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June 3, 1971

SKYLAB 4 PRELIMINARY REFERENCE EARTH RESOURCES EXPERIMENT PACKAGE (EREP) PASS PLANNING DOCUMENT VOLUME I - GROUNDTRACKS

Planetary Mission Analysis Branch

MISSION PLANNING AND ANALYSIS DIVISION

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

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SKYLAB PROGRAM

SKYLAB 4 PRELIMINARY REFERENCE EARTH RESOURCES EXPERIMENT PACKAGE (EREP) PASS PLANNING DOCUMENT VOLUME I - GROUNDTRACKS

By Alfred N. Lunde
Planetary Mission Analysis Branch

June 3, 1971

MISSION PLANNING AND ANALYSIS DIVISION
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

Approved: _____
Ronald L. Berry, Chief
Planetary Mission Analysis Branch

Approved: _____
for John P. Mayer, Chief
Mission Planning and Analysis Division

SKYLAB 4 PRELIMINARY REFERENCE EARTH RESOURCES EXPERIMENT PACKAGE (EREP) PASS PLANNING DOCUMENT

VOLUME I - GROUNDTRACKS

By Alfred N. Lunde

SUMMARY

The purpose of this document is to present groundtracks and some groundtrack-associated parameters of the Skylab 4 (SL-4) mission. This report is the first of three volumes needed for a rapid evaluation and determination of Earth Resources Experiment Package (EREP) passes for the SL-4 mission. These data were transmitted to SMSD under separate cover on May 26, 1971.

These data are based on an SL-1 launch at $17^{h}30^{m}0.00^{s}$ Greenwich mean time (G.m.t.) on April 30, 1973.

INTRODUCTION

This report contains all groundtracks of the SL-4 mission. One of the main reasons for this report is to aid in the selection of EREP passes. By evaluating the enclosed data and by applying other known constraints, the number of revolutions (revs) to be considered for EREP passes can be greatly reduced.

Volume II will consist of groundtracks with S190 swaths of the revs that meet the various constraints and that need to be further investigated. In addition, all currently defined EREP sites will be shown. Most of the data will be on continent-size maps or smaller.

Volume III will present smaller EREP areas as well as digital data needed for further analysis.

By evaluating the data in the three volumes, a set of prime and backup revs will be selected for EREP passes.

The SL-4 is to be launched 2669 revs after SL-1 lift-off, and the M=5 rendezvous occurs in rev 2673. Deorbit occurs on rev 3481 (ref. 1).

The rev number is referenced to the SL-1 launch. A change in launch time of the SL-1 will affect the enclosed data. The daylight, darkness, sun-elevation angle, G.m.t., and β-angle will change with a change in launch time of the SL-1.

The enclosed data are based on the Preliminary Reference Trajectory (ref. 2) input quantities and reflect the kind of data agreed upon and needed by the EREP pass planning team (ref. 3).

Ronny Moore of the Orbital Mission Analysis Branch is acknowledged for supplying the groundtrack tape, which was used in part to generate the enclosed data.

Similar data have been published for the SL-2 and the SL-3 missions (refs. 4 and 5).

DISCUSSION OF THE DATA

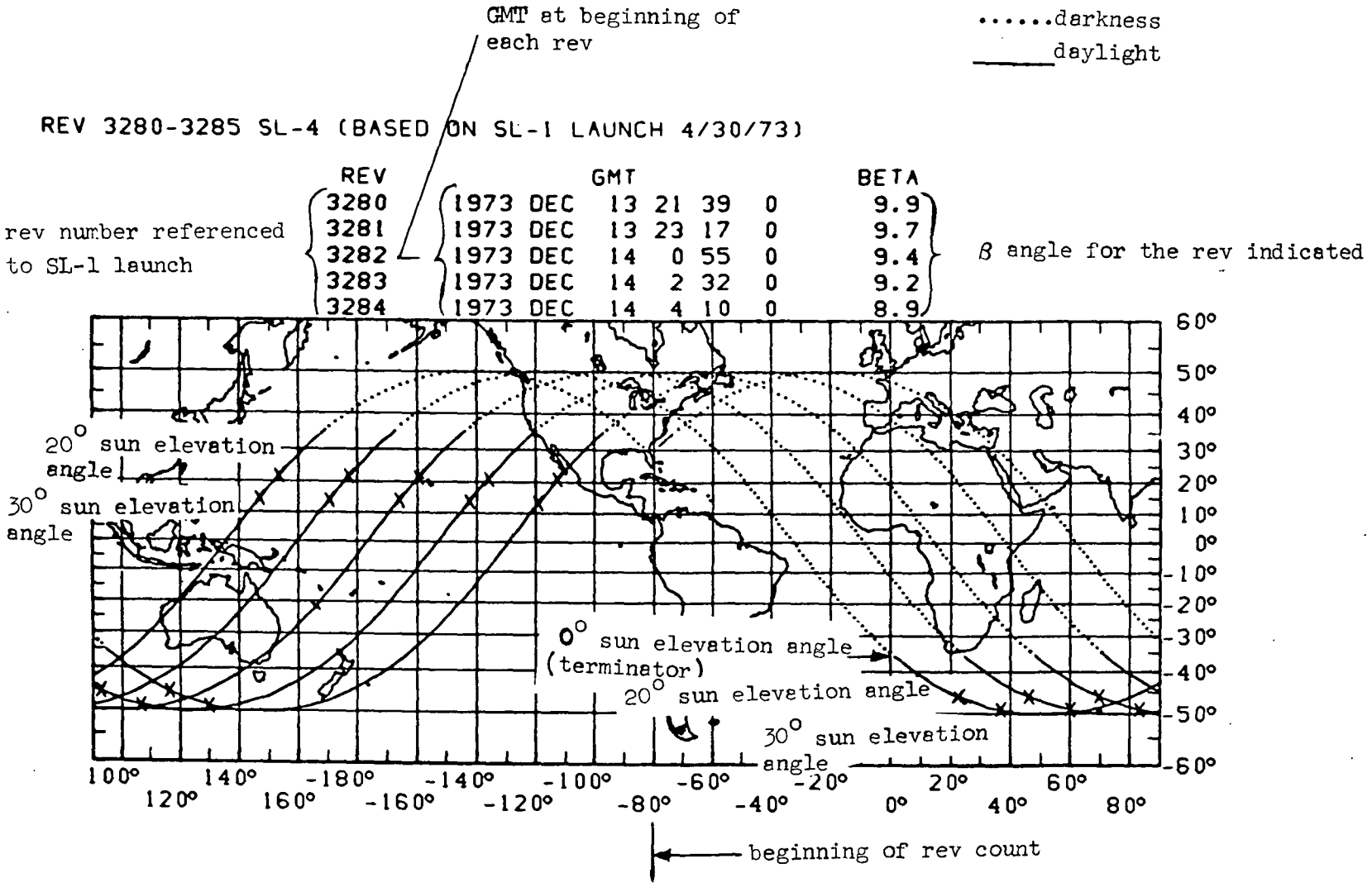
Each of the enclosed plots shows five groundtracks. Daylight and darkness are indicated by a solid and dotted line, respectively. Sun elevation angles of 20° and 30° are indicated by x's on the groundtracks. Thus, there are two sets of sun elevation angles on each revolution - one set while the spacecraft is going toward orbital noon and one while the spacecraft is going away from orbital noon. The zero-degree sun elevation angle and the terminator coincide and occur where the solid line ends.

On top of each page is a line identifying the rev numbers to be found on that page and data identifying the mission. Immediately above the plot is a list identifying each rev, G.m.t., and β-angle. The rev count starts at 80° west longitude, and the G.m.t. is associated with the beginning of that rev. The β-angle is the angle that the sun makes with the orbital plane of the Skylab; it is considered positive when the sun is north of the orbital plane.

The first figure of the enclosed data is a sample plot explaining the various quantities that appear on the plots throughout the report.

CONCLUSIONS

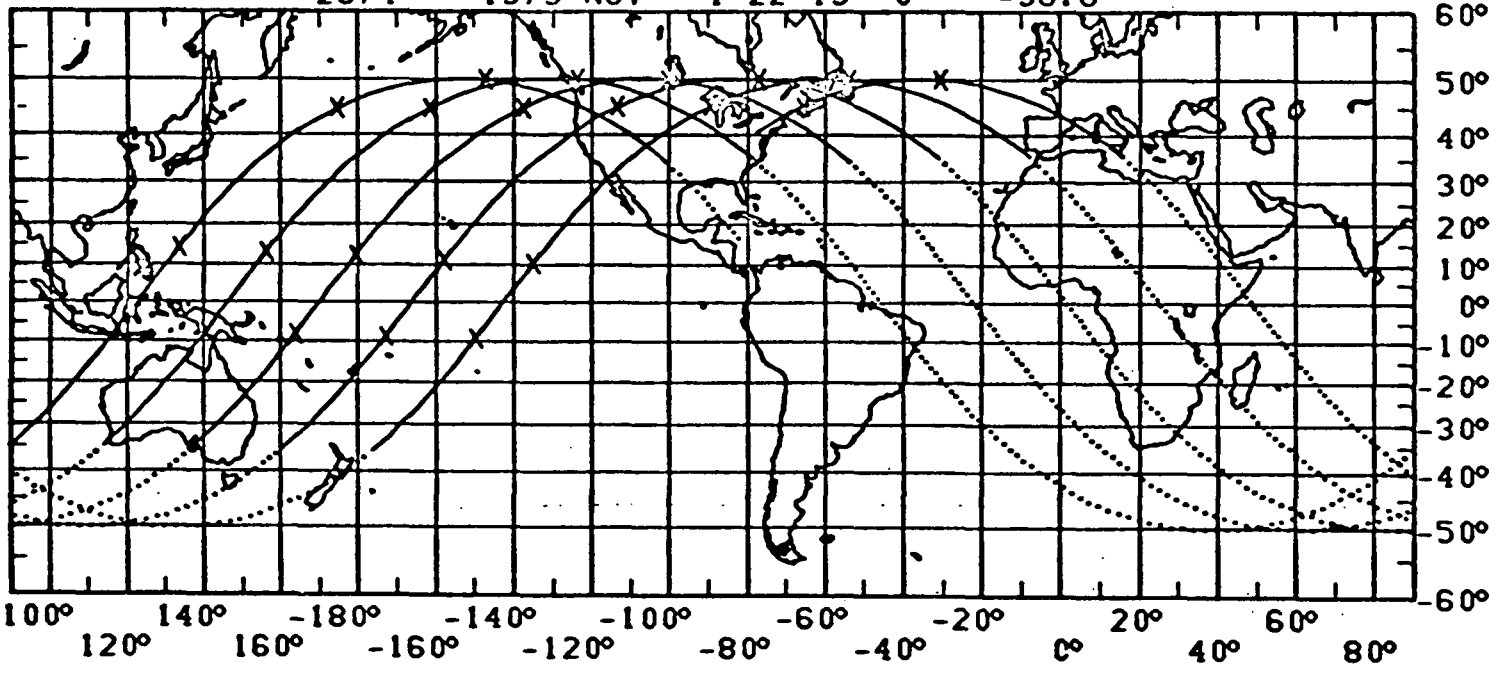
The enclosed data show all groundtracks of the SL-4 mission. In addition to being general information, it will be used in the process of determining EREP passes.


GMT at beginning of each rev
.....darkness
_____daylight
REV 3280-3285 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV
GMT
BETA
3280 1973 DEC 13 21 39 0 9.9
3281 1973 DEC 13 23 17 0 9.7
3282 1973 DEC 14 0 55 0 9.4
3283 1973 DEC 14 2 32 0 9.2
3284 1973 DEC 14 4 10 0 8.9
rev number referenced to SL-1 launch
β angle for the rev indicated
20° sun elevation angle
30° sun elevation angle
0° sun elevation angle (terminator)
20° sun elevation angle
30° sun elevation angle
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°
beginning of rev count

SAMPLE PLOT

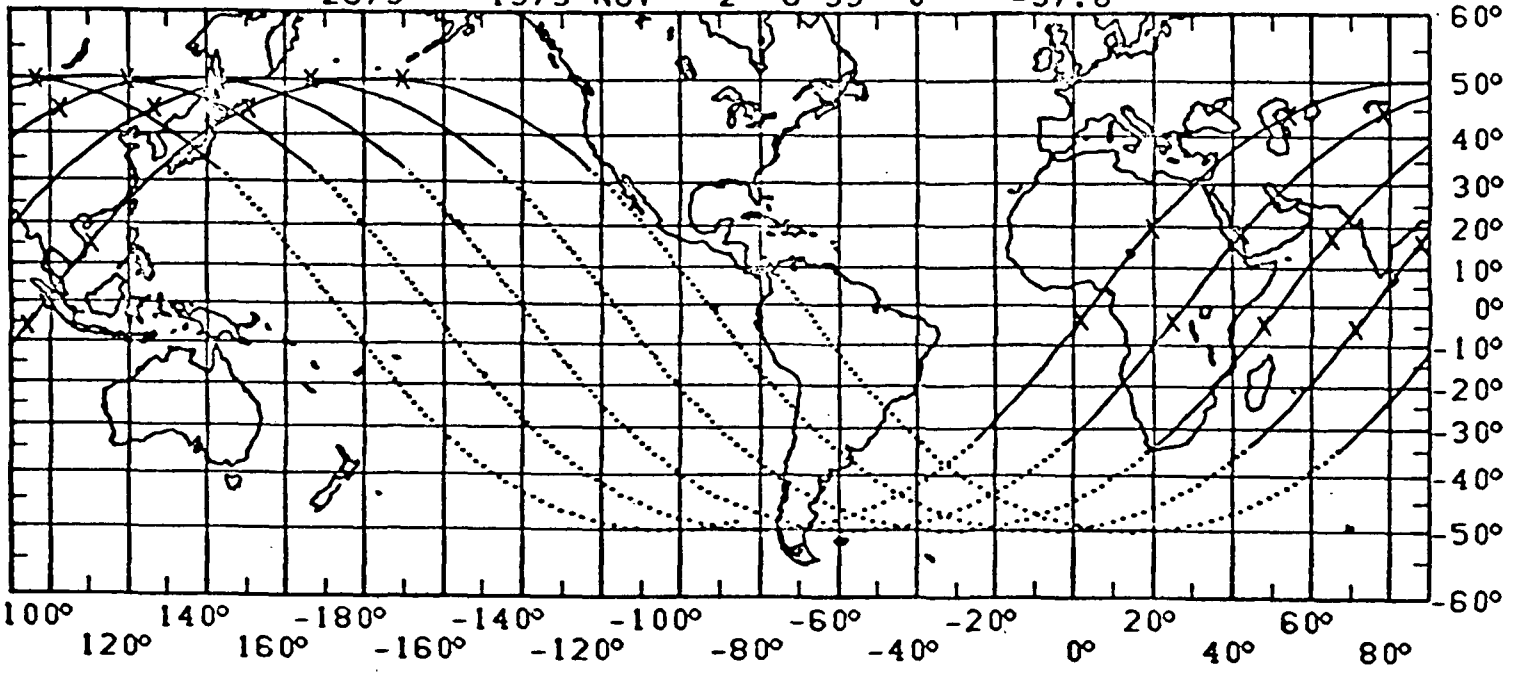
REV 2670-2675 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2670	1973 NOV 1 15 42 0	-55.6
2671	1973 NOV 1 17 19 0	-55.8
2672	1973 NOV 1 18 57 0	-56.1
2673	1973 NOV 1 20 34 0	-56.3
2674	1973 NOV 1 22 13 0	-56.6



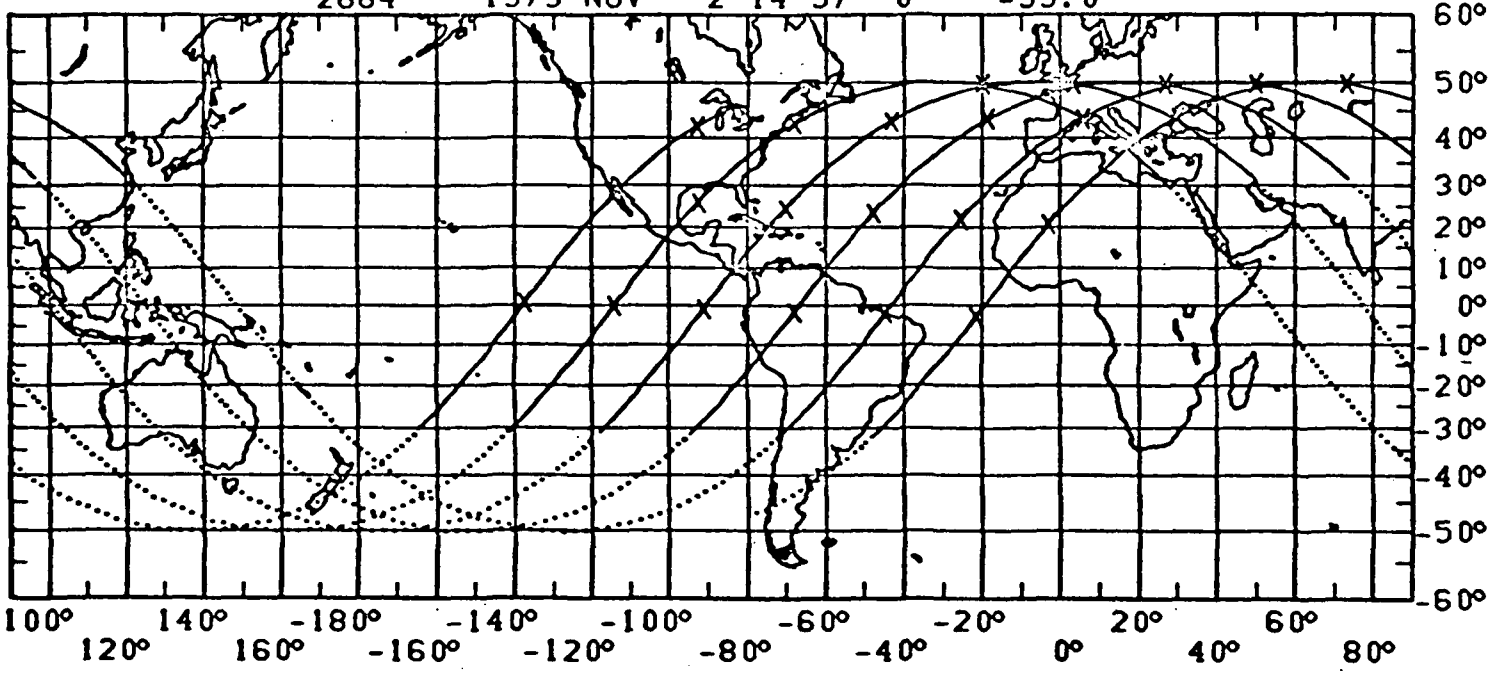
REV 2675-2680 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2675	1973 NOV 1 23 55 0	-56.9
2676	1973 NOV 2 1 38 0	-57.1
2677	1973 NOV 2 3 19 0	-57.4
2678	1973 NOV 2 4 58 0	-57.6
2679	1973 NOV 2 6 35 0	-57.8



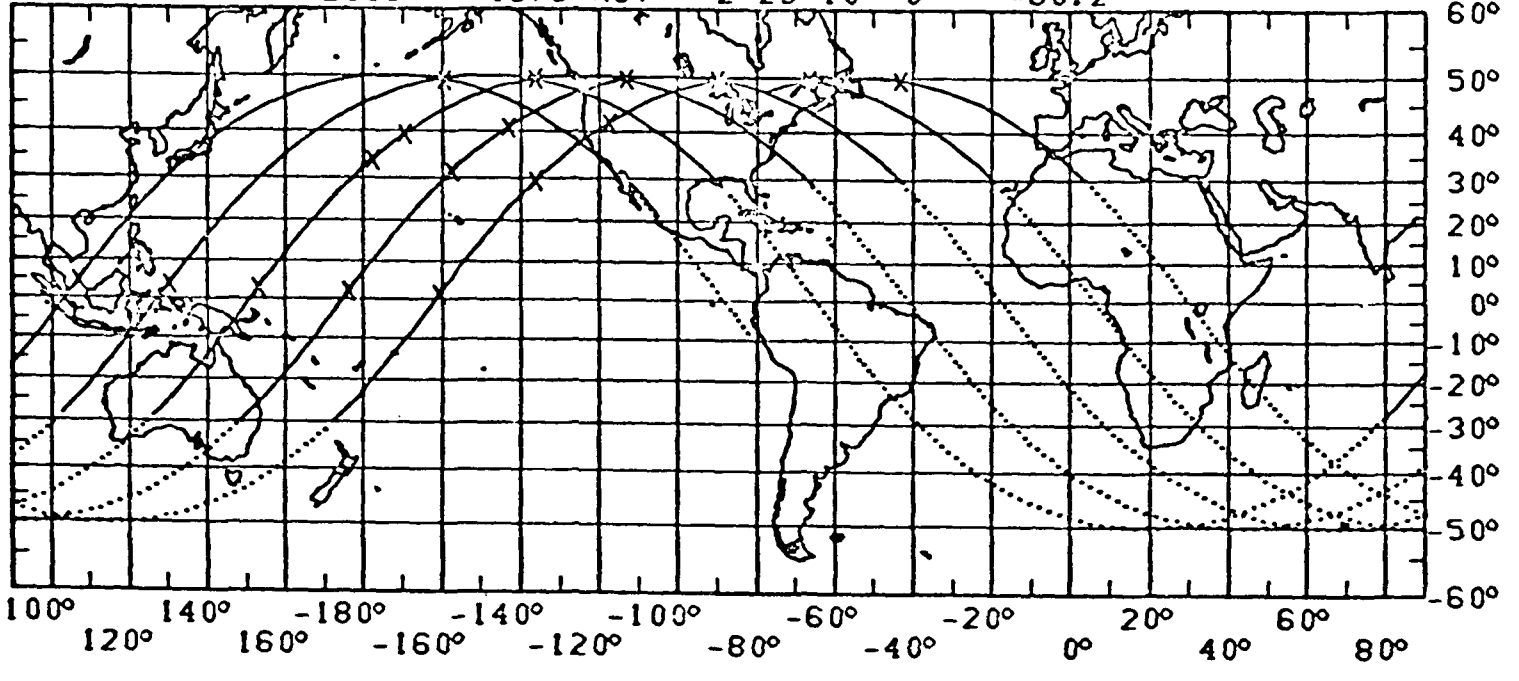
REV 2680-2685 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2680	1973 NOV 2 8 13 0	-58.1
2681	1973 NOV 2 9 51 0	-58.3
2682	1973 NOV 2 11 32 0	-58.6
2683	1973 NOV 2 13 16 0	-58.8
2684	1973 NOV 2 14 57 0	-59.0



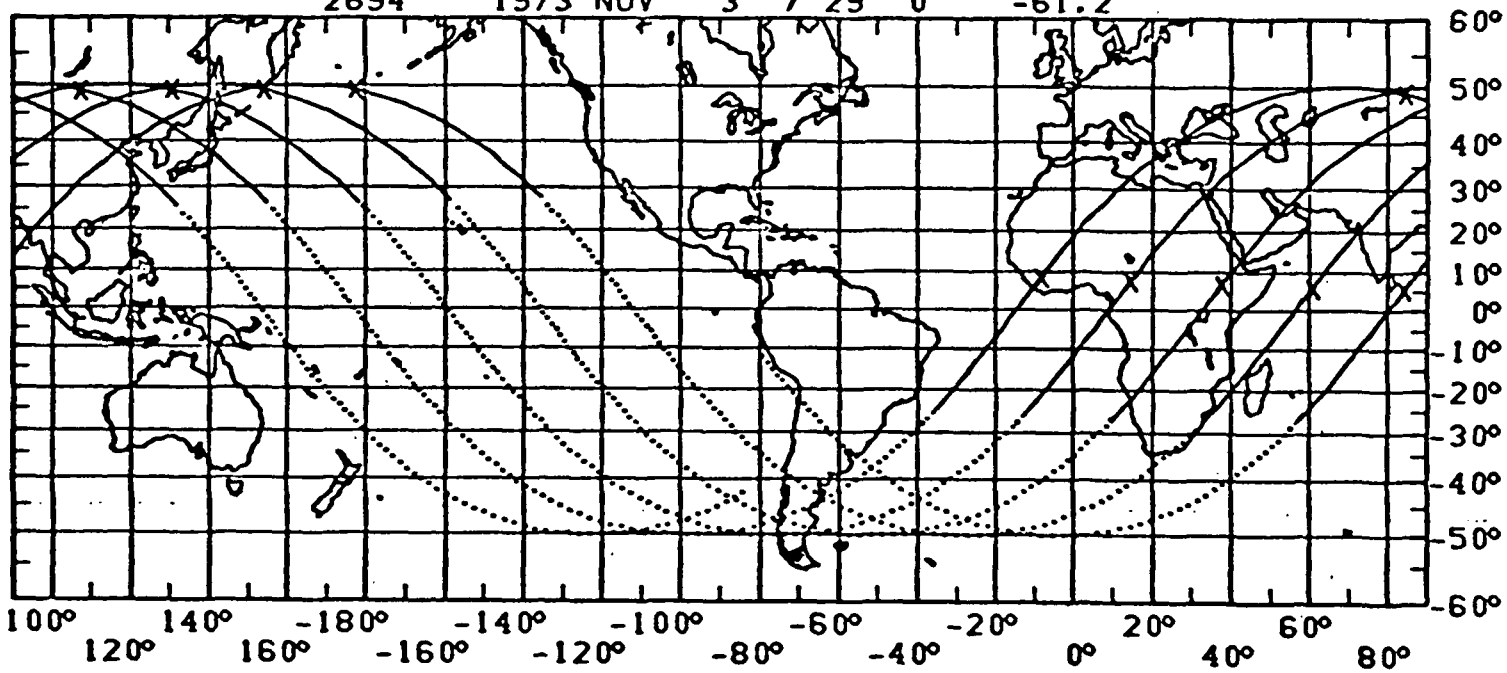
REV 2685-2690 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2685	1973	NOV	2	16	37 0	-59.3
2686	1973	NOV	2	18	13 0	-59.5
2687	1973	NOV	2	19	51 0	-59.7
2688	1973	NOV	2	21	29 0	-60.0
2689	1973	NOV	2	23	10 0	-60.2



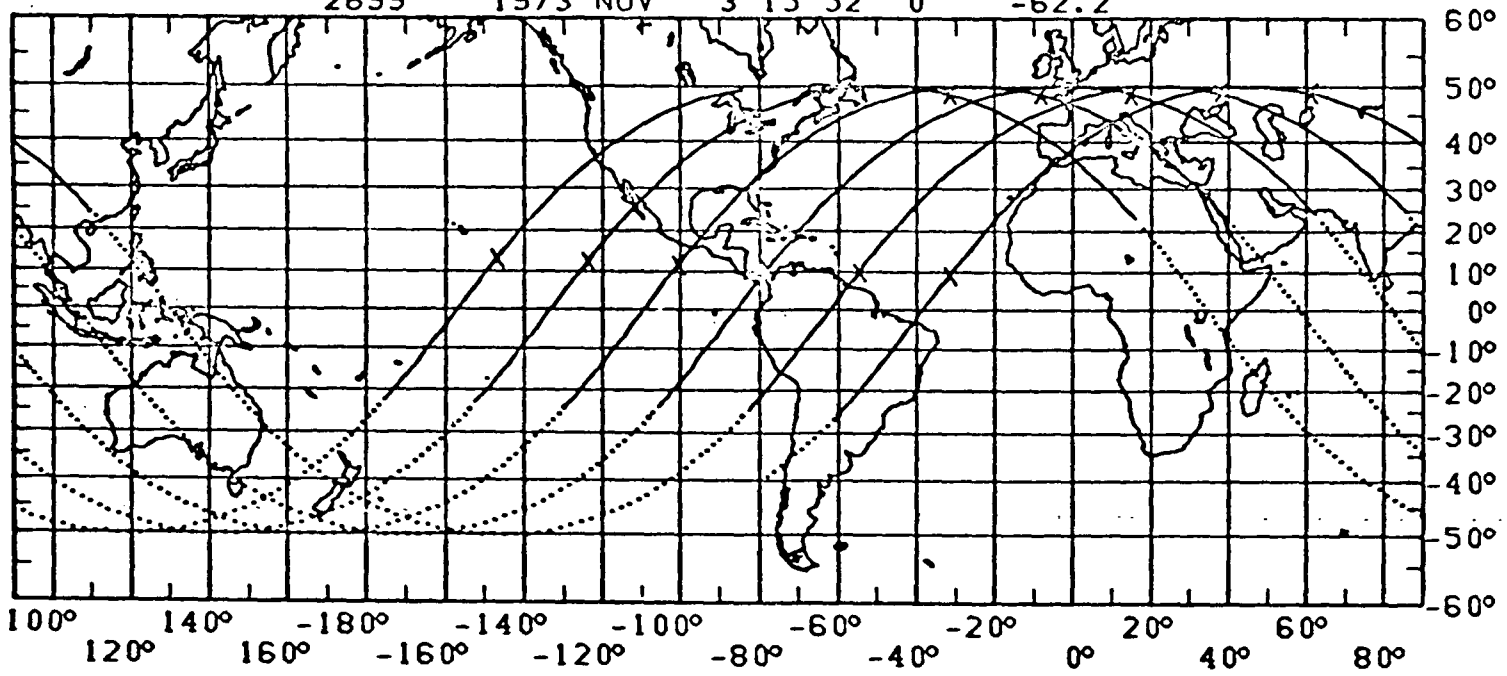
REV 2690-2995 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2690	1973	NOV	3	0	54 0	-60.4
2691	1973	NOV	3	2	35 0	-60.6
2692	1973	NOV	3	4	14 0	-60.8
2693	1973	NOV	3	5	52 0	-61.0
2694	1973	NOV	3	7	29 0	-61.2



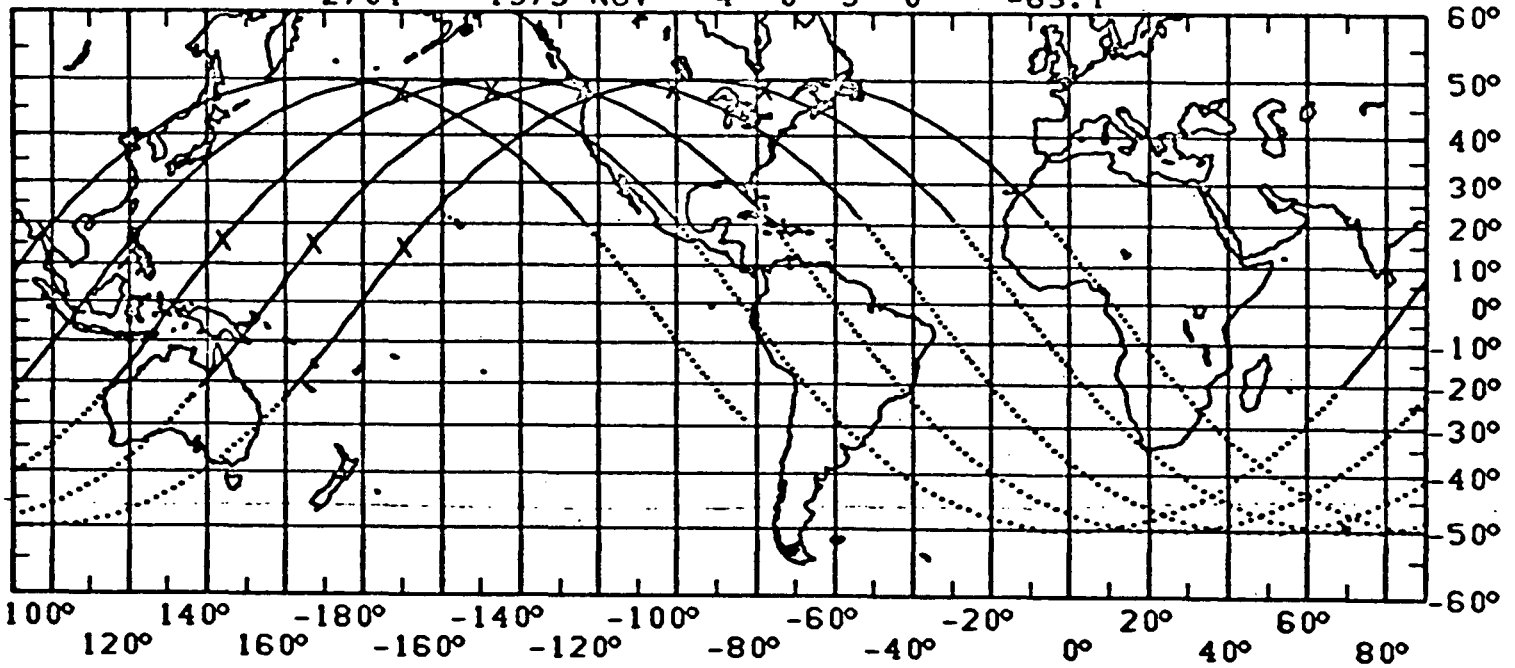
REV 2695-2700 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2695	1973	NOV	3	9	8	0	-61.4
2696	1973	NOV	3	10	48	0	-61.6
2697	1973	NOV	3	12	31	0	-61.8
2698	1973	NOV	3	14	13	0	-62.0
2699	1973	NOV	3	15	52	0	-62.2



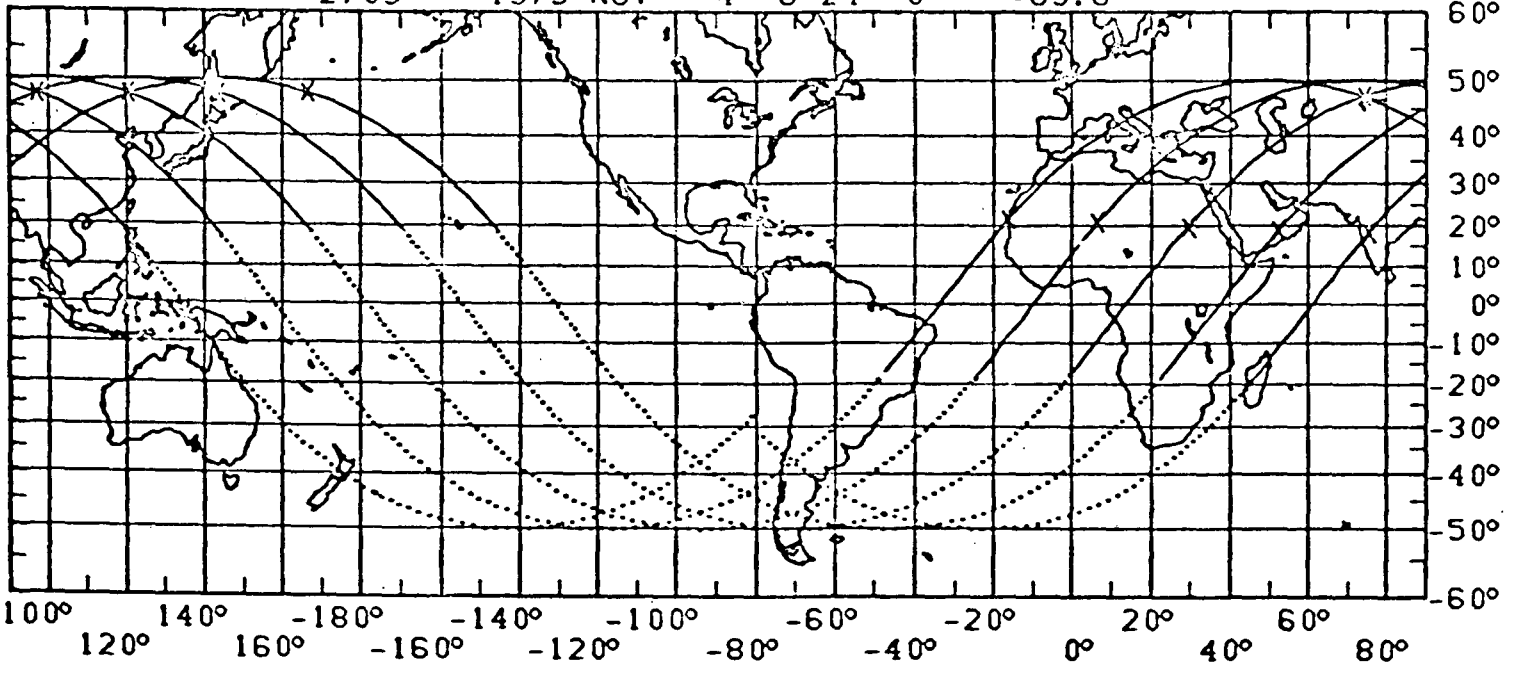
REV 2700-2705 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2700	1973	NOV	3	17	31	0	-62.4
2701	1973	NOV	3	19	7	0	-62.5
2702	1973	NOV	3	20	45	0	-62.7
2703	1973	NOV	3	22	26	0	-62.9
2704	1973	NOV	4	0	9	0	-63.1



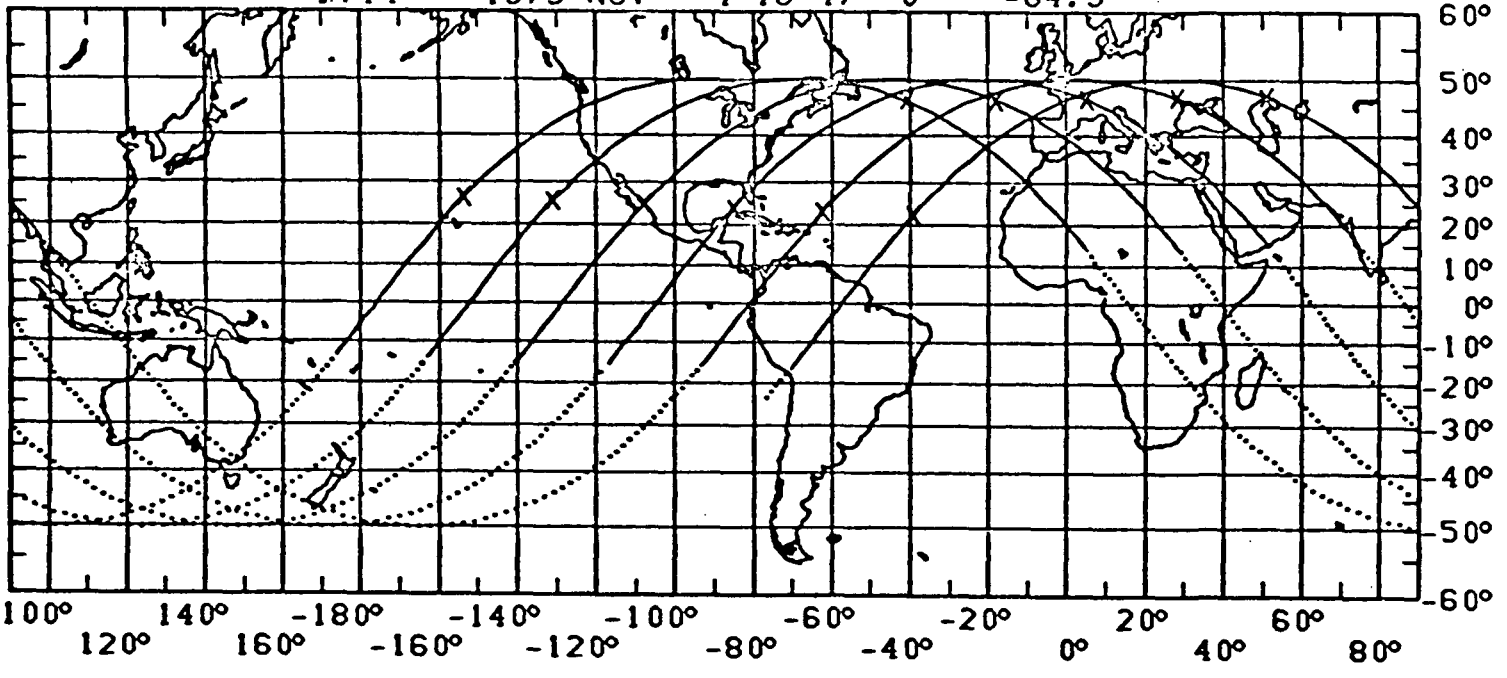
REV 2705-2710 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2705	1973	NOV	4	1	52 0	-63.2
2706	1973	NOV	4	3	31 0	-63.4
2707	1973	NOV	4	5	9 0	-63.5
2708	1973	NOV	4	6	46 0	-63.7
2709	1973	NOV	4	8	24 0	-63.8



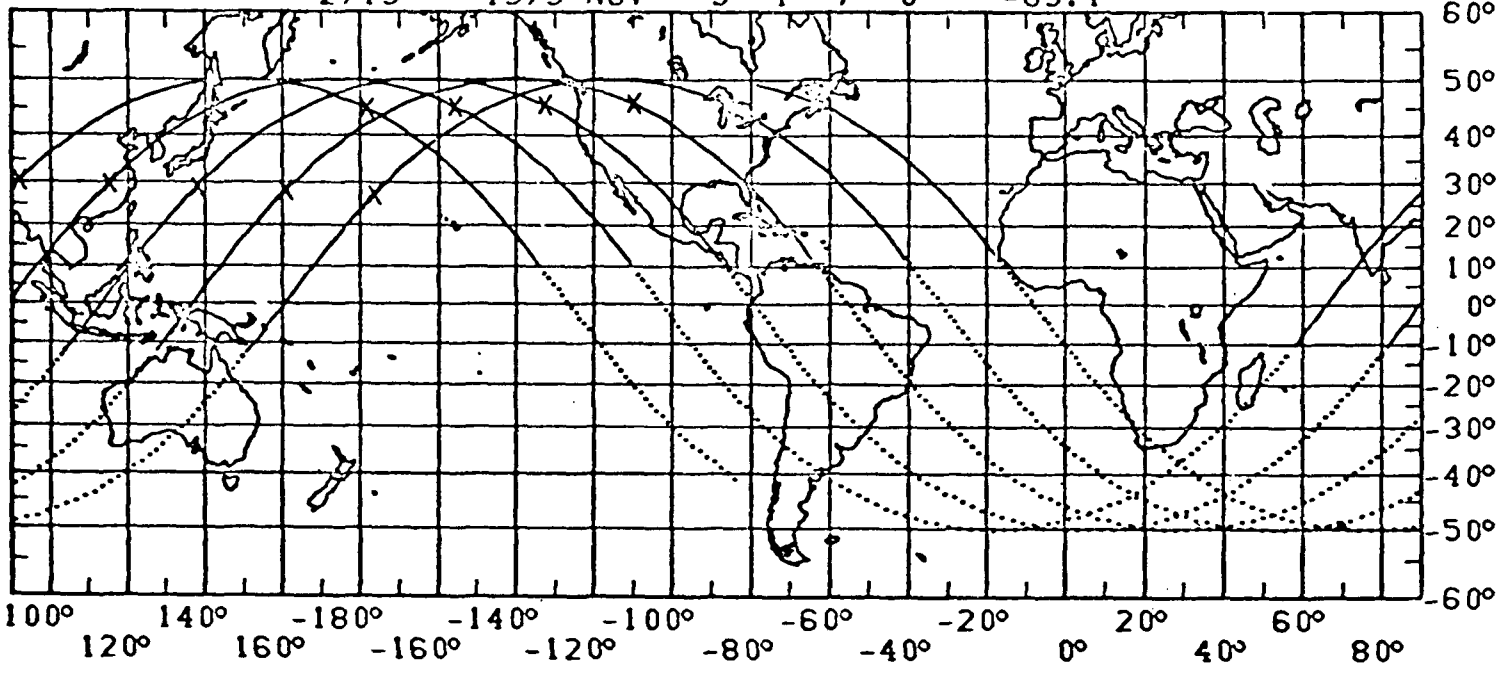
REV 2710-2715 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2710	1973	NOV	4	10	5 0	-64.0
2711	1973	NOV	4	11	47 0	-64.1
2712	1973	NOV	4	13	29 0	-64.3
2713	1973	NOV	4	15	9 0	-64.4
2714	1973	NOV	4	16	47 0	-64.5



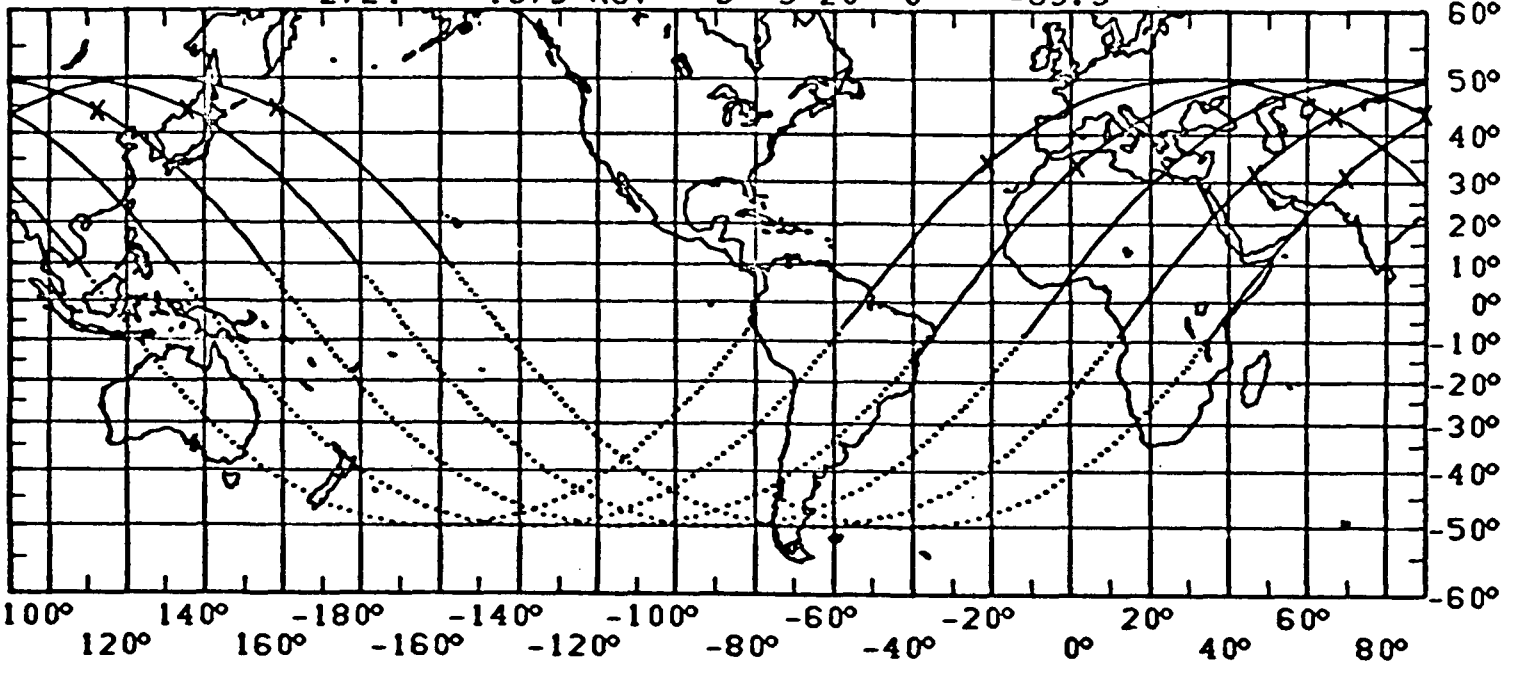
REV 2715-2720 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2715	1973	NOV	4	18	25	0	-64.6
2716	1973	NOV	4	20	2	0	-64.7
2717	1973	NOV	4	21	42	0	-64.9
2718	1973	NOV	4	23	24	0	-65.0
2719	1973	NOV	5	1	7	0	-65.1



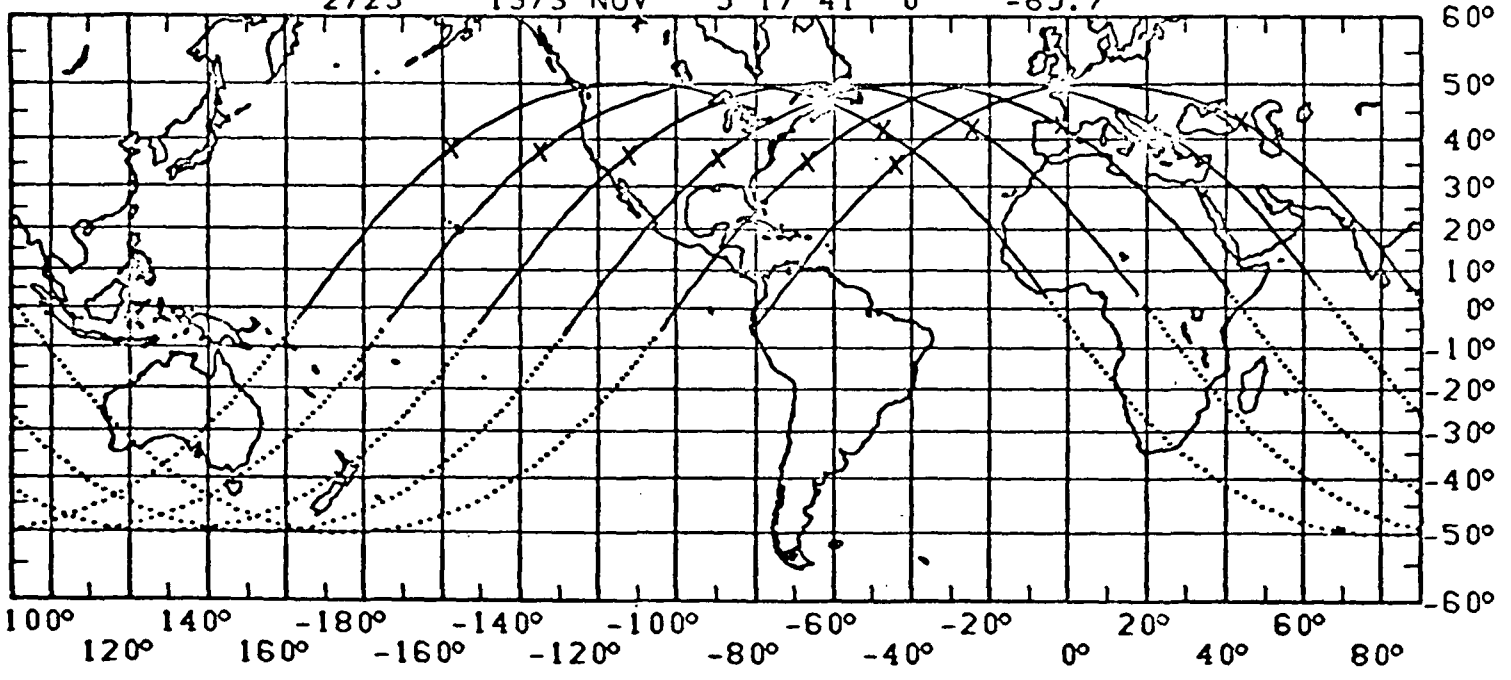
REV 2720-2725 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2720	1973	NOV	5	2	48 0	-65.1
2721	1973	NOV	5	4	25 0	-65.2
2722	1973	NOV	5	6	3 0	-65.3
2723	1973	NOV	5	7	40 0	-65.4
2724	1973	NOV	5	9	20 0	-65.5



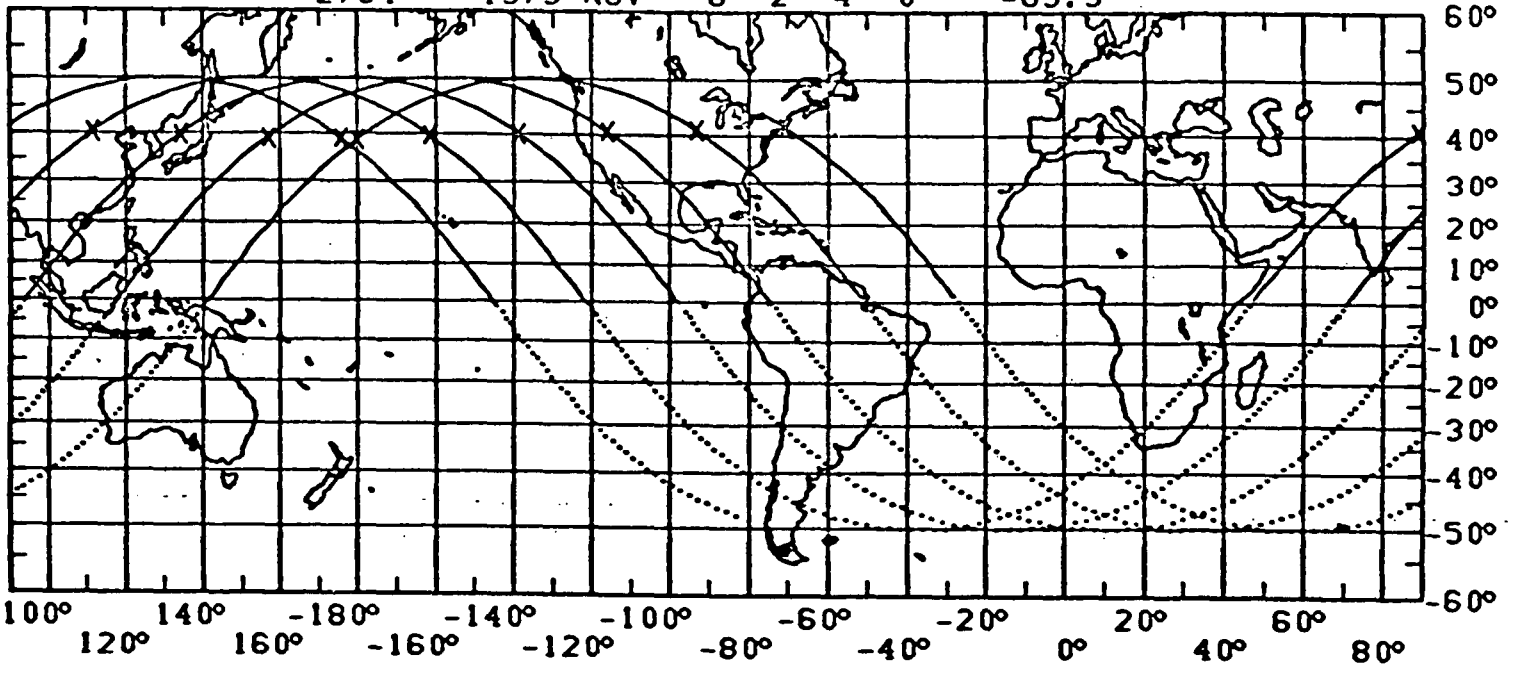
REV 2725-2730 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2725	1973	NOV	5	11	3	0	-65.6
2726	1973	NOV	5	12	45	0	-65.6
2727	1973	NOV	5	14	25	0	-65.6
2728	1973	NOV	5	16	4	0	-65.7
2729	1973	NOV	5	17	41	0	-65.7



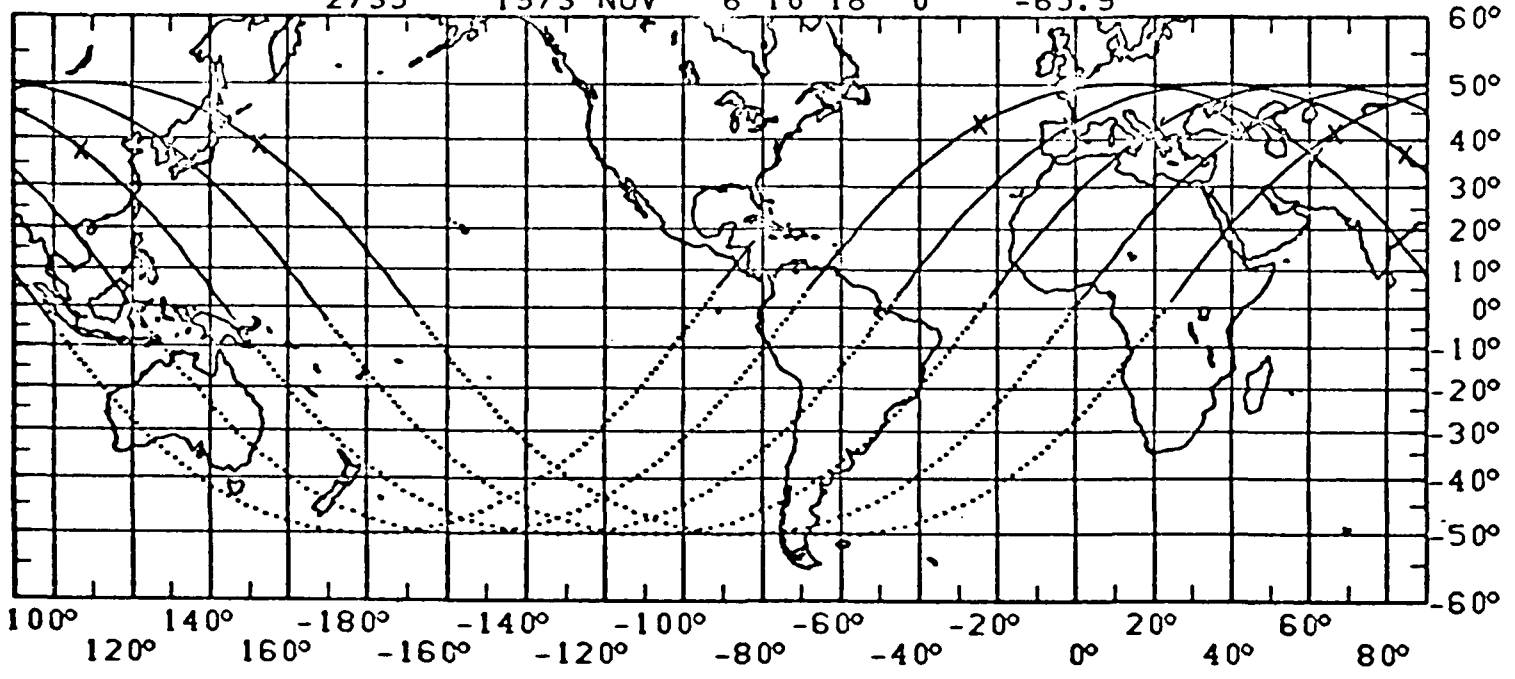
REV 2730-2735 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2730	1973 NOV 5 19 20 0	-65.8
2731	1973 NOV 5 20 58 0	-65.8
2732	1973 NOV 5 22 40 0	-65.9
2733	1973 NOV 6 0 23 0	-65.9
2734	1973 NOV 6 2 4 0	-65.9



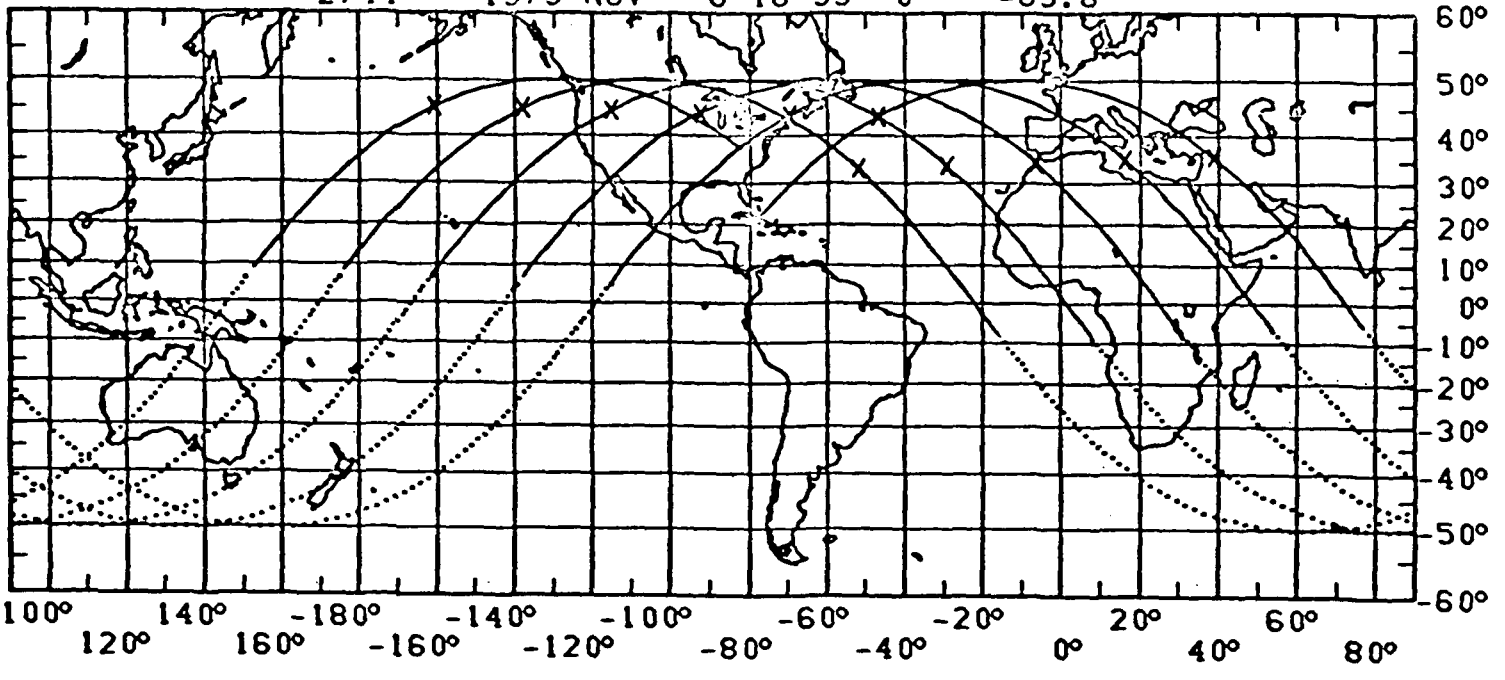
REV 2735-2740 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2735	1973	NOV	6	3	43 0	-65.9
2736	1973	NOV	6	5	19 0	-65.9
2737	1973	NOV	6	6	57 0	-65.9
2738	1973	NOV	6	8	36 0	-65.9
2739	1973	NOV	6	10	18 0	-65.9



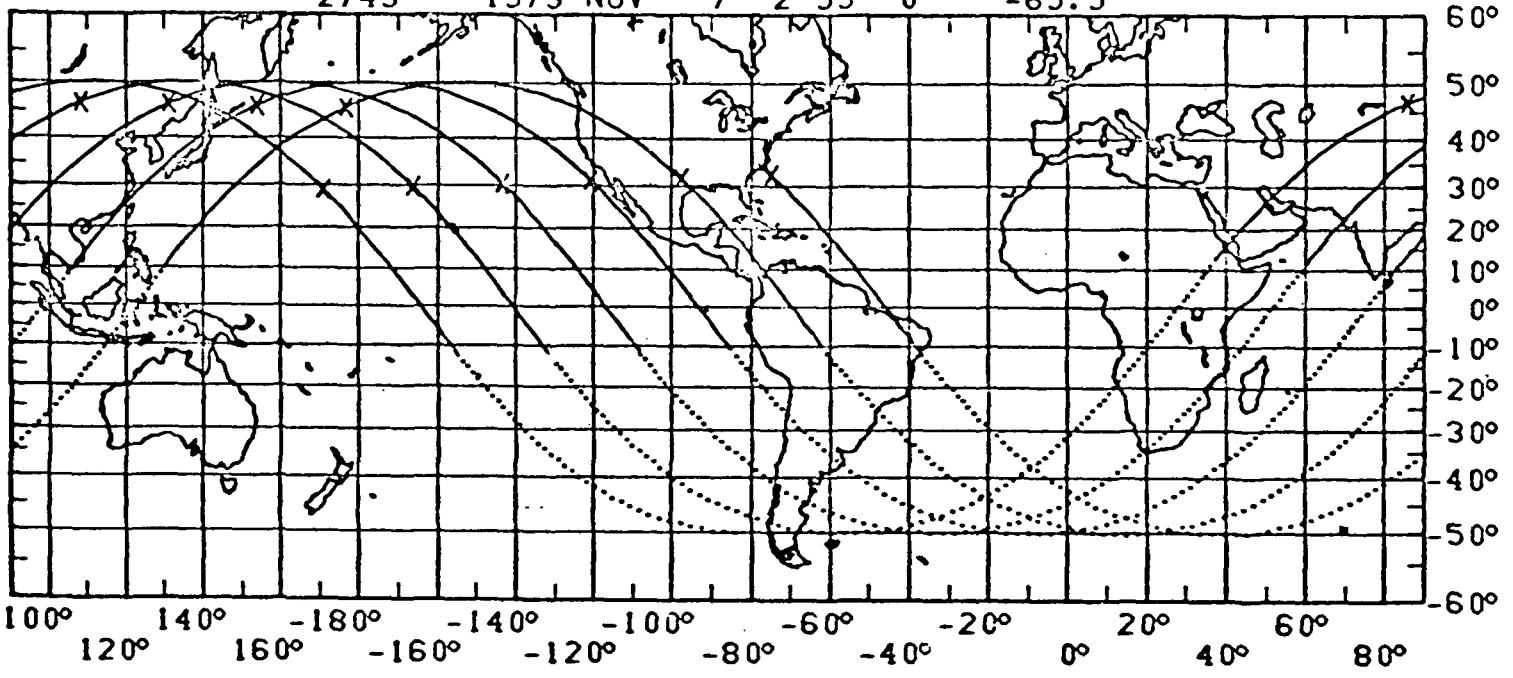
REV 2740-2745 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2740	1973	NOV	6	12	2	0	-65.9
2741	1973	NOV	6	13	42	0	-65.9
2742	1973	NOV	6	15	20	0	-65.8
2743	1973	NOV	6	16	58	0	-65.8
2744	1973	NOV	6	18	35	0	-65.8



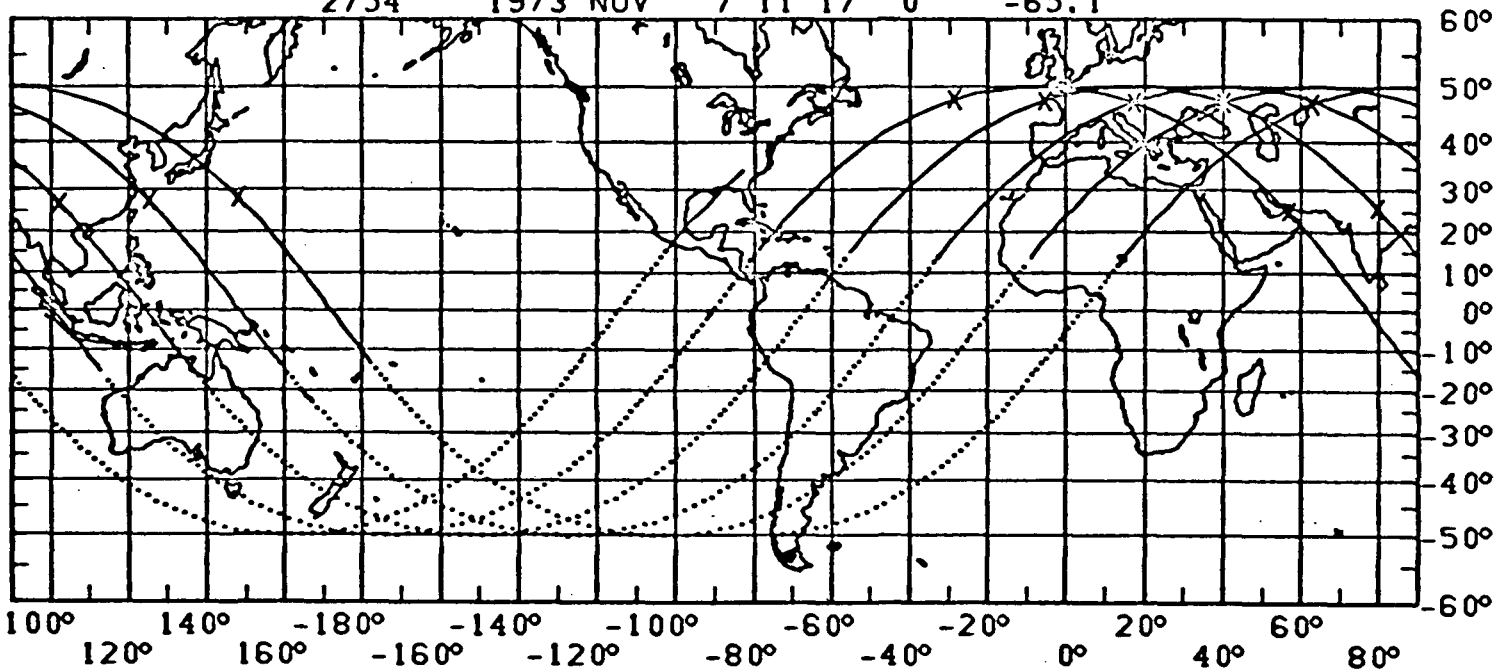
REV 2745-2750 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2745	1973 NOV 6 20 15 0	-65.7
2746	1973 NOV 6 21 55 0	-65.7
2747	1973 NOV 6 23 39 0	-65.6
2748	1973 NOV 7 1 20 0	-65.6
2749	1973 NOV 7 2 59 0	-65.5



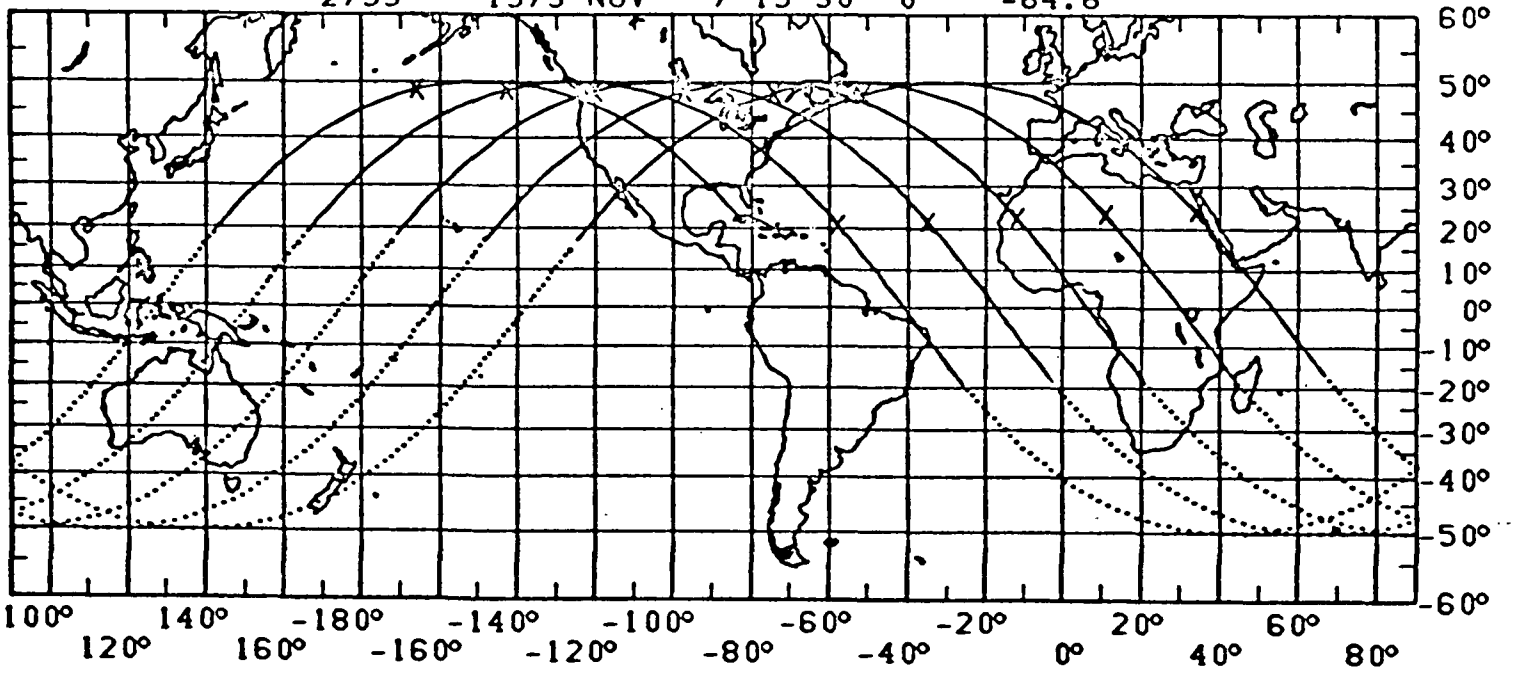
REV 2750-2755 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2750	1973	NOV	7	4	37 0	-65.4
2751	1973	NOV	7	6	14 0	-65.3
2752	1973	NOV	7	7	52 0	-65.3
2753	1973	NOV	7	9	33 0	-65.2
2754	1973	NOV	7	11	17 0	-65.1



