	389	392	390	374	358	336	335	333	340	339	362	

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 6 VICTORIA

 $E = -1000 \text{ MV/KM} + \dots$

JUNE 1966

HCLR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
DAY																										
1 D	305	305	299	285	285	274	245	255	289	303	300	302	306	304	304	297	291	276	264	260	270	279	287	271	286	
2 D	266	274	268	257	265	276	266	264	260	262	290	313	303	306	310	314	309	313	284	238	248	257	268	262	278	
3	271	263	264	272	279	259	252	245	262	266	279	283	296	314	309	311	311	287	259	248	225	237	252	261	273	
4	260	269	271	284	261	255	250	249	253	260	269	278	281	292	290	287	306	276	254	242	239	231	209	222	262	
5	243	250	262	272	268	260	252	248	236	250	253	274	268	284	295	298	294	296	266	242	220	206	223	222	258	
6	232	248	271	265	263	234	228	227	234	237	244	262	262	276	274	289	290	281	255	225	209	211	217	219	248	
7	213	233	246	281	256	251	229	234	240	235	263	244	239	257	262	291	300	285	264	224	206	201	200	201	244	
8	216	245	268	245	249	241	236	234	233	250	250	246	245	264	264	267	259	234	214	212	208	203	199	238		
9 C	211	225	234	234	238	235	231	217	222	225	221	227	232	243	253	251	256	246	240	210	201	202	197	187	227	
10 Q	190	210	230	239	223	227	232	224	215	221	220	219	226	236	248	248	245	232	209	184	183	193	199	193	219	
11 Q	190	199	203	213	211	215	208	205	207	214	217	218	221	224	227	231	226	201	179	180	181	187	191	199	206	
12	190	193	200	195	217	223	216	228	216	214	215	206	226	225	212	215	224	212	197	186	193	198	187	195	208	
13	200	198	194	194	192	193	217	210	212	205	202	215	225	228	230	240	242	238	212	200	206	207	213	210	212	
14	206	215	212	218	217	227	222	228	249	242	235	239	231	230	236	244	253	249	223	195	180	184	195	186	222	
15	182	194	194	197	189	202	204	205	207	207	213	213	218	211	213	210	218	210	201	183	174	161	168	174	198	
16	179	160	181	185	186	180	187	186	187	199	194	194	204	211	216	215	210	186	195	173	176	165	166	171	188	
17	165	184	188	187	183	182	181	186	191	193	198	200	196	207	215	218	217	179	150	152	157	180	156	185		
18 Q	149	161	165	179	168	147	147	155	164	172	182	188	200	212	222	227	220	215	196	172	151	147	159	163	178	
19	196	203	192	176	170	166	163	169	162	171	182	196	188	205	214	228	191	168	160	144	139	129	124	142	174	
20	156	182	177	172	155	160	159	130	145	148	153	167	167	169	193	184	184	169	168	118	128	130	135	150	158	
21	159	171	164	184	156	154	142	139	151	152	155	165	166	179	190	198	191	178	153	122	109	104	115	122	155	
22 Q	141	152	168	164	162	176	163	149	143	137	141	150	162	179	177	182	196	180	165	146	126	122	115	113	155	
23 D	122	129	140	157	152	145	141	137	130	139	157	189	170	162	173	197	214	234	195	118	124	147	147	143	157	
24 D	154	179	188	195	203	195	185	190	188	194	190	191	201	213	221	225	225	231	228	192	186	172	157	150	194	
25 D	153	197	185	224	179	188	168	166	184	179	172	212	169	183	188	206	187	168	186	163	155	147	143	141	177	
26	150	173	173	175	179	176	170	168	167	164	170	161	162	174	175	188	182	193	189	154	140	132	121	125	165	
27	123	156	171	190	192	201	193	197	197	192	196	197	194	198	202	208	202	189	190	182	174	164	159	186		
28	164	180	182	182	184	182	185	194	197	200	196	198	191	190	195	206	218	213	164	144	124	123	120	105	177	
29	132	145	143	150	145	144	141	152	151	156	154	157	155	153	167	161	170	162	156	130	133	129	113	111	146	
30	110	127	153	146	153	145	149	153	150	151	183	182	179	172	177	180	171	164	146	118	91	98	121	130	148	
MEAN	188	201	207	211	206	204	199	198	201	204	210	216	216	222	228	233	234	225	207	182	175	175	176	176	204	

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 7 VICTORIA

E = -1000 MV/KM + ...

JULY 1966

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MEAN
HOLR	TC	TC	TO																						
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
DAY																									
1	142	145	146	144	151	148	133	145	143	153	154	168	172	163	166	190	196	200	170	136	132	127	135	152	155
2	166	182	184	188	185	174	169	186	183	190	201	207	219	223	233	248	239	218	193	178	168	177	182	198	195
3	214	198	186	202	218	206	201	196	198	211	208	232	225	242	250	263	253	229	201	184	188	204	215	207	214
4	214	228	270	232	231	214	209	202	215	235	223	245	260	266	281	288	248	246	200	221	203	207	205	210	231
5	193	208	210	216	241	192	193	193	201	194	198	203	220	225	248	256	246	214	199	176	188	202	215	224	211
6	220	219	218	227	226	220	220	205	204	209	215	221	236	238	258	263	255	251	234	212	202	194	181	185	221
7 Q	174	199	217	219	217	222	204	198	198	194	192	203	215	224	231	234	228	208	194	157	147	158	165	155	198
8 D	157	160	170	189	180	179	232	216	176	184	170	165	157	167	184	222	207	194	142	109	107	113	64	95	164
9 D	98	195	171	187	290	221	242	255	156	117	110	134	162	166	174	183	159	158	174	131	121	100	111	103	163
10 D	145	128	154	150	204	206	163	164	134	111	125	159	136	150	165	187	211	212	202	195	171	156	151	142	163
11	142	162	198	187	207	197	164	181	164	168	169	173	174	178	181	195	210	215	198	188	163	147	122	117	175
12 D	137	161	149	212	200	188	171	175	188	147	209	205	169	161	152	173	183	181	178	162	139	135	137	130	168
13 Q	123	129	147	151	152	159	140	145	148	150	153	149	154	149	160	182	182	163	135	131	122	122	125	124	146
14 Q	126	132	131	120	135	137	129	127	127	134	144	139	139	139	148	178	203	195	180	166	163	160	153	150	148
15	154	160	158	157	163	152	154	155	161	166	175	169	172	164	179	194	194	158	127	125	133	147	136	159	159
16	154	168	166	176	154	141	143	138	140	140	160	163	160	158	163	164	159	155	127	104	103	114	125	132	146
17	150	143	149	176	116	132	118	108	92	153	152	144	144	151	158	153	155	136	99	82	91	97	93	113	129
18 Q	123	122	118	121	126	127	96	90	91	103	116	111	132	145	145	159	162	134	108	89	77	96	116	123	118
19	131	148	138	131	134	123	113	119	116	121	125	139	147	151	162	178	167	158	134	106	90	114	117	114	132
20	127	141	141	127	130	126	118	84	81	106	110	124	133	144	159	163	159	150	113	87	78	64	67	79	117
21 D	93	121	163	134	138	111	97	88	98	89	94	108	127	122	125	153	150	130	106	78	61	59	56	52	106
22	83	121	126	129	126	118	84	80	72	79	83	94	98	110	123	128	137	115	89	85	68	31	51	55	95
23	67	95	103	92	105	106	92	85	71	88	64	63	80	91	109	125	119	114	84	68	50	45	47	55	84
24	51	82	91	111	90	101	93	90	69	83	72	70	66	79	94	97	92	97	98	80	61	40	33	44	79
25 Q	57	72	72	92	85	85	76	76	81	79	82	79	85	104	122	135	127	104	80	72	47	36	48	83	
26	51	84	88	103	104	95	77	77	82	79	70	78	88	84	97	103	111	96	85	63	56	61	52	65	81
27	65	69	81	72	83	75	55	65	74	71	94	89	73	76	78	114	114	76	63	47	52	57	50	65	73
28	59	49	68	90	122	77	109	62	56	37	61	76	63	71	78	81	103	107	66	60	36	37	46	49	69
29	73	90	51	52	58	56	42	44	58	50	45	75	69	68	71	96	103	80	53	36	30	30	44	43	59
30	52	56	49	34	38	56	22	4	42	44	46	53	58	64	73	90	83	70	43	12	-5	-8	4	33	42
31	51	50	53	40	28	15	26	41	37	48	51	57	60	62	50	57	41	29	18	26	16	4	13	38	
MEAN	122	136	141	144	150	141	131	128	125	127	131	138	141	146	155	169	168	156	133	115	106	105	104	111	134

