#276

SKYLAB

EUV DATA

73-027A-06A

CD6400?

SKYLAB

SKYLAB EUV DATA ON MAGTAPE

73-027A-06A

This data set has been restored. There were originally 1,103 Binary, 7-Track, 556 BPI tapes, 48 of these tapes were bad. There are 64 restored tapes. The DR tapes are 3480 cartridges and the DS tapes are 9-track, 6250 BPI multi-filed. The tapes were created on a 6600 computer. The DR and DS numbers along with the corresponding D numbers and the time spans are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR02587	DS02587	D22388	1-12	02/02/73 - 02/02/73
		D22476	13-26	05/26/75 - 05/26/73
		D18896	27-31	05/28/73 - 05/28/73
		D17255	32-56	05/29/73 - 05/29/73
		D18193	57-75	05/29/73 - 05/29/73
		D22474	76-115	05/29/73 - 05/29/73
		D22473	116-161	05/29/73 - 05/29/73
		D22475	162-209	05/29/73 - 05/29/73
		D17474	210-250	05/30/73 - 05/30/73
		D17445	251-297	05/30/73 - 05/30/73
		D18886	298-328	05/30/73 - 05/30/73
		D20675	329-348	05/30/73 - 05/30/73
		D22466	349-408	05/30/73 - 05/30/73
		D22012	409-419	05/31/73 - 05/31/73
		D22465	420-441	05/31/73 - 05/31/73
		D22468	442-496	05/31/73 - 05/31/73
		D17487	497-545	06/01/73 - 06/01/73
		D18771	546-578	06/01/73 - 06/01/73
		D23654	579-641	06/01/73 - 06/01/73
		D18769	642-710	06/02/73 - 06/02/73
		D18845	711-770	06/02/73 - 06/02/73
		D18220	771-819	06/03/73 - 06/03/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02588	DS02588	D19410	1-46	06/03/73 - 06/03/73
		D20602	47-87	06/03/73 - 06/03/73
		D22467	88-103	06/03/73 - 06/03/73
		D23657	104-139	06/03/73 - 06/03/73
		D17483	140-153	06/04/73 - 06/04/73
		D18210	154-187	06/04/73 - 06/04/73
		D18768	188-242	06/04/73 - 06/04/73
		D18825	243-251	06/04/73 - 06/04/73
		D20386	252-302	06/04/73 - 06/04/73
		D18253	303-353	06/05/73 - 06/05/73
		D20304	354-393	06/05/73 - 06/05/73
		D20306	394-448	06/05/73 - 06/05/73
		D17478	449-510	06/06/73 - 06/06/73
		D18846	511-548	06/06/73 - 06/06/73
		D20600	549-580	06/06/73 - 06/06/73
		D18194	581-587	06/07/73 - 06/07/73
		D18764	588-642	06/07/73 - 06/07/73
DR02589	DS02589	D19467	1-28	06/07/73 - 06/07/73
		D17861	29-46	06/08/73 - 06/08/73
		D17826	47-72	06/08/73 - 06/08/73
		D18770	73-122	06/08/73 - 06/08/73
		D22461	123-137	06/08/73 - 06/08/73
		D22463	138-181	06/08/73 - 06/08/73
		D17468	182-228	06/09/73 - 06/09/73
		D18765	229-251	06/09/73 - 06/09/73
		D22020	252-300	06/09/73 - 06/09/73
		D22462	301-322	06/09/73 - 06/09/73
		D22464	323-367	06/09/73 - 06/09/73
		D17311	368-393	06/10/73 - 06/10/73
		D18840	394-428	06/10/73 - 06/10/73
		D22018	429-478	06/10/73 - 06/10/73
		D22632	479-522	06/11/73 - 06/11/73
		D18901	523-572	06/12/73 - 06/12/73
		D19405	573-586	06/12/73 - 06/12/73
		D22590	587-631	06/12/73 - 06/12/73
DR02590	DS02590	D19441	1-20	06/09/73 - 06/09/73
		D23145	21-72	06/12/73 - 06/12/73
		D17848	73-130	06/13/73 - 06/13/73
		D22016	131-154	06/13/73 - 06/13/73
		D18281	155-219	06/14/73 - 06/14/73
		D18736	220-257	06/14/73 - 06/14/73
		D22588	258-313	06/14/73 - 06/14/73
		D17449	314-378	06/15/73 - 06/15/73
		D19473	379-430	06/15/73 - 06/15/73
		D22577	431-472	06/15/73 - 06/15/73
		D19476	473-474	06/16/73 - 06/16/73
		D22579	475-516	06/16/73 - 06/16/73
		D22578	517-575	06/16/73 - 06/16/73
		D17476	576-626	06/17/73 - 01/17/63
		D17484	627-692	06/17/73 - 06/17/73
		D18233	693-696	06/17/73 - 06/17/73
		D18767	697-766	06/17/73 - 06/17/73

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R#	DS#	D#	FILES	TIME SPAN
DR02591	DS02591	D18207	1-48	06/18/73 - 06/18/73
		D19420	49-83	06/18/73 - 06/18/73
		D20385	84-124	06/18/73 - 06/18/73
		D22576	125-156	06/18/73 - 06/18/73
		D18206	157-176	06/19/73 - 06/19/73
		D19398	177-231	06/19/73 - 06/19/73
		D20347	232-266	06/19/73 - 06/19/73
		D23655	267-267	06/19/73 - 06/19/73
		D17835	268-272	06/20/73 - 06/20/73
		D17857	273-342	06/20/73 - 06/20/73
		D18826	343-347	06/20/73 - 06/20/73
		D18874	348-417	06/20/73 - 06/20/73
		D19466	418-466	06/20/73 - 06/20/73
		D21999	467-535	06/20/73 - 06/20/73
		D22634	536-588	06/20/73 - 06/20/73
		D19380	589-623	06/21/73 - 06/21/73
DR02617	DS02617	D20654	1-70	06/16/73 - 06/16/73
		D22597	71-113	06/21/73 - 06/21/73
		D22580	114-167	06/21/73 - 06/21/73
		D22998	168-216	06/21/73 - 06/21/73
		D20321	217-235	06/23/73 - 06/23/73
		D19404	236-265	06/25/73 - 06/25/73
		D22575	266-288	06/27/73 - 06/27/73
		D20666	289-327	06/28/73 - 06/28/73
		D22574	328-358	06/29/73 - 06/29/73
		D18264	359-402	06/30/73 - 06/30/73
		D19417	403-449	06/30/73 - 06/30/73
		D19472	450-497	06/30/73 - 06/30/73
		D19443	498-500	07/01/73 - 07/01/73
		D19408	501-542	07/01/73 - 07/01/73
		D19422	543-591	07/01/73 - 07/01/73
DR02618	DS02618	D19426	1-55	07/01/73 - 07/01/73
		D20588	56-106	07/01/73 - 07/01/73
		D20328	107-152	07/02/73 - 07/02/73
		D19411	153-195	07/03/73 - 07/03/73
		D19403	196-206	07/04/73 - 07/04/73
		D19454	207-238	07/04/73 - 07/04/73
		D19452	239-290	07/04/73 - 07/04/73
		D20665	291-304	07/04/73 - 07/04/73
		D19406	305-322	07/05/73 - 07/05/73
		D19412	323-391	07/05/73 - 07/05/73
		D22583	392-405	07/05/73 - 07/05/73
		D22598	406-418	07/06/73 - 07/06/73
		D22581	419-467	07/06/73 - 07/06/73
		D22591	468-537	07/06/73 - 07/06/73
		D20319	538-540	07/07/73 - 07/07/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02772	DS02772	D20307	1-70	07/07/73 - 07/07/73
		D22023	71-132	07/07/73 - 07/07/73
		D22582	133-164	07/07/73 - 07/07/73
		D22584	165-219	07/07/73 - 07/07/73
		D19435	220-230	07/08/73 - 07/08/73
		D19475	231-285	07/08/73 - 07/08/73
		D22587	286-305	07/08/73 - 07/08/73
		D22593	306-354	07/08/73 - 07/08/73
		D18843	355-409	07/09/73 - 07/09/73
		D22365	410-428	07/09/73 - 07/09/73
		D22594	429-482	07/09/73 - 07/09/73
		D22595	483-537	07/09/73 - 07/09/73
		D18763	538-592	07/10/73 - 07/10/73
		D20312	593-596	07/10/73 - 07/10/73
		D20337	597-611	07/10/73 - 07/10/73
		D20601	612-666	07/10/73 - 07/10/73
DR02773	DS02773	D22586	1-49	07/10/73 - 07/10/73
		D18758	50-59	07/11/73 - 07/11/73
		D19451	60-95	07/11/73 - 07/11/73
		D19393	96-145	07/11/73 - 07/11/73
		D22592	146-146	07/11/73 - 07/11/73
		D18750	147-179	07/12/73 - 07/12/73
		D19462	180-234	07/12/73 - 07/12/73
		D22408	235-304	07/12/73 - 07/12/73
		D22631	305-331	07/12/73 - 07/12/73
		D19471	332-336	07/13/73 - 07/12/73
		D19414	337-391	07/13/73 - 07/12/73
		D22010	392-412	07/13/73 - 07/12/73
		D22406	413-473	07/13/73 - 07/13/73
		D22374	474-543	07/13/73 - 07/13/73
		D19439	544-551	07/14/73 - 07/14/73
		D19409	552-578	07/14/73 - 07/14/73
		D19413	579-629	07/14/73 - 07/14/73
		D19469	630-685	07/14/73 - 07/14/73
DR02778	DS02778	D22424	1-55	07/14/73 - 07/14/73
		D19415	56-79	07/15/73 - 07/15/73
		D19400	80-134	07/15/73 - 07/15/73
		D20332	135-149	07/15/73 - 07/15/73
		D20650	150-193	07/15/73 - 07/15/73
		D17464	194-238	07/16/73 - 07/16/73
		D19437	239-273	07/20/73 - 07/20/73
		D17466	274-283	07/21/73 - 07/21/73
		D17328	284-308	07/22/73 - 07/23/73
		D17322	309-335	07/22/73 - 07/23/73
		D17843	336-400	07/23/73 - 07/23/73
		D17465	401-425	07/25/73 - 07/25/73
		D22435	426-492	07/25/73 - 07/25/73
		D17250	493-523	07/26/73 - 07/26/73
		D17475	524-531	07/28/73 - 07/28/73
		D22366	532-535	07/28/73 - 07/28/73
		D17486	536-551	07/29/73 - 07/29/73
		D18208	552-558	07/29/73 - 07/29/73
		D22422	559-607	07/29/73 - 07/29/73
		D22381	608-672	07/29/73 - 07/29/73
		D17326	673-730	07/30/73 - 07/30/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02779	DS02779	D18195	1-43	07/30/73 - 07/30/73
		D19465	44-99	07/30/73 - 07/30/73
		D20626	100-158	07/30/73 - 07/30/73
		D22367	159-214	07/30/73 - 07/30/73
		D17034	215-269	07/31/73 - 07/31/73
		D20647	270-320	07/31/73 - 07/31/73
		D20605	321-374	07/31/73 - 07/31/73
		D22375	375-420	07/31/73 - 07/31/73
		D17021	421-479	08/01/73 - 08/01/73
		D17457	480-536	08/01/73 - 08/01/73
		D19399	537-590	08/01/73 - 08/01/73
		D19382	591-646	08/01/73 - 08/01/73
		D22224	647-699	08/01/73 - 08/01/73
DR02789	DS02789	D22413	1-55	08/01/73 - 08/01/73
		D17008	56-88	08/02/73 - 08/02/73
		D18752	89-138	08/02/73 - 08/02/73
		D22379	139-180	08/02/73 - 08/02/73
		D22359	181-226	08/02/73 - 08/02/73
		D17829	227-255	08/03/73 - 08/03/73
		D20300	256-294	08/03/73 - 08/03/73
		D22011	295-338	08/03/73 - 08/03/73
		D17012	339-353	08/04/73 - 08/04/73
		D18751	354-361	08/05/73 - 08/05/73
		D17467	362-409	08/06/73 - 08/06/73
		D18231	410-417	08/06/73 - 08/06/73
		D19433	418-465	08/06/73 - 08/06/73
		D22414	466-513	08/06/73 - 08/06/73
		D20327	514-562	08/07/73 - 08/07/73
		D20615	563-581	08/07/73 - 08/07/73
		D22421	582-613	08/07/73 - 08/07/73
		D17452	614-645	08/08/73 - 08/08/73
		D18753	646-673	08/08/73 - 08/08/73
DR02793	DS02793	D20604	1-46	08/08/73 - 08/08/73
		D20597	47-101	08/08/73 - 08/08/73
		D18265	102-143	08/09/73 - 08/09/73
		D18258	144-151	08/09/73 - 08/09/73
		D18221	152-195	08/09/73 - 08/09/73
		D19386	196-232	08/09/73 - 08/09/73
		D22433	233-250	08/09/73 - 08/09/73
		D16666	251-298	08/10/73 - 08/10/73
		D17247	299-356	08/10/73 - 08/10/73
		D18232	357-401	08/10/73 - 08/10/73
		D22416	402-448	08/10/73 - 08/10/73
		D17010	449-487	08/11/73 - 08/11/73
		D17290	488-527	08/11/73 - 08/11/73
		D17297	528-576	08/11/73 - 08/11/73
		D22364	577-621	08/11/73 - 08/11/73
		D17016	622-675	08/12/73 - 08/12/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02794	DS02794	D17481	1-13	08/12/73 - 08/12/73
		D19436	14-49	08/12/73 - 08/12/73
		D22000	50-112	08/12/73 - 08/12/73
		D17249	113-116	08/13/73 - 08/13/73
		D17447	117-186	08/13/73 - 08/13/73
		D19453	187-248	08/13/73 - 08/13/73
		D20627	249-300	08/13/73 - 08/13/73
		D22233	301-370	08/14/73 - 08/14/73
		D18267	371-415	08/14/73 - 08/14/73
		D17015	416-469	08/14/73 - 08/14/73
		D18218	470-475	08/14/73 - 08/14/73
		D20652	476-541	08/14/73 - 08/14/73
		D17019	542-609	08/15/73 - 08/15/73
		D18236	610-663	08/15/73 - 08/15/73
		D18747	664-668	08/15/73 - 08/15/73
DR02796	DS02796	D18754	1-70	08/15/73 - 08/15/73
		D19407	71-116	08/15/73 - 08/15/73
		D22236	117-161	08/16/73 - 08/16/73
		D17028	162-220	08/16/73 - 08/16/73
		D20594	221-290	08/16/73 - 08/16/73
		D17023	291-300	08/17/73 - 08/17/73
		D17233	301-356	08/17/73 - 08/17/73
		D17450	357-417	08/17/73 - 08/17/73
		D17448	418-487	08/17/73 - 08/17/73
		D17035	488-557	08/18/73 - 08/18/73
		D17226	558-612	08/18/73 - 08/18/73
		D17292	613-626	08/18/73 - 08/18/73
		D17463	627-633	08/18/73 - 08/18/73
		D22469	634-637	08/18/73 - 08/18/73
		D18774	638-644	08/19/73 - 08/19/73
		D18728	645-655	08/19/73 - 08/19/73
		D18749	656-725	08/19/73 - 08/19/73
		D23000	726-794	08/19/73 - 08/19/73
DR02797	DS02797	D18772	1-6	08/20/73 - 08/20/73
		D18745	7-76	08/20/73 - 08/20/73
		D18892	77-146	08/20/73 - 08/20/73
		D22225	147-195	08/20/73 - 08/20/73
		D22385	196-237	08/20/73 - 08/20/73
		D23651	238-241	08/20/73 - 08/20/73
		D18191	242-292	08/21/73 - 08/21/73
		D18186	293-361	08/21/73 - 08/21/73
		D20595	360-420	08/21/73 - 08/21/73
		D16665	421-475	08/22/73 - 08/23/73
		D16670	476-570	08/22/73 - 08/22/73
		D16663	571-643	08/22/73 - 08/22/73
		D16661	644-717	08/23/73 - 08/24/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02801	DS02801	D16664	1-76	08/23/73 - 08/23/73
		D17006	77-203	08/23/73 - 08/23/73
		D16662	204-297	08/24/73 - 08/25/73
		D16674	298-377	08/25/73 - 08/25/73
		D16672	378-471	08/25/73 - 08/26/73
		D16673	472-586	08/25/73 - 08/25/73
		D18873	587-594	08/25/73 - 08/25/73
		D18867	595-664	08/25/73 - 08/25/73
		D16677	665-703	08/26/73 - 08/27/73
		D16671	704-778	08/26/73 - 08/26/73
		D16678	779-894	08/20/73 - 08/26/73
		D17246	895-896	08/26/73 - 08/26/73
DR02802	DS02802	D16675	1-73	08/27/73 - 08/28/73
		D16676	74-187	08/27/73 - 08/27/73
		D24012	188-221	08/27/73 - 08/27/73
		D24013	222-269	08/27/73 - 08/27/73
		D16680	270-358	08/28/73 - 08/28/73
		D16686	359-454	08/28/73 - 08/29/73
		D16679	455-587	08/28/73 - 08/28/73
		D16685	588-687	08/29/73 - 08/29/73
		D17009	688-796	08/29/73 - 08/30/73
		D16684	797-869	08/30/73 - 08/31/73
		D16689	870-959	08/30/73 - 08/30/73.
DR02803	DS02803	D16690	1-103	08/30/73 - 08/30/73
		D16683	104-195	08/31/73 - 08/31/73
		D16682	196-288	08/31/73 - 09/01/73
		D16688	289-325	09/01/73 - 09/02/73
		D16681	326-427	09/01/73 - 09/01/73
		D16983	428-489	09/01/73 - 09/01/73
		D17017	490-539	09/01/73 - 09/01/73
		D16687	540-656	09/02/73 - 09/02/73
		D16700	657-746	09/03/73 - 09/03/73
		D16699	747-866	09/03/73 - 09/03/73
		D16695	867-877	09/04/73 - 09/04/73
		D16696	878-896	09/04/73 - 09/04/73
		D22423	897-898	09/04/73 - 09/04/73
DR02804	DS02804	D16697	1-25	09/05/73 - 09/05/73
		D16694	26-76	09/05/73 - 09/06/73
		D16692	77-177	09/05/73 - 09/05/73
		D16698	178-209	09/05/73 - 09/05/73
		D16691	310-447	09/05/73 - 09/05/73
		D16693	448-488	09/06/73 - 09/06/73
		D16978	489-596	09/06/73 - 09/07/73
		D16985	597-709	09/07/73 - 09/07/73
		D17013	710-817	09/07/73 - 09/07/73
		D18260	818-911	09/07/73 - 09/07/73
		D16956	912-988	09/08/73 - 09/09/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02805	DS02805	D16957	1-115	09/09/73 - 09/09/73
		D16977	116-248	09/09/73 - 09/10/73
		D16984	249-301	09/10/73 - 09/11/73
		D16970	302-426	09/10/73 - 09/10/73
		D16971	427-461	09/11/73 - 09/11/73
		D16979	462-562	09/11/73 - 09/12/73
		D16968	563-673	09/11/73 - 09/11/73
		D16976	674-789	09/12/73 - 09/13/73
		D18256	790-896	09/13/73 - 09/13/73
DR02810	DS02810	D16980	1-75	09/14/73 - 09/14/73
		D16962	76-166	09/14/73 - 09/15/73
		D17265	167-262	09/14/73 - 09/14/73
		D16961	263-366	09/15/73 - 09/15/73
		D16975	367-471	09/15/73 - 09/16/73
		D16969	472-552	09/16/73 - 09/17/73
		D16966	553-656	09/16/73 - 09/16/73
		D16972	657-761	09/17/73 - 09/17/73
		D17321	762-847	09/17/73 - 09/18/73
DR02811	DS02811	D16967	1-101	09/18/73 - 09/19/73
		D16973	102-205	09/18/73 - 09/18/73
		D16960	206-311	09/19/73 - 09/20/73
		D16974	312-475	09/19/73 - 09/19/73
		D16959	476-612	09/20/73 - 09/20/73
		D17030	613-684	09/20/73 - 09/21/73
		D17330	685-756	09/20/73 - 09/20/73
		D17268	757-831	09/21/73 - 09/22/73
		D17266	832-914	09/21/73 - 09/21/73
DR02812	DS02812	D16958	1-76	09/22/73 - 09/23/73
		D16981	77-156	09/22/73 - 09/22/73
		D16982	157-233	09/23/73 - 09/23/73
		D16963	234-317	09/23/73 - 09/23/73
		D16964	318-434	09/23/73 - 09/24/73
		D17253	435-509	09/23/73 - 09/23/73
		D17305	510-598	09/23/73 - 09/23/73
		D17230	599-674	09/24/73 - 09/24/73
		D17269	675-762	09/24/73 - 09/24/73
DR02814	DS02814	D17462	1-75	09/24/73 - 09/24/73
		D17256	76-110	09/25/73 - 09/26/73
		D17229	111-188	09/25/73 - 09/25/73
		D16965	189-263	09/26/73 - 09/27/73
		D17248	264-349	09/26/73 - 09/26/73
		D17312	350-406	09/26/73 - 09/26/73
		D17257	407-407	09/27/73 - 09/27/73
		D17262	408-464	09/27/73 - 09/27/73
		D17263	465-557	09/27/73 - 09/28/73
		D19379	558-639	09/27/73 - 09/27/73
		D17031	640-681	09/28/73 - 09/28/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02815	DS02815	D17261	1-77	09/28/73 - 09/28/73
		D17225	78-154	09/28/73 - 09/29/73
		D17224	155-243	09/28/73 - 09/29/73
		D17032	244-333	09/29/73 - 09/30/73
		D17244	334-413	09/30/73 - 10/01/73
		D17267	414-499	09/30/73 - 09/30/73
		D17239	500-597	10/01/73 - 10/01/73
		D17251	598-714	10/01/73 - 10/01/73
DR02816	DS02816	D19418	1-93	10/01/73 - 10/01/73
		D17222	94-183	10/02/73 - 10/02/73
		D17231	184-282	10/02/73 - 10/02/73
		D17240	283-360	10/03/73 - 10/04/73
		D17223	361-448	10/03/73 - 10/03/73
		D17252	449-481	10/04/73 - 10/05/73
		D17241	482-588	10/04/73 - 10/04/73
		D19457	589-614	10/05/73 - 10/05/73
		D17306	615-711	10/06/73 - 10/06/73
		D17318	712-794	10/08/73 - 10/08/73
DR02826	DS02826	D17329	1-97	10/08/73 - 10/09/73
		D22825	98-104	10/08/73 - 10/08/73
		D17319	105-184	10/09/73 - 10/10/73
		D18773	185-265	10/09/73 - 10/09/73
		D17242	266-345	10/10/73 - 10/11/73
		D17316	346-424	10/10/73 - 10/10/73
		D18776	425-506	10/10/73 - 10/10/73
		D17243	507-580	10/11/73 - 10/11/73
		D17307	581-657	10/11/73 - 10/12/73
DR02827	DS02827	D18746	1-81	10/11/73 - 10/11/73
		D17245	82-165	10/12/73 - 10/13/73
		D17334	166-238	10/12/73 - 10/12/73
		D17234	239-318	10/13/73 - 10/13/73
		D17335	319-426	10/13/73 - 10/13/73
		D17325	427-522	10/14/73 - 10/14/73
		D18742	523-600	10/14/73 - 10/14/73
DR02844	DS02844	D22237	1-86	10/15/73 - 10/15/73
		D22241	87-167	10/15/73 - 10/15/73
		D17264	168-247	10/16/73 - 10/16/73
		D17320	248-326	10/16/73 - 10/16/73
		D17317	327-410	10/16/73 - 10/16/73
		D18200	411-428	10/18/73 - 10/18/73
		D18731	429-498	10/18/73 - 10/18/73
		D22002	499-568	10/18/73 - 10/18/73
		D19385	569-610	10/18/73 - 10/18/73
		D22360	611-618	10/18/73 - 10/18/73
		D22415	619-688	10/18/73 - 10/18/73
		D22824	689-773	10/18/73 - 10/18/73
		D17855	774-795	10/19/73 - 10/19/73