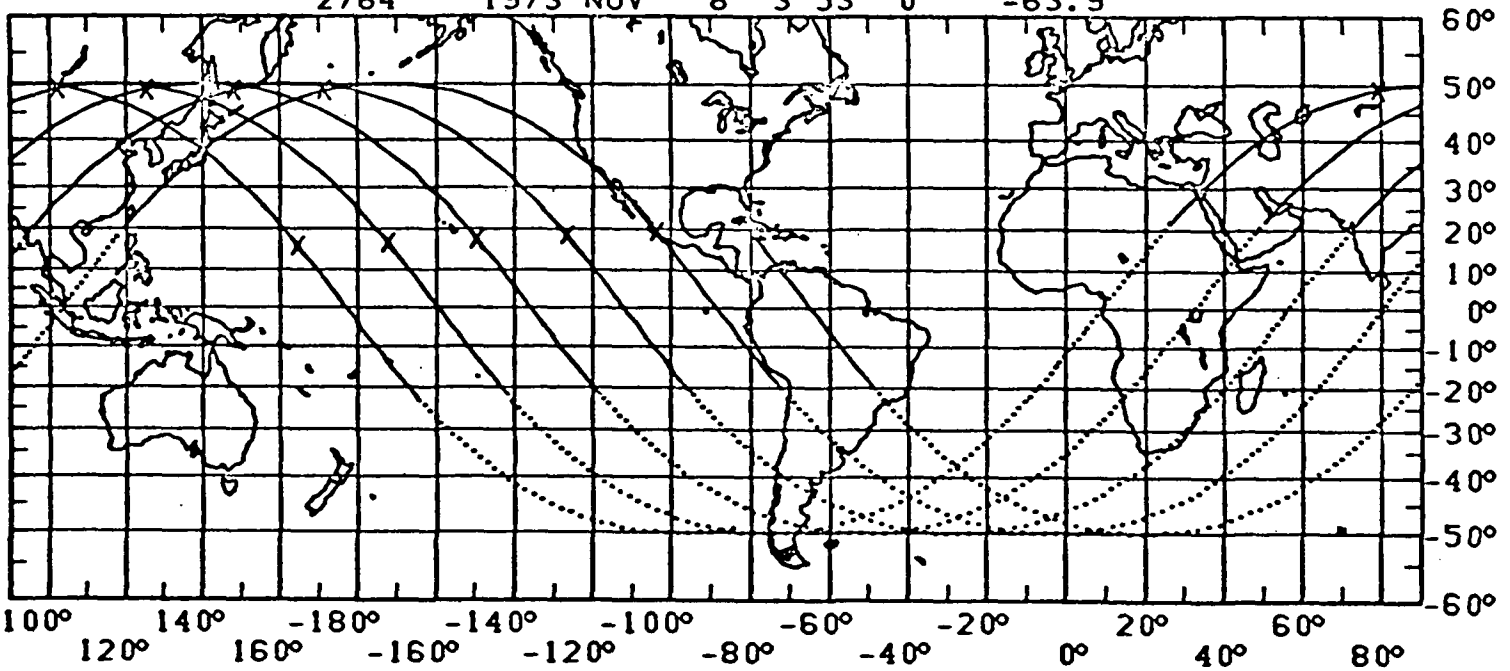
REV 2755-2760 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2755	1973	NOV	7	12	59	0	-65.0
2756	1973	NOV	7	14	37	0	-64.9
2757	1973	NOV	7	16	14	0	-64.8
2758	1973	NOV	7	17	52	0	-64.7
2759	1973	NOV	7	19	30	0	-64.6



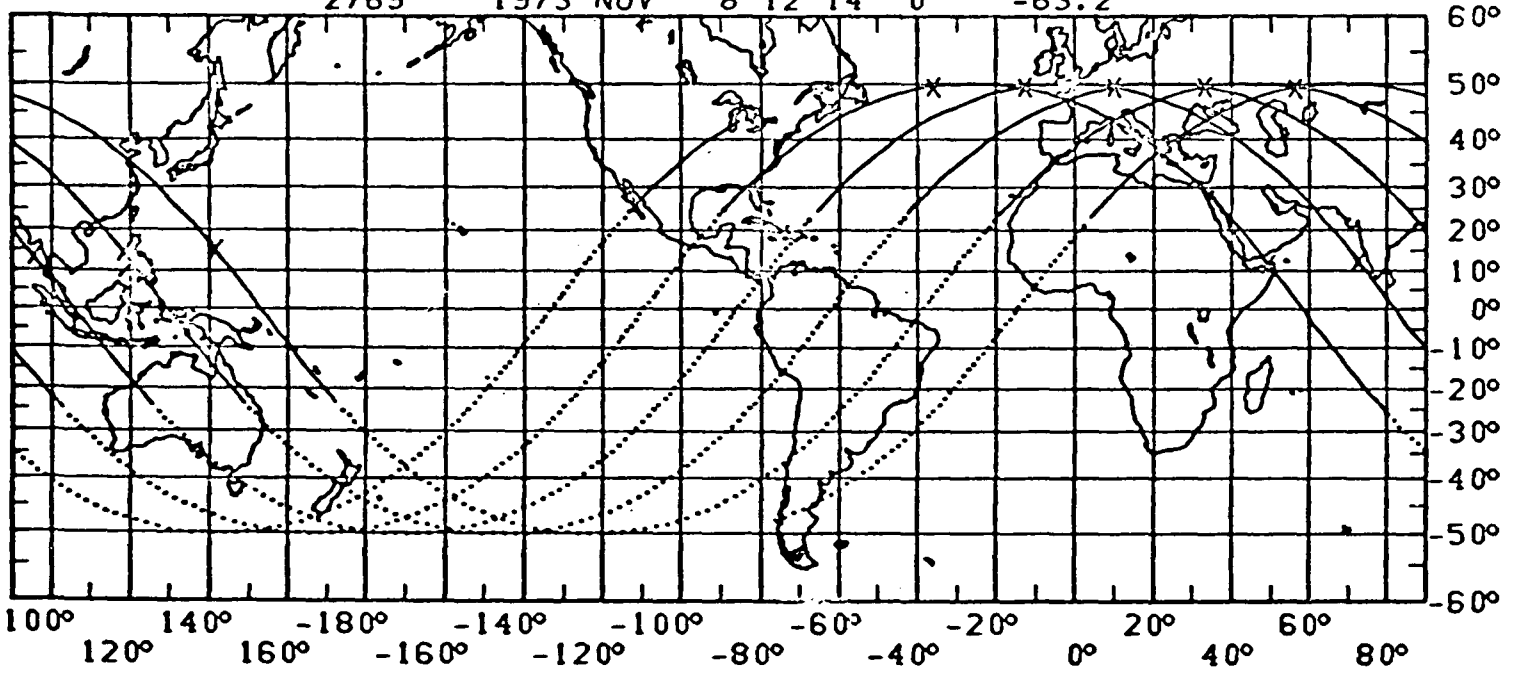
REV 2760-2765 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2760	1973 NOV 7 21 12 0	-64.5
2761	1973 NOV 7 22 54 0	-64.3
2762	1973 NOV 8 0 36 0	-64.2
2763	1973 NOV 8 2 15 0	-64.0
2764	1973 NOV 8 3 53 0	-63.9



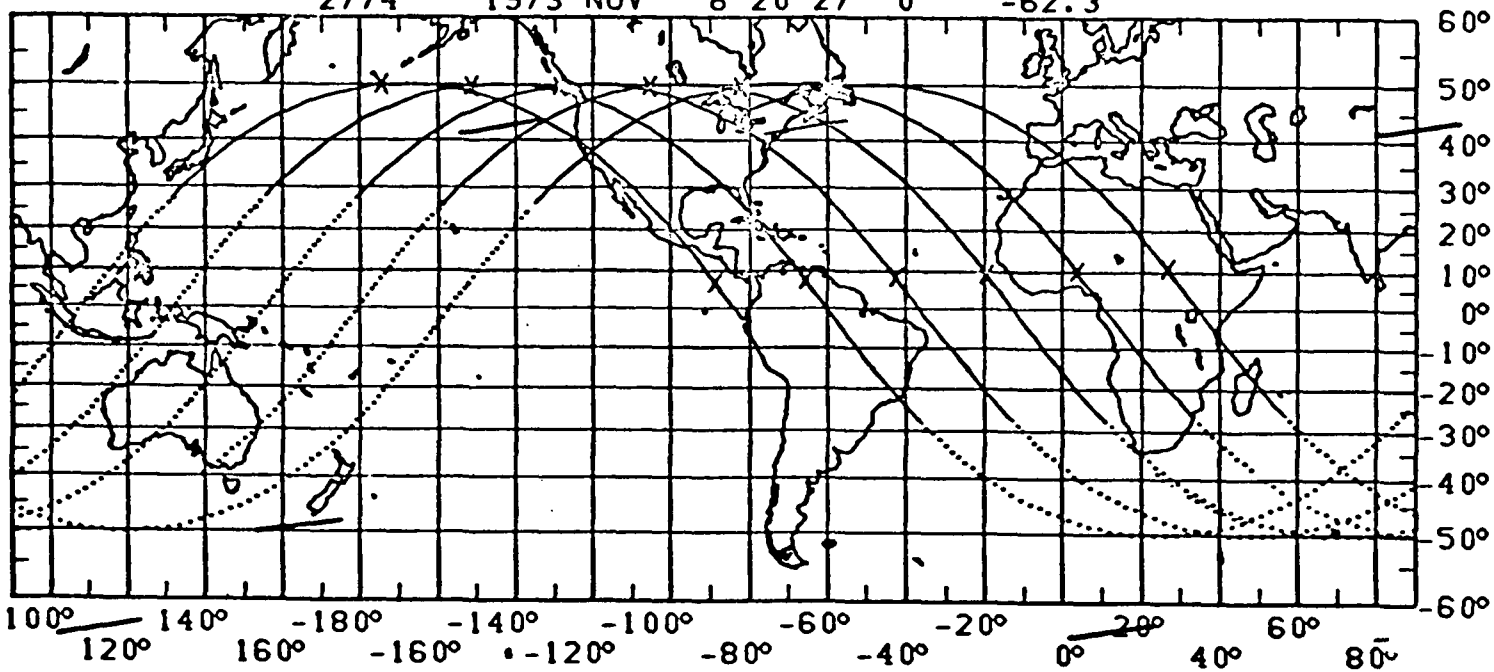
REV 2765-2770 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2765	1973 NOV 8 5 31 0	-63.8
2766	1973 NOV 8 7 8 0	-63.6
2767	1973 NOV 8 8 49 0	-63.5
2768	1973 NOV 8 10 32 0	-63.3
2769	1973 NOV 8 12 14 0	-63.2



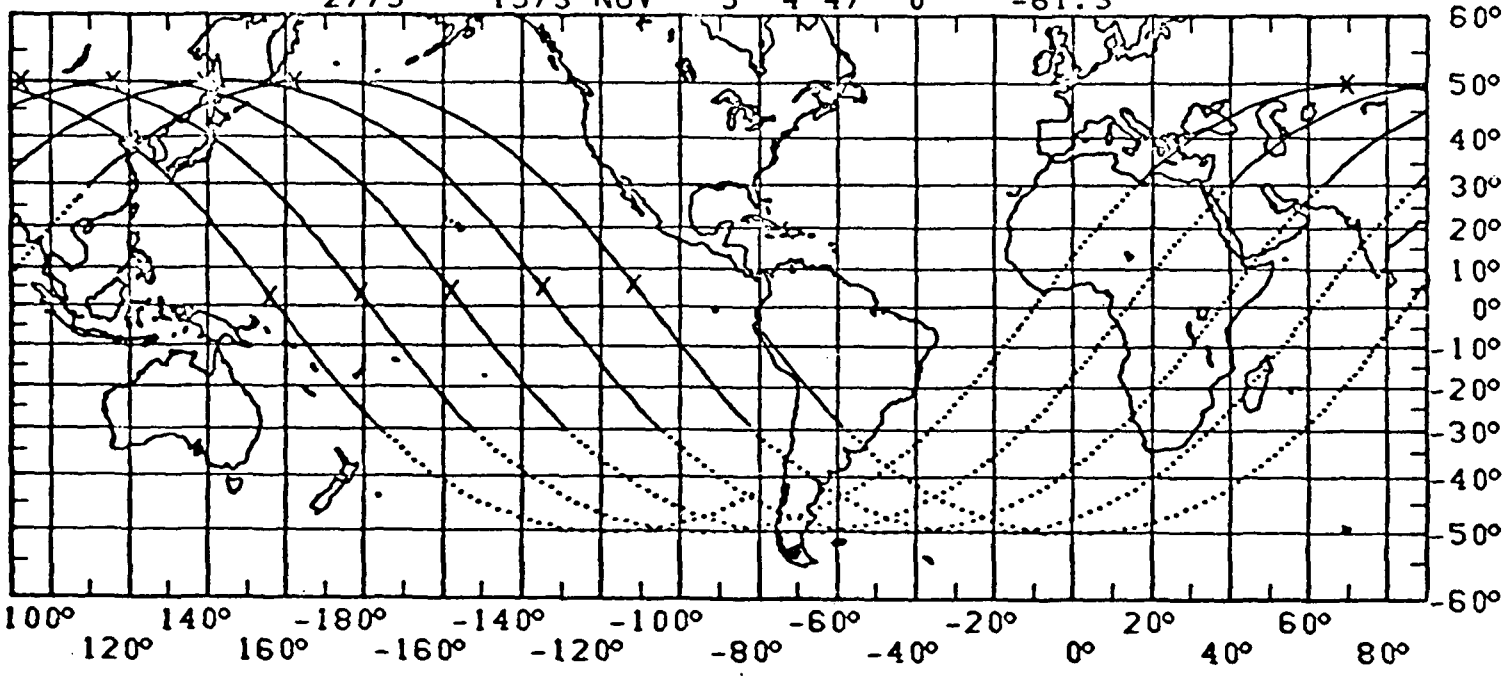
REV 2770-2775 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2770	1973 NOV 8 13 54 0	-63.0
2771	1973 NOV 8 15 31 0	-62.8
2772	1973 NOV 8 17 8 0	-62.6
2773	1973 NOV 8 18 47 0	-62.5
2774	1973 NOV 8 20 27 0	-62.3



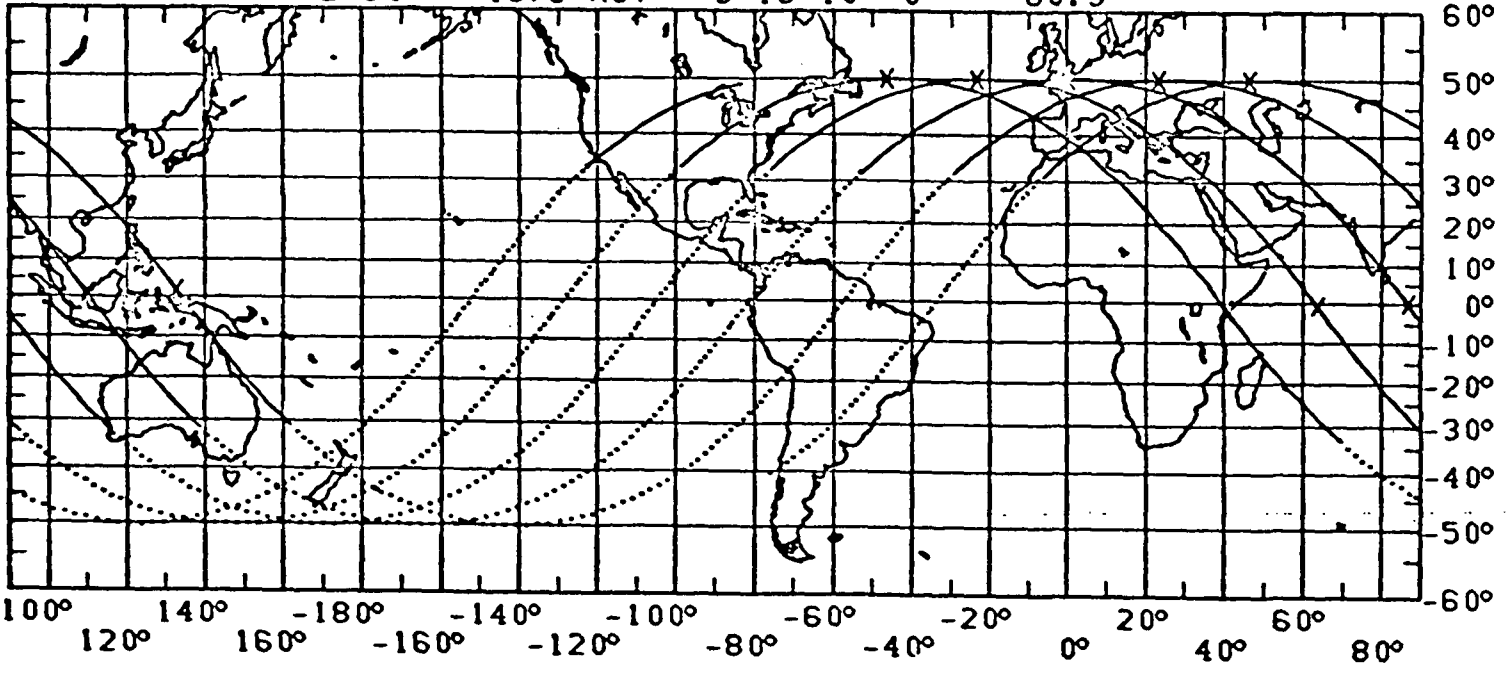
REV 2775-2780 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2775	1973	NOV	8	22	11	0	-62.1
2776	1973	NOV	8	23	52	0	-61.9
2777	1973	NOV	9	1	32	0	-61.7
2778	1973	NOV	9	3	10	0	-61.5
2779	1973	NOV	9	4	47	0	-61.3



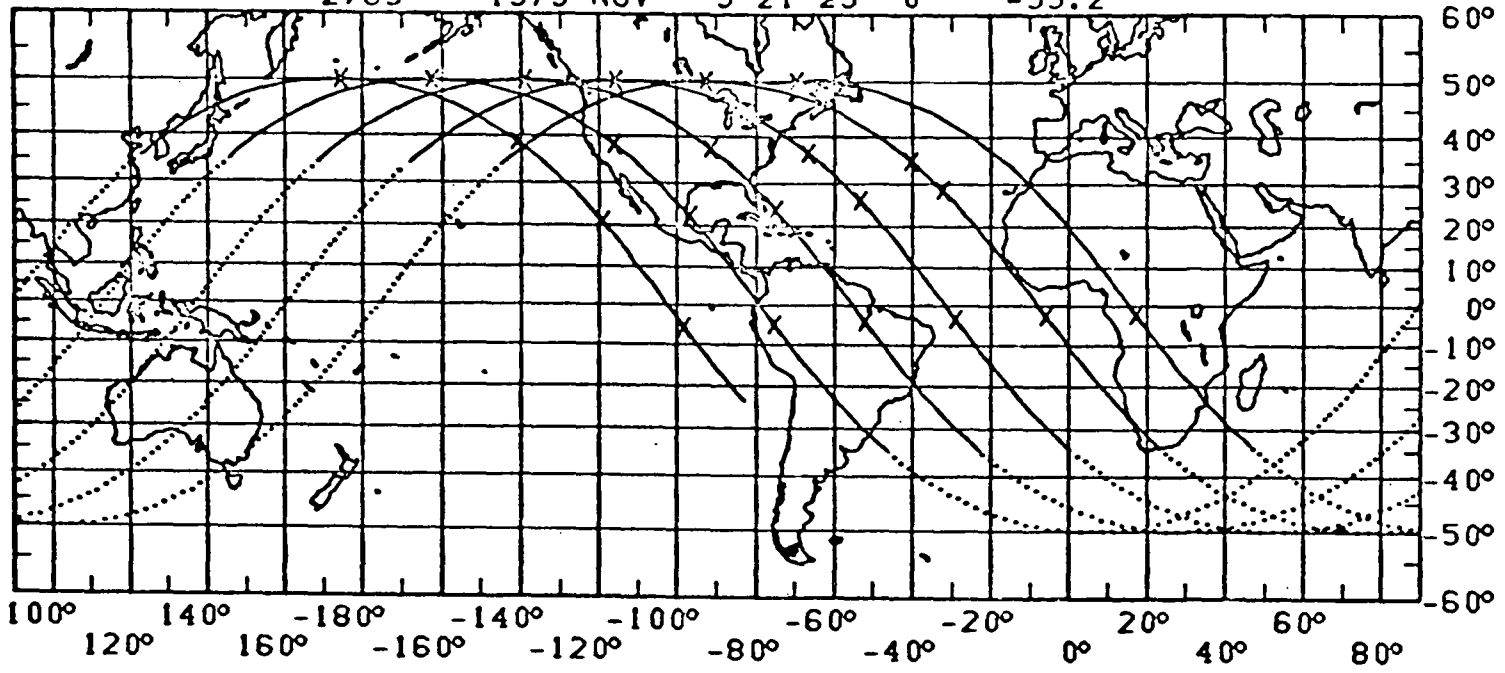
REV 2780-2785 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2780	1973	NOV	9	6	26 0	-61.1
2781	1973	NOV	9	8	5 0	-61.0
2782	1973	NOV	9	9	48 0	-60.8
2783	1973	NOV	9	11	30 0	-60.6
2784	1973	NOV	9	13	10 0	-60.3



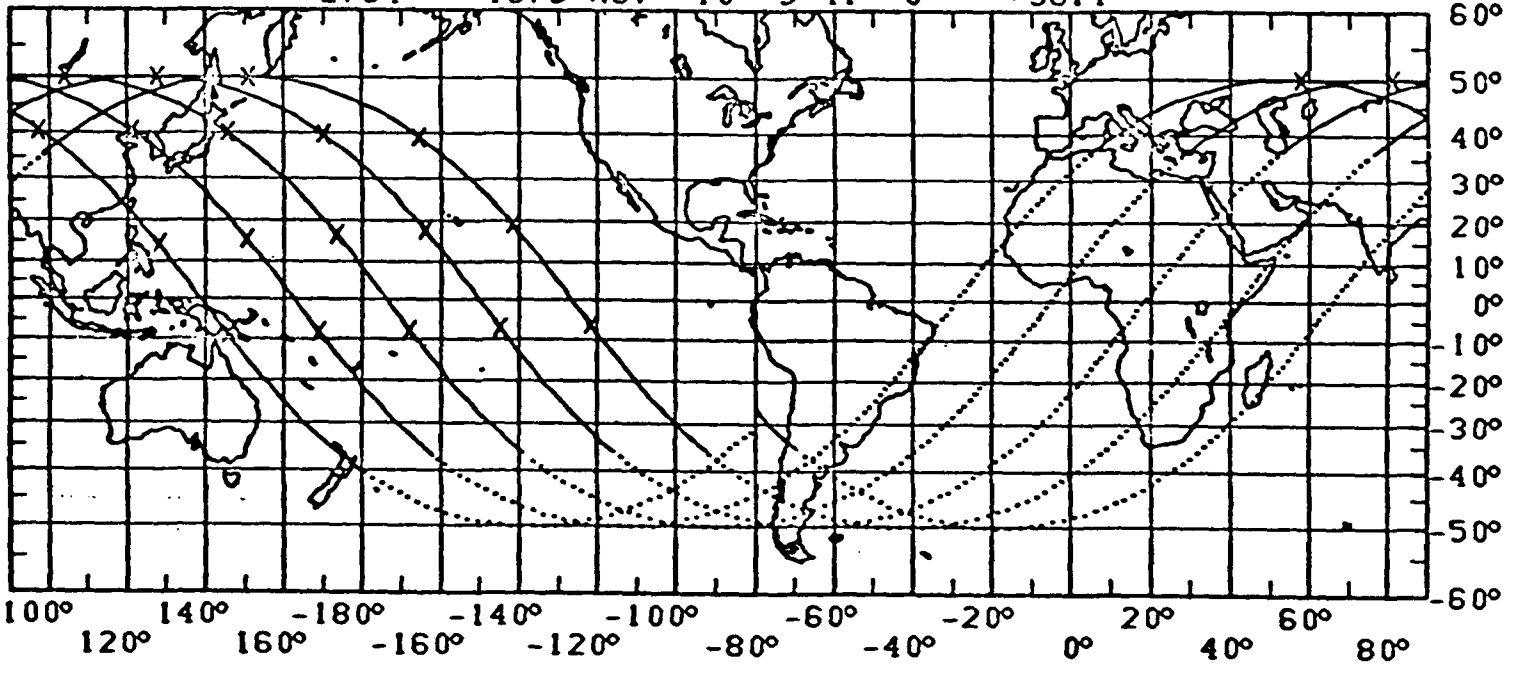
REV 2785-2790 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2785	1973	NOV	9	14	49	0	-60.1
2786	1973	NOV	9	16	25	0	-59.9
2787	1973	NOV	9	18	3	0	-59.7
2788	1973	NOV	9	19	43	0	-59.5
2789	1973	NOV	9	21	25	0	-59.2



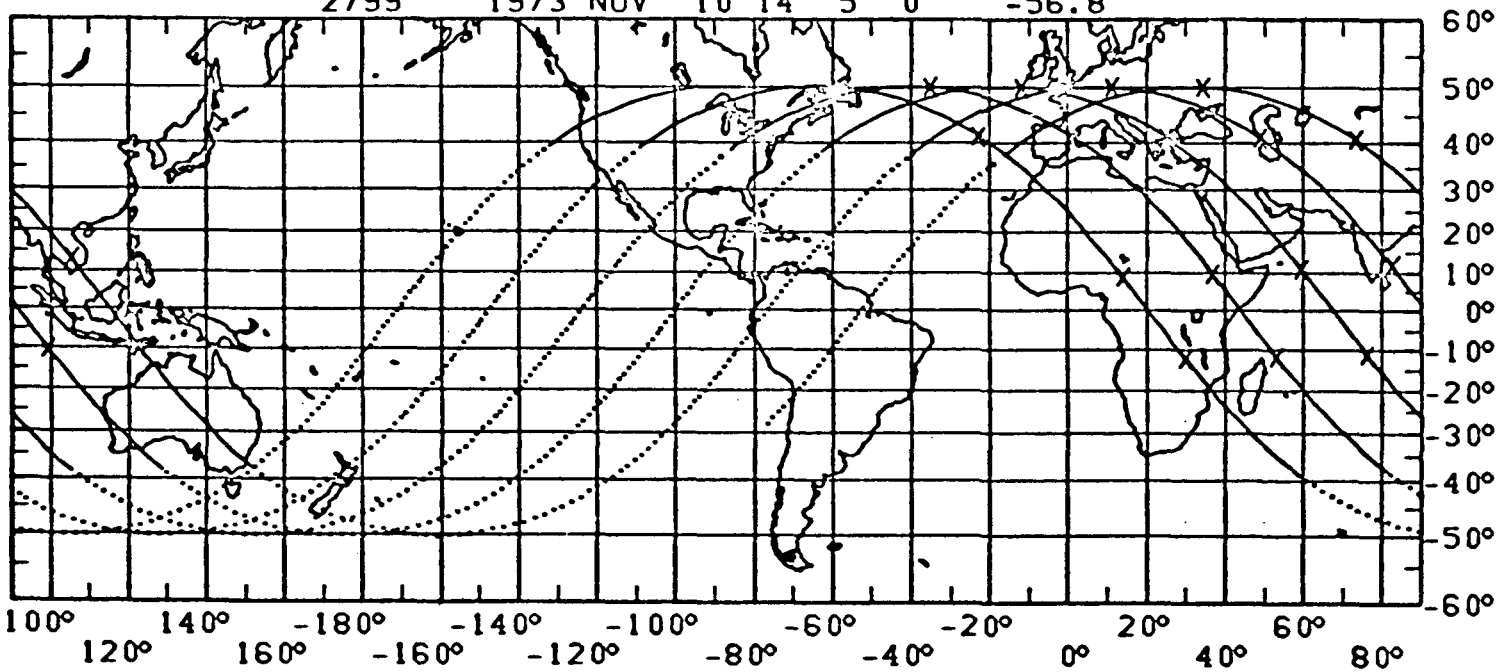
REV 2790-2795 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

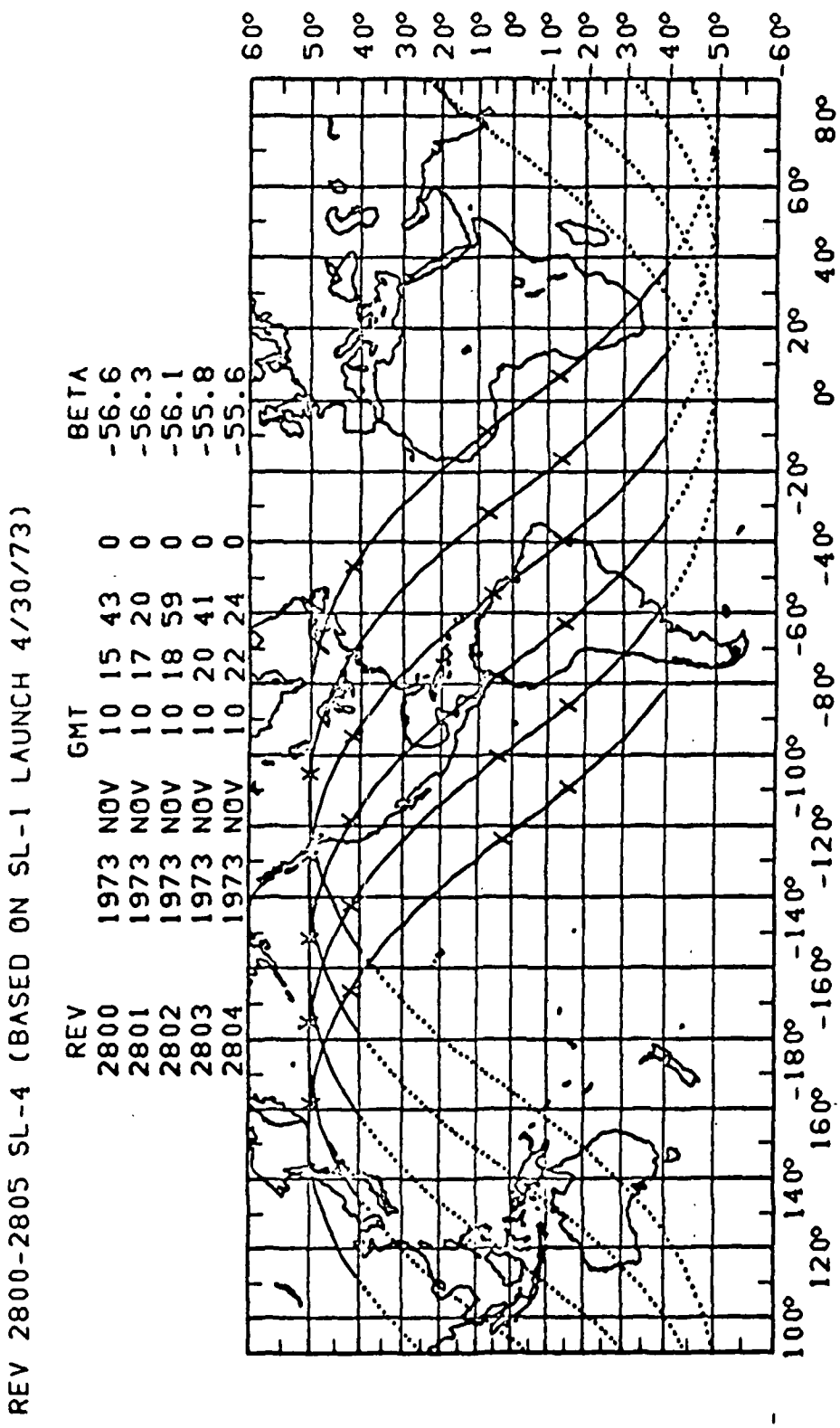
REV	GMT					BETA
2790	1973	NOV	9	23	9	0	-59.0
2791	1973	NOV	10	0	48	0	-58.8
2792	1973	NOV	10	2	26	0	-58.5
2793	1973	NOV	10	4	4	0	-58.3
2794	1973	NOV	10	5	41	0	-58.1



REV 2795-2800 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

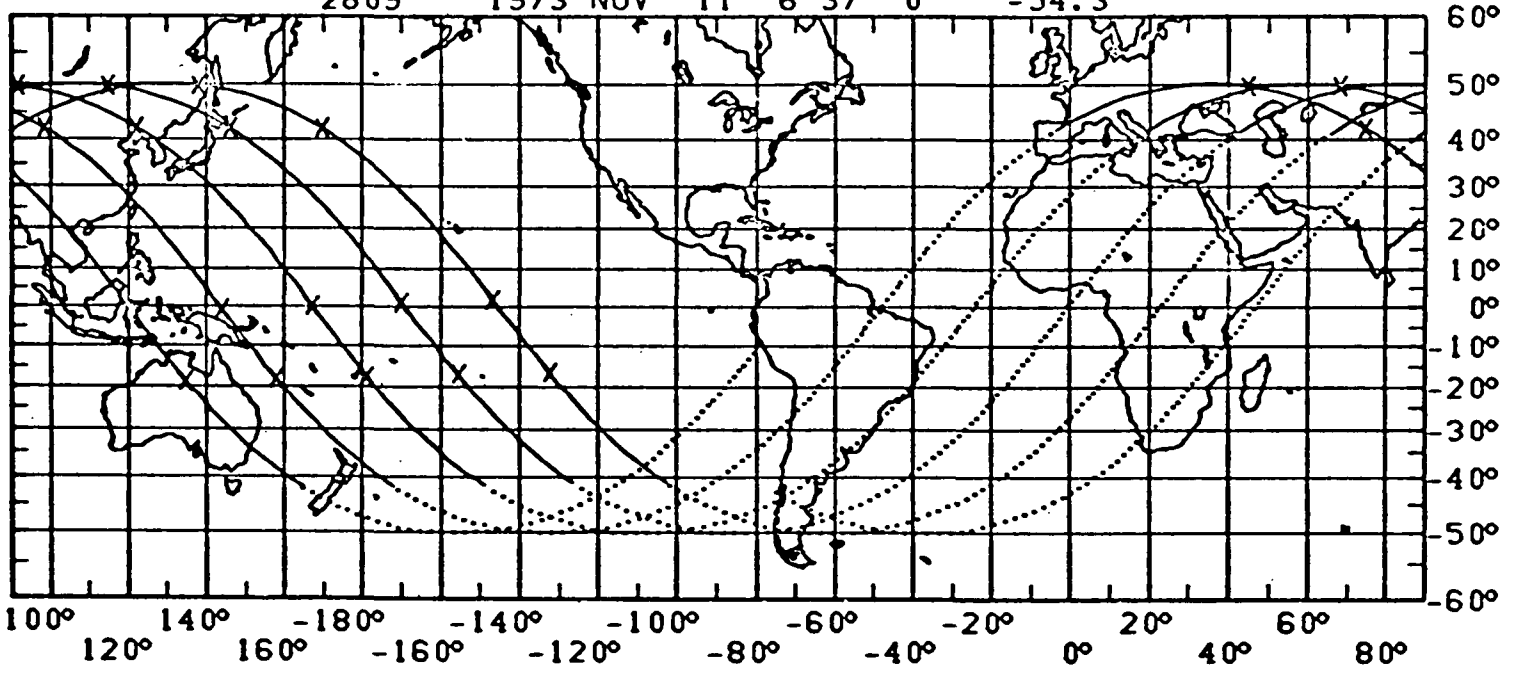
REV	GMT	BETA
2795	1973 NOV 10 7 22 0	-57.8
2796	1973 NOV 10 9 3 0	-57.6
2797	1973 NOV 10 10 46 0	-57.4
2798	1973 NOV 10 12 27 0	-57.1
2799	1973 NOV 10 14 5 0	-56.8




REV 2800-2805 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
2800 1973 NOV 10 15 43 0 -56.6
2801 1973 NOV 10 17 20 0 -56.3
2802 1973 NOV 10 18 59 0 -56.1
2803 1973 NOV 10 20 41 0 -55.8
2804 1973 NOV 10 22 24 0 -55.6
60° 50° 40° 30° 20° 10° 0° 10° 20° 30° 40° 50° 60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

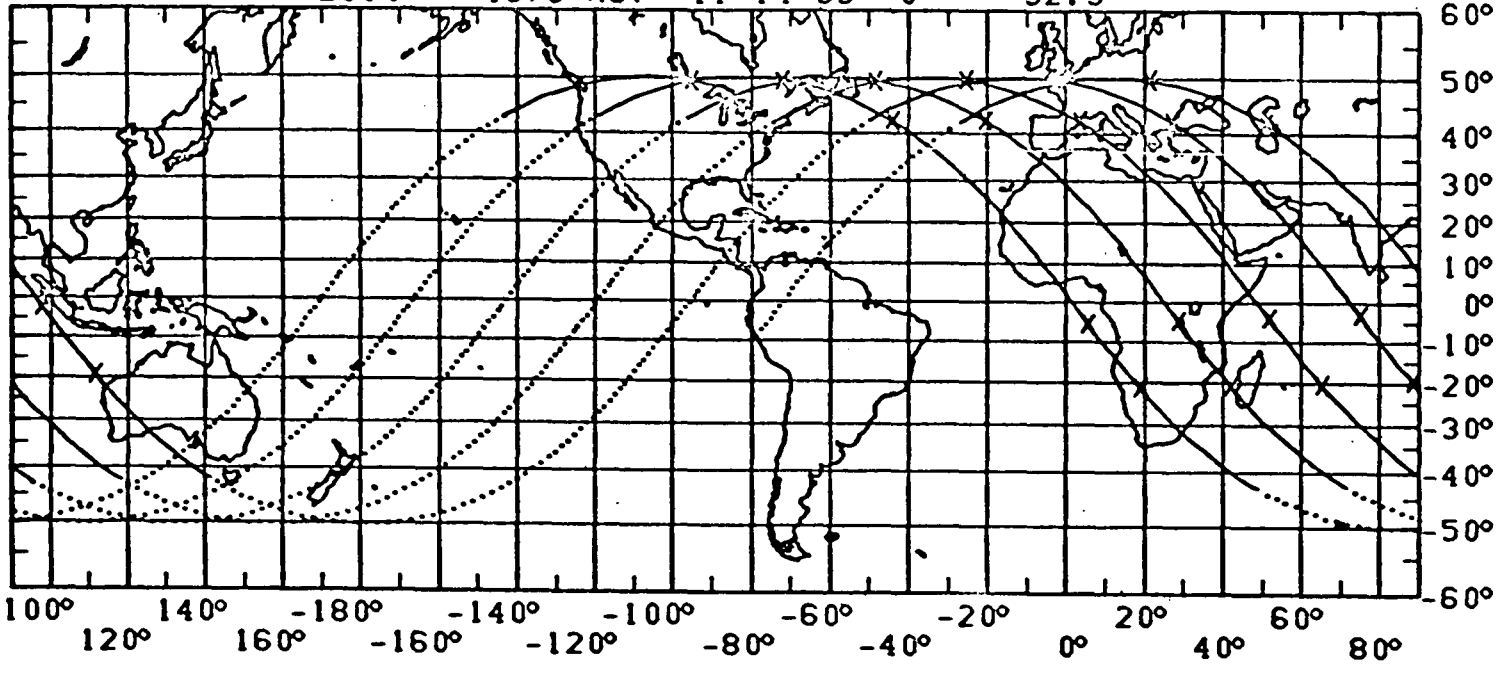
REV 2805-2810 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2805	1973 NOV 11 0 6 0	-55.3
2806	1973 NOV 11 1 43 0	-55.1
2807	1973 NOV 11 3 20 0	-54.8
2808	1973 NOV 11 4 58 0	-54.5
2809	1973 NOV 11 6 37 0	-54.3



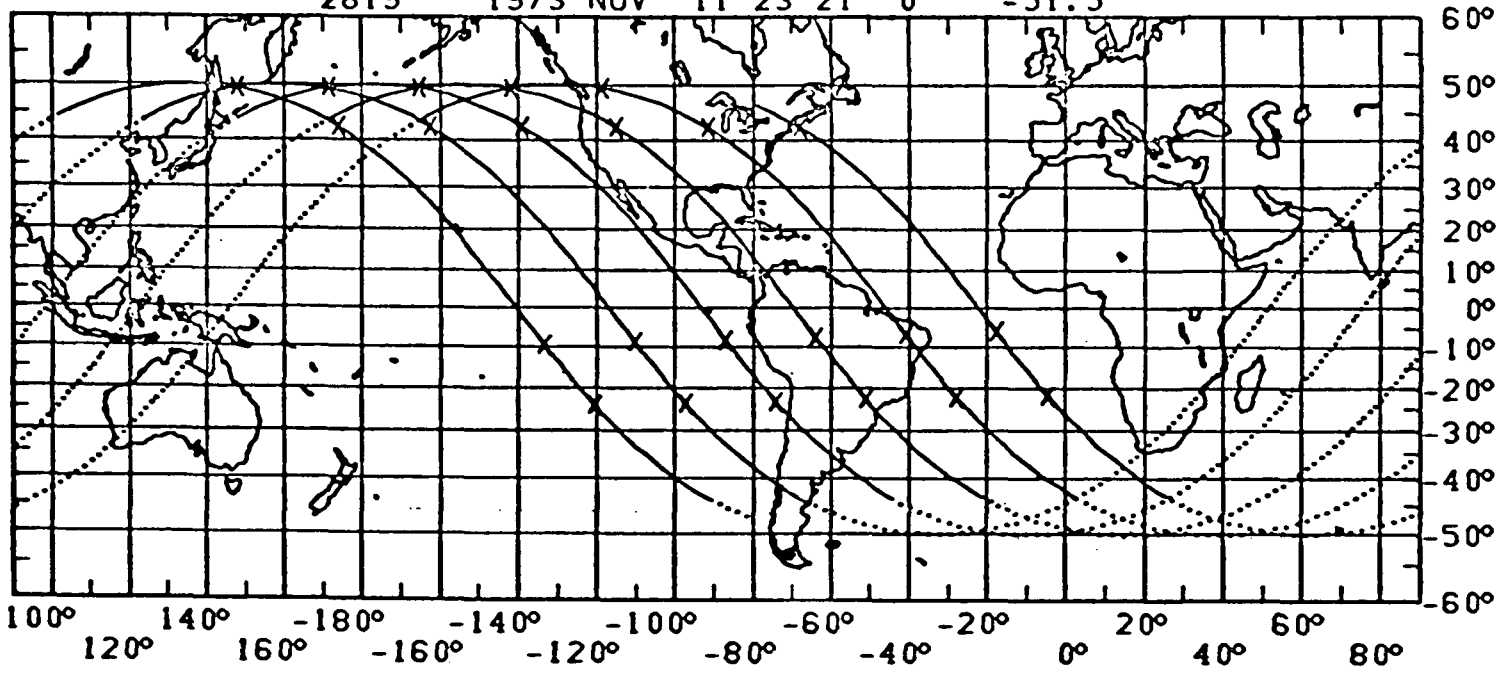
REV 2810-2815 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2810	1973 NOV 11 8 20 0	-54.0
2811	1973 NOV 11 10 2 0	-53.7
2812	1973 NOV 11 11 43 0	-53.5
2813	1973 NOV 11 13 21 0	-53.2
2814	1973 NOV 11 14 59 0	-52.9



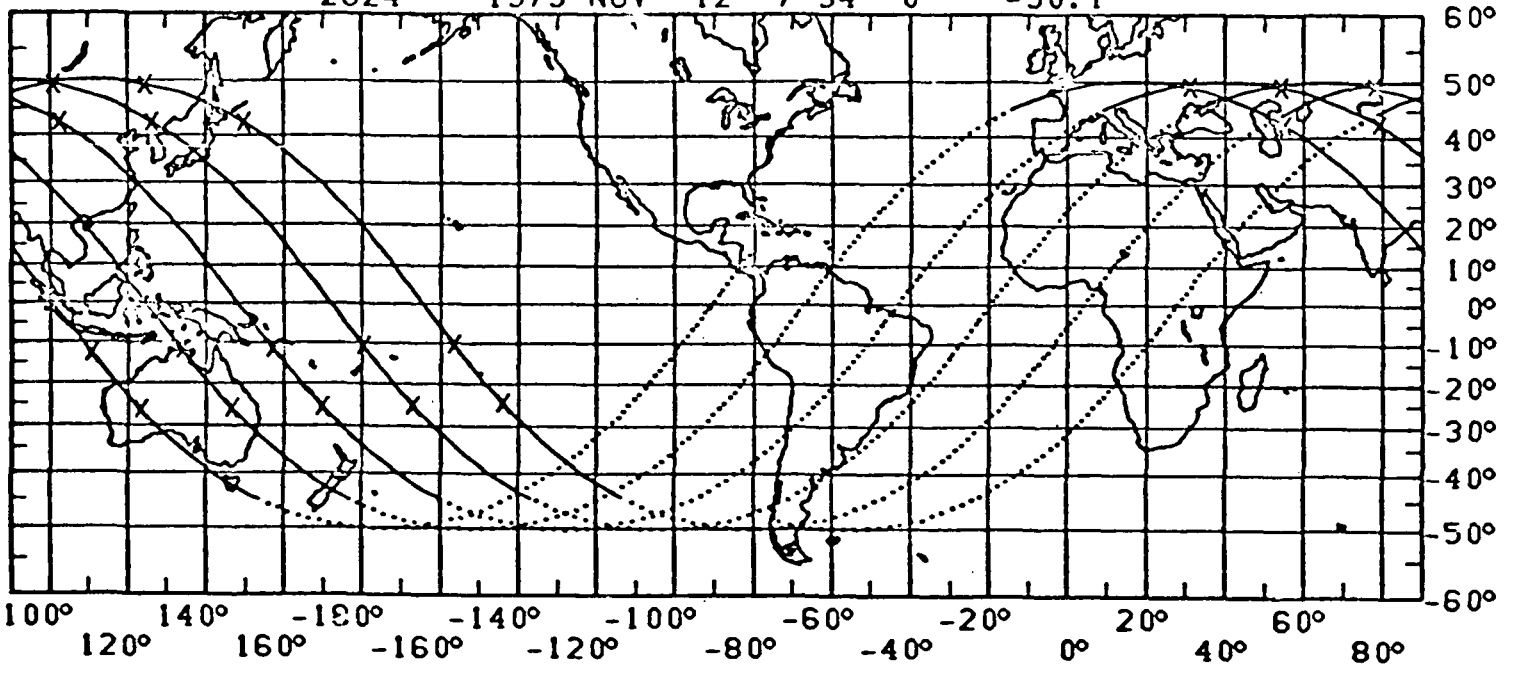
REV 2815-2820 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2815	1973	NOV	11	16	37 0	-52.6
2816	1973	NOV	11	18	15 0	-52.4
2817	1973	NOV	11	19	56 0	-52.1
2818	1973	NOV	11	21	40 0	-51.8
2819	1973	NOV	11	23	21 0	-51.5



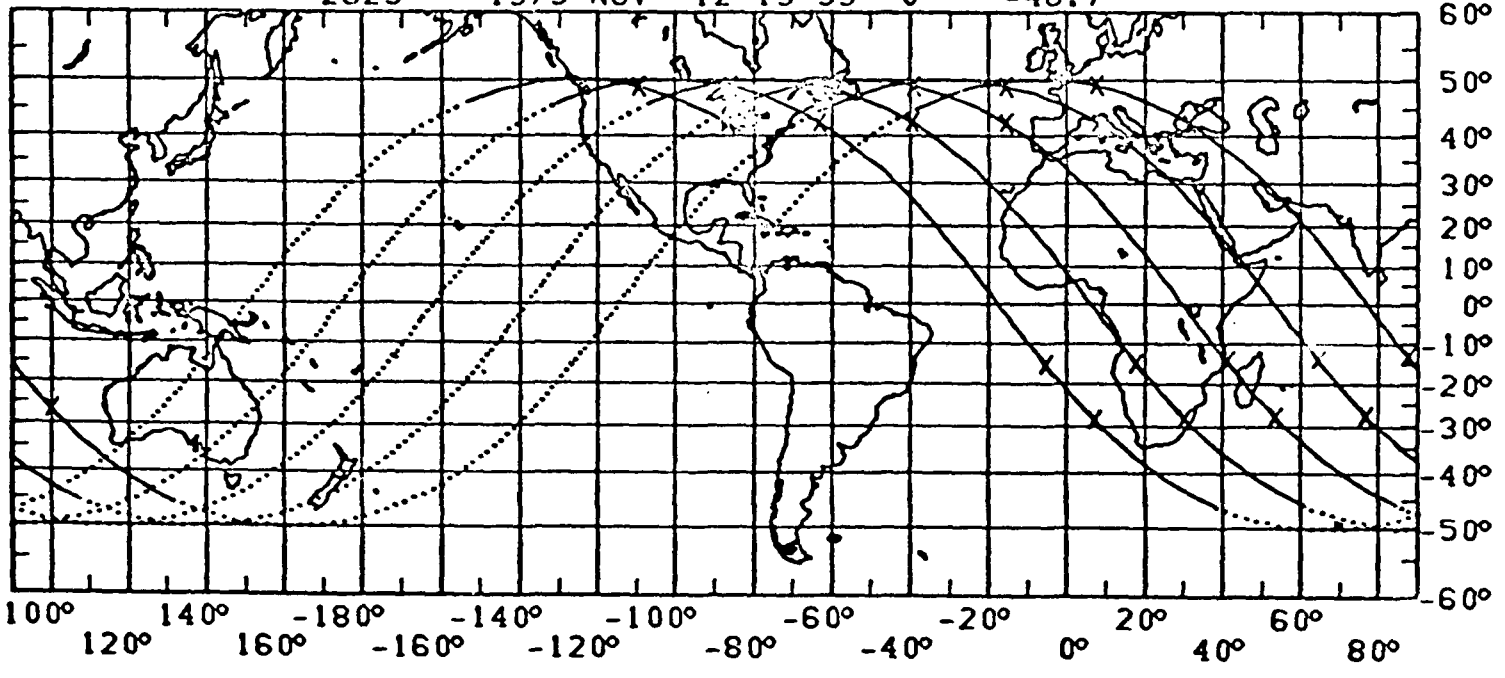
REV 2820-2825 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2820	1973	NOV	12	1	1 0	-51.2
2821	1973	NOV	12	2	37 0	-51.0
2822	1973	NOV	12	4	15 0	-50.7
2823	1973	NOV	12	5	53 0	-50.4
2824	1973	NOV	12	7	34 0	-50.1



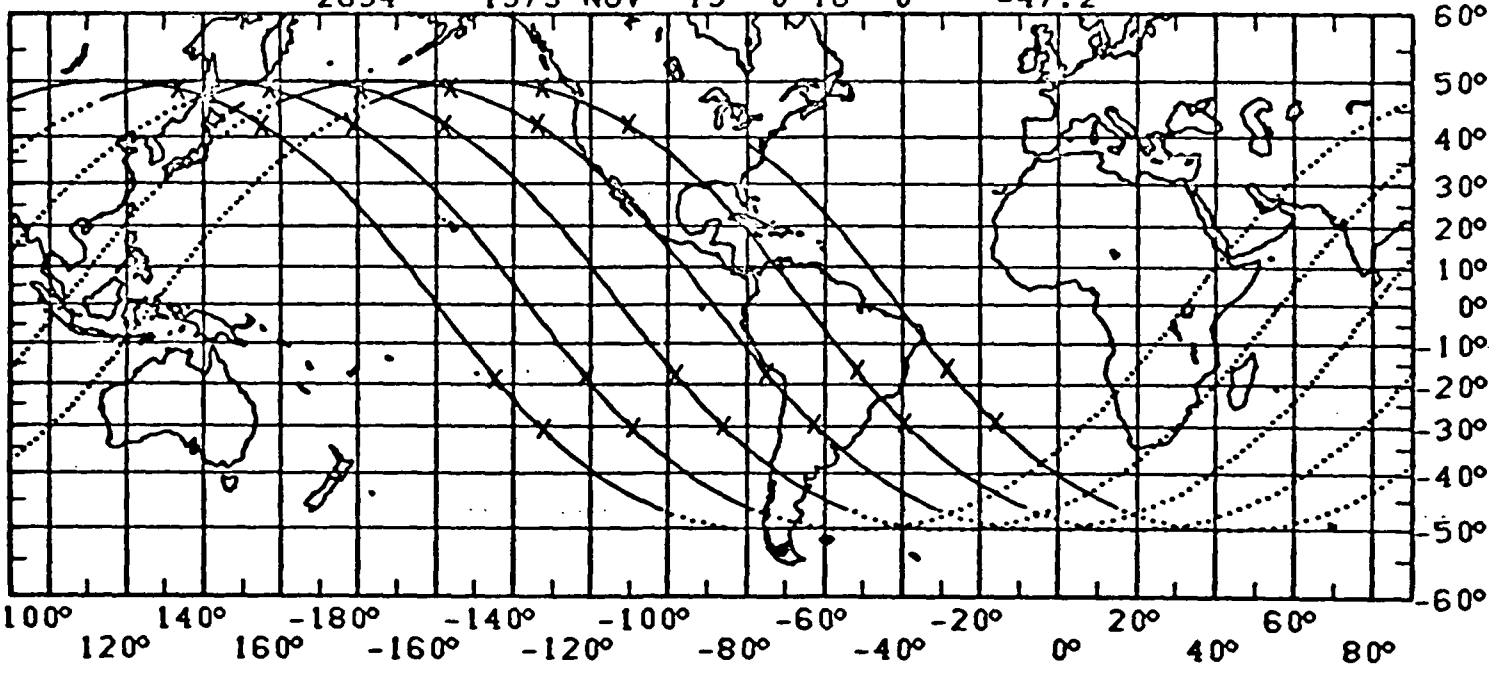
REV 2825-2830 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2825	1973 NOV 12 9 19 0	-49.8
2826	1973 NOV 12 10 59 0	-49.5
2827	1973 NOV 12 12 38 0	-49.2
2828	1973 NOV 12 14 15 0	-48.9
2829	1973 NOV 12 15 53 0	-48.7



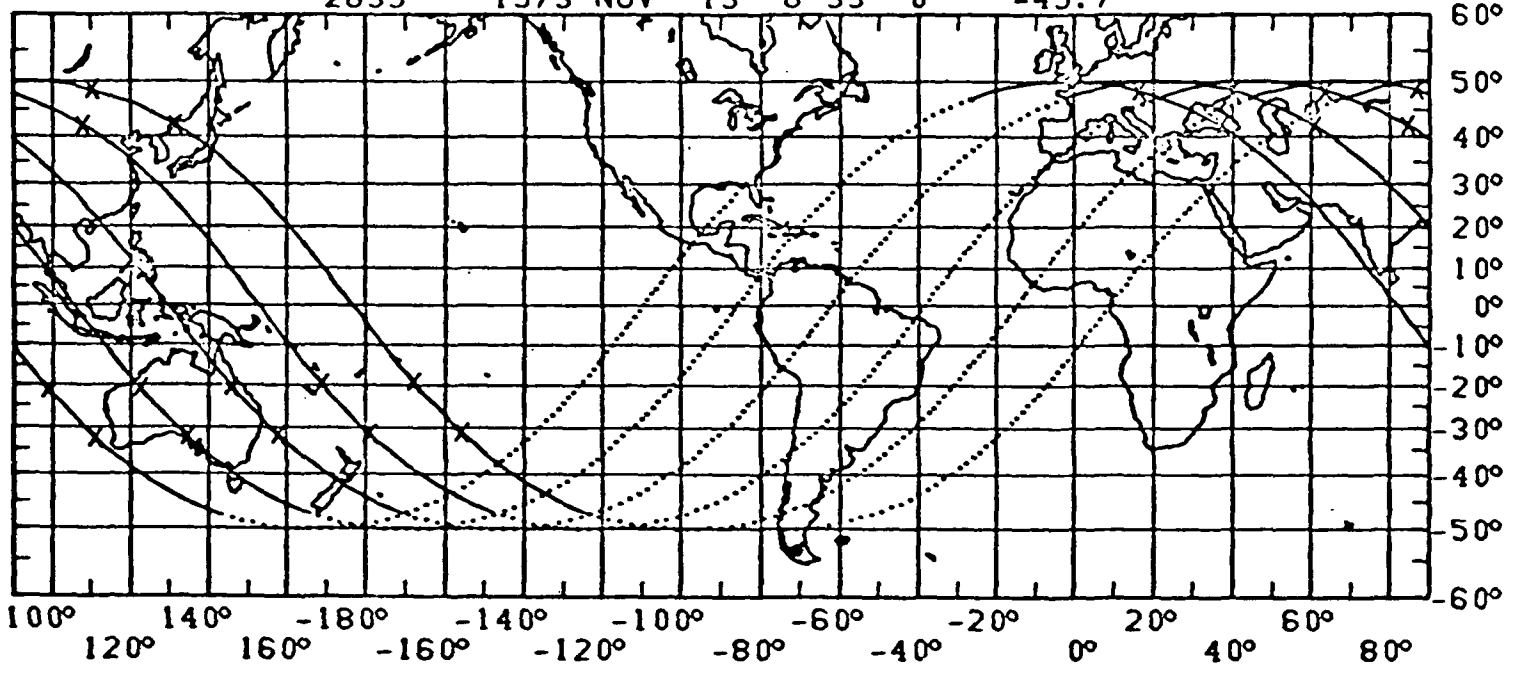
REV 2830-2835 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2830	1973 NOV 12 17 32 0	-48.4
2831	1973 NOV 12 19 12 0	-48.1
2832	1973 NOV 12 20 55 0	-47.8
2833	1973 NOV 12 22 37 0	-47.5
2834	1973 NOV 13 0 16 0	-47.2



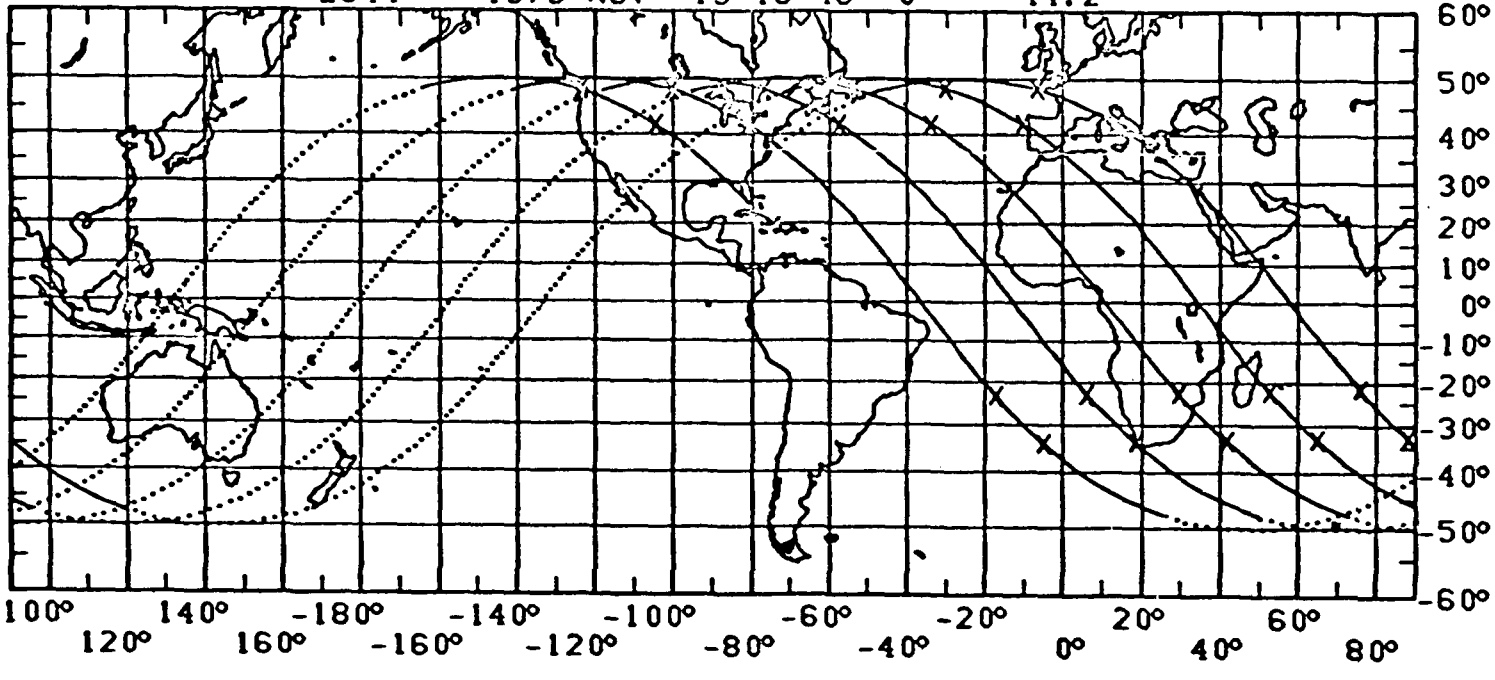
REV 2835-2840 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2835	1973 NOV 13 1 55 0	-46.9
2836	1973 NOV 13 3 31 0	-46.6
2837	1973 NOV 13 5 9 0	-46.3
2838	1973 NOV 13 6 50 0	-46.0
2839	1973 NOV 13 8 33 0	-45.7



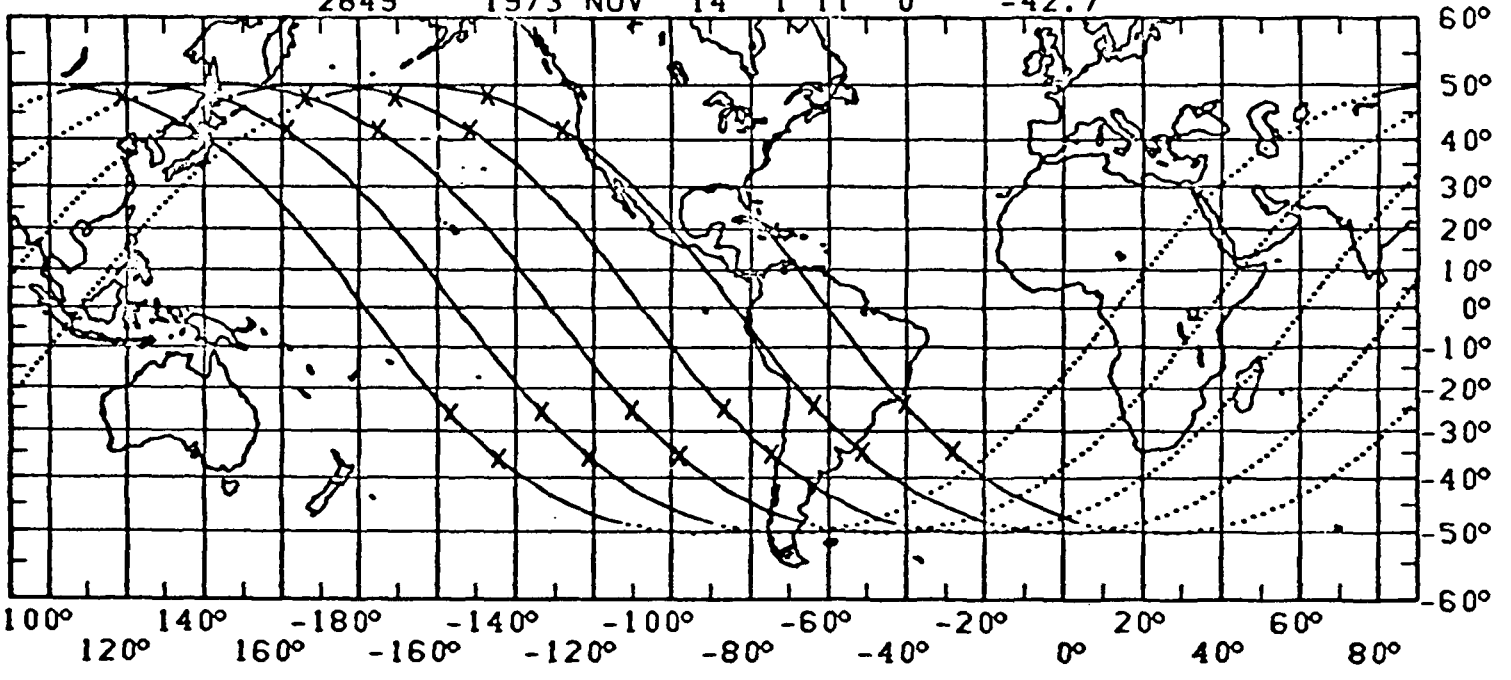
REV 2840-2845 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2840	1973 NOV 13 10 16 0	-45.4
2841	1973 NOV 13 11 55 0	-45.1
2842	1973 NOV 13 13 32 0	-44.8
2843	1973 NOV 13 15 10 0	-44.5
2844	1973 NOV 13 16 48 0	-44.2



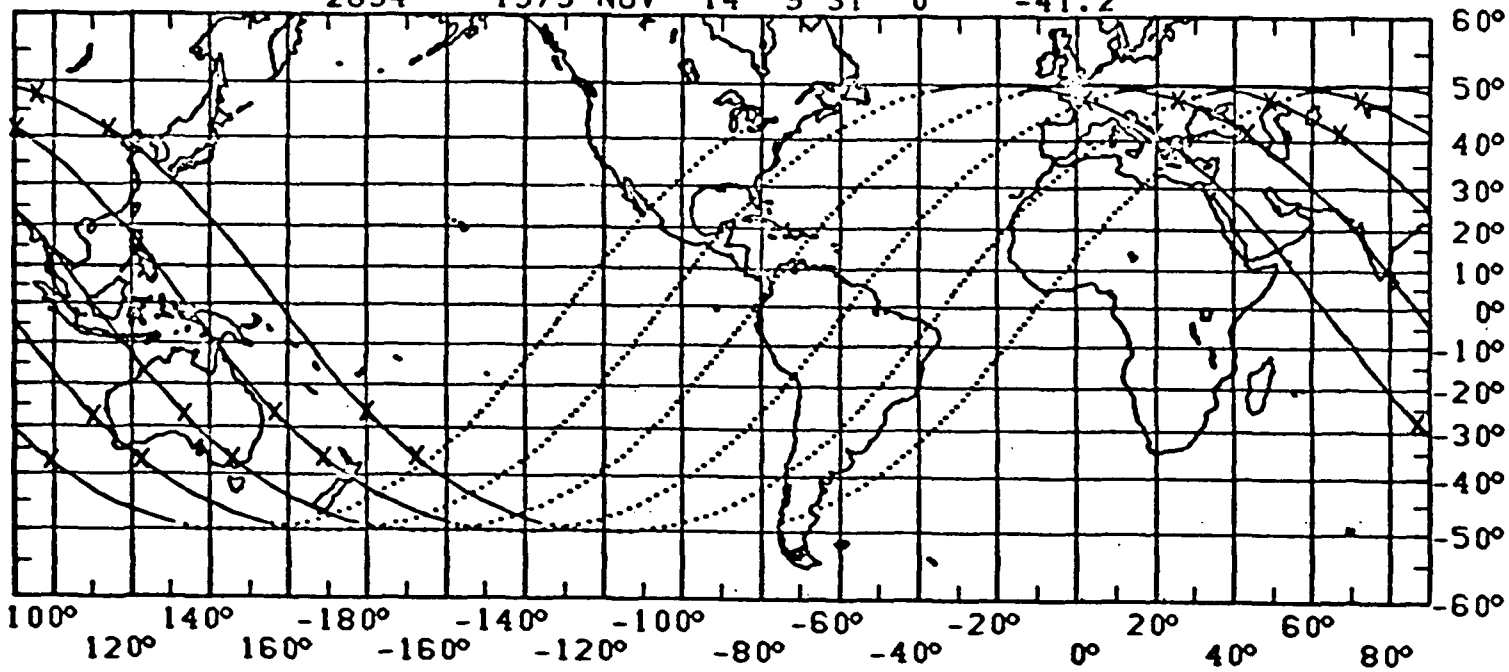
REV 2845-2850 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2845	1973 NOV 13 18 29 0	-43.9
2846	1973 NOV 13 20 11 0	-43.6
2847	1973 NOV 13 21 53 0	-43.3
2848	1973 NOV 13 23 33 0	-43.0
2849	1973 NOV 14 1 11 0	-42.7



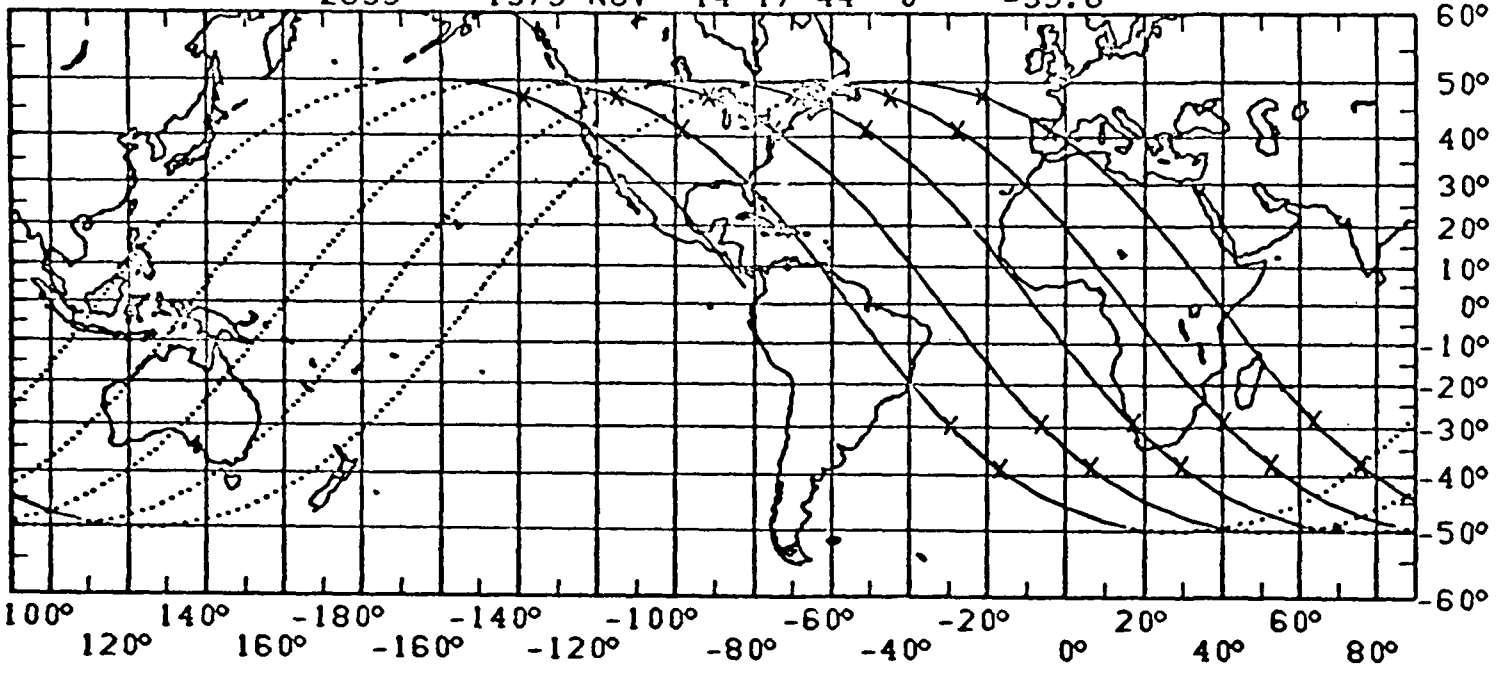
REV 2850-2855 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2850	1973	NOV	14	2	49	0	-42.4
2851	1973	NOV	14	4	26	0	-42.1
2852	1973	NOV	14	6	6	0	-41.8
2853	1973	NOV	14	7	49	0	-41.5
2854	1973	NOV	14	9	31	0	-41.2