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 8 VICTORIA

HOUR	E = -1000 MV/KM + ...																								AUGUST 1966	
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
DAY																										MEAN
1	4	36	35	48	54	16	19	6	9	22	36	39	40	54	56	70	68	52	24	14	8	10	9	6	31	
2 Q	32	33	44	36	30	29	21	18	13	18	26	35	40	44	48	52	56	44	16	5	10	4	8	11	28	
3	6	26	18	16	26	56	0	3	7	5	20	23	37	51	61	55	43	36	27	1	-12	-16	-10	6	20	
4	9	13	9	10	7	3	-7	-9	8	-14	4	-18	-7	16	35	62	51	23	-1	-14	-29	-24	-44	-30	2	
5	6	11	16	10	7	11	-15	6	10	-27	-24	-2	5	29	28	26	13	26	1	-22	-22	-28	-10	-16	2	
6	-12	-14	3	9	21	9	-3	-8	-15	-21	-7	-8	4	15	26	38	24	26	8	-5	-24	-36	-32	-15	0	
7	4	11	7	21	19	-2	-2	-11	-17	-14	-15	-19	-5	5	7	22	24	12	-7	-24	-36	-41	-37	-30	-4	
8	-22	-10	-1	12	7	0	-12	-21	-28	-14	-18	-15	-16	-8	9	22	24	10	-3	-33	-43	-44	-26	-57	-11	
9	-34	-18	-10	-9	-1	1	-28	-27	-21	-20	-35	-27	-4	0	5	35	20	2	-6	-10	-42	-57	-32	-25	-13	
10	-19	-23	19	-15	8	-20	-28	-14	-44	-30	-33	-14	-5	-58	6	30	39	31	21	-6	-13	-36	-47	-43	-11	
11	-55	-39	-17	28	-3	0	15	-23	-8	-42	-48	-55	-10	1	-2	6	28	23	-12	-24	-27	-26	-46	-37	-15	
12	-27	-27	-29	-29	-11	19	-30	63	58	-25	-64	-83	-68	-12	20	19	9	10	-14	-27	-33	-23	-19	-23	-13	
13	-28	-14	2	-1	-8	-11	-27	-11	2	2	45	54	64	72	80	78	75	67	41	40	26	11	18	14	25	
14	38	45	42	37	37	33	32	2	21	27	24	27	34	42	52	76	77	62	24	-5	-20	-7	3	12	30	
15	37	43	30	10	-4	7	18	4	10	1	13	51	47	31	56	46	50	33	7	-9	-21	-27	-21	-3	17	
16 G	2	31	12	-11	-15	-15	-14	-1	-16	11	12	21	27	30	38	32	36	19	-12	-35	-29	-17	-10	4	4	
17 Q	5	12	5	-2	-10	-19	-20	-16	-11	-2	3	13	22	34	44	42	43	19	-21	-42	-38	-34	-20	-10	0	
18 C	6	8	11	-3	-8	-30	-42	-33	2	17	43	36	18	50	51	42	12	-22	-95	-62	-45	-25	-26	-3		
19 D	-28	12	-1	19	39	-23	-27	-20	-18	-4	5	88	22	2	34	38	35	7	-41	-41	-40	-42	-35	-25	-1	
20 C	-24	-28	3	8	9	-1	0	5	-6	-36	-30	-12	-3	11	30	46	50	17	-21	-33	-33	-45	-48	-24	-6	
21	-24	-20	-6	-10	-12	-15	-15	-16	-23	-21	-14	-9	-5	2	16	29	44	42	-1	-29	-47	-47	-53	-39	-10	
22 Q	-34	-27	-23	-16	-15	-13	-6	-10	-13	-19	-19	-15	-8	3	11	24	27	-16	-27	-45	-68	-62	-56	-67	-20	
23 D	-43	-26	-37	-42	-14	-19	-11	-13	-14	20	25	-51	6	30	32	14	16	32	-77	-43	-64	-61	-59	-29	-17	
24 D	-63	10	-48	-30	-31	-29	-36	-28	-27	-26	-22	-30	4	-24	-3	22	2	-24	-40	-47	-50	-58	-54	-41	-27	
25	-52	-24	-38	-35	-37	-36	-27	-24	-16	-3	-27	-48	-27	-14	-6	-5	5	-13	-40	-48	-52	-47	-51	-30	-28	
26	-38	-33	-22	-35	-35	-32	-28	-31	-36	-34	-29	-35	-17	-19	-10	5	11	2	-29	-46	-53	-57	-54	-52	-28	
27	-38	-22	-36	-28	-8	2	3	-2	-4	3	33	25	33	36	60	81	71	42	1	-14	-18	-23	-10	-6	8	
28 Q	-1	7	-4	-8	-13	-14	-7	-1	5	10	19	21	26	32	47	87	58	29	-7	-24	-32	-31	-18	-7	7	
29	0	9	11	-9	-7	-9	-7	3	4	11	14	9	30	9	61	59	61	26	-17	-35	-47	-44	-14	-24	4	
30 D	-41	-54	84	-3	-12	-16	2	-6	-11	-3	12	24	31	39	49	19	88	60	-121	-12	-40	-35	-68	-13	0	
31 D	4	11	42	5	2	-6	-3	3	1	3	15	26	21	34	29	37	40	27	-16	-10	-19	-24	-25	-12	8	
MEAN	-13	-1	4	0	1	-2	-8	-6	-6	-6	-1	2	11	16	31	39	40	24	-11	-22	-30	-32	-28	-19	0	

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 9 VICTORIA

E = -1000 MV/KM + ...