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R#	DS#	D#	FILES	TIME SPAN
DR02863	DR02863	D18280	1-70	10/19/73 - 10/19/73
		D18777	71-76	10/19/73 - 10/19/73
		D19447	77-130	10/19/73 - 10/19/73
		D20371	131-200	10/19/73 - 10/19/73
		D17847	201-261	10/20/73 - 10/20/73
		D18856	262-331	10/20/73 - 10/20/73
		D20320	332-401	10/20/73 - 10/20/73
		D22403	402-404	10/20/73 - 10/20/73
		D22470	405-474	10/20/73 - 10/20/73
		D18190	475-486	10/21/73 - 10/21/73
		D22417	487-550	10/21/73 - 10/21/73
		D22369	551-617	10/21/73 - 10/21/73
		D18284	618-687	10/22/73 - 10/22/73
		D18872	688-701	10/22/73 - 10/22/73
		D20334	702-716	10/22/73 - 10/22/73
DR02875	DS02875	D22368	1-10	10/22/73 - 10/22/73
		D22434	11-22	10/22/73 - 10/22/73
		D17830	23-92	10/23/73 - 10/23/73
		D19425	93-105	10/23/73 - 10/23/73
		D19464	106-120	10/23/73 - 10/23/73
		D19388	121-190	10/23/73 - 10/23/73
		D19391	191-260	10/23/73 - 10/23/73
		D19397	261-330	10/23/73 - 10/23/73
		D20330	331-344	10/23/73 - 10/23/73
		D22032	345-362	10/23/73 - 10/23/73
		D22036	363-432	10/23/73 - 10/23/73
		D22420	433-444	10/23/73 - 10/23/73
		D22472	445-514	10/23/73 - 10/23/73
		D22822	515-584	10/23/73 - 10/23/73
		D18222	585-592	10/24/73 - 10/24/73
		D18854	593-662	10/24/73 - 10/24/73
		D19477	663-683	10/24/73 - 10/24/73
DR02876	DS02876	D19434	1-70	10/24/73 - 10/24/73
		D22429	71-130	10/24/73 - 10/24/73
		D18209	131-132	10/25/73 - 10/25/73
		D18878	133-134	10/25/73 - 10/25/73
		D22034	135-135	10/25/73 - 10/25/73
		D22014	136-205	10/25/73 - 10/25/73
		D22439	206-238	10/25/73 - 10/25/73
		D22392	239-308	10/25/73 - 10/25/73
		D18778	309-313	10/26/73 - 10/26/73
		D19383	314-336	10/26/73 - 10/26/73
		D19458	337-403	10/26/73 - 10/26/73
		D19468	404-473	10/26/73 - 10/26/73
		D20360	474-543	10/26/73 - 10/26/73
		D22427	544-613	10/26/73 - 10/26/73
		D18779	614-680	10/27/73 - 10/27/73
		D19394	681-747	10/27/73 - 10/27/73

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R#	DS#	D#	FILES	TIME SPAN
DR02895	DS02895	D20671	1-21	10/27/73 - 10/27/73
		D22393	22-91	10/27/73 - 10/27/73
		D20293	92-107	10/28/73 - 10/28/73
		D20354	108-177	10/28/73 - 10/28/73
		D20657	178-247	10/28/73 - 10/28/73
		D22027	248-250	10/28/73 - 10/28/73
		D22419	251-298	10/28/73 - 10/28/73
		D19389	299-315	10/29/73 - 10/29/73
		D19384	316-385	10/27/73 - 10/29/93
		D22383	386-439	10/29/73 - 10/29/73
		D22428	440-501	10/29/73 - 10/29/73
		D18759	502-553	10/30/73 - 10/30/73
		D22404	554-568	10/30/73 - 10/30/73
		D22357	569-617	10/30/73 - 10/30/73
		D22418	618-687	10/30/73 - 10/30/73
		D19392	688-698	10/31/73 - 10/31/73
DR02896	DS02896	D21997	1-70	10/31/73 - 10/31/73
		D22358	71-116	10/31/73 - 10/31/73
		D18756	117-158	11/01/73 - 11/01/73
		D18755	159-228	11/01/73 - 11/01/73
		D19445	229-247	11/01/73 - 11/01/73
		D18197	248-268	11/02/73 - 11/02/73
		D19395	269-284	11/02/73 - 11/02/73
		D20388	285-354	11/02/73 - 11/02/73
		D20622	355-424	11/02/73 - 11/02/73
		D22412	425-482	11/02/73 - 11/02/73
		D18757	483-552	11/03/73 - 11/03/73
		D20316	553-584	11/03/73 - 11/03/73
		D20314	585-654	11/03/73 - 11/03/73
		D22405	655-659	11/03/73 - 11/03/73
		D23658	660-703	11/03/73 - 11/03/73
DR02907	DS02907	D18189	1-54	11/04/73 - 11/04/73
		D22407	55-72	11/04/73 - 11/04/73
		D22363	73-132	11/04/73 - 11/04/73
		D22637	133-192	11/04/73 - 11/04/73
		D22596	193-249	11/05/73 - 11/05/73
		D22626	250-257	11/05/73 - 11/05/73
		D22635	258-292	11/06/73 - 11/06/73
		D18732	293-307	11/06/73 - 11/06/73
		D20661	308-377	11/06/73 - 11/06/73
		D22585	378-437	11/06/73 - 11/06/73
		D22644	438-456	11/06/73 - 11/06/73
		D22996	457-526	11/06/73 - 11/06/73
		D18201	527-596	11/07/73 - 11/07/73
		D18202	597-666	11/07/73 - 11/07/73
		D18730	667-688	11/07/73 - 11/07/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02908	DS02908	D19460	1-55	11/07/73 - 11/07/73
		D20623	56-75	11/07/73 - 11/07/73
		D20625	76-145	11/07/73 - 11/07/73
		D22389	146-194	11/07/73 - 11/07/73
		D18235	195-212	11/08/73 - 11/08/73
		D18243	213-266	11/08/73 - 11/08/73
		D18851	267-282	11/08/73 - 11/08/73
		D19421	283-328	11/08/73 - 11/08/73
		D20673	329-398	11/08/73 - 11/08/73
		D22471	399-417	11/08/73 - 11/08/73
		D22589	418-487	11/08/73 - 11/08/73
		D18729	488-501	11/09/73 - 11/09/73
		D19390	502-571	11/09/73 - 11/09/73
		D22372	572-585	11/09/73 - 11/09/73
		D22386	586-624	11/09/73 - 11/09/73
		D22384	625-686	11/09/73 - 11/09/73
DS02929	DR02929	D22394	1-70	11/09/73 - 11/09/73
		D22232	71-140	11/10/73 - 11/10/73
		D22362	141-153	11/10/73 - 11/10/73
		D22430	154-167	11/10/73 - 11/10/73
		D22361	168-237	11/10/73 - 11/10/73
		D22391	238-307	11/10/73 - 11/10/73
		D22425	308-377	11/10/73 - 11/10/73
		D19474	378-409	11/11/73 - 11/11/73
		D19401	411-463	11/11/73 - 11/11/73
		D22371	464-476	11/11/73 - 11/11/73
		D22400	477-546	11/11/73 - 11/11/73
		D22426	547-616	11/11/73 - 11/11/73
		D23656	617-629	11/11/73 - 11/11/73
DS02934	DR02934	D17235	1-70	11/12/73 - 11/21/73
		D18225	71-89	11/12/73 - 11/12/73
		D18734	90-159	11/12/73 - 11/12/73
		D20299	160-170	11/12/73 - 11/12/73
		D22409	171-185	11/12/73 - 11/12/73
		D22395	186-231	11/12/73 - 11/12/73
		D22410	232-301	11/12/73 - 11/12/73
		D18775	302-312	11/13/73 - 11/13/73
		D18739	313-373	11/13/73 - 11/13/73
		D19459	374-443	11/13/73 - 11/13/73
		D20359	444-513	11/13/73 - 11/13/73
		D20607	514-533	11/13/73 - 11/13/73
		D22008	534-550	11/13/73 - 11/13/73
		D22378	551-564	11/13/73 - 11/13/73
		D20383	565-566	11/14/73 - 11/14/73
		D22377	567-577	11/14/73 - 11/14/73
		D22375	578-599	11/14/73 - 11/14/73
		D22396	600-669	11/14/73 - 11/14/73
		D20368	670-675	11/18/73 - 11/18/73
		D20648	676-677	11/18/73 - 11/18/73
		D17024	678-684	11/19/73 - 11/19/73
		D17309	685-688	11/19/73 - 11/19/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02941	DS02941	D17473	1-70	11/20/73 - 11/20/73
		D20591	71-129	11/20/73 - 11/20/73
		D22223	130-152	11/20/73 - 11/20/73
		D17254	153-183	11/21/73 - 11/21/73
		D17236	184-238	11/21/73 - 11/21/73
		D18827	239-267	11/21/73 - 11/21/73
		D22040	268-295	11/21/73 - 11/21/73
		D22222	296-365	11/21/73 - 11/21/73
		D22227	366-435	11/21/73 - 11/21/73
		D17338	436-463	11/22/73 - 11/22/73
		D17458	464-533	11/22/73 - 11/22/73
		D18234	534-603	11/22/73 - 11/22/73
		D22226	604-668	11/23/73 - 11/23/73
		D22438	669-683	11/23/73 - 11/23/73
		D22370	684-753	11/23/73 - 11/23/73
		D17270	754-772	11/24/73 - 11/24/73
		D17227	773-842	11/24/73 - 11/24/73
DR02942	DS02942	D17441	1-70	11/24/73 - 11/24/73
		D20374	71-93	11/24/73 - 11/24/73
		D20343	94-126	11/24/73 - 11/24/73
		D20325	127-196	11/24/73 - 11/24/73
		D22242	197-214	11/25/73 - 11/25/73
		D17293	215-244	11/25/73 - 11/25/73
		D18242	245-272	11/25/73 - 11/25/73
		D18282	273-305	11/25/73 - 11/25/73
		D22387	306-375	11/25/73 - 11/25/73
		D18244	376-386	11/26/73 - 11/26/73
		D20298	387-404	11/26/73 - 11/26/73
		D22380	405-474	11/26/73 - 11/26/73
		D22390	475-544	11/26/73 - 11/26/73
		D18184	545-560	11/27/73 - 11/27/63
		D18199	561-603	11/27/73 - 11/27/73
		D18738	604-673	11/27/73 - 11/27/73
		D22022	674-694	11/27/73 - 11/27/73
		D22437	695-758	11/27/73 - 11/27/73
		D22643	759-828	11/27/73 - 11/27/73
DR02943	DS02943	D17825	1-03	11/28/73 - 11/28/73
		D18196	04-73	11/28/73 - 11/28/73
		D20663	72-94	11/28/73 - 11/28/73
		D23147	95-97	11/28/73 - 11/28/73
		D23144	98-158	11/28/73 - 11/28/73
		D22234	159-228	11/29/73 - 11/29/73
		D17442	229-243	11/29/73 - 11/29/73
		D18246	244-259	11/29/73 - 11/29/73
		D18213	260-315	11/29/73 - 11/29/73
		D18740	316-385	11/29/73 - 11/29/73
		D19424	386-455	11/29/73 - 11/29/73
		D18270	456-525	11/30/73 - 11/30/73
		D17858	526-549	11/30/73 - 11/30/73
		D17845	550-559	11/30/73 - 11/30/73
		D20356	600-662	11/30/73 - 11/30/73
		D22230	663-681	12/01/73 - 12/01/73
		D18203	682-751	12/01/73 - 12/01/73
		D22214	752-763	12/01/73 - 12/01/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02944	DS02944	D22235	1-69	12/02/73 - 12/02/73
		D19463	70-125	12/02/73 - 12/02/73
		D20303	126-151	12/02/73 - 12/02/73
		D20342	152-221	12/02/73 - 12/02/73
		D22028	222-279	12/02/73 - 12/02/73
		D17291	280-294	12/03/73 - 12/03/73
		D17842	295-297	12/03/73 - 12/03/73
		D17832	298-329	12/03/73 - 12/03/73
		D18230	330-399	12/03/73 - 12/03/73
		D18866	400-404	12/03/73 - 12/03/73
		D17886	405-460	12/04/73 - 12/04/73
		D18188	461-472	12/04/73 - 12/04/73
		D18198	473-502	12/04/73 - 12/04/73
		D18240	503-572	12/04/73 - 12/04/73
		D18733	573-642	12/04/73 - 12/04/73
DR02949	DS02949	D20336	1-22	12/04/73 - 12/04/73
		D18902	23-77	12/05/73 - 12/05/73
		D20355	78-147	12/05/73 - 12/05/73
		D20389	148-217	12/05/73 - 12/05/73
		D20609	218-234	12/05/73 - 12/05/73
		D22030	235-263	12/05/73 - 12/05/73
		D22212	264-333	12/05/73 - 12/05/73
		D17860	334-356	12/06/73 - 12/06/73
		D17856	357-426	12/06/73 - 12/06/73
		D18285	427-496	12/06/73 - 12/06/73
		D18822	497-566	12/06/73 - 12/06/73
		D20350	567-588	12/06/73 - 12/06/73
		D18223	589-608	12/07/73 - 12/07/73
		D18252	609-671	12/07/73 - 12/07/73
		D18828	672-741	12/07/73 - 12/07/73
DR02950	DS02950	D18865	1-70	12/07/73 - 12/07/73
		D20333	71-140	12/07/73 - 12/07/73
		D20590	141-159	12/07/73 - 12/07/73
		D18269	160-224	12/08/73 - 12/08/73
		D17834	225-231	12/08/73 - 12/08/73
		D17840	232-238	12/08/73 - 12/08/73
		D17831	239-308	12/08/73 - 12/08/73
		D18251	309-378	12/08/73 - 12/08/73
		D18887	379-448	12/08/73 - 12/08/73
		D18245	449-486	12/09/73 - 12/09/73
		D18875	487-546	12/09/73 - 12/09/73
		D18882	547-616	12/09/73 - 12/09/73
		D19450	617-637	12/09/73 - 12/09/73
		D19470	638-683	12/09/73 - 12/09/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02972	DS02972	D20290	1-36	12/09/73 - 12/09/73
		D20370	37-66	12/10/73 - 12/10/73
		D20294	67-136	12/10/73 - 12/10/73
		D22228	137-178	12/10/73 - 12/10/73
		D22376	179-243	12/10/73 - 12/10/73
		D23643	244-313	12/10/73 - 12/10/73
		D17841	314-329	12/11/73 - 12/11/73
		D17873	330-355	12/11/73 - 12/11/73
		D18847	356-359	12/11/73 - 12/11/73
		D22397	360-361	12/11/73 - 12/11/73
		D22402	362-431	12/11/73 - 12/11/73
		D17461	432-541	12/12/73 - 12/12/73
		D18830	542-611	12/12/73 - 12/12/73
		D19430	612-647	12/12/73 - 12/12/73
		D19431	648-717	12/12/73 - 12/12/73
DR02973	DS02973	D20340	1-70	12/12/73 - 12/12/73
		D21998	71-76	12/12/73 - 12/12/73
		D22398	77-92	12/12/73 - 12/12/73
		D18737	93-158	12/13/73 - 12/13/73
		D20373	159-222	12/13/73 - 12/13/73
		D20324	223-292	12/13/73 - 12/13/73
		D20375	293-362	12/13/73 - 12/13/73
		D22999	363-387	12/13/73 - 12/13/73
		D18241	389-410	12/14/73 - 12/14/73
		D20384	411-439	12/14/73 - 12/14/73
		D20348	440-497	12/14/73 - 12/14/73
		D20358	498-567	12/14/73 - 12/14/73
		D22217	568-637	12/14/73 - 12/14/73
		D22382	638-707	12/14/73 - 12/14/73
DR02979	DS02979	D22638	1-20	12/14/73 - 12/14/73
		D22623	21-41	12/14/73 - 12/14/73
		D17337	42-79	12/15/73 - 12/15/73
		D20365	80-81	12/15/73 - 12/15/73
		D20317	82-93	12/15/73 - 12/15/73
		D20387	94-112	12/15/73 - 12/15/73
		D20318	113-182	12/15/73 - 12/15/73
		D20346	183-252	12/15/73 - 12/15/73
		D22630	253-320	12/15/73 - 12/15/73
		D23001	321-350	12/15/73 - 12/15/73
		D22239	351-420	12/16/73 - 12/16/73
		D17314	421-450	12/16/73 - 12/16/73
		D20378	451-499	12/16/73 - 12/16/73
		D20655	500-506	12/16/73 - 12/16/73
		D20587	507-518	12/16/73 - 12/16/73
		D22642	519-567	12/16/73 - 12/16/73
		D22640	568-624	12/16/73 - 12/16/73
		D17271	625-641	12/17/73 - 12/17/73
		D19446	642-711	12/17/73 - 12/17/73
		D20382	712-737	12/17/73 - 12/17/73
		D20369	738-807	12/17/73 - 12/17/73

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DR#	DS#	D#	FILES	TIME SPAN
DR02983	DS02983	D21995	1-70	12/17/73 - 12/17/73
		D22636	71-80	12/17/73 - 12/17/73
		D17332	81-97	12/18/73 - 12/18/73
		D20361	98-144	12/18/73 - 12/18/73
		D20353	145-214	12/18/73 - 12/18/73
		D20357	215-284	12/18/73 - 12/18/73
		D20662	285-316	12/18/73 - 12/18/73
		D17238	317-317	12/19/73 - 12/19/73
		D17864	318-387	12/19/73 - 12/19/73
		D18249	388-457	12/19/73 - 12/19/73
		D20292	458-461	12/19/73 - 12/19/73
		D20352	462-482	12/19/73 - 12/19/73
		D20644	483-501	12/19/73 - 12/19/73
		D22628	502-571	12/19/73 - 12/19/73
		D17863	572-577	12/20/73 - 12/20/73
		D17836	578-646	12/20/73 - 12/20/73
		D18248	647-716	12/20/73 - 12/20/73
DR02984	DS02984	D20297	1-49	12/20/73 - 12/20/73
		D20305	50-107	12/20/73 - 12/20/73
		D20366	108-177	12/20/73 - 12/20/73
		D20624	178-247	12/20/73 - 12/20/73
		D17025	248-256	12/21/73 - 12/21/73
		D17258	257-326	12/21/73 - 12/21/73
		D17336	327-336	12/21/73 - 12/21/73
		D17470	337-406	12/21/73 - 12/21/73
		D18824	407-476	12/21/73 - 12/21/73
		D22029	477-499	12/21/73 - 12/21/73
		D17472	500-522	12/22/73 - 12/22/73
		D17455	523-592	12/22/73 - 12/22/73
		D18823	593-662	12/22/73 - 12/22/73
		D20668	663-682	12/22/73 - 12/22/73
		D22629	683-752	12/22/73 - 12/22/73
		D22997	753-763	12/22/73 - 12/22/73
DR03002	DS03002	D19461	1-70	12/23/73 - 12/23/73
		D20323	71-85	12/23/73 - 12/23/73
		D20632	86-94	12/23/73 - 12/23/73
		D20660	95-108	12/23/73 - 12/23/73
		D20606	109-158	12/23/73 - 12/23/73
		D20653	159-228	12/23/73 - 12/23/73
		D23646	229-298	12/23/73 - 12/23/73
		D18861	299-325	12/24/73 - 12/24/73
		D18836	326-395	12/24/73 - 12/24/73
		D19429	396-417	12/24/73 - 12/24/73
		D20351	418-486	12/24/73 - 12/24/73
		D20589	487-556	12/24/73 - 12/24/73
		D20638	557-626	12/24/73 - 12/24/73
		D22625	627-633	12/24/73 - 12/27/73