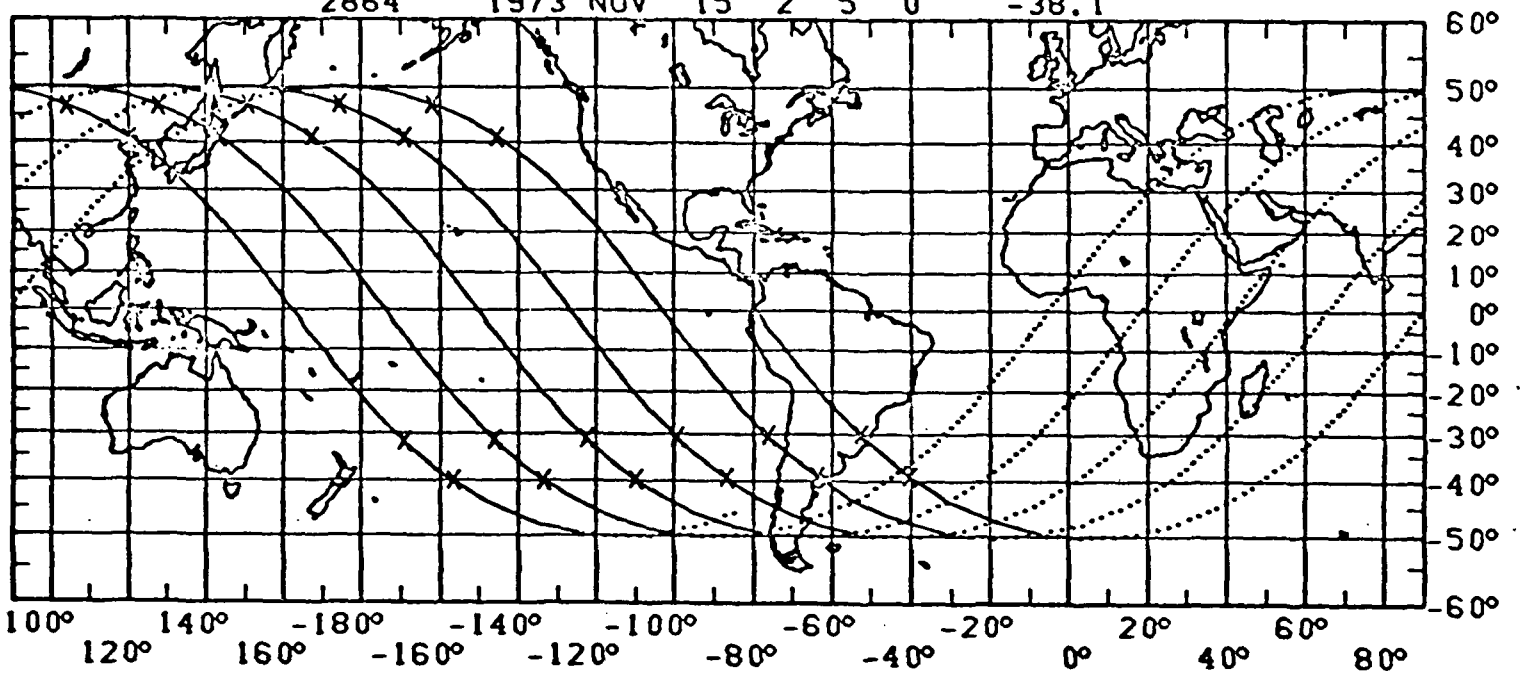
REV 2855-2860 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2855	1973 NOV 14 11 12 0	-40.8
2856	1973 NOV 14 12 49 0	-40.5
2857	1973 NOV 14 14 26 0	-40.2
2858	1973 NOV 14 16 4 0	-39.9
2859	1973 NOV 14 17 44 0	-39.6



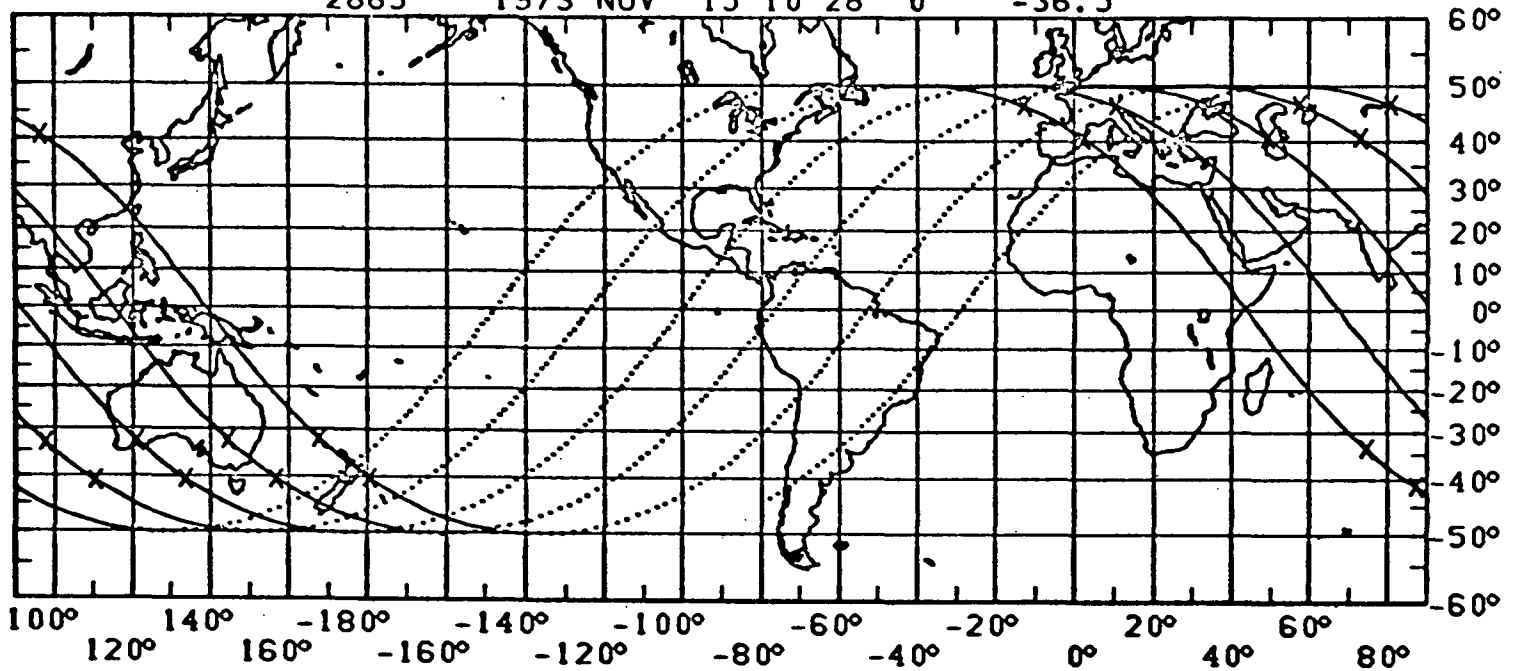
REV 2860-2865 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2860	1973	NOV	14	19 27	0	-39.3
2861	1973	NOV	14	21 9	0	-39.0
2862	1973	NOV	14	22 49	0	-38.7
2863	1973	NOV	15	0 27	0	-38.4
2864	1973	NOV	15	2 5	0	-38.1



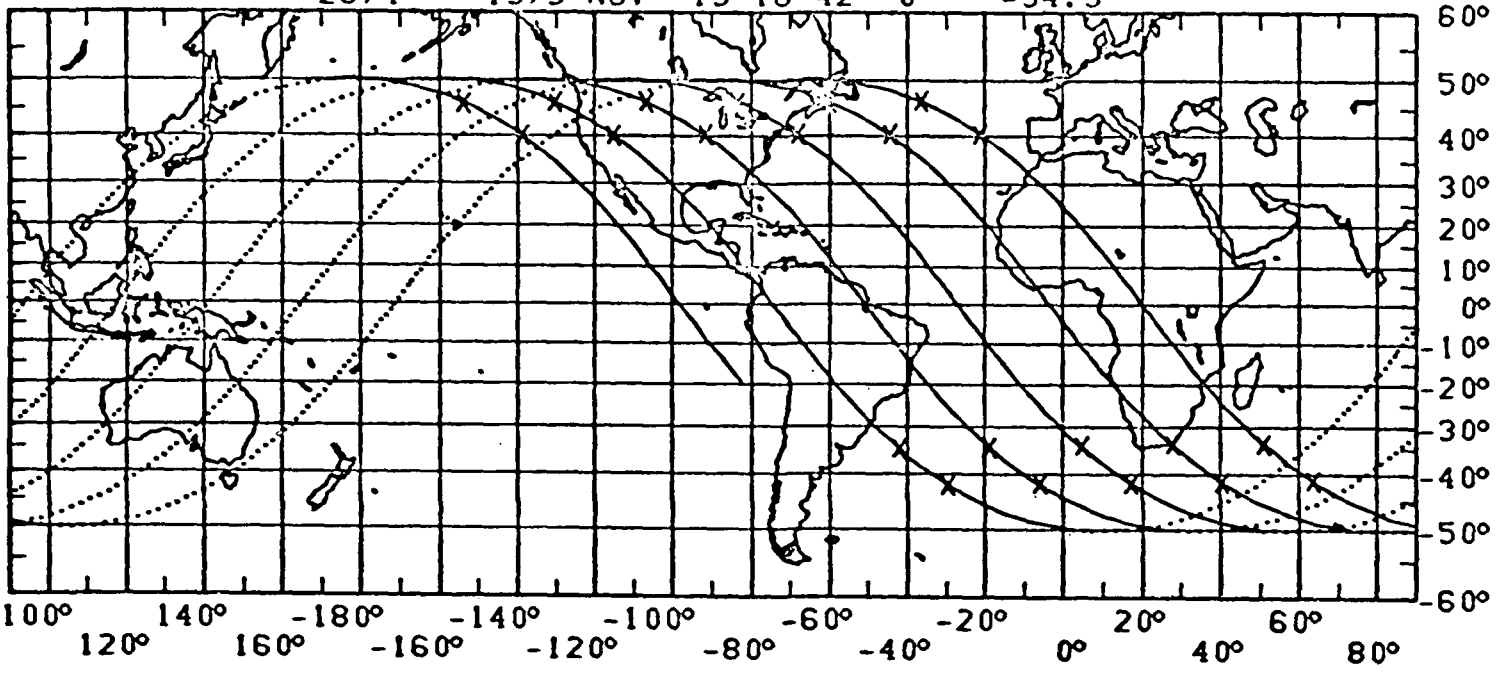
REV 2865-2870 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2865	1973	NOV	15	3	43 0	-37.7
2866	1973	NOV	15	5	22 0	-37.4
2867	1973	NOV	15	7	4 0	-37.1
2868	1973	NOV	15	8	47 0	-36.8
2869	1973	NOV	15	10	28 0	-36.5



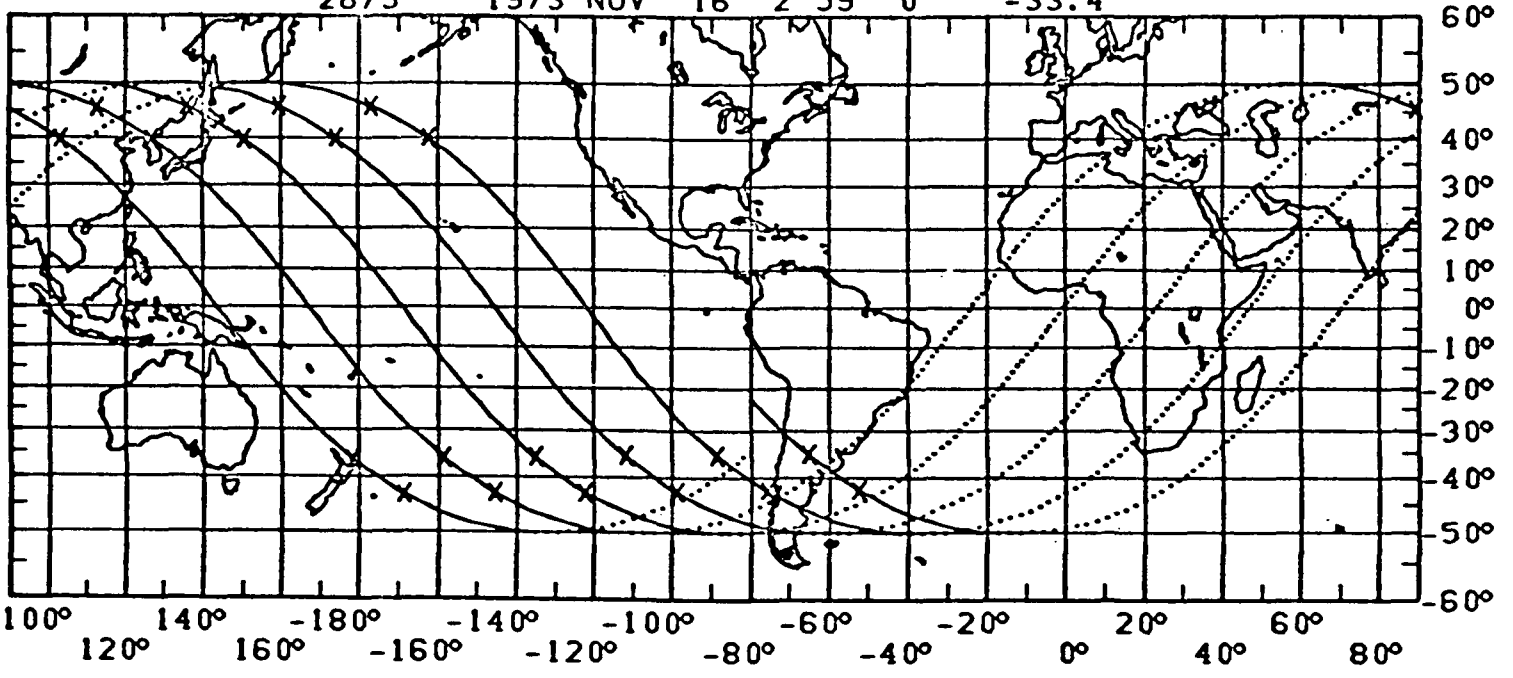
REV 2870-2875 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

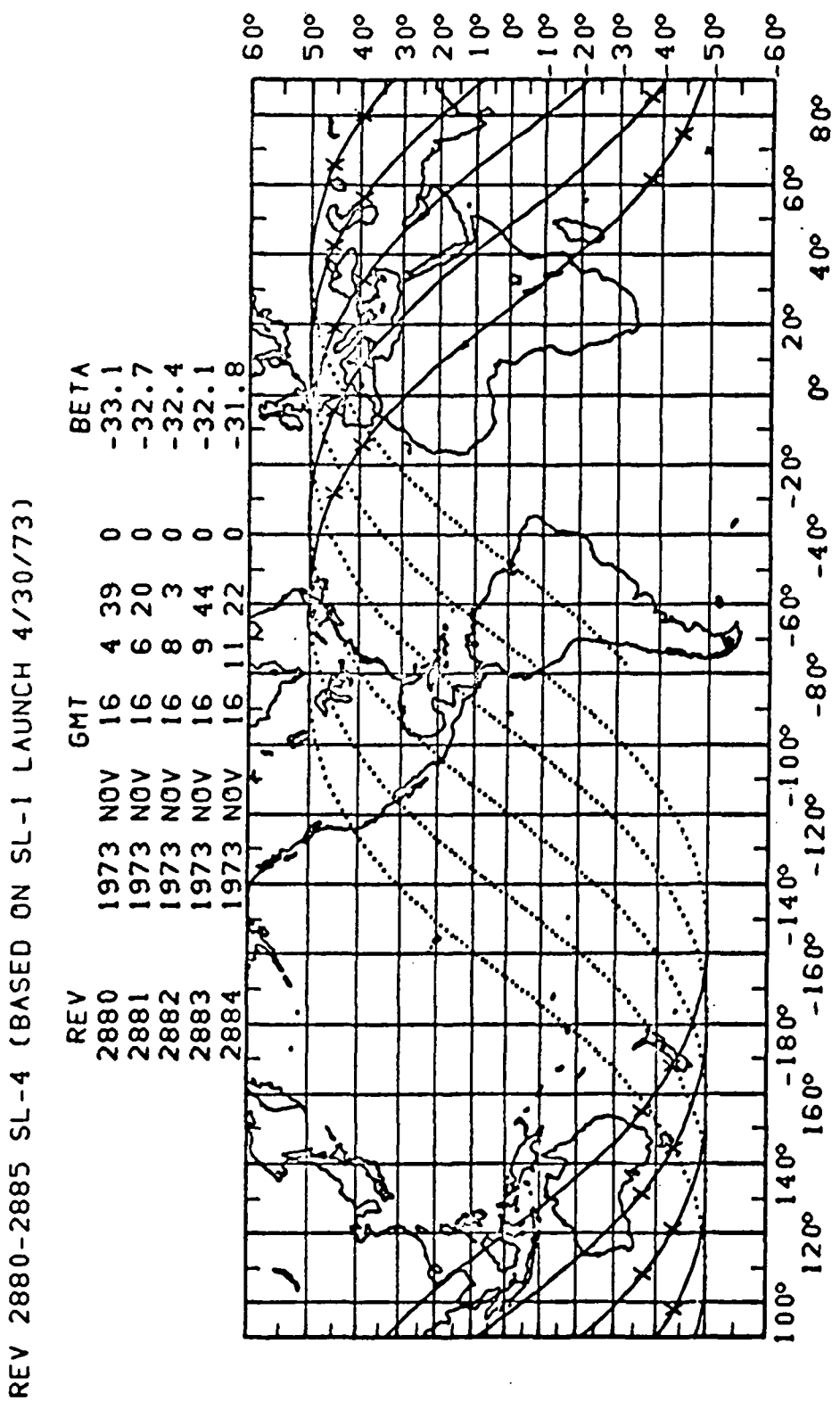
REV	GMT	BETA
2870	1973 NOV 15 12 7 0	-36.2
2871	1973 NOV 15 13 43 0	-35.9
2872	1973 NOV 15 15 21 0	-35.6
2873	1973 NOV 15 17 0 0	-35.2
2874	1973 NOV 15 18 42 0	-34.9



REV 2875-2880 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

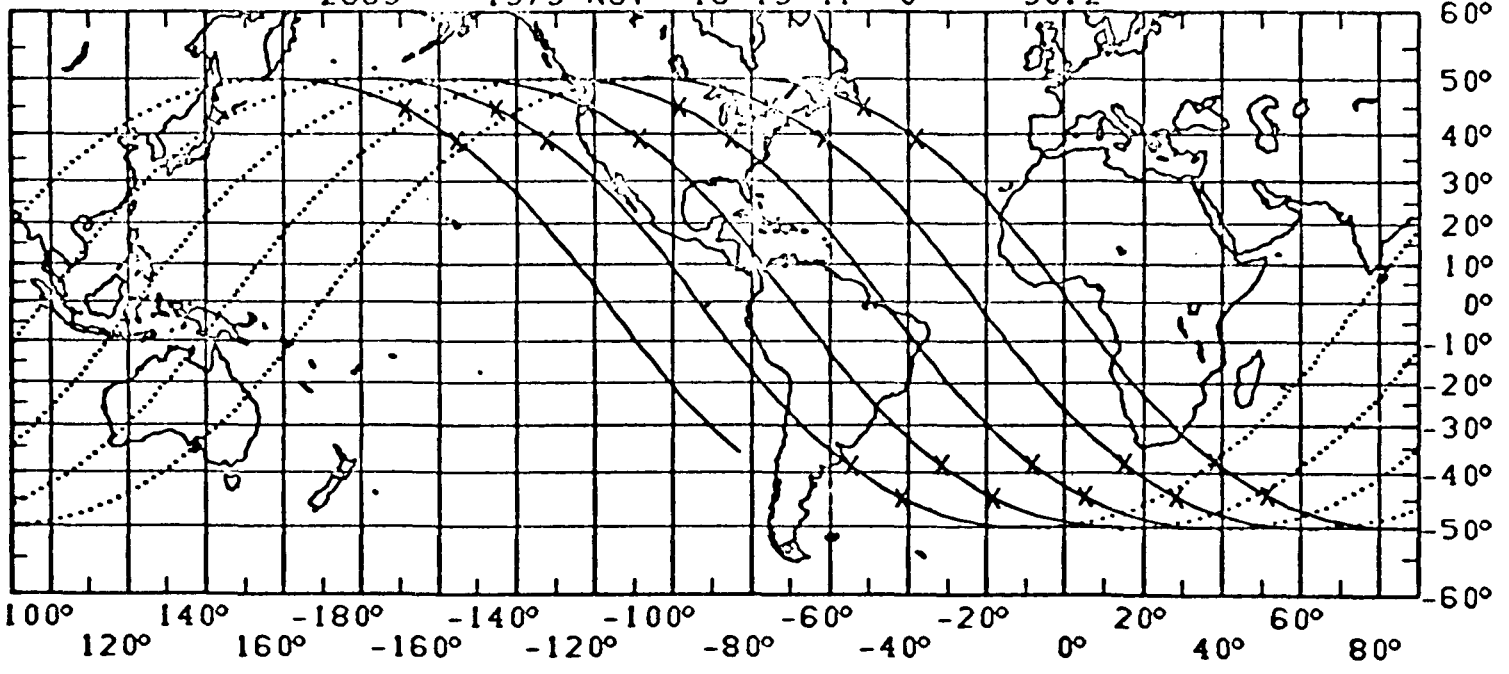
REV	GMT					BETA
2875	1973	NOV	15	20	26	0	-34.6
2876	1973	NOV	15	22	6	0	-34.3
2877	1973	NOV	15	23	44	0	-34.0
2878	1973	NOV	16	1	21	0	-33.7
2879	1973	NOV	16	2	59	0	-33.4




REV 2880-2885 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
2880 1973 NOV 16 4 39 0 -33.1
2881 1973 NOV 16 6 20 0 -32.7
2882 1973 NOV 16 8 3 0 -32.4
2883 1973 NOV 16 9 44 0 -32.1
2884 1973 NOV 16 11 22 0 -31.8
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

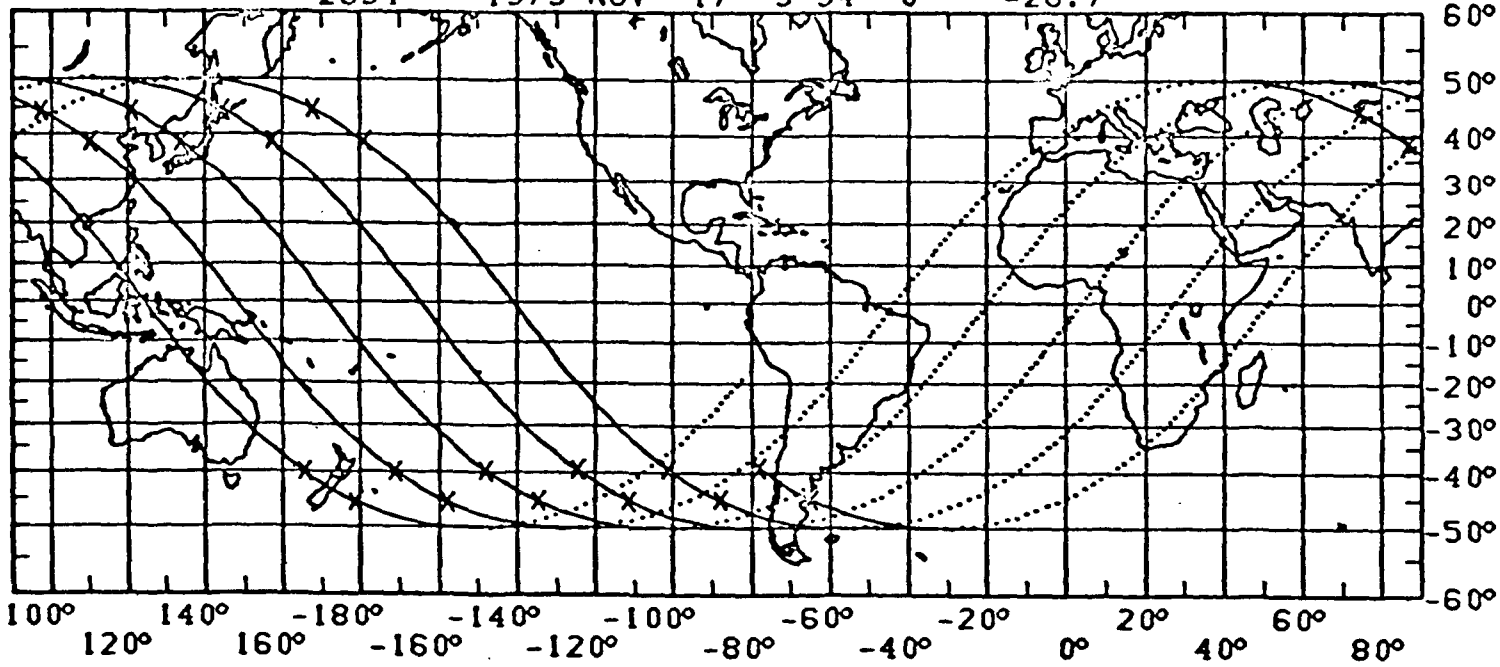
REV 2885-2890 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2885	1973 NOV 16 13 1 0	-31.5
2886	1973 NOV 16 14 37 0	-31.2
2887	1973 NOV 16 16 16 0	-30.9
2888	1973 NOV 16 17 57 0	-30.5
2889	1973 NOV 16 19 41 0	-30.2



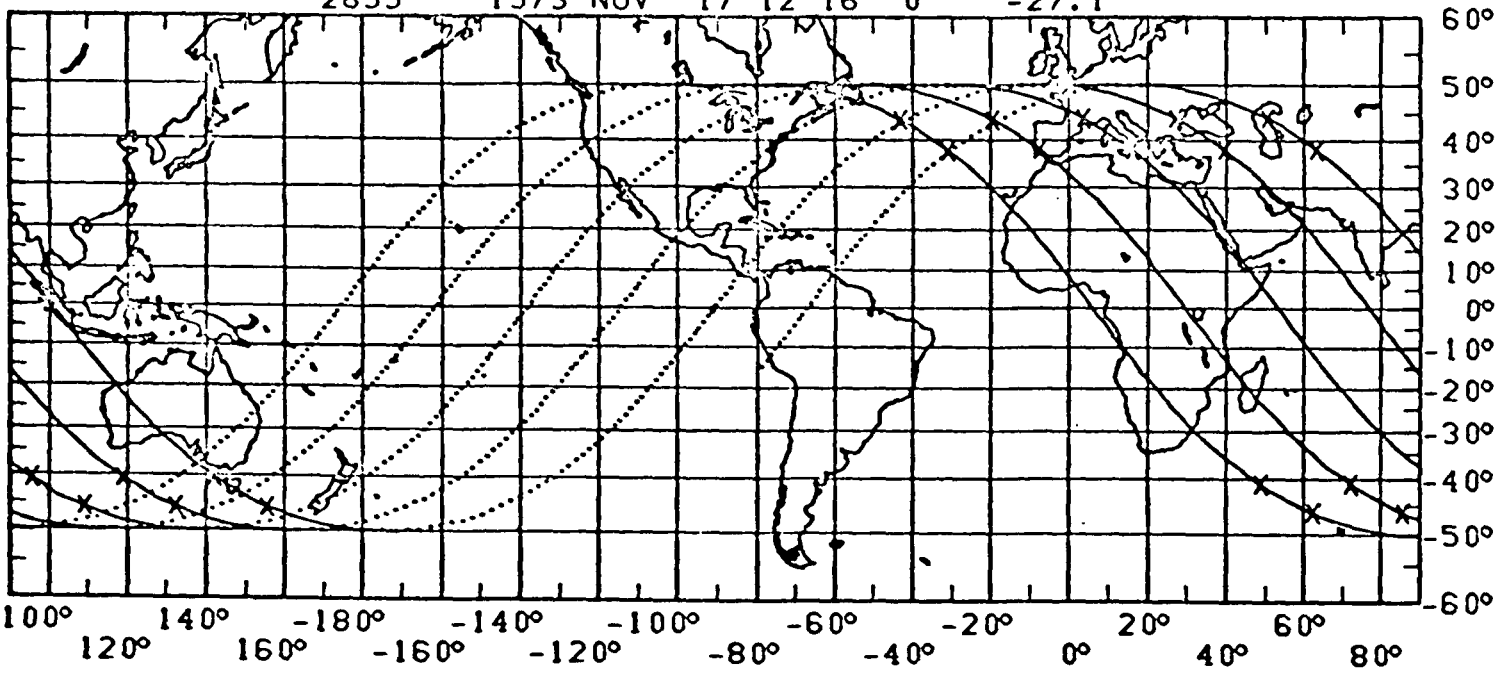
REV 2890-2895 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2890	1973	NOV	16	21	23	0	-29.9
2891	1973	NOV	16	23	1	0	-29.6
2892	1973	NOV	17	0	38	0	-29.3
2893	1973	NOV	17	2	16	0	-29.0
2894	1973	NOV	17	3	54	0	-28.7



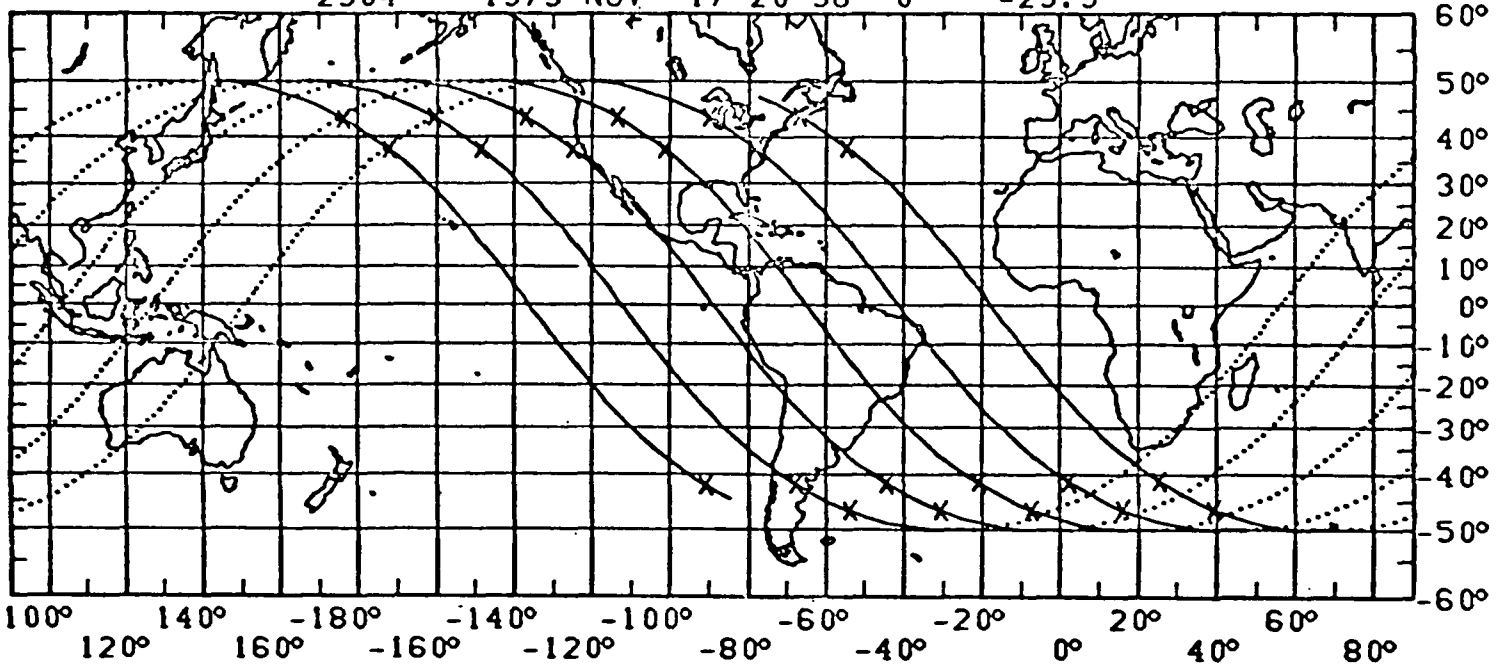
REV 2895-2900 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2895	1973 NOV 17 5 36 0	-28.3
2896	1973 NOV 17 7 19 0	-28.0
2897	1973 NOV 17 9 0 0	-27.7
2898	1973 NOV 17 10 39 0	-27.4
2899	1973 NOV 17 12 16 0	-27.1



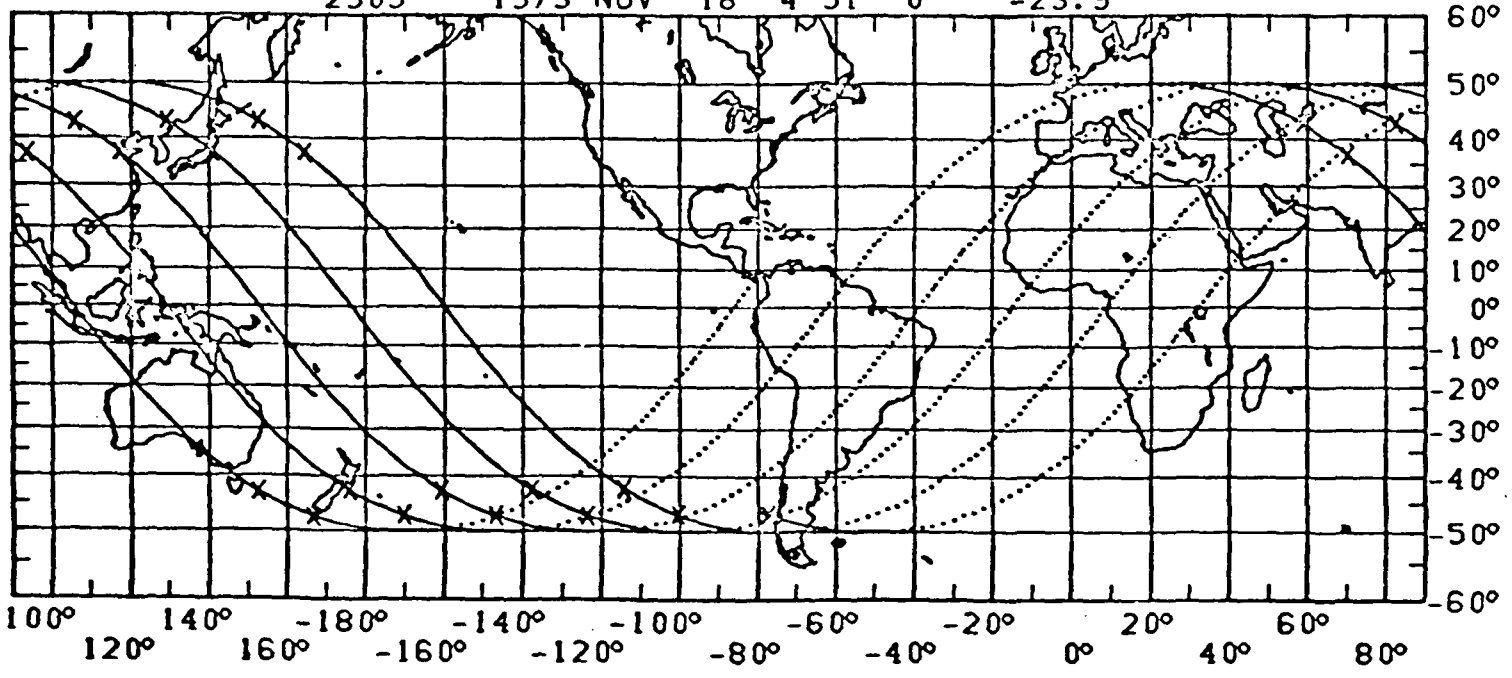
REV 2900-2905 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2900	1973 NOV 17 13 55 0	-26.8
2901	1973 NOV 17 15 32 0	-26.5
2902	1973 NOV 17 17 13 0	-26.1
2903	1973 NOV 17 18 56 0	-25.8
2904	1973 NOV 17 20 38 0	-25.5



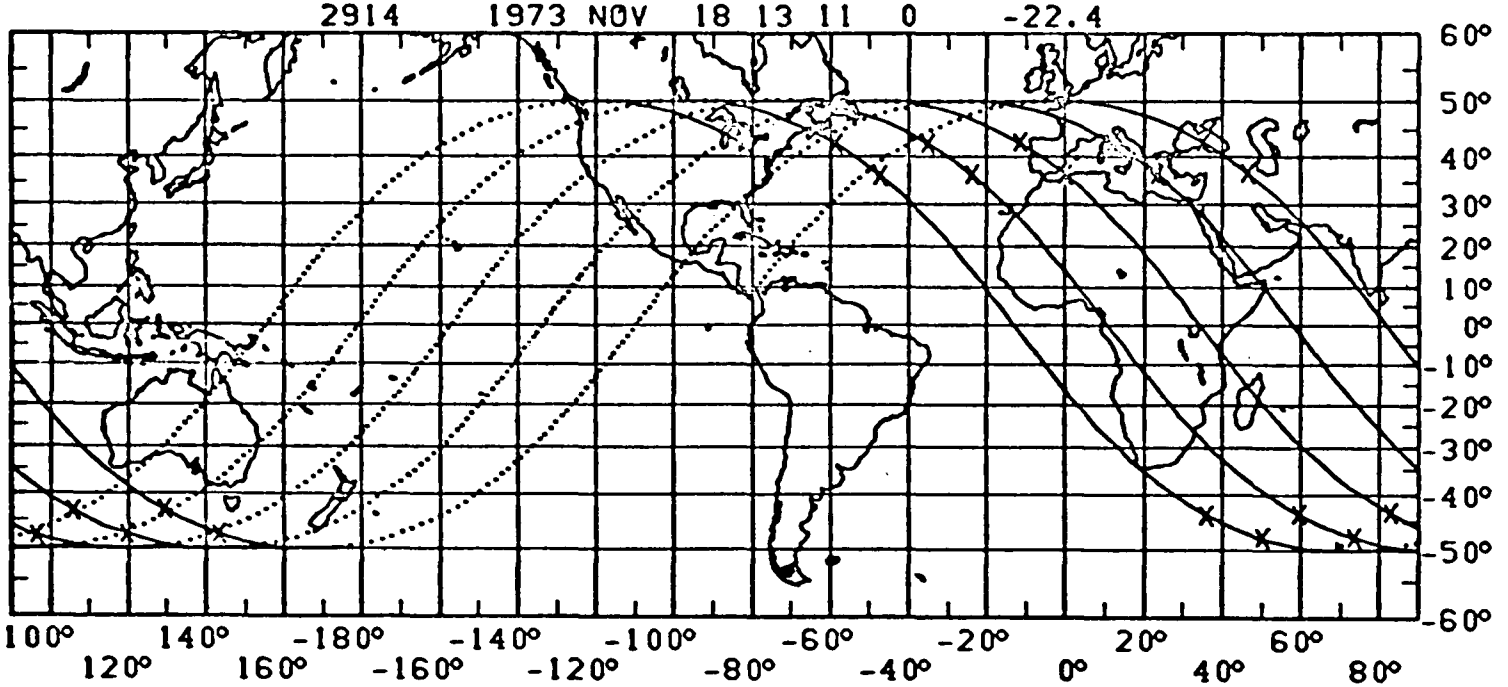
REV 2905-2910 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2905	1973 NOV 17 22 18 0	-25.2
2906	1973 NOV 17 23 55 0	-24.9
2907	1973 NOV 18 1 32 0	-24.6
2908	1973 NOV 18 3 10 0	-24.3
2909	1973 NOV 18 4 51 0	-23.9



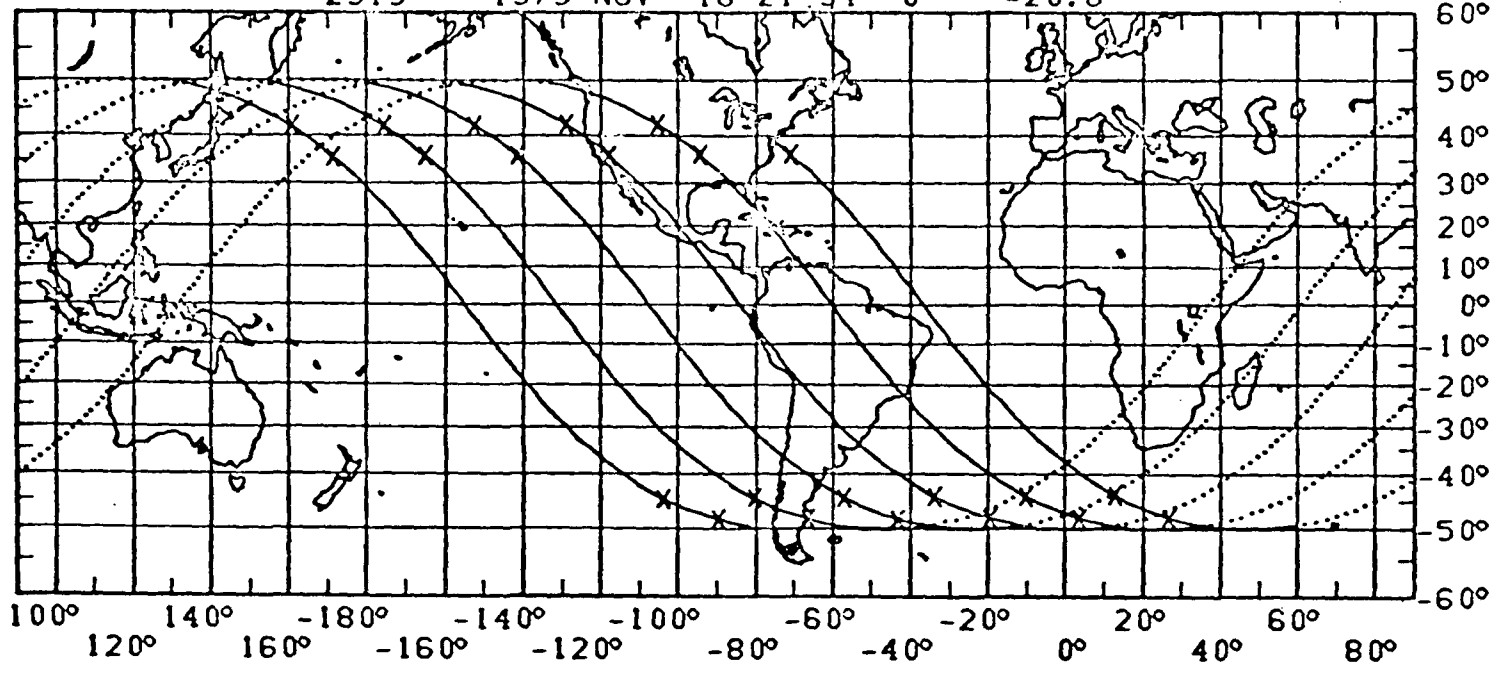
REV 2910-2915 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2910	1973 NOV 18 6 35 0	-23.6
2911	1973 NOV 18 9 16 0	-23.3
2912	1973 NOV 18 9 56 0	-23.0
2913	1973 NOV 18 11 33 0	-22.7
2914	1973 NOV 18 13 11 0	-22.4



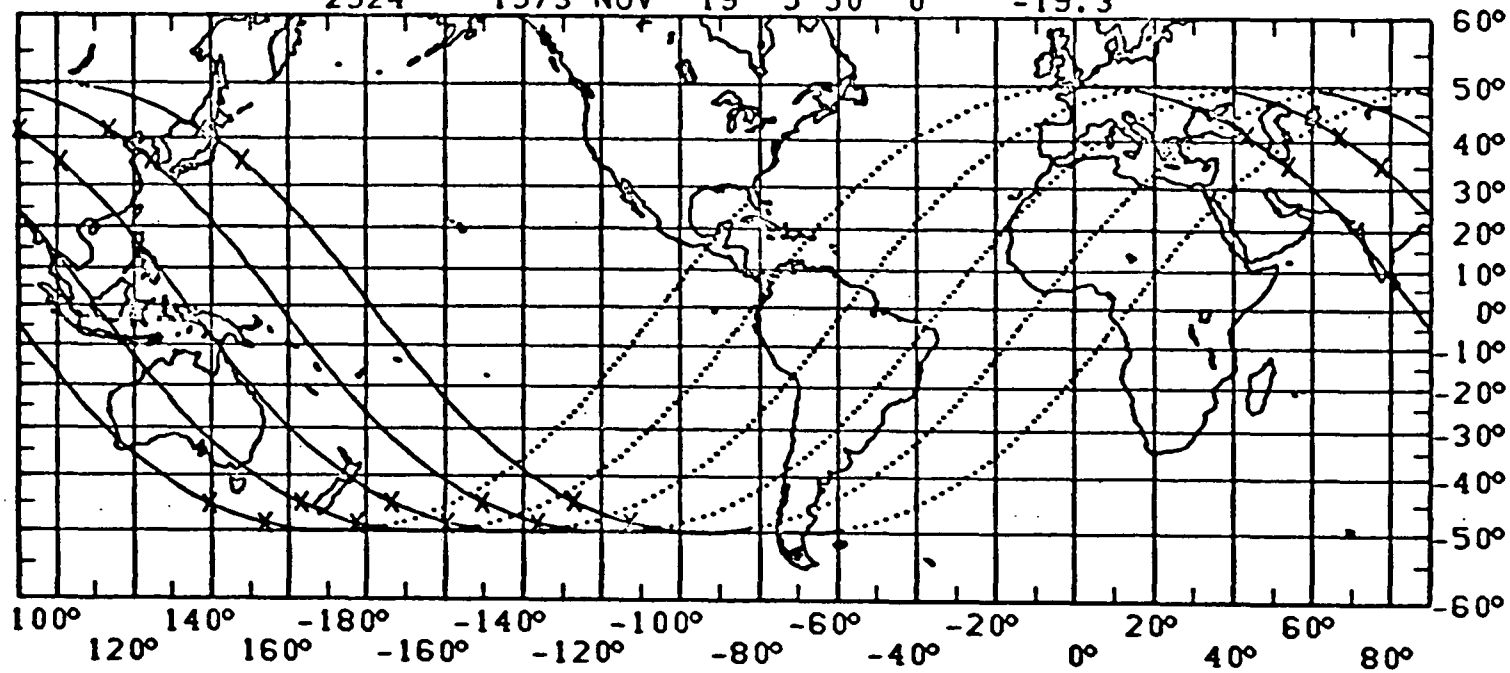
REV 2915-2920 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2915	1973 NOV 18 14 50 0	-22.1
2916	1973 NOV 18 16 29 0	-21.7
2917	1973 NOV 18 18 12 0	-21.4
2918	1973 NOV 18 19 54 0	-21.1
2919	1973 NOV 18 21 34 0	-20.8



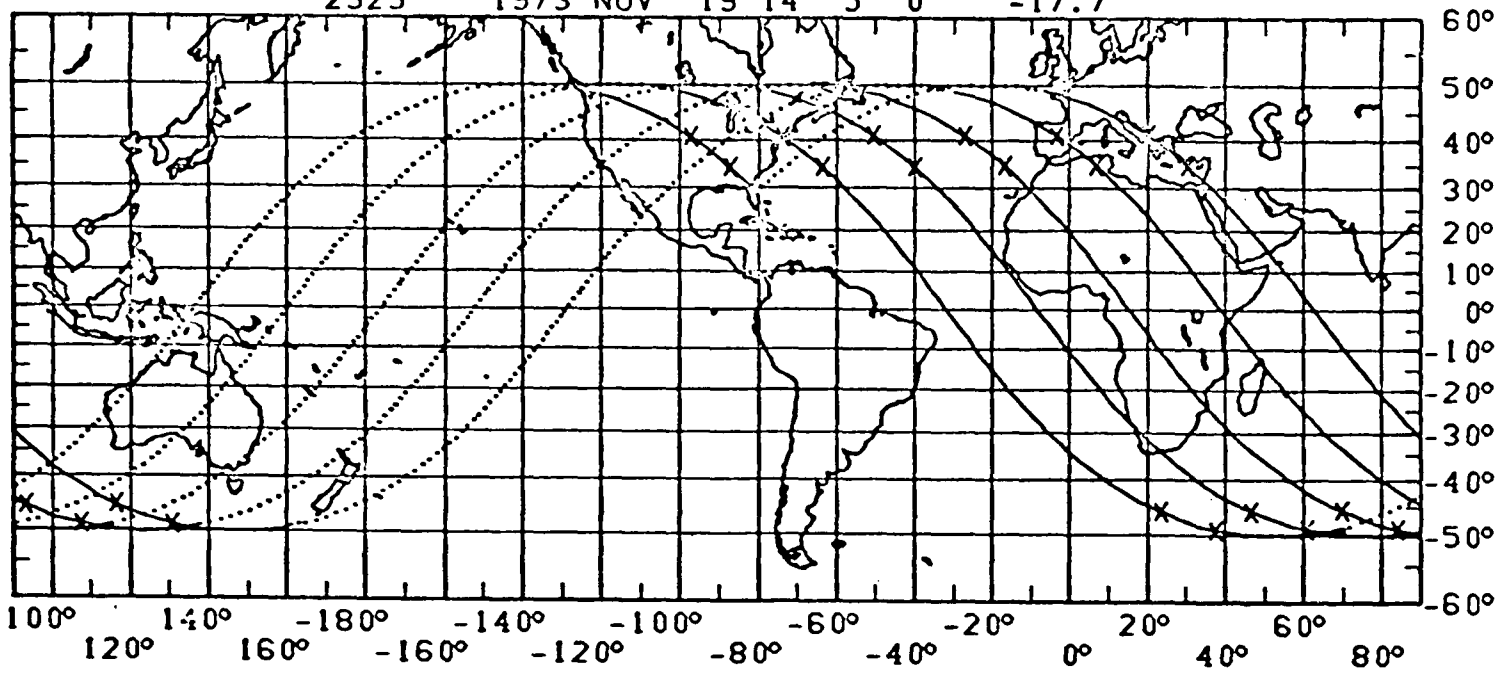
REV 2920-2925 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2920	1973 NOV 18 23 13 0	-20.5
2921	1973 NOV 19 0 49 0	-20.2
2922	1973 NOV 19 2 27 0	-19.9
2923	1973 NOV 19 4 7 0	-19.6
2924	1973 NOV 19 5 50 0	-19.3



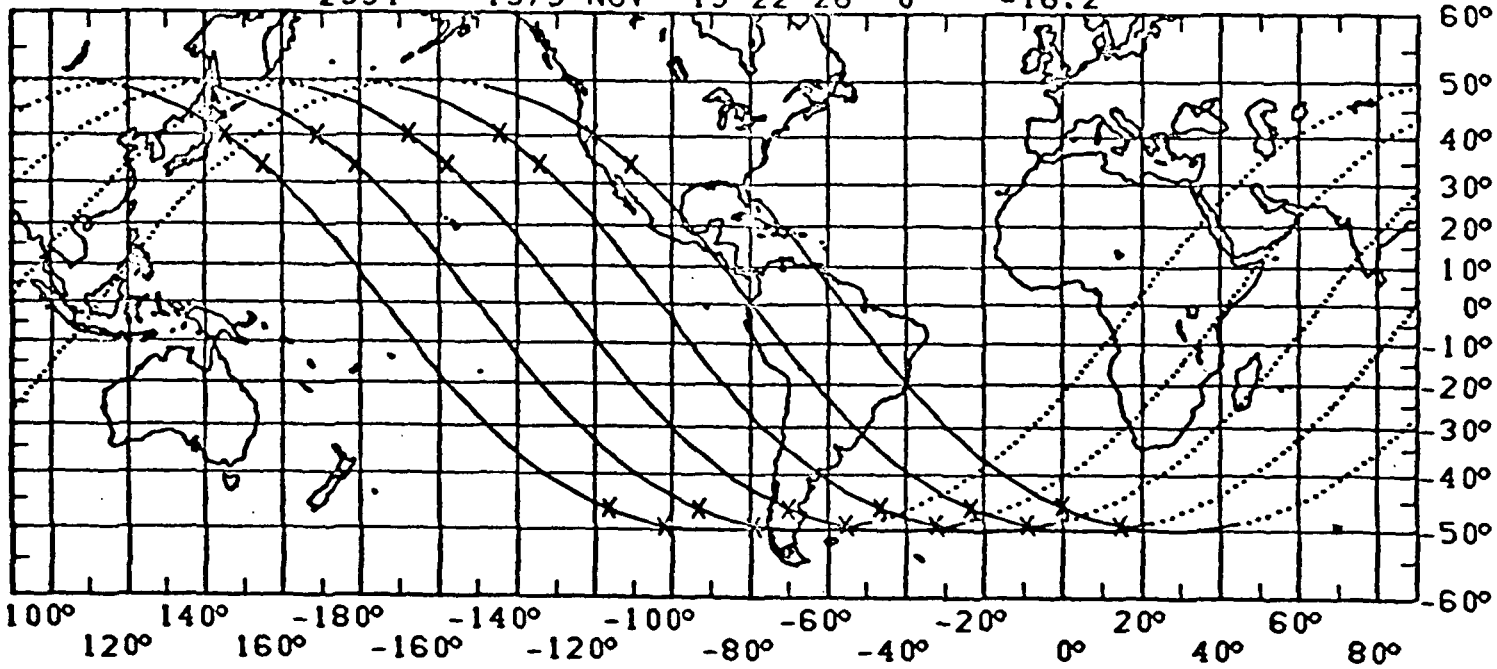
REV 2925-2930 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2925	1973	NOV	19	7	33 0	-19.0
2926	1973	NOV	19	9	12 0	-18.6
2927	1973	NOV	19	10	50 0	-18.3
2928	1973	NOV	19	12	27 0	-18.0
2929	1973	NOV	19	14	5 0	-17.7



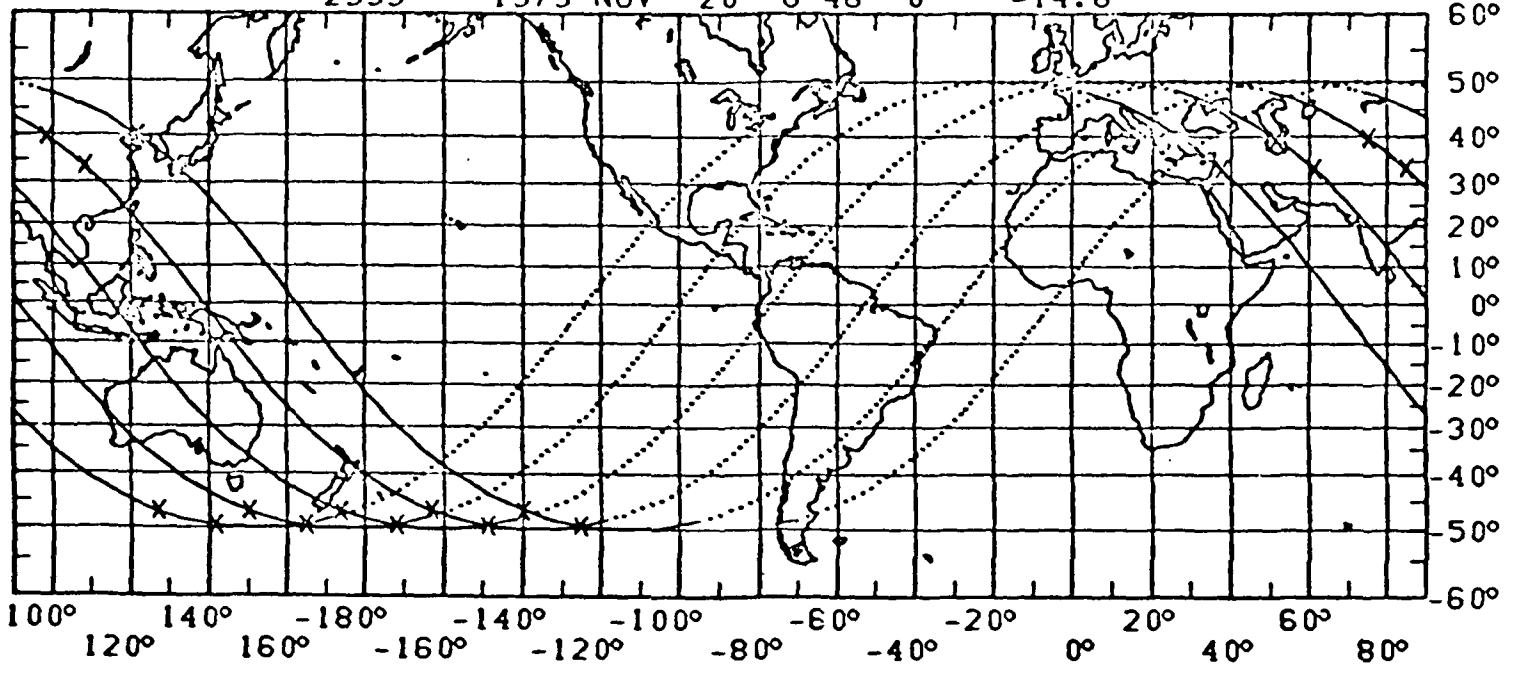
REV 2930-2935 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2930	1973 NOV 19 15 46 0	-17.4
2931	1973 NOV 19 17 27 0	-17.1
2932	1973 NOV 19 19 10 0	-16.8
2933	1973 NOV 19 20 50 0	-16.5
2934	1973 NOV 19 22 28 0	-16.2



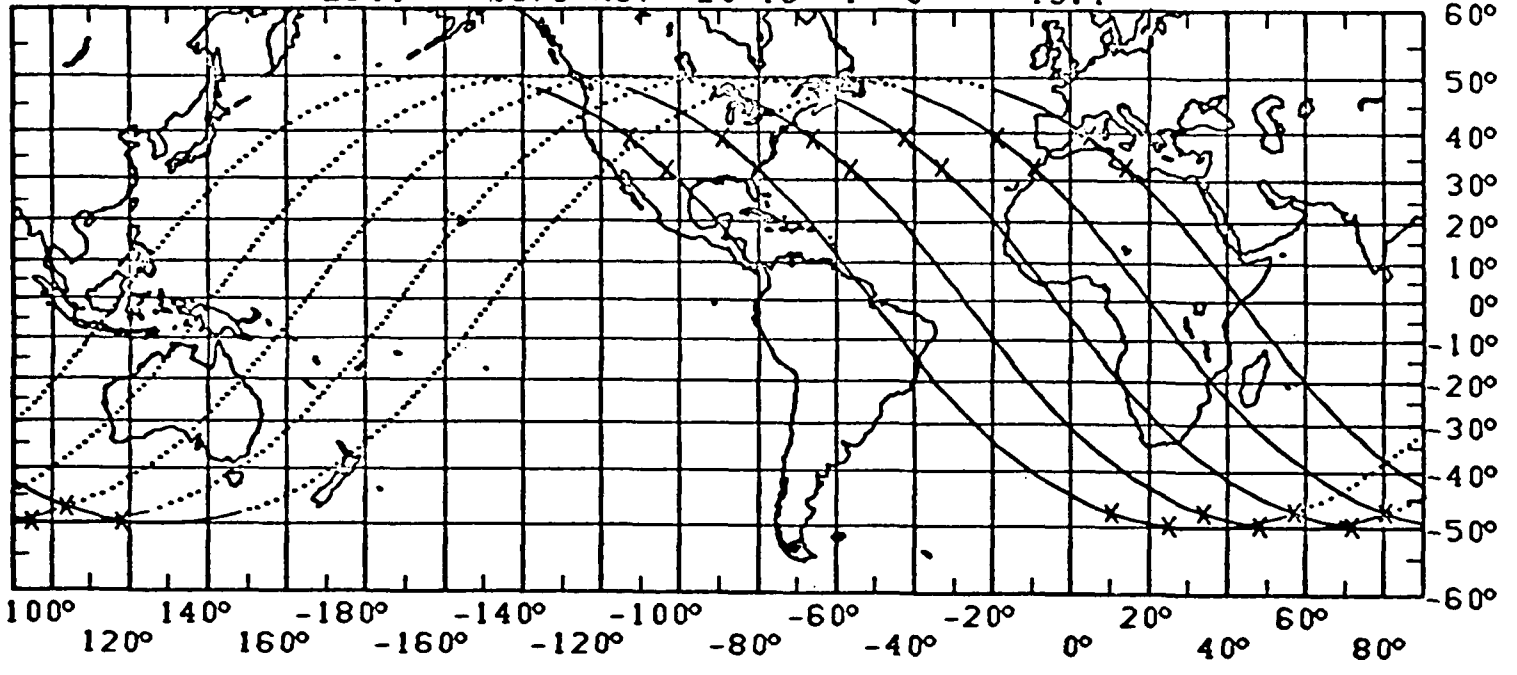
REV 2935-2940 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2935	1973 NOV 20 0 7 0	-15.8
2936	1973 NOV 20 1 43 0	-15.5
2937	1973 NOV 20 3 23 0	-15.2
2938	1973 NOV 20 5 5 0	-14.9
2939	1973 NOV 20 6 48 0	-14.6



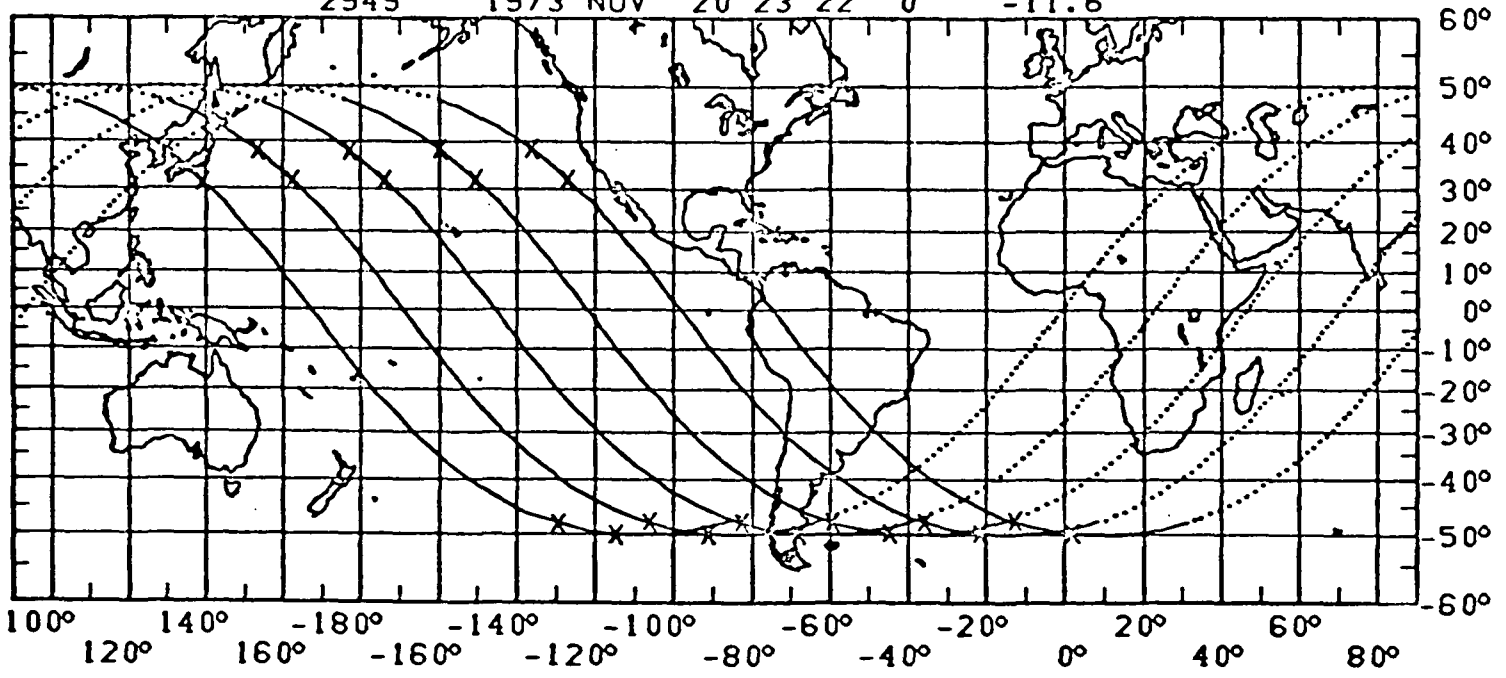
REV 2940-2945 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2940	1973 NOV 20 8 30 0	-14.3
2941	1973 NOV 20 10 7 0	-14.0
2942	1973 NOV 20 11 44 0	-13.7
2943	1973 NOV 20 13 22 0	-13.4
2944	1973 NOV 20 15 1 0	-13.1



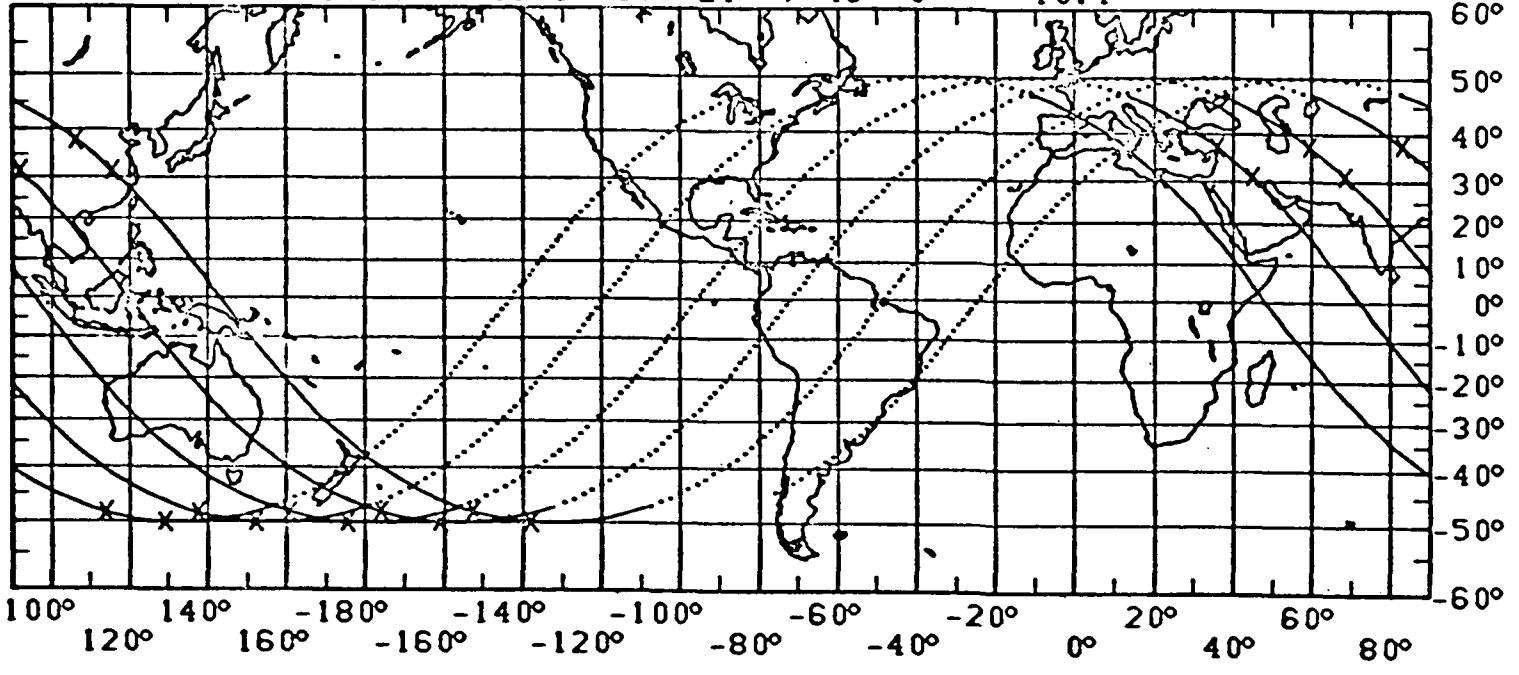
REV 2945-2950 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2945	1973	NOV	20	16	44	0	-12.8
2946	1973	NOV	20	18	26	0	-12.5
2947	1973	NOV	20	20	7	0	-12.2
2948	1973	NOV	20	21	45	0	-11.9
2949	1973	NOV	20	23	22	0	-11.6



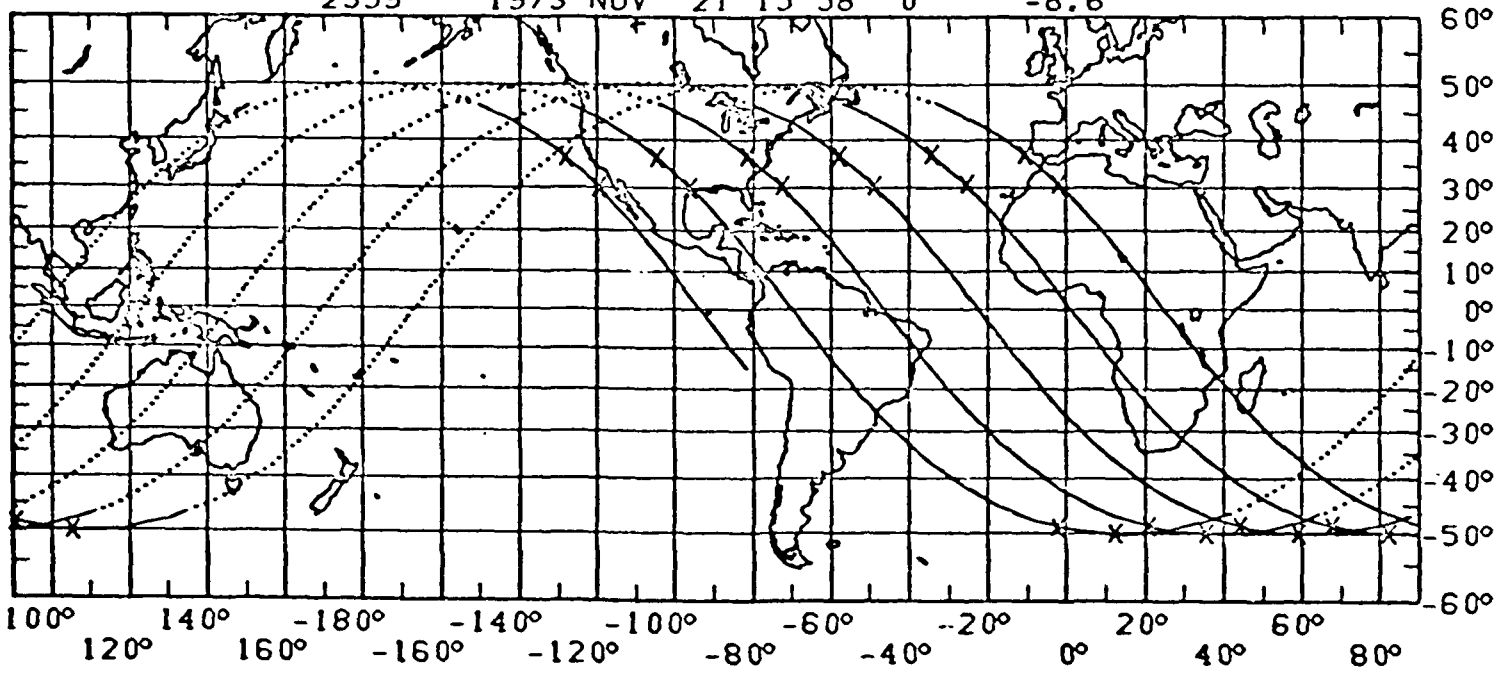
REV 2950-2955 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2950	1973 NOV	21	1	1	0	-11.3
2951	1973 NOV	21	2	39	0	-11.0
2952	1973 NOV	21	4	21	0	-10.7
2953	1973 NOV	21	6	4	0	-10.4
2954	1973 NOV	21	7	45	0	-10.1



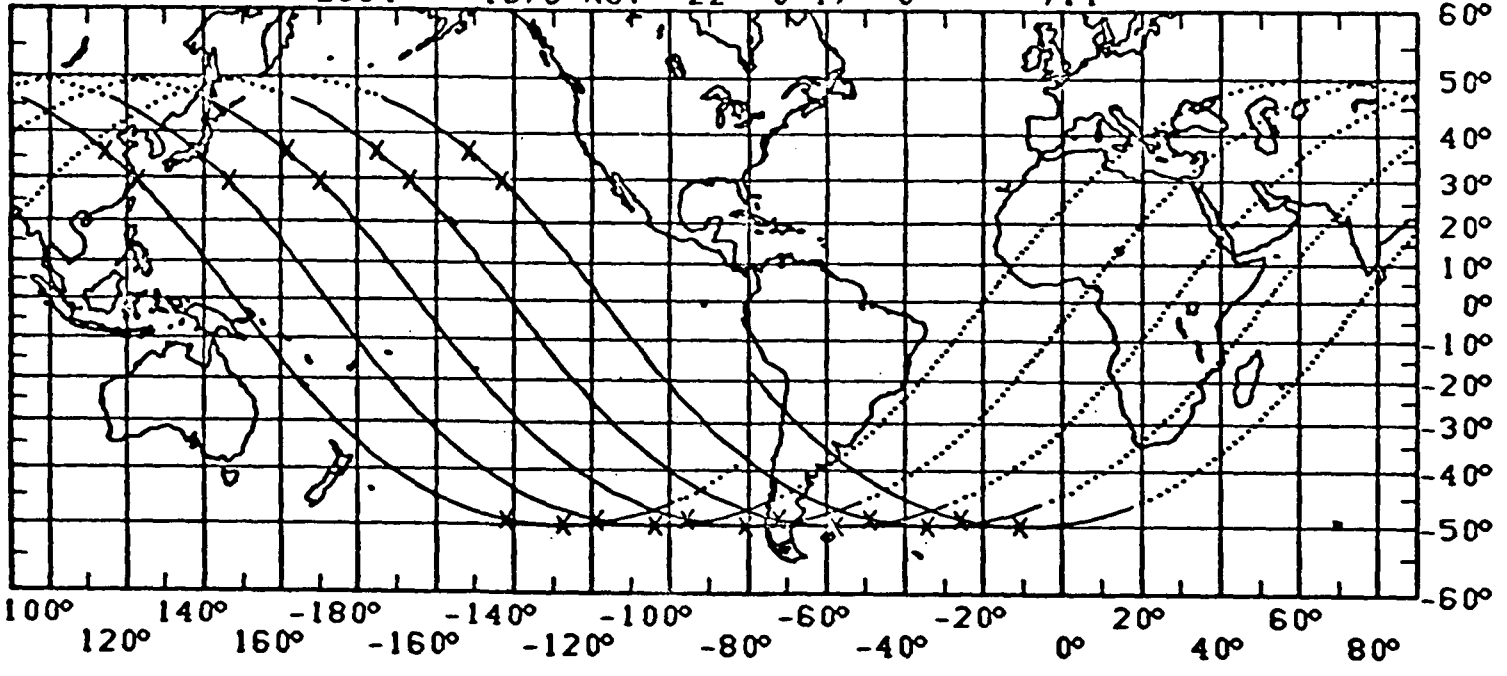
REV 2955-2960 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2955	1973 NOV 21 9 24 0	-9.8
2956	1973 NOV 21 11 1 0	-9.5
2957	1973 NOV 21 12 38 0	-9.2
2958	1973 NOV 21 14 17 0	-8.9
2959	1973 NOV 21 15 58 0	-8.6