SEPTEMBER 1966

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1 D	-18	0	17	24	22	23	-1	13	28	-20	47	25	7	20	13	50	42	70	2	-45	-44	-39	-31	-15	8	
2	-2	28	14	13	0	13	6	-5	-15	-2	2	5	30	11	53	83	53	14	20	-86	-63	-34	-2	-2	6	
3 D	-3	6	5	5	6	13	-3	-15	-1	47	90	49	1	68	66	31	6	18	35	-16	-35	-44	-97	-109	5	
4 D	-78	110	139	160	153	166	94	3	16	-78	10	58	-39	-39	6	36	27	-14	-27	-34	-25	-26	-37	-20	23	
5	-21	-16	8	13	2	11	-1	-13	-26	-22	-32	9	-4	-8	38	45	22	17	-1	-32	-44	-45	-40	-30	-6	
6 D	-33	-29	10	70	35	-50	-17	-49	-38	-78	4	0	33	15	1	10	36	33	0	-39	-46	-43	-48	-39	-10	
7	-47	-12	-8	-1	5	-35	8	-15	-20	-35	-8	1	-11	-12	14	10	7	15	19	5	-14	-28	-30	-29	-8	
8 D	-34	-26	-1	68	-32	5	69	9	19	-5	-32	35	-11	-36	-29	-17	-20	3	15	-20	-13	-22	-31	-10	-4	
9	-25	-24	-3	4	16	-7	3	11	-24	-18	1	39	11	-9	9	8	8	-4	-13	-8	-17	-9	-8	2	-1	
10	14	-8	-4	16	-2	-15	-9	-31	-17	4	-28	47	58	27	27	14	14	27	28	16	25	20	23	36	12	
11 Q	27	32	22	35	40	52	79	50	53	60	61	75	72	78	87	95	102	94	84	68	75	62	69	78	65	
12 Q	69	73	67	55	55	57	76	88	98	90	101	93	101	105	98	117	114	116	92	76	63	58	59	50	82	
13 Q	52	63	46	38	40	35	46	52	61	69	73	93	85	81	95	106	87	62	45	43	42	37	42	45	60	
14	48	40	32	39	24	30	39	41	38	47	56	63	72	70	83	99	98	61	23	-6	10	4	25	4	43	
15	65	48	36	66	9	33	37	29	27	40	83	60	91	65	86	96	74	40	14	4	-6	-21	5	41	43	
16	46	77	75	57	51	49	40	37	38	48	58	62	81	85	99	109	118	70	53	-5	-19	2	40	40	55	
17	70	80	92	71	32	41	44	37	47	42	53	64	75	96	100	122	98	65	36	16	16	34	50	76	61	
18 Q	57	93	100	96	97	95	89	85	87	87	96	103	107	107	126	146	137	121	95	74	52	51	44	53	93	
19	92	98	89	77	107	110	89	87	84	74	87	89	102	114	129	141	129	103	88	67	36	49	48	62	90	
20	63	72	66	91	79	82	73	68	89	81	76	84	40	119	128	119	109	93	70	41	42	45	35	39	75	
21	20	36	43	77	48	55	59	68	70	64	71	68	78	55	76	85	88	79	64	50	35	21	11	12	56	
22 Q	5	32	32	30	39	49	41	45	45	44	43	48	49	45	55	63	54	43	23	11	22	12	11	4	35	
23	-4	6	10	15	35	29	39	40	32	6	30	40	33	22	75	73	85	90	-14	7	26	27	20	9	30	
24	30	29	27	31	21	31	44	56	66	94	65	59	58	74	83	97	96	81	67	54	43	48	53	48	56	
25	51	34	34	22	42	30	62	42	65	73	79	78	75	76	87	105	99	77	44	36	12	25	37	28	55	
26	10	28	53	15	28	12	48	61	61	37	119	115	98	64	113	83	40	78	55	52	38	38	57	64	57	
27	58	72	27	29	65	37	38	44	57	53	50	77	73	79	82	99	80	70	46	10	3	8	29	32	51	
28	54	6	14	101	-17	26	7	14	27	45	33	58	52	47	51	71	62	21	27	9	-2	-22	12	-9	29	
29	26	32	22	2	59	-19	2	0	20	12	30	33	39	46	45	57	54	35	-4	-15	-12	-16	-1	-7	18	
30	3	7	17	-1	11	39	-8	-8	11	9	18	36	6	53	47	41	23	3	-1	-11	-17	-16	-11	-32	9	
MEAN	22	33	36	44	36	33	36	28	33	29	45	56	49	51	65	73	65	53	33	11	6	6	11	14	36	

TELLURIC POTENTIAL GRADIENTS

MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)