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DR#	DS#	D#	FILES	TIME SPAN
DR03003	DS03003	D17333	1-15	12/25/73 - 12/25/73
		D19442	16-33	12/25/73 - 12/25/73
		D20611	34-103	12/25/73 - 12/25/73
		D18877	104-116	12/26/73 - 12/26/73
		D20309	117-137	12/26/73 - 12/26/73
		D20380	138-182	12/26/73 - 12/26/73
		D20311	183-252	12/26/73 - 12/26/73
		D22627	253-263	12/26/73 - 12/26/73
		D18283	264-294	12/27/73 - 12/27/63
		D18869	295-329	12/27/73 - 12/27/73
		D20301	330-399	12/27/73 - 12/27/73
		D20322	400-469	12/27/73 - 12/27/73
		D22411	470-539	12/27/73 - 12/27/73
		D22622	540-560	12/27/73 - 12/27/73
		D22641	561-581	12/27/73 - 12/27/73
		D17454	582-585	12/28/73 - 12/28/73
		D17471	586-589	12/28/73 - 12/28/73
		D18224	590-659	12/28/73 - 12/28/73
		D18226	660-729	12/28/73 - 12/28/73
		D18844	730-763	12/28/73 - 12/28/73
DR03004	DS03004	D18870	1-70	12/28/73 - 12/28/73
		D20367	71-72	12/28/73 - 12/28/73
		D20639	73-142	12/28/73 - 12/28/73
		D22645	143-143	12/28/73 - 12/28/73
		D19456	144-157	12/29/73 - 12/29/73
		D19449	158-227	12/29/73 - 12/29/73
		D20302	228-283	12/29/73 - 12/29/73
		D22035	284-321	12/29/73 - 12/29/73
		D22646	322-354	12/29/73 - 12/29/73
		D17237	355-407	12/30/73 - 12/30/73
DR03005	DS03005	D18891	1-70	12/30/73 - 12/30/73
		D22432	71-113	12/30/73 - 12/30/73
		D22624	114-182	12/30/73 - 12/30/73
		D23146	183-200	12/20/73 - 12/30/73
		D17310	201-268	12/31/73 - 12/31/73
		D18228	269-274	12/31/73 - 12/31/73
		D19416	275-344	12/31/73 - 12/31/73
		D20308	345-404	12/31/73 - 12/31/73
		D22026	405-405	12/31/73 - 12/31/73
		D22633	406-459	12/31/73 - 12/31/73
		D20599	460-474	01/01/74 - 01/01/74
		D20592	475-514	01/01/74 - 01/01/74
		D22639	515-543	01/01/74 - 01/01/74

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DR#	DS#	D#	FILES	TIME SPAN
DR03010	DS03010	D22810	1-21	01/01/74 - 01/01/74
		D20672	22-49	01/02/74 - 01/02/74
		D22805	50-53	01/02/74 - 01/02/74
		D22804	54-117	01/02/74 - 01/02/74
		D22803	118-182	01/02/74 - 01/02/74
		D22806	183-252	01/02/74 - 01/02/74
		D22807	253-322	01/02/74 - 01/02/74
		D17296	323-384	01/03/74 - 01/03/74
		D18899	385-427	01/03/74 - 01/03/74
		D19478	428-429	01/03/74 - 01/03/74
		D20338	430-499	01/03/74 - 01/03/74
		D20634	500-502	01/03/74 - 01/03/74
		D22801	501-510	01/03/74 - 01/03/74
		D22798	511-574	01/03/74 - 01/03/74
		D22800	575-644	01/03/74 - 01/03/74
		D17456	645-665	01/04/74 - 01/04/74
		D18205	666-735	01/04/74 - 01/04/74
		D18897	736-800	01/04/74 - 01/04/74
		D18898	801-870	01/04/74 - 01/04/74
DR03011	DR03011	D22013	1-13	01/04/74 - 01/04/74
		D22799	14-83	01/04/74 - 01/04/74
		D22802	84-153	01/04/74 - 01/04/74
		D18277	154-176	01/05/74 - 01/05/74
		D17339	177-245	01/05/74 - 01/05/74
		D18185	246-299	01/05/74 - 01/05/74
		D20643	300-356	01/05/74 - 01/05/74
		D22399	357-373	01/05/74 - 01/05/74
		D22812	374-396	01/05/74 - 01/05/74
		D22820	397-466	01/05/74 - 01/05/74
		D23647	467-536	01/05/74 - 01/05/74
		D17315	537-559	01/06/74 - 01/06/74
		D18849	560-527	01/06/74 - 01/06/74
		D18841	528-629	01/06/74 - 01/06/74
		D19440	630-699	01/06/74 - 01/06/74
		D20345	700-711	01/06/74 - 01/06/74
		D22005	712-767	01/06/74 - 01/06/74
DR03012	DS03012	D22240	1-51	01/07/74 - 01/07/74
		D20630	52-92	01/07/74 - 01/07/74
		D20593	93-160	01/07/74 - 01/07/74
		D22819	161-198	01/07/74 - 01/07/74
		D19432	199-206	01/08/74 - 01/08/74
		D19428	207-276	01/08/74 - 01/08/74
		D20633	277-346	01/08/74 - 01/08/74
		D22813	347-350	01/08/74 - 01/08/74
		D18884	351-420	01/09/74 - 01/09/74
		D20339	421-446	01/09/74 - 01/09/74
		D20635	447-501	01/09/74 - 01/09/74
		D22213	502-515	01/09/74 - 01/09/74
		D22817	516-584	01/09/74 - 01/09/74
		D18853	585-652	01/10/74 - 01/10/74
		D18852	653-722	01/10/74 - 01/10/74
		D20629	723-738	01/10/74 - 01/10/74
		D22215	739-750	01/10/74 - 01/10/74

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DR#	DS#	D#	FILES	TIME SPAN
DR03036	DS03036	D22811	1-47	01/10/74 - 01/10/74
		D22821	48-117	01/10/74 - 01/10/74
		D18743	118-183	01/11/74 - 01/11/74
		D20315	184-190	01/11/74 - 01/11/74
		D20313	191-198	01/11/74 - 01/11/74
		D20603	199-268	01/11/74 - 01/11/74
		D22039	269-273	01/11/74 - 01/11/74
		D23660	274-343	01/11/74 - 01/11/74
		D18863	344-405	01/12/74 - 01/12/74
		D18832	406-475	01/12/74 - 01/12/74
		D19427	476-487	01/12/74 - 01/12/74
		D22431	488-517	01/12/74 - 01/12/74
		D22808	518-587	01/12/74 - 01/12/74
		D23653	588-654	01/12/74 - 01/12/74
		D17827	655-690	01/13/74 - 01/13/74
		D18893	691-746	01/13/74 - 01/13/74
DR03037	DS03037	D18858	1-70	01/13/74 - 01/13/74
		D18880	71-140	01/13/74 - 01/13/74
		D20674	141-160	01/13/74 - 01/12/74
		D22816	161-181	01/13/74 - 01/13/74
		D22818	182-190	01/13/74 - 01/13/74
		D22826	191-233	01/13/74 - 01/13/74
		D17867	234-269	01/14/74 - 01/14/74
		D18890	270-305	01/14/74 - 01/14/74
		D18885	306-351	01/14/74 - 01/14/74
		D20349	352-421	01/14/74 - 01/14/74
		D20640	422-489	01/14/74 - 01/14/74
		D18833	490-559	01/15/74 - 01/15/74
		D20326	560-566	01/15/74 - 01/15/74
		D20651	567-595	01/15/74 - 01/15/74
		D20659	596-643	01/15/74 - 01/15/74
		D22827	644-662	01/15/74 - 01/15/74
DR03038	DS03038	D22809	1-69	01/15/74 - 01/15/74
		D22834	70-139	01/15/74 - 01/15/74
		D18268	140-168	01/16/74 - 01/16/74
		D17327	169-224	01/16/74 - 01/16/74
		D18216	225-254	01/16/74 - 01/16/74
		D18881	255-290	01/16/74 - 01/16/74
		D20310	291-360	01/16/74 - 01/16/74
		D20612	361-413	01/16/74 - 01/16/74
		D22829	414-483	01/16/74 - 01/16/74
		D19438	484-486	01/17/74 - 01/17/74
		D20329	487-556	01/17/74 - 01/17/74
		D20620	557-612	01/17/74 - 01/17/74
		D22001	613-680	01/17/74 - 01/17/74
		D22830	681-735	01/17/74 - 01/17/74
		D19444	736-736	01/18/74 - 01/18/74

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DR#	DS#	D#	FILES	TIME SPAN
DR03057	DS03057	D19402	1-24	01/18/74 - 01/18/74
		D19455	25-94	01/18/74 - 01/18/74
		D20364	95-164	01/18/74 - 01/18/74
		D20619	164-208	01/18/74 - 01/18/74
		D20614	209-278	01/18/74 - 01/18/74
		D18215	279-348	01/19/74 - 01/19/74
		D18842	349-361	01/19/74 - 01/19/74
		D18837	362-413	01/19/74 - 01/19/74
		D18889	414-483	01/19/74 - 01/19/74
		D20645	484-553	01/19/74 - 01/19/74
		D22823	554-582	01/19/74 - 01/19/74
		D23012	583-627	01/19/74 - 01/19/74
		D18278	628-647	01/20/74 - 01/20/74
		D17324	648-678	01/20/74 - 01/20/74
		D20667	679-748	01/20/74 - 01/20/74
DR03058	DS03058	D22006	1-69	01/20/74 - 01/20/74
		D22401	70-139	01/20/74 - 01/20/74
		D22831	140-177	01/20/74 - 01/20/74
		D22814	178-247	01/20/74 - 01/20/74
		D22832	248-317	01/20/74 - 01/20/74
		D23645	318-376	01/20/74 - 01/20/74
		D17444	377-446	01/21/74 - 01/21/74
		D18744	447-504	01/21/74 - 01/21/74
		D20618	505-531	01/21/74 - 01/21/74
		D20636	532-601	01/21/74 - 01/21/74
		D22025	602-620	01/21/74 - 01/21/74
		D23011	621-638	01/21/74 - 01/21/74
		D23659	639-688	01/21/74 - 01/21/74
DR03089	DS03089	D18862	1-70	01/22/74 - 01/22/74
		D18859	71-140	01/22/74 - 01/22/74
		D19387	141-187	01/22/74 - 01/22/74
		D20296	188-257	01/22/74 - 01/22/74
		D20596	258-327	01/22/74 - 01/22/74
		D23014	328-339	01/22/74 - 01/22/74
		D17869	340-345	01/23/74 - 01/23/74
		D17853	346-415	01/23/74 - 01/23/74
		D18876	416-422	01/23/74 - 01/23/74
		D18834	423-492	01/23/74 - 01/23/74
		D18895	493-562	01/23/74 - 01/23/74
		D20646	563-601	01/23/74 - 01/23/74
		D22828	602-651	01/23/74 - 01/23/74
DR03090	DS03090	D23007	1-32	01/23/74 - 01/23/74
		D17460	33-100	01/24/74 - 01/23/74
		D20379	101-113	01/24/74 - 01/23/74
		D20363	114-183	01/24/74 - 01/24/74
		D22009	184-253	01/24/74 - 01/24/74
		D23010	254-293	01/24/74 - 01/24/74
		D23013	294-338	01/24/74 - 01/23/74
		D23008	339-404	01/24/74 - 01/24/74
		D18279	405-474	01/25/74 - 01/25/74
		D17871	475-475	01/25/74 - 01/25/74
		D18888	476-499	01/25/74 - 01/25/74
		D20642	500-519	01/25/74 - 01/25/74
		D20610	520-589	01/25/74 - 01/25/74
		D23003	590-649	01/25/74 - 01/25/74
		D23005	650-719	01/25/74 - 01/15/74

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DR#	DS#	D#	FILES	TIME SPAN
DR03092	DS03092	D17323	1-68	01/26/74 - 01/26/74
		D18187	69-70	01/26/74 - 01/26/74
		D18860	71-140	01/26/74 - 01/26/74
		D20670	141-210	01/26/74 - 01/26/74
		D23009	211-236	01/26/74 - 01/26/74
		D23006	237-306	01/26/74 - 01/26/74
		D17453	307-376	01/27/74 - 01/27/74
		D18255	377-423	01/27/74 - 01/27/74
		D18250	424-493	01/27/74 - 01/27/74
		D18900	494-561	01/27/74 - 01/27/74
		D20617	562-562	01/27/74 - 01/27/74
		D22021	563-579	01/27/74 - 01/27/74
		D22031	580-649	01/27/74 - 01/27/74
		D23002	650-711	01/27/74 - 01/27/74
DR03093	DS03093	D22231	1-23	01/28/74 - 01/28/74
		D17851	23-34	01/28/74 - 01/28/74
		D20656	35-46	01/28/74 - 01/28/74
		D20669	47-116	01/28/74 - 01/28/74
		D22024	117-143	01/28/74 - 01/28/74
		D22218	144-212	01/28/74 - 01/28/74
		D22833	213-224	01/28/74 - 01/28/74
		D23030	225-294	01/28/74 - 01/28/74
		D23035	295-364	01/28/74 - 01/28/74
		D23649	365-382	01/28/74 - 01/28/74
		D18254	383-452	01/29/74 - 01/29/74
		D18894	453-521	01/29/74 - 01/29/74
		D18883	522-591	01/29/74 - 01/29/74
		D20331	592-661	01/29/74 - 01/29/74
		D20641	662-679	01/29/74 - 01/29/74
		D20664	680-702	01/29/74 - 01/29/74
		D23004	703-727	01/29/74 - 01/29/74
		D23031	728-733	01/29/74 - 01/29/74
		D23033	734-749	01/29/74 - 01/29/74
		D18276	750-807	01/30/74 - 01/30/74
DR03094	DS03094	D17313	1-53	01/30/74 - 01/30/74
		D20372	54-121	01/30/74 - 01/30/74
		D20658	122-136	01/30/74 - 01/30/74
		D23032	137-204	01/30/74 - 01/30/74
		D20295	205-223	01/31/74 - 01/31/74
		D20291	224-293	01/31/74 - 01/31/74
		D20621	294-310	01/31/74 - 01/31/74
		D20608	311-346	01/31/74 - 01/31/74
		D23034	347-383	01/31/74 - 01/31/74
		D23028	384-453	01/31/74 - 01/31/74
		D18275	454-497	02/01/74 - 02/01/74
		D18274	498-567	02/01/74 - 02/01/74
		D17331	568-571	02/01/74 - 02/01/74
		D17299	572-601	02/01/74 - 02/01/74
		D17844	602-671	02/01/74 - 02/01/74
		D22017	672-689	02/01/74 - 02/01/74

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DR#	DS#	D#	FILES	TIME SPAN
DR03095	DS03095	D22038	1-70	02/01/74 - 02/01/74
		D17259	71-90	02/02/74 - 02/02/74
		D17300	91-160	02/02/74 - 02/02/74
		D18850	161-230	02/02/74 - 02/02/74
		D20376	231-251	02/02/74 - 02/02/74
		D20381	252-321	02/02/74 - 02/02/74
		D20616	322-391	02/02/74 - 02/02/74
		D22007	392-399	02/02/74 - 02/02/74
		D18266	400-417	02/03/74 - 02/03/74
		D18838	418-426	02/03/74 - 02/03/74
		D20341	427-496	02/03/74 - 02/03/74
		D23029	497-500	02/03/74 - 02/03/74
		D23652	501-570	02/03/74 - 02/03/74
		D22238	571-585	02/04/74 - 02/04/74
		D18263	586-601	02/04/74 - 02/04/74
		D18831	602-656	02/04/74 - 02/04/74
		D18848	657-711	02/04/74 - 02/04/74
		D20613	712-766	02/04/74 - 02/04/74
DR03096	DS03096	D22019	1-55	02/04/74 - 02/04/74
		D22229	56-69	02/04/74 - 02/04/74
		D23037	70-85	02/04/74 - 02/04/74
		D23036	86-140	02/04/74 - 02/04/74
		D17850	141-155	02/05/74 - 02/05/74
		D18229	156-167	02/05/74 - 02/05/74
		D18247	168-179	02/05/74 - 02/05/74
		D20344	180-234	02/05/74 - 02/05/74
		D20649	235-265	02/05/74 - 02/05/74
		D22033	266-275	02/05/74 - 02/05/74
		D22015	276-330	02/05/74 - 02/05/74
		D23038	331-400	02/05/74 - 02/05/74
		D23644	401-413	02/05/74 - 02/05/74
		D17862	414-436	02/06/74 - 02/06/74
		D17824	437-506	02/06/74 - 02/06/74
		D17833	507-576	02/06/74 - 02/06/74
		D18214	577-603	02/06/74 - 02/06/74
		D18217	604-673	02/06/74 - 02/06/74
		D18868	674-686	02/06/74 - 02/06/74
DR03097	DS03097	D20598	1-31	02/06/74 - 02/06/74
		D20628	32-101	02/06/74 - 02/06/74
		D17446	102-130	02/07/74 - 02/07/74
		D18212	131-157	02/07/74 - 02/07/74
		D19396	158-227	02/07/74 - 02/07/74
		D20362	228-252	02/07/74 - 02/07/74
		D20637	253-322	02/07/74 - 02/07/74
		D22003	323-345	02/07/74 - 02/07/74
		D22004	346-415	02/07/74 - 02/07/74
		D18259	416-450	02/08/74 - 02/08/74
		D17260	451-477	02/08/74 - 02/08/74
		D17308	478-547	02/08/74 - 02/08/74
		D22002	548-617	08/20/73 - 08/20/73

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DR#	DS#	D#	FILES	TIME SPAN
DR03129	DS03129	D22257	1-19	02/17/73 - 02/17/73
		D22261	20-35	02/17/73 - 02/17/73
		D22246	36-49	02/19/73 - 02/19/73
		D22256	50	02/21/73 - 02/21/73
		D22247	51-56	02/21/73 - 02/21/73
		D22250	57-121	02/21/73 - 02/21/73
		D22254	122-191	02/22/73 - 02/22/73
		D22258	192-206	02/22/73 - 02/22/73
		D22259	207-241	02/22/73 - 02/22/73
		D22249	242-247	02/23/73 - 02/23/73
		D22251	248-260	02/24/73 - 02/24/73
		D22252	261-330	02/24/73 - 02/24/73
		D22243	331-353	02/24/73 - 02/24/73
		D22253	354-423	02/26/73 - 02/26/73
		D22248	424-493	02/26/73 - 02/26/73
		D22260	494-542	03/01/73 - 03/01/73
		D22244	543-559	03/01/73 - 03/01/73
		D22255	560-586	03/02/73 - 03/02/73
		D23648	587-595	03/02/73 - 03/02/73
		D22245	596-645	03/02/73 - 03/02/73

REQ. AGENT	RAND NO.	ACQ. AGENT
CMM	RC0824	JAF
CAW	RC7300	JAF

SKYLAB SOLAR EUV DATA

73-027A-06A

This data set consists of numerous tapes that are listed below and printed on several following sheets of printout. The tapes are 7 track, 556 BPI, binary, multi-filed. The tapes were created on the CDC 6400 computer.

D#	C#	TIME SPAN	FILES
D-15127	C-11872	08/09/73	70
D-18768	C-18800	06/04/73	55
D-22631	C-18801	07/12/73	27
D-19433	C-18802	08/06/73	48
D-17463	C-18803	08/18/73	7
D-20388	C-18804	11/02/73	70
D-22216	C-18805	11/24/73	70
D-20313	C-18806	01/11/74	8
D-18266	C-18807	02/03/74	18

HARVARD COLLEGE OBSERVATORY

S055/ATM Scientific User Tape Guide

By

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0. INTRODUCTION

This is one of a series of documents describing the data, their use and formats, obtained by the Harvard EUV Spectrometer, the S055 Instrument included in the Apollo Telescope Mount part of Skylab. In particular, this tomus parvus is to introduce the data tapes which contain the raw scientific data. In order to present a workable knowledge of the data, the first section is a description of the methods used to gather the data and process them into final form. The second section describes the tapes themselves. A list of problems (probably incomplete) and diagnostic methods form the third section completing this report. A more general and complete overview of the mission and of the types of data available is in the Data Handbook by William Harby and Edmond Reeves.

A "Caveat" must be observed with respect to the values given on these pages - they should not be used when a fair amount of accuracy is needed. Rough values are included here to allow simple calculations to be made easily.

For efforts in assembling the data I would like to thank many people at Harvard College Observatory, NASA, and Ball Brothers Research Corporation, particularly William Demos. This work was done under NASA contract NAS5-3949.

1. DATA GATHERING AND PROCESSING

The S055 spectroheliometer digitally measured light intensities in the extreme ultraviolet. These data and others giving the configuration of the instrument and of the ATM systems were relayed to the ground and stored in several different forms on magnetic tape. Finally the data were organized and formatted onto the Scientific Users' Tapes.

1.1 EXTREME ULTRAVIOLET SPECTROHELIOMETER

The instrument (Fig. 1.1-A, Table 1.1-I) can be regarded as three serial subsystems. The first is a telescope with an off-axis paraboloidal mirror. The mirror is gimbal mounted, and servos control either raster scans of 5.5x5 (arc min)^2 or line scans of 5.5 arc min x 5.0 arc sec. The rasters take 5.55 minutes to complete and so have coarser temporal resolution than the 5.50 second line scans. When not scanning the servos allow the mirror to be pointed within an area of the raster, however the mirror was usually left in the stow position. The pointing and orientation of the instrument as a whole are determined by those of the ATM baseplate on which it is mounted.