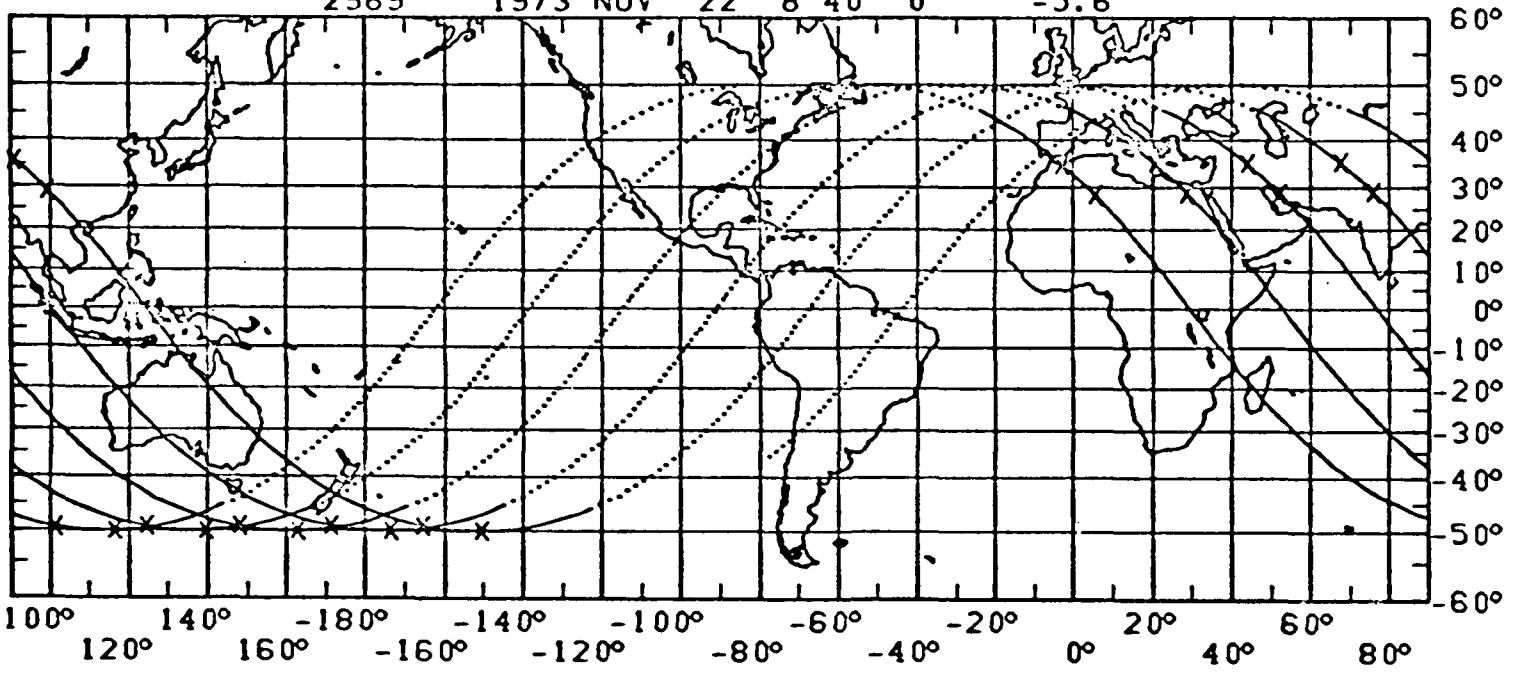
REV 2960-2965 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2960	1973	NOV	21	17	43	-8.3
2961	1973	NOV	21	19	23	-8.0
2962	1973	NOV	21	21	2	-7.7
2963	1973	NOV	21	22	39	-7.4
2964	1973	NOV	22	0	17	-7.1



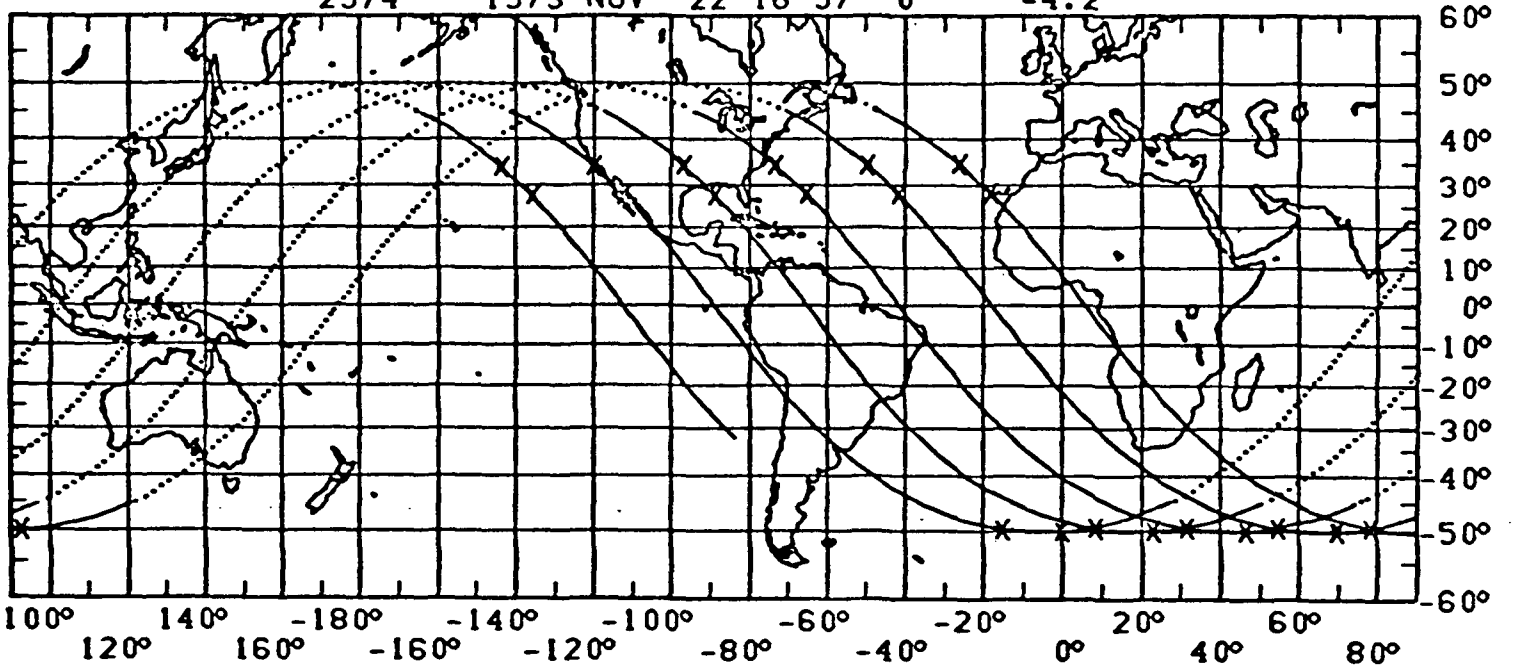
REV 2965-2970 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2965	1973	NOV	22	1	56 0	-6.8
2966	1973	NOV	22	3	36 0	-6.5
2967	1973	NOV	22	5	20 0	-6.2
2968	1973	NOV	22	7	1 0	-5.9
2969	1973	NOV	22	8	40 0	-5.6



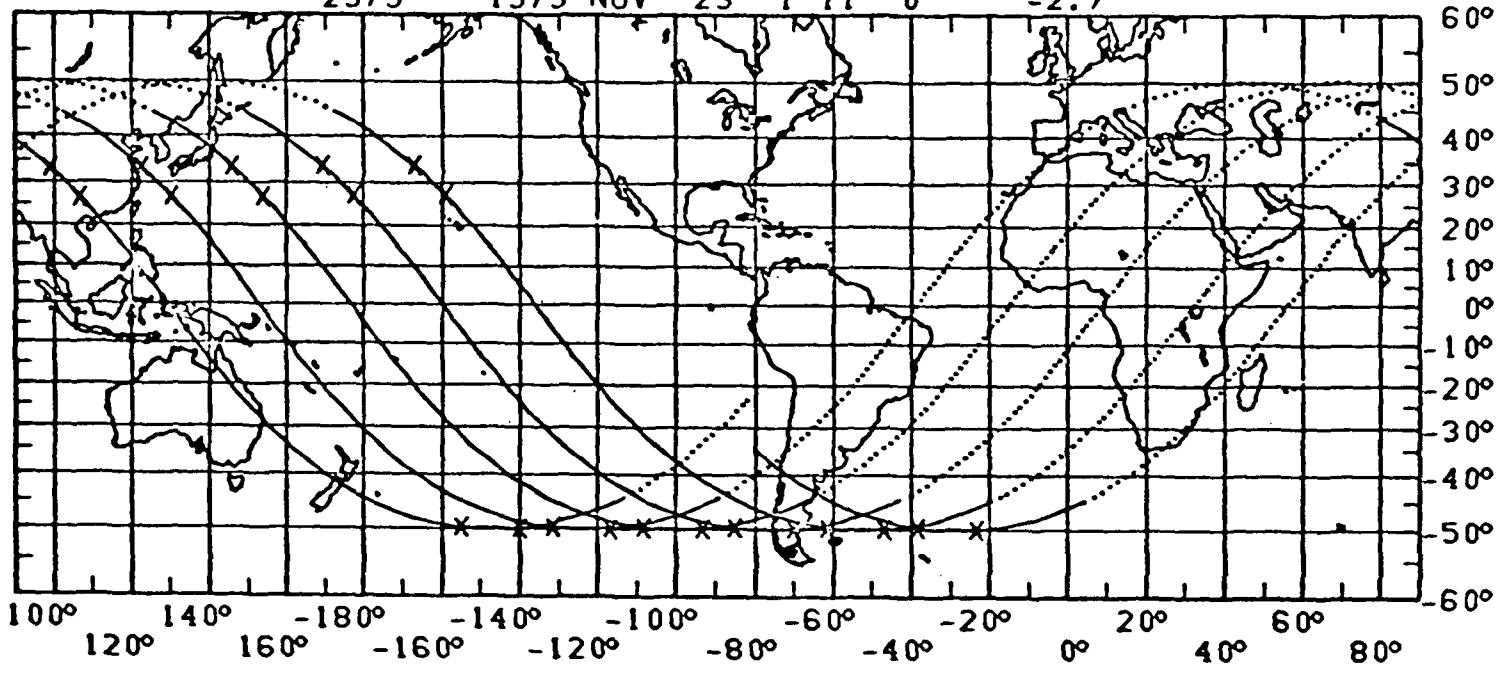
REV 2970-2975 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
2970	1973 NOV 22 10 18 0	-5.3
2971	1973 NOV 22 11 55 0	-5.0
2972	1973 NOV 22 13 33 0	-4.7
2973	1973 NOV 22 15 14 0	-4.4
2974	1973 NOV 22 16 57 0	-4.2



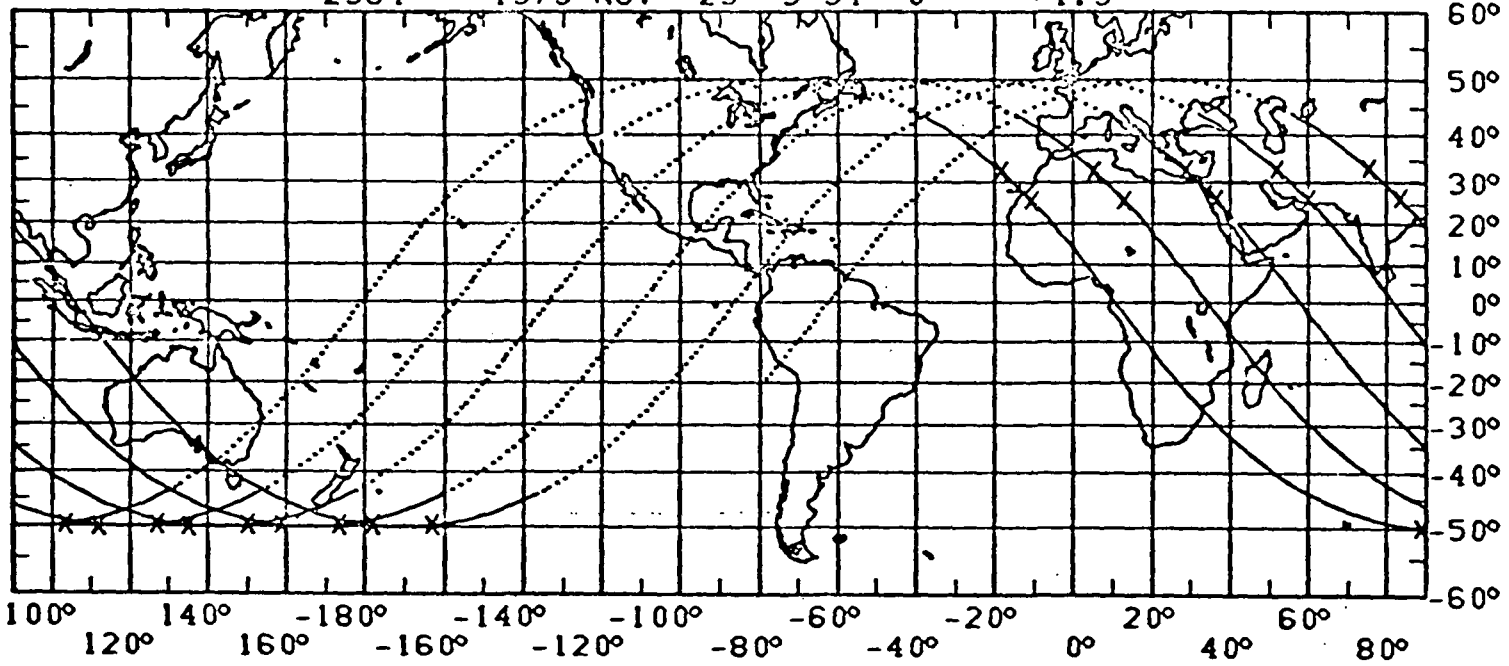
REV 2975-2980 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2975	1973	NOV	22	18	40	0	-3.9
2976	1973	NOV	22	20	18	0	-3.6
2977	1973	NOV	22	21	56	0	-3.3
2978	1973	NOV	22	23	33	0	-3.0
2979	1973	NOV	23	1	11	0	-2.7



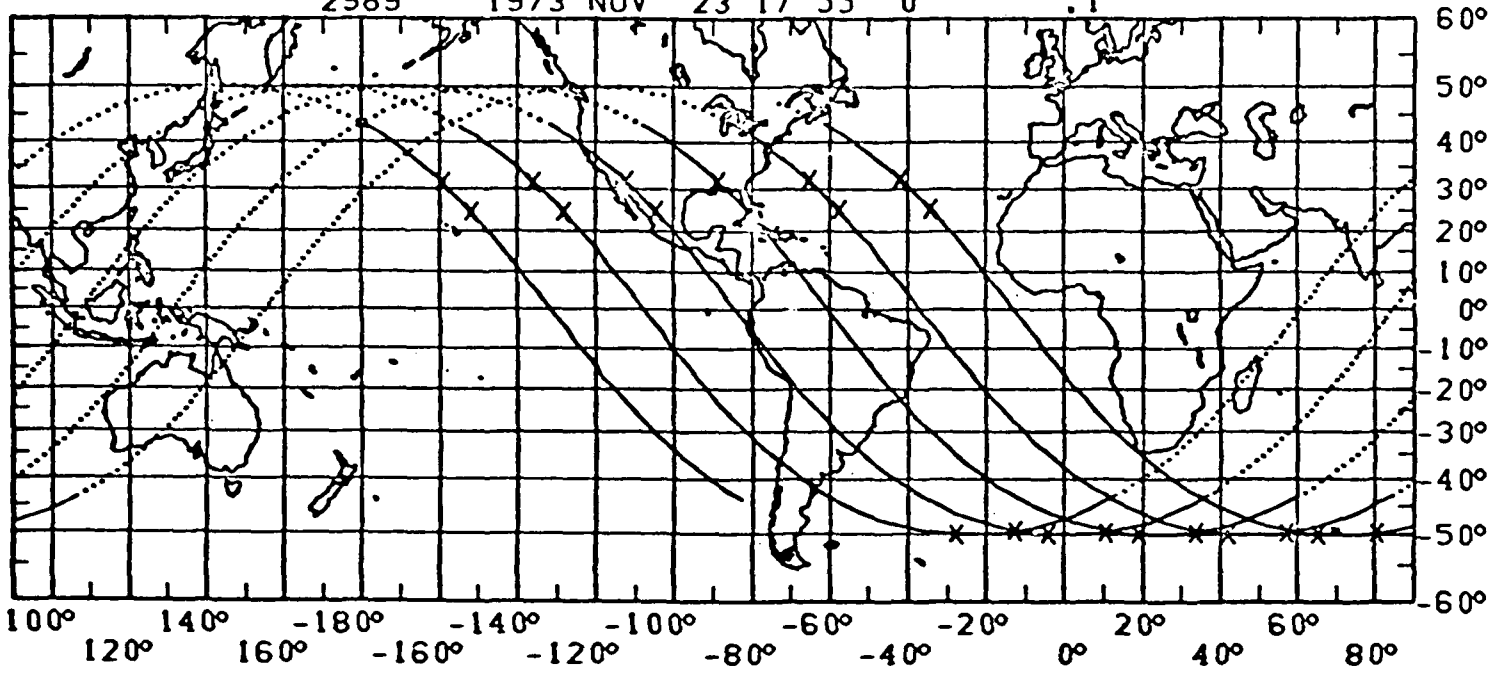
REV 2980-2985 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

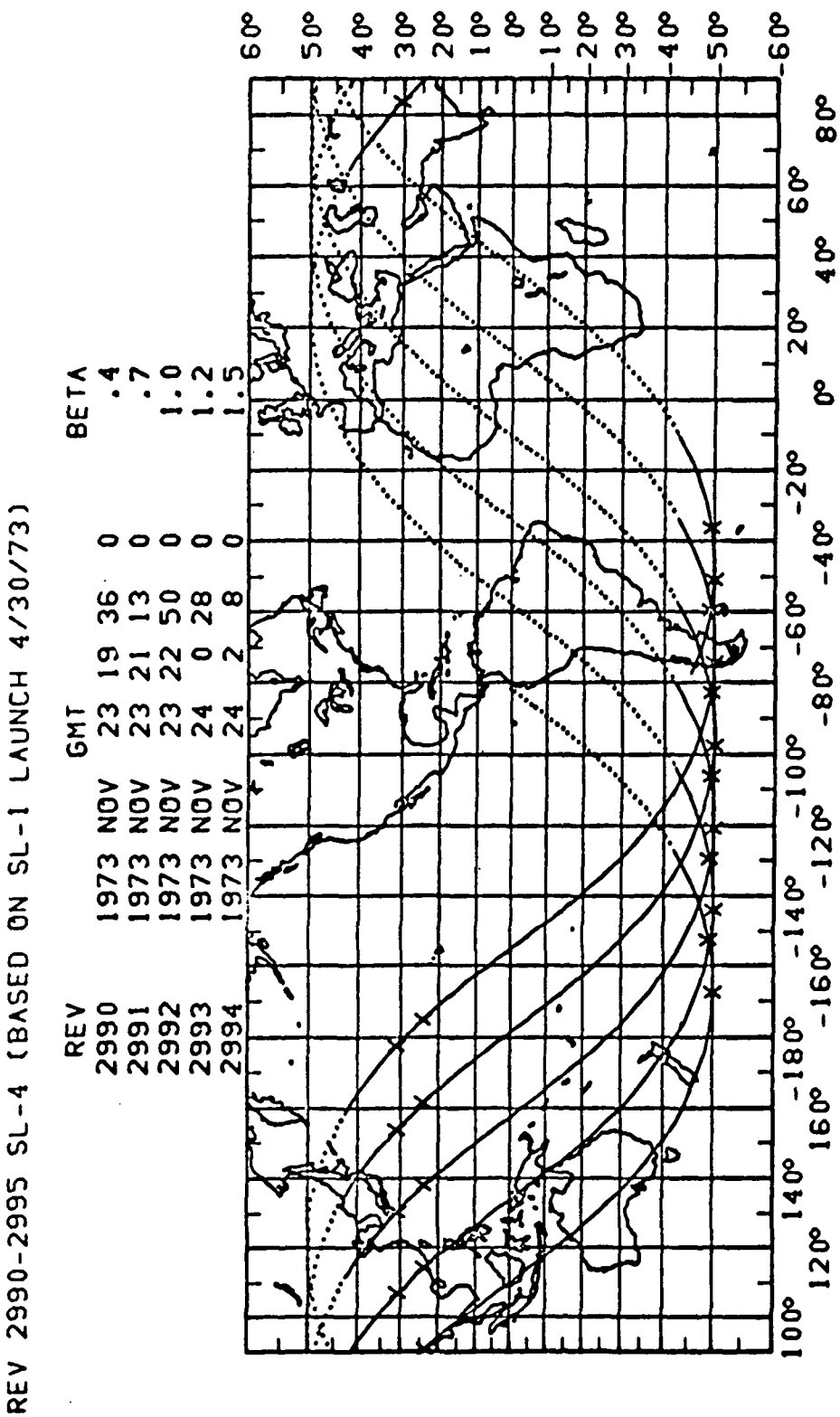
REV	GMT	BETA
2980	1973 NOV 23 2 53 0	-2.4
2981	1973 NOV 23 4 35 0	-2.1
2982	1973 NOV 23 6 17 0	-1.9
2983	1973 NOV 23 7 57 0	-1.6
2984	1973 NOV 23 9 34 0	-1.3



REV 2985-2990 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

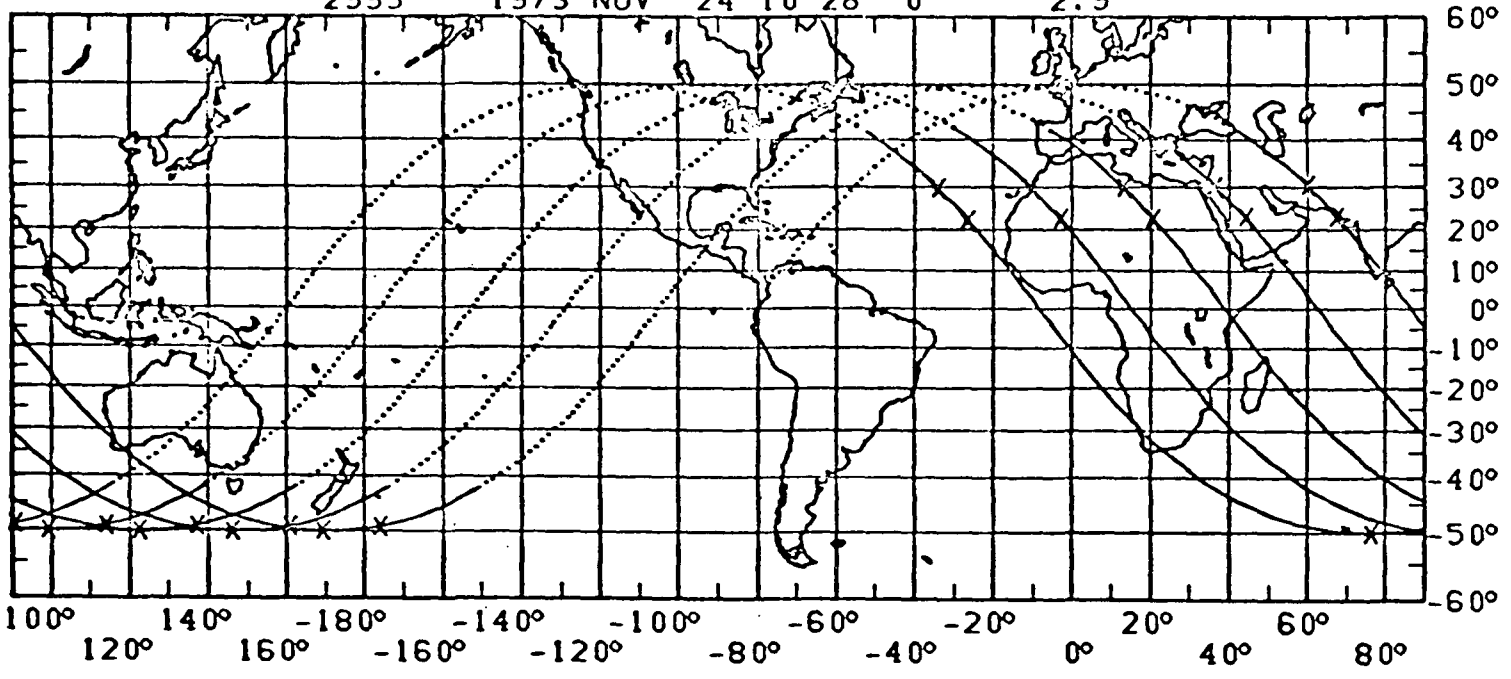
REV	GMT	BETA
2985	1973 NOV 23 11 13 0	-1.0
2986	1973 NOV 23 12 50 0	-.7
2987	1973 NOV 23 14 30 0	-.4
2988	1973 NOV 23 16 13 0	-.1
2989	1973 NOV 23 17 55 0	.1




REV 2990-2995 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV
GMT
BETA
2990 1973 NOV 23 19 36 0 .4
2991 1973 NOV 23 21 13 0 .7
2992 1973 NOV 23 22 50 0 1.0
2993 1973 NOV 24 0 28 0 1.2
2994 1973 NOV 24 2 8 0 1.5
60°
50°
40°
30°
20°
10°
0°
10°
20°
30°
40°
50°
60°
80°
60°
40°
20°
0°
-20°
-40°
-60°
-80°
-100°
-120°
-140°
-160°
-180°
100°
120°
140°
160°

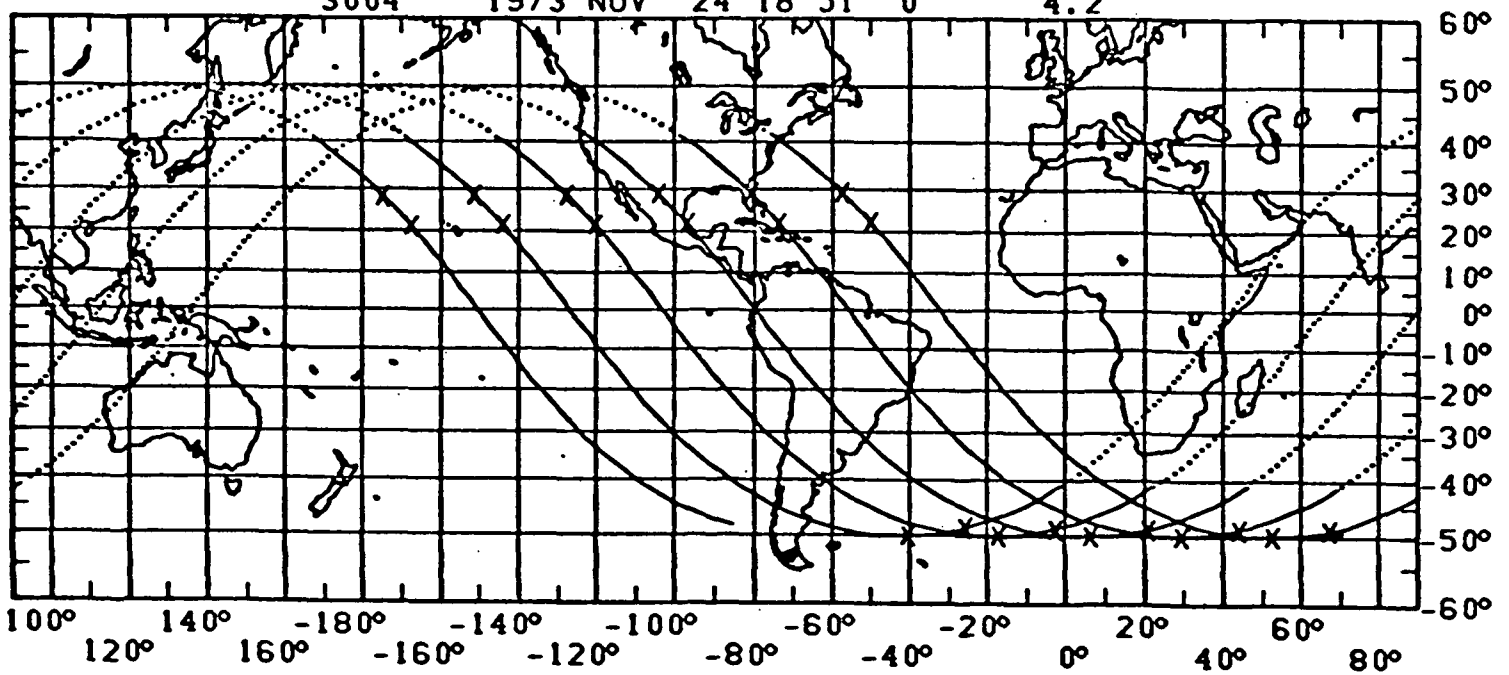
REV 2995-3000 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
2995	1973	NOV	24	3	52 0	1.8
2996	1973	NOV	24	5	34 0	2.1
2997	1973	NOV	24	7	13 0	2.3
2998	1973	NOV	24	8	51 0	2.6
2999	1973	NOV	24	10	28 0	2.9



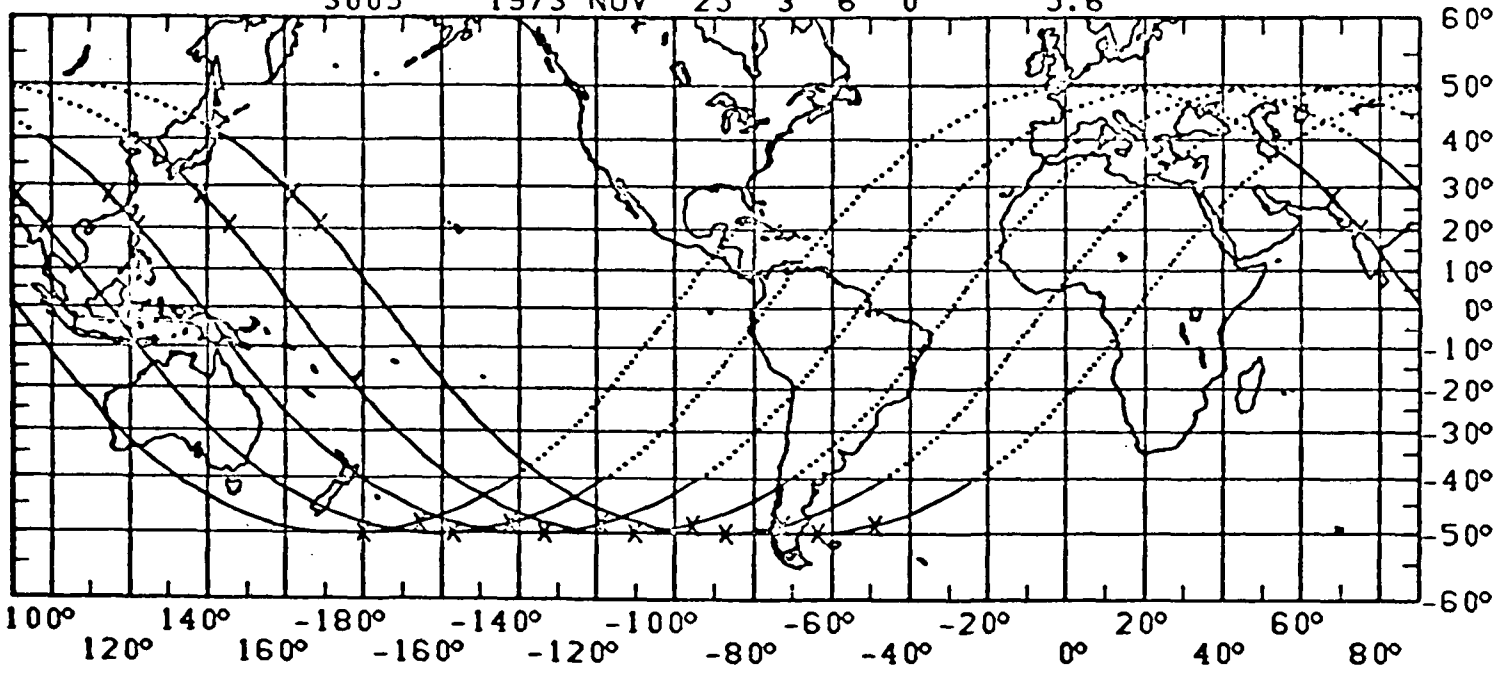
REV 3000-3005 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3000	1973 NOV 24 12 7 0	3.2
3001	1973 NOV 24 13 46 0	3.4
3002	1973 NOV 24 15 28 0	3.7
3003	1973 NOV 24 17 11 0	4.0
3004	1973 NOV 24 18 51 0	4.2



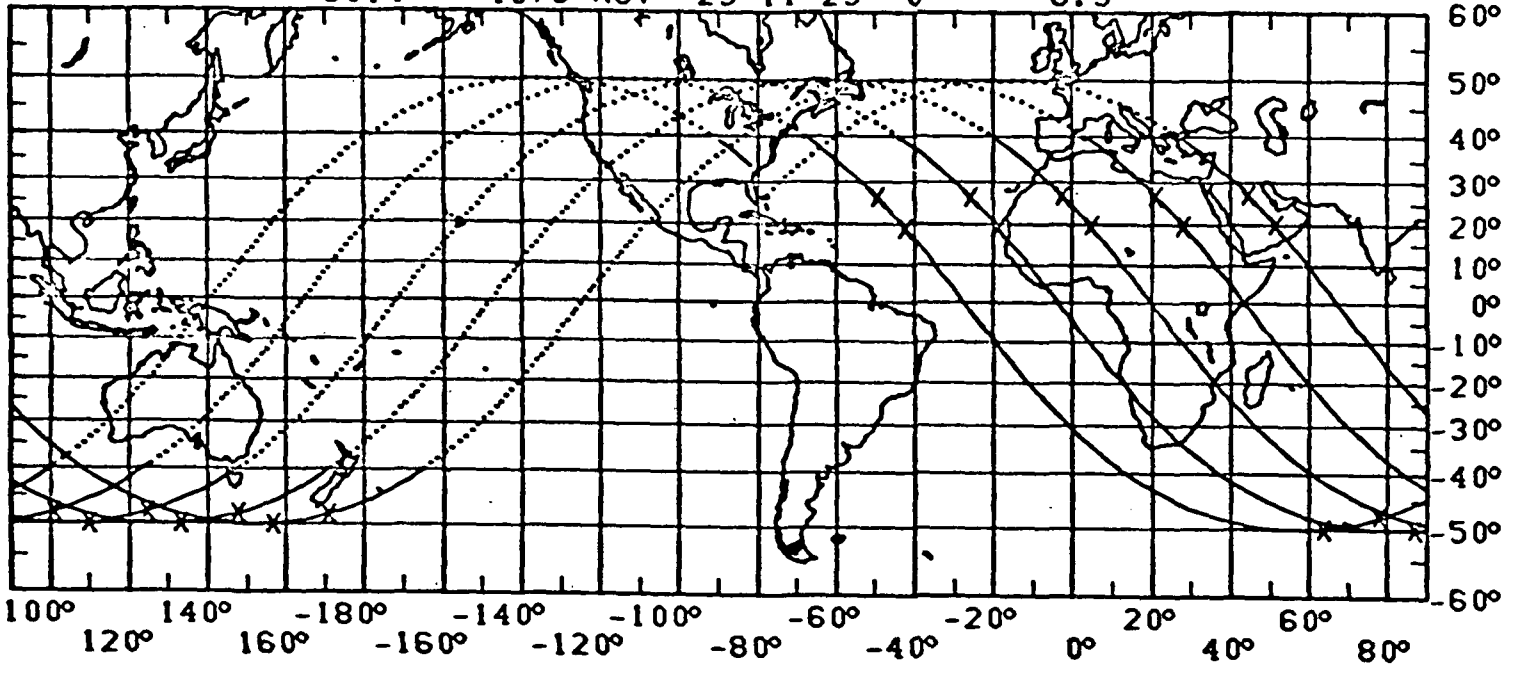
REV 3005-3010 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3005	1973	NOV	24	20	30 0	4.5
3006	1973	NOV	24	22	7 0	4.8
3007	1973	NOV	24	23	44 0	5.0
3008	1973	NOV	25	1	24 0	5.3
3009	1973	NOV	25	3	6 0	5.6



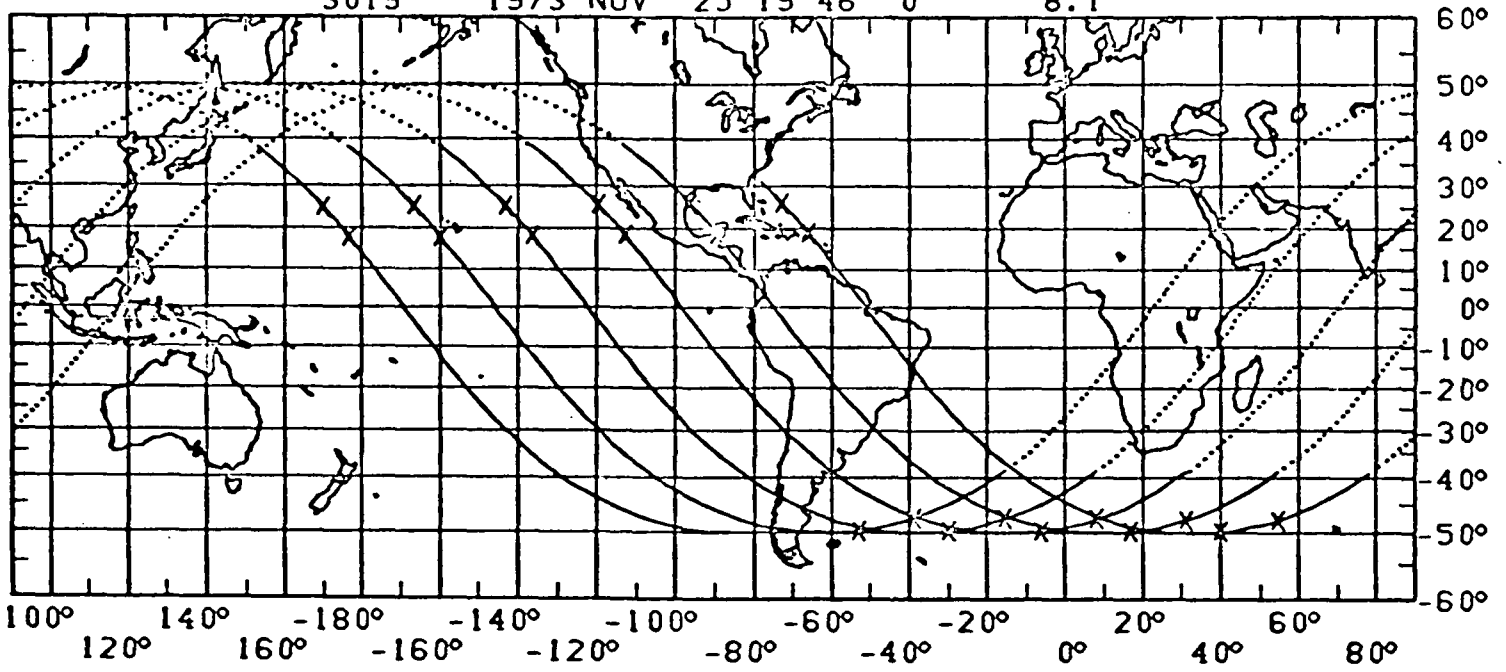
REV 3010-3015 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3010	1973 NOV 25 4 50 0	5.8
3011	1973 NOV 25 6 30 0	6.1
3012	1973 NOV 25 8 8 0	6.3
3013	1973 NOV 25 9 45 0	6.6
3014	1973 NOV 25 11 23 0	6.9



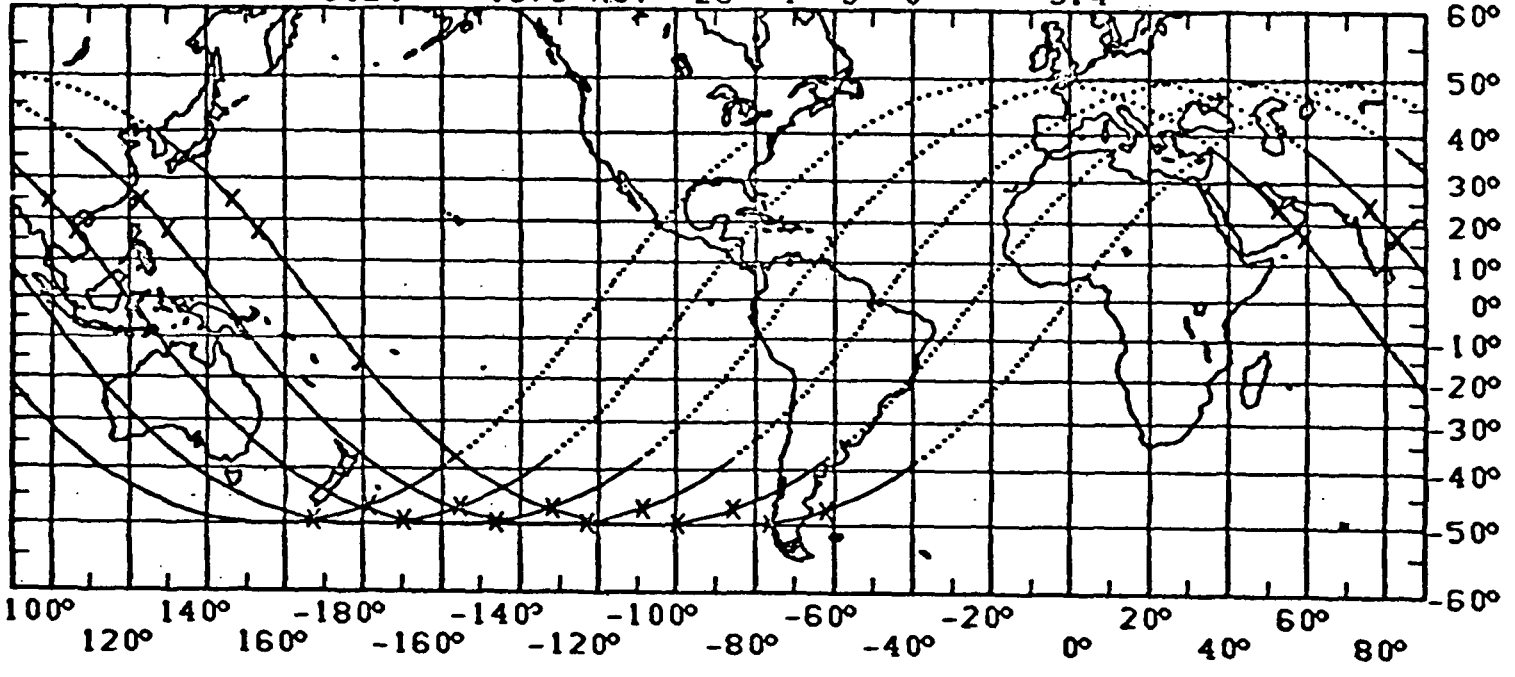
REV 3015-3020 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3015	1973 NOV 25 13 3 0	7.1
3016	1973 NOV 25 14 44 0	7.4
3017	1973 NOV 25 16 27 0	7.6
3018	1973 NOV 25 18 8 0	7.9
3019	1973 NOV 25 19 46 0	8.1



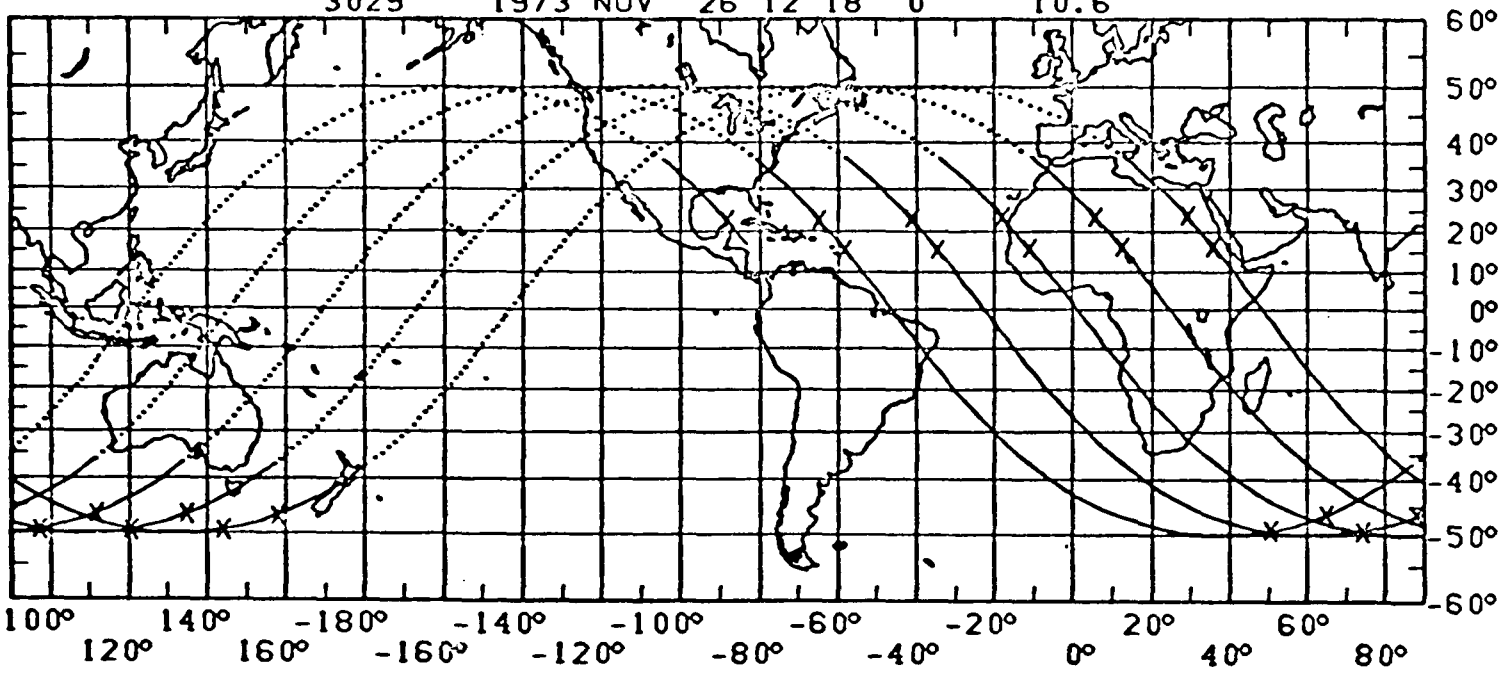
REV 3020-3025 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3020	1973	NOV	25	21	24	8.4
3021	1973	NOV	25	23	1	8.7
3022	1973	NOV	26	0	40	8.9
3023	1973	NOV	26	2	22	9.2
3024	1973	NOV	26	4	5	9.4



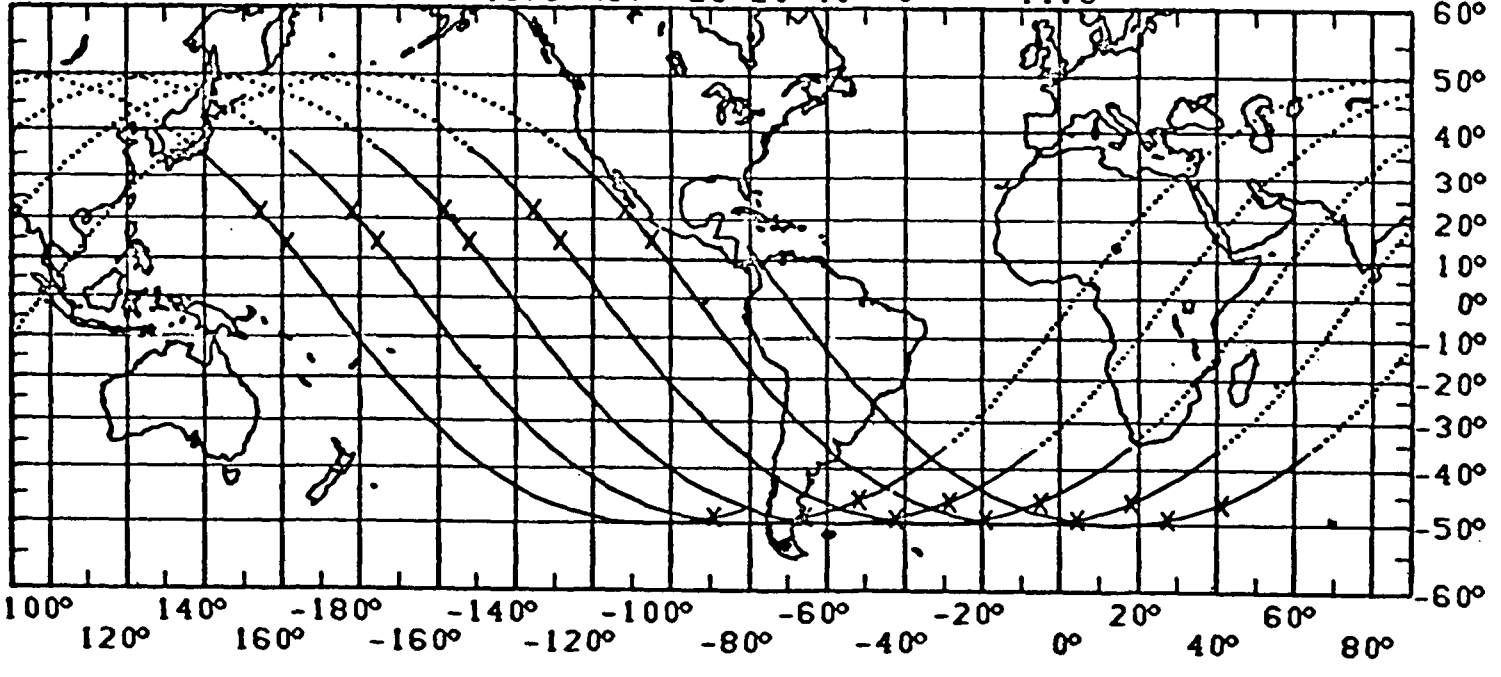
REV 3025-3030 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3025	1973 NOV 26 5 47 0	9.7
3026	1973 NOV 26 7 24 0	9.9
3027	1973 NOV 26 9 2 0	10.1
3028	1973 NOV 26 10 39 0	10.4
3029	1973 NOV 26 12 18 0	10.6



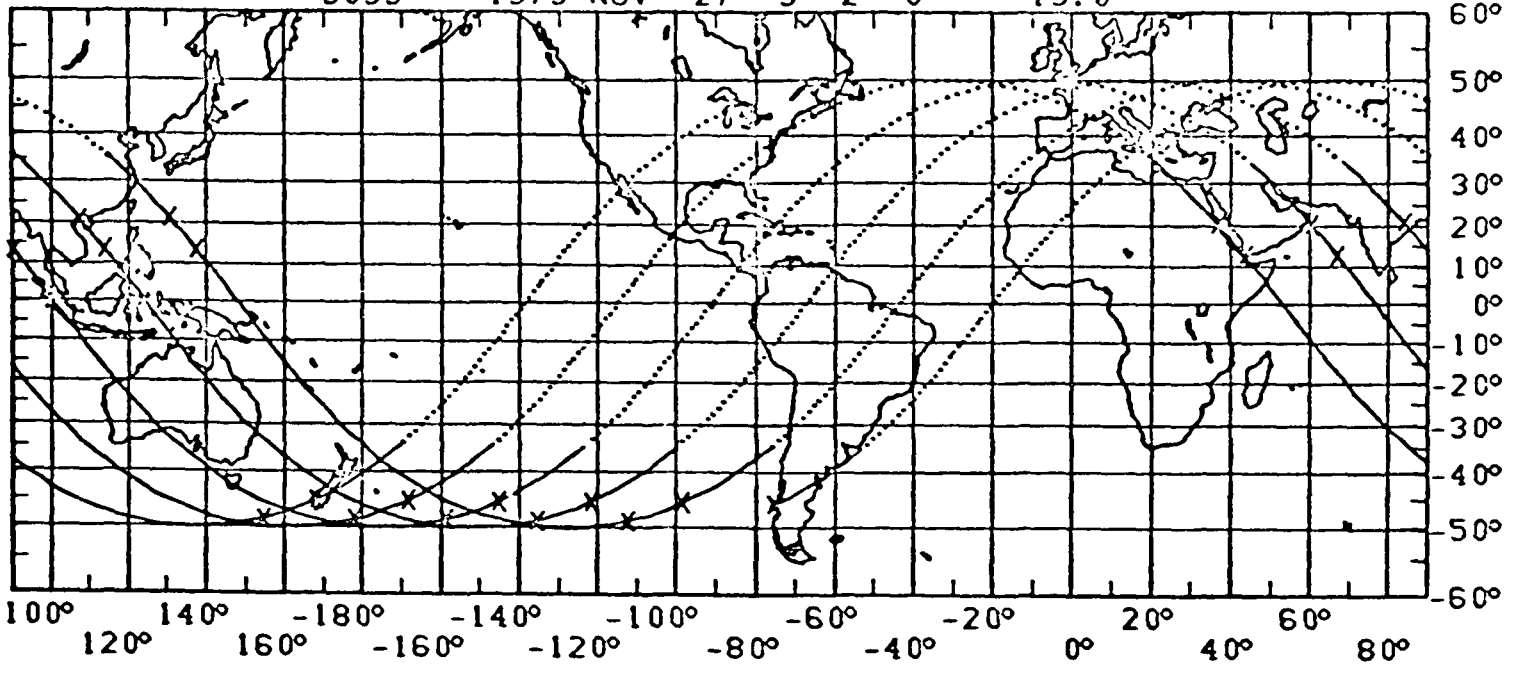
REV 3030-3035 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3030	1973 NOV 26 14 0 0	10.9
3031	1973 NOV 26 15 43 0	11.1
3032	1973 NOV 26 17 24 0	11.4
3033	1973 NOV 26 19 3 0	11.6
3034	1973 NOV 26 20 40 0	11.8



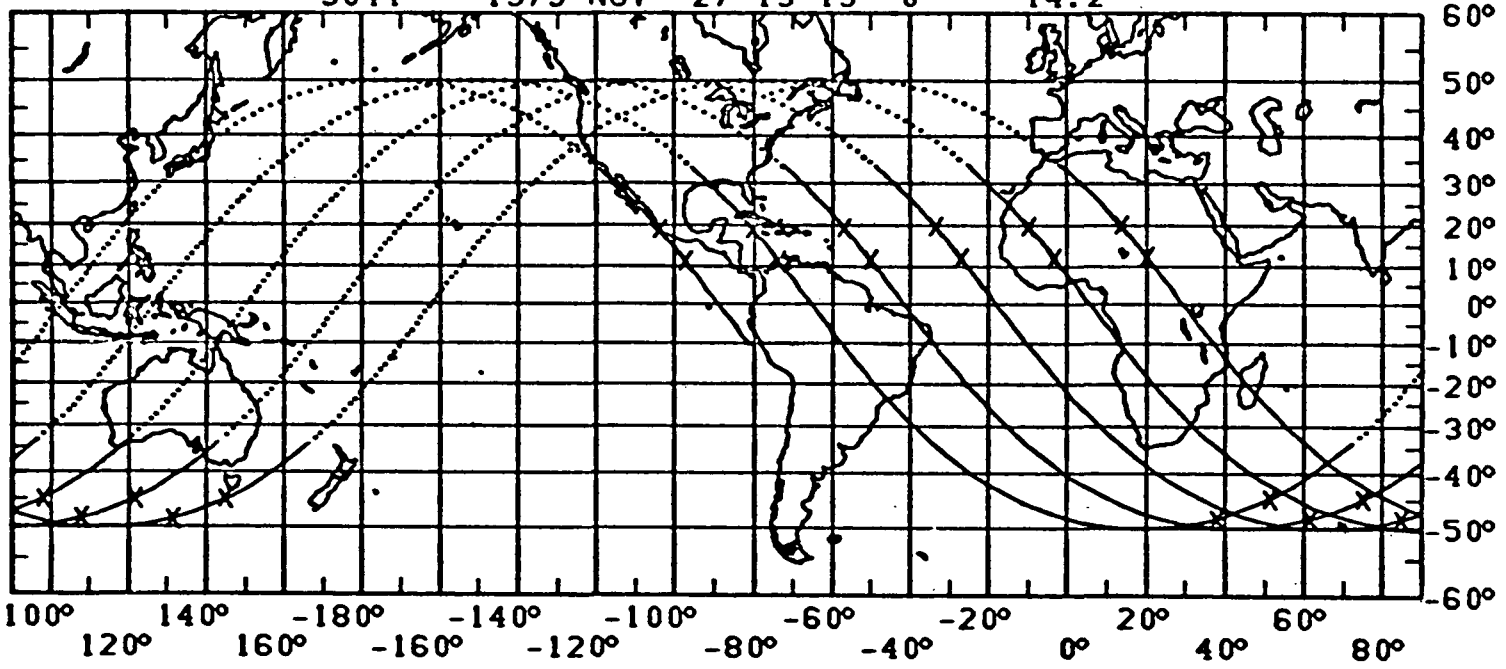
REV 3035-3040 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3035	1973	NOV	26	22	19	12.1
3036	1973	NOV	26	23	56	12.3
3037	1973	NOV	27	1	37	12.6
3038	1973	NOV	27	3	21	12.8
3039	1973	NOV	27	5	2	13.0



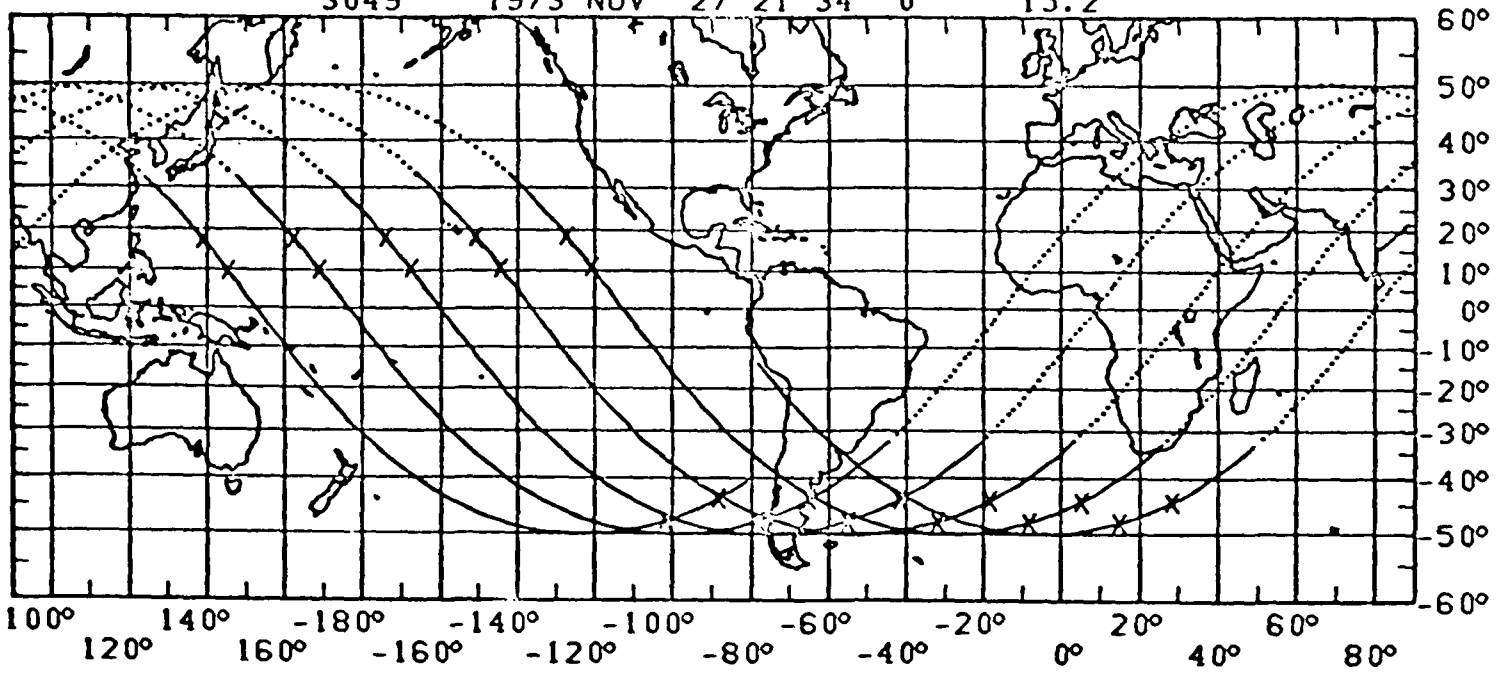
REV 3040-3045 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3040	1973	NOV	27	6	42 0	13.2
3041	1973	NOV	27	8	19 0	13.5
3042	1973	NOV	27	9	56 0	13.7
3043	1973	NOV	27	11	34 0	13.9
3044	1973	NOV	27	13	15 0	14.2



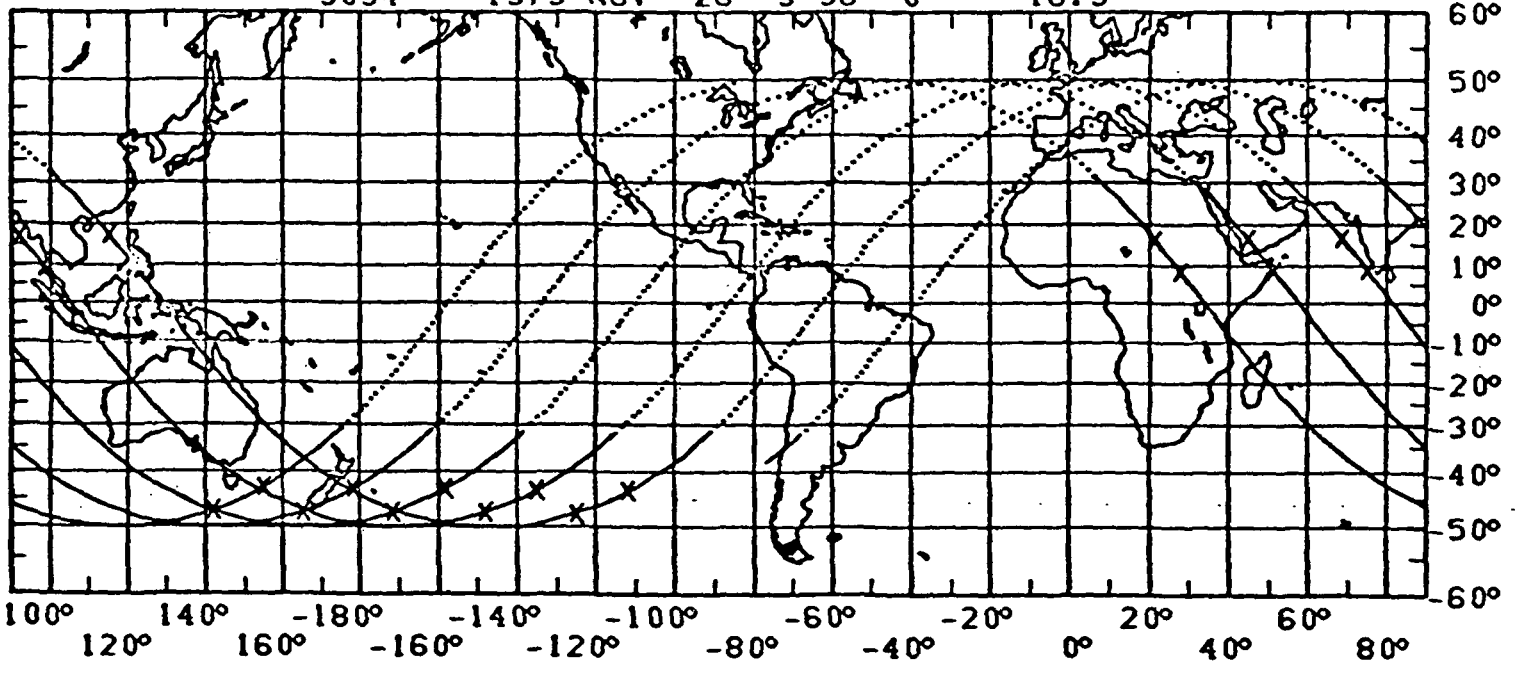
REV 3045-3050 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3045	1973 NOV 27 15 0 0	14.4
3046	1973 NOV 27 16 40 0	14.6
3047	1973 NOV 27 18 19 0	14.8
3048	1973 NOV 27 19 57 0	15.0
3049	1973 NOV 27 21 34 0	15.2



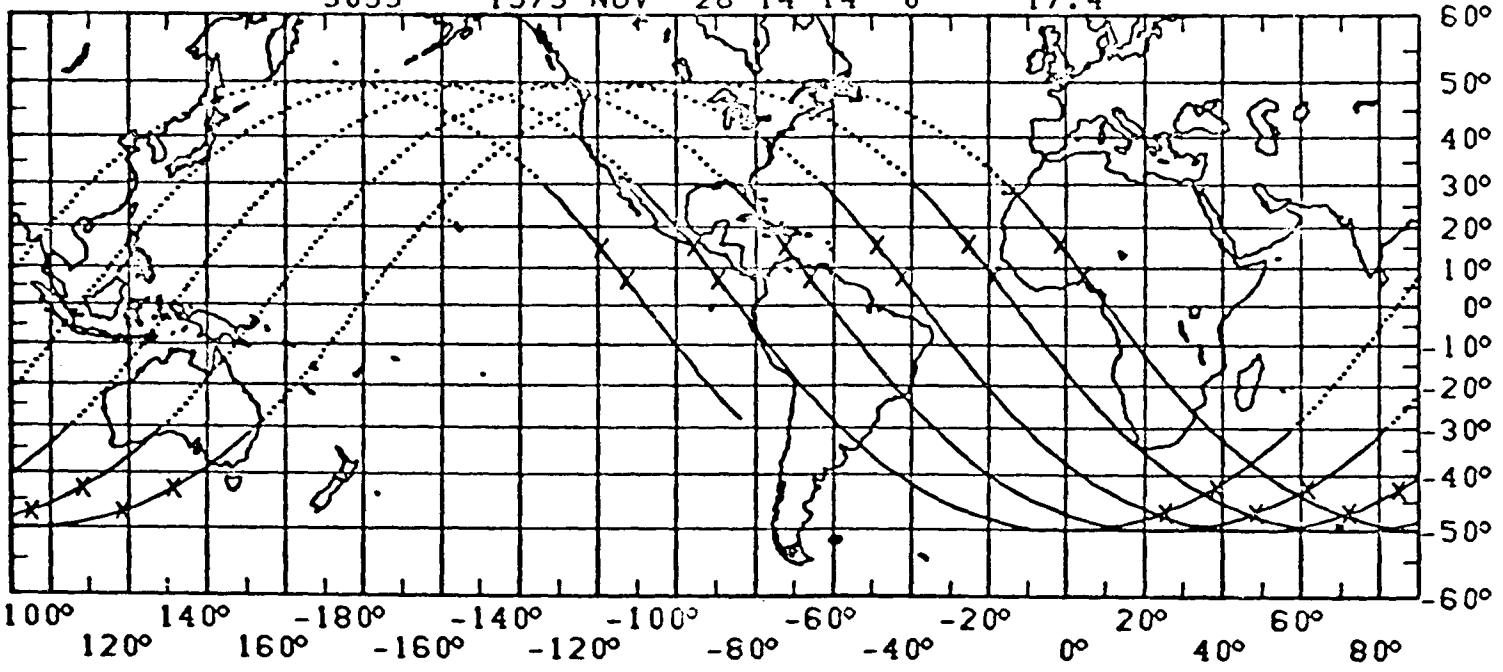
REV 3050-3055 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3050	1973 NOV 27 23 14 0	15.5
3051	1973 NOV 28 0 53 0	15.7
3052	1973 NOV 28 2 36 0	15.9
3053	1973 NOV 28 4 19 0	16.1
3054	1973 NOV 28 5 58 0	16.3



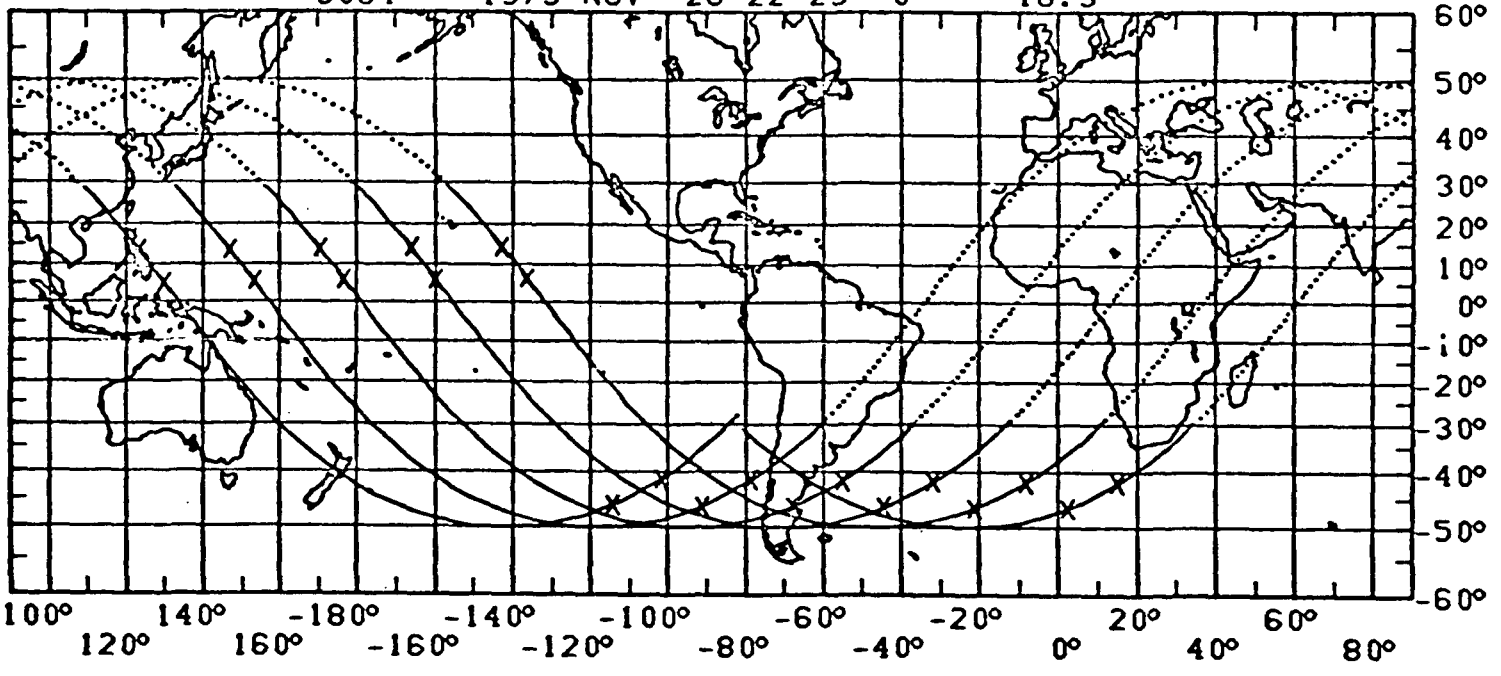
REV 3055-3060-SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3055	1973 NOV 28 7 36 0	16.5
3056	1973 NOV 28 9 13 0	16.7
3057	1973 NOV 28 10 51 0	16.9
3058	1973 NOV 28 12 31 0	17.2
3059	1973 NOV 28 14 14 0	17.4