SOUTH POSITIVE IS DEFINED AS INCREASING E

MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 10 VICTORIA

$E = -1000 \text{ MV/KM} + \dots$

OCTOBER 1966

HOUR	0C	C1	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	TC																									
	01	02	C3	C4	C5	C6	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
DAY																										
1	-1	13	2	0	-18	-10	-17	3	2	-1	16	14	13	31	34	44	33	22	7	-8	-18	-11	-6	3	6	
2 Q	10	20	19	8	5	-4	-6	10	12	9	25	27	28	9	32	43	41	30	1	-23	-30	-30	-22	-3	9	
3	5	12	15	0	-7	14	3	2	6	5	10	11	27	33	44	57	60	39	16	-6	-17	-19	-18	-3	12	
4 D	-11	11	12	35	33	7	7	1	14	-3	28	33	16	7	43	50	64	62	11	2	6	-41	-71	42	15	
5 D	-2	28	61	86	1	20	73	32	41	81	92	-33	-2	-5	15	12	4	28	39	17	0	-16	-14	9	24	
6 D	9	39	29	68	90	31	5	-14	4	-36	10	10	27	9	49	77	80	88	88	77	60	68	75	68	42	
7	59	82	108	82	95	87	92	93	95	98	99	98	101	103	116	111	136	144	124	124	108	96	98	80	101	
8	75	87	90	95	102	98	113	120	129	131	124	107	114	108	122	128	130	121	119	111	102	104	99	89	109	
9	80	83	89	69	99	84	107	117	111	99	104	105	96	108	98	140	138	114	123	118	123	108	114	108	106	
10	92	85	80	75	81	101	115	118	123	114	127	120	121	116	119	138	146	150	144	122	117	125	129	122	116	
11 Q	120	106	104	104	99	103	108	120	132	137	135	139	136	135	138	152	165	166	161	150	154	146	151	139	133	
12	135	126	122	132	125	112	126	136	132	144	157	152	166	161	158	196	197	197	196	145	152	141	179	151	152	
13	143	145	147	130	124	129	138	145	153	161	166	166	173	181	184	202	209	178	163	143	147	153	156	164	158	
14	133	158	154	136	157	148	146	139	155	158	162	172	177	180	186	195	190	167	152	133	119	126	156	159	157	
15	155	157	156	156	138	145	141	138	148	147	169	178	175	174	177	200	209	184	142	125	134	145	152	152	158	
16 D	157	161	183	185	191	138	179	239	228	151	138	169	151	147	148	196	213	198	185	152	157	149	158	170	173	
17	175	168	169	181	170	159	158	154	166	167	168	172	179	181	202	222	243	221	210	185	167	164	153	143	178	
18	163	166	185	191	183	171	175	174	176	175	179	183	188	195	203	211	227	227	213	193	169	151	146	150	183	
19	163	171	179	194	204	205	201	204	207	197	194	186	190	195	207	219	214	196	179	163	156	137	139	188		
20	142	143	147	154	177	185	166	168	166	176	172	168	175	171	173	194	211	196	198	169	157	154	130	128	168	
21 Q	132	134	157	155	166	158	156	163	164	164	162	164	167	158	187	194	217	219	194	162	151	135	128	119	163	
22 Q	133	149	152	166	165	167	164	158	170	164	153	146	138	130	127	132	138	143	143	119	99	79	60	76	136	
23 Q	85	95	90	90	98	105	103	115	112	113	114	111	113	116	117	135	154	154	127	109	91	79	66	87	107	
24	82	92	95	86	91	104	121	123	132	140	146	155	151	165	185	165	203	211	208	189	187	171	178	186	149	
25	168	177	214	195	203	207	223	217	179	259	206	292	195	209	251	263	256	248	260	190	189	219	225	242	220	
26	217	220	218	222	242	229	200	227	239	222	260	251	251	246	224	253	257	261	239	233	234	236	241	227	235	
27	211	223	209	217	205	207	213	211	223	220	224	224	225	236	231	258	244	219	196	207	209	227	213	219		
28	198	209	212	197	196	191	185	187	192	198	203	204	208	210	223	240	246	245	231	203	191	207	208	222	209	
29	205	203	213	217	191	190	208	183	198	204	207	213	223	219	225	253	273	257	240	226	219	211	221	222	218	
30	235	234	227	227	233	223	211	206	207	210	210	213	220	223	208	207	220	165	122	156	153	167	145	176	200	
31 D	180	206	245	205	200	198	169	103	131	149	164	109	171	154	92	201	169	209	177	112	120	112	132	129	160	
MEAN	118	126	132	131	130	126	128	129	133	134	139	138	139	138	146	163	171	165	150	129	123	119	120	126	136	

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE II VICTORIA

E = -1000 MV/KM + ...

NOVEMBER 1966

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	MEAN
	TC	TC	TO	TO	TC	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	MEAN
	01	02	03	C4	05	C6	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
DAY																									
1 D	140	152	128	122	143	115	115	1C1	94	115	90	22	134	83	115	93	101	102	111	94	32	63	100	121	104
2	173	166	17C	198	204	208	212	196	194	204	212	202	200	210	204	214	216	220	222	224	230	226	226	227	207
3 D	228	230	228	232	226	244	209	200	200	202	204	212	221	242	266	283	282	275	240	224	214	212	212	218	229
4	237	243	247	261	266	272	238	226	224	222	228	235	236	238	244	276	283	286	260	252	234	221	224	231	246
5	220	211	219	231	271	241	228	261	231	226	210	218	215	197	236	236	253	248	237	230	226	210	213	209	228
6	207	222	221	234	268	274	229	224	211	211	241	237	227	215	209	241	239	236	212	209	212	209	222	226	227
7	216	218	212	218	228	228	227	217	228	221	217	217	214	228	221	243	254	253	240	226	222	217	211	219	225
8	222	223	225	239	255	233	231	231	234	235	235	228	222	218	229	224	236	236	228	223	236	227	232	232	231
9 Q	218	222	231	221	224	224	225	226	228	227	233	234	231	226	226	234	248	247	245	230	233	234	235	235	231
10	239	238	232	246	254	250	257	210	232	229	229	239	258	243	228	238	231	248	242	224	228	221	240	224	237
11	242	243	233	243	250	212	224	216	218	229	233	241	230	238	228	233	259	246	236	230	223	229	229	237	233
12	248	237	260	254	251	236	248	248	249	250	254	265	268	271	274	277	274	271	231	208	250	243	248	262	253
13	274	273	259	262	275	255	239	236	240	248	243	269	268	274	276	282	284	274	251	232	240	253	251	262	259
14 Q	297	297	307	304	294	274	266	262	265	266	286	275	288	293	308	324	342	335	314	300	292	292	299	319	296
15	346	354	369	386	387	390	378	381	382	406	417	433	455	456	478	487	504	531	557	561	582	592	616	637	462
16	666	684	703	725	730	715	707	699	722	712	687	702	718	720	728	730	730	730	734	724	724	721	720	734	715
17	735	744	750	755	759	765	769	774	778	783	786	791	794	797	803	806	809	836	784	774	794	779	786	790	781
18	802	804	802	816	835	820	799	811	807	808	810	813	818	826	840	866	886	879	824	810	824	832	802	807	823
19	826	835	860	878	874	875	855	875	861	851	827	861	823	810	862	877	881	883	890	866	841	840	837	836	855
20	856	860	859	874	889	873	885	861	865	871	875	866	871	873	877	878	900	901	896	864	866	871	864	877	874
21	871	877	877	856	912	897	910	898	907	892	897	887	889	887	891	904	928	918	914	908	894	892	885	889	897
22 Q	89C	9C1	902	911	919	923	919	908	908	907	907	912	910	901	902	921	937	943	940	925	929	928	915	908	915
23 Q	916	907	916	916	925	931	915	916	920	920	924	920	920	923	910	923	946	945	940	931	923	930	934	919	924
24	92E	913	910	950	925	934	939	950	918	924	932	921	933	930	922	931	943	944	944	946	944	934	938	938	933
25 C	944	940	927	940	938	944	933	935	924	939	942	947	943	944	931	934	946	941	948	939	945	956	961	946	941
26	974	957	971	962	964	965	969	949	947	957	958	956	965	955	973	984	955	968	966	957	965	954	958	973	963
27	984	986	983	988	985	985	977	972	973	980	983	994	1003	987	974	1001	998	983	973	951	942	990	998	1004	983
28 D	1008	1012	1013	1013	1C06	1000	1010	984	975	987	978	1039	1034	1034	1018	1016	1008	988	965	987	999	992	977	975	1001
29 D	10C1	945	938	948	939	959	908	912	878	920	931	917	953	946	940	921	958	938	914	932	927	930	945	954	936
30 D	968	964	979	989	934	942	935	885	927	915	863	921	897	913	943	870	893	846	825	805	801	841	828	836	897
MEAN	563	562	564	574	578	573	565	559	558	562	561	566	571	569	575	582	591	588	576	566	568	570	575	570	