The solar image is focussed onto the entrance slit of the spectrometer, the second subsystem. The slit size defines the spatial resolution of 5.0 arc sec (or about 4000 km perpendicular distance at 1 A.U.). The light is diffracted at near normal incidence from a grating in a modified Johnson-Onaka Mount. A stepping motor and cam rotate the grating allowing the spectrum to be scanned past the exit slits. Within the wavelength range of the spectrometer the selection of a set of wavelengths for a raster or line scan is achieved by stopping the grating.

There are seven exit slits each with its own detector. Detector 1 is the primary detector for spectral scans since the spectrometer design provides perfect horizontal focus for it at 1350 and 450 Å; it has access to the entire spectral region for which the instrument was designed, 1350 to 296 Å; and it has the smallest bandpass (1.6 Å FWHM) of any of the detectors.

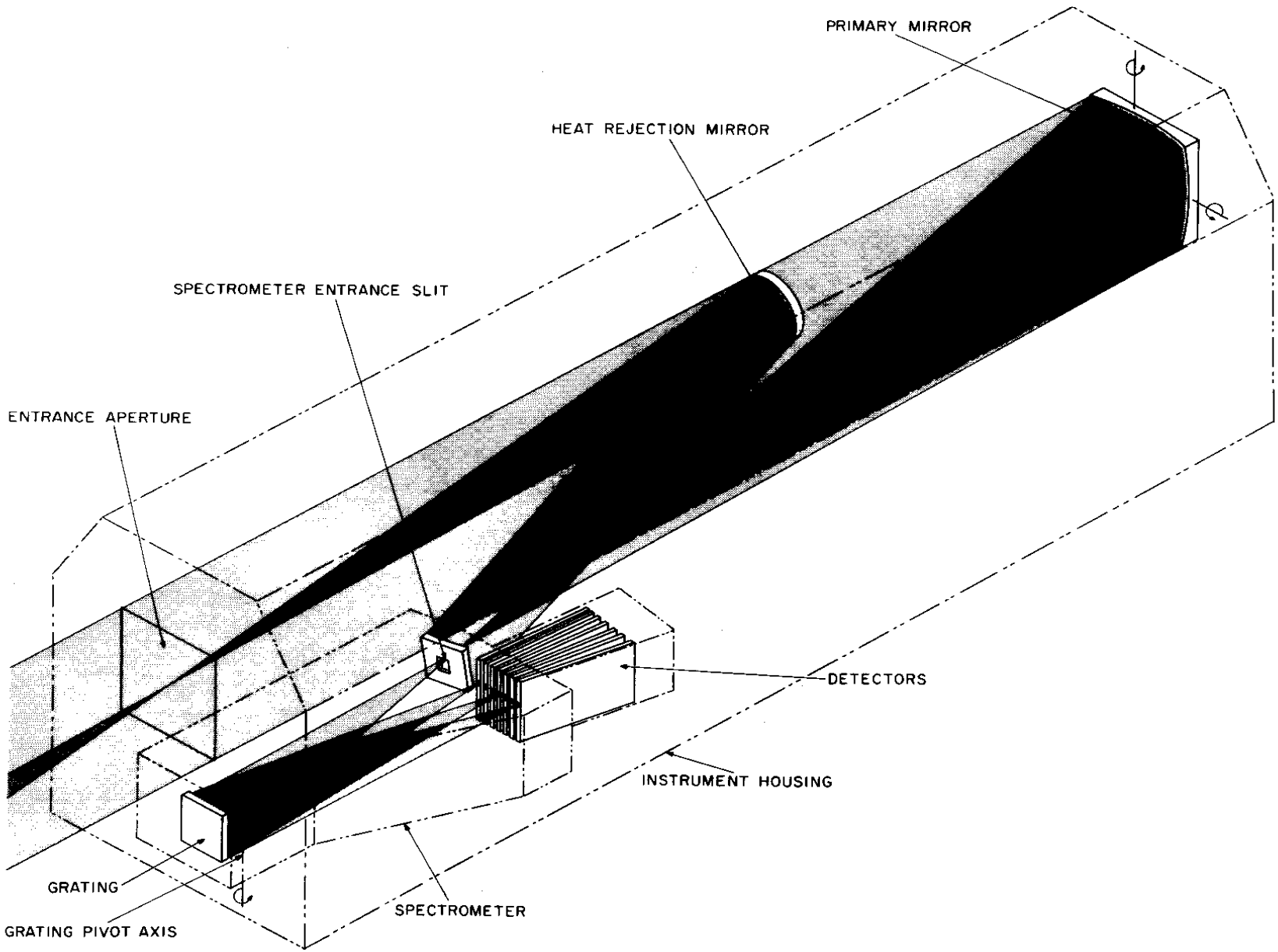


Figure 1.1-A Spectroheliometer Optical Schematic

TABLE 1.1-I

Selected Instrument Parameters

Telescope

Scan Size: 5.5 x 5 arc min
Scan Velocity: 1 arc min/sec
Scan Time: 5.55 min
Scan Lines: 60
Samples per line: 132

Spectrometer

Spectral Range: 1350-296 Å
Spectral Resolution: 1.6 Å (detector 1)
Scan Rate: 4.8 Å/sec (0.2 Å/step)
Scan Time: 3.8 min
Detector Sampling Rate: 24/sec
Dynamic Range: 0 to 16383/.041 sec*
Number of Detectors: 7

*Detector 2, having only 13 downlink bits, has a range of 0 to 16382/.041 sec.

The increase in the bandpass of detector 1 due to defocussing reaches a maximum of 0.6 Å at 950 Å. Detector 1 and the other six, which have bandpasses of 4 to 8 Å, are used together in non-spectral modes. Detector 2 has an attenuator which reduces the incoming intensity by a factor of 25.

The third subsystem consists of the detectors and their recording electronics. The detectors can be turned on independently of each other. The output pulses are accumulated in 16-bit counters during a 41 ms integration time. The data from the low order 14 bits in each counter, except detector 2, are shifted out 24 times per second. Neither the lowest bit in counter 2 nor the two high order bits of any counter are transmitted. The range of values telemetered is 0 to 16393 counts per 0.41 sec. with only even values being reported from detector 2.

The instrument looks through an aperture door on the ATM cannister which can open or close automatically at sunrise and sunset and can switch the detectors off when it is closed. Overly high current in the detectors can also turn the detector voltage off automatically.

The instrument was operated either by a crewman on board Skylab or by ground command from Houston. Interlocks were generally successful in preventing the operation of the mirror and grating simultaneously. The normal instrument modes can thus be listed as mirror, grating, or STOP. As such they are described below under the appropriate subsystem and a description of the actual operation of the instrument can be found in the Data Handbook and the S055A Experiment Handbook.

1.1.1 Telescope Operation (Mirror)

The mirror motion consists of a back and forth motion parallel to the X-axis (fig. 1.2-A) and a downward step at the end of each line when rastering. Figure 1.1-B shows the appearance of a raster mirror trace suitable for reconstructing a picture from raw data. The scan velocity of 1 arc min/sec and the scan time of 5.5 seconds result in a line about 5.5 arc min long. Each line contains 132 data samples whose average spatial separation is 2.5 arc-sec; due to the 5 arc-sec

slit size and motion there is considerable overlap of adjacent samples. With each set of data samples from the detectors, the one bit S/EOR-EOL indicator (Start/End of Raster-End of Line) is included. Under normal scanning operations it is on (1) within a line, goes off (0) on the last data point on one line, and stays off for the first two data points on the returning line. The ends of lines are marked in this way for both directions of mirror travel and for raster as well as line-scan data.

The mirror vertical motion is stepwise from the top with a 5 arc-sec separation between lines in the negative Y direction (Fig. 1.2-A).

A raster contains 60 lines and takes 5.5 minutes to gather data. When rasters are running continuously each takes 5 minutes 33 seconds including the travel time to the stow position and then to the right of line one to start the next raster. The S/EOR-EOL goes off on the last point of line 60 and does not come on again until line 1. During the time the mirror is not scanning normally the S/EOR-EOL bit stays off.

The mirror position is monitored on a grid system of lines and steps. The line number, Y-POS, corresponds to the lines of the raster. The step number, X-POS, goes approximately from -2 at the left end of a line to 65 at the right end. If within a line data positions are numbered starting at the left end, the step number, S, associated with the position numbered n is:

$$S = \tfrac{1}{2}n - 2$$

This is accurate to 2 steps.

Besides monitoring the mirror motion, this grid system is used to select the line on which a line scan is made and the location of the stow position or of any point of interest within the field of the telescope. All positioning is done with integer values of steps and lines less than or equal to 60.

The behavior of the mirror is selected by setting the 2 bit mirror mode as given in table 1.1-II.

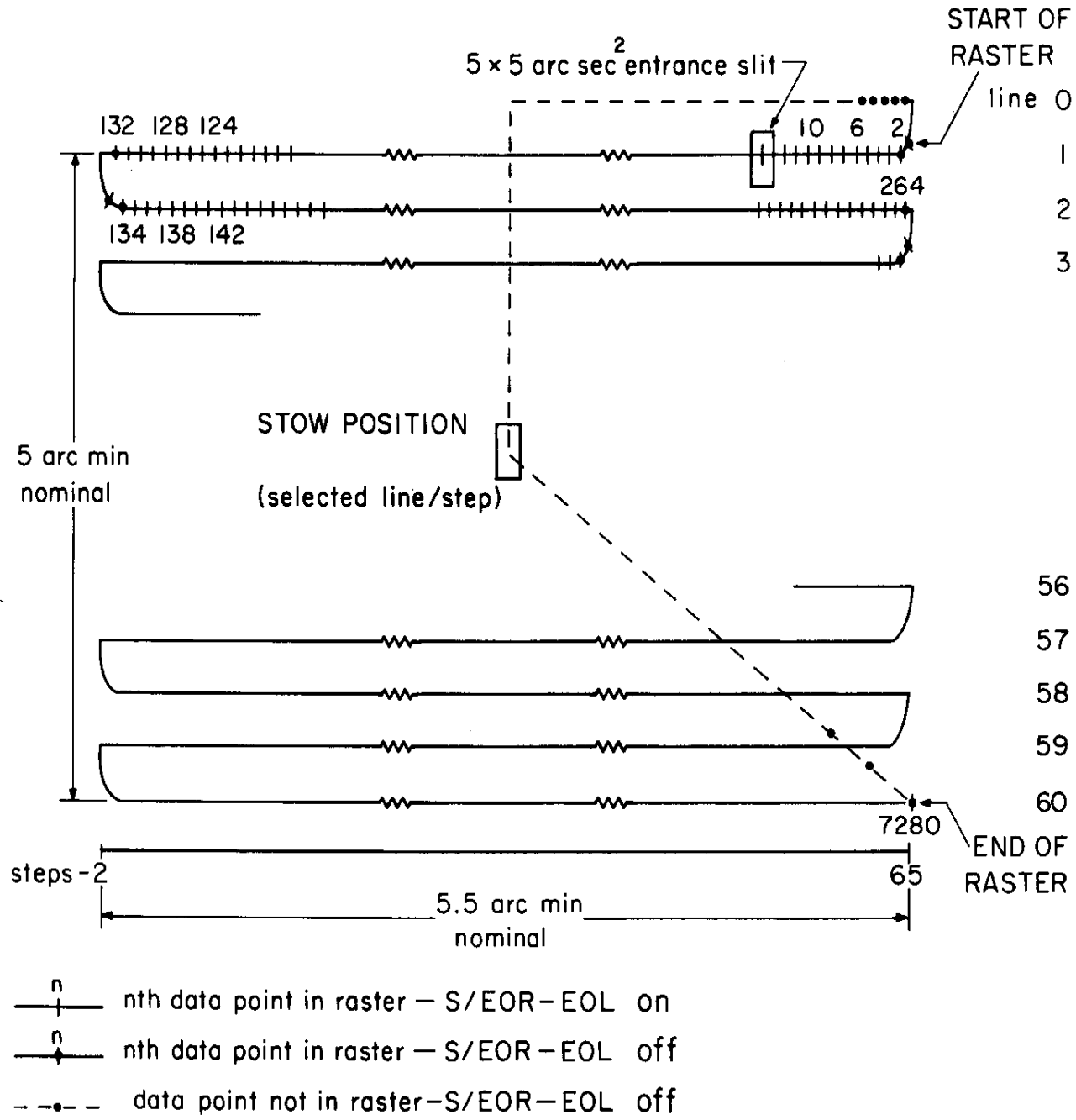


Figure 1.1-B Mirror Motion
Projection of observed point onto visual field

TABLE 1.1-II

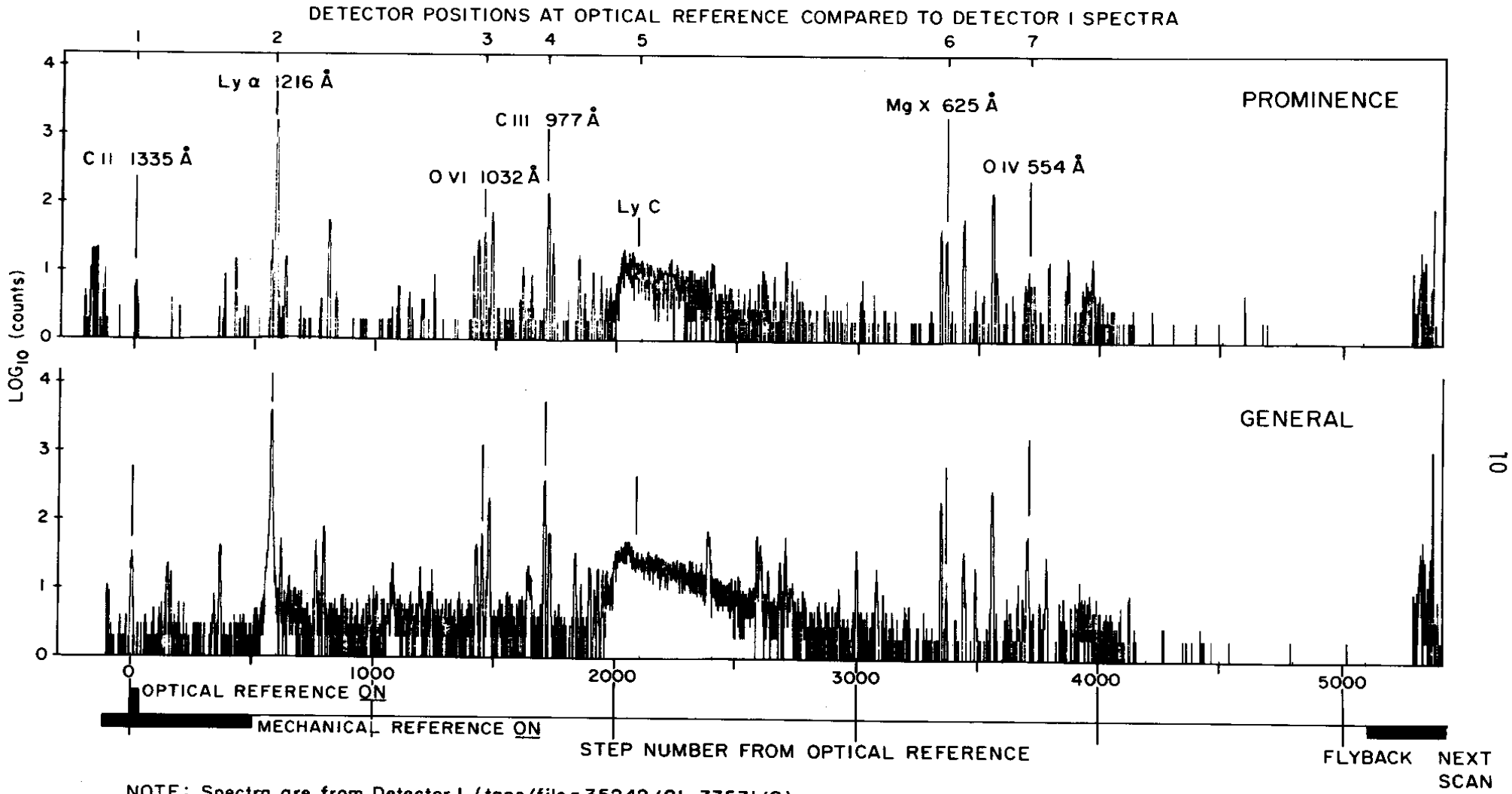
MIRROR MODES

MODE (2 bits)	MODE (Octal)	ABBREVIATION	DESCRIPTION
00	0	STP	No motion
01	1	M3R	Three consecutive rasters then stop
11	3	MAR	Automatic continuous rastering
10	2	MLS	Continuous line scans

TABLE 1.1-III

GRATING MODES

MODE (3 bits)	MODE (Octal)	ABBREVIATION	DESCRIPTION
000	0	STP	No motion
001	1	GAS	Automatic Continuous Scan
010	2	G3S	Three consecutive scans then stop at reference
011	3	REF	Scan until reference
100	4	SS	Grating moves in single steps on command



NOTE: Spectra are from Detector I (tape/file = 35242/81, 33531/8)

Figure 1.7 C Grating Scan

1.1.2 Spectrometer Operation (Grating)

The grating is driven by a cam and a stepping motor. The cam is shaped such that the ultraviolet spectrum is passed by detector 1 from 1350 Å to 296 Å where there is a flyback. The stepping motor is synchronized with the sampling so that the motion occurs during the .6 milliseconds within each 24th of a second when the detectors are not integrating. A complete scan has 5496 ± 5 steps and takes about 3 min 49 sec; the flyback is accomplished in about 420 steps. During the scan each step shifts the spectrum about .2 Å. The spectrum as seen by detector 1 is shown in Figure 1.1-C.

The position of the grating is monitored by the grating step counter. This is a 13 bit accumulator which is incremented by 1 each time the grating is stepped. To synchronize the counter and the grating position the counter is reset to zero when a reference bit, controlled by the grating, changes from zero to one. There are two reference bits, optical reference (OR), and mechanical reference (MR), either of which can be used. The choice is determined by the reference select (REFSEL) bit, which is set on command: when reference select is on (1) the optical reference bit is used, and when it is off (0) mechanical reference is used. The normally used reference bit, optical, is on when the zero order image from the grating strikes a white light detector. This occurs for approximately 35 steps during a scan. The white light detector is positioned such that the optical reference bit comes on when all the detectors are on the Rowland circle and thus in focus. This is the principal grating position for rasters and line scans.

The other reference bit, mechanical, is turned on mechanically shortly after flyback and remains on for over 600 steps. Mechanical reference comes on 104 ± 3 steps before optical reference.

The grating behavior is selected by setting the 3 bit grating mode as given in Table 1.1-III.

Exit slit data are in Table 1.1-IV. The wavelengths seen at each detector have a nearly linear relation to the optically referenced grating step. Wavelengths can be calculated from the coefficients in Table 1.1-IV to an accuracy of ± 2 Å. Table 1.1-V is a list of useful grating positions.

TABLE 1.1-IV

EXIT SLIT PARAMETERS

Detector NO.	Bandpass Å (at focus)	Step (Optical Reference) to wavelength conversion Nominal wavelength = $A_0 + A_1S$ (accuracy ±2 Å)	
		A_0 (Å)	A_1
1	1.6	1336.4	- .2112
2*	8.3	1219.3	- .2113
3	4.0	1032.2	- .2108
4	4.0	977.4	- .2111
5	8.3	896.0	- .2109
6	4.0	625.6	- .2090
7	4.0	553.4	- .2093

*An attenuator mounted in front of the second exit slit reduces the flux by a factor of 25.