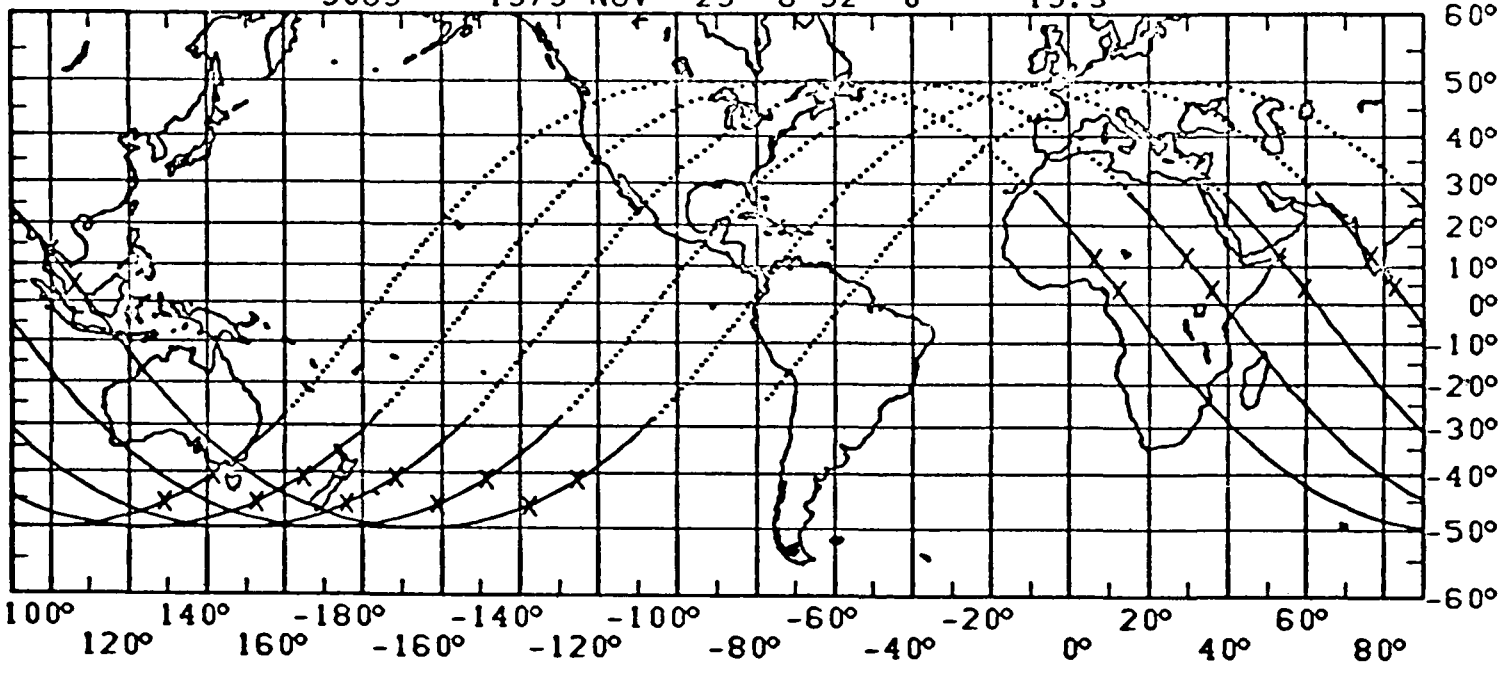
REV 3060-3065 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3060	1973 NOV 28 15 57 0	17.5
3061	1973 NOV 28 17 36 0	17.7
3062	1973 NOV 28 19 14 0	17.9
3063	1973 NOV 28 20 51 0	18.1
3064	1973 NOV 28 22 29 0	18.3



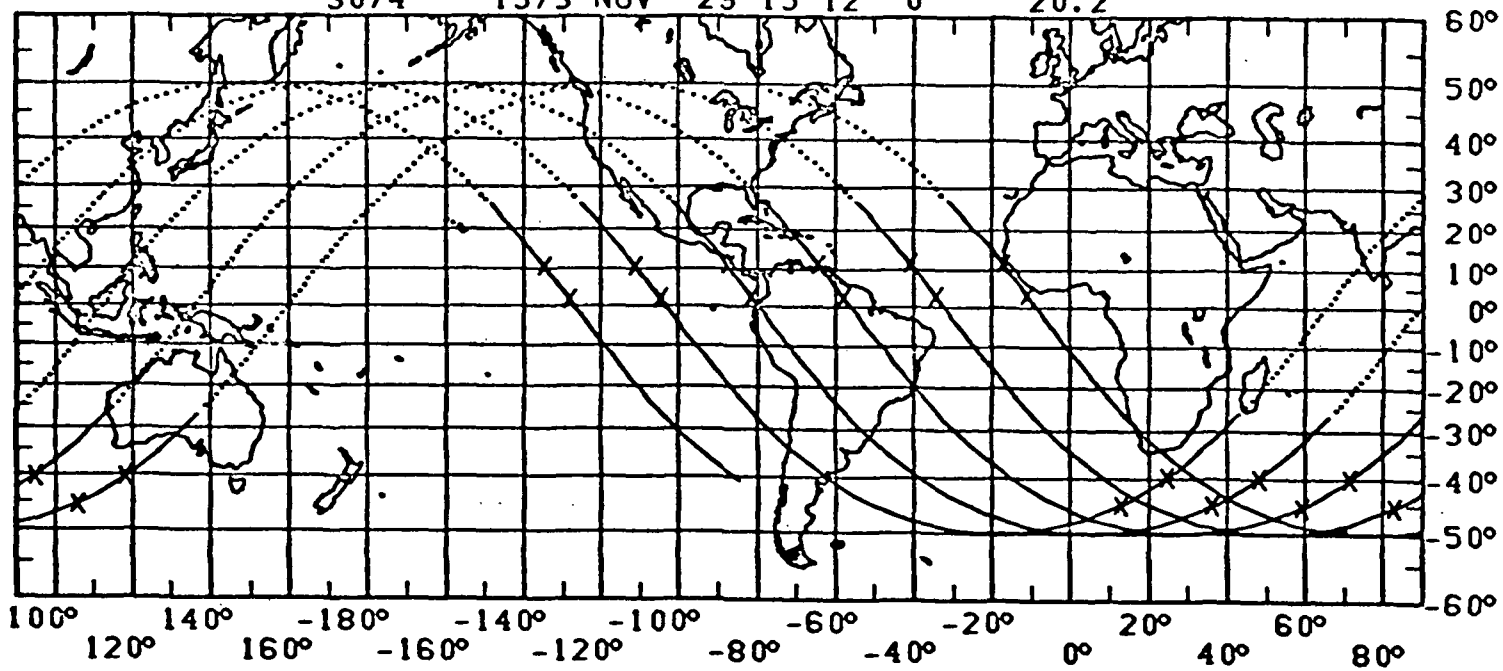
REV 3065-6070 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3065	1973 NOV 29 0 10 0	18.5
3066	1973 NOV 29 1 52 0	18.7
3067	1973 NOV 29 3 35 0	18.9
3068	1973 NOV 29 5 14 0	19.1
3069	1973 NOV 29 6 52 0	19.3



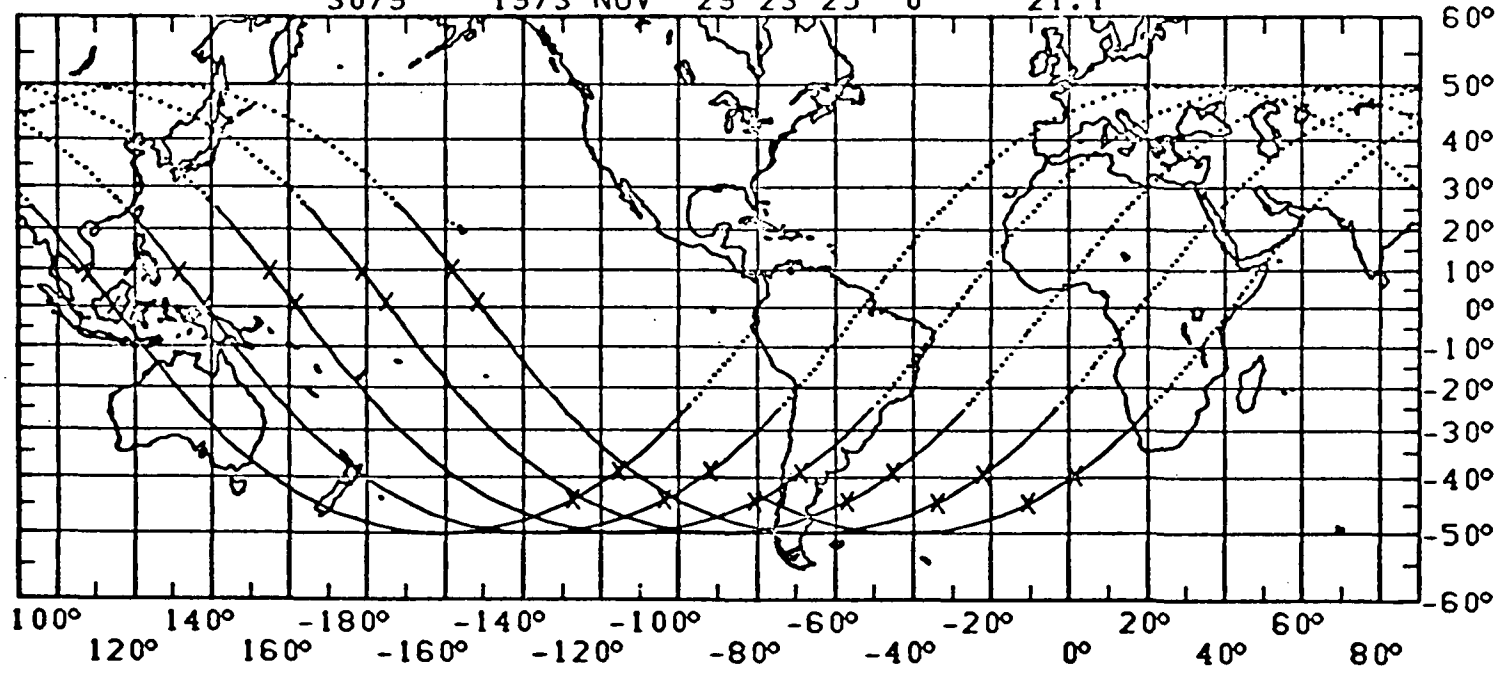
REV 3070-3075 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3070	1973 NOV 29 8 30 0	19.5
3071	1973 NOV 29 10 7 0	19.7
3072	1973 NOV 29 11 47 0	19.8
3073	1973 NOV 29 13 29 0	20.0
3074	1973 NOV 29 15 12 0	20.2



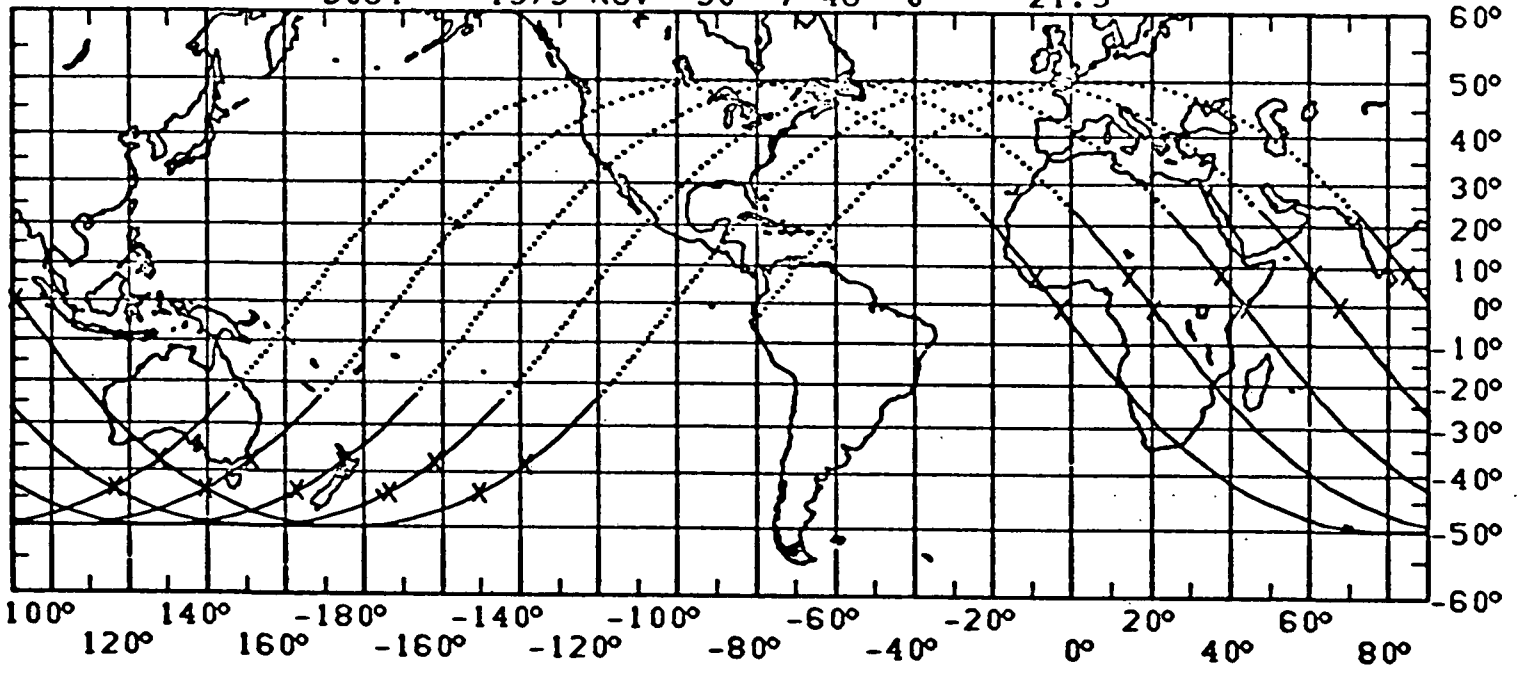
REV 3075-3080 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3075	1973 NOV 29 16 53 0	20.4
3076	1973 NOV 29 18 30 0	20.5
3077	1973 NOV 29 20 8 0	20.7
3078	1973 NOV 29 21 45 0	20.9
3079	1973 NOV 29 23 25 0	21.1



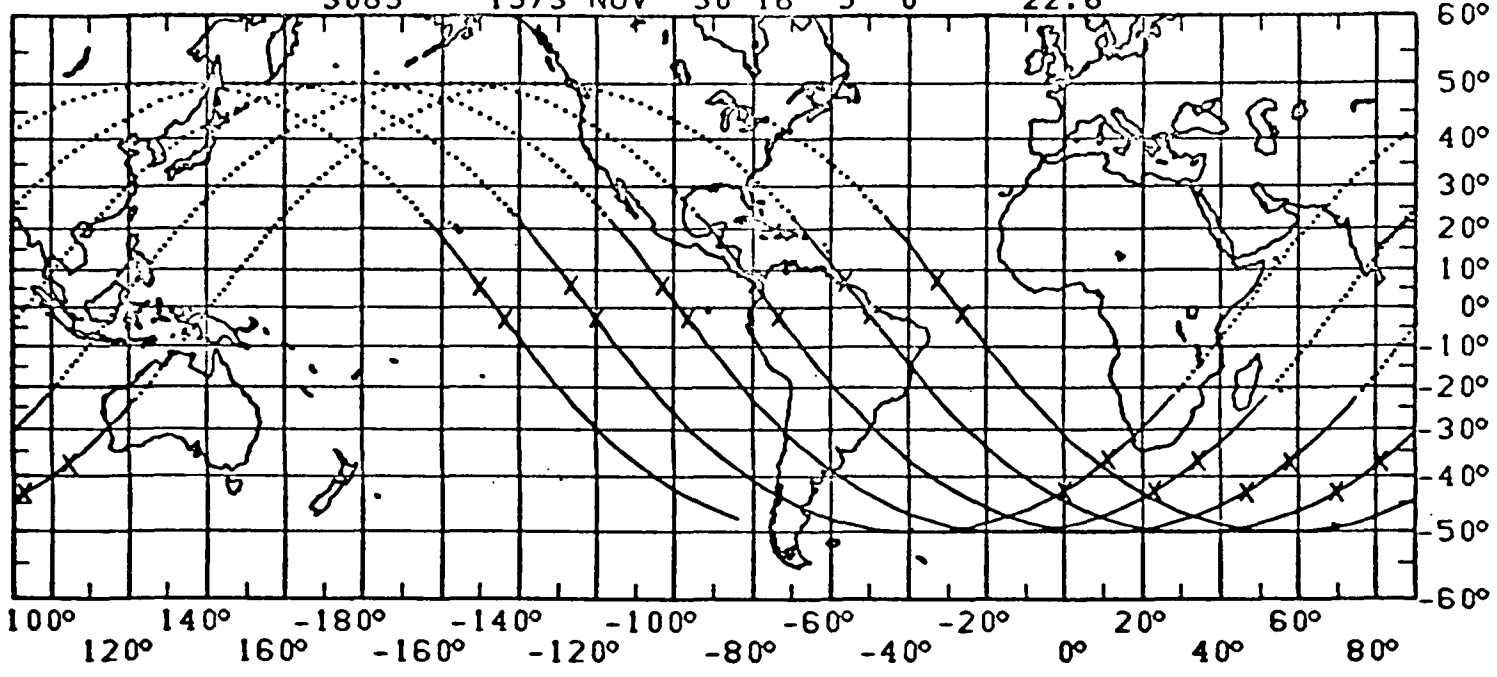
REV 3080-3085 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3080	1973 NOV 30 1 8 0	21.2
3081	1973 NOV 30 2 50 0	21.4
3082	1973 NOV 30 4 31 0	21.5
3083	1973 NOV 30 6 9 0	21.7
3084	1973 NOV 30 7 46 0	21.9



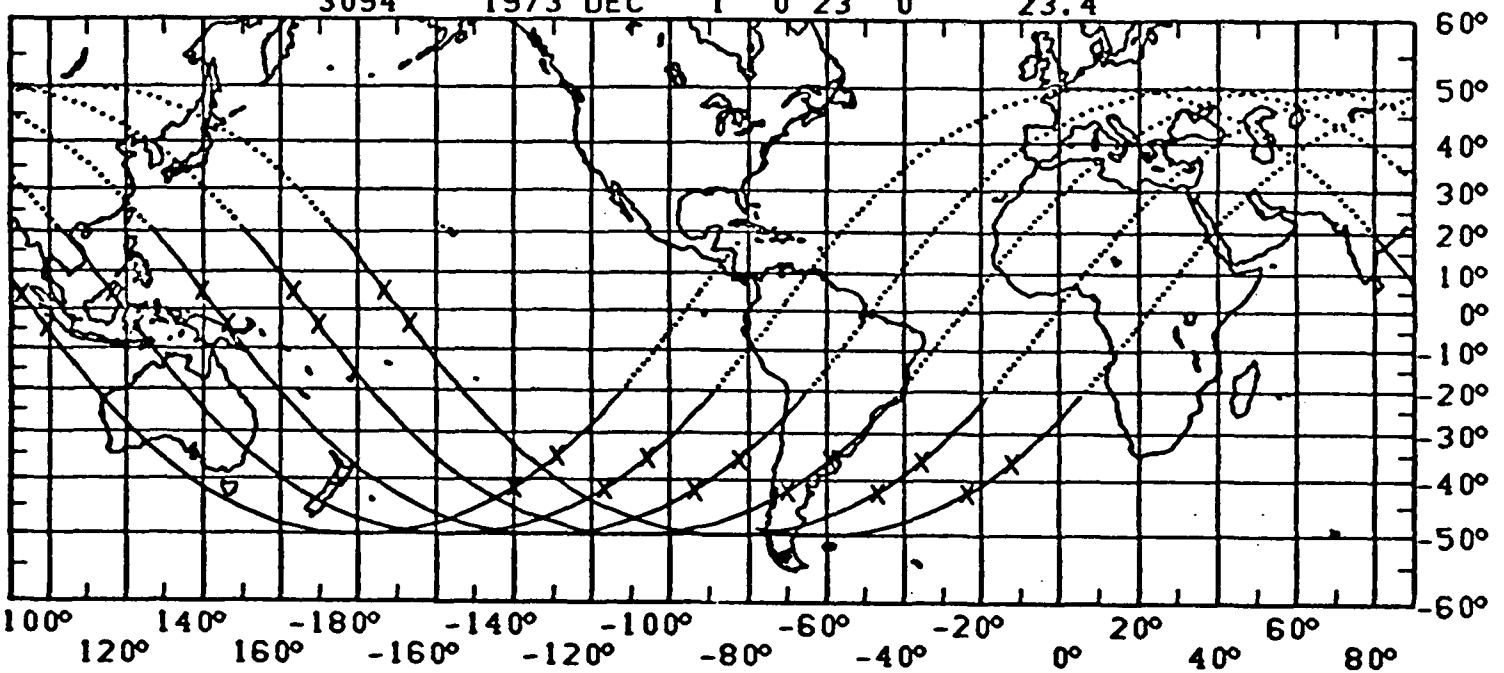
REV 3085-3090 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3085	1973 NOV 30 9 25 0	22.0
3086	1973 NOV 30 11 3 0	22.2
3087	1973 NOV 30 12 45 0	22.4
3088	1973 NOV 30 14 28 0	22.5
3089	1973 NOV 30 16 9 0	22.6



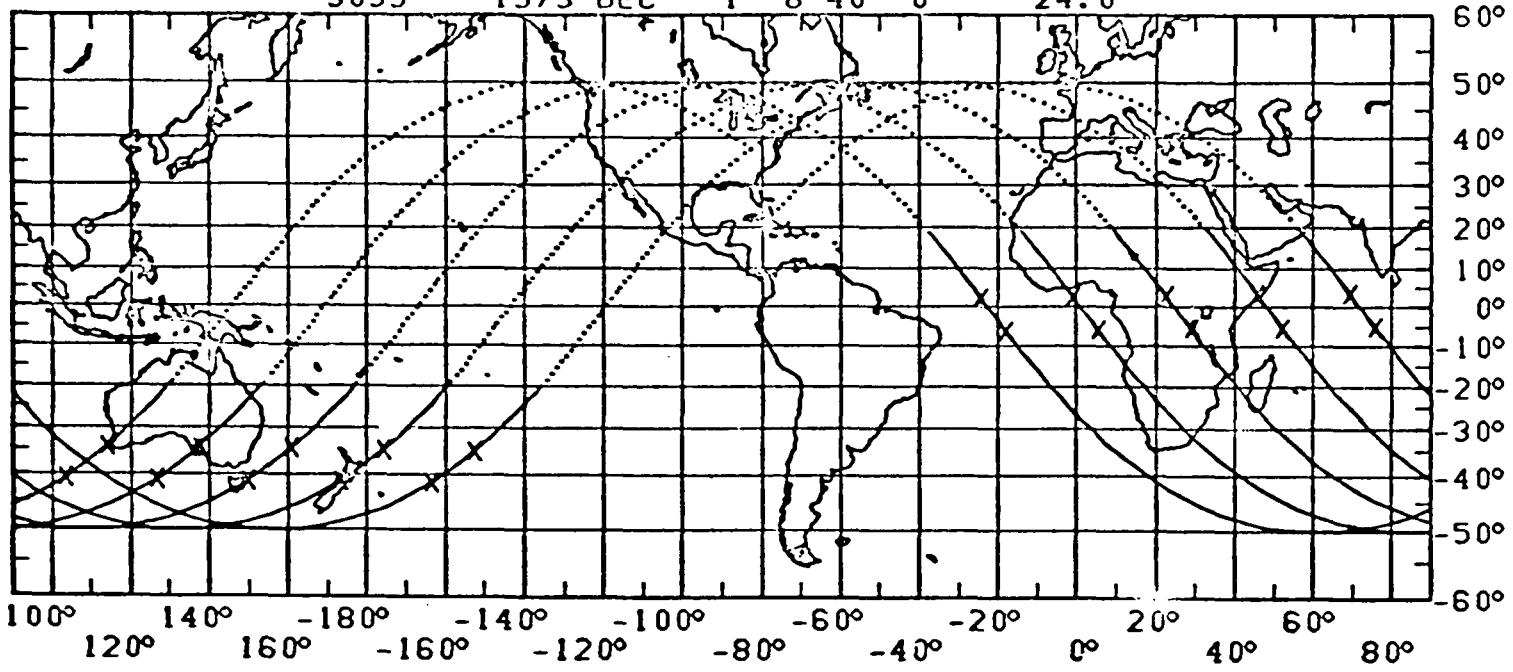
REV 3090-3095 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3090	1973 NOV 30 17 48 0	22.8
3091	1973 NOV 30 19 24 0	22.9
3092	1973 NOV 30 21 2 0	23.1
3093	1973 NOV 30 22 41 0	23.2
3094	1973 DEC 1 0 23 0	23.4



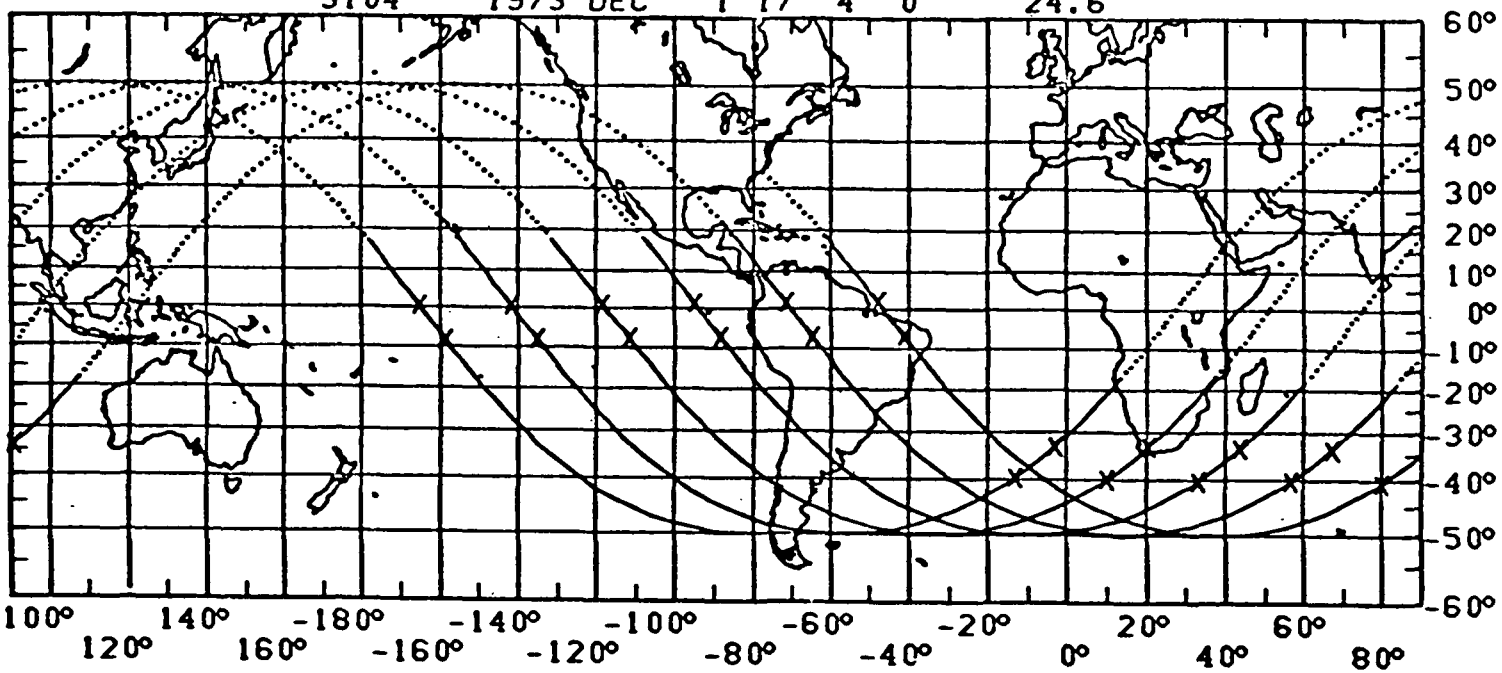
REV 3095-3100 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3095	1973 DEC	1	2	7	0	23.5
3096	1973 DEC	1	3	47	0	23.6
3097	1973 DEC	1	5	25	0	23.8
3098	1973 DEC	1	7	3	0	23.9
3099	1973 DEC	1	8	40	0	24.0



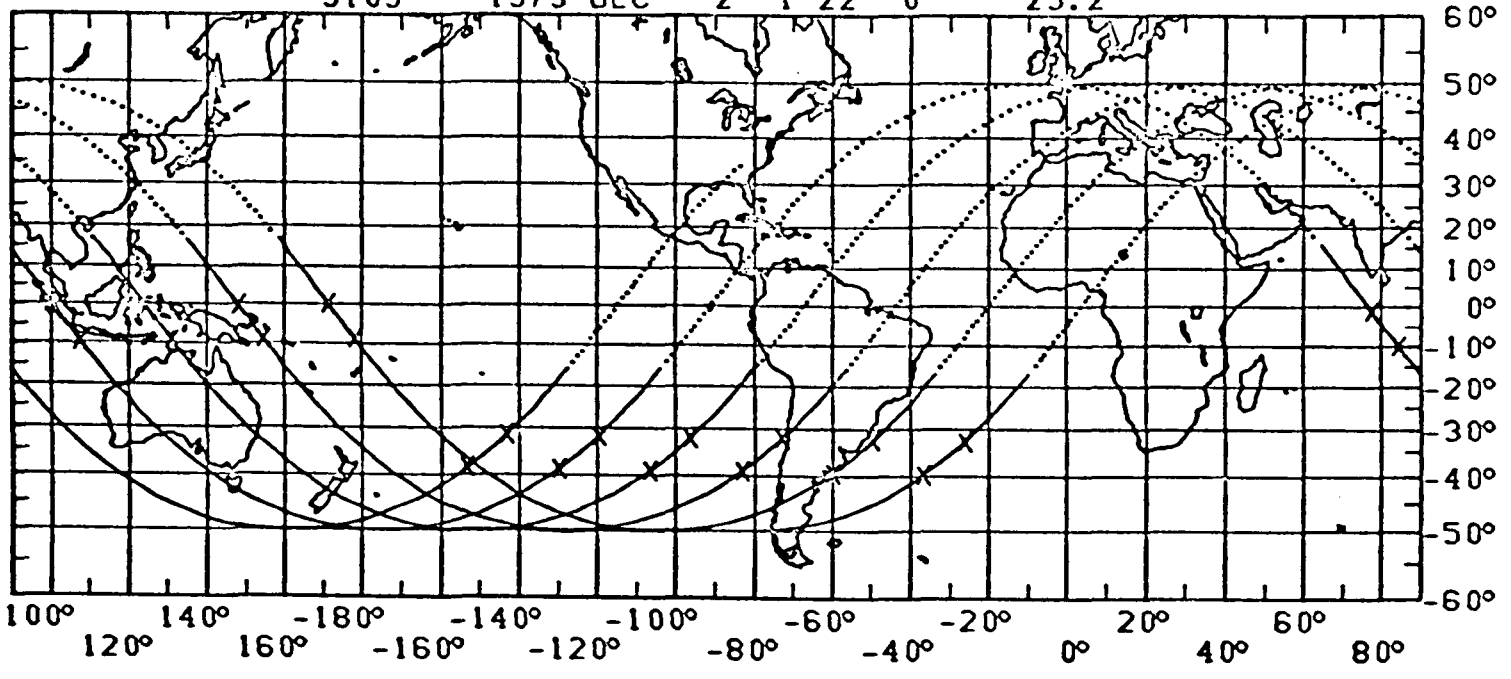
REV 3100-3105 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3100	1973 DEC 1 10 20 0	24.2
3101	1973 DEC 1 12 1 0	24.3
3102	1973 DEC 1 13 44 0	24.4
3103	1973 DEC 1 15 25 0	24.5
3104	1973 DEC 1 17 4 0	24.6



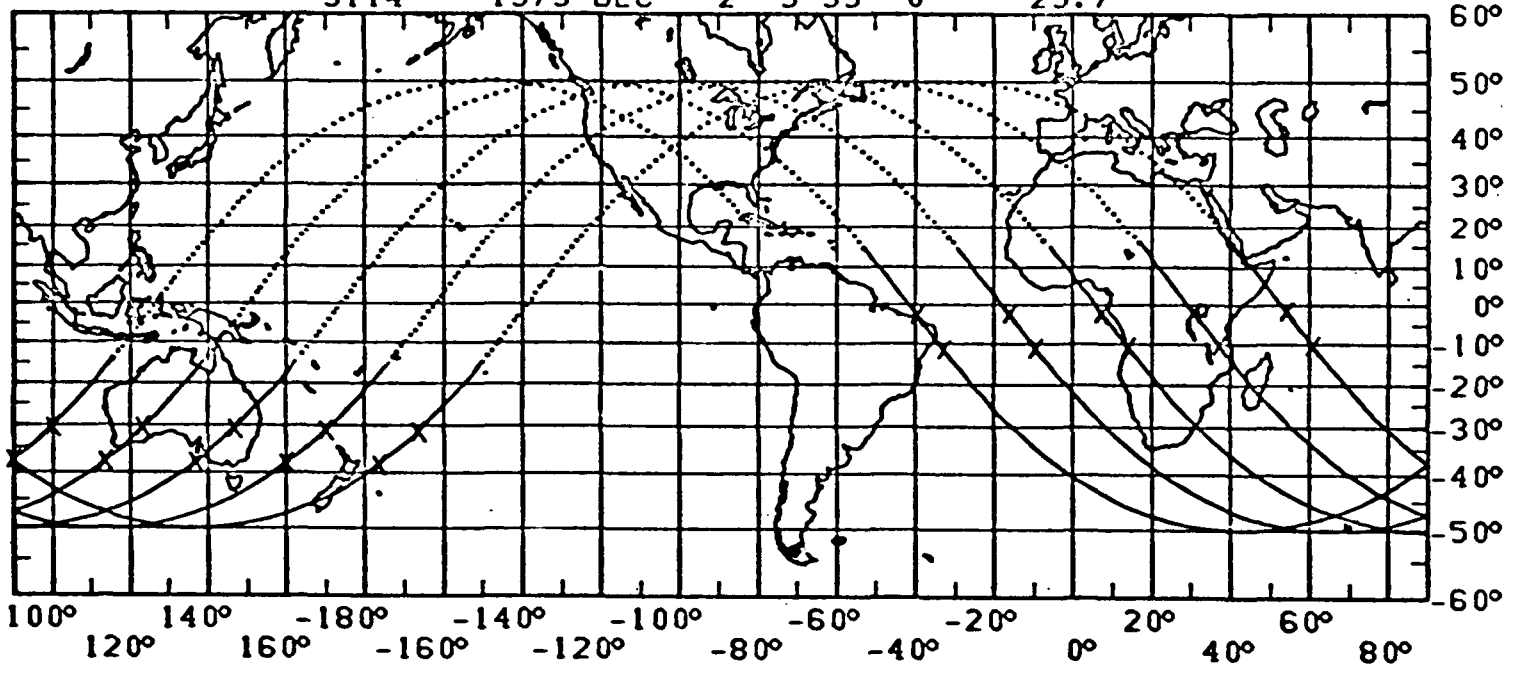
REV 3105-3110 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3105	1973 DEC 1 18 42 0	24.8
3106	1973 DEC 1 20 19 0	24.9
3107	1973 DEC 1 21 57 0	25.0
3108	1973 DEC 1 23 38 0	25.1
3109	1973 DEC 2 1 22 0	25.2



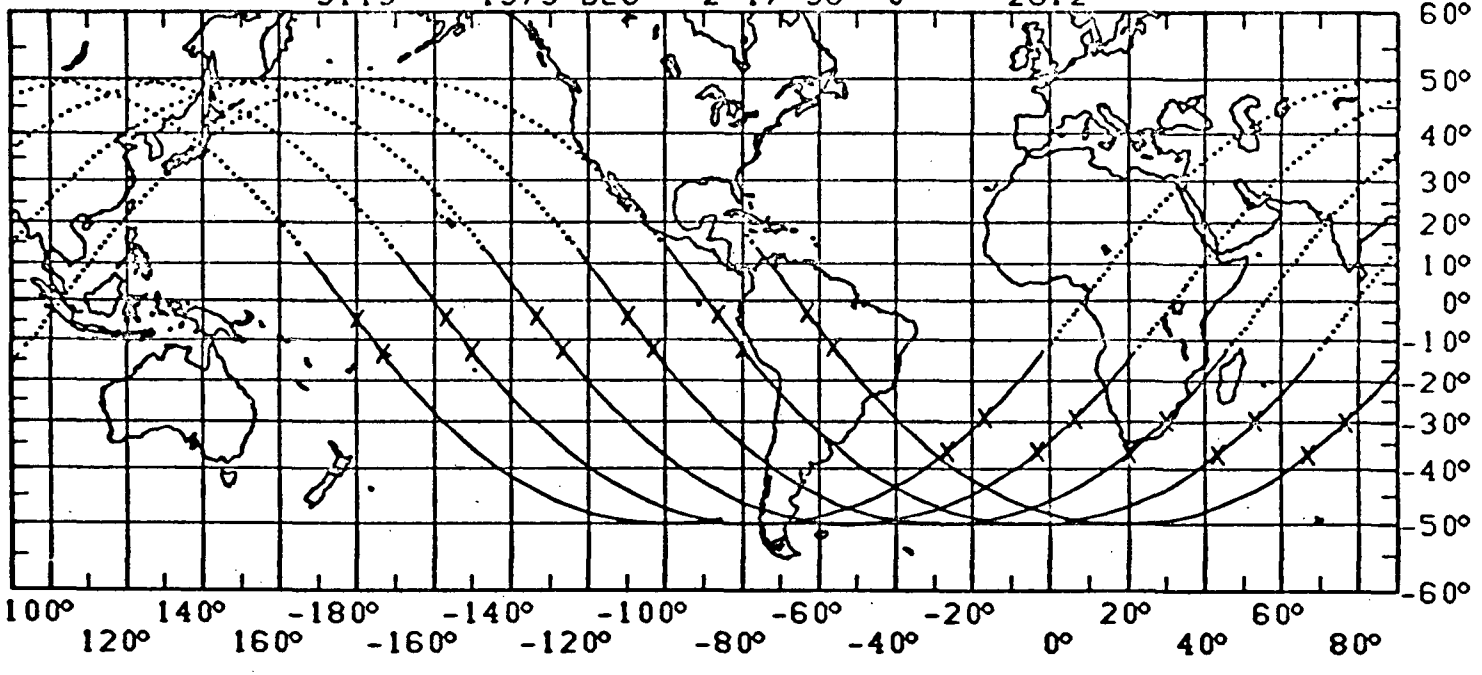
REV 3110-3115 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3110	1973	DEC	2	3	4 0	25.3
3111	1973	DEC	2	4	42 0	25.4
3112	1973	DEC	2	6	20 0	25.5
3113	1973	DEC	2	7	57 0	25.6
3114	1973	DEC	2	9	35 0	25.7



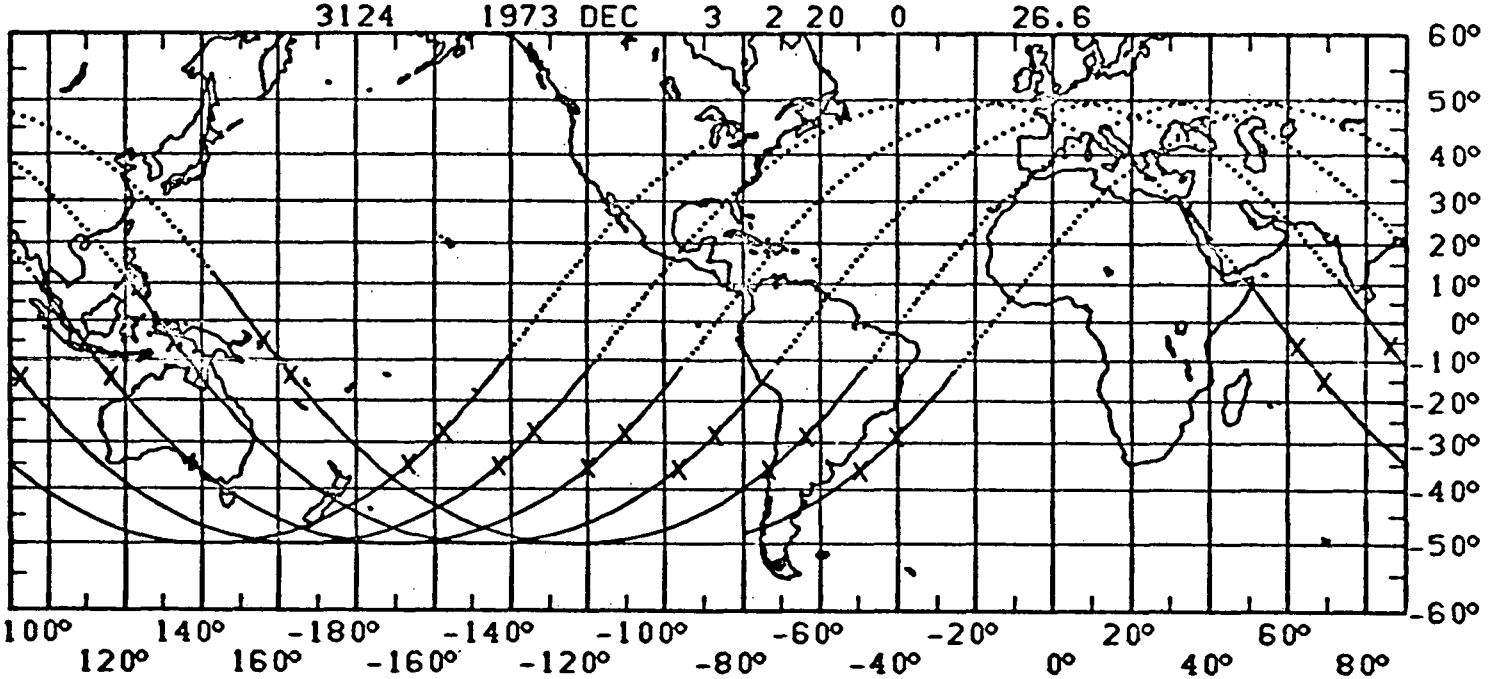
REV 3115-3120 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3115	1973 DEC 2 11 17 0	25.8
3116	1973 DEC 2 13 0 0	25.9
3117	1973 DEC 2 14 41 0	26.0
3118	1973 DEC 2 16 20 0	26.1
3119	1973 DEC 2 17 58 0	26.2



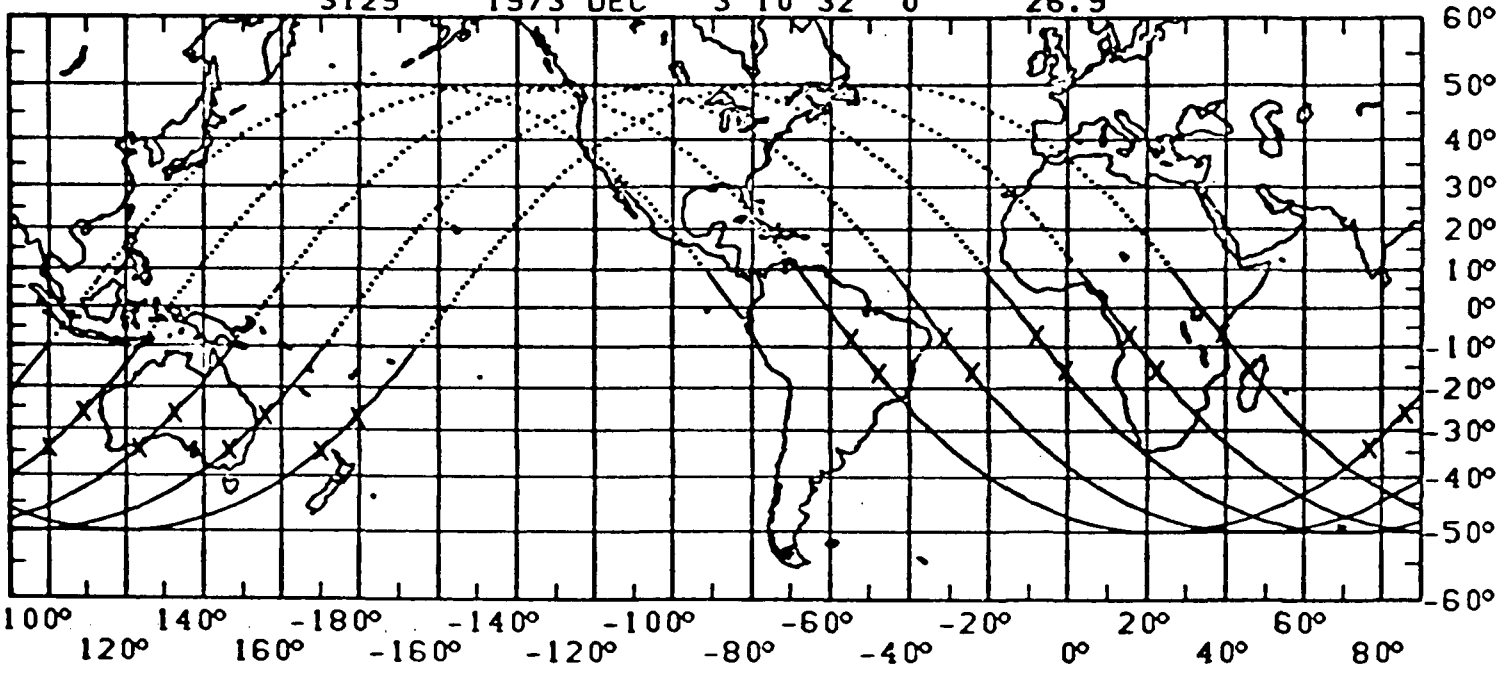
REV 3120-3125 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3120	1973 DEC 2 19 36 0	26.3
3121	1973 DEC 2 21 14 0	26.3
3122	1973 DEC 2 22 54 0	26.4
3123	1973 DEC 3 0 37 0	26.5
3124	1973 DEC 3 2 20 0	26.6



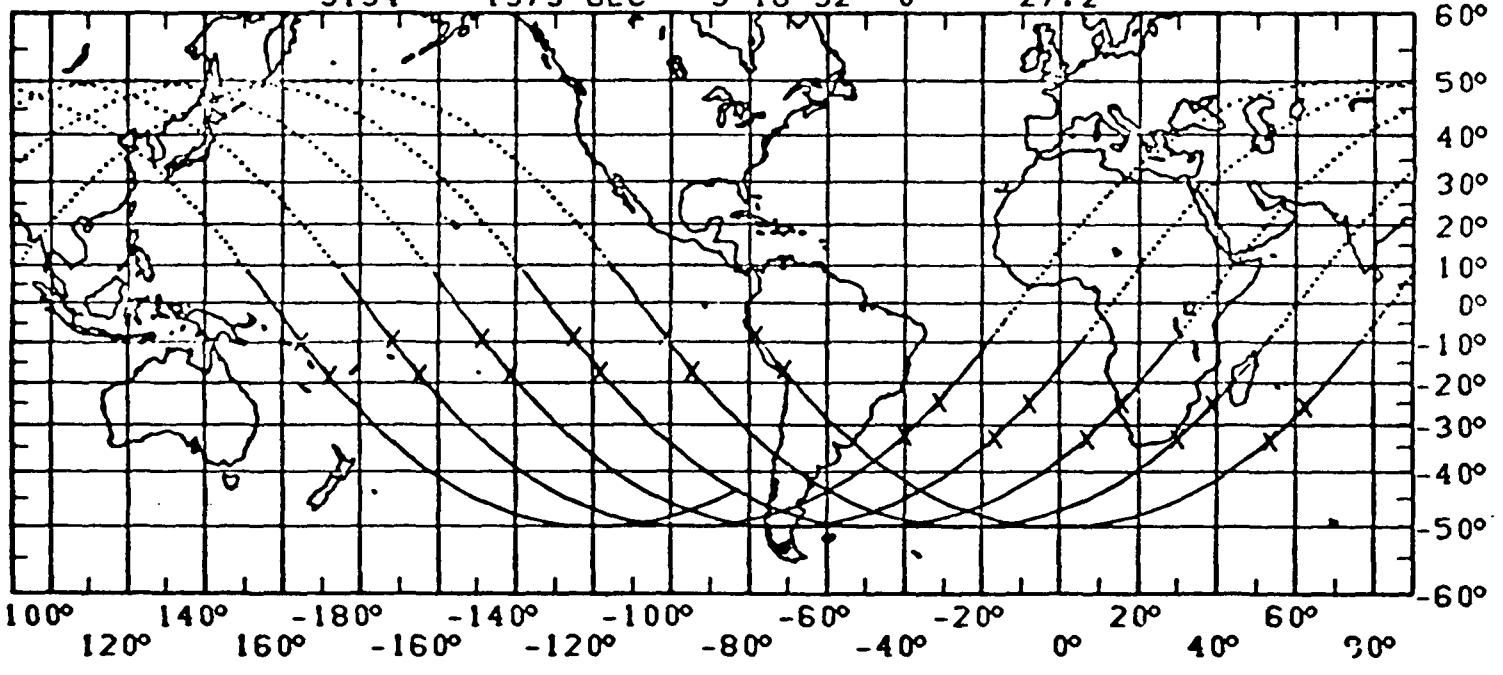
REV 3125-3130 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3125	1973 DEC	3	4	0	0	26.6
3126	1973 DEC	3	5	36	0	26.7
3127	1973 DEC	3	7	14	0	26.8
3128	1973 DEC	3	8	52	0	26.8
3129	1973 DEC	3	10	32	0	26.9



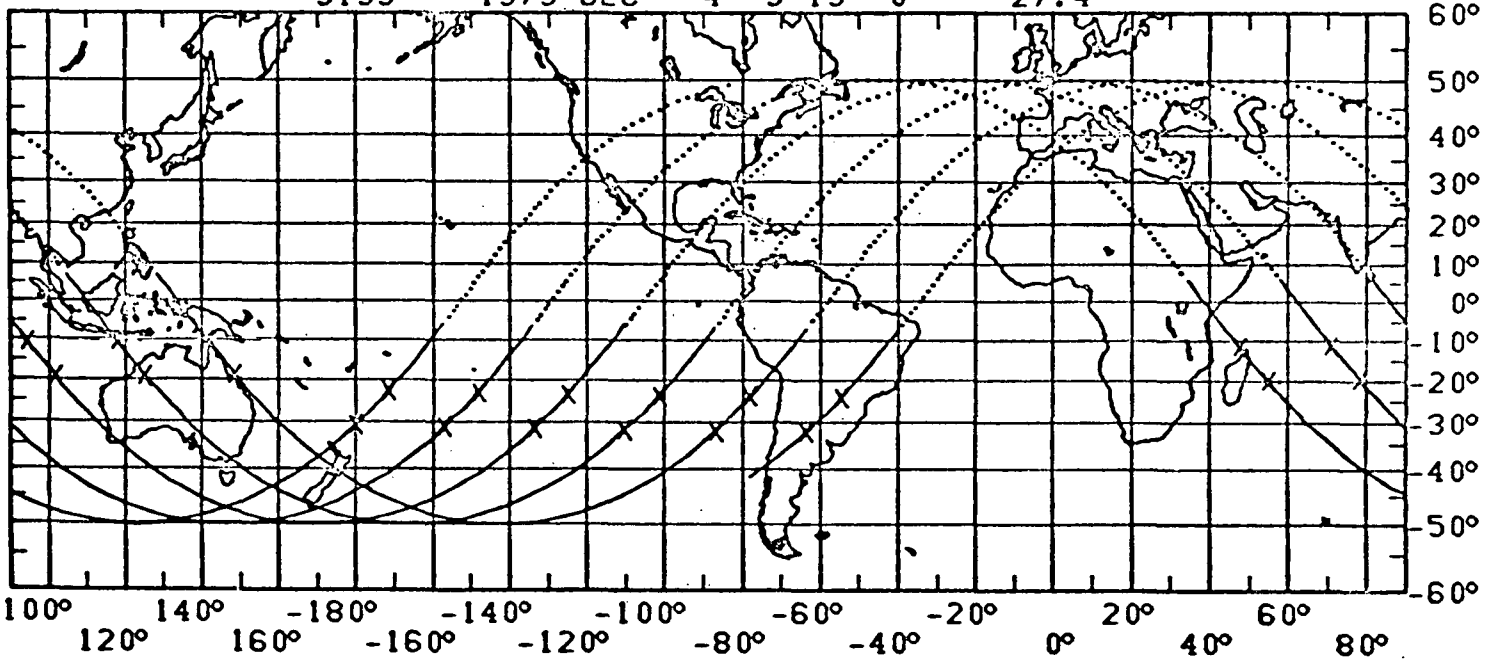
REV 3130-3135 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3130	1973 DEC 3 12 16 0	27.0
3131	1973 DEC 3 13 58 0	27.0
3132	1973 DEC 3 15 37 0	27.1
3133	1973 DEC 3 17 15 0	27.1
3134	1973 DEC 3 18 52 0	27.2

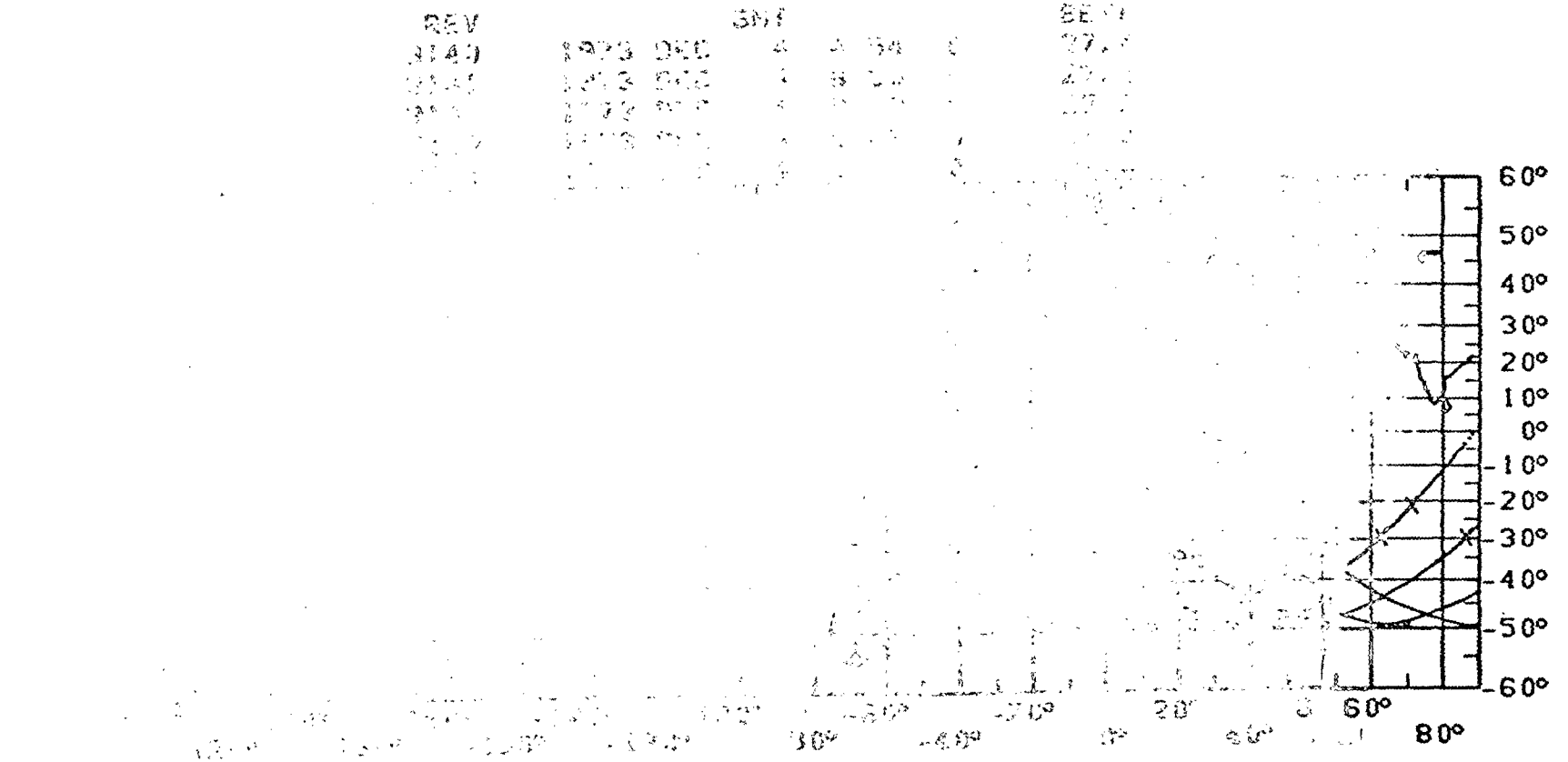


REV 3135-3140 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3135	1973	DEC	3	20	31	0	27.2
3136	1973	DEC	3	22	10	0	27.3
3137	1973	DEC	3	23	53	0	27.3
3138	1973	DEC	4	1	36	0	27.3
3139	1973	DEC	4	3	15	0	27.4

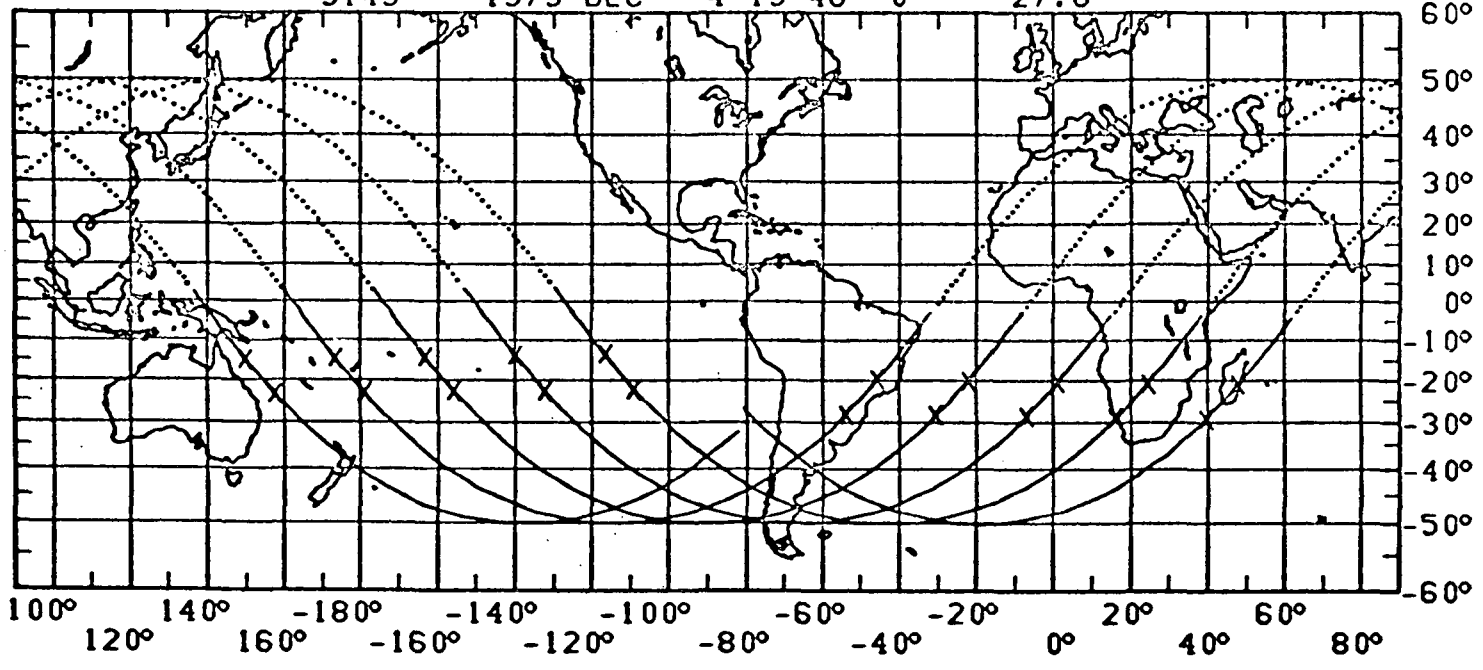


REV 3140-3145 SL-4 (BASED ON SL-1 LAUNCH 4/30/63)



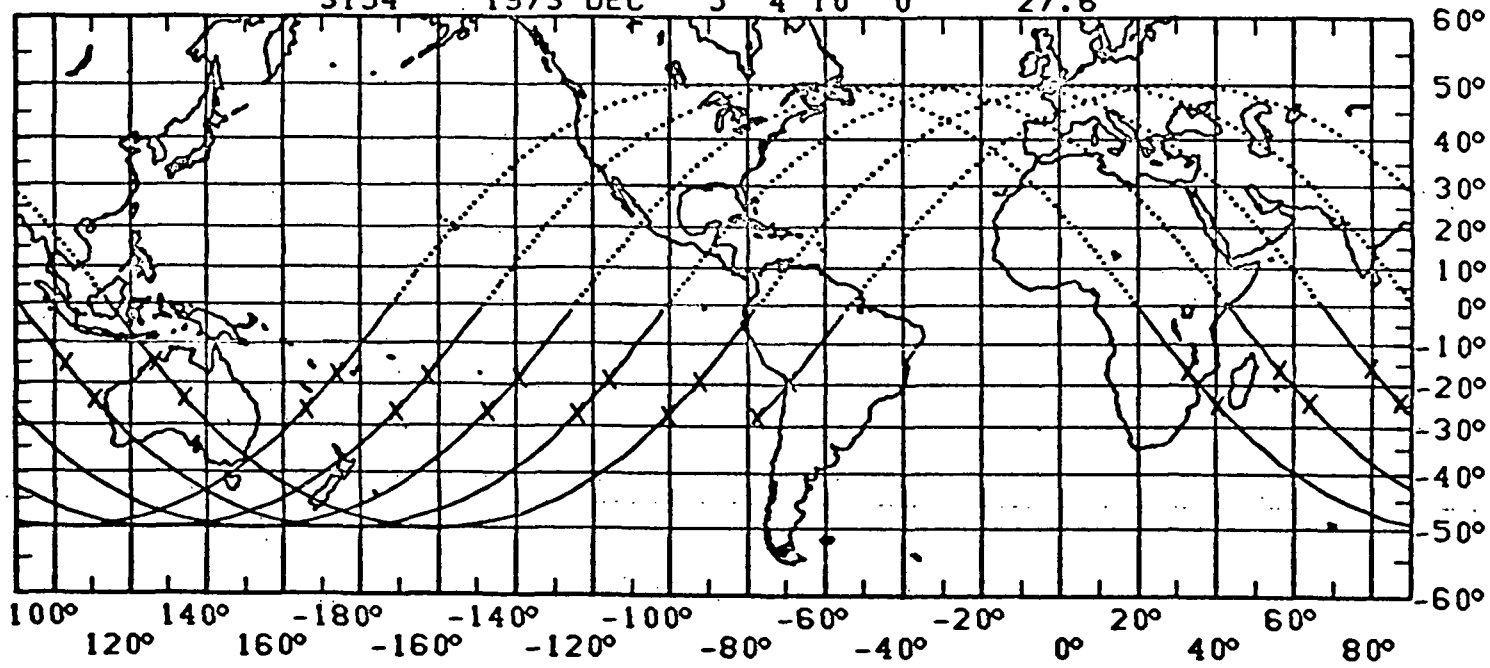
REV 3145-3150 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3145	1973 DEC 4 13 14 0	27.6
3146	1973 DEC 4 14 53 0	27.6
3147	1973 DEC 4 16 31 0	27.6
3148	1973 DEC 4 18 9 0	27.6
3149	1973 DEC 4 19 46 0	27.6



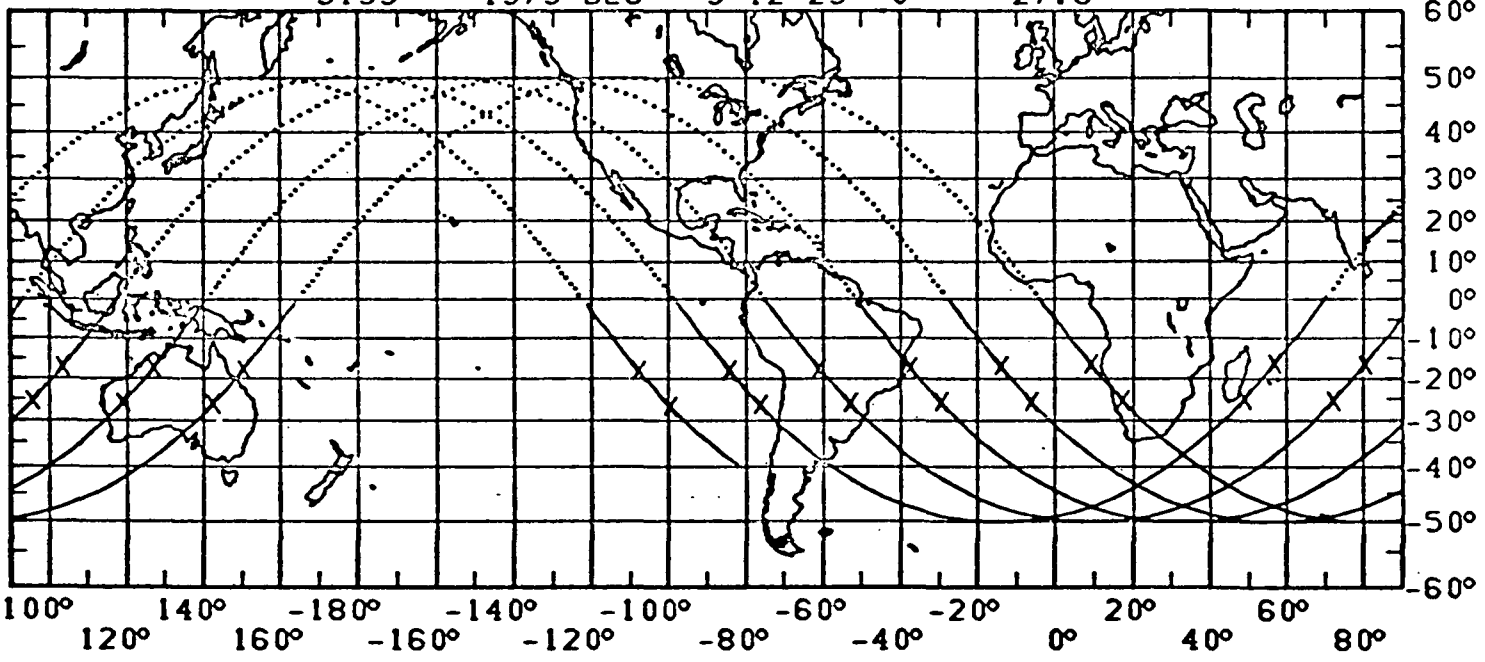
REV 3150-3155 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3150	1973 DEC	4	21	27	0	27.6
3151	1973 DEC	4	23	8	0	27.7
3152	1973 DEC	5	0	52	0	27.6
3153	1973 DEC	5	2	32	0	27.6
3154	1973 DEC	5	4	10	0	27.6



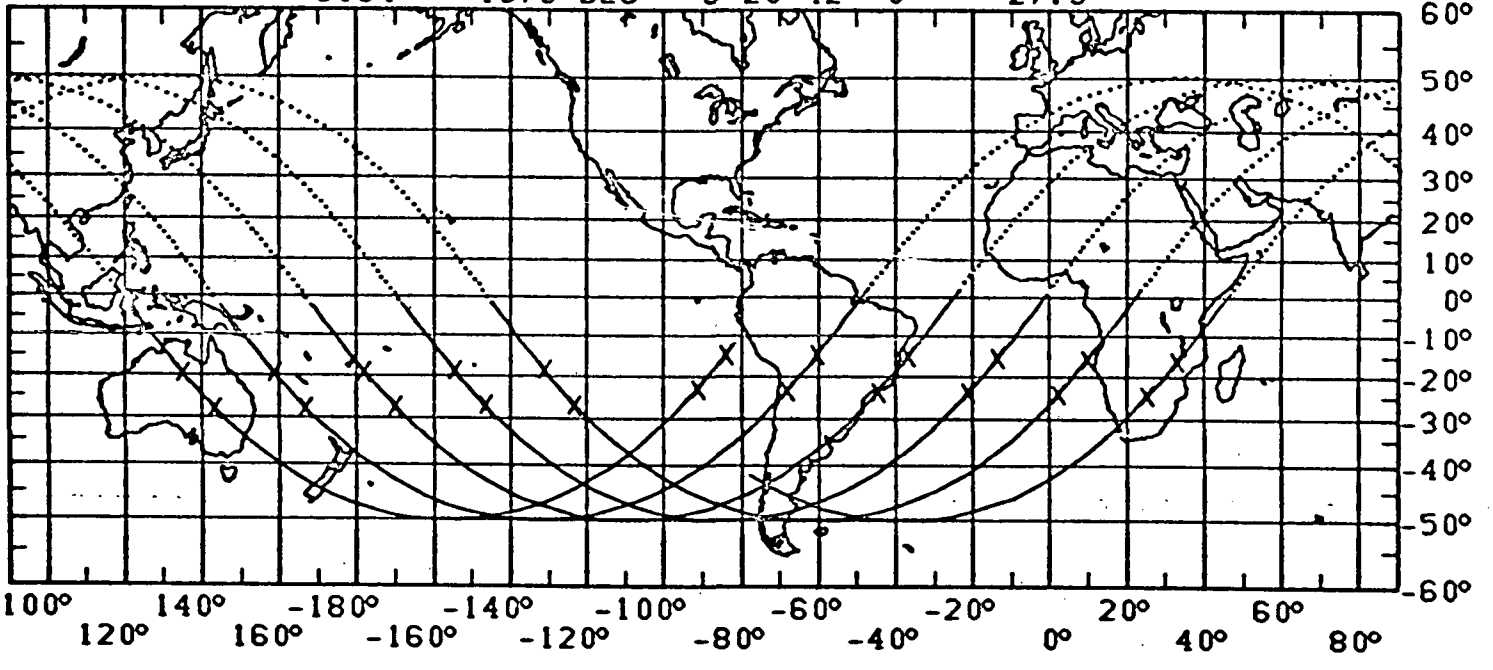
REV 3155-3160 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3155	1973 DEC 5 5 48 0	27.6
3156	1973 DEC 5 7 25 0	27.6
3157	1973 DEC 5 9 4 0	27.6
3158	1973 DEC 5 10 46 0	27.6
3159	1973 DEC 5 12 29 0	27.6



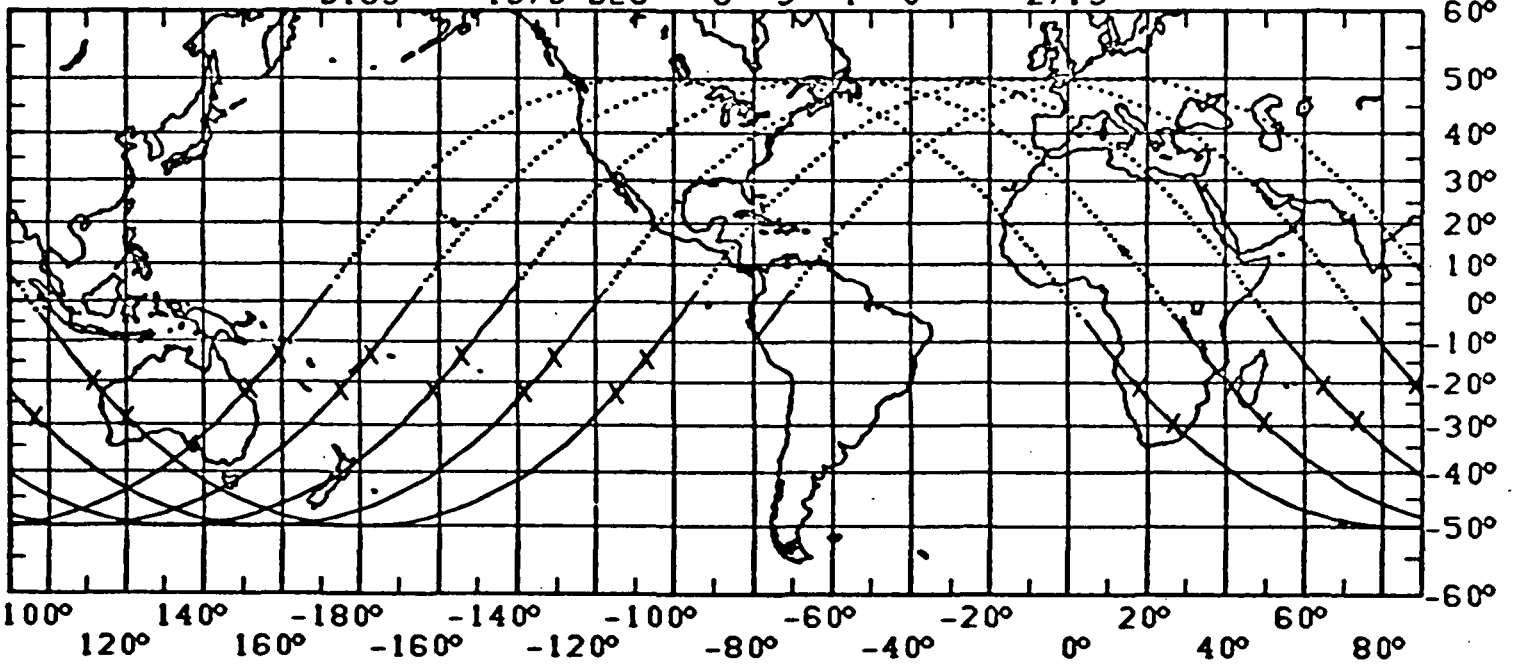
REV 3160-3165 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3160	1973 DEC 5 14 11 0	27.6
3161	1973 DEC 5 15 48 0	27.5
3162	1973 DEC 5 17 25 0	27.5
3163	1973 DEC 5 19 3 0	27.5
3164	1973 DEC 5 20 42 0	27.5