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 12 VICTORIA

HCUR	E = -1000 MV/KM + ...																								MEAN	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
TC	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
DAY																										
1	853	853	883	874	872	892	867	813	847	859	868	891	875	879	883	917	916	893	888	883	894	874	885	898	877	
2	911	920	918	930	925	915	905	904	895	907	910	911	908	913	923	937	959	945	940	922	920	924	918	918	920	
3 Q	934	943	956	966	983	986	968	954	934	925	907	946	951	947	950	950	964	964	960	958	944	929	920	912	948	
4	918	932	944	968	964	966	957	1044	911	910	929	897	925	935	940	934	969	944	949	928	944	926	927	921	941	
5 D	925	948	939	961	950	953	953	964	952	940	937	930	935	934	947	958	970	1011	982	939	947	948	960	963	954	
6	955	956	959	957	965	970	969	955	953	954	948	937	940	940	934	957	969	977	967	970	961	963	963	954	957	
7	945	937	940	945	952	951	958	954	946	942	937	938	926	930	930	937	952	957	957	948	954	935	939	944		
8	923	921	929	937	936	932	939	923	934	925	931	924	916	909	909	911	927	928	933	948	948	949	949	938	930	
9 Q	934	931	928	942	936	945	940	939	931	931	937	926	924	921	914	916	922	918	917	918	939	938	945	945	931	
10	932	929	932	938	941	937	940	922	936	930	941	934	928	927	913	909	918	924	921	928	937	932	934	920	929	
11 C	924	931	931	926	918	915	909	900	902	896	906	910	909	904	897	897	888	880	879	876	869	848	852	842	896	
12 Q	825	825	829	831	827	820	821	815	821	823	826	831	837	838	836	836	835	825	821	811	808	804	806	815	824	
13 D	821	810	782	794	805	784	813	811	773	802	787	799	769	752	747	708	672	676	680	684	697	695	696	715	753	
14 C	760	788	805	830	791	782	798	766	724	767	760	768	754	774	661	788	810	792	713	751	690	700	679	705	757	
15	702	725	713	709	726	705	693	674	653	657	658	649	652	658	672	661	654	635	605	598	577	568	583	599	655	
16	623	634	639	650	657	665	626	578	582	572	570	564	587	600	596	592	591	595	580	575	559	565	548	548	596	
17	565	582	585	591	575	584	573	558	559	543	543	565	548	559	546	529	533	553	548	533	520	502	478	448	547	
18	448	458	467	502	536	550	538	538	562	569	584	590	581	566	551	544	545	539	535	529	510	494	492	492	530	
19	485	496	502	506	498	506	509	488	483	473	469	461	462	462	461	473	470	462	479	471	460	443	417	422	473	
20	422	423	425	448	461	439	444	436	425	430	419	427	417	417	420	429	430	440	436	468	432	382	395	397	428	
21	407	408	410	413	419	449	377	385	393	386	377	393	376	373	391	383	395	417	412	428	393	399	385	370	397	
22	374	373	381	388	385	395	377	375	357	377	362	365	367	367	334	347	379	370	390	387	383	350	355	347	370	
23	355	361	365	361	357	366	363	364	365	363	369	357	365	356	361	364	364	372	375	364	392	378	375	359	365	
24	357	350	353	354	366	375	405	367	415	360	322	364	351	346	347	343	346	355	358	374	377	375	355	349	361	
25	340	359	348	356	361	353	369	358	370	374	282	380	360	312	370	348	325	338	351	351	344	364	368	373	352	
26 D	344	383	356	364	369	356	381	364	363	366	332	343	361	328	318	259	338	363	367	353	346	356	387	339	352	
27 D	329	362	357	361	413	370	308	303	334	299	305	338	346	306	343	340	322	351	311	298	323	355	340	319	335	
28	338	337	340	347	338	318	315	326	333	332	331	341	340	343	313	354	341	329	332	345	311	327	328	342	333	
29	334	347	358	359	353	339	316	322	298	334	340	338	336	342	342	346	342	337	319	315	307	310	304	331		
30	311	330	339	340	342	325	310	317	327	309	304	320	319	334	351	335	343	337	337	333	308	287	297	297	323	
31 C	298	318	330	333	334	328	319	312	319	313	319	328	328	327	333	325	350	335	337	320	293	280	278	288	319	
MEAN	632	641	643	651	653	652	644	636	632	631	626	634	632	627	630	637	637	632	629	622	616	615	612	633		

REVIEW BY MONTHS OF TELLURIC ELEMENTS

MEAN VALUES OF TELLURIC ELEMENTS
E NORTH-SOUTH (MV/KM) - (ALL DAYS)