TABLE 1.1-V

WAVELENGTHS AT GRATING POSITIONS

KEY TO ABBREVIATIONS
- ! GUARANTEED TO BE ON RESPECTIVE DETECTOR (Absence indicates line may fall beyond slit edge.)
- * INDICATES THAT LINE IS BLEND OF SEVERAL COMPONENTS
- # INDICATES GRATING POSITION BELONGING TO CALIBRATION SEQUENCE
- C CONTINUUM
- A ALPHA
- B BETA
- D DELTA
- E EPSILON
- G GAMMA
- 2 SECOND ORDER
- W WING
- WAVELENGTH IN PARENTHESIS( ):SENSITIVITY OF INSTRUMENT IS TOO LOW FOR PHOTON COUNTS TO BE RECORDED, SIGNAL DUE TO STRAYLIGHT ONLY
-) INDICATES CONTINUATION TO NEXT LINE

GRATING STEP NUMBER MR	FROM OR	WAVELENGTH OF SOLAR EMISSION LINE DETECTOR NUMBER 1		2		3		4		5		6		7	
0104	0000#	CII	1335.7!	HILA	1215.7!	OVI	1031.9!	CIII	977.0!	HLC	896 !	MGX	625.3!	OIV	554.4!*
0111	0007	CII	1334.5!	HILA	1215.7!	OVI	1031.9!	CIII	977.0!	HLC	895 !	MGX	625.3!	OIV	554.4 *
0132	0028	CI	1329.1	HILA	1215.7!	HILB	1025.7!	HILG	972.5!	HLC	890 !		621	ALXI	550.0 *
0184	0080		1319		1202		1016		961	HLC	880	MGX	609.9!	HEI	537.0!*
0189	0085	C	1318 !		1201		1015		960				609	HEI	537.0 *
0232	0128	SIII	1309.3	SIII	1190.4!		1006		951	HLC	870 !	OIII	599.6!	OIII	525.8 *
0232	0128)			SIII	1194.1!										
0238	0134		1308	SIII	1190.4!		1004	HILD	949.7!	HLC	867 !	OIII	599.6	OIII	525.8!*
0238	0134)			SIII	1194.1!										
0250	0146	OI	1305 *		1188		1002		947	HLC	866 !		596	OIII	525.8 *
0266	0162#	OI	1302.2		1185	SIXII	2998.6!	SVI	944.5!	HLC	863 !		592	SIXII	521.1!*
0304	0200#		1294	CIII	1175.7!*	NIII	991.0!	HILE	937.8	HLC	853 !	HEI	584.3!		512 *
0327	0223	OII2	1288.4	CIII	1175.7 *		986		931	HLC	849 !	OII	580.4!		507 *
0367	0263		1280		1164	CIII	977.0!	NIV	923.1!	HLC	841 !	NEV	572.3	SIXII	499.3!*

0500	0396		1252		1134	HLD	949.7!	HLC	896	!	HLC	813	!		543	HEC	471	*
0506	0402		1251		1134	HLD	949.7	HLC	894	!	HLC	811	!	NEIV	542.8!	NEIV	469.8!	*
0530	0426#		1246		1129	SVI	944.5!	HLC	888	!	HLC	806	!	HEI	537.0!	NEVII	465.2!	*
0533	0429	C	1245	!	1129		942	HLC	887	!				HEI	537.0!	NEVII	465.2	*
0551	0442	NV	1242.8		1126		939	HLC	885	!					533		462	*
0551	0442)	FEXII	1242.2															*
0554	0455		1240		1123		937.	HLC	882	!					531		459	*
0570	0462	NV	1238.8		1122		935	HLC	881	!					529		457	*
0586	0482	C	1234	!	1117		931	HLC	876	!					525		453	*
0605	0501	C	1230	!	1113		927	HLC	872	!					521		449	*
0621	0517	HILA	W1227	!	OIV2	1108.8	924	HLC	870	!					518		446	*
0632	0528	HILA	W1224	!	OIV2	1108.8	921	HLC	867	!					515		444	*
0646	0542	HILA	W1221	!	OIV2	1108.8	918	HLC	864	!					512		441	*
0698	0594	HILA	W1210.4!			1093	HLC 907	!	HLC	853	!	NEVIII	770.4!	HEC	503	! MGVIII	430.5!	
0705	0601	HILA	W1209	!		1092	906			851				SIXII	499.3		428	*
0724	0617#	SIIII	1206.5			1089	CII	904.2!	HLC	848	!	NEVIII	770.4		497	HEC	425	*
0724	0617)						HLC	903 !				NIII	764.6					*
0724	0617)											NIV	764.6					*
0737	0630		1203			1086	HLC	900 !		845				HEC	494	! HEC	422	*
0757	0653	NI	1199.9		NII	1085.1!	HLC	895 !	HLC	840	!	OV	760.4!	HEC	489		418	*
0768	0664		1196		NII	1085.1	HLC	893 !	HLC	838	!	OV	760.4!	HEC	487	SXIV	417.6	*
0768	0664)															FEXV	417.6!	
0800	0696	SIII	1190.4		SIII	1077.1!	HLC	886 !	OII	834		HLC	750	NEV	482.1 *		450	*
0800	0696)				HEI2	1074.2!			OIII	834								*
0800	0696)								HLC	832								*
0820	0716	C	1186	!		1068	HLC	882 !	HLC	827					476		405	*
0841	0737	C	1181	!		1064	HLC	877 !	HLC	823	!				471	NEVI	410.7!	*
0870	0766	CIII	1175.7	*		1057	HLC	871 !	HLC	818	!	HLC	736	NEVII	465.2		394	*
0870	0766)											MGIX 2	368.1					
0876	0772		1174			1056	HLC	870 !	HLC	815	!	HLC	735	NEVII	465.2!		393	*
0967	0863	C	1154	!		1037	HLC	851 !	HI[illegible]	796					445		374	

0995	0891		1148	OVI	1031.9!	HCL	845	!	OIV	790.2!				439	MGIX	368.1!	*
1013	0909	NEV 2	889.2	OVI	1031.9	HCL	841	!	OIV	787.7!			NEVI	436.1!		364	
1013	0909)			HLB	1025.7												
1028	0924		1141	HLB	1025.7!	HLC	838	!		784	OIII	703.4!	MGVIII	436.1	FEXVI	360.8!	*
1028	0924)												NEVI	436.1			
1028	0924)												MGVIII	430.5			
1039	0935	NEV 2	1139.6	HILB	1025.7!	OII	834		NEVIII	780.3	OIII	703.4!*	MGVIII	430.5		359	*
1039	0935					OIII	834										
1049	0945	NEV 2	1136.8		1020	OII	834	!	NEVIII	780.3!	HLC	698		428		357	
1049	0945)					OIII	834										
1091	0987	SIIV	1128.3*		1011	HLC	825	!	NEVIII	770.4!				419		348	
1146	1042	NEVI 2	1117.2	SIX112	998.6!	HLC	813	!	OV	760.4 *				407	FEXVI	335.4!	
1184	1080	OIV 2	1108.8!*	NIII	991.0!	HLC	805	!*		751			NEVI	401.7		329	*
1213	1109	CC	1102 !		985	HLC	799	!		745				393		323	*
1232	1128	CC	1098		981	HLC	795			741				389		319	*
1259	1153	CC	1094 !	CIII	977.0!	OIV	790.2		MGIX 2	736.2!	HLC	653		384		313	*
1273	1169	CC	1090 !		973	OIV	787.7			732				381		309	*
1304	1200#	NII	1085.1		966	NEVIII	780.3!			726				374	HEII	303.8!	*
1339	1233		1075		959		773		OII	718.5!			MGIX	368.1!		297	*
1371	1267		1068		952	NIII	764.6!			712	OV	629.7!	FEXVI	361.7!*		290	*
1371	1267)					NIV	764.6!										*
1380	1276		1066		950	NIII	764.6!			710				358		288	*
1380	1276)					NIV	764.6!										
1396	1292		1063	HILD	949.7!	OV	760.4			706	OV	629.7		355	FEXV	284.3!	*
1415	1311		1059		943		757		OIII	703.4!	MGX	625.3!		351		(280)	*
1466	1362	C	1049 !		932		746			692				340		(270)	*
1485	1381	C	1045 !		928		742			688				366 !		(266)	*
1488	1387		1043		927		741			686	MGX	609.8		335		(265)	*
1499	1395		1041		925		739		NIII	685.7!			FEXVI	335.4!		(263)	*
1527	1423#	OVI	1037.6	NIV	923.1	MGIX 2	736.2!		NAIX	681.7	OIII	599.6		327		(257)	*
1585	1481	HLB	1025.7	HLC	906 !		721			667	HEI	584.3!		315		(245)	*

1605	1501		1019	HLC	903	!	OII	718.5!		663					311	(241)	*
1605	1501)			CII	904.1!												
1646	1542	C	1011	! HLC	894	!		708		654				HEII	303.8!	(232)	*
1650	1546		1010	HLC	893	!		707		653				HEII	303.8	(231)	*
1691	1587	C	1001	! HLC	884	!		699		645					293	(223)	*
1719	1615		995	HLC	879	!	NAIX	694.2!		639					287	(217)	*
1742	1636	NIII	991.0	HLC	874	!		688		634	V	554.0!		FEXV	284.3!	(213)	*
1758	1654		987	HLC	870	!	NII	685.7!	OV	629.7!					(279)	(209)	*
1763	1659	C	986	! HLC	869	!		683	OV	629.7!					(278)	(208)	*
1777	1673	C	983	! HLC	866		NAIX	681.7!		626					(275)	(205)	*
1850	1746	C	968	! HLC	851	!		665		611					(259)	(190)	*
1857	1753		966	HLC	849	!		664	MGIX	609.8!	OIII	525.8!			(258)	(188)	*
1975	1876		940	HLC	824	!	CAVII	639.2!	HEI	584.3!	SIXII	499.3!			(232)	(162)	*
1975	1876)										HEC	499	!				
2019	1915	SVI	933.4	HLC	815	!	OV	629.7!		576	HEC	492	!		(224)	(154)	*
2045	1941		926	HLC	809	!	MGX	625.3!	NEV	569.8!	HEC	489	!		(218)	(149)	*
2045	1941)								NEV	592.3!							
2079	1975		919	HLC	802	!	OII	616.6!	NEVI	562.8!					(211)	(142)	*
2119	2015		911		794		MGX	609.8	OIV	554.4!*					(203)	(133)	*
2160	2056	HLC	902	OIV	790.2!		OIII	599.6!	NEIV	542.8	NEVII	465.2!			(194)	(125)	*
2160	2056)			OIV	787.7!												
2167	2063	HLC	9001		784		OIII	599.6!	NEIV	542.8!	NEVII	465.2!			(193)	(123)	*
2239	2135	HLC	885	! NEVIII	770.4		HEI	584.3!		530					(178)	(108)	*
2258	2154	HLC	881	! NEVIII	770.4		OII	580.4!*	OIII	525.8!	SXIV	445.7			(174)	(104)	*
2381	2277	HLC	885	!	739		OIV	554.4!*	SIXII	499.3!	FEXV	417.3!			(148)	OFF	*
2460	2356	HLC	838	!	722		HEI	537.0!	NEV	482.1!*	NEVI	401.7!*			(131)	OFF	*
2540	2436	HLC	822		705		SIXLL	521.1!	NEVII	465.2!					(114)	OFF	*
2604	2500	HLC	808		692			506	HEC	453					OFF	OFF	*
2637	2534	HLC	801		685		SIXII	499.3!		446	FEXVI	361.7!*			OFF	OFF	*
2657	2553	HLC	797		681		HEC	494	!	442					OFF	OFF	*
2752	2648	HLC	777		661		HEC	475	!						OFF	OFF	*
2769	2665#	HLC	773	SIV	657.3!		NEIV	469.8	FEXV	417.0!	FEXVI	335.4!			OFF	OFF	*

2769	2965			SIV	661.4									OFF		OFF	*
2798	2694	HLC	767		651	NEVII	465.2!	NAVIII	411.6					OFF		OFF	*
2798	2694							CRXIV	411.6					OFF		OFF	*
3001	2897#		724	MGX	609.8!		423	MGIX	368.1!	FEXV	284.2!			OFF		OFF	*
3030	2926	OII	718.5	OIII	599.6!	FEXV	417.3!	FEXVI	361.7!	FEXV	284.2			OFF		OFF	*
3030	2926)					SXIV	417							OFF		OFF	*
3103	2997#	OIII	703.4*	HEI	584.3!	NEVI	401.7!		349					OFF		OFF	*
3303	3199				545		360	HEII	303.8!					OFF		OFF	*
3561	3455		606		490	HEII	303.8!		(253)					OFF		OFF	*
4061	3957	HEC	501 !		385		(200)		(147)					OFF		OFF	*
4099	3995	HEC	492.5!		377		(192)		(139)	OFF				OFF		OFF	*
4125	4021	HEC	487 !		371		(187)		(134)	OFF				OFF		OFF	*

1.2 TIME AND POINTING

In addition to data from the spectroheliometer, the data tapes contain data derived from the time and pointing systems of ATM. The clock contained a 30-bit register which was incremented every quarter second. It could also be incremented or decremented on command.

The pointing of the cannister, its problems, and its fine points, are discussed fully in the Pointing Reference Handbook. The purpose of this introduction is to define the quantities on the data tapes and to show how they can be used if the tolerance of error is not too small.

The pointing of the ATM cannister was sensed and controlled through three quantities: γ_x (GAMX), γ_y (GAMY), γ_{RR} (GAMRR). These are illustrated in Figure 1.2-A. The first two are displacements along two perpendicular directions from the center of the solar disk as given by the fine sun sensor. The third, γ_{RR}, is the rotation of the γ_y from solar north, clockwise being positive. The pointing of the S082B instrument, $\overrightarrow{NRL}$, is offset from the fine sun sensor direction, $\vec{\gamma}$, by the S082B bias:

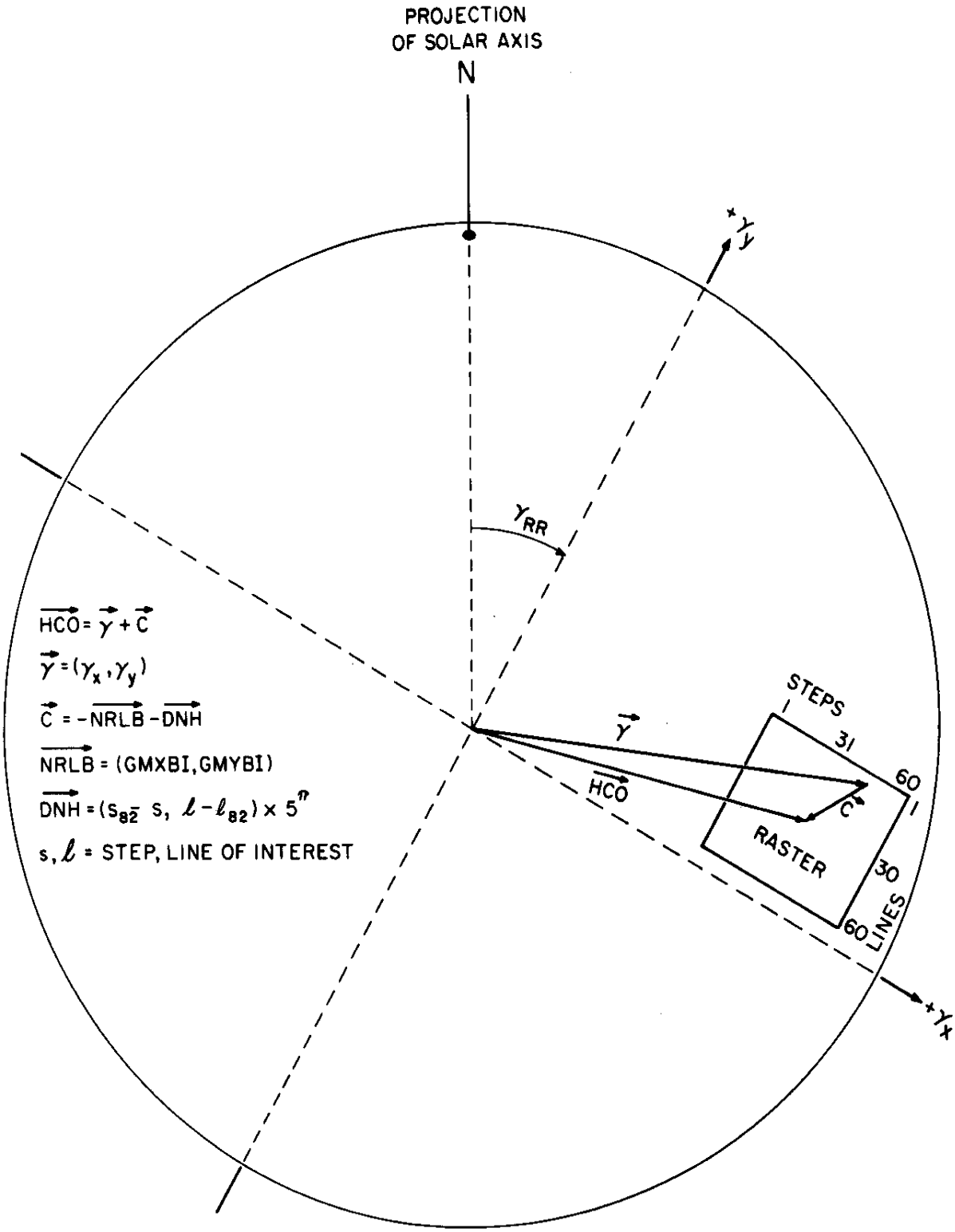
$$\overrightarrow{NRLB} = \vec{\gamma} - \overrightarrow{NRL}$$

The components of $\overrightarrow{NRLB}$, GMXBI and GMYBI, are included in the telemetry. The relative pointing of the S082B and S055A instruments was measured by coalignment, during which the step and line numbers were recorded for the S055A position which best coaligned the two instruments. Average coalignment step and line numbers for four different time periods are given in Table 1.2-I as well as average values of the S082B biases. The displacement from step S and line ℓ to the S082B pointing is:

$$\overrightarrow{DNH} = (S_{82} - S,\ \ell - \ell_{82}) \times 5''$$

where S_{82} and ℓ_{82} are coalignment step and line numbers. (The change in sign between the two components is caused by using a y-axis pointing upward and counting lines downward.)

In the γ_x, γ_y coordinate system the spectroheliometer is pointing toward:



NOTE: The solar axis is projected into the plane before measuring γ_{RR} from it. γ_x, γ_y and γ_{RR} are all positive in diagram.

Figure 1.2-A Pointing Coordinates

TABLE 1.2-I

AVERAGE VALUES OF POINTING OFFSETS

SL	DOYS	S082B coalignment error ± 1		S082B Bias arc-seconds	
		S_{82}	ℓ_{82}	XBIAS	YBIAS
2	143-218	32	8	+55 ± 10	+20 ± 10
3	218-330	32	9	+55 ± 5	+10 ± 20
4	331-346	32	10	+50 ± 5	-25 ± 5
4	346-410	33	10	+20 ± 10	+80 ± 20

$$X_{HCO} = \gamma_x - GMXBI - (S_{82} - S) \times 5''$$
$$Y_{HCO} = \gamma_y - GMYBI - (\ell - \ell_{82}) \times 5''$$

where all quantities except step and line numbers are given in arc-seconds. This is accurate to $\pm$ 5 arc seconds if telemetered values are used for the biases. For greater accuracy see the Pointing Reference Handbook.

For a detailed illustration of the relationship between the Hydrogen Alpha photographs, the S055 pointing and data, and the S082B coalignment position, see the Data Handbook, section 2.3.

1.3 DATA RETRIEVAL SYSTEM

For a complete overview of the data retrieval system see the Data Handbook, section 4. Aspects relevant to the S055 data tapes are covered here.

The quantities used to generate the data tapes are listed in Table 1.3-I together with the number of bits transmitted and their sampling rates. Many quantities were packed into buffers which were divided into 10-bit words for transmission.

The real time data stream was termed ATM. In ATM sixty words were grouped into a frame; thirty frames into a master frame; sixty master frames into a master-master frame. Special synch words were included to mark the end of each frame and master frame. The data, structured in this way, were transmitted to the ground at 72000 bits per second; fifteen seconds were required to send an ATM master-master frame.

Since Skylab was not in contact with ground station for much of the time, many quantities, including all in Table 1.3-I, were recorded on board. The recorded data stream was termed ASAP (Auxiliary Storage and Playback). The recording telemetry was based on the same 10-bit words; however one hundred words were grouped into a frame and sixty frames into a master frame. The recording rate was 4000 bits/sec: fifteen seconds were required to record an ASAP master frame. The data were recorded on one of two recorders. A recorder could record continuously for 45 minutes. At this point two seconds of data would be lost

TABLE 1.3-I

TELEMETRY SUMMARY

Parameter Range	No. Bits	Samples/sec Real Time (ATM)	Samples/sec Recorded (ASAP)
INTENSITY MEASUREMENTS			
Det 1 Intensity 0-16383	14	24	24
Det 2 Intensity 0-16382	13	24	24
Det 3 Intenstiy 0-16383	14	24	24
Det 4 Intensity 0-16383	14	24	24
Det 5 Intenstiy 0-16383	14	24	24
Det 6 Intensity 0-16383	14	24	24
Det 7 Intensity 0-16383	14	24	24
INSTRUMENT CONFIGURATION			
Mirror Mode	2	12	1
S/EOR-EOL	1	24	24
X-POS Mirror Position	10	4	1
Y-POS Mirror Position	10	4	1
Grating Mode	3	12	1
Reference Selected	1	12	1
Optical Reference	1	24	24
Mechanical Reference	1	24	24
Grating Position	13	12	1
7 Detector High Voltages	10	4	1
ATM CANNISTER DATA			
Elapsed Time Clock	30	12	1
GAMX Cannister Pointing	12	.07	.07
GAMY Cannister Pointing	12	.07	.07
XBIAS S082 Bias	12	.07	.07
YBIAS S082 Bias	12	.07	.07
GAMRR	15	.07	.07

while reversing the tape. Another 45 minutes of data could then be recorded. The data could be dumped on ground command at 72000 bits/second: five minutes were needed for a complete dump of 90 minutes of data. (The orbital period was about 93 minutes.)

At a ground station the ATM data, and the ASAP data if any, and timing pulses were recorded on three tracks of magnetic tape. Simultaneously with this recording the ATM data was processed and transmitted. A time parameter generated from the timing pulses was inserted into the data stream.

After a station pass, the tape was rewound and the ATM data processed and transmitted again. Before transmitting the ATM data to Goddard Space Flight Center it was compressed: each 10 bit word was transmitted only if it differed from its last occurrence. Each transmitted word was accompanied by an identification code. The ATM data streams were receive~~d at~~ Goddard and each continuous stream was called a batch. The batches were sent to Johnson Space Center where they were stored in the MDRS (Mission Data Retrieval System).

The magnetic tape at the station was rewound and the ASAP data were transmitted to GSFC. These data were not processed at the ground station and were only batched at GSFC. At JSC the ASAP batches were given GMT times by applying additive quantities (K-factors) to the on-board times contained in the data. The constructed GMT was monitored by comparing it ~~to~~ the GMT of coincident ATM batches.

Both kinds of data batches were read out of the MDRS and recorded on ADDT tapes (All Digital Data Tapes). The ADDT tapes were either transported or transmitted to Marshall Space Flight Center for processing.