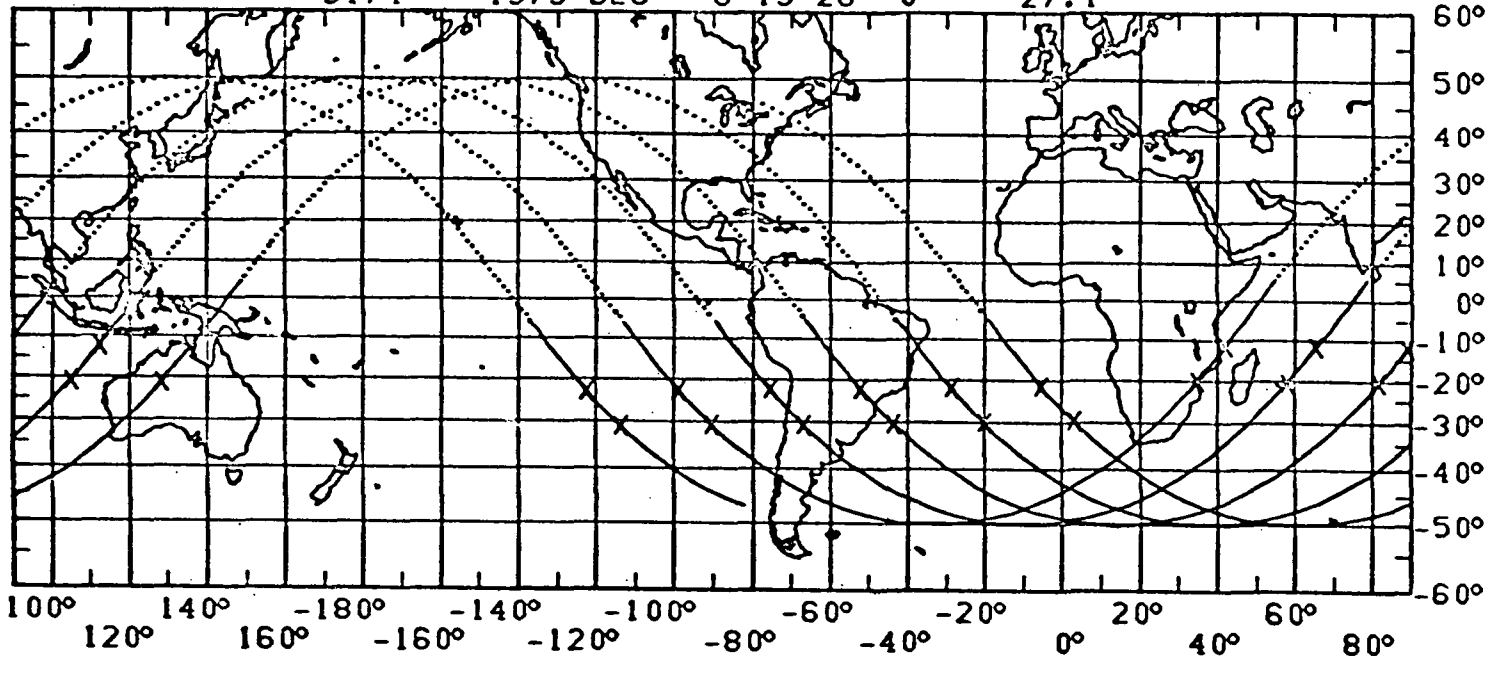
REV 3165-3170 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

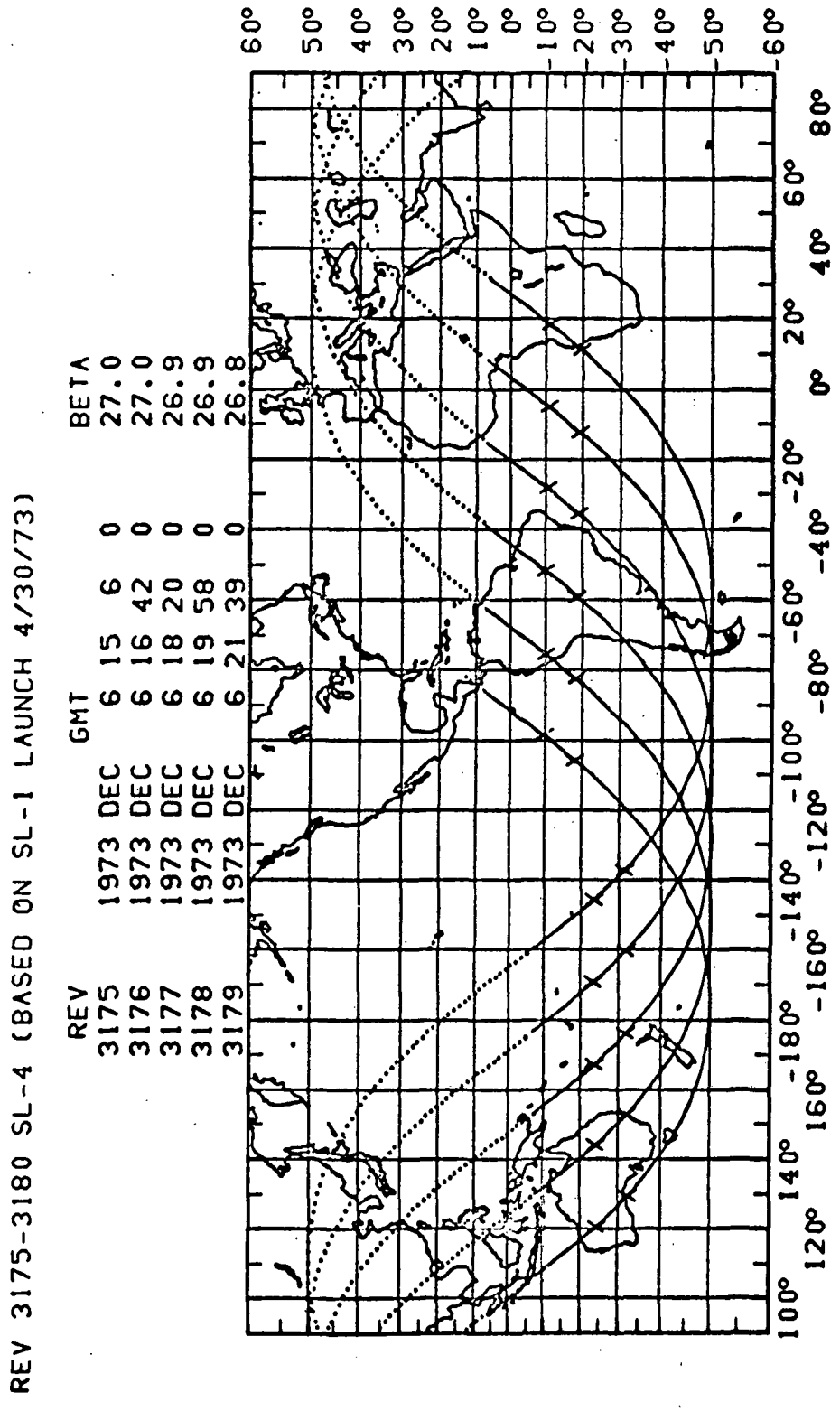
REV	GMT	BETA
3165	1973 DEC 5 22 25 0	27.5
3166	1973 DEC 6 0 7 0	27.5
3167	1973 DEC 6 1 48 0	27.4
3168	1973 DEC 6 3 26 0	27.4
3169	1973 DEC 6 5 4 0	27.3

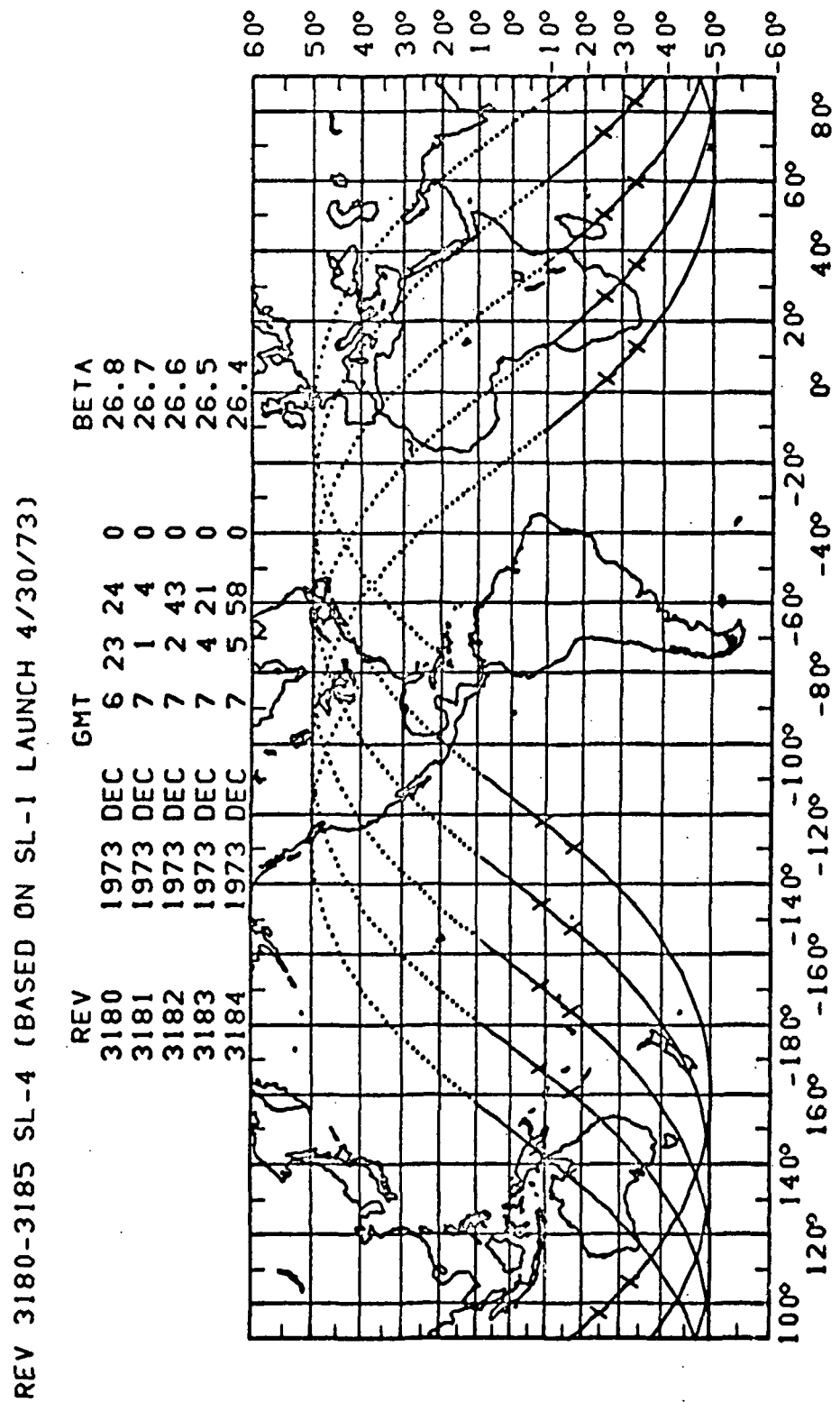


REV 3170-3175 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3170	1973 DEC 6 6 42 0	27.3
3171	1973 DEC 6 8 20 0	27.2
3172	1973 DEC 6 10 2 0	27.2
3173	1973 DEC 6 11 45 0	27.2
3174	1973 DEC 6 13 26 0	27.1

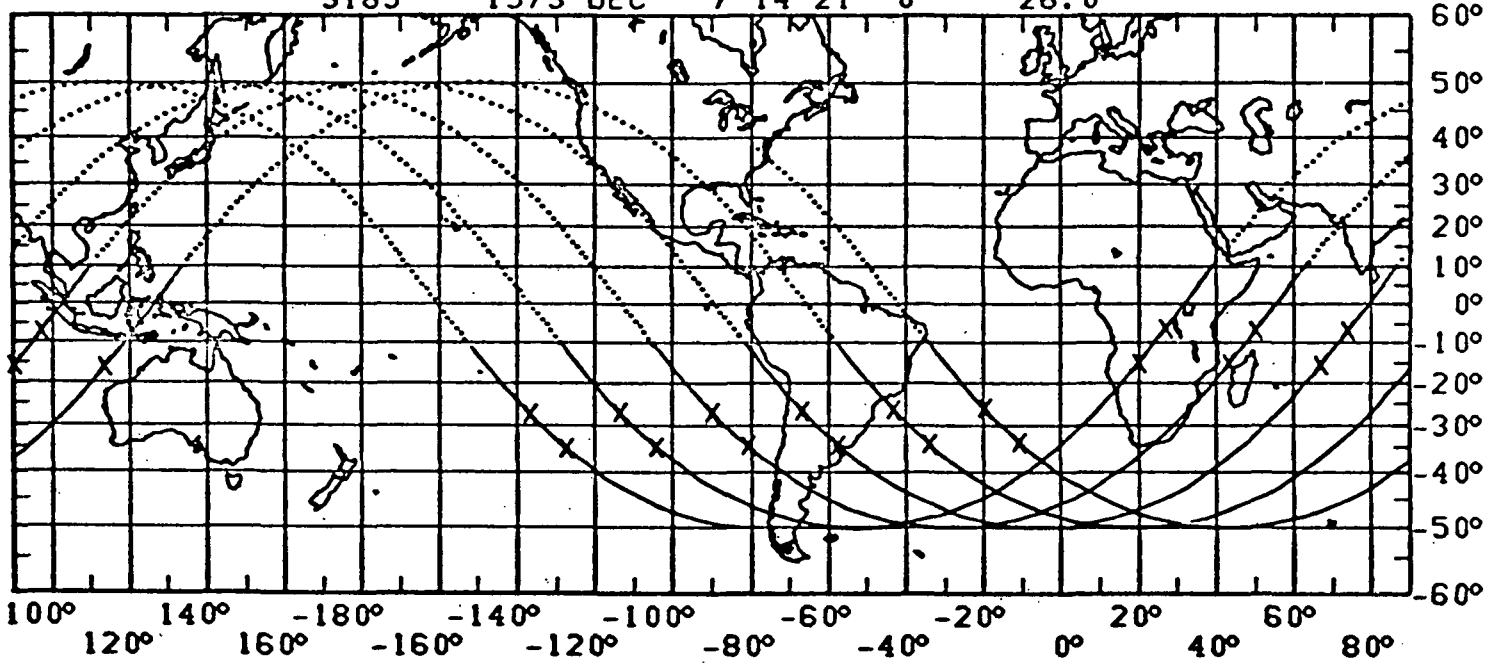



REV 3175-3180 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV
GMT
BETA
3175 1973 DEC 6 15 6 0 27.0
3176 1973 DEC 6 16 42 0 27.0
3177 1973 DEC 6 18 20 0 26.9
3178 1973 DEC 6 19 58 0 26.9
3179 1973 DEC 6 21 39 0 26.8
60°
50°
40°
30°
20°
10°
0°
-10°
-20°
-30°
-40°
-50°
-60°
100°
120°
140°
160°
-180°
-160°
-140°
-120°
-100°
-80°
-60°
-40°
-20°
0°
20°
40°
60°
80°


REV 3180-3185 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3180 1973 DEC 6 23 24 0 26.8
3181 1973 DEC 7 1 4 0 26.7
3182 1973 DEC 7 2 43 0 26.6
3183 1973 DEC 7 4 21 0 26.5
3184 1973 DEC 7 5 58 0 26.4
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

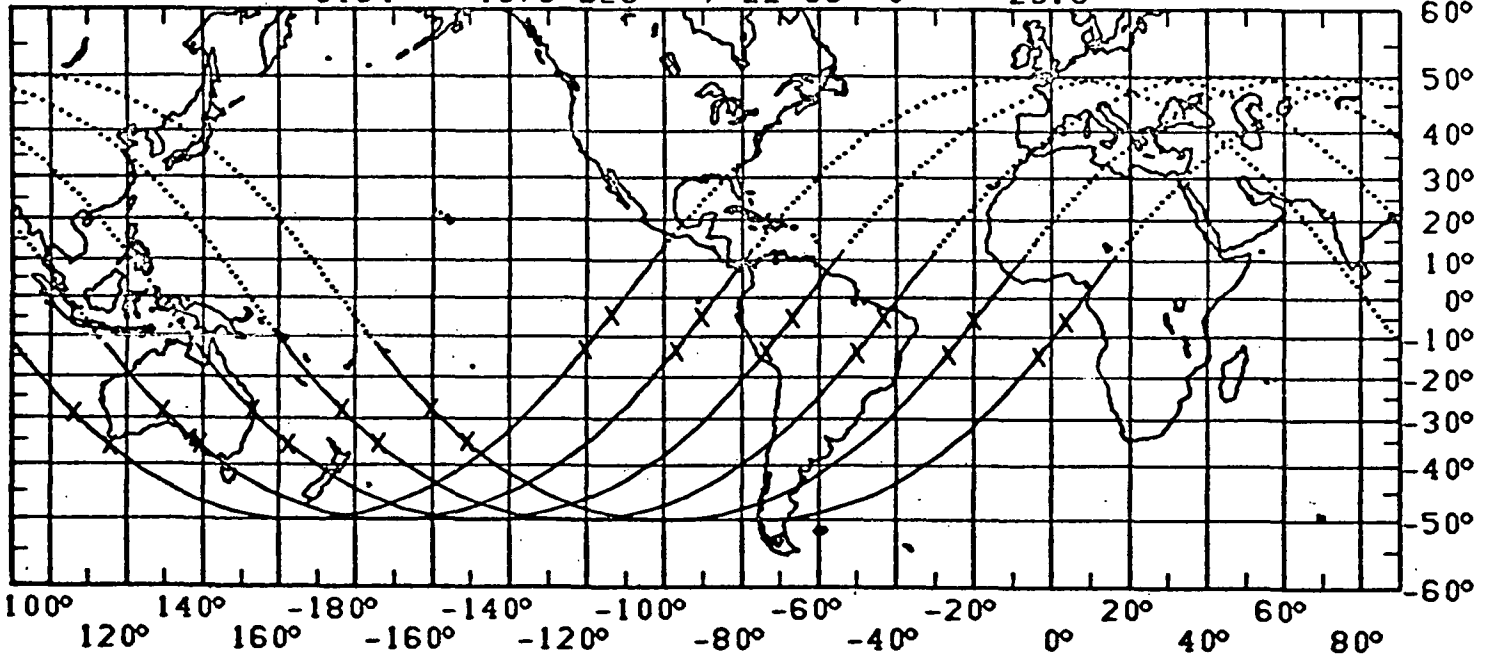
REV 3185-3190 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3185	1973	DEC	7	7	37 0	26.4
3186	1973	DEC	7	9	17 0	26.3
3187	1973	DEC	7	11	1 0	26.2
3188	1973	DEC	7	12	42 0	26.1
3189	1973	DEC	7	14	21 0	26.0



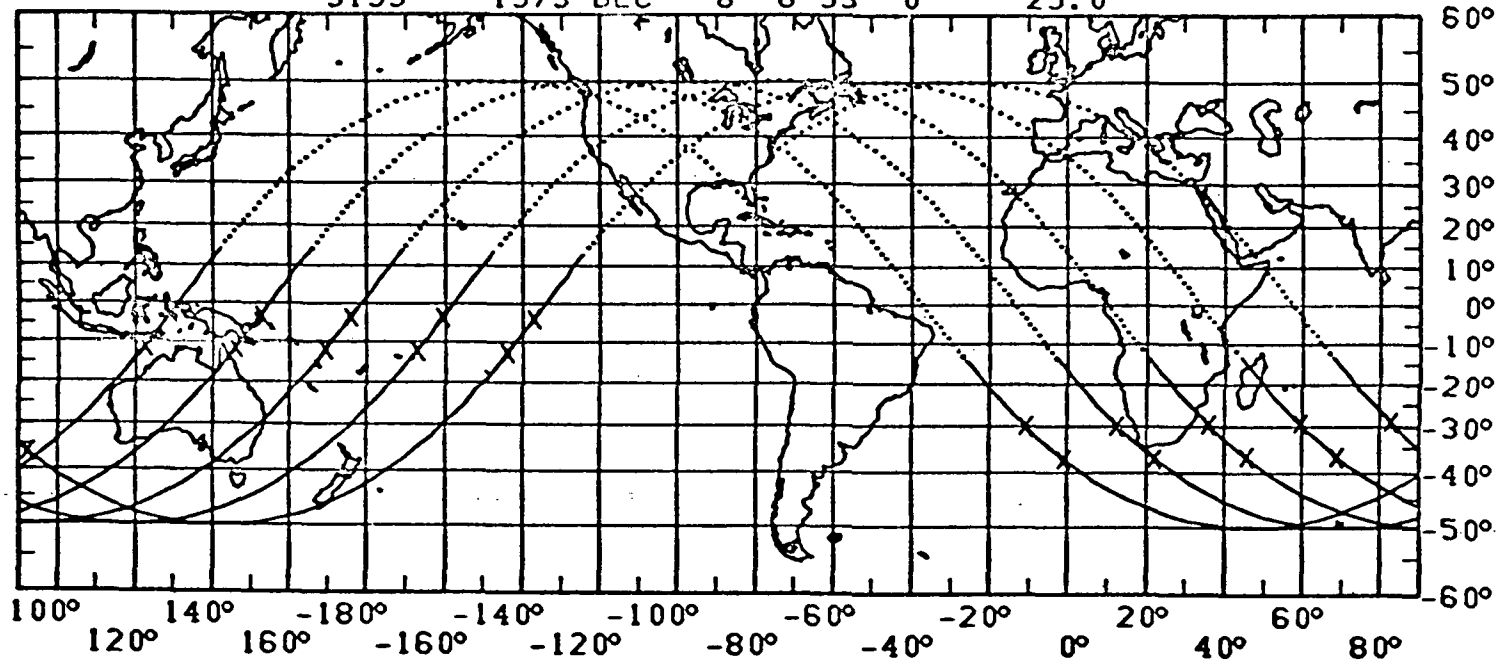
REV 3190-3195 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3190	1973	DEC	7	16	0	25.9
3191	1973	DEC	7	17	36	25.9
3192	1973	DEC	7	19	15	25.8
3193	1973	DEC	7	20	55	25.7
3194	1973	DEC	7	22	39	25.6



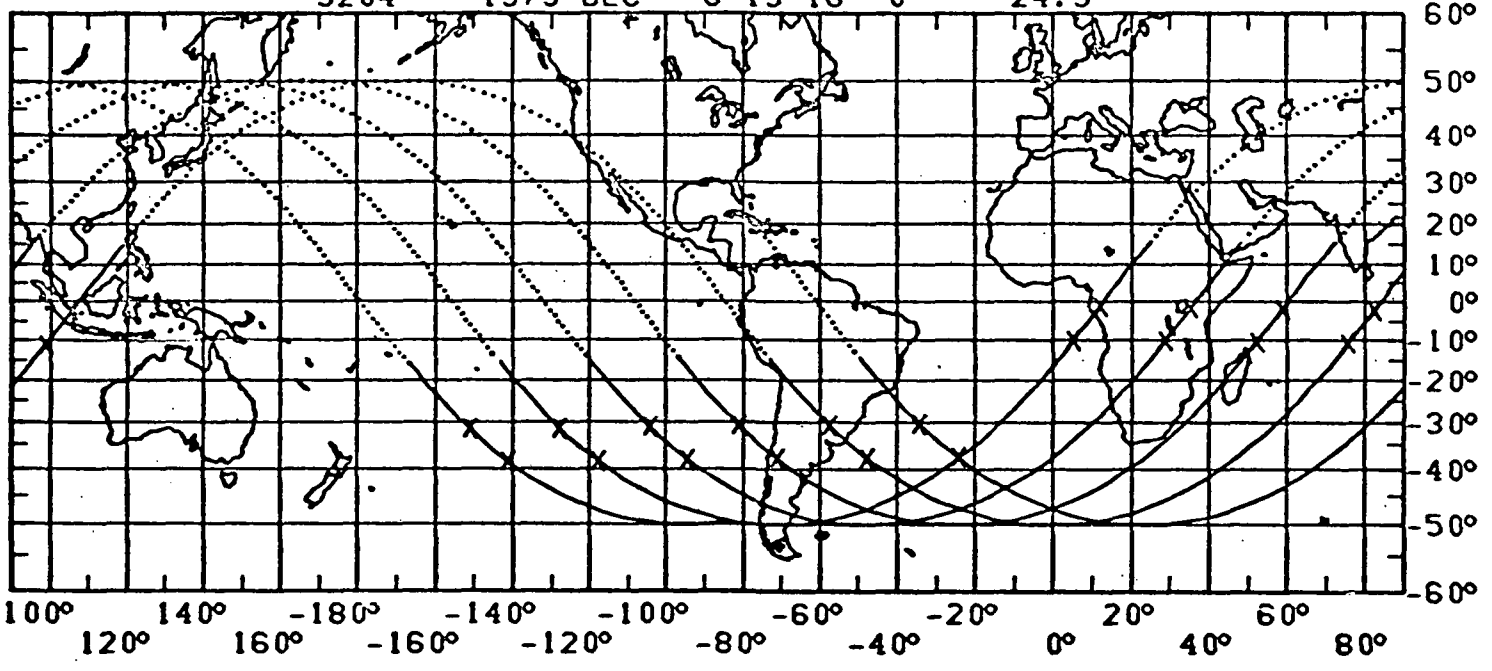
REV 3195-3200 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3195	1973	DEC	8	0	22 0	25.5
3196	1973	DEC	8	2	0 0	25.4
3197	1973	DEC	8	3	37 0	25.3
3198	1973	DEC	8	5	15 0	25.1
3199	1973	DEC	8	6	53 0	25.0



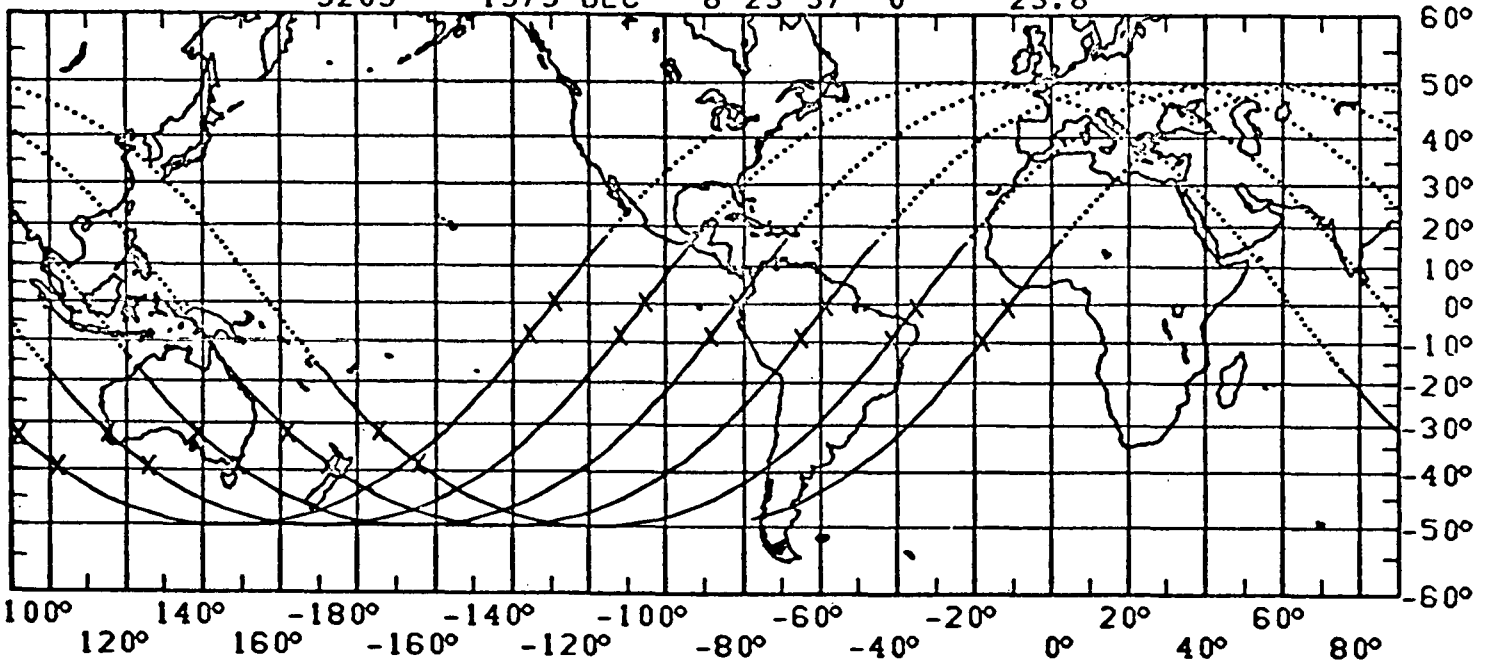
REV 3200-3205 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3200	1973 DEC 8 8 34 0	25.0
3201	1973 DEC 8 10 16 0	24.8
3202	1973 DEC 8 11 59 0	24.7
3203	1973 DEC 8 13 38 0	24.6
3204	1973 DEC 8 15 16 0	24.5



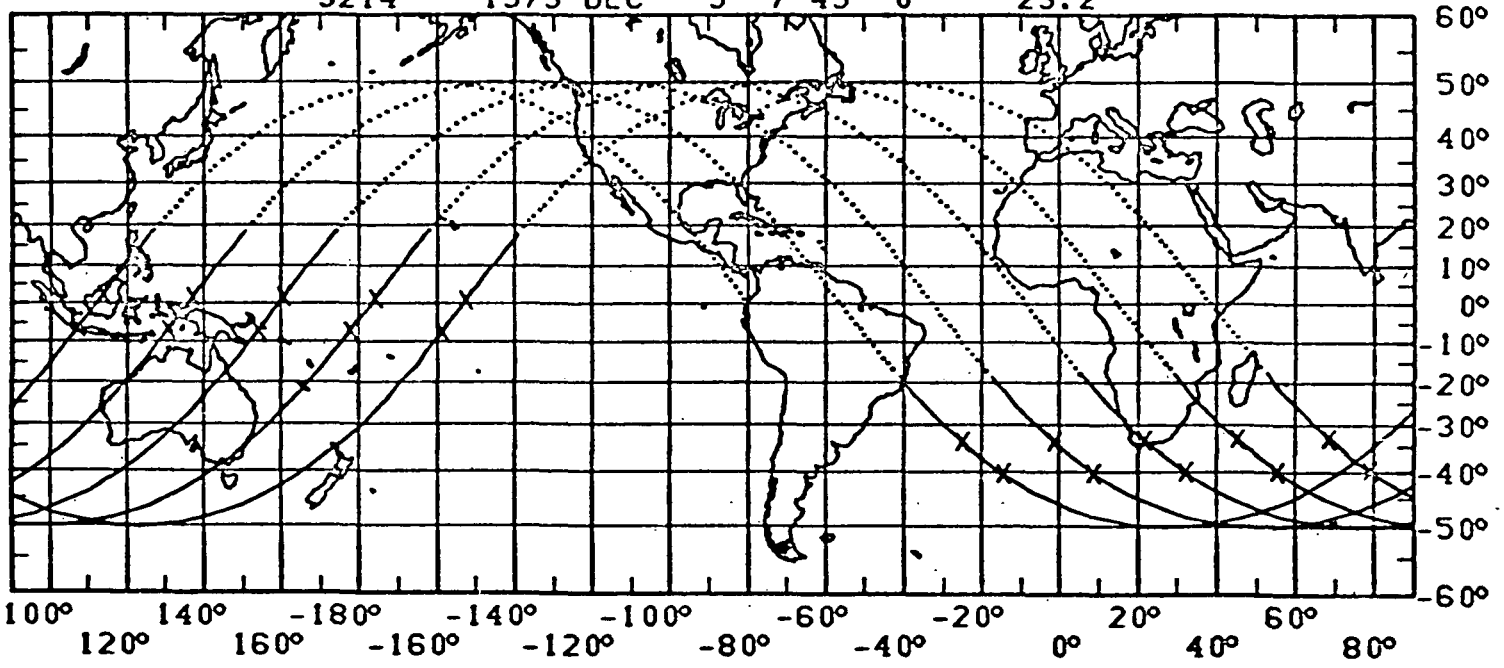
REV 3205-3210 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3205	1973 DEC 8 16 54 0	24.3
3206	1973 DEC 8 18 31 0	24.2
3207	1973 DEC 8 20 11 0	24.1
3208	1973 DEC 8 21 54 0	24.0
3209	1973 DEC 8 23 37 0	23.8



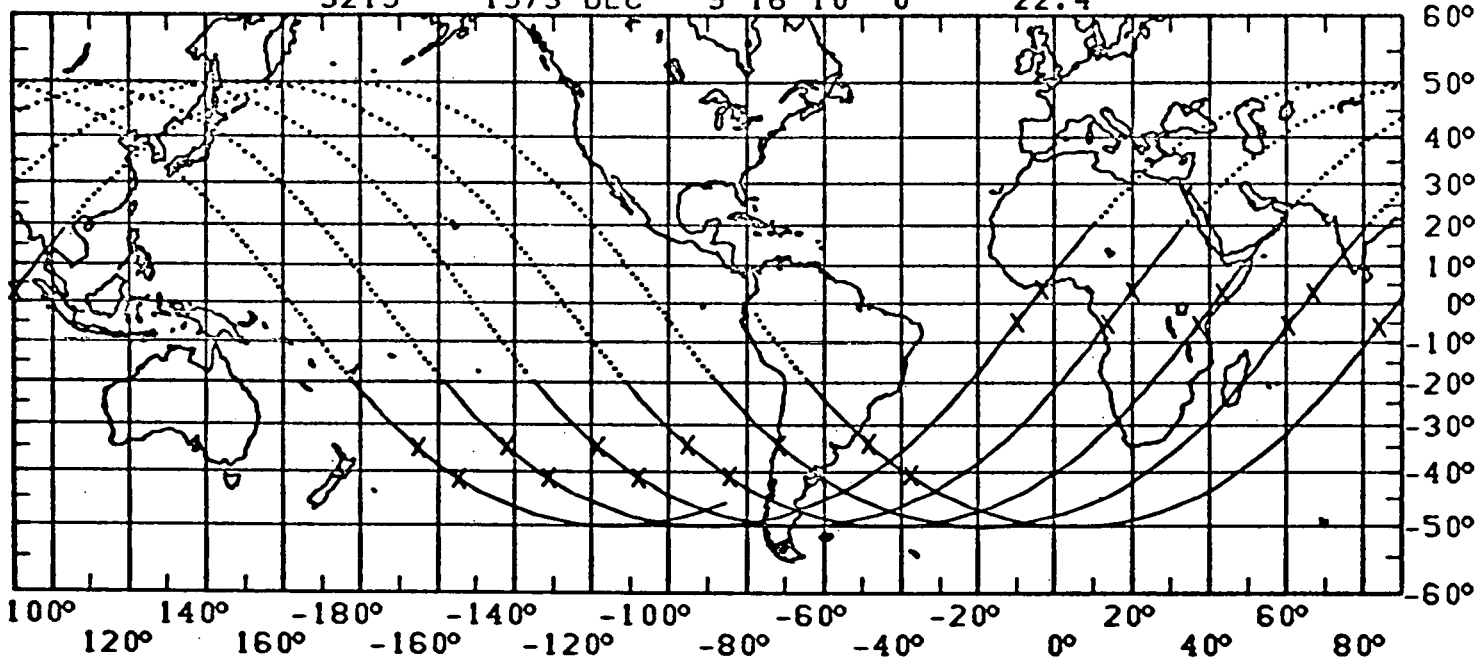
REV 3210-3215 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3210	1973	DEC	9	1	17	0	23.7
3211	1973	DEC	9	2	54	0	23.6
3212	1973	DEC	9	4	31	0	23.4
3213	1973	DEC	9	6	9	0	23.3
3214	1973	DEC	9	7	49	0	23.2



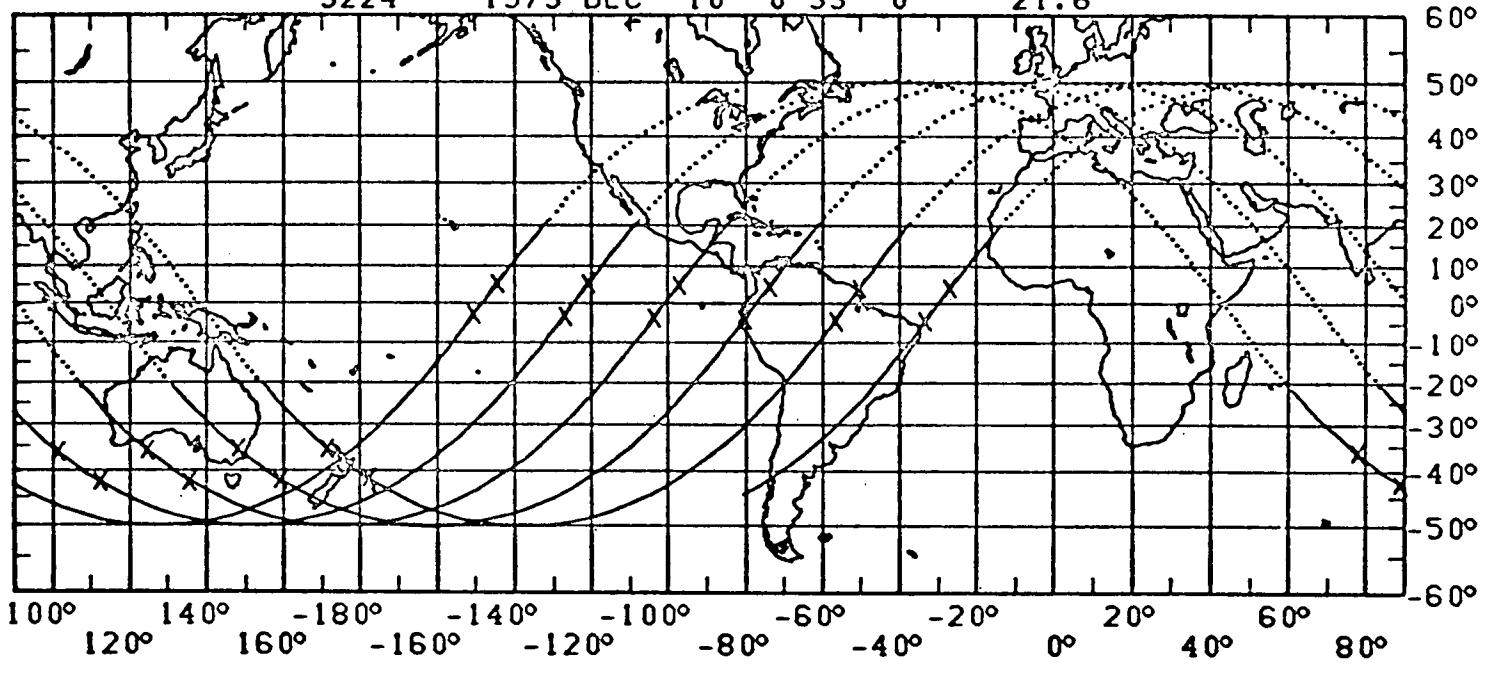
REV 3215-3220 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3215	1973 DEC 9 9 33 0	23.0
3216	1973 DEC 9 11 15 0	22.9
3217	1973 DEC 9 12 54 0	22.7
3218	1973 DEC 9 14 32 0	22.5
3219	1973 DEC 9 16 10 0	22.4



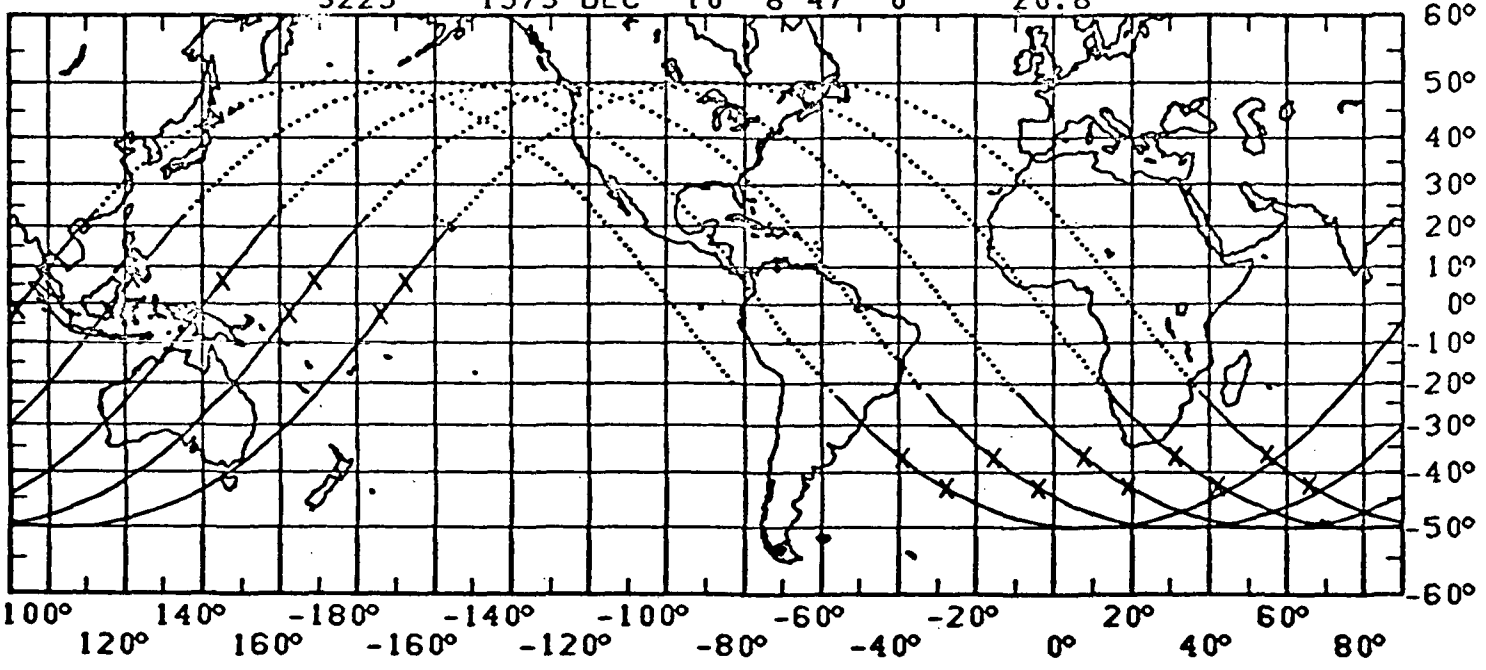
REV 3220-3225 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3220	1973	DEC	9	17	48	0	22.2
3221	1973	DEC	9	19	27	0	22.1
3222	1973	DEC	9	21	9	0	22.0
3223	1973	DEC	9	22	53	0	21.8
3224	1973	DEC	10	0	33	0	21.6



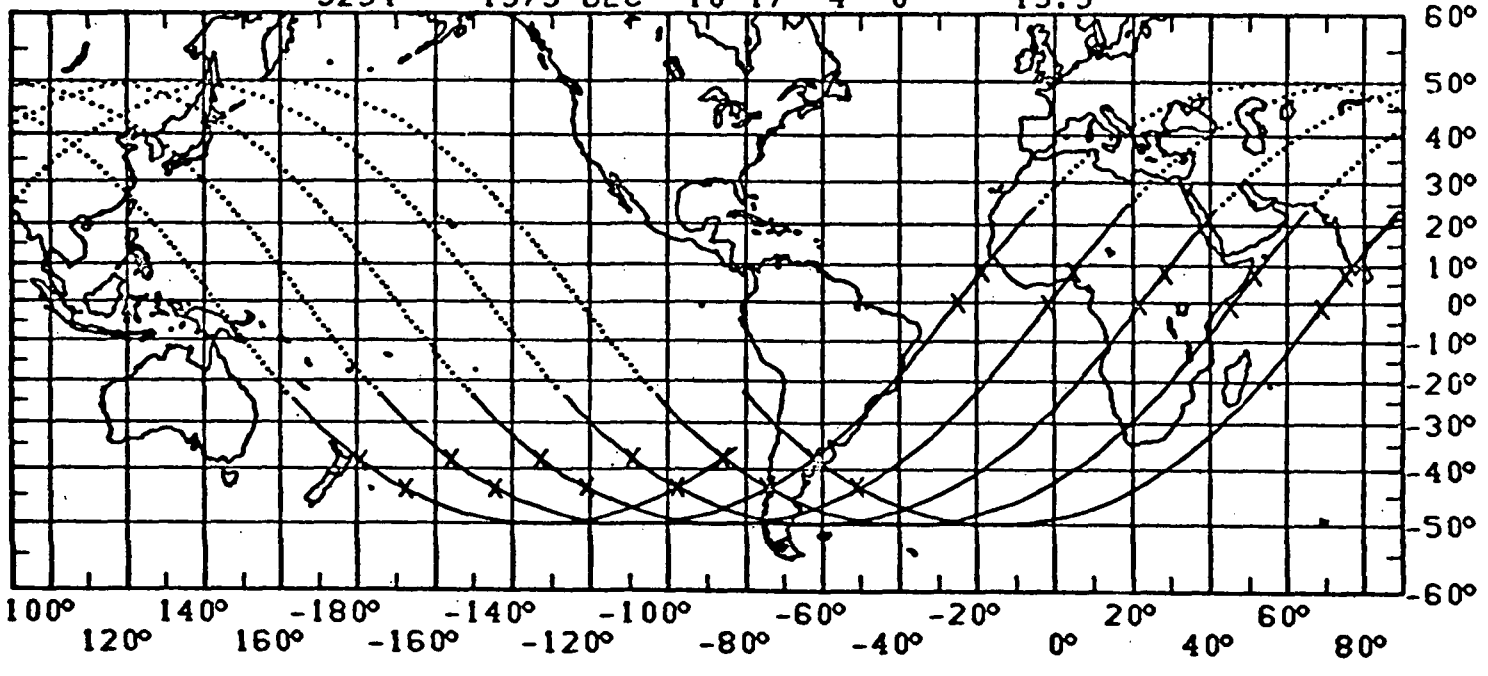
REV 3225-3230 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3225	1973	DEC	10	2	12 0	21.4
3226	1973	DEC	10	3	48 0	21.3
3227	1973	DEC	10	5	26 0	21.1
3228	1973	DEC	10	7	5 0	21.0
3229	1973	DEC	10	8	47 0	20.8

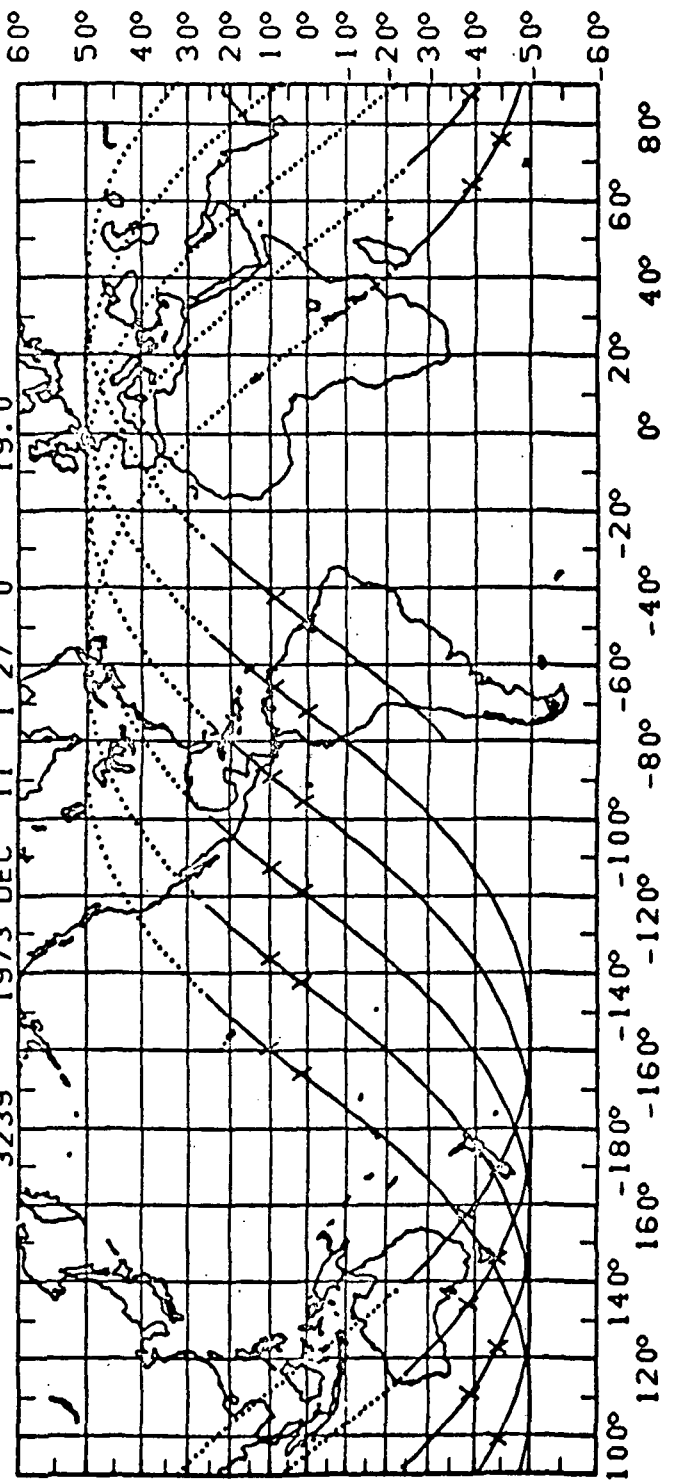


REV 3230-3235 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3230	1973 DEC 10 10 31 0	20.6
3231	1973 DEC 10 12 11 0	20.4
3232	1973 DEC 10 13 49 0	20.2
3233	1973 DEC 10 15 26 0	20.1
3234	1973 DEC 10 17 4 0	19.9

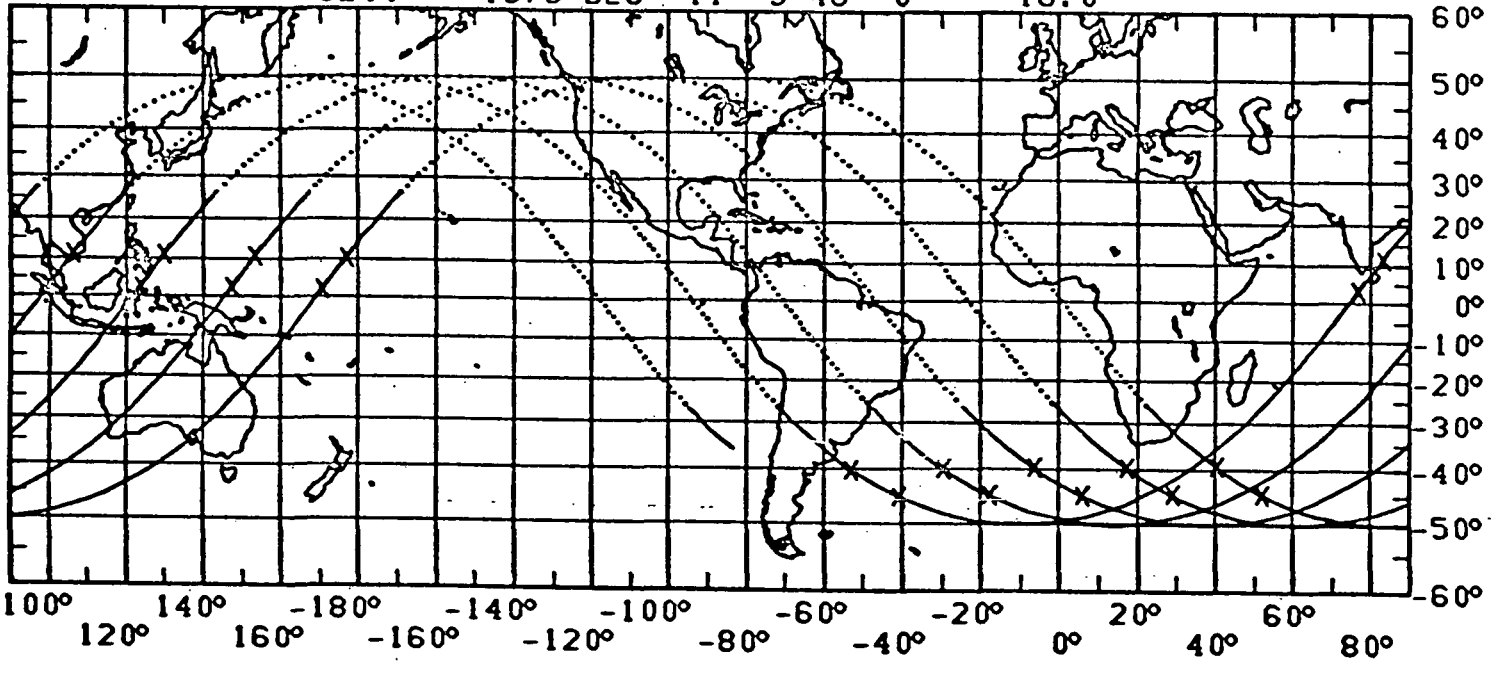


REV 3235-3240 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)



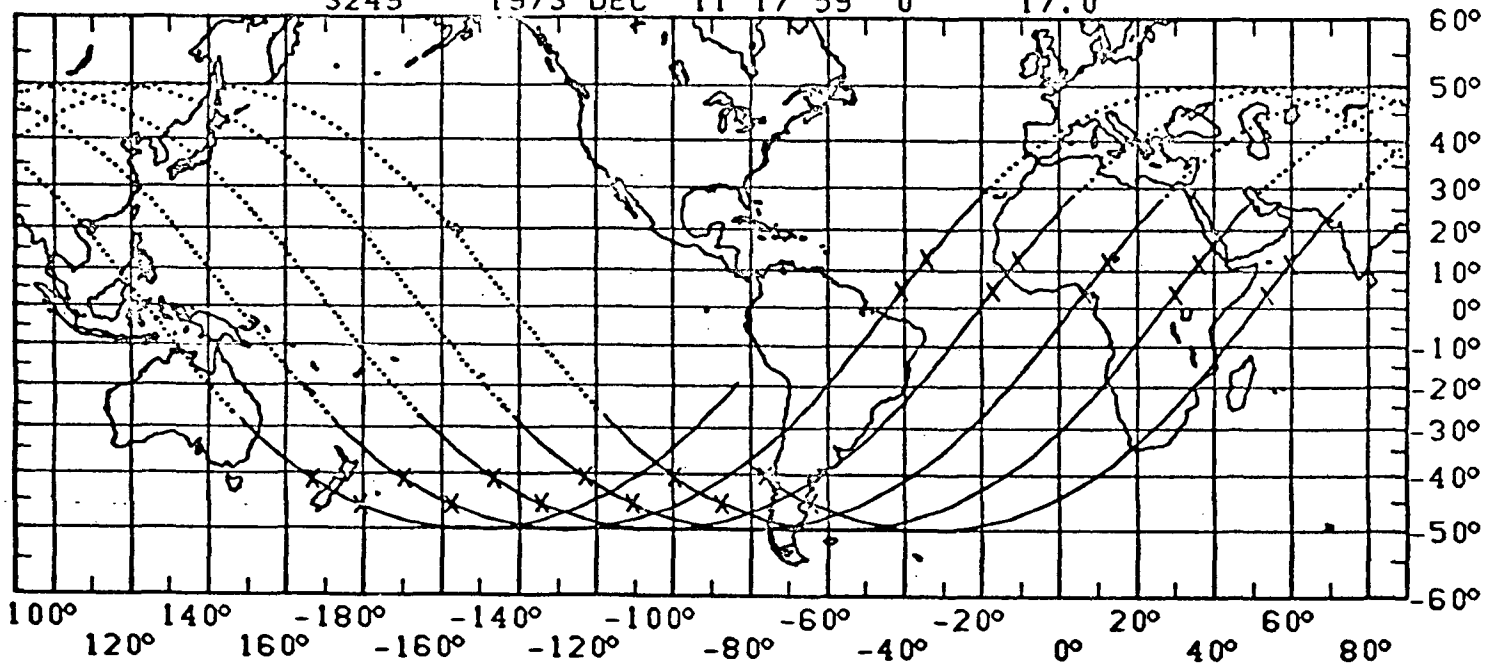
REV 3240-3245 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3240	1973 DEC 11 3 6 0	18.8
3241	1973 DEC 11 4 42 0	18.6
3242	1973 DEC 11 6 21 0	18.4
3243	1973 DEC 11 8 3 0	18.2
3244	1973 DEC 11 9 46 0	18.0



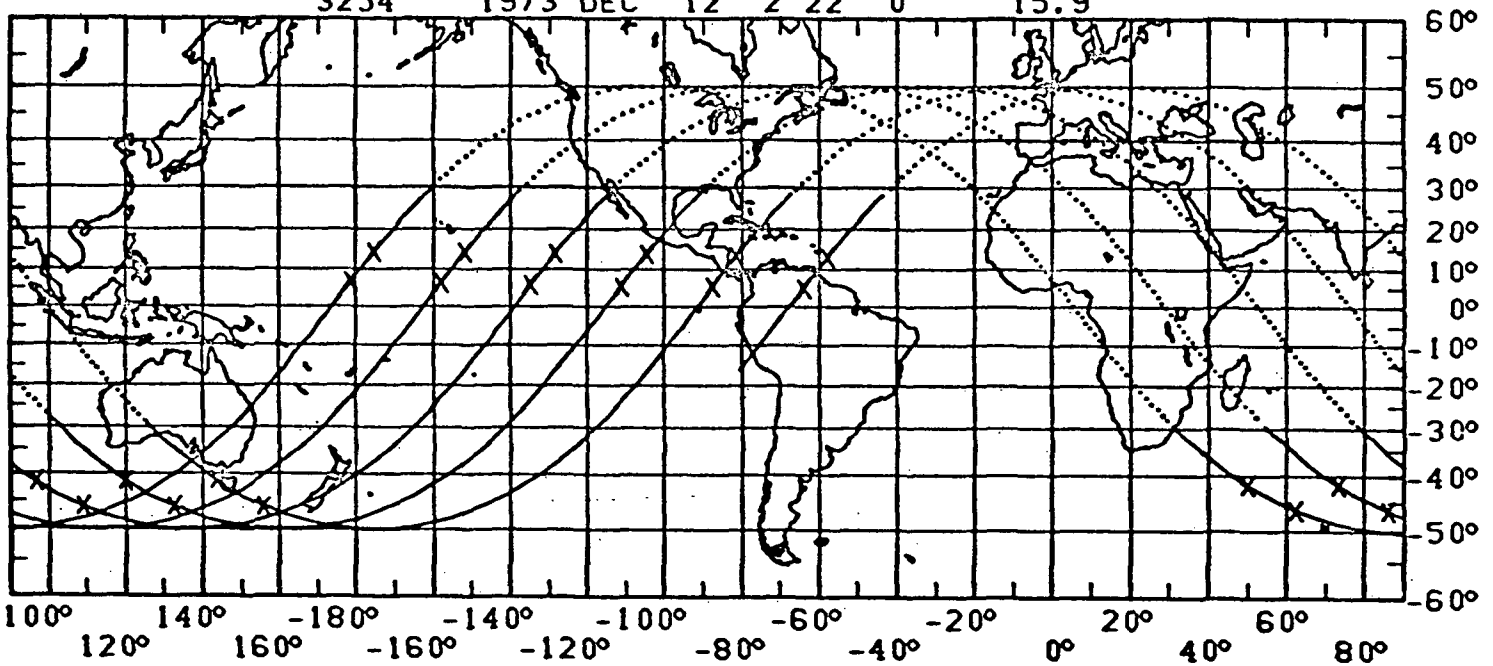
REV 3245-3250 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3245	1973 DEC 11 11 28 0	17.8
3246	1973 DEC 11 13 6 0	17.6
3247	1973 DEC 11 14 43 0	17.4
3248	1973 DEC 11 16 21 0	17.2
3249	1973 DEC 11 17 59 0	17.0



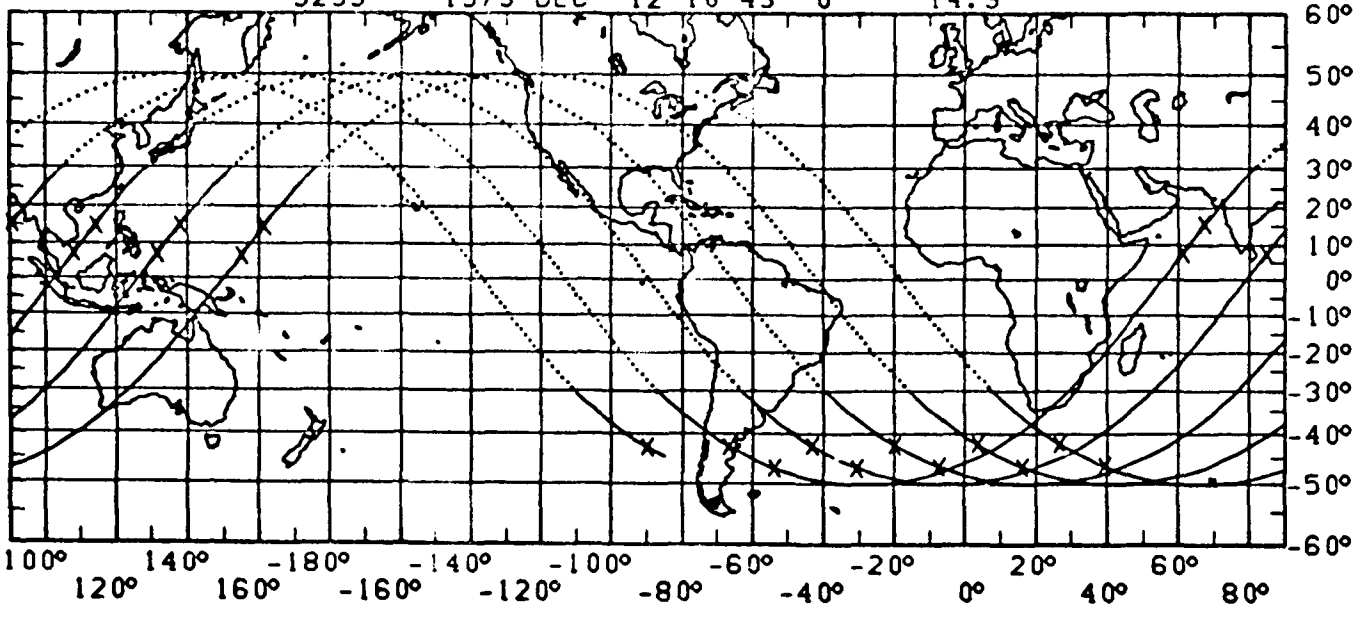
REV 3250-3255 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3250	1973 DEC 11 19 41 0	16.8
3251	1973 DEC 11 21 24 0	16.6
3252	1973 DEC 11 23 5 0	16.4
3253	1973 DEC 12 0 44 0	16.2
3254	1973 DEC 12 2 22 0	15.9



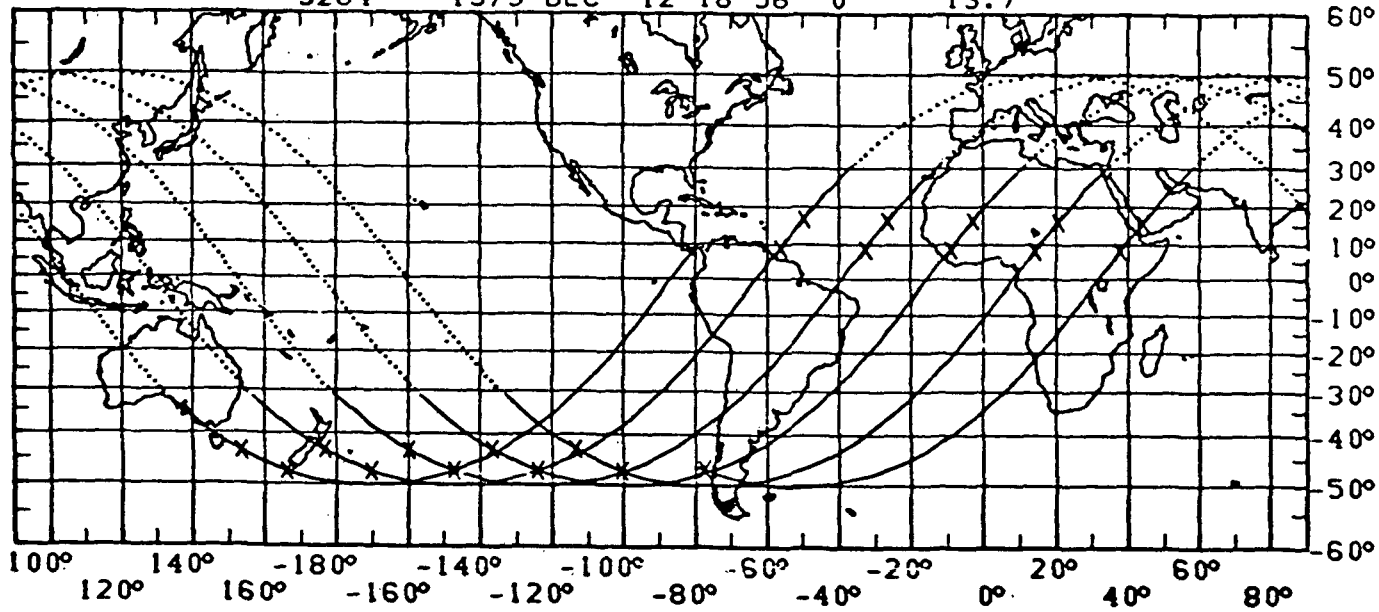
REV 3255-3260 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3255	1973	DEC	12	4	0	15.7
3256	1973	DEC	12	5	37	15.5
3257	1973	DEC	12	7	18	15.3
3258	1973	DEC	12	9	2	15.1
3259	1973	DEC	12	10	43	14.9



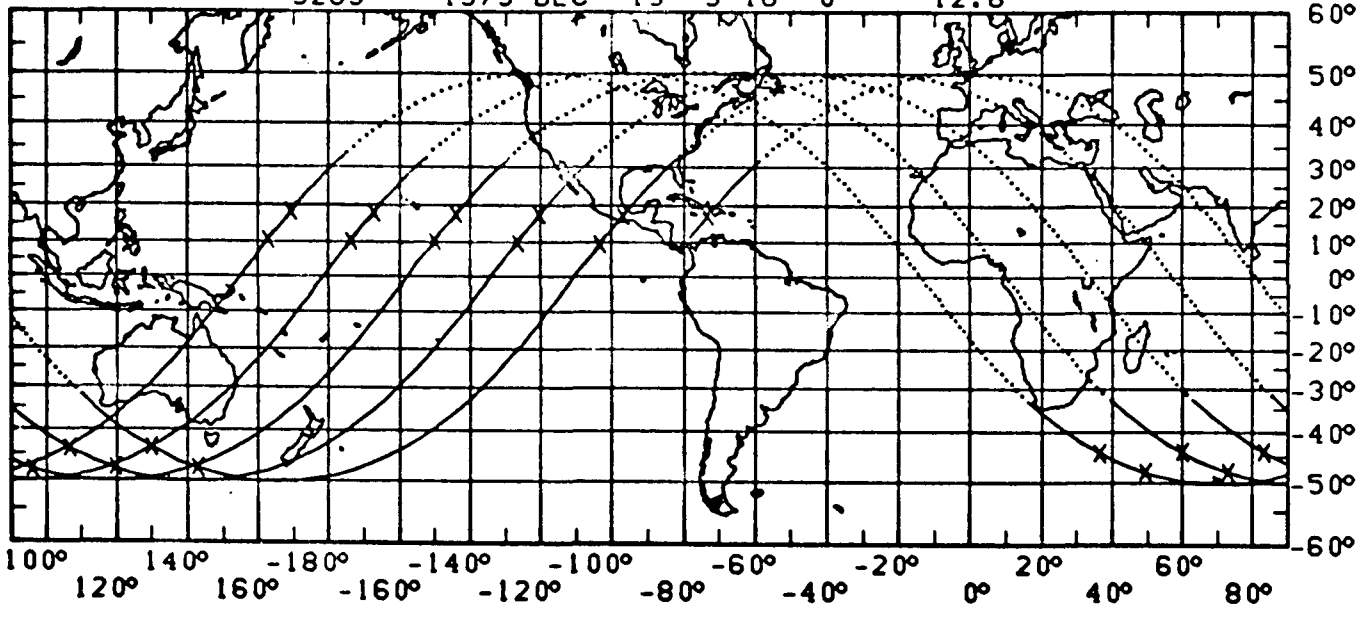
REV 3260-3265 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3260	1973 DEC 12 12 23 0	14.6
3261	1973 DEC 12 14 0 0	14.4
3262	1973 DEC 12 15 37 0	14.2
3263	1973 DEC 12 17 16 0	14.0
3264	1973 DEC 12 18 56 0	13.7



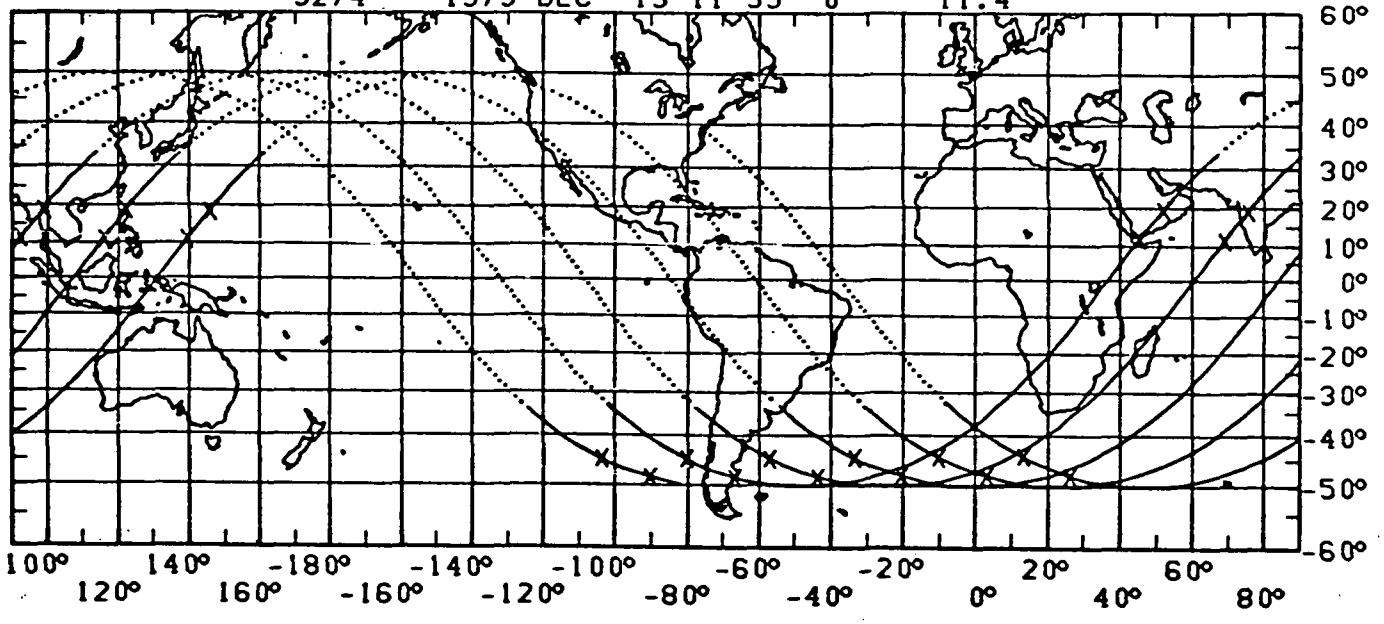
REV 3265-3270 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3265	1973 DEC 12 20 41 0	13.5
3266	1973 DEC 12 22 22 0	13.3
3267	1973 DEC 13 0 1 0	13.0
3268	1973 DEC 13 1 38 0	12.8
3269	1973 DEC 13 3 16 0	12.6