TABLE 13 VICTORIA

U.T.	E = -1000 MV/KM + ...												1966			
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0- 1	353	605	676	473	350	188	122	-13	22	118	563	632	341	162	322	538
1- 2	355	608	678	481	363	201	136	-1	33	126	562	641	349	175	330	542
2- 3	355	612	684	491	368	207	141	4	36	132	564	643	353	180	336	544
3- 4	356	610	685	491	364	211	144	0	44	131	574	651	355	180	338	548
4- 5	354	618	684	492	363	206	150	1	36	130	578	653	355	180	336	551
5- 6	353	612	676	488	359	204	141	-2	33	126	573	652	351	176	331	548
6- 7	349	601	669	481	355	199	131	-8	36	128	565	644	346	169	329	540
7- 8	351	594	662	479	358	198	128	-6	28	129	559	636	343	170	325	535
8- 9	350	596	667	483	359	201	125	-6	33	133	558	632	344	170	329	534
9-10	352	590	669	485	366	204	127	-6	29	134	562	631	345	173	329	534
10-11	355	601	665	488	371	210	131	-1	45	139	561	626	349	178	334	536
11-12	356	602	668	492	374	216	138	2	56	138	566	634	354	183	339	540
12-13	354	601	664	497	372	216	141	11	49	139	571	632	354	185	337	540
13-14	353	603	664	501	380	222	146	16	51	138	569	629	356	191	339	539
14-15	353	609	669	508	389	228	155	31	65	146	575	627	363	201	347	541
15-16	357	617	683	516	392	233	169	39	73	163	582	630	371	208	359	547
16-17	367	628	691	510	390	234	168	40	65	171	591	637	374	208	359	556
17-18	374	630	689	500	374	225	156	24	53	165	588	637	368	195	352	557
18-19	376	625	684	485	358	207	133	-11	33	150	576	632	354	172	338	552
19-20	373	618	670	470	336	182	115	-22	11	129	566	629	340	153	320	547
20-21	364	608	658	460	335	175	106	-30	6	123	566	622	333	147	312	540
21-22	360	606	654	459	333	175	105	-32	6	119	568	616	331	145	310	538
22-23	360	609	660	459	340	176	104	-28	11	120	570	615	333	148	313	539
23-24	361	613	664	461	339	176	111	-19	14	126	575	612	336	152	316	540
MEAN	358	609	672	485	362	204	134	0	36	136	570	633	350	175	332	543

MEAN VALUES OF TELLURIC ELEMENTS

E NORTH-SOUTH (MV/KM) - (QUIET DAYS)

TABLE 14 VICTORIA

E = -1000 MV/KM + ...

1966

L.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0- 1	349	579	651	453	341	176	121	1	50	96	653	786	355	160	313	592
1- 2	349	586	660	459	356	189	131	11	59	101	653	790	362	172	320	595
2- 3	349	596	663	462	361	200	137	7	53	104	657	795	365	176	321	599
3- 4	351	598	657	464	360	206	141	0	51	105	658	800	366	177	319	602
4- 5	354	602	661	468	359	200	143	-4	54	107	660	800	367	175	323	604
5- 6	352	602	659	464	354	200	146	-5	58	106	659	799	366	174	322	603
6- 7	346	597	646	463	358	196	129	-4	66	105	652	791	362	170	320	597
7- 8	355	586	641	463	353	190	127	-1	64	113	649	784	360	167	320	594
8- 9	360	585	642	460	348	190	130	-3	69	118	649	781	361	166	322	594
9-10	364	588	644	462	350	196	132	4	70	117	652	778	363	171	323	596
10-11	364	585	646	464	353	196	137	8	75	118	658	779	365	174	326	597
11-12	366	591	650	468	358	200	137	15	82	117	658	788	369	178	329	601
12-13	366	591	651	474	364	208	144	21	83	116	658	790	372	184	331	601
13-14	369	592	649	479	372	219	148	29	83	110	657	787	374	192	330	601
14-15	370	597	651	488	386	225	158	38	92	120	655	786	381	202	338	602
15-16	373	608	665	495	390	228	175	47	105	131	667	785	389	210	349	608
16-17	385	619	671	495	389	229	182	44	99	143	684	792	394	211	352	620
17-18	402	622	664	485	374	215	165	19	87	142	682	784	387	193	345	623
18-19	406	619	662	476	352	198	144	-9	68	125	677	783	375	171	333	621
19-20	407	613	656	456	337	178	125	-27	54	103	665	777	362	153	317	616
20-21	392	601	640	444	336	168	116	-30	51	93	664	771	354	148	307	607
21-22	386	592	637	441	335	170	117	-27	44	82	668	760	350	149	301	602
22-23	383	590	635	438	338	172	119	-18	45	77	669	760	351	153	299	601
23-24	380	593	638	436	342	171	120	-13	46	84	665	760	352	155	301	600
MEAN	370	597	652	465	357	197	138	4	67	110	661	784	367	174	324	603

MEAN NUMBER OF REPORTED ELEMENS

MEAN VALUES OF TELLURIC ELEMENTS

E NORTH-SOUTH (MV/KM) - (DISTURBED DAYS)

TABLE 15 VICTORIA

E = -1000 MV/KM + ...

1966

L.T.	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	SUMMER	EQUINOX	WINTER
0- 1	378	627	668	491	342	200	126	-33	-32	67	669	636	345	159	299	578
1- 2	376	630	665	495	356	217	153	-8	12	89	661	658	359	180	315	581
2- 3	374	632	671	510	356	216	161	8	34	106	657	648	364	185	330	578
3- 4	375	632	681	519	351	224	174	-9	65	116	661	662	371	185	345	583
4- 5	365	660	682	521	363	217	202	-2	37	103	650	666	372	195	336	586
5- 6	374	639	676	536	349	216	181	-18	31	79	652	657	364	182	331	581
6- 7	360	613	685	507	347	201	181	-14	28	87	635	651	357	179	327	565
7- 8	366	602	676	507	368	202	180	-12	-7	73	616	642	351	185	312	557
8- 9	348	601	702	505	361	210	150	-13	5	84	615	629	350	177	324	548
9-10	357	582	702	507	382	215	130	-1	-26	68	628	635	348	182	313	551
10-11	363	626	648	508	396	222	142	7	24	86	613	624	355	192	317	557
11-12	373	629	673	520	401	241	154	11	33	58	622	636	363	202	321	565
12-13	378	609	650	516	355	230	150	17	-1	73	648	633	355	188	310	567
13-14	357	620	628	509	369	234	153	16	6	62	644	619	351	193	301	560
14-15	359	637	638	527	376	239	160	28	11	69	656	603	359	201	311	564
15-16	366	637	657	533	381	248	184	26	22	107	637	611	367	210	330	563
16-17	375	641	673	523	377	245	182	36	18	106	648	622	371	210	330	572
17-18	368	630	672	509	360	244	175	20	22	117	630	639	366	200	330	567
18-19	367	622	680	500	366	231	160	-58	5	100	611	611	349	175	321	553
19-20	360	616	646	490	316	194	135	-30	-30	72	608	605	332	154	295	547
20-21	364	607	636	479	316	197	120	-42	-32	69	595	601	325	148	288	542
21-22	364	600	622	486	311	200	113	-43	-34	54	608	611	324	145	282	546
22-23	367	612	646	480	330	200	104	-47	-48	56	612	612	327	147	284	551
23-24	371	626	654	492	333	193	104	-23	-38	84	621	608	335	152	298	557
MEAN	367	622	664	507	357	218	153	-7	4	83	633	630	352	180	315	563

TELLURIC POTENTIAL GRADIENTS

MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)

SOUTH POSITIVE IS DEFINED AS INCREASING E

MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 16 VICTORIA

E = -1000 MV/KM + ...