1.4 SCIENTIFIC USER TAPE PROCESSING

Due to data transmission problems on the ground during the first part of the mission, it was decided to process data taken before day 275 from the ground station recordings of the transmissions from the satellite. This data base was termed "analog" to distinguish it from the ADDT data base. To speed up processing a group at JSC was given the data for days

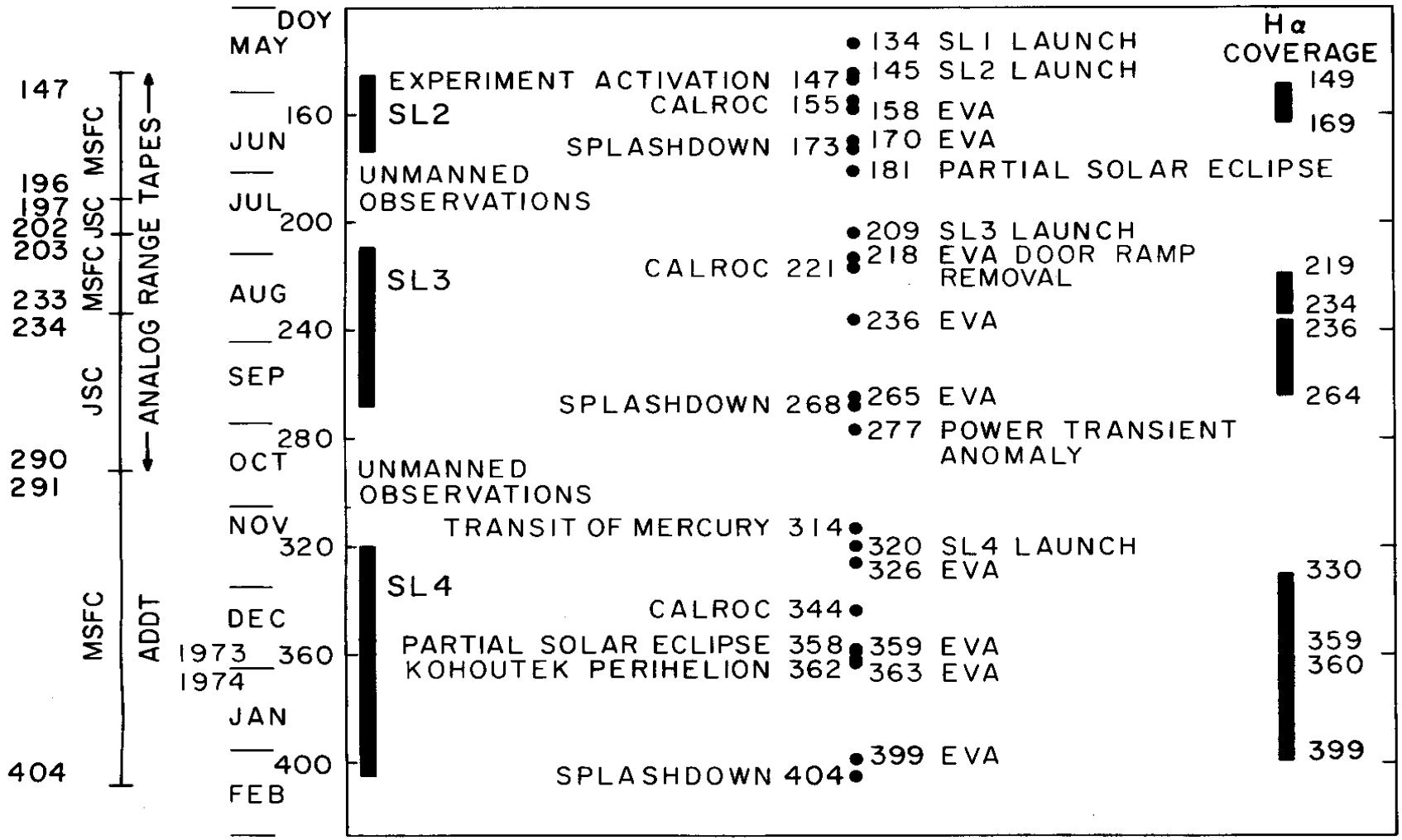


Figure 1.4-A Schematic Timetable

197-202 and 234-290 to process from analog. This division is illustrated in Figure 1.4-A.

1.4.1 Preliminary Processing

Before any specific processing of the data could be done, the data had to be organized into a single stream. The data batches, whether ADDT or Analog, contained much redundant data. The times covered by ATM data were also covered by ASAP, unless the recorder was changing tape direction or was in playback. However ASAP contained only 1/18 of the total ATM data stream. Where station ranges overlapped ATM data, as well as ASAP, could be simultaneously received by more than one station, resulting in different batches containing identical data. Also a station might transmit the same data several times when communication problems existed or were suspected to exist. Each reception at each ground station resulted in another ADDT data batch.

The data were to be aligned by the time samples contained within the data stream. The onboard clock ran fast by about one second per three days and was reset periodically. More serious was the fact that the real time clock and the sampling times were asynchronous; sometimes there would be two clock updates or none per 0.25 second sampling period. Most serious was a noise problem which especially bothered the time readout.

The data were first aligned by data structure as described in Section 1.3. The special synch words marking the ATM master-master frame or the ASAP master frame were identified. Within the 15 second interval between these synch words data were kept only if there were no gaps before reaching one synch word, going either forward or backward. The time of the synch word was obtained after comparing adjacent time samples to eliminate noisy data. These synch words were then aligned at fixed 15 second intervals. The nearest such interval was considered to be the correct one, since this allowed for a discrepancy of up to 7.5 seconds while the asynchronous sampling and the resets introduced jumps of only .25 and 3 to 4 seconds respectively.

The GMT time in the merged data stream was generated in two different ways. JSC analyzed the behavior of the onboard clock and compiled a table of "K-factors", which are differences between GMT and the onboard

clock. The resulting GMT was to be accurate to less than a quarter second.

The time on the MSFC tapes was derived differently. The ATM batches contain a GMT obtained from WWV. The GMT on ASAP batches was derived by two different methods. For ADDT data a K-factor was applied when the data arrived. This K-factor had an accuracy of about 0.5 second. ASAP batches from analog were aligned with an ATM batch and the GMT's made to agree.

In deciding to use or continue to use a particular data batch or to look for the data in another batch, the three synch words occurring at the end of each frame were monitored for noise by MSFC. More than three erroneous bits would cause that frame to be rejected. Three consecutively rejected frames would terminate the processing of that batch. JSC used similar gates but also included the clock samples in the words to be checked when they were available.

1.4.2 Data Tape Generation

The actual format of the data tape is described in Section 2. We describe here some basic problems in handling the data and their resolution.

The instrument was considered to be on whenever any of the seven detector high voltages were higher than 2 KV. The data stream was broken up into files which were to be good approximations of usable data divisions. It was not required to format any segments with a duration of less than 5 seconds.

The data were to be considered in spectral mode unless the mirror was moving. The test for mirror motion is that both (a) the mirror mode is non-zero and (b) either S/EOR-EOL is on or XMIR is changing by 3 $\pm$ 1 steps every 250 milliseconds and is between 0 and 60 steps. The division between line scan and raster data was done solely on the basis of the mirror mode with a look-ahead check for consistancy to minimize noise effects.

MSFC divided the data stream into three streams, one for each mode. The criteria described below were applied to each stream to divide it into files. The formatted files of data were then merged chronologically into a single stream which became the SUT.

JSC used the above criteria plus the appropriate criteria described below to divide a single data stream directly into consecutive files.

The mirror lines were defined as starting on the second zero S/EOR-EOL bit. This was checked for each line. The first line includes two zero S/EOR-EOL bits immediately before the first non-zero S/EOR-EOL bit of the file. The direction of the mirror was checked for the first line of a line scan file. If the motion was right-to-left, the data points were reversed and placed in the first line of the file; if the motion was left-to-right, the data were placed directly in the second line of the file and fill data were placed in the first line. Thus all even lines have left-to-right motion and odd lines, right-to-left. All odd lines have their data points reversed. A line-scan file can contain up to 60 lines at which point it is broken off and a new file started. Only S/EOR-EOL, X-POS, and MMODE are monitored.

The S/EOR-EOL bit is used identically in the raster. The line number, Y-POS, is monitored in the raster for proper storage of lines. All odd lines, which have a right-to-left scanning motion, are reversed before inserting the data into the file. A file can contain up to 60 lines which constitutes a complete raster.

All data for which the mirror is not regularly scanning are formatted as spectral. To break these data into usable portions in which either the data are true spectral with the grating moving or are stop data giving high temporal resolution (42 ms) at one point (5" x 5"), the following rules were adopted.

1. All data were stored by time, filling any gaps which might exist.
2. The decision to stop processing of a data file and start another file was made under one of two sets of rules which were called STOP and GRAT termination modes. STOP mode was assumed at the start of processing of a data file. Under certain conditions, STOP changed to GRAT, but could not return to STOP within that file.
3. The two times defined below were used in decisions.
   a. ΔT_S is the time since the last valid grating motion or since the start of processing of the file.
   b. ΔT_G is the time since the grating started moving

with a valid slope. A valid slope is one in the range 3 to 24 steps per second.

4. STOP changed to GRAT if both the following conditions were met:
   a. When the grating started moving ΔT_S was less than or equal to T_{MS}, and
   b. Valid grating motion continued until ΔT_G was greater than T_{MG}. T_{MS} and T_{MG} were given the values of 16 and 43 seconds.
5. A file being processed in STOP termination mode terminated if either:
   a. Valid grating motion occurred when ΔT_S was greater than T_{MS}, or
   b. 6012 data points had been collected, including any fill data.
6. A file being processed in GRAT termination mode terminated if any of the following occurred.
   a. A grating step decreased to a step number less than 24;
   b. An invalid slope lasted for a time ΔT_S greater than T_{MS}; or
   c. The number of points stored reached 6012.
7. Since optical reference occurs after about 104 steps of the spectrum are passed, the last 120 steps of one scan were sometimes inserted before the first point of the next scan. If the processing in termination mode GRAT ends due to both:
   a. A decrease in step number to a value less than or equal to 24, and
   b. The step number of the last (highest) step is greater than or equal to 5460,

   then the last 120 points and the time of the last step were saved.

   The 120 saved points were added to the start of a scan if both:
      i. The first grating position was less than or equal to 24 and
      ii. The time since the last point of the 120 was less than 3.5 min.
8. Gaps in data were bridged in STOP mode if the gap could be contained in 6012 positions. In GRAT mode a gap is bridged if

all the following held:

a. The bridging could be done within the 6012 data points allowed;

b. The change in grating step was positive; and

c. The length of the gap is less than or equal to the change in grating step during the gap multiplied by 42 milliseconds plus T_{MS}.

The major problem again was time. Since the scientific data records do not contain time but only sequential data points, a rigid time rate was required through each file. This was achieved by constructing time within each file starting with the GMT of the first data point. Because problem areas in the data sometimes exhibit apparent time jumps, the GMT as derived by the methods mentioned in Section 1.4.1 was included as an engineering data item.

The engineering data were to be sampled once within each second, except for S/EOR-EOL, OR and MR. To make the data as useful as possible the time associated with a sampling of the engineering data was to be the time when the fastest changing quantity was sampled. Thus for mirror modes the time is that associated with XMIR; while for spectral data it is that associated with the grating position. The ATM pointing data which were sampled about every 15 seconds were repeated until new values arrived.

2. DATA TAPE STRUCTURE

To allow easier use of the data some sections of this chapter are in quasi-tabular form.

2.1 TAPE STRUCTURE

Density: 556 bpi
Parity: Odd

The micro-structure of the seven track tape is based on the CDC word of 60 bits. All descriptions are in terms of this word size. The macro-structure is a series of files, each terminated by an end-of-file mark. The tape is terminated by a double end-of-file. The files are arranged chronologically on the tape and are numbered consecutively.

2.2 FILE STRUCTURE

Each file consists of records in the following order:

Name	Number	Length (Words)	
ID	1	18	labels data
ENG1	1 to 3	486	12 engineering measurements sampled once per second
ENG2	1 to 24	336	3 engineering bits sampled 24 times per second
Scientific	1 to 30	Spect. 501 Raster 495 Line 462	All scientific records in one file are the same format. There are three possible formats depending on the instrument operation.

2.3 RECORD STRUCTURE

2.3.1 ID RECORD

The ID record is 18 words long and each word contains a single

integer. A detailed description is given in Table 2.3-I.

2.3.2 ENG1 Records

Each ENG1 record is 486 words long, consisting of up to 121 blocks of 4 words and followed by at least 2 words of terminal fill. (JSC uses all bits on for terminal fill while MSFC uses all bits off). The 4 word blocks consist of a sample time in milliseconds and samples of 12 engineering measurements. The engineering data are packed in 15-bit segments, four per word. The space remaining after the engineering data is stored is filled with terminal fill. MSFC always produces three ENG1 records; any unused records contain zeroes.

Each 4 word block is structured:

Word	high order			low order
1		milliseconds		
2	GAMY	GAMX	GMXBI	GMYBI
3	GMT	X-POS	Y-POS	GAMRR
4	GRTPOS	MIRR	GRAT	REFSEL

Each 15-bit segment (except (GMT) is structured:

bit numbers:	14	13	12 ---- 0
use:	flag	sign	magnitude.

When a datum is missing the flag bit along with all the rest of the bits is turned on. The values in the field have to be multiplied by a scaling factor to obtain the values in the units used. The data are described in Table 2.3-III.

When a gap occurs in the data MSFC will not process times within the gap. This results in the stored time suddenly jumping forward. JSC will supply times within the gap but will treat all data as missing.

TABLE 2.3-I

CONTENTS OF ID RECORD

WORD	DESCRIPTION
1.	Tape number - Let a be the DOY in three digits, b be one digit representing the quarter of the day, and c and c' be single digit indices starting at one. MSFC uses five digit tape numbers: abc. JSC uses four digit tape numbers normally: ac; and five digit numbers for reruns: acc'.
2.	File number
3.	MSFC: Site code (Table 2.3-II) JSC: SL number $*10^6$ + day/night cycle number.
4.	Year = 1973
5.	Day number-1973: Day of year (DOY); 1974: Day of year +365 (consecutive from 1973 DOY's).
6.	GMT of "start" point in milliseconds.
7-13.	Each contains 0 or 1 depending on whether detector 1-7 was off or on; e.g. if detector 2 was on at any time during the file, word 8 contains a 1.
14.	Storage mode - This indicates the type of data and the type of scientific record used depending on mirror motion: 0 - mirror not moving; spectral data. 1 or 3 - mirror is rastering. 2 - mirror is line-scanning.
15.	Total number of engineering records, both ENG1 and ENG2.
16.	Total number of scientific records.
17.	"Start" point - This is a pointer to the scientific data point whose time is given in word 6. The value given here is the index which the base data point would have if all the points in the scientific records were put in their original time sequence and the first point numbered one. (When the mirror is moving the data are not stored in strict time sequence.)
18.	Not used.

TABLE 2.3-II

SITE CODES

	SITE	CODE
0.	UNKNOWN	0
1.	MILA	48
2.	BERMUDA	49
3.	ASCENSION	50
4.	CANARY ISLANDS	51
5.	MADRID	52
6.	CARNARVON	53
7.	HONEYSUCKLE CREEK	54
8.	GUAM	55
9.	NEWFOUNDLAND	56
10.	HAWAII	57
11.		58
12.	GOLDSTONE	59
13.	TEXAS	60
14.	VANGUARD	61

TABLE 2.3-III

CONTENTS OF ENG1 RECORDS

WORD	NAME	SCALING FACTOR	UNITS	COMMENTS
1	time	1	milliseconds	Time of day. This time is generated within each file to insure a constant rate. The raw GMT is given as a data item.
2	GAMY	1*	arc-seconds	(also FSSUD) Y displacement of FSS from center of sun.
	GAMX	1*	arc-seconds	(also FSSLR) X displacement of FSS from center of sun.
	GMXBI	1*	arc-seconds	X-bias for S082 from FSS.
	GMYBI	1*	arc-seconds	Y-bias for S082 from FSS.
3	GMT	1	milliseconds	This is the GMT from the telemetry stream modulo 30000. All 15 bits are used for data.
	XPOS	.01	X-units	An X-unit is about 5.0 arc seconds. The center of a line is approximately at 31.5 X-units.
	YPOS	.01	line number	The lines are counted downward. The line number is an analog measurement biased by .5 so that the true line is gotten by truncation. Consecutive lines are separated by approximately 5.0 arc-seconds.
	GAMRR	4/3*	arc- minutes	Clockwise rotation of cannister prior to displacement.

*These scaling factors are nominal pending a detailed analysis of the pointing.

WORD	NAME	SCALING FACTOR	UNITS	COMMENTS
4	GRTPOS	1	grating steps	This is incremented by 1 for each step that the grating cam is moved. A step is approximately .21 Å for all detectors. GRAT is reset to zero whenever either: 1) Optical reference is selected and comes on, 2) Mechanical reference is selected and comes on, or 3) The counter overflows after step 8191.
	MIRR	1	mirror code	This is a two bit quantity with the following interpretations: 0 STP - no mirror motion. 1 M3R - mirror does three rasters and then stops. 2 MLS - mirror scans back and forth on same raster line. 3 MAR - mirror rasters continually until stopped.
	GRAT	1	grating code	This is a three bit quantity with the following interpretations: 0 STP - no grating motion. 1 GAS - grating scans continually until stopped. 2 G3S - grating does three scans then stops. 3 REF - grating moves until a reset occurs. 4 SS - grating moves only a single step when started. 5, 6, 7 } illegal values (may be generated by noise)
	REFSEL	1	select code	This is a one bit quantity indicating which grating reference is to be used: 0 = mechanical reference 1 = optical reference

JSC sampled the data stream at nearly one second intervals for ENG1 data. MSFC sampled once within each second but not necessarily at fixed intervals. In both cases the sampling time should be that of the GRAT sample for spectral data and that of the XMIR sample when the mirror is moving. Correlation with the scientific data should be done using the time and parameters 6 and 17 in the ID record. (See section 3.1.2).

2.3.3 ENG2 Records

Each ENG2 record is 336 words long, each word containing three single bit measurements and their time. The space remaining after the engineering data is stored contains terminal fill: all bits on (1) at JSC: all bits off (0) at MSFC. MSFC always produces maximum records needed; any unused records contain zeroes.

Gaps in the data are treated as for ENG1 data; i.e. MSFC times jump forward, JSC supplies missing times and flags data as missing.

The ENG2 data are sampled 24 times per second and have a one-to-one correlation with the scientific data.

Each word is structured (high to low order):

30 bits	10 bits	10 bits	10 bits
time	Optical	End of raster/	Mechanical
milliseconds	Reference	End of line	Reference

The time is taken from the generated time. If a datum is missing all bits within a 10-bit quantity are turned on. Each 10-bit quantity contains a single bit of engineering data. The optical reference point is the first occurance of the corresponding bit. The mechanical reference point is similarly defined. Depending on the reference selected, it is at this point that the step counter is set to zero. The optical reference bit remains on for about 35 steps. The mechanical reference remains on for about 600 steps. The optical reference occurs 104 $\pm$ 3 steps after the mechanical reference. The end-of-raster/end-of-line bit is on while the mirror is scanning a horizontal line. It goes off for three samples at the end of a line; the second of which is considered to be the first sample of the next line. This bit is off when the mirror is not moving from or

going to the neutral position at the beginning or end of a raster or set of line scans.

2.3.4 SCIENTIFIC RECORDS

The structure of these records has little flexibility so that a correlation may be made with the engineering records using only parameters 6 and 17 in the ID record. Each word has 4 measurements packed from high to low order. If a measurement is missing, for any reason, the place is flagged by setting all of the fifteen bits on.

Fill data used to fill out a record are similarly flagged. (When MSFC produces the maximum number of records, any unused records contain fill data.)

Each data item is contained in 15 bits as follows:

1 bit	14 bits
flag	count

The count is the detector counter read-out. The flag bit is set if the high voltage for that detector appears to be less than one half of the operational voltage. Due to non-synchronization in the sampling and finite voltage rise and fall times the setting of this bit does not correspond very accurately to the loss of sensitivity of that detector.

2.3.4.1 Spectral Data (Mirror not moving): ID (14) = 0

The data are put in this form whenever the mirror mode bits are off or the mirror is not moving. Each record contains 501 words or 2004 data items. The data are stored consecutively after being ordered by detector. Each detector which was on during the time interval has N records; N being between 1 and 3. The number of scientific records is N times the number of detectors on. Since the maximum number of records per detector is fixed at 3, the maximum number of data points is 6012 and the maximum time span is 250.5 seconds. The files are also divided whenever a reset occurs after more than 43 seconds of grating motion. On most such occasions the 120 data points preceeding the reset will be carried over to the new file. This is indicated by ID (17) containing 121, pointing to the 121st

point as the base point in the file. This carry over allows the data between mechanical reference and optical reference to be easily used as the start of the spectrum even when reset occurs at optical reference.

2.3.4.2 Raster Data: ID (14) = 1 or 3

The data for each detector are put into a raster array of 132 by 60. Each record contains 495 words or 15 lines of 132 points each. Each detector which was on has N records; N being between 1 and 4. For each detector the first record contains lines 1 through 15, etc. MSFC always has N equal to 4; JSC will use N less than 4 if the raster was cut off before line 46. Any unused data items are filled with all bits on.

The raster is assumed to start on the second zero before the S/EOR-EOL bit goes on. Each line is started on the second of three zeroes in the S/EOR-EOL bit. The raster is assumed to end when 16 consecutive S/EOR-EOL zeroes have been found. (A raster file may also be ended when anomalous mirror motion is found due to noise or other difficulties.)