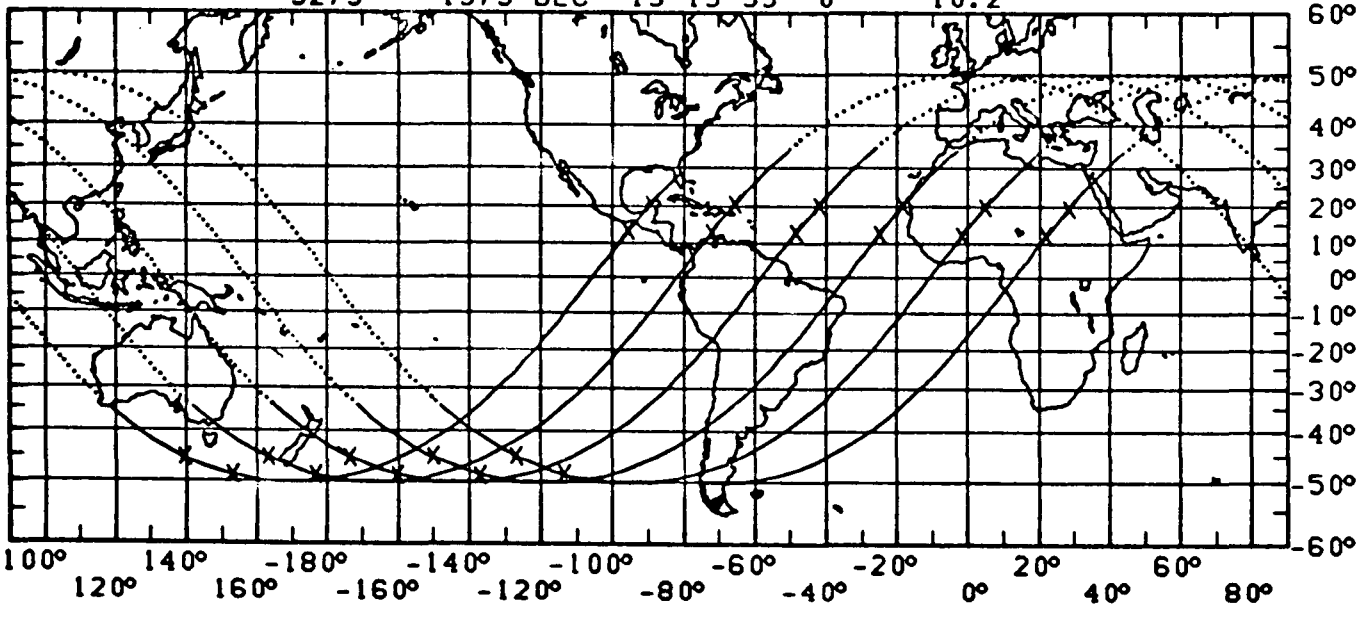
REV 3270-3275 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3270	1973 DEC 13 4 55 0	12.3
3271	1973 DEC 13 6 34 0	12.1
3272	1973 DEC 13 8 17 0	11.9
3273	1973 DEC 13 10 0 0	11.6
3274	1973 DEC 13 11 39 0	11.4



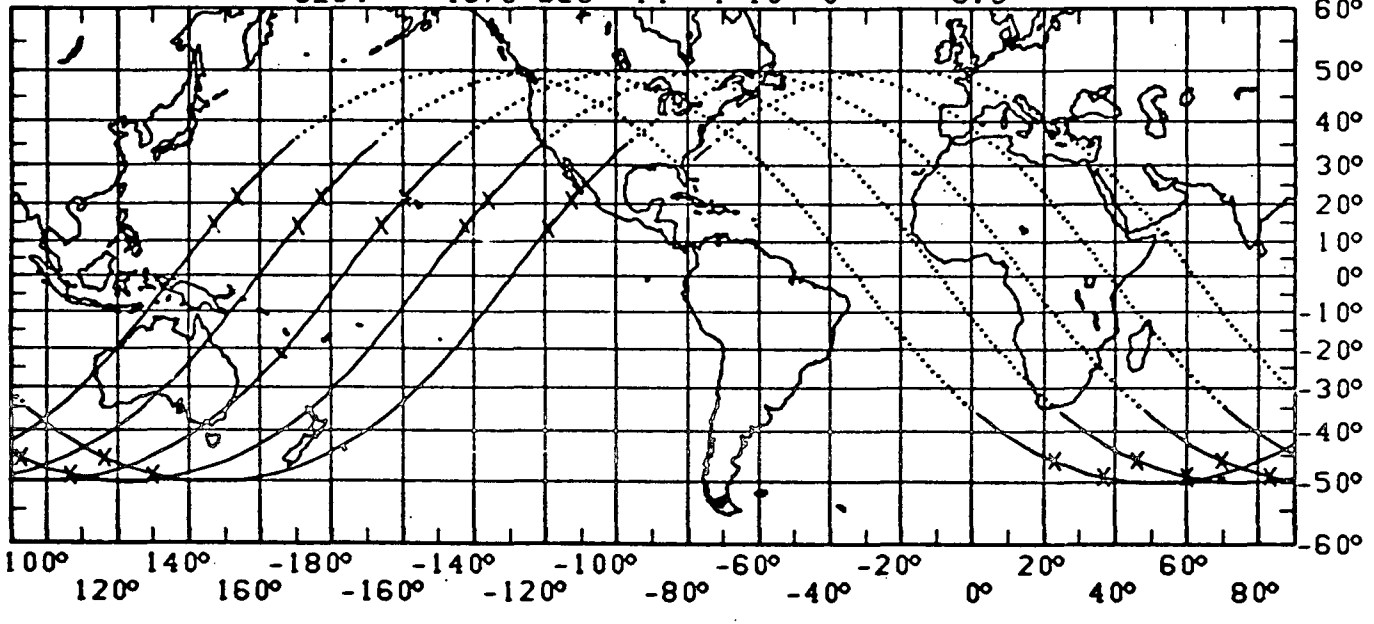
REV 3275-3280 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

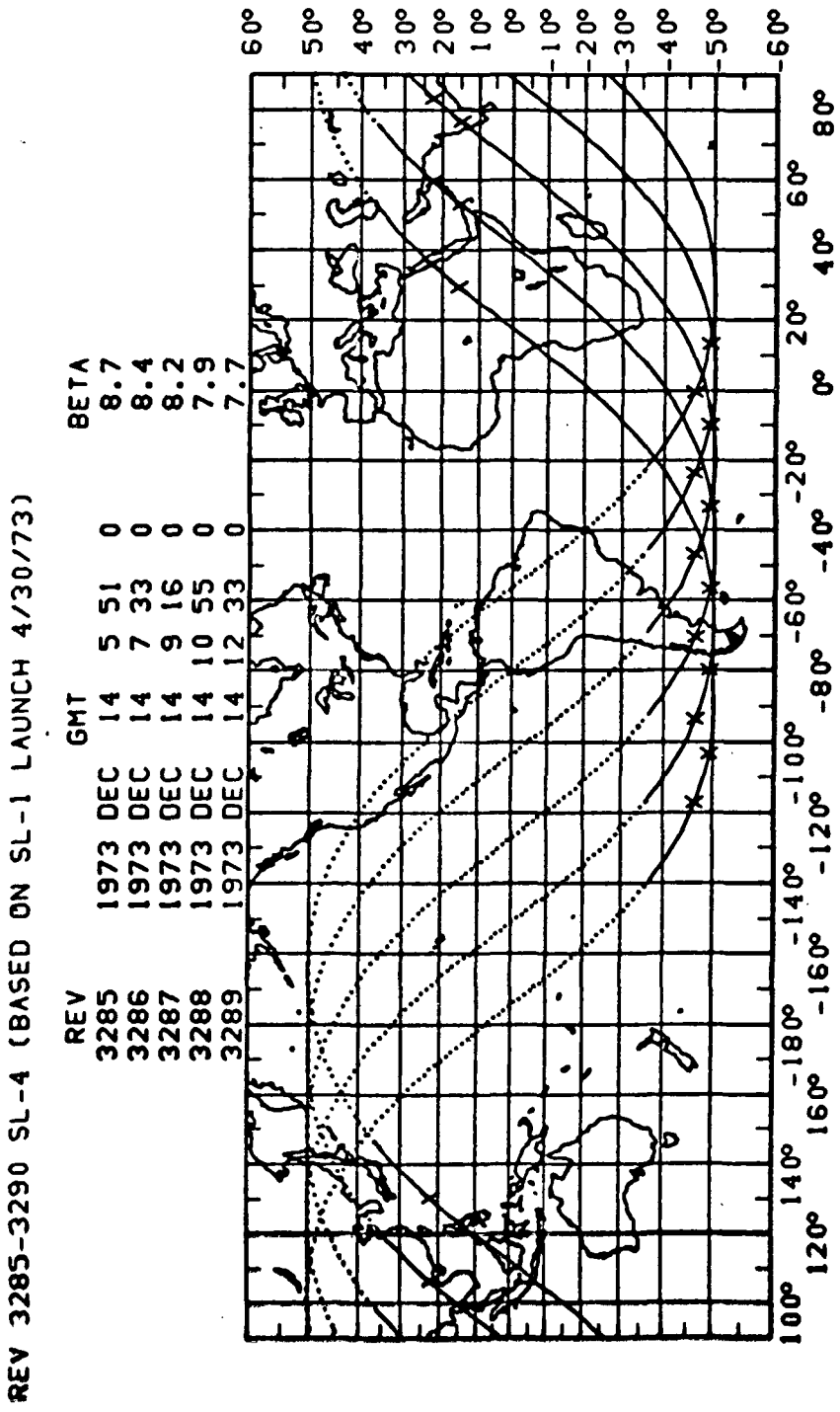
REV	GMT					BETA
3275	1973 DEC	13	13	18	0	11.1
3276	1973 DEC	13	14	54	0	10.9
3277	1973 DEC	13	16	32	0	10.7
3278	1973 DEC	13	18	12	0	10.4
3279	1973 DEC	13	19	55	0	10.2



REV 3280-3285 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

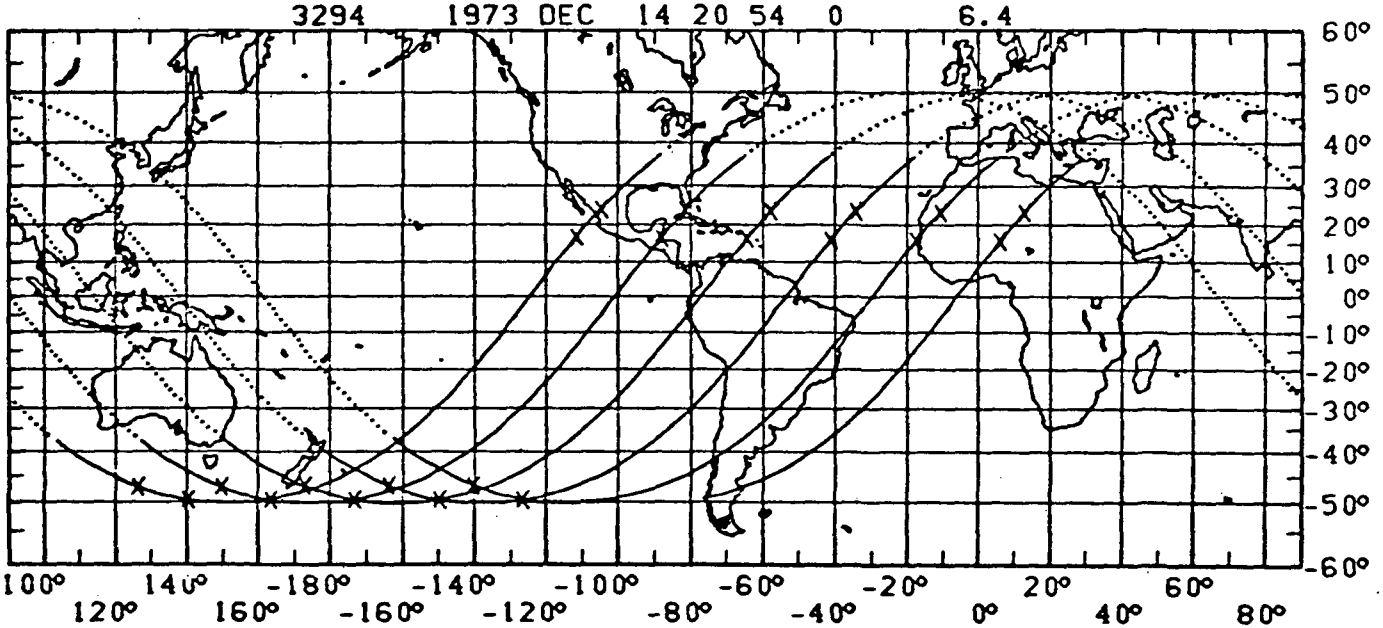
REV	GMT					BETA
3280	1973	DEC	13	21	39	0	9.9
3281	1973	DEC	13	23	17	0	9.7
3282	1973	DEC	14	0	55	0	9.4
3283	1973	DEC	14	2	32	0	9.2
3284	1973	DEC	14	4	10	0	8.9

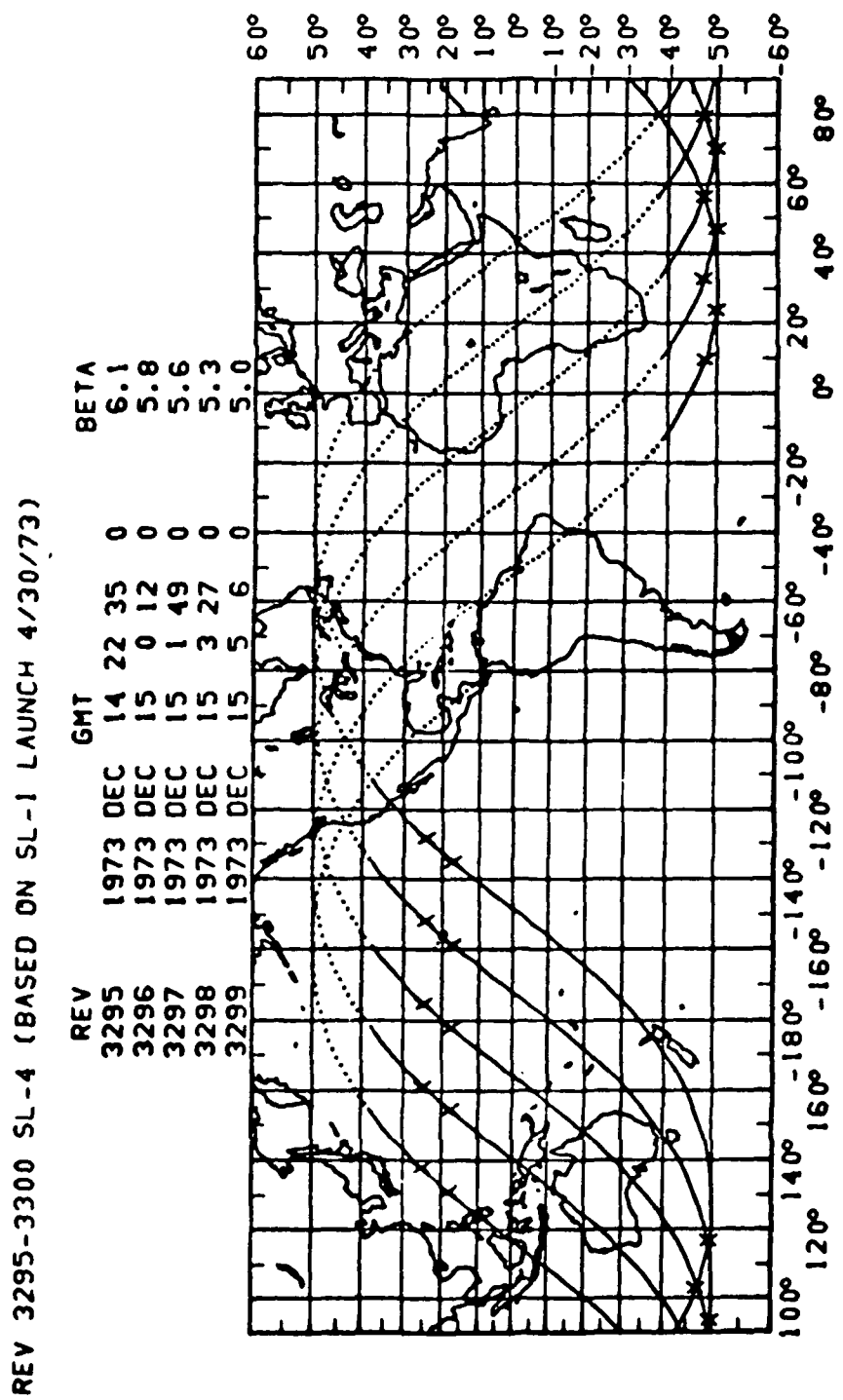



REV 3285-3290 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3285 1973 DEC 14 5 51 0 8.7
3286 1973 DEC 14 7 33 0 8.4
3287 1973 DEC 14 9 16 0 8.2
3288 1973 DEC 14 10 55 0 7.9
3289 1973 DEC 14 12 33 0 7.7
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

REV 3290-3295 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

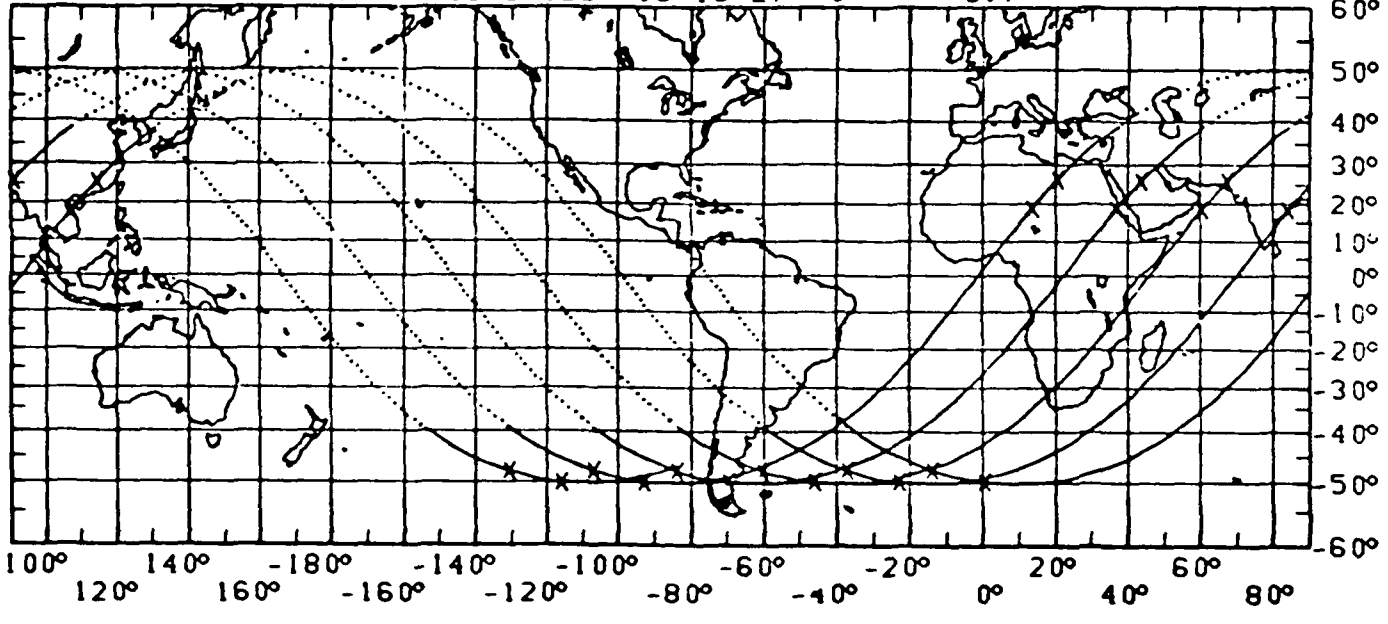
REV	GMT					BETA
3290	1973	DEC	14	14	12	7.4
3291	1973	DEC	14	15	49	7.1
3292	1973	DEC	14	17	28	6.9
3293	1973	DEC	14	19	10	6.6
3294	1973	DEC	14	20	54	6.4




REV 3295-3300 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3295 1973 DEC 14 22 35 0 6.1
3296 1973 DEC 15 0 12 0 5.8
3297 1973 DEC 15 1 49 0 5.6
3298 1973 DEC 15 3 27 0 5.3
3299 1973 DEC 15 5 6 0 5.0
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

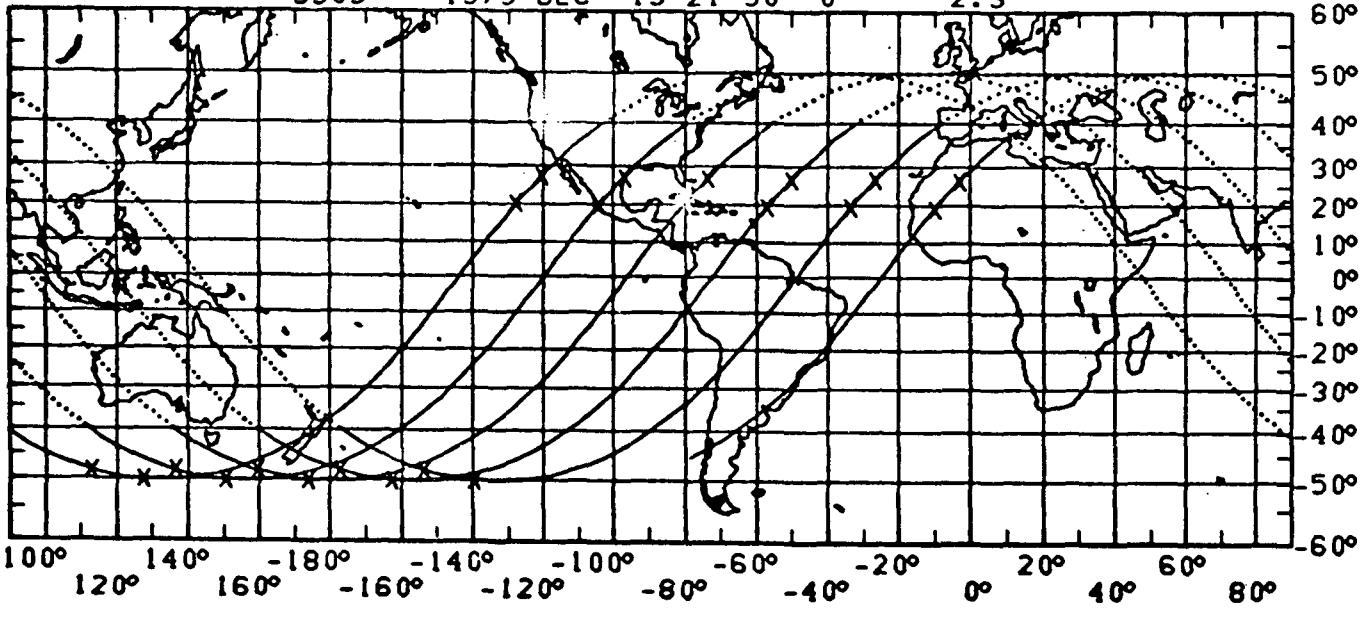
REV 3300-3305 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3300	1973 DEC 15 6 49 0	4.8
3301	1973 DEC 15 8 31 0	4.5
3302	1973 DEC 15 10 12 0	4.2
3303	1973 DEC 15 11 50 0	3.9
3304	1973 DEC 15 13 27 0	3.7



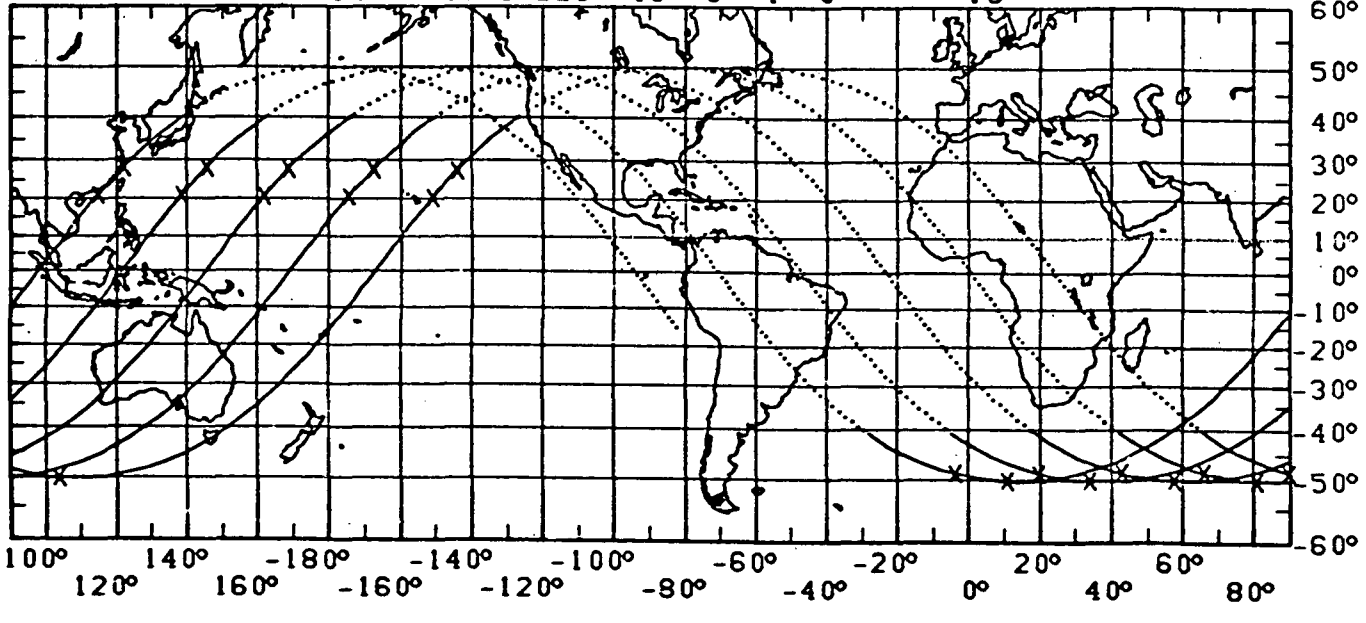
REV 3305-3310 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

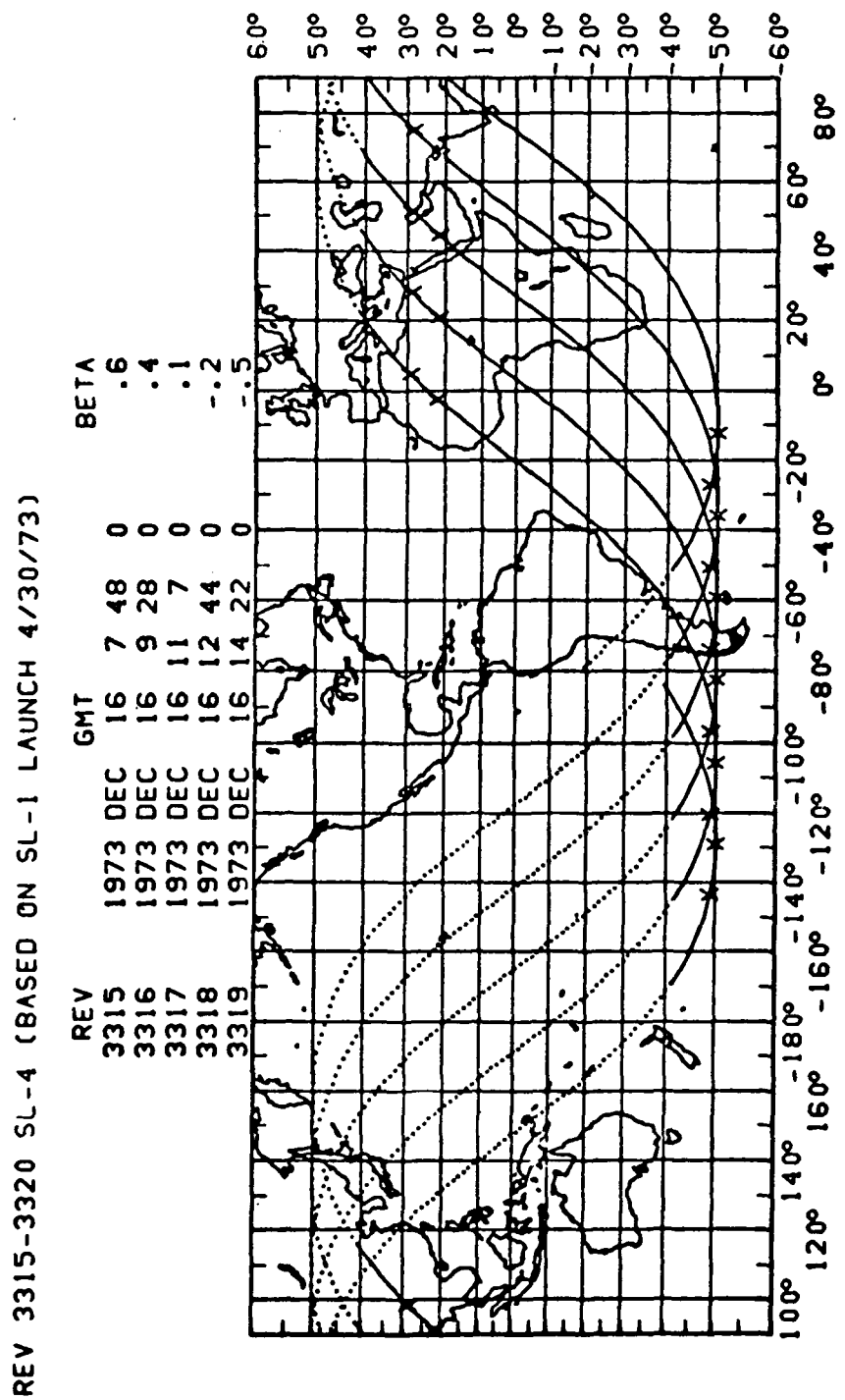
REV	GMT	BETA
3305	1973 DEC 15 15 6 0	3.4
3306	1973 DEC 15 16 44 0	3.1
3307	1973 DEC 15 18 26 0	2.9
3308	1973 DEC 15 20 9 0	2.6
3309	1973 DEC 15 21 50 0	2.3



REV 3310-3315 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

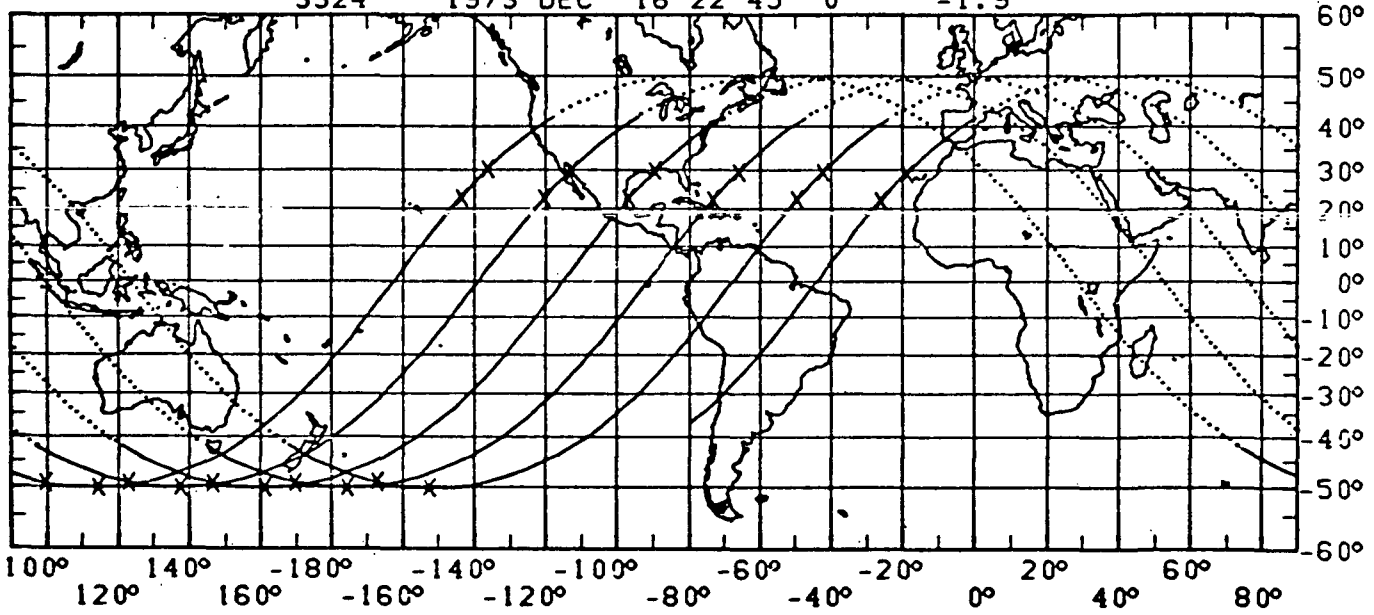
REV	GMT	BETA
3310	1973 DEC 15 23 30 0	2.0
3311	1973 DEC 16 1 6 0	1.7
3312	1973 DEC 16 2 43 0	1.5
3313	1973 DEC 16 4 22 0	1.2
3314	1973 DEC 16 6 4 0	.9

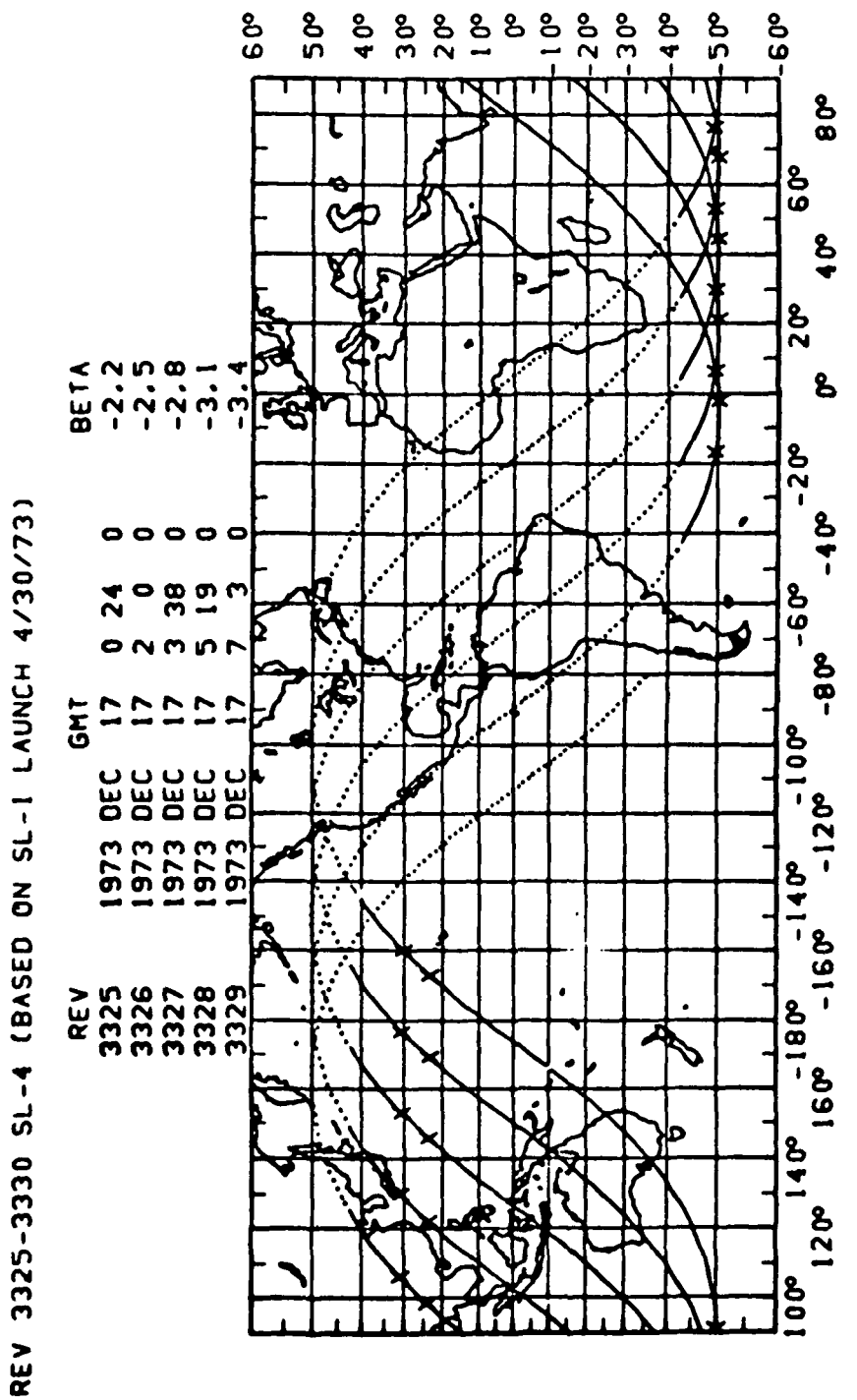


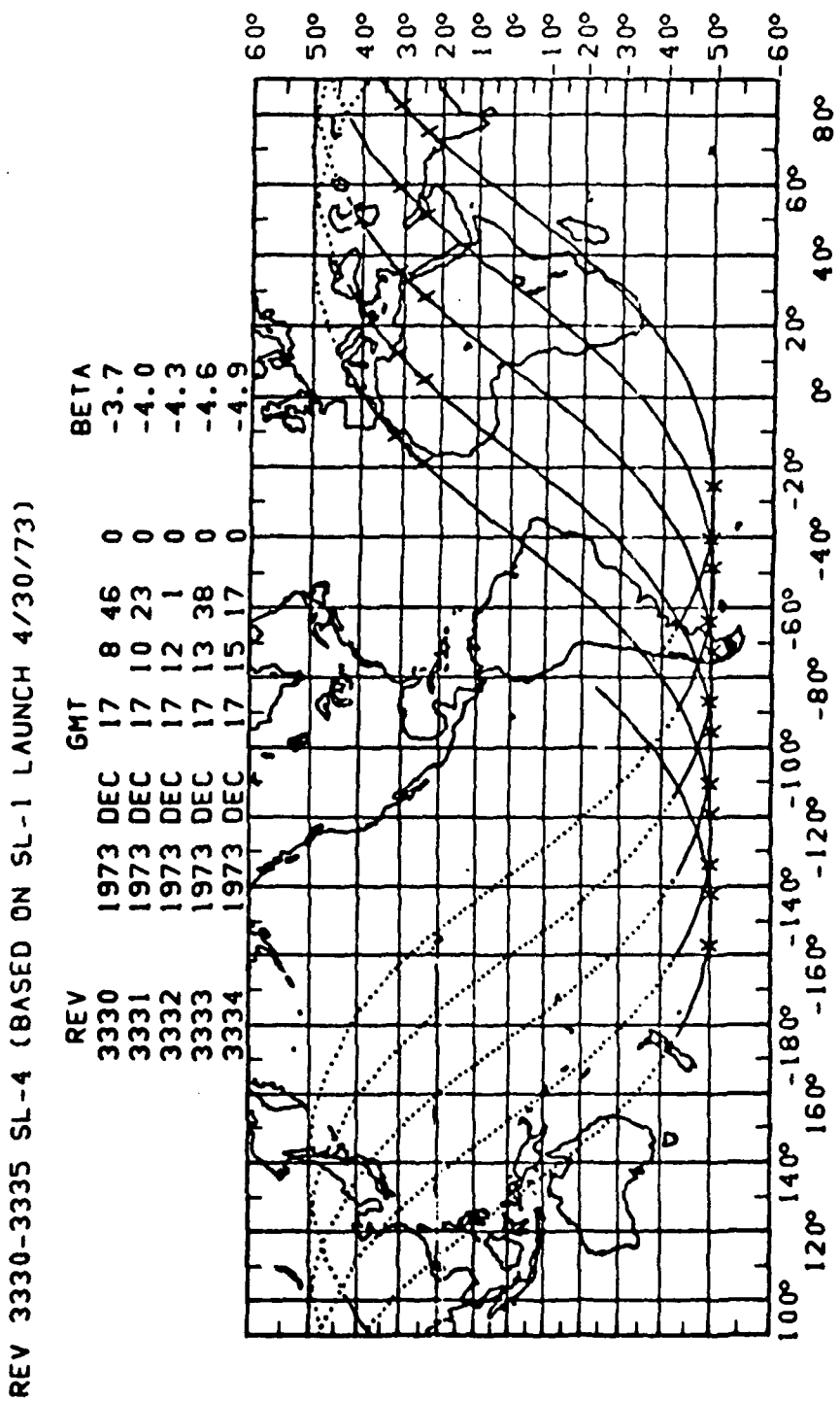

REV 3315-3320 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3315 1973 DEC 16 7 48 0 .6
3316 1973 DEC 16 9 28 0 .4
3317 1973 DEC 16 11 7 0 .1
3318 1973 DEC 16 12 44 0 -.2
3319 1973 DEC 16 14 22 0 -.5
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

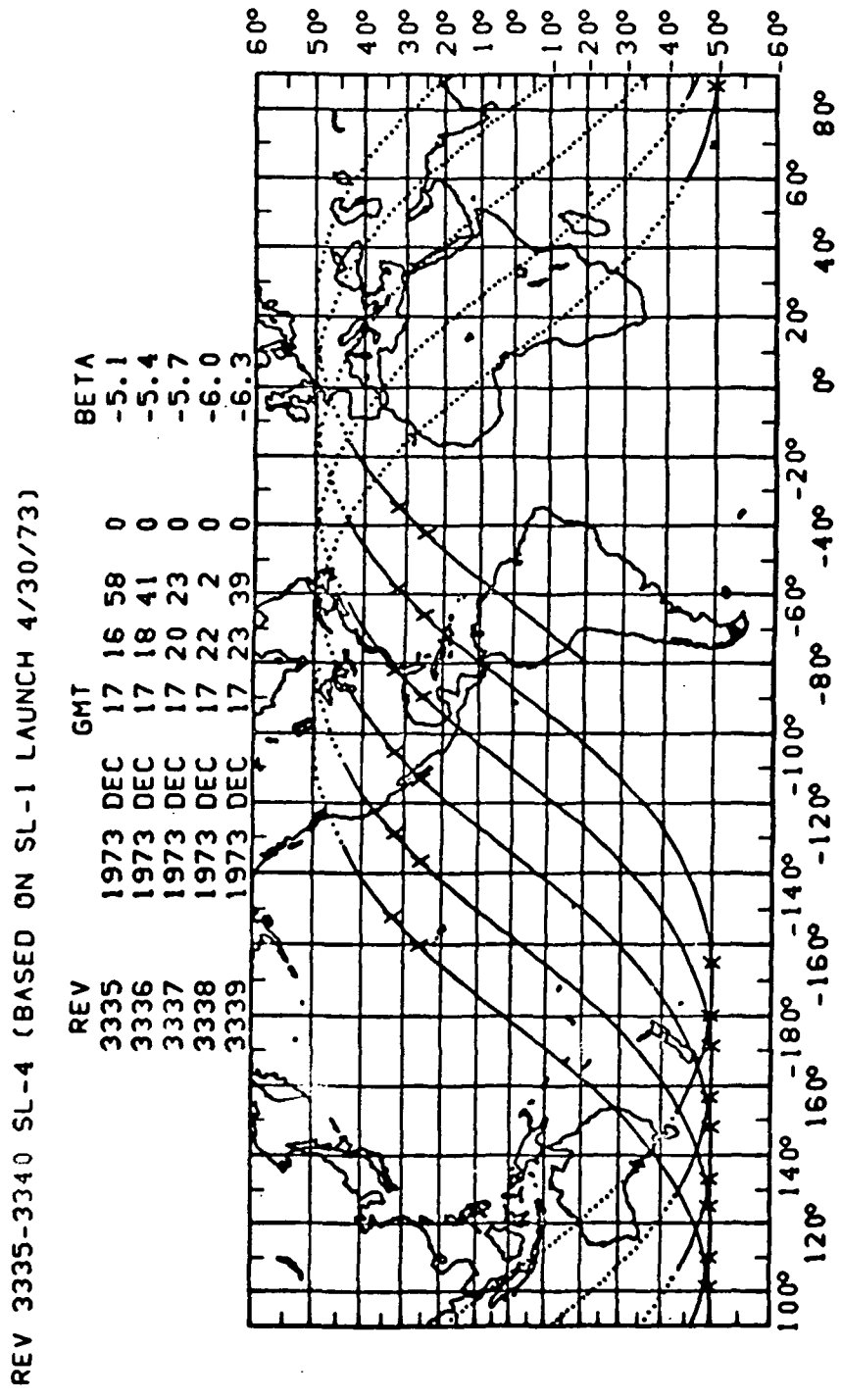
REV 3320-3325 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3320	1973 DEC 16 16 1 0	-.8
3321	1973 DEC 16 17 42 0	-1.1
3322	1973 DEC 16 19 25 0	-1.3
3323	1973 DEC 16 21 6 0	-1.6
3324	1973 DEC 16 22 45 0	-1.9



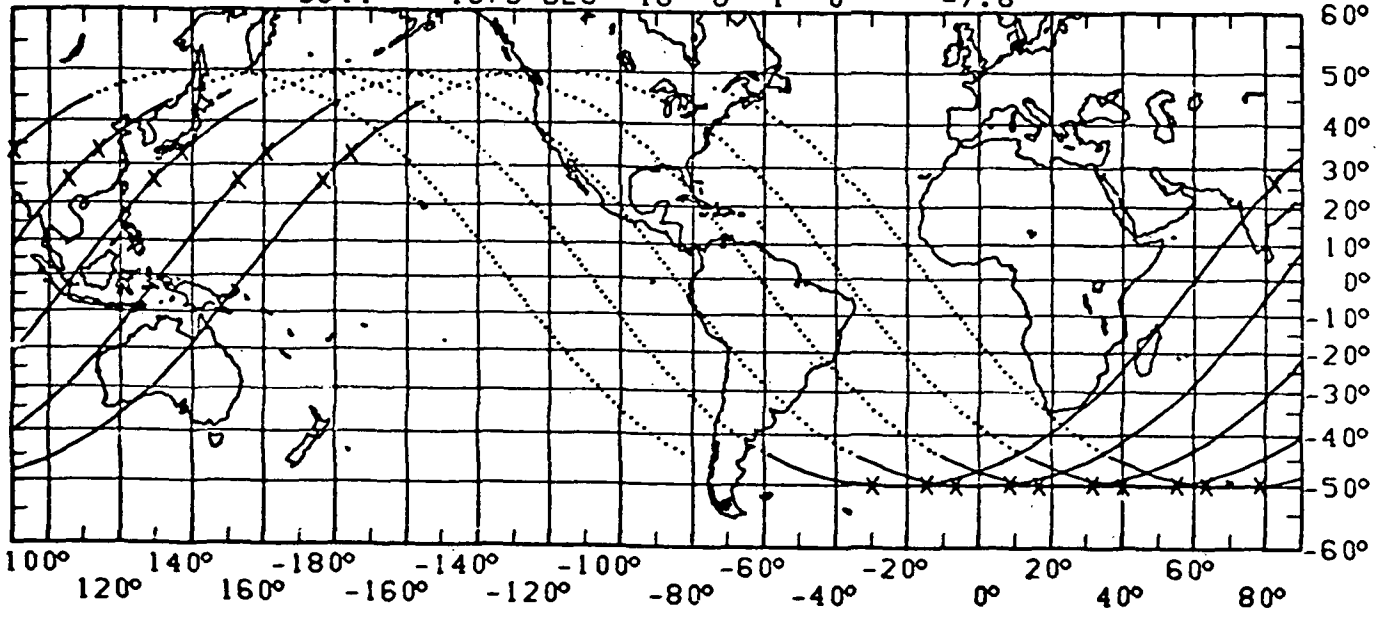

REV 3325-3330 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3325 1973 DEC 17 0 24 0 -2.2
3326 1973 DEC 17 2 0 0 -2.5
3327 1973 DEC 17 3 38 0 -2.8
3328 1973 DEC 17 5 19 0 -3.1
3329 1973 DEC 17 7 3 0 -3.4
60°
50°
40°
30°
20°
10°
0°
10°
20°
30°
40°
50°
60°
100°
120°
140°
160°
-180°
-160°
-140°
-120°
-100°
-80°
-60°
-40°
-20°
0°
20°
40°
60°
80°


REV 3330-3335 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3330 1973 DEC 17 8 46 0 -3.7
3331 1973 DEC 17 10 23 0 -4.0
3332 1973 DEC 17 12 1 0 -4.3
3333 1973 DEC 17 13 38 0 -4.6
3334 1973 DEC 17 15 17 0 -4.9
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°


REV 3335-3340 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV
GMT
BETA
3335 1973 DEC 17 16 58 0 -5.1
3336 1973 DEC 17 18 41 0 -5.4
3337 1973 DEC 17 20 23 0 -5.7
3338 1973 DEC 17 22 2 0 -6.0
3339 1973 DEC 17 23 39 0 -6.3
60°
50°
40°
30°
20°
10°
0°
-10°
-20°
-30°
-40°
-50°
-60°
100°
120°
140°
160°
-180°
-160°
-140°
-120°
-100°
-80°
-60°
-40°
-20°
0°
20°
40°
60°
80°

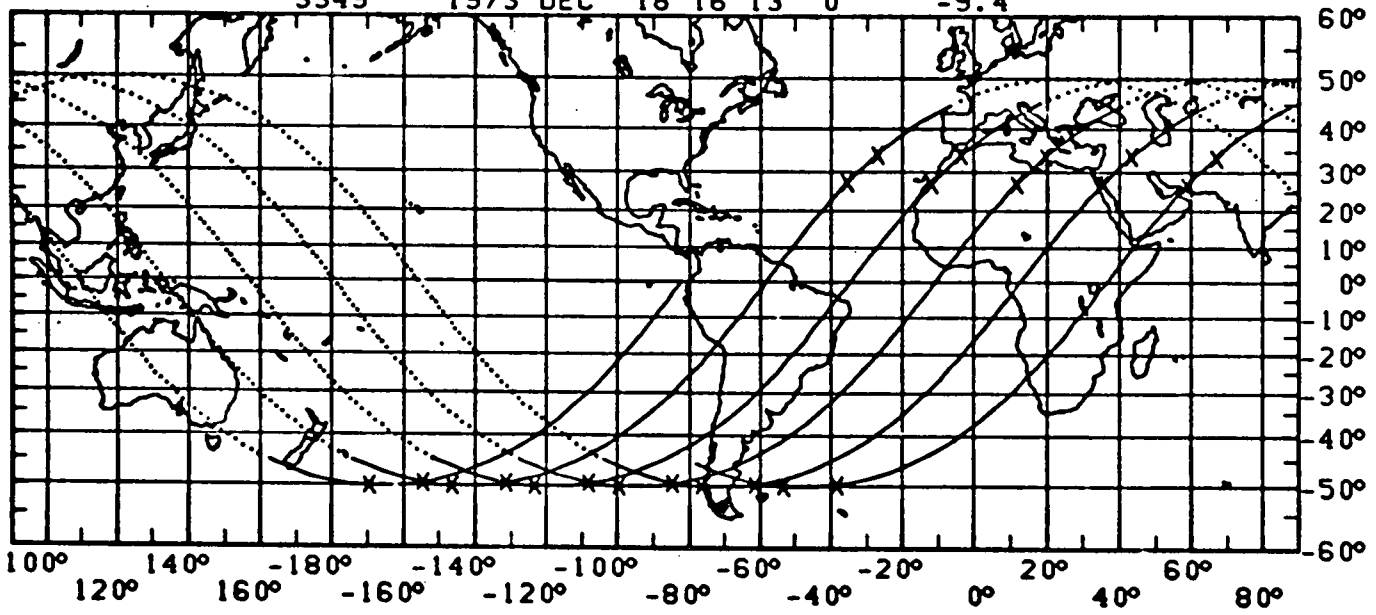
REV 3340-3345 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT						BETA
3340	1973	DEC	18	1	18	0	-6.7
3341	1973	DEC	18	2	55	0	-6.9
3342	1973	DEC	18	4	35	0	-7.2
3343	1973	DEC	18	6	18	0	-7.5
3344	1973	DEC	18	8	1	0	-7.8



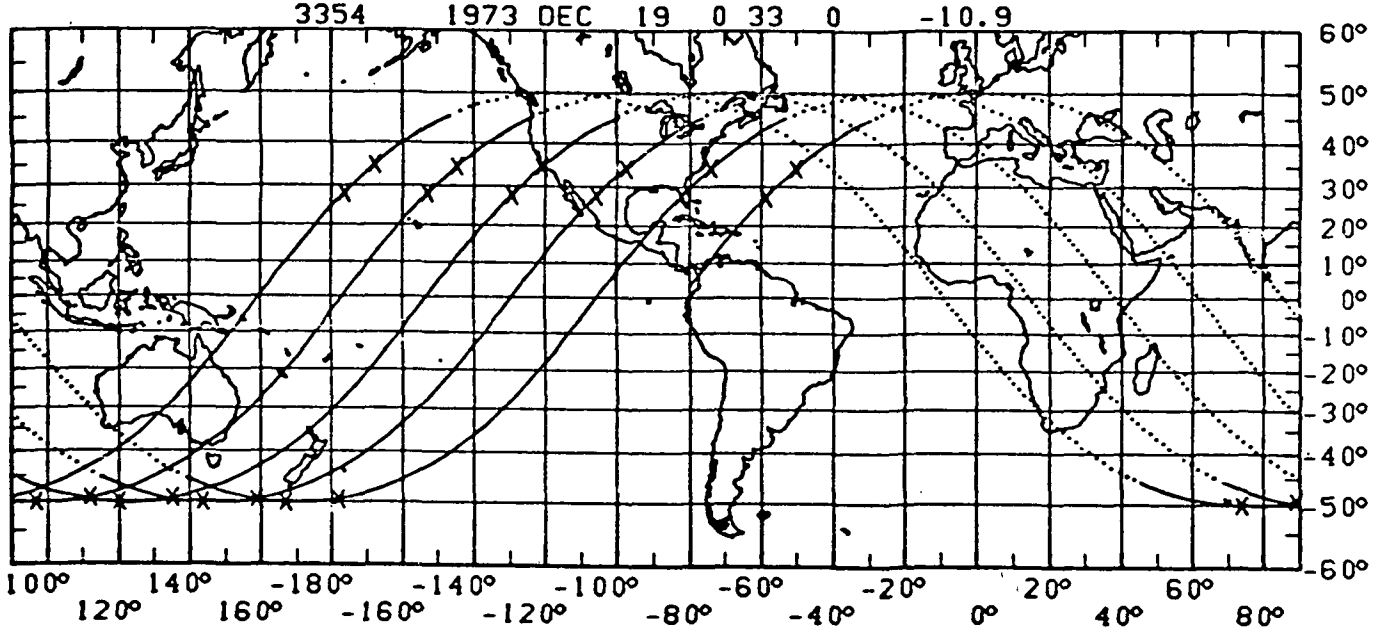
REV 3345-3350 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3345	1973 DEC 18 9 41 0	-8.1
3346	1973 DEC 18 11 18 0	-8.5
3347	1973 DEC 18 12 55 0	-8.8
3348	1973 DEC 18 14 33 0	-9.1
3349	1973 DEC 18 16 13 0	-9.4



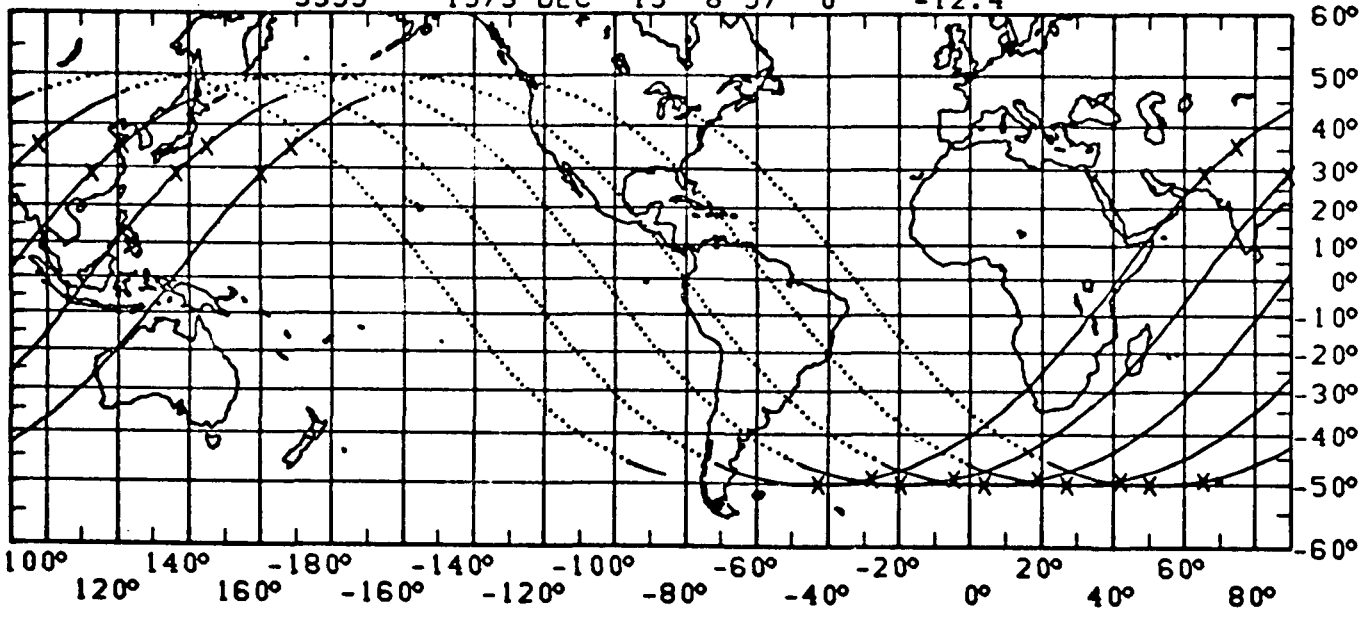
REV 3350-3355 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3350	1973	DEC	18	17	57	0	-9.6
3351	1973	DEC	18	19	39	0	-10.0
3352	1973	DEC	18	21	18	0	-10.3
3353	1973	DEC	18	22	56	0	-10.6
3354	1973	DEC	19	0	33	0	-10.9



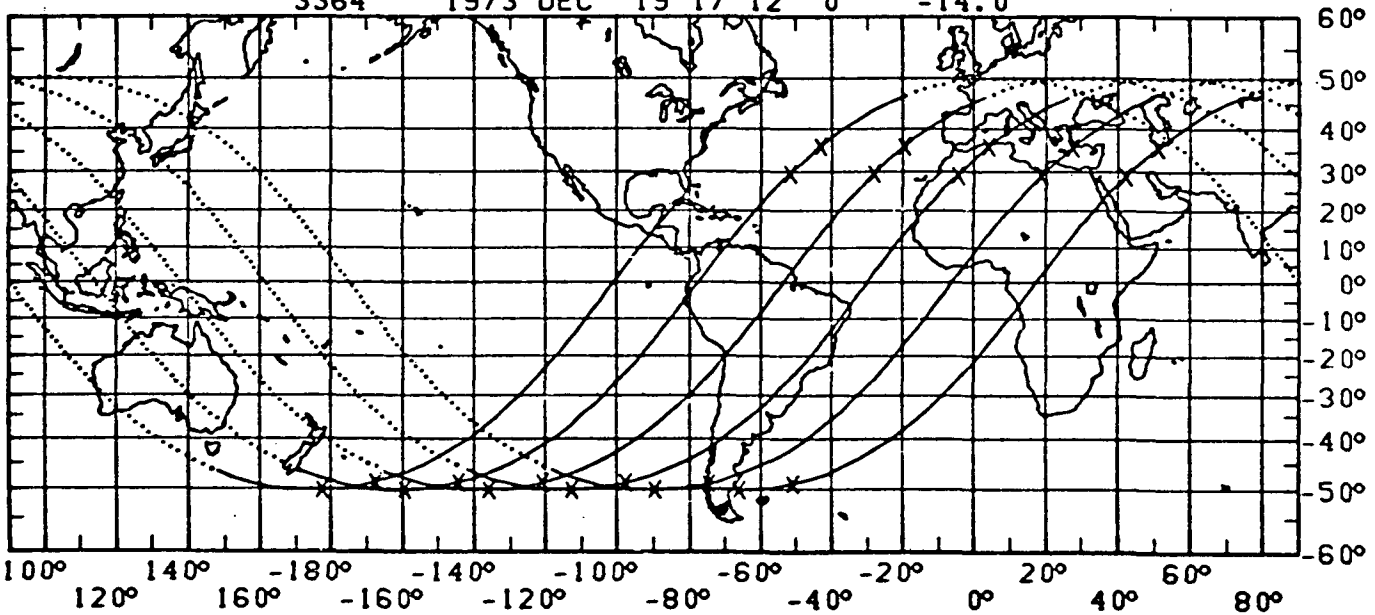
REV 3355-3360 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

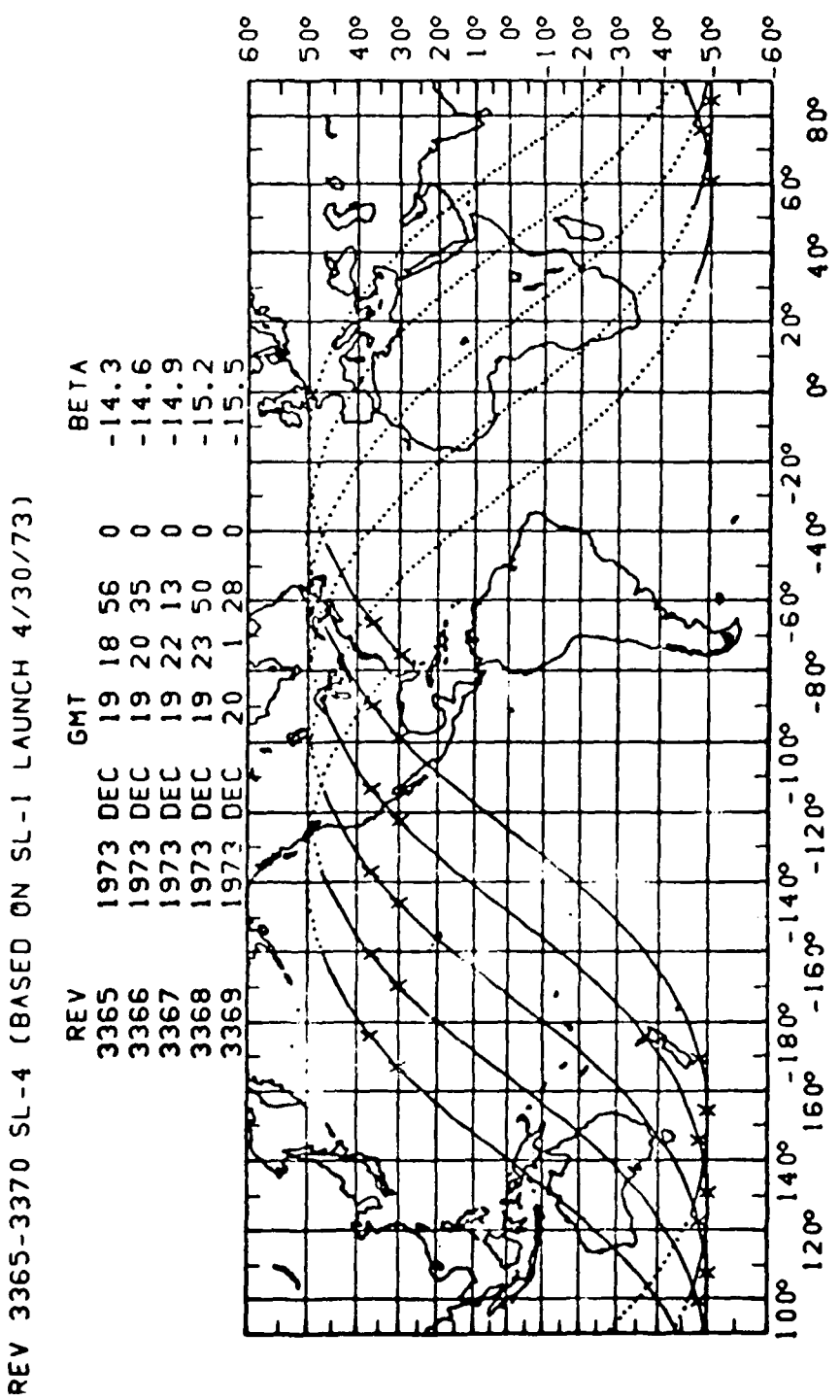
REV	GMT	BETA
3355	1973 DEC 19 2 12 0	-11.2
3356	1973 DEC 19 3 51 0	-11.5
3357	1973 DEC 19 5 34 0	-11.8
3358	1973 DEC 19 7 17 0	-12.1
3359	1973 DEC 19 8 57 0	-12.4



REV 3360-3365 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

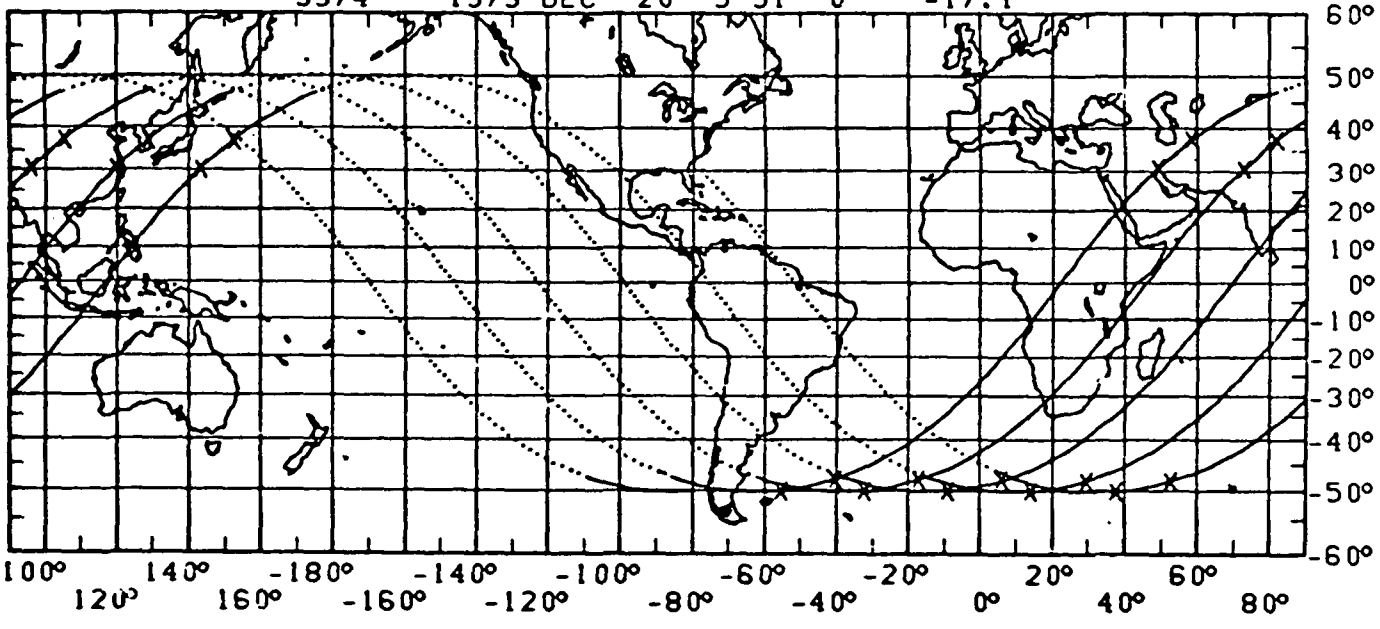
REV	GMT	BETA
3360	1973 DEC 19 10 35 0	-12.7
3361	1973 DEC 19 12 12 0	-13.1
3362	1973 DEC 19 13 50 0	-13.4
3363	1973 DEC 19 15 29 0	-13.7
3364	1973 DEC 19 17 12 0	-14.0




REV 3365-3370 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3365 1973 DEC 19 18 56 0 -14.3
3366 1973 DEC 19 20 35 0 -14.6
3367 1973 DEC 19 22 13 0 -14.9
3368 1973 DEC 19 23 50 0 -15.2
3369 1973 DEC 20 1 28 0 -15.5
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

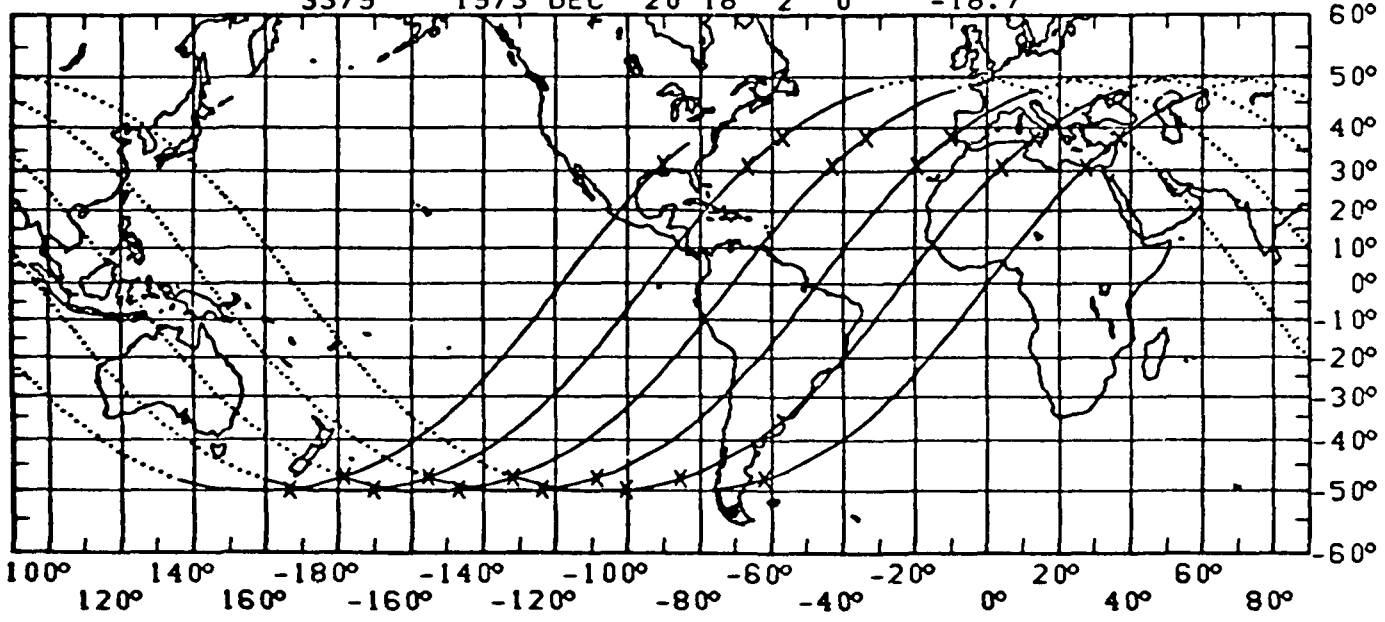
REV 3370-3375 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3370	1973 DEC 20 3 8 0	-15.9
3371	1973 DEC 20 4 49 0	-16.2
3372	1973 DEC 20 6 33 0	-16.5
3373	1973 DEC 20 8 13 0	-16.8
3374	1973 DEC 20 9 51 0	-17.1



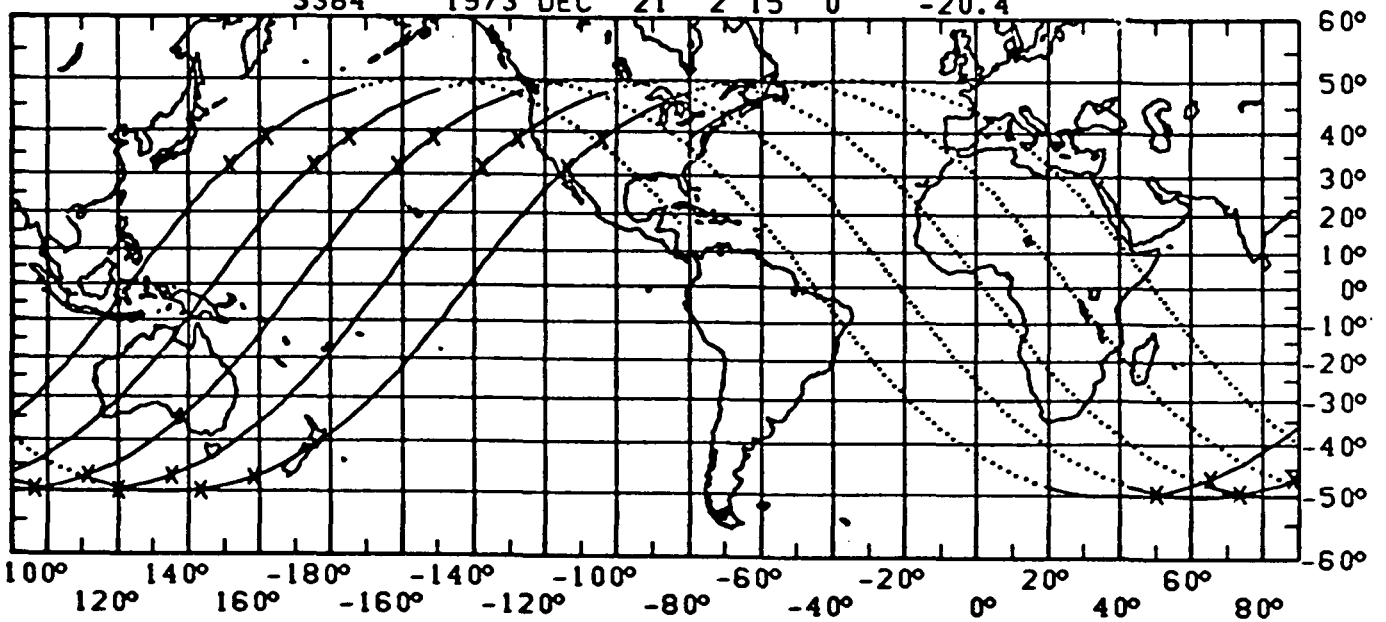
REV 3375-3380 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3375	1973	DEC	20	11	22	0	-17.5
3376	1973	DEC	20	12	58	0	-17.8
3377	1973	DEC	20	14	37	0	-18.1
3378	1973	DEC	20	16	19	0	-18.4
3379	1973	DEC	20	18	2	0	-18.7