JANUARY 1967

HELR	CC	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	MEAN
	TC																									
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
DAY																										
1 C	300	312	307	306	279	256	263	240	246	242	214	259	297	265	291	257	196	303	316	307	238	233	238	233	267	
2	241	262	254	254	314	280	292	280	288	268	285	276	274	276	283	285	297	306	298	273	260	248	236	228	277	
3	217	220	171	162	150	179	177	198	211	204	216	275	275	263	295	306	291	324	332	325	291	277	264	258	245	
4 C	233	253	256	270	276	281	274	286	271	269	262	251	248	254	253	244	265	278	288	272	260	241	234	219	260	
5	206	205	217	223	236	238	236	245	246	247	241	234	222	227	216	223	232	261	268	263	252	243	217	206	234	
6	200	200	216	206	220	235	229	235	245	220	207	207	206	209	204	204	213	230	242	256	236	226	217	212	220	
7 C	205	203	219	221	216	227	215	230	236	284	221	195	176	156	182	137	286	240	193	206	231	231	225	244	216	
8 D	210	166	196	226	182	259	240	280	267	258	254	197	183	147	144	138	128	116	148	140	138	168	165	169	188	
9	161	176	175	188	197	167	117	154	165	174	175	186	182	186	156	179	214	210	209	197	188	193	197	198	181	
10 C	150	155	195	195	189	181	182	183	189	193	194	198	197	193	191	202	211	198	189	186	199	199	208	189	193	
11	218	207	205	208	194	175	164	192	181	165	161	170	169	133	185	223	218	212	183	168	176	184	183	178	186	
12 C	185	156	208	198	186	177	185	189	181	181	182	188	193	193	193	200	214	226	228	192	155	154	170	183	190	
13 D	185	186	186	193	191	179	171	192	160	164	144	157	112	263	177	175	178	173	177	140	157	124	171	206	173	
14 C	201	176	116	246	259	234	247	222	261	158	55	116	149	160	167	180	184	188	170	143	123	118	128	147	173	
15 C	167	171	174	174	166	143	133	131	144	135	127	132	134	139	171	195	203	168	147	124	126	144	156	152		
16	168	178	195	210	211	240	195	185	187	193	192	173	173	193	170	209	211	211	200	189	170	152	152	155	188	
17	166	174	203	201	204	204	193	195	195	181	196	193	195	197	198	218	233	234	217	202	180	176	175	174	196	
18	175	164	209	213	210	209	203	195	194	193	189	191	188	192	190	209	238	247	245	214	185	186	185	191	201	
19	184	186	201	199	196	197	196	172	147	131	104	76	56	58	98	141	183	216	240	255	249	268	290	316	182	
20	328	346	369	388	355	358	398	406	404	427	416	409	425	399	415	407	437	448	455	453	466	471	461	448	415	
21	476	472	478	485	475	480	498	476	483	454	484	472	479	467	499	478	465	467	470	429	407	364	337	313	455	
22	324	323	323	312	305	304	297	273	270	260	252	260	247	234	219	220	237	247	257	259	247	223	204	202	263	
23	158	157	211	218	218	220	232	189	191	170	186	176	173	166	157	165	193	200	204	194	189	192	175	168	191	
24 C	167	160	174	175	165	160	157	152	150	149	147	142	140	136	139	159	155	156	151	148	132	141	146	152		
25	136	136	142	151	142	122	123	116	115	125	133	120	118	119	101	102	133	140	134	128	126	111	110	119	125	
26	136	133	124	124	120	120	142	113	104	119	116	129	126	115	116	115	126	116	107	105	94	77	72	76	114	
27	51	52	103	106	106	92	78	82	89	94	100	106	104	101	112	127	115	114	112	108	96	101	110	102		
28	113	112	105	110	112	128	113	84	127	93	87	116	113	130	133	140	142	150	156	158	134	130	125	127	122	
29	140	157	161	173	156	159	151	163	133	124	140	149	153	152	164	173	179	191	173	171	145	130	118	136	154	
30 C	141	144	144	161	159	146	151	136	121	118	122	127	134	131	140	148	174	176	168	149	136	116	98	105	139	
31 C	123	128	137	150	139	133	125	112	102	95	99	101	107	112	122	147	164	155	140	134	102	92	88	122		
MEAN	199	202	207	216	212	211	206	203	197	190	193	192	192	194	200	216	224	222	211	198	190	188	190	202		

TELLURIC HOURS VALUES AND DC COMPONENT, VICTORIA, 1966/1967

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 17 VICTORIA

E = -1000 MV/KM + ...

FEBRUARY 1967

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	TC	TC	TG	TC	TC	TC	TC	TO	MEAN																	
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
DAY																										
1	113	122	138	142	142	135	141	129	109	119	112	108	113	117	110	138	166	173	168	162	135	112	96	107	129	
2 Q	107	113	120	126	136	134	137	130	118	108	108	106	105	103	117	139	160	165	173	154	136	133	121	114	128	
3 C	121	116	116	123	135	137	137	127	128	118	127	103	90	92	93	115	142	158	170	162	144	139	131	103	126	
4	103	100	106	111	124	149	138	101	104	113	107	99	106	93	89	73	126	152	145	113	120	109	117	92	112	
5	105	98	105	130	152	127	111	106	112	107	108	105	98	101	95	95	80	129	140	128	131	126	124	121	114	
6	119	110	107	140	129	115	112	112	112	99	113	108	124	111	107	101	123	123	141	132	136	119	127	122	118	
7 D	117	115	127	125	122	116	106	99	99	109	109	111	114	111	103	120	147	48	175	142	99	152	168	114	119	
8 D	121	123	155	126	98	73	118	125	200	165	127	86	197	105	31	114	110	121	105	87	115	121	102	120	119	
9	117	133	145	144	141	140	139	108	109	128	133	133	137	136	139	142	156	152	153	146	138	124	114	124	135	
10 Q	135	147	157	164	144	137	123	122	123	125	132	140	137	134	139	147	162	154	145	124	120	109	107	118	135	
11	132	132	145	149	142	160	147	104	126	89	133	129	146	140	143	156	173	173	171	163	156	136	125	133	142	
12 C	138	150	166	164	163	165	151	127	118	121	123	129	135	139	148	158	162	160	160	152	137	119	80	33	138	
13 C	16	7	26	52	67	76	66	48	50	54	65	74	79	90	92	106	135	104	123	119	106	103	76	80	76	
14	51	107	131	143	136	118	119	116	109	99	105	115	121	127	118	129	151	152	161	155	138	116	101	104	124	
15	115	126	152	165	163	163	153	125	117	115	117	113	114	114	118	133	158	154	158	155	143	110	80	75	131	
16 D	67	76	138	125	125	139	141	120	91	193	246	297	-81	193	56	81	125	128	128	110	127	133	124	103	125	
17 D	106	100	123	182	124	106	117	109	97	115	107	89	119	116	114	140	152	193	194	190	187	169	127	107	133	
18	109	113	121	131	146	125	134	113	90	86	83	87	63	100	93	104	124	133	144	138	129	111	93	86	111	
19	87	99	113	127	125	126	116	103	104	109	99	96	82	93	112	129	150	153	152	131	122	97	85	113		
20	52	1C1	119	132	127	134	131	121	130	131	128	121	116	109	108	125	152	157	157	158	154	144	126	119	129	
21	123	120	130	145	146	134	132	130	127	136	127	130	132	120	145	136	145	162	148	125	127	117	114	120	132	
22	136	130	148	145	151	143	146	133	145	138	140	154	137	122	107	151	167	158	149	109	101	115	132	133	137	
23	138	147	168	146	147	133	130	134	140	157	126	146	116	133	143	188	121	100	144	167	164	150	162	144		
24	164	142	148	146	126	133	140	119	129	127	125	132	138	141	137	147	145	133	123	98	95	113	126	132	132	
25 D	140	132	129	126	140	178	99	97	105	97	131	143	126	137	137	142	163	146	70	86	87	97	105	85	121	
26	111	132	132	132	121	119	107	1C1	99	97	103	81	115	136	128	141	122	146	125	107	96	96	91	84	113	
27	1C4	119	126	138	132	117	122	106	85	102	110	118	139	144	145	170	189	167	158	136	140	134	141	140	133	
28	169	188	221	241	259	245	255	246	234	244	250	255	272	268	253	268	276	267	257	248	232	214	202	204	240	
MEAN	114	118	133	141	136	135	131	118	118	121	125	125	119	125	118	133	151	149	150	139	133	127	118	111	129	