The mirror scans odd lines in a right-to-left direction. The data points in these lines are reversed before writing the data on the tape. However ID (17) is calculated chronologically; thus ID (17) = 1 indicates the first point which is the rightmost point of the first line or the 132nd point in the array, while ID (17) = 133 indicates the leftmost point of the second line or the 133rd point in the array.

Frequently when a raster is ended prematurely, the last sixteen data points stored were taken after the mirror stopped rastering and while it was returning to its stow position.

2.3.4.3 Line Scan Data: ID (14) = 2

Each record contains 462 words. The data is divided into detectors and lines as follows:

Words	Detector	Mirror Moving
1 - 33	1	right-to-left
34 - 66	2	
67 - 99	3	
100 - 132	4	
133 - 165	5	
166 - 198	6	
199 - 231	7	
232 - 264	1	left-to-right
265 - 297	2	
298 - 330	3	
331 - 363	4	
364 - 396	5	
397 - 429	6	
430 - 462	7	

If a detector is not on, fill data are stored. The maximum number of lines per file is 60: therefore there are up to 30 scientific records in a line-scan file.

The data are synchronized with the mirror motion using the S/EOR-EOL bit as described under Raster Data. Similarly the data points in right-to-left lines are reversed before writing the data on tape.

When a line scan ends, the last sixteen data points are usually recorded after the mirror stopped scanning and while it was returning to its stow position.

3. DATA PROBLEMS AND DIAGNOSTIC TECHNIQUES

The list of items below is not intended to be exhaustive but to provide starting points in the handling of imperfect data. Some information on the use of engineering data is also included in this section.

3.1 TIME

3.1.1 Accuracy and Use of GMT Engineering Data

The overall accuracy of the constructed time is of the order of a half-second. This error size is for the ADDT-ASAP data. All other data sources should have accuracies of the order of a quarter-second or better. These accuracies are estimated on the basis of the handling of good data.

Since the times within a file are constructed from the time of the "starting" data point, a noise hit on that time could cause the entire file to have erroneous times. Large errors are usually caught in processing. Small errors can be found through the use of the GMT engineering data.

By comparing the raw GMT with the constructed GMT, noise hits can be found. A direct comparison will frequently show the clock drift as well as the small jumps due to the causes mentioned in Section 1.4.1. If a noise hit affected the starting time of the file, the GMT will show a jump when it returns to good values and then should settle down. If the GMT exhibits jumps relative to the constructed time throughout the file, the data may be expected to be very noisy also. On rare occasions this could mean a bad merging of two data batches.

3.1.2 Correlation of Scientific and Engineering Data

This is done entirely through the time constructed within a file. The scientific data from any one detector is to be organized into a time sequence; i.e. for raster and line scan data reverse the odd rows. The nth data point is the starting point, where n is the value in word 17 of the ID record. The time of this point in milliseconds is in word 6 of the ID record. Each data point is 1/24 second later than the preceding one.

These times should be within two milliseconds of the times given in the ENG2 records. The ENG1 times should represent the sampling time of XMIR for mirror modes and GRAT when the mirror is not moving. MSFC used the data point time closest to the sampling time while JSC evaluated the

actual sampling time. Thus on MSFC tapes each ENG1 time corresponds to an ENG2 time while on JSC tapes each ENG1 time occurs a few milliseconds later than ENG2 time.

3.1.3 Time Gaps

If a gap occurs in the usable data stream for any reason (e.g. instrument was turned off then on; bad telemetry) and the instrument mode was not changed, the gap was to be bridged using fill scientific data if this could be done within one file. Otherwise the file was to be stopped where the data ended and a new file commenced where the data resumed.

There are gaps of about 3 seconds between sequential rasters. A rapid sequence of mode changes by the astronaut in setting up some observation may cause a gap due to not keeping files shorter than 5 seconds.

3.1.4 Mode Change Timing

When a mirror mode is stopped by command, in the last line are included about 16 data points which were taken while the mirror was moving to its stow position. The purpose of including these points was to allow noise and anomalous situations. The points taken after the mirror left its scan pattern can be identified by having zero S/EOR-EOL bits associated with them.

3.1.5 High Voltage Timing

The high voltage was sampled once per second in the ASAP data stream and 4 times per second in ATM. When the high voltage was off the data was flagged or not processed at all. Due to the low sampling rate, particularly in ASAP, the scientific data can be observed to fall or rise before the flag appears or is removed.

3.1.6 Calendar Peculiarities

MSFC numbers the DOY's continuously through to the end of the mission. Thus they are all treated as DOY's of 1973. DOY's in 1974 correspond to the number in word 5 of the ID record when 365 is added to them.

At the end of a day MSFC continues time sequentially until the end of the tape resulting in times greater than 86,400,000 milliseconds (24 hours).

3.2 NOISE

Noise can arise from either a poor transmission from Skylab to a ground station or from problems in handling the data on the ground. The earlier data were quite noisy.

3.2.1 Frozen Data

This is a data problem which frequently manifested itself as an anomalous data value which persisted for several seconds. It was caused by faulty ground transmission of compressed ADDT/ATM data. Due to the compression scheme (Sec. 1.3), noise introduced into the data stream between the ground station and the final ADDT tape could be interpreted as an update to a data value which was then left uncorrected until the next legitimate update. Since the transmitted quantities were 10-bit words, this could affect sections of the detector counts or the grating position instead of the entire measurement.

A related phenomena was an unmarked data drop-out in an ADDT/ATM batch often after some noise. This resulted in every quantity in the data stream retaining a fixed value for several seconds.

There should be very few examples of this problem due to the choice of data batches and the monitoring of the final data tapes.

3.2.2 Data Spikes

A single noise hit on a data point frequently results in an anomalously high (or low) count. This is termed a spike. The onset of noise in the data stream may result in several obviously bad data points before the stream becomes too noisy to process.

3.2.3 High Voltage Noise

If the high voltage is hit when on, it may result in the high voltage off flag appearing for 6 to 24 data points.

If the high voltage is hit when off, the data points may appear

usable. If another detector is on, 6 to 24 (usually noisy) data points appear as the sole "detector on" points for that detector in the file. If all detectors are off when the hit occurs, the data is usually ignored as too short to be useful. However if two hits occur within a file length of each other, the data processor will attempt to bridge the gap. If it is successful a file will be created consisting of several noisy data points.

3.2.4 Line Number Noise

Noise in the YMIR quantity during a raster can cause the program to store the line improperly. If the next line number is smaller than the last, the current file is ended and a new one started. If the line number jumps up, the next line is stored at the high line number and XMIR is more closely monitored. A continued sequence from the high value or a set of non-sequential values will result in the lines being stored consecutively. A drop in YMIR and a subsequent sequence will cause the current file to be terminated.

Line number noise does not affect the processing of line scan or spectral data.

3.2.5 Mirror Mode Noise

Due to the checks on mirror motion, noise in the MMODE bits will not affect spectral data unless there is also noise in XMIR and/or S/EOR-EOL. Noise in the mirror mode while processing data in one of the mirror modes may misclassify the data in spite of the consistency check. This data would probably be lost unless there was enough to produce a file of greater than five seconds. The file being processed would have a gap on an MSFC tape. The JSC processor would end the file and start a new one.

3.2.6 Power Transient Anomaly

A power transient on unmanned day 277 caused instrument anomalies. Outside of greater care in instrument operations, the main result visible in the final data was the change of the mirror stow position to line 0, step 30. It remained there until the incoming SL-4 crew reset the stow position. Further discussion of this anomaly is in the Data Handbook section 3.6.2.

3.3 PROCESSING DIFFERENCES AND PECULIARITIES

3.3.1 Parallel Vs. Serial Processing

JSC processes the data serially; i.e. a single data stream is used and a single pass is made along it. Thus any mode changes will stop the processing of the present file and will output it before proceeding. Serial processing has the advantage that a following file always has data from a later time than a preceding file, except in the case of 120-point spectral carryover.

MSFC divides the data into three streams and processes them in parallel before merging them into a single data tape. This has the advantage that noise bits frequently only cause gaps rather than new files. However either noise or rapid switching can produce two or three files where the data in one file fills the gaps of another. These files would be ordered chronologically by the times in the ID record when merged for the SUT.

3.3.2 Word 3 of the ID Record

MSFC and JSC put different quantities in this word.

3.3.3 Number of Engineering and Scientific Records

JSC uses as many records as are needed to hold the data. MSFC uses fixed numbers of records depending on the data type.

3.3.4 Gaps in Engineering Data

When a bridgable gap occurs in the data stream, JSC constructs time across the gap but flags all the data as fill. MSFC jumps the time forward to where data exists.

Often when an unbridgable gap is discovered, MSFC will already have processed some engineering data. This data will appear at the end of the engineering records. The scientific data will not be processed and the engineering data will be reprocessed at the appropriate place.

3.3.5 Organization of Data onto Tape

JSC proceeded through the data they were assigned, changing tapes

when the end of the present tape was sensed. The tapes were numbered serially within the days in which they started but a tape may contain data from more than one day. If a rerun was required the data corresponding to an entire tape was processed. If the rerun was longer than the original, the overflow was put on a separate tape.

MSFC did all of its processing in quarter-day batches. The maximum number of files on a tape was fixed at 70. The tapes were numbered by the day, the batch, then serially within a batch. This method of processing resulted in more tapes per day than that of JSC, but the data is easily identifiable by quarter-day.

3.4 INSTRUMENTAL DATA PROBLEMS

These problems were caused by the instrument or the way in which it was operated.

3.4.1 Detector Counter "Overflow"

The detector counters on the instrument were 16-bit accumulators but the highest two bits were not telemetered. Thus the largest onboard count was 65535 but the highest telemetered count is 16383.

The best way of handling the data is to consider the instrument to have had 14-bit counters which continue to increment past overflow. Strong lines, e.g. Lyα in an active region, may cause multiple overflows.

3.4.2 Non-Started Mode

Until the instrument is started by a separate command, the mirror remains stationary even if a mirror mode has been selected. All of the data taken while the astronaut is setting up the instrument is often put in one file. The engineering data of this file may show several different mirror and grating modes but no mirror motion. Such a file is classified and treated as spectral.

3.4.3 Night Data

The instrument has provision for the automatic closing of the door during the night part of the orbit and for automatic turning off of

the high voltages when the door is closed. For many orbits the instrument was operated with overrides annulling these automatic features resulting in files of dark count data.

3.4.4 Trip-Outs

A large pulse in the high-voltage of one detector would automatically turn all the detectors' high-voltages off. During manned operations the crew, warned by a red light, would quickly reset the detectors; this results in the loss of a small section of the data set being collected, e.g. the raster or the spectral scan. During unmanned or unattended operations the discovery of the problem and the subsequent reset had to wait for a station pass; this may result in the loss of a sizeable section of the desired data. During the manned part of the SL-3 mission, detector 5 was found to be the principal culprit and was left off during most of the remaining time. The history of the problem is given in the Data Handbook, section 3.6.2.

3.4.5 Alignment of Successive Scans

The positions of points on each mirror line are determined by the behavior of the mirror at the start of the line. Thus right-to-left (odd) lines are aligned as are left-to-right (even) lines. Even after the data points of the odd lines have been reversed the two sets of points are not aligned; the points on the even lines being about .4 of the distance between points to the right of corresponding points on the odd lines.

The data have been formatted with the odd lines reversed. The odd-even shift should be applied to both line scan and raster data when desired.

3.4.6 S/EOR-EOL at Start of MLS

The S/EOR-EOL bit often came on before the mirror started the first line at the beginning of a line scan sequence. This results in line one being fill data since the mirror is moving to the right at that time and the data is to be put into an even line. This partial line of data will usually not be stored at the end of line 2 but at the start. The third line of the file should be properly stored and is the data the file would normally start with.

3.4.7 Line Stepping in MLS

It is possible for the astronaut to change the line by a step at a time while the instrument is line scanning. Such changes will not cause the file to be divided; they can be detected using the engineering data.

3.4.8 Grating Overflow

The grating position counter could be reset either by mechanical or optical reference. When optical reference was selected but insufficient light was entering the instrument (e.g. off-limb or night data), the reset did not occur. In such a case the counter continued to 8191 and then overflowed to 0. If such data are used the location of mechanical reference can be found in the engineering records.

3.4.9 Grating Reset Anomaly and Step-Loss

The grating counter should be reset to 0. Under certain timing conditions the reset was to 1.

The grating counter occasionally slips back one step. This is most easily seen when the grating was stopped at reference and was reset to 1. After a time, possibly many minutes, the grating counter may go to zero. On a few occasions 23 counting steps were noted within one second during a grating scan.

3.4.10 Grating Position Variations

The relation between step number and wavelength is linear only to an accuracy of about 1 Å. For greater accuracy not only must the anomalies in the shape of a cam be accounted for but also that there are non-linearities which recur about every 8 spectral scans. For further information see the Data Handbook.

3.4.11 Aperture Door Malfunction

This could have developed into a serious problem. Since its effects were in the ability to take the data and not in the data storage or processing, this will not be described here. The Data Handbook, section 3.6.2 details the malfunction, its occurrences, and its solution.

3.5 POINTING PROBLEMS

3.5.1 Pointing Sampling Rate

The cannister pointing data was sampled about every 15 seconds. The last data value was repeated in the engineering records until a new sample arrived. When the cannister is being repointed with S055 on only the initial occurrence of each value should be used.

3.5.2 General Pointing Difficulties

As mentioned in Section 1.2 there are problems with interpreting the pointing to an accuracy of greater than $\pm$ 5 arc seconds. The roll angle has an error of about 5 arc minutes during manned periods and as much as 5° during unmanned. For a full description see the Pointing Handbook.

REFERENCES

Fowler, W.K., Pointing Reference Handbook, Ball Brothers Research Corporation

Harby, W. and Reeves, E.M., Data Handbook, Harvard College Observatory December, 1975.

Harby, W., S055A Experiment Handbook, Harvard College Observatory, July, 1972.

11/14/75 09.33.40.

TAPE	FILE		STATN	YEAR	DAY	HHMM.SS	DETECTORS	MODE		ENG	DATA	START	
39922	71	51	CYI	1973	399	1027.03042	1100000	0	SPECTRAL	21	6	1	0
39922	72	51	CYI	1973	399	1031.13542	1100000	0	SPECTRAL	21	6	1	0
39922	73	51	CYI	1973	399	1035.24042	1100000	0	SPECTRAL	21	6	1	0
39922	74	51	CYI	1973	399	1039.34542	1100000	0	SPECTRAL	21	6	1	0
39922	75	51	CYI	1973	399	1043.45042	1100000	0	SPECTRAL	21	6	1	0
39922	76	51	CYI	1973	399	1046.40042	1100000	0	SPECTRAL	21	6	1	0
39922	77	51	CYI	1973	399	1050.50542	1100000	0	SPECTRAL	21	6	1	0
39922	78	51	CYI	1973	399	1054.54876	1100000	0	SPECTRAL	21	6	121	0
39922	79	51	CYI	1973	399	1058.42771	1100000	0	SPECTRAL	21	6	121	0
39922	80	51	CYI	1973	399	1102.32876	1100000	0	SPECTRAL	21	6	121	0
39922	81	49	BDA	1973	399	1106.00792	1111011	0	SPECTRAL	21	12	1	0
39922	82	49	BDA	1973	399	1107.36792	1111011	3	RASTER	27	24	1	0
39922	83	49	BDA	1973	399	1113.09792	1111011	3	RASTER	27	24	1	0
39922	84	49	BDA	1973	399	1118.42792	1111011	3	RASTER	27	24	1	0
39922	85	49	BDA	1973	399	1124.15792	1111011	3	RASTER	27	24	1	0
39922	86	49	BDA	1973	399	1129.48792	1111011	3	RASTER	27	24	1	0
39922	87	49	BDA	1973	399	1135.21792	1111011	3	RASTER	27	24	1	0
39922	88	49	BDA	1973	399	1140.54791	1111011	3	RASTER	27	24	1	0

A

D-18266

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B

D-18277

TAPE	FILE		STATN	YEAR	DAY	HHMM.SS	DETECTORS	MODE		ENG	DATA	START	
37042	71	59	GDS	1973	370	2028.00441	1111011	2	LINE SCAN	27	30	1	0
37042	72	59	GDS	1973	370	2033.30441	1111011	2	LINE SCAN	27	30	1	0
37042	73	59	GDS	1973	370	2039.00441	1111011	2	LINE SCAN	27	30	1	0
37042	74	59	GDS	1973	370	2044.30441	1111011	2	LINE SCAN	27	30	1	0
37042	75	59	GDS	1973	370	2050.00441	1111011	2	LINE SCAN	27	30	1	0
37042	76	59	GDS	1973	370	2055.30441	1111011	2	LINE SCAN	27	30	1	0
37042	77	59	GDS	1973	370	2101.00441	1111011	2	LINE SCAN	27	13	1	0
37042	78	59	GDS	1973	370	2103.21608	1111011	0	SPECTRAL	21	18	1	0
37042	79	59	GDS	1973	370	2107.32108	1100000	0	SPECTRAL	21	6	1	0
37042	80	59	GDS	1973	370	2111.42608	1111011	0	SPECTRAL	21	12	1	0
37042	81	59	GDS	1973	370	2114.07191	1111011	3	RASTER	27	24	1	0
37042	82	59	GDS	1973	370	2119.40191	1111011	3	RASTER	27	24	1	0
37042	83	59	GDS	1973	370	2125.13191	1111011	3	RASTER	27	24	1	0
37042	84	59	GDS	1973	370	2125.25274	1111011	0	SPECTRAL	21	12	1	0
37042	85	59	GDS	1973	370	2127.38190	1111011	3	RASTER	27	24	1	0
37042	86	59	GDS	1973	370	2133.11190	1111011	3	RASTER	27	24	1	0
37042	87	59	GDS	1973	370	2138.44190	1111011	3	RASTER	27	24	1	0
37042	88	59	GDS	1973	370	2144.17190	1111011	3	RASTER	27	24	1	0
37042	89	59	GDS	1973	370	2146.55358	1111011	0	SPECTRAL	21	6	1	0
37042	90	59	GDS	1973	370	2147.54441	1111011	3	RASTER	27	24	1	0
37042	91	59	GDS	1973	370	2153.25797	1111011	0	SPECTRAL	21	6	1	0
37042	92	59	GDS	1973	370	2154.28712	1111011	3	RASTER	27	24	1	0
37042	93	59	GDS	1973	370	2159.59316	1111011	0	SPECTRAL	21	6	1	0

SORTED BY HCO II

0031	D-17296	C-13743	062	003	16	55	003	20	57	74
0051	D-17339	C-13778	069	005	19	00	005	22	00	74
0061	D-17315	C-13758	023	006	20	26	006	22	05	74
01112	D-17865	C-14426	059	011	19	13	011	22	21	74
0141	D-17469	C-13933	083	014	19	00	014	22	58	74
0161	D-17327	C-13767	056	016	20	55	016	23	55	74
0201	D-17324	C-13766	031	020	14	59	020	16	58	74
0241	D-17460	C-13925	068	024	19	58	024	23	57	74
14841	D-18896	C-15696	005	148	18	52	148	19	13	73
14921	D-17255	C-13497	025	149	05	53	149	11	48	73
14941	D-18193	C-14577	019	149	18	30	149	24	07	73
15011	D-18886	C-15686	031	150	00	07	150	02	21	73
15021	D-17474	C-13938	041	150	06	30	150	11	47	73
15031	D-17445	C-13910	047	150	14	12	150	17	59	73
15041	D-17854	C-14415	020	150	17	50	150	19	30	73
15041	D-20675	C-16764	020	150	17	50	150	19	30	73
15111	D-22012	C-16876	011	151	04	38	151	06	03	73
15211	D-17487	C-13951	049	152	00	21	152	05	41	73
15221	D-18771	C-15188	055	152	06	22	152	11	58	73
15311	D-18845	C-15480	060	153	00	00	153	06	09	73
15321	D-18769	C-15186	069	153	05	50	153	12	08	73
15411	D-20602	C-16695	041	154	00	33	154	05	55	73
15421	D-19410	C-15817	046	154	05	51	154	12	08	73
15431	D-18220	C-14604	049	154	11	50	154	18	08	73
15511	D-18210	C-14594	034	155	00	22	155	06	09	73
15521	D-18768	C-18800	064	155	05	48	155	11	36	73
15522	D-18825	C-15460	009	155	10	52	155	11	36	73
15531	D-17483	C-13947	014	155	15	20	155	16	02	73
15541	D-20386	C-16309	051	155	18	29	155	23	52	73
15611	D-18253	C-14637	051	156	00	36	156	06	03	73
15621	D-20306	C-16174	055	156	05	50	156	10	36	73
15631	D-20304	C-16172	040	156	11	50	156	16	51	73
15641	D-19404	C-15777	030	156	19	38	156	23	07	73
15711	D-20600	C-16693	032	157	01	29	157	06	05	73
15721	D-17478	C-13942	062	157	05	58	157	12	07	73
15731	D-18846	C-15481	038	157	11	50	157	17	36	73
15741	D-17852	C-14413	034	157	20	01	157	23	31	73
15811	D-17451	C-13916	028	158	00	45	158	06	06	73
15811	D-19467	C-15976	028	158	00	45	158	06	06	73
15821	D-18764	C-15182	055	158	05	50	158	10	33	73
15822	D-18194	C-14578	007	158	10	33	158	11	00	73
15911	D-18770	C-15187	050	159	01	52	159	06	08	73
15921	D-17861	C-14422	018	159	05	50	159	11	14	73
15931	D-17826	C-14387	026	159	14	11	159	17	50	73
15941	D-17849	C-14410	026	159	18	38	159	22	40	73
16011	D-22020	C-16884	049	160	00	54	160	06	03	73
16021	D-17468	C-13932	047	160	05	50	160	12	05	73
16031	D-19441	C-15950	020	160	11	50	160	14	03	73
16041	D-18765	C-15183	023	160	19	55	160	21	47	73
16111	D-22018	C-16882	050	161	00	16	161	05	45	73
16131	D-17311	C-13754	026	161	11	50	161	17	57	73
16141	D-18840	C-15475	035	161	17	52	161	24	05	73
16211	D-18262	C-14646	049	162	00	00	162	06	08	73
16221	D-17485	C-13949	043	162	05	50	162	12	04	73
16241	D-20676	C-16765	045	162	18	09	162	23	43	73
16321	D-18901	C-15701	050	163	05	50	163	12	04	73
16331	D-18261	C-14645	042	163	11	50	163	18	04	73
16411	D-17482	C-13946	035	164	00	01	164	06	06	73
16421	D-17872	C-14433	014	164	05	50	164	11	53	73
16421	D-19405	C-15778	014	164	05	50	164	11	53	73
16431	D-22016	C-16880	024	164	11	53	164	17	40	73
16441	D-17848	C-14409	058	164	18	15	164	23	57	73