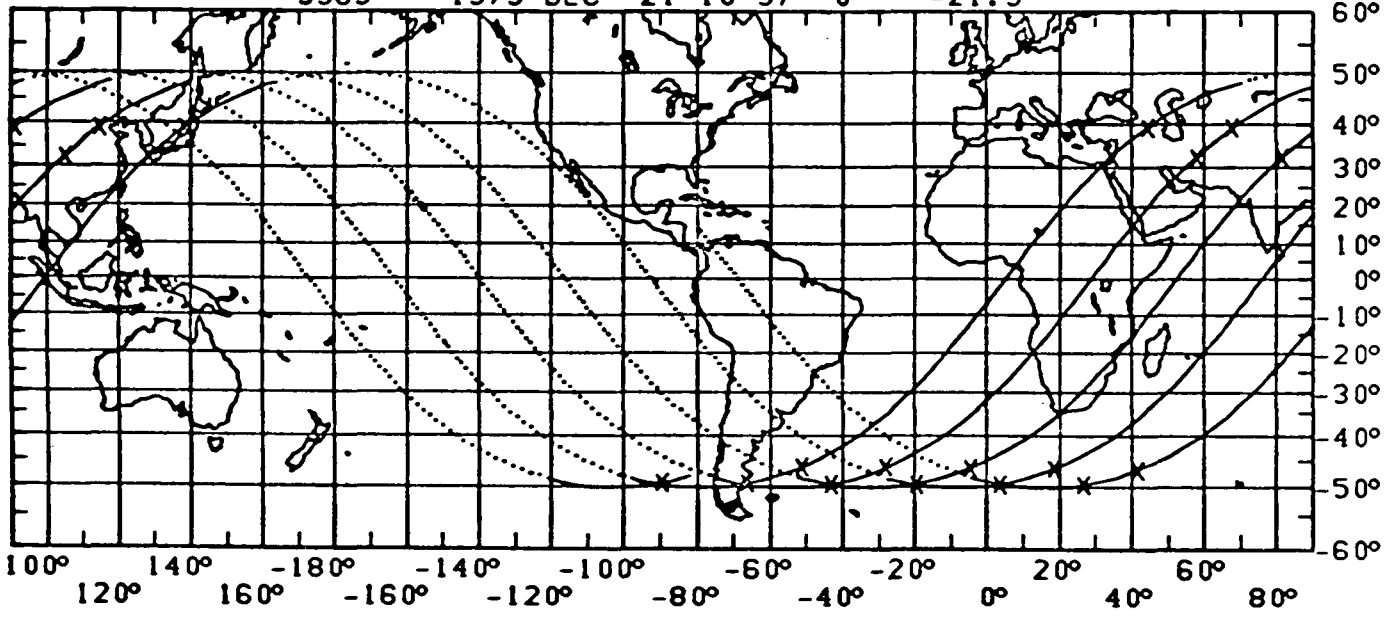
REV 3380-3385 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3380	1973 DEC 20 19 44 0	-19.1
3381	1973 DEC 20 21 22 0	-19.4
3382	1973 DEC 20 22 59 0	-19.7
3383	1973 DEC 21 0 36 0	-20.0
3384	1973 DEC 21 2 15 0	-20.4



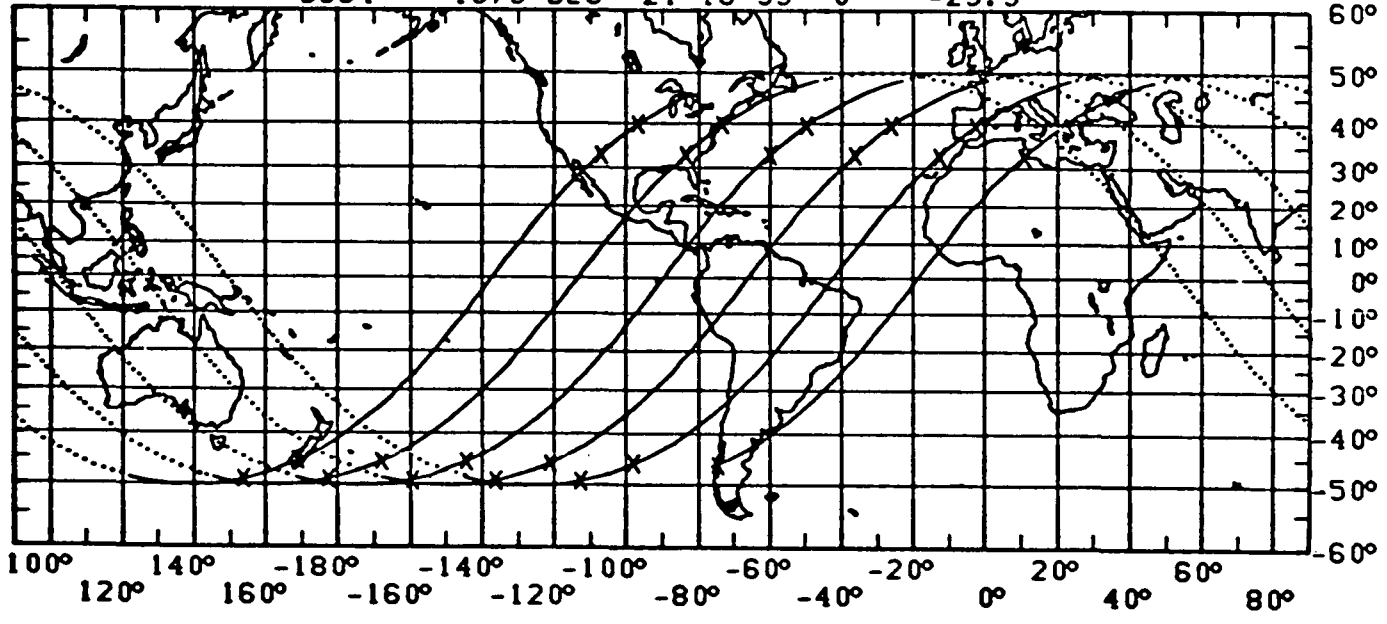
REV 3385-3390 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3385	1973	DEC	21	3	57 0	-20.7
3386	1973	DEC	21	5	40 0	-21.0
3387	1973	DEC	21	7	21 0	-21.3
3388	1973	DEC	21	9	0 0	-21.6
3389	1973	DEC	21	10	37 0	-21.9



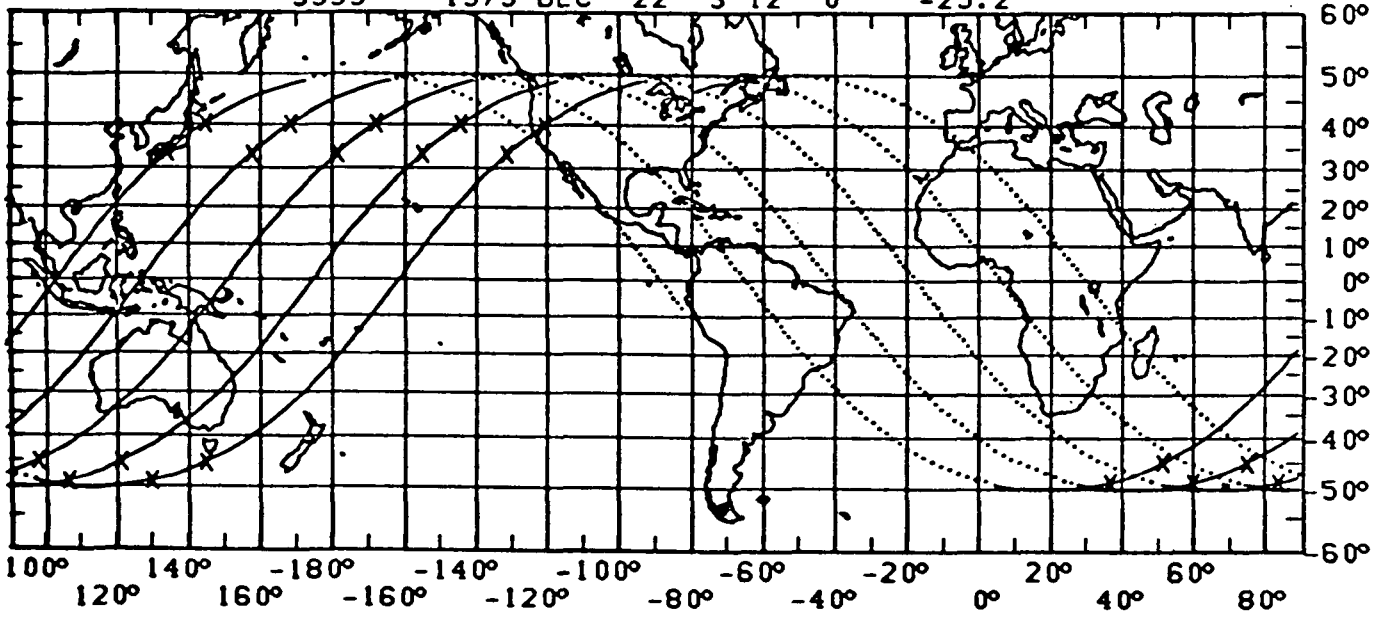
REV 3390-3395 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3390	1973	DEC	21	12	16	0	-22.3
3391	1973	DEC	21	13	53	0	-22.6
3392	1973	DEC	21	15	34	0	-22.9
3393	1973	DEC	21	17	18	0	-23.2
3394	1973	DEC	21	18	59	0	-23.5



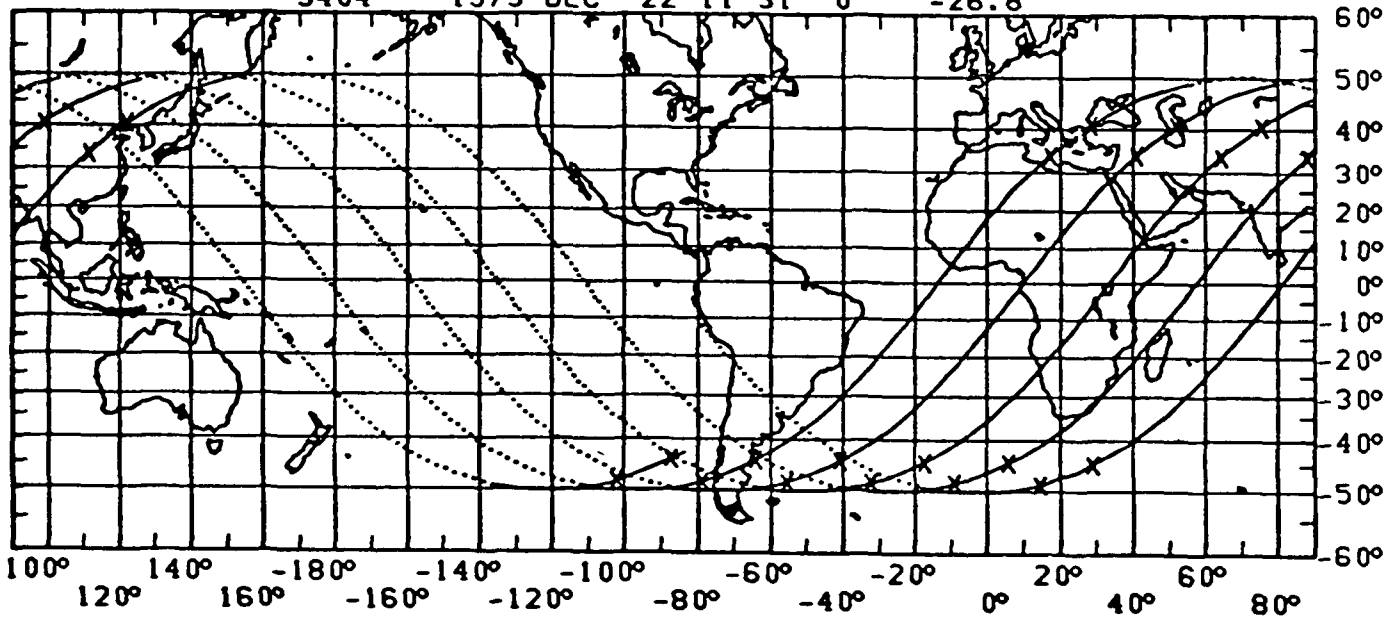
REV 3395-3400 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

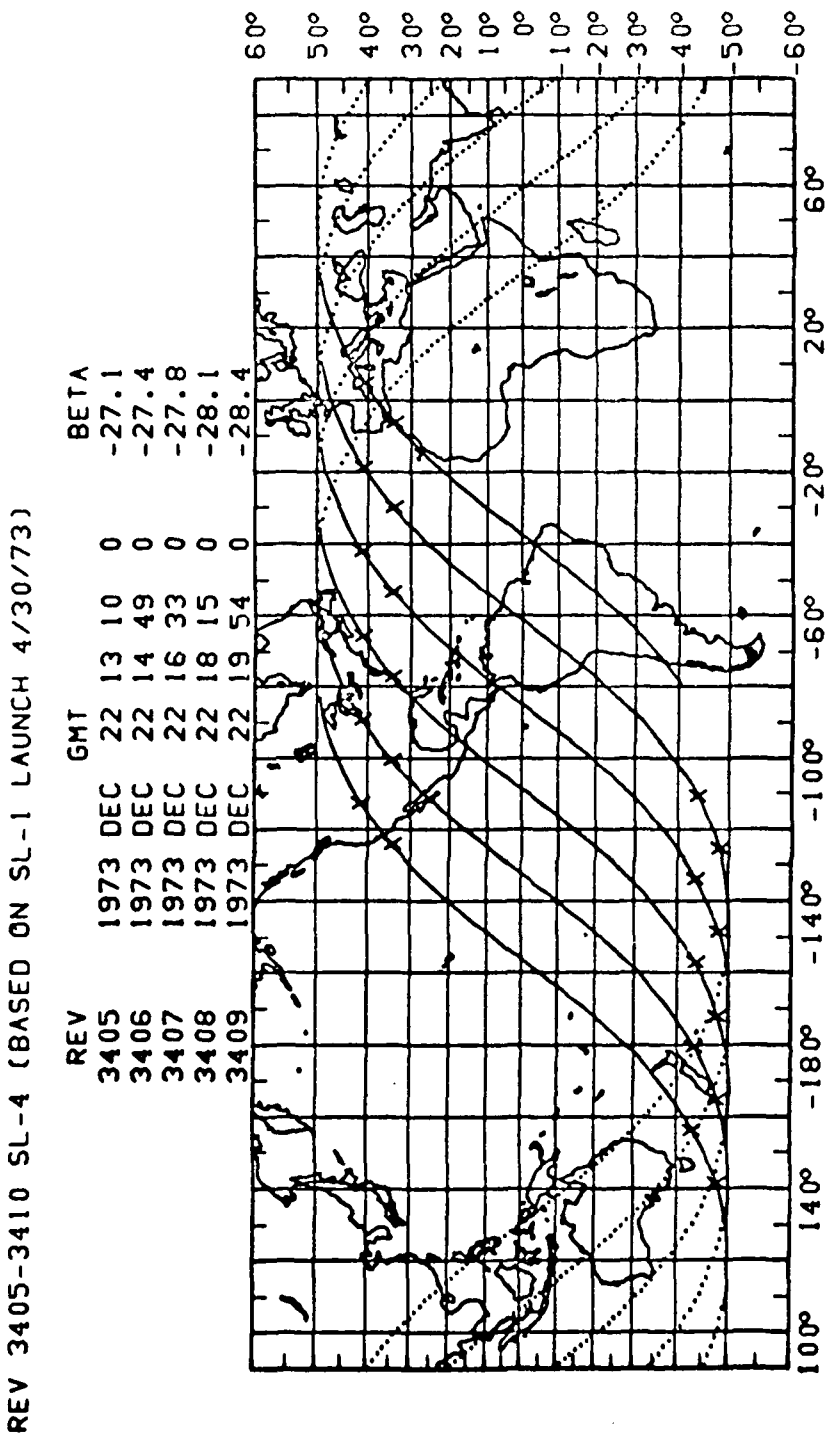
REV	GMT	BETA
3395	1973 DEC 21 20 39 0	-23.9
3396	1973 DEC 21 22 15 0	-24.2
3397	1973 DEC 21 23 53 0	-24.5
3398	1973 DEC 22 1 31 0	-24.9
3399	1973 DEC 22 3 12 0	-25.2



REV 3400-3405 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

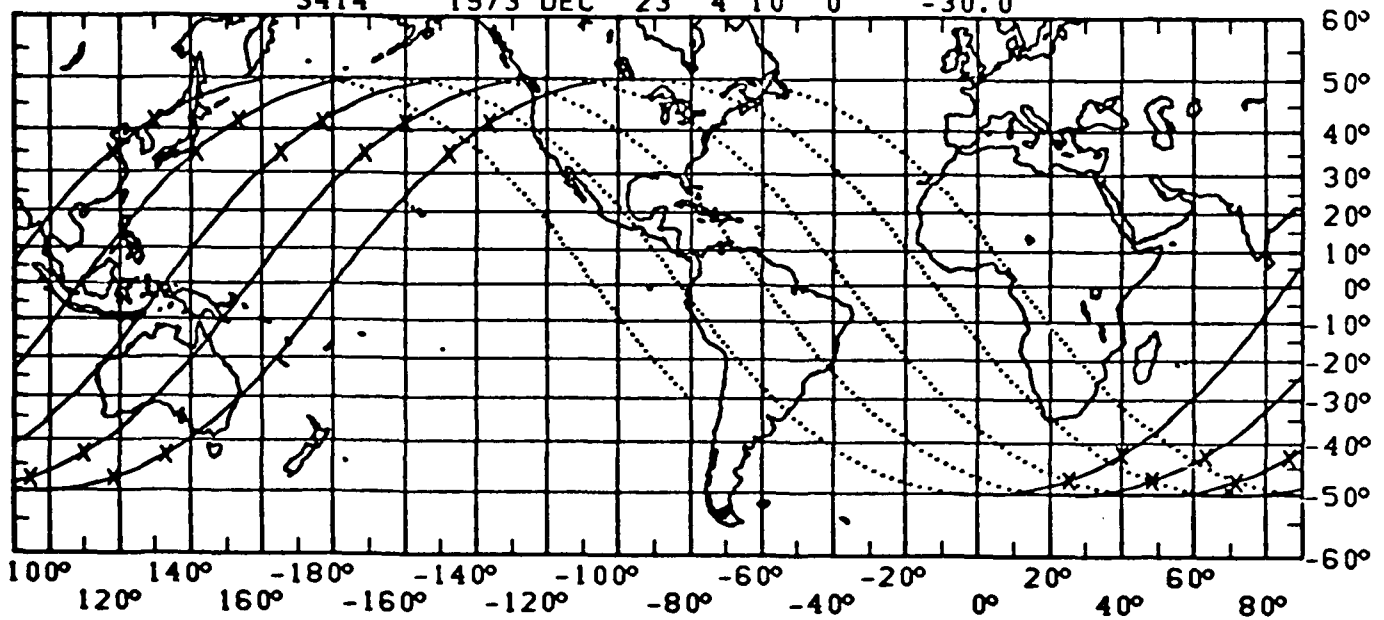
REV	GMT					BETA
3400	1973	DEC	22	4	56 0	-25.5
3401	1973	DEC	22	6	37 0	-25.8
3402	1973	DEC	22	8	16 0	-26.1
3403	1973	DEC	22	9	54 0	-26.5
3404	1973	DEC	22	11	31 0	-26.8




REV 3405-3410 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV
GMT
BETA
3405 1973 DEC 22 13 10 0 -27.1
3406 1973 DEC 22 14 49 0 -27.4
3407 1973 DEC 22 16 33 0 -27.8
3408 1973 DEC 22 18 15 0 -28.1
3409 1973 DEC 22 19 54 0 -28.4
60° 50° 40° 30° 20° 10° 0° 10° 20° 30° 40° 50° 60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

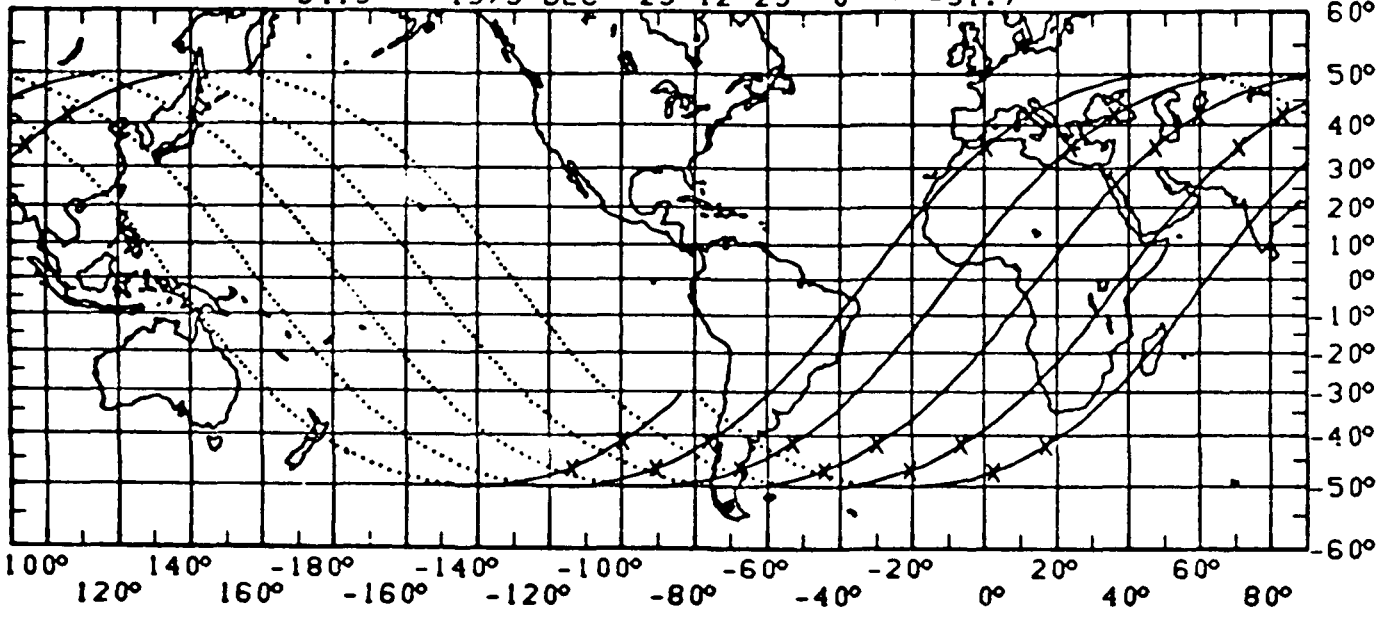
REV 3410-3415 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

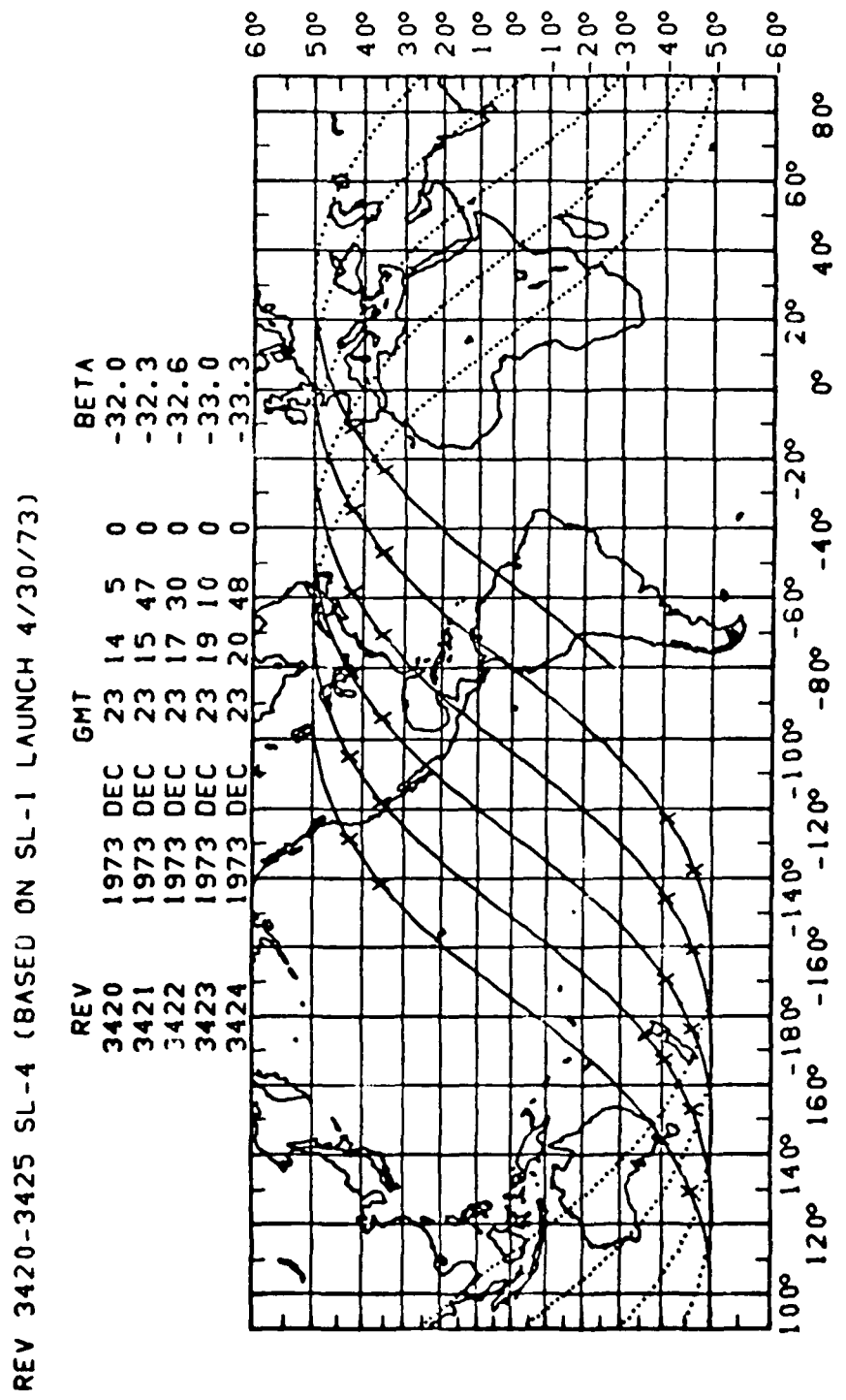
REV	GMT	BETA
3410	1973 DEC 22 21 33 0	-28.7
3411	1973 DEC 22 23 9 0	-29.1
3412	1973 DEC 23 0 47 0	-29.4
3413	1973 DEC 23 2 27 0	-29.7
3414	1973 DEC 23 4 10 0	-30.0



REV 3415-3420 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

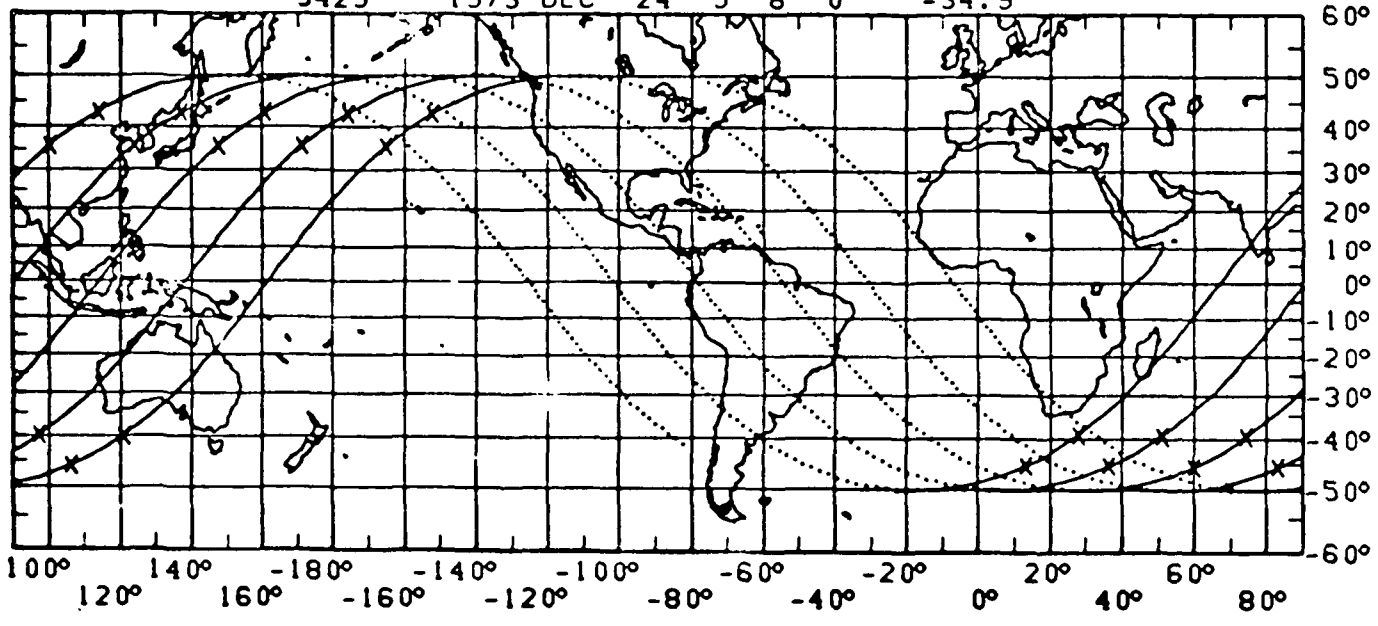
REV	GMT					BETA
3415	1973	DEC	23	5	53 0	-30.4
3416	1973	DEC	23	7	32 0	-30.7
3417	1973	DEC	23	9	9 0	-31.0
3418	1973	DEC	23	10	47 0	-31.3
3419	1973	DEC	23	12	25 0	-31.7

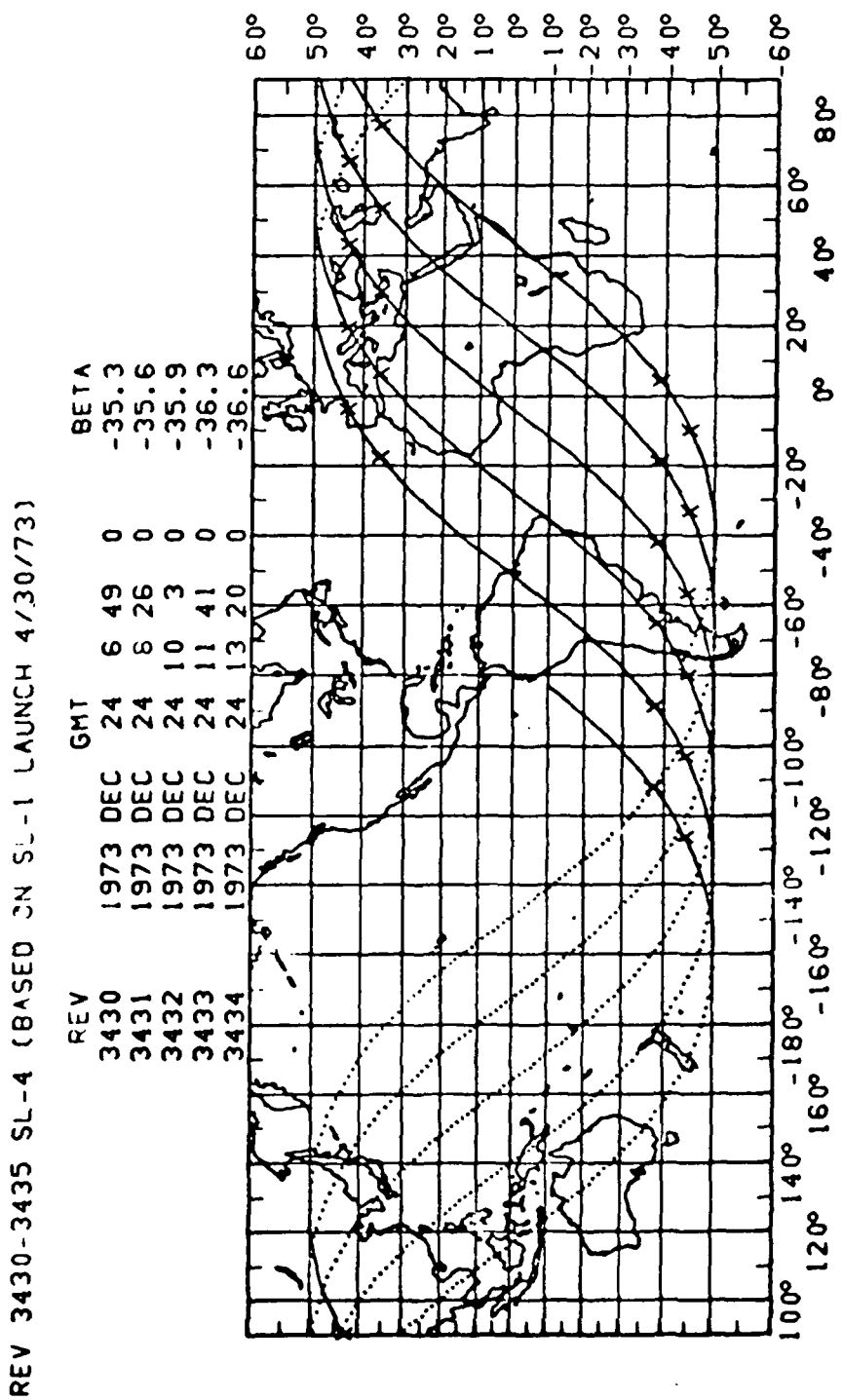



REV 3420-3425 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3420 1973 DEC 23 14 5 0 -32.0
3421 1973 DEC 23 15 47 0 -32.3
3422 1973 DEC 23 17 30 0 -32.6
3423 1973 DEC 23 19 10 0 -33.0
3424 1973 DEC 23 20 48 0 -33.3
60°
50°
40°
30°
20°
10°
0°
-10°
-20°
-30°
-40°
-50°
-60°
100°
120°
140°
160°
-180°
-160°
-140°
-120°
-100°
-80°
-60°
-40°
-20°
0°
20°
40°
60°
80°

REV 3425-3430 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

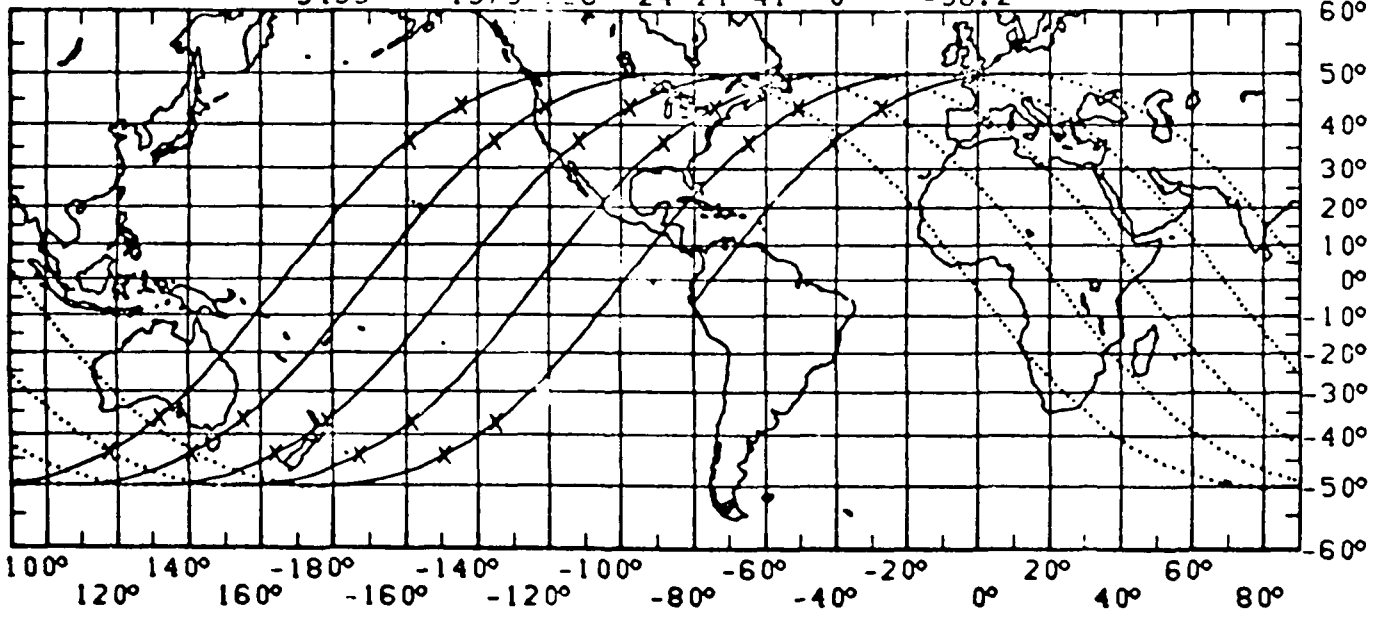
REV	GMT					BETA
3425	1973	DEC	23	22	26	0	-33.6
3426	1973	DEC	24	0	3	0	-34.0
3427	1973	DEC	24	1	42	0	-34.3
3428	1973	DEC	24	3	25	0	-34.6
3429	1973	DEC	24	5	8	0	-34.9




REV 3430-3435 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3430 1973 DEC 24 6 49 0 -35.3
3431 1973 DEC 24 8 26 0 -35.6
3432 1973 DEC 24 10 3 0 -35.9
3433 1973 DEC 24 11 41 0 -36.3
3434 1973 DEC 24 13 20 0 -36.6
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

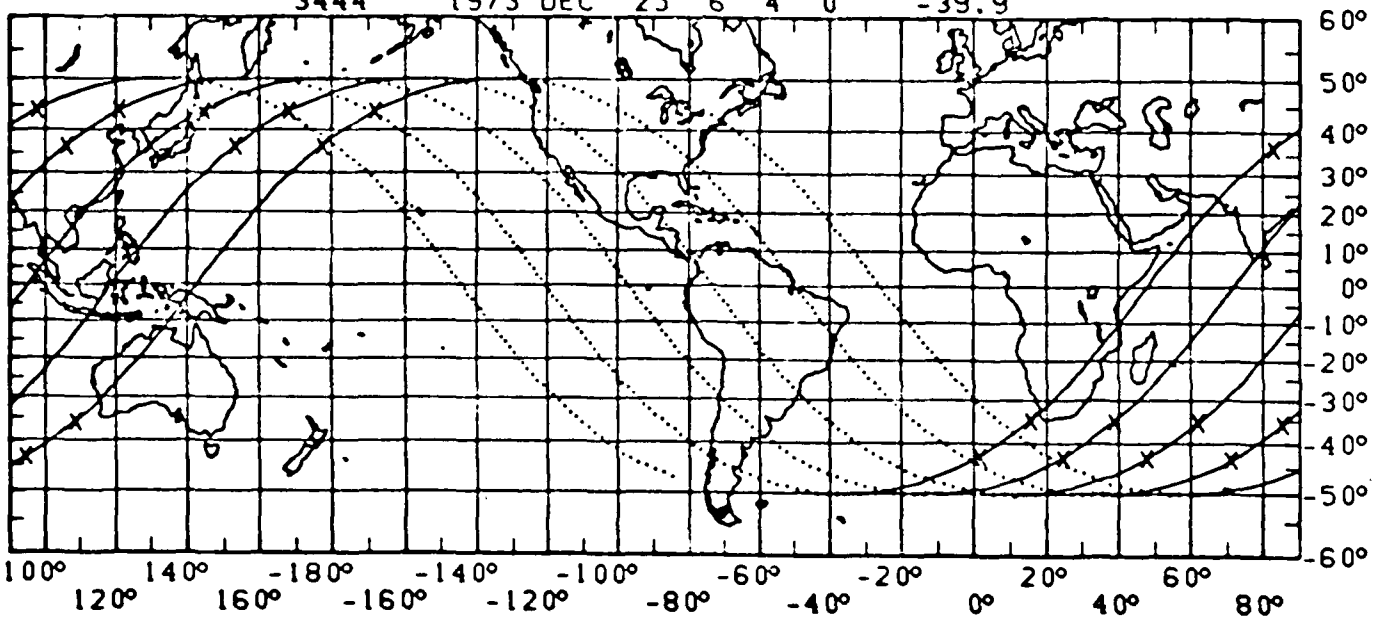
REV 3435-3440 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

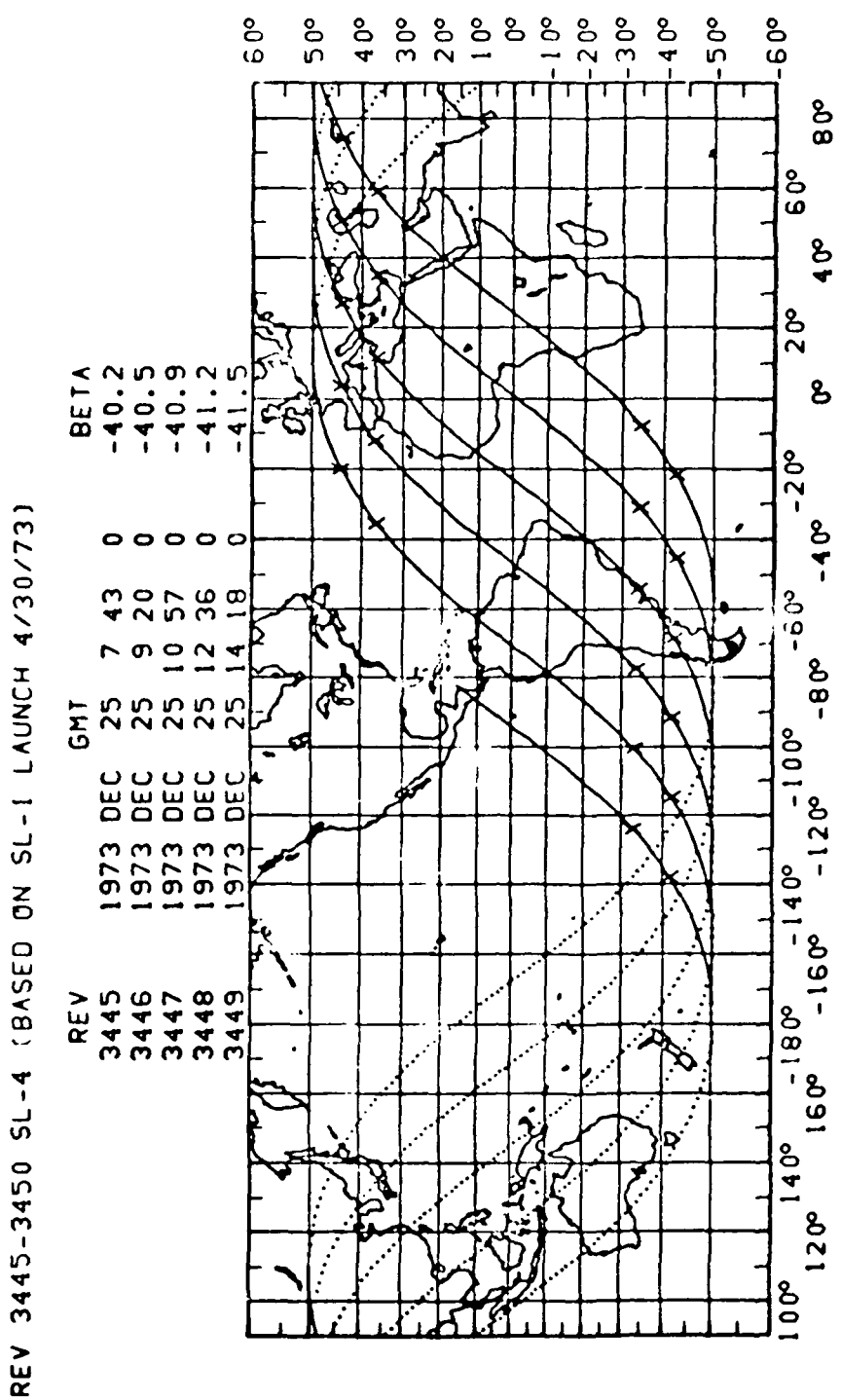
REV	GMT	BETA
3435	1973 DEC 24 15 3 0	-36.9
3436	1973 DEC 24 16 46 0	-37.2
3437	1973 DEC 24 18 26 0	-37.6
3438	1973 DEC 24 20 4 0	-37.9
3439	1973 DEC 24 21 41 0	-38.2

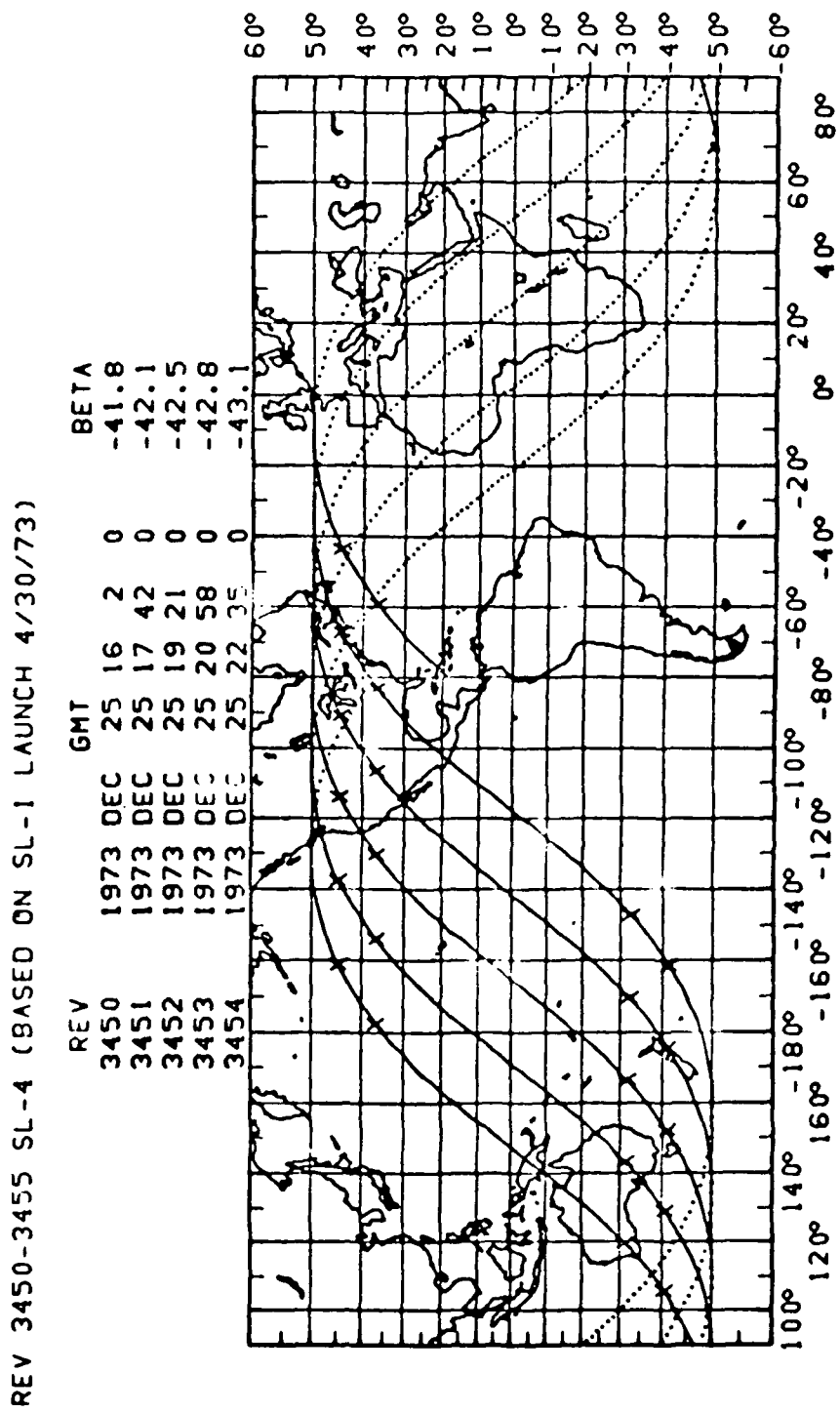


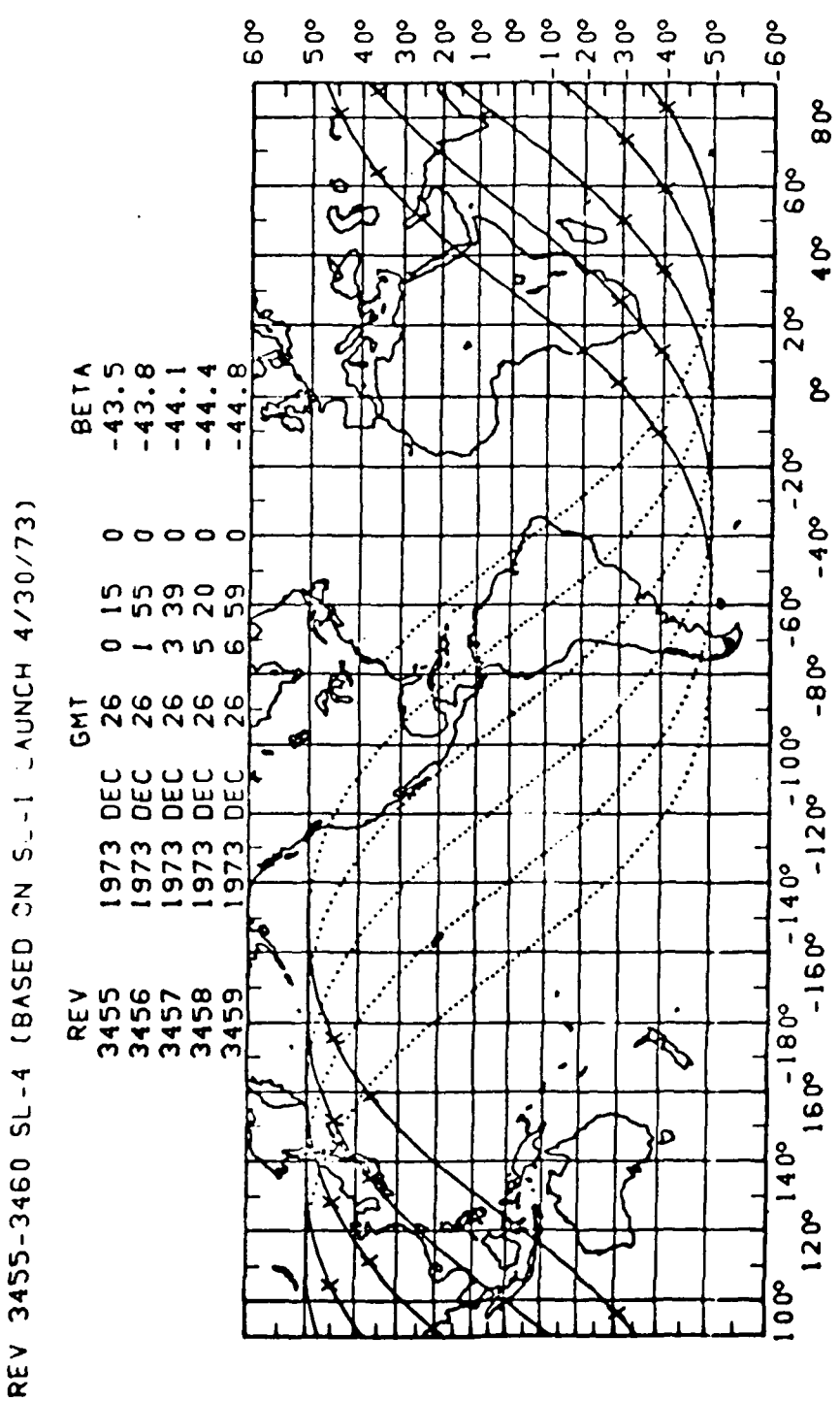
REV 3440-3445 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3440	1973 DEC 24 23 20 0	-38.6
3441	1973 DEC 25 0 58 0	-38.9
3442	1973 DEC 25 2 40 0	-39.2
3443	1973 DEC 25 4 23 0	-39.5
3444	1973 DEC 25 6 4 0	-39.9



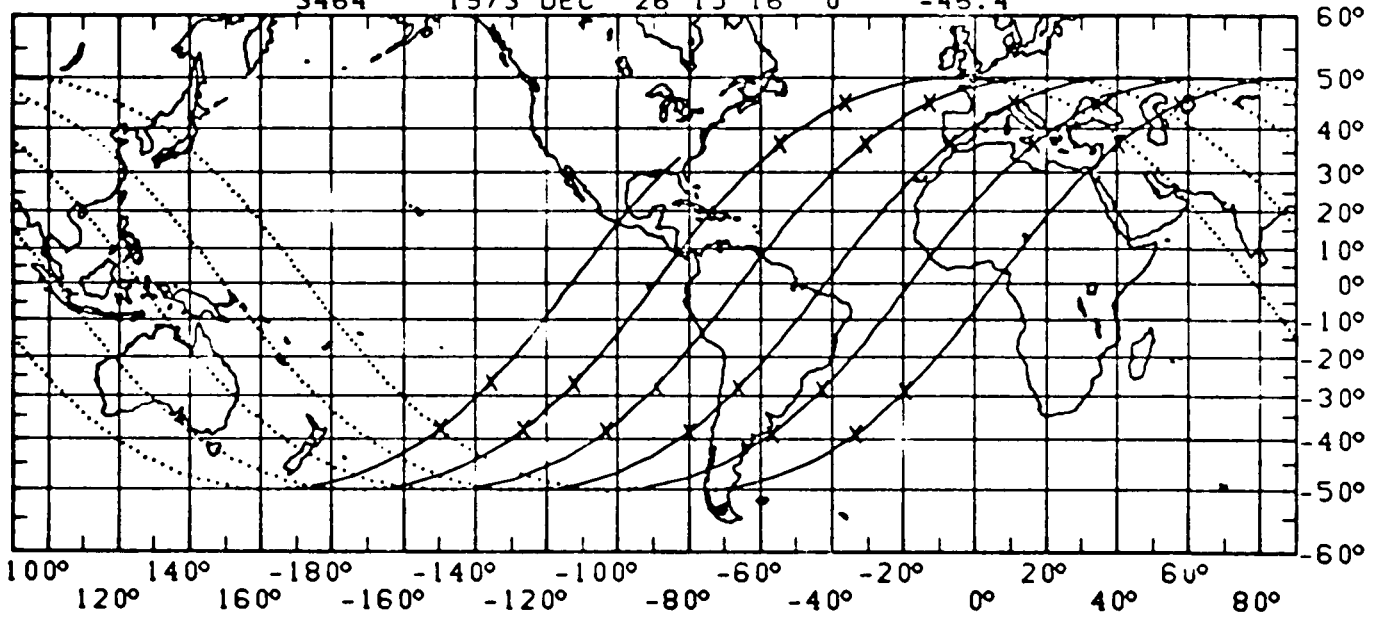

REV 3445-3450 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3445 1973 DEC 25 7 43 0 -40.2
3446 1973 DEC 25 9 20 0 -40.5
3447 1973 DEC 25 10 57 0 -40.9
3448 1973 DEC 25 12 36 0 -41.2
3449 1973 DEC 25 14 18 0 -41.5
60°
50°
40°
30°
20°
10°
0°
-10°
-20°
-30°
-40°
-50°
-60°
100°
120°
140°
160°
-180°
-160°
-140°
-120°
-100°
-80°
-60°
-40°
-20°
0°
20°
40°
60°
80°


REV 3450-3455 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3450 1973 DEC 25 16 2 0 -41.8
3451 1973 DEC 25 17 42 0 -42.1
3452 1973 DEC 25 19 21 0 -42.5
3453 1973 DEC 25 20 58 0 -42.8
3454 1973 DEC 25 22 35 0 -43.1
60° 50° 40° 30° 20° 10° 0° 10° 20° 30° 40° 50° 60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°


REV 3455-3460 SL-4 (BASED ON S_-1 LAUNCH 4/30/73)
REV GMT BETA
3455 1973 DEC 26 0 15 0 -43.5
3456 1973 DEC 26 1 55 0 -43.8
3457 1973 DEC 26 3 39 0 -44.1
3458 1973 DEC 26 5 20 0 -44.4
3459 1973 DEC 26 6 59 0 -44.8
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

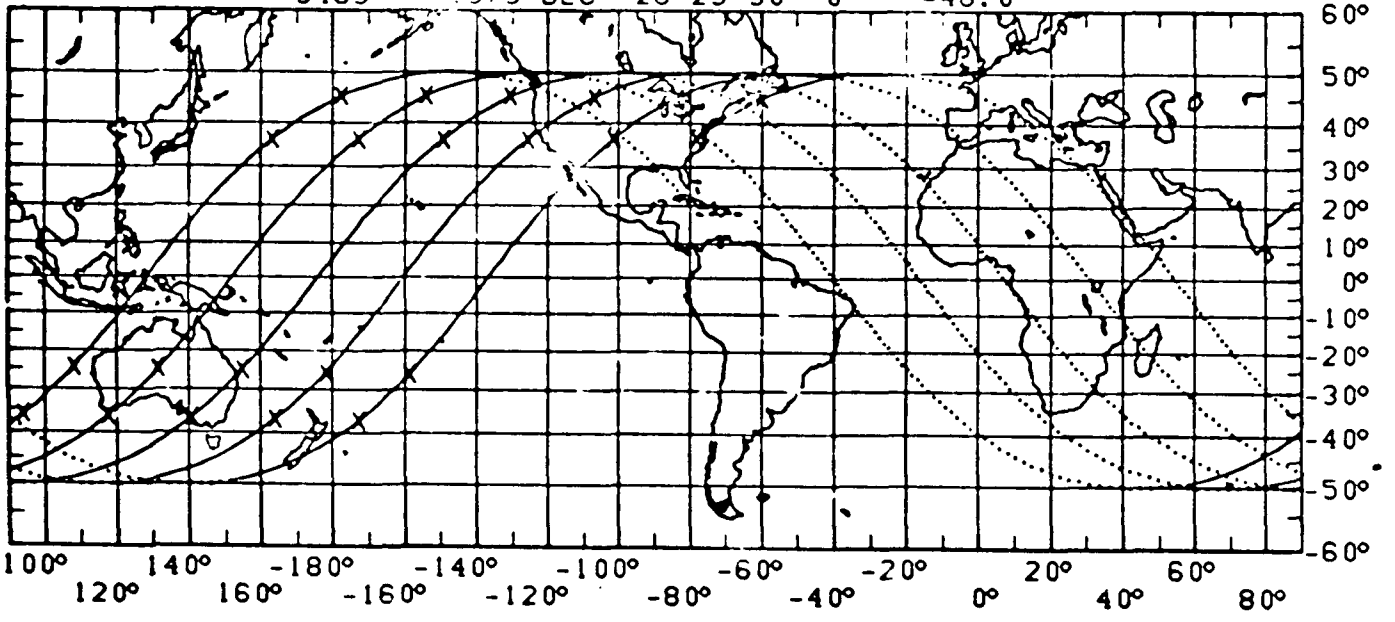
REV 3460-3465 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

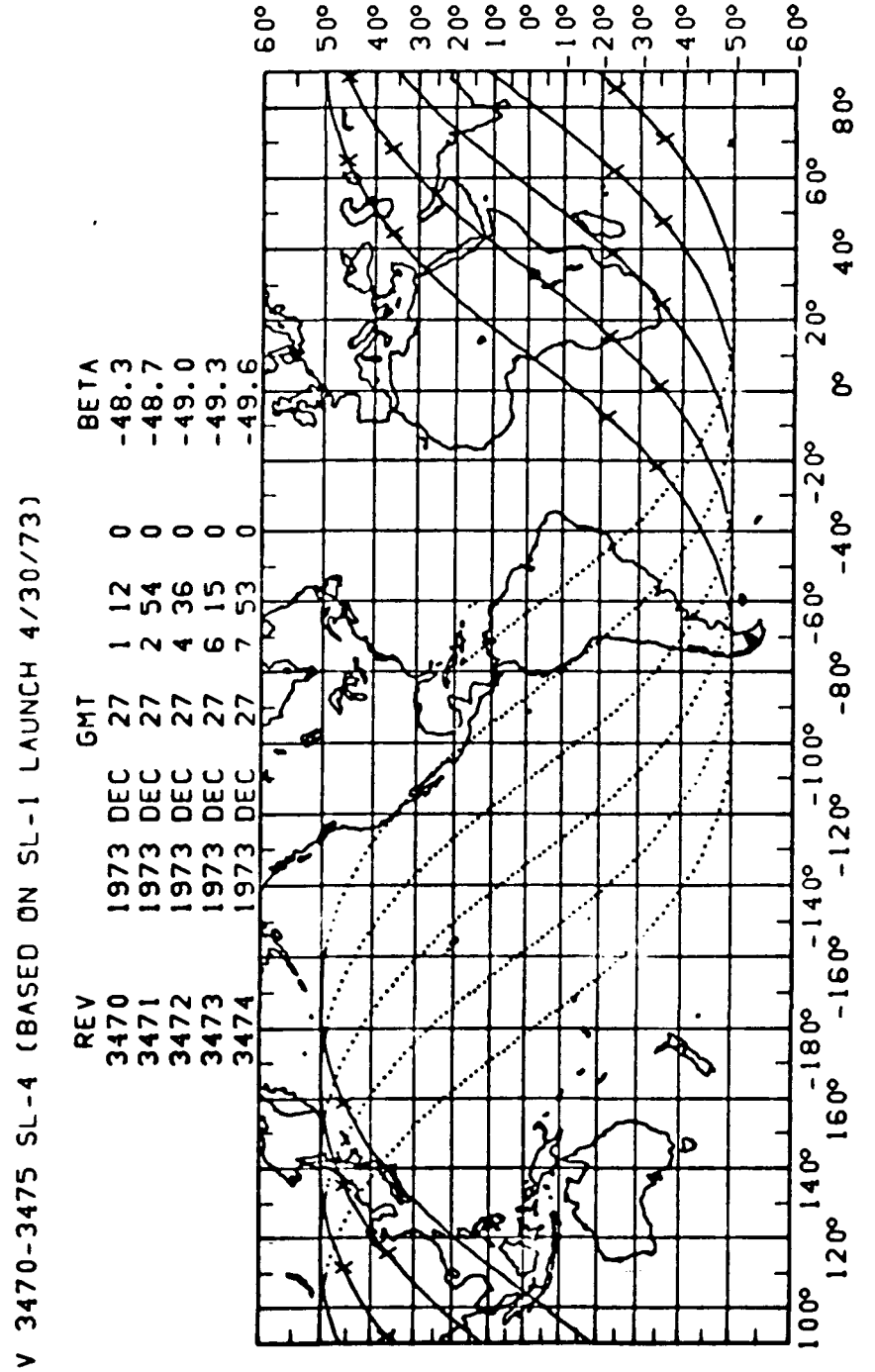
REV	GMT	BETA
3460	1973 DEC 26 8 37 0	-45.1
3461	1973 DEC 26 10 13 0	-45.4
3462	1973 DEC 26 11 52 0	-45.8
3463	1973 DEC 26 13 33 0	-46.1
3464	1973 DEC 26 15 16 0	-46.4



REV 3465-3470 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT	BETA
3465	1973 DEC 26 16 59 0	-46.7
3466	1973 DEC 26 18 37 0	-47.0
3467	1973 DEC 26 20 14 0	-47.4
3468	1973 DEC 26 21 52 0	-47.7
3469	1973 DEC 26 23 30 0	-48.0




REV 3470-3475 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)
REV GMT BETA
3470 1973 DEC 27 1 12 0 -48.3
3471 1973 DEC 27 2 54 0 -48.7
3472 1973 DEC 27 4 36 0 -49.0
3473 1973 DEC 27 6 15 0 -49.3
3474 1973 DEC 27 7 53 0 -49.6
60°
50°
40°
30°
20°
10°
0°
-10°
-20°
-30°
-40°
-50°
-60°
100°
120°
140°
160°
-180°
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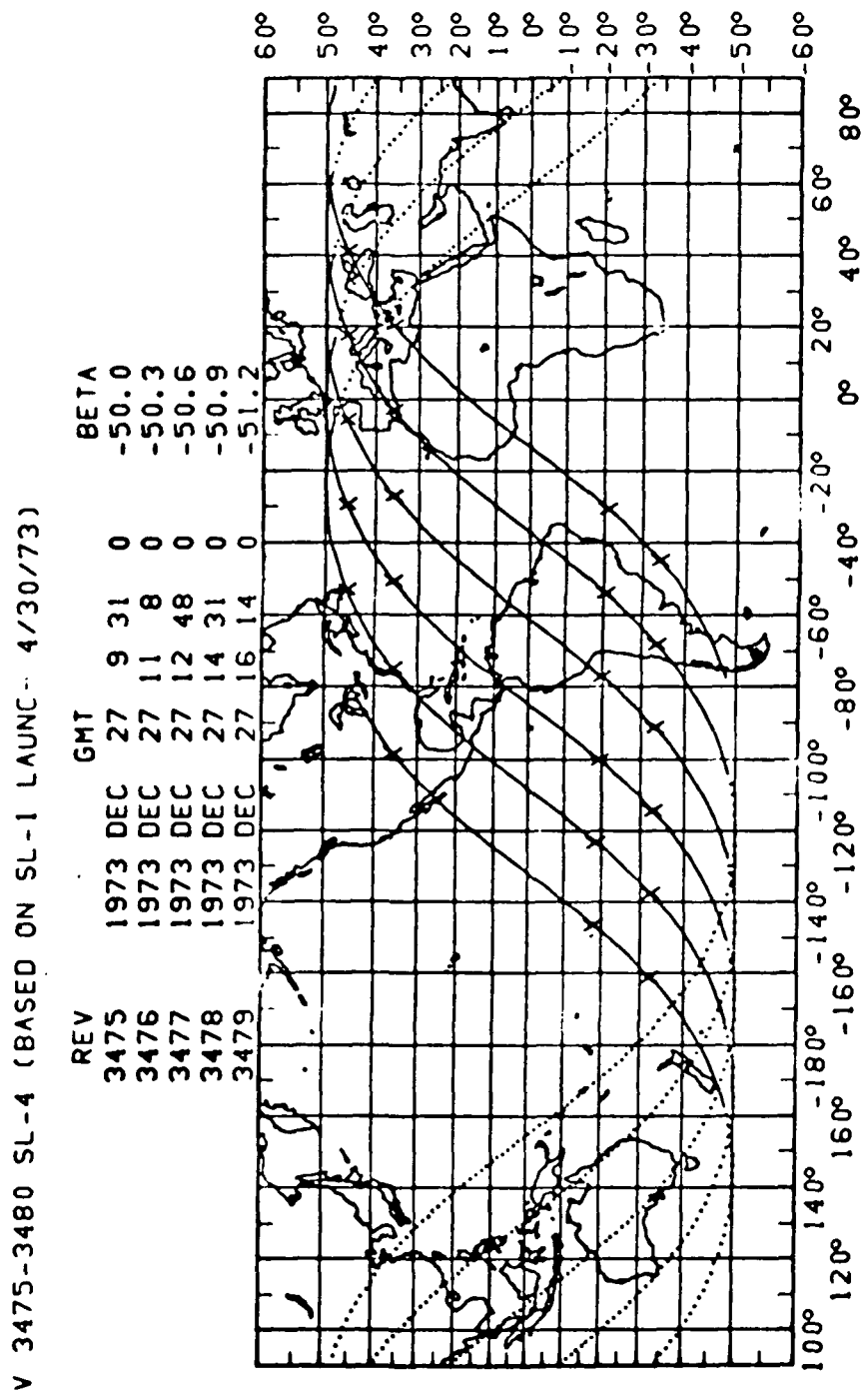
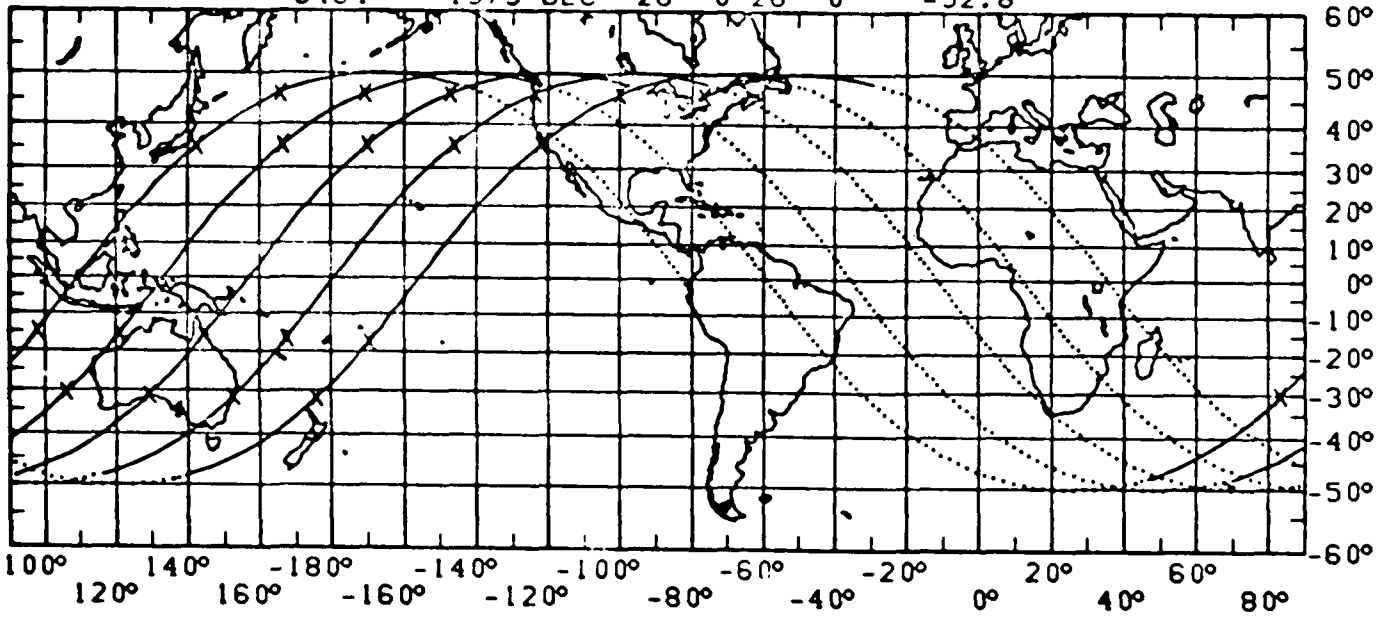
20°
40°
60°
80°


REV 3475-3480 SL-4 (BASED ON SL-1 LAUNC- 4/30/73)
REV GMT BETA
3475 1973 DEC 27 9 31 0 -50.0
3476 1973 DEC 27 11 8 0 -50.3
3477 1973 DEC 27 12 48 0 -50.6
3478 1973 DEC 27 14 31 0 -50.9
3479 1973 DEC 27 16 14 0 -51.2
60° 50° 40° 30° 20° 10° 0° -10° -20° -30° -40° -50° -60°
100° 120° 140° 160° -180° -160° -140° -120° -100° -80° -60° -40° -20° 0° 20° 40° 60° 80°

REV 3480-3485 SL-4 (BASED ON SL-1 LAUNCH 4/30/73)

REV	GMT					BETA
3480	1973	DEC	27	17	54	0	-51.5
3481	1973	DEC	27	19	31	0	-51.9
3482	1973	DEC	27	21	8	0	-52.2
3483	1973	DEC	27	22	46	0	-52.5
3484	1973	DEC	28	0	26	0	-52.8



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