TELLURIC POTENTIAL GRADIENTS
MAGNETIC NORTH-SOUTH (23 DEG. TRUE BEARING)
SOUTH POSITIVE IS DEFINED AS INCREASING E
MEAN VALUES FOR PERIODS OF SIXTY MINUTES, UNIVERSAL TIME

TABLE 18 VICTORIA

E = -1000 MV/KM + ...

MARCH 1967

	CUR	C1	C2	C3	C4	C5	C6	C7	C8	C9	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	TC	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
DAY																																			
1	226	236	276	289	294	296	298	300	307	329	332	351	354	382	379	398	428	442	440	431	405	398	372	380	348										
2	388	411	430	420	425	429	426	398	410	409	403	409	425	429	437	443	485	492	506	496	486	463	447	418	437										
3	437	442	470	472	469	460	458	473	441	452	455	486	447	418	470	481	509	506	514	494	501	484	457	449	469										
4	463	489	491	504	490	507	506	512	487	484	479	485	479	481	489	498	530	555	565	553	546	515	486	474	503										
5	485	508	496	504	531	547	529	519	513	505	507	500	507	500	494	507	536	570	567	556	551	536	543	511	522										
6	515	520	557	526	539	558	554	537	538	537	550	544	556	543	532	582	597	585	587	583	576	556	549	544	553										
7	557	560	572	584	581	575	575	588	588	579	584	586	543	599	593	594	616	615	622	614	607	586	566	571	586										
8	585	592	605	602	591	611	609	602	605	605	611	612	611	607	614	617	648	665	678	662	662	647	634	634	621										
9	635	637	654	650	635	639	627	622	635	645	640	647	624	657	664	669	692	644	646	658	645	634	635	634	645										
10	673	657	660	658	665	658	670	660	644	649	664	664	671	662	668	665	675	691	688	686	675	664	669	667	667										
11	674	686	694	655	701	703	697	685	695	703	705	712	713	710	720	736	740	728	715	702	699	692	696	704											
12	705	711	718	720	717	712	712	703	702	726	724	723	721	726	722	726	740	748	738	720	692	677	681	677	714										
13	686	697	710	716	702	708	704	678	685	679	655	694	694	685	689	700	718	732	698	674	668	660	656	667	692										
14	666	662	701	698	702	683	675	675	675	681	674	670	678	688	693	711	740	720	690	678	668	653	645	667	685										
15	670	687	699	697	692	693	687	670	665	663	665	671	677	689	691	717	736	720	706	680	664	647	652	668	684										
16	681	650	713	708	706	705	700	695	702	694	703	704	708	719	738	763	738	723	695	682	669	682	679	705											
17	651	663	702	711	717	711	707	689	687	688	689	692	698	702	708	724	746	722	721	706	711	704	695	686	704										
18	693	705	715	734	727	717	737	714	702	692	710	688	785	724	711	704	744	767	740	716	691	703	698	709	718										
19	715	718	738	750	713	742	762	725	697	706	725	711	719	687	712	739	780	787	691	715	717	734	727	700	726										
20	722	724	726	745	729	736	729	740	758	726	723	714	700	727	747	772	769	748	730	715	737	724	735	721	733										
21	726	719	758	731	732	735	738	741	735	742	741	748	778	746	767	789	814	813	810	781	785	763	743	755	758										
22	752	778	779	784	799	813	801	788	791	799	788	795	790	794	802	818	851	848	837	820	829	815	810	812	804										
23	815	814	816	837	E25	835	845	823	833	821	826	814	815	807	800	811	809	826	814	779	794	763	781	778	812										
24	792	783	769	745	753	750	760	769	766	758	755	763	760	756	772	788	793	795	773	748	745	745	731	730	762										
25	745	756	745	730	726	718	705	713	679	687	689	694	688	688	684	696	697	713	690	654	630	633	632	646	693										
26	667	669	660	641	632	640	643	641	635	651	655	669	666	668	693	703	727	696	662	637	617	605	594	625	654										
27	D	638	663	683	654	644	629	626	629	646	622	631	630	646	694	679	673	652	655	629	620	611	603	605	641										
28	631	625	658	647	645	E5C	606	592	578	654	624	579	625	632	640	657	671	661	621	613	616	594	591	602	626										
29	614	630	642	646	622	624	610	585	594	595	615	605	617	623	656	664	663	670	641	605	593	579	580	587	619										
30	598	605	625	634	584	586	577	588	592	584	604	617	612	613	633	667	676	675	625	583	601	599	603	584	611										
31	616	626	630	626	634	630	632	618	606	603	606	614	625	629	645	676	687	685	664	661	642	630	621	622	635										
MEAN		629	636	648	647	643	645	642	635	632	635	637	638	642	643	652	667	686	684	670	653	647	635	629	629	646									