16511	D-18281	C-14663	065	165	00	30	165	06	03	73
16521	D-18736	C-15154	038	165	05	50	165	10	42	73
16531	D-18766	C-15184	022	165	13	14	165	18	04	73
16611	D-18236	C-14620	054	166	00	00	166	06	03	73
16631	D-17449	C-13914	065	166	12	18	166	17	28	73
16641	D-19473	C-15982	052	166	18	28	166	24	02	73
16721	D-18204	C-14588	059	167	05	50	167	12	07	73
16731	D-20654	C-16745	070	167	11	50	167	17	58	73
16732	D-19476	C-15985	002	167	18	03	167	18	07	73
16741	D-18237	C-14621	042	167	17	50	167	24	08	73
16811	D-17484	C-13948	066	168	00	00	168	06	07	73
16821	D-18767	C-15185	070	168	06	07	168	11	40	73
16822	D-18233	C-14617	004	168	11	40	168	11	44	73
16831	D-17476	C-13940	051	168	12	13	168	17	45	73
16841	D-19457	C-15966	026	168	17	50	168	23	50	73
16911	D-20385	C-16308	041	169	00	46	169	05	54	73
16921	D-19420	C-15827	035	169	05	50	169	12	08	73
16941	D-18207	C-14591	048	169	18	11	169	24	09	73
17011	D-19398	C-15771	055	170	00	05	170	05	44	73
17021	D-18206	C-14590	020	170	06	18	170	08	16	73
17041	D-20347	C-16248	035	170	18	05	170	24	07	73
17121	D-19466	C-15975	049	171	05	58	171	12	04	73
17131	D-18874	C-15674	070	171	11	50	171	17	20	73
17131	D-17857	C-14418	070	171	11	50	171	17	20	73
17132	D-18826	C-15461	005	171	17	24	171	18	09	73
17132	D-17835	C-14396	005	171	17	24	171	18	09	73
17141	D-21999	C-16864	069	171	18	05	171	23	41	73
17211	D-19423	C-15830	055	172	00	17	172	05	36	73
17212	D-19419	C-15826	003	172	05	41	172	05	52	73
17241	D-19380	C-15753	035	172	17	50	172	23	00	73
17431	D-20321	C-16222	019	174	13	28	174	15	01	73
17911	D-20631	C-16722	035	179	00	24	179	04	27	73
17931	D-20666	C-16757	039	179	13	08	179	18	05	73
17941	D-17477	C-13941	047	179	17	50	179	24	08	73
18011	D-18762	C-15180	043	180	00	00	180	05	21	73
18041	D-19448	C-15957	052	180	17	50	180	23	59	73
18111	D-20377	C-16300	047	181	00	00	181	06	06	73
18121	D-19417	C-15824	047	181	05	50	181	12	06	73
18131	D-18264	C-14648	044	181	11	50	181	18	08	73
18141	D-19472	C-15981	048	181	17	50	181	24	05	73
18211	D-19408	C-15781	042	182	00	00	182	05	35	73
18221	D-20588	C-16684	051	182	06	12	182	11	47	73
18231	D-19426	C-15833	055	182	12	26	182	17	44	73
18232	D-19443	C-15952	003	182	17	51	182	17	57	73
18241	D-19422	C-15829	049	182	17	51	182	24	09	73
18311	D-19437	C-15843	035	183	00	00	183	04	54	73
18331	D-22037	C-16901	038	183	13	29	183	18	09	73
18341	D-20328	C-16229	046	183	17	58	183	23	33	73
18411	D-19411	C-15818	043	184	00	11	184	05	54	73
18511	D-19452	C-15961	052	185	00	00	185	05	04	73
18531	D-19454	C-15963	032	185	13	38	185	18	09	73
18541	D-20665	C-16756	014	185	18	09	185	20	33	73
18611	D-19403	C-15776	011	186	02	44	186	05	23	73
18641	D-19412	C-15819	069	186	18	00	186	24	06	73
18712	D-19406	C-15779	018	187	03	55	187	04	55	73
18811	D-22023	C-16887	062	188	00	00	188	03	48	73
18832	D-20319	C-16186	003	188	18	01	188	18	07	73
18841	D-20307	C-16175	070	188	17	50	188	22	18	73
18911	D-19381	C-15754	070	189	00	00	189	04	05	73
18912	D-19435	C-15841	011	189	04	07	189	05	00	73
18941	D-19475	C-15984	055	189	17	50	189	22	21	73
19041	D-18843	C-15478	055	190	17	50	190	22	20	73
19131	D-18763	C-15181	055	191	12	46	191	17	41	73

19141	D-20601	C-16694	055	191	17	50	191	22	41	73
19142	D-20337	C-16238	015	191	22	46	191	24	04	73
19211	D-19451	C-15960	036	192	00	00	192	03	13	73
19221	D-18758	C-15176	010	192	09	42	192	11	05	73
19241	D-19398	C-15771	050	192	20	00	192	24	08	73
19311	D-18750	C-15168	033	193	00	00	193	02	34	73
19331	D-19462	C-15971	055	193	13	10	193	17	30	73
19411	D-19414	C-15821	055	194	00	00	194	04	35	73
19412	D-19471	C-15980	005	194	04	40	194	05	02	73
19442	D-22010	C-16874	021	194	22	29	194	24	05	73
19511	D-19413	C-15820	051	195	00	00	195	04	16	73
19531	D-19469	C-15978	056	195	13	16	195	17	25	73
19532	D-19439	C-15948	008	195	17	30	195	18	01	73
19542	D-19409	C-15816	027	195	22	12	195	24	09	73
19611	D-20650	C-16741	044	196	00	00	196	03	39	73
19631	D-20332	C-16233	050	196	14	00	196	18	08	73
19641	D-19400	C-15773	055	196	17	50	196	22	03	73
19642	D-19415	C-15822	024	196	22	09	196	24	08	73
1971	D-17464	C-13928	045	196	23	49	197	05	49	73
2021	D-17466	C-13930	010	202	00	12	202	05	23	73
2031	D-17322	C-13764	027	202	21	42	203	06	01	73
2032	D-17328	C-13768	025	203	10	59	204	01	26	73
2041	D-17843	C-14404	065	204	01	23	204	22	47	73
2061	D-17465	C-13929	025	206	19	00	206	21	13	73
2071	D-17250	C-13402	031	207	17	26	207	19	05	73
20941	D-17475	C-13939	008	209	19	19	209	24	07	73
21011	D-17838	C-14399	049	210	00	00	210	06	02	73
21021	D-18208	C-14592	007	210	05	58	210	06	26	73
21031	D-17486	C-13950	016	210	16	33	210	18	06	73
21041	D-17479	C-13943	065	210	18	01	210	23	34	73
21111	D-19465	C-15974	056	211	00	15	211	05	49	73
21121	D-20626		059	211	05	50	211	12	04	73
21121	D-17014	C-13219	058	211	06	39	211	12	00	73
21131	D-17326	C-13904	058	211	11	59	211	17	58	73
21141	D-18195	C-14579	043	211	17	58	211	23	55	73
21221	D-17034	C-13238	055	212	05	58	212	11	59	73
21231	D-20605	C-16698	054	212	11	59	212	17	35	73
21231	D-16668	C-12810	054	212	11	59	212	17	35	73
21241	D-20647	C-16738	051	212	18	05	212	23	48	73
21241	D-17443	C-13908	054	212	18	05	212	23	48	73
21311	D-19399	C-15772	054	213	00	25	213	05	59	73
21321	D-17021	C-13225	059	213	05	59	213	12	01	73
21331	D-19382	C-15755	056	213	11	58	213	17	58	73
21341	D-17457	C-13922	057	213	17	58	213	24	00	73
21411	D-17008	C-13213	033	214	00	00	214	05	57	73
21421	D-18752	C-15170	050	214	05	58	214	11	32	73
21431	D-16669	C-12811	044	214	12	22	214	17	45	73
2151	D-17020		029	215	00	29	215	05	54	73
21511	D-18211	C-14595	026	215	02	36	215	05	54	73
21521	D-22011	C-16875	044	215	05	59	215	11	56	73
21531	D-20300	C-16168	039	215	11	58	215	17	03	73
21531	D-16667	C-12809	040	215	11	58	215	17	03	73
21541	D-17829	C-14390	029	215	19	35	215	23	16	73
21611	D-18192	C-14576	029	216	01	54	216	05	29	73
21621	D-17012	C-13217	015	216	06	07	216	10	49	73
21741	D-18751	C-15169	008	217	22	59	217	23	27	73
21741	D-17488	C-13952	015	217	18	04	217	23	27	73
21811	D-17467	C-13931	048	218	00	28	218	05	38	73
21811	D-19433	C-18802	048	218	00	28	218	05	38	73
21821	D-17011	C-13216	055	218	06	09	218	11	52	73
21831	D-17027		016	218	12	28	218	17	17	73
21831	D-18231	C-14615	008	218	12	29	218	12	59	73
21911	D-20615	C-16708	019	219	04	07	219	06	14	73

21931	D-17459	C-13924	055	219	11	50	219	18	04	73
21931	D-18839	C-15474	055	219	11	50	219	18	04	73
22011	D-20597		055	220	00	14	220	05	49	73
22021	D-20604	C-16697	046	220	06	26	220	11	58	73
22031	D-17295	C-13742	031	220	11	58	220	17	59	73
22031	D-18753	C-15171	028	220	11	58	220	17	59	73
22041	D-17452	C-13917	032	220	17	50	220	21	21	73
22111	D-19386	C-15759	037	221	01	07	221	06	08	73
22121	D-18265	C-14649	042	221	05	59	221	11	57	73
22131	D-18221	C-14605	044	221	11	59	221	17	34	73
22141	D-18258	C-14642	065	221	18	11	221	22	16	73
22211	D-16666	C-12808	048	222	00	46	222	05	59	73
22231	D-17247	C-13399	058	222	11	58	222	17	56	73
22241	D-18232	C-14615	045	222	17	58	222	23	53	73
22311	D-17290	C-13738	040	223	01	10	223	05	59	73
22321	D-17018	C-13223	045	223	05	58	223	11	28	73
22331	D-17010	C-13215	039	223	12	07	223	17	44	73
22341	D-17297	C-14435	049	223	18	27	223	22	15	73
22411	D-17033	C-13237	038	224	00	33	224	05	57	73
22411	D-19436	C-15842	036	224	00	33	224	05	57	73
22421	D-17016	C-13221	054	224	05	58	224	11	58	73
22431	D-17481	C-13945	013	224	11	58	224	18	04	73
22441	D-22000	C-16865	063	224	17	59	224	24	01	73
22511	D-18257	C-14641	057	225	00	00	225	05	41	73
22511	D-20627	C-16718	052	225	00	00	225	05	25	73
22521	D-19453	C-15962	062	225	06	03	225	11	40	73
22521	D-18272	C-14655	064	225	06	03	225	11	40	73
22531	D-17447	C-13912	070	225	11	55	225	17	45	73
22532	D-17249	C-13401	004	225	17	45	225	17	52	73
22611	D-17015	C-13220	054	226	00	00	227	05	57	73
22621	D-18267	C-14650	045	226	05	58	226	11	57	73
22631	D-20652	C-16743	066	226	11	58	226	17	56	73
22642	D-18218	C-14602	006	226	23	13	226	23	24	73
22711	D-17019	C-13780	068	227	00	04	227	05	41	73
22721	D-17022	C-13226	068	227	06	13	227	11	47	73
22731	D-17026	C-13230	068	227	12	01	227	17	57	73
22732	D-18873	C-15673	008	227	17	28	227	17	57	73
22741	D-18754	C-15172	070	227	17	58	227	23	42	73
22742	D-18747	C-15165	005	227	23	43	227	23	57	73
22821	D-19407	C-15780	046	228	05	58	228	11	07	73
22831	D-17028	C-13232	059	228	12	21	228	17	23	73
22841	D-20594	C-16690	070	228	18	03	228	23	37	73
22841	D-21996		070	228	18	03	228	23	25	73
22841	D-18868	C-15668	070	288	18	03	288	23	25	73
22842	D-17489	C-13953	004	228	23	26	228	23	45	73
22911	D-17233	C-13385	056	229	00	17	229	05	46	73
22921	D-17232	C-13384	058	229	06	23	229	11	59	73
22931	D-17448	C-13913	070	229	11	58	229	17	33	73
22932	D-17023	C-13227	010	229	17	37	229	18	05	73
22941	D-17450	C-13915	061	229	17	50	229	24	07	73
23011	D-18855	C-15655	051	230	00	00	230	06	07	73
23021	D-17226	C-13378	055	230	05	54	230	12	07	73
23031	D-17035	C-13239	070	230	11	58	230	17	01	73
23032	D-17292	C-13740	014	230	17	02	230	17	33	73
23041	D-17480	C-13944	070	230	18	12	230	23	22	73
23042	D-17463	C-18803	073	230	23	22	230	23	41	73
23111	D-18748	C-15166	055	231	00	24	231	06	01	73
23111	D-17294	C-13900	057	231	00	04	231	06	01	73
23131	D-18749	C-15167	070	231	11	58	231	17	42	73
23131	D-17007	C-13779	070	231	11	58	231	17	16	73
23132	D-17303	C-13747	013	231	17	20	231	18	01	73
23132	D-18774	C-15191	007	231	17	47	231	18	01	73
23141	D-17828	C-14389	070	231	17	58	231	22	51	73

23231	D-18745	C-15163	070	232	12	24	232	17	30	73
23232	D-18772	C-15189	006	232	17	32	232	17	48	73
23241	D-22002	C-16867	070	232	18	25	232	23	47	73
23241	D-18892	C-15692	070	232	18	25	232	23	41	73
23311	D-20595		059	233	00	00	233	06	03	73
23321	D-18191	C-14575	051	233	05	50	233	12	03	73
23331	D-18186	C-14570	069	233	11	50	233	18	08	73
2341	D-16670	C-12812	095	234	00	00	234	09	29	73
2342	D-16663	C-12805	113	234	09	34	234	20	59	73
2343	D-16665	C-12807	055	234	21	05	235	01	44	73
2351	D-16664	C-12806	076	235	01	44	235	09	36	73
2352	D-17006	C-13212	127	235	09	36	235	20	08	73
2353	D-16661	C-12803	074	235	20	14	236	08	05	73
2361	D-16662	C-12804	094	236	08	11	237	06	29	73
2362	D-16674	C-12912	080	237	06	35	237	13	50	73
2363	D-16673	C-12911	115	237	13	51	237	22	02	73
2371	D-16672	C-12910	094	237	22	07	238	06	01	73
2381	D-16671	C-12909	075	238	06	02	238	11	53	73
23821	D-16678	C-12916	116	238	11	58	238	21	30	73
23822	D-17246	C-13398	002	238	21	36	238	21	40	73
2383	D-16677	C-12915	039	238	21	40	239	00	39	73
23912	D-17257	C-13499	001	239	11	22	239	11	27	73
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2393	D-16675	C-12913	073	239	21	33	240	03	07	73
2401	D-16680	C-12918	089	240	04	10	240	13	32	73
2402	D-16679	C-12917	133	240	13	36	240	22	50	73
2403	D-16686	C-12924	096	240	22	56	241	06	55	73
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2443	D-16688	C-12926	037	244	23	36	245	02	30	73
2451	D-16687	C-12925	117	245	02	31	245	16	09	73
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2452	D-16699	C-12944	120	245	16	15	246	03	05	73
2461	D-16700	C-12945	090	245	03	11	246	18	17	73
2462	D-16696	C-12941	114	246	19	17	247	02	22	73
2463	D-16695	C-12940	011	247	02	24	247	02	55	73
2471	D-16698	C-12943	132	247	03	33	247	21	26	73
2472	D-16697	C-12942	025	247	21	27	248	00	14	73
2481	D-16692	C-12937	101	248	00	22	248	15	26	73
2482	D-16691	C-12936	138	248	15	31	248	23	34	73
2483	D-16694	C-12939	051	248	23	38	249	04	33	73
2491	D-16693	C-12938	041	249	09	54	249	14	53	73
2492	D-16978	C-13057	108	249	14	59	250	00	21	73
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2502	D-17013	C-13218	108	250	14	48	251	01	03	73
2511	D-18260	C-14644	094	251	01	32	251	16	51	73
2512	D-16956	C-13035	077	251	17	59	252	00	32	73
2521	D-16957	C-13036	115	252	00	33	252	17	12	73
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2532	D-16984	C-13063	053	253	21	54	254	02	41	73
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2542	D-16971	C-13050	035	254	19	51	254	23	43	73
2551	D-16979	C-13058	101	254	23	46	255	15	39	73
2552	D-16976	C-13055	116	255	15	45	256	08	44	73

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2581	D-16961	C-13040	104	258	09	48	258	20	56	73
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2592	D-16969	C-13048	081	259	23	18	260	10	09	73
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2622	D-16960	C-13039	106	262	17	58	263	00	27	73
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2642	D-17266	C-13508	083	264	09	42	264	20	22	73
2643	D-17268	C-13510	075	264	20	27	265	02	05	73
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2662	D-17253	C-13495	075	266	06	05	266	11	42	73
2663	D-16963	C-13042	084	266	11	47	266	17	25	73
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2671	D-16964	C-13043	117	266	23	22	267	07	29	73
2672	D-17230	C-13383	076	267	07	33	267	13	05	73
2673	D-17269	C-13511	088	267	13	11	267	19	03	73
2674	D-17462	C-13927	075	267	19	08	268	00	53	73
2681	D-17229	C-13381	078	268	00	53	268	06	27	73
2682	D-17256	C-13498	035	268	06	32	269	01	51	73
2691	D-17248	C-13400	086	269	10	03	269	18	02	73
2692	D-17312	C-13755	057	269	18	08	269	22	12	73
2701	D-16965	C-13044	075	269	22	16	270	03	51	73
2702	D-17262	C-13504	057	270	03	57	270	16	34	73
2703	D-19379	C-15752	082	270	16	37	270	22	40	73
2711	D-17263	C-13505	093	270	22	46	271	13	46	73
2712	D-17261	C-13503	077	271	13	51	271	19	52	73
2713	D-17031	C-13235	042	271	19	58	271	22	59	73
2721	D-17224	C-13376	089	271	22	59	272	15	19	73
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2723	D-17032	C-13236	090	272	21	28	273	03	46	73
2731	D-17267	C-13509	086	273	03	50	273	18	46	73
2732	D-17244	C-13396	080	273	18	51	274	00	31	73
2741	D-17239	C-13391	098	274	00	37	274	16	15	73
2742	D-17251	C-13493	117	274	16	20	274	23	54	73
2751	D-19418	C-15825	093	274	23	54	275	16	00	73
2752	D-17222	C-13374	090	275	16	06	275	22	38	73
2761	D-17231	C-13382	099	275	22	42	276	13	53	73
2762	D-17223	C-13375	088	276	13	57	276	20	14	73
2771	D-17240	C-13392	078	276	20	19	277	02	00	73
2772	D-17241	C-13393	107	277	02	06	277	17	35	73
2773	D-17252	C-13494	033	277	17	39	278	22	47	73
2791	D-17306	C-13749	097	279	13	03	281	15	53	73
2811	D-17318	C-13761	083	281	15	54	281	21	44	73
2812	D-17329	C-13769	097	281	21	48	282	13	34	73
2821	D-18773	C-15190	081	282	13	35	282	19	34	73
2822	D-17319	C-13762	080	282	19	38	283	01	26	73
2831	D-18776	C-15193	082	283	01	30	283	16	03	73
2832	D-17316	C-13759	079	283	16	03	283	21	50	73
2833	D-17242	C-13394	080	283	21	54	284	03	33	73
2841	D-18746	C-15164	081	284	03	38	284	17	53	73
2842	D-17243	C-13395	074	284	17	57	284	23	36	73
2843	D-17307	C-13750	077	284	23	42	285	15	42	73

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2861	D-17335	C-13774	108	286	03	02	286	21	30	73
2862	D-17234	C-13386	080	286	21	33	286	02	36	73
2871	D-17325	C-13903	096	287	02	32	287	17	25	73
2872	D-18742	C-15160	078	287	17	29	287	23	04	73
2881	D-18871	C-15671	078	287	23	09	288	13	33	73
2891	D-17320	C-13902	079	289	01	06	289	17	01	73
2892	D-17317	C-13760	084	289	17	06	289	23	05	73
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29231	D-20371	C-16294	070	292	13	05	292	17	57	73
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29241	D-18280	C-14662	070	292	17	50	292	22	22	73
29242	D-17855	C-14416	022	292	22	24	292	24	05	73
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29511	D-18760	C-15178	070	295	00	00	295	05	24	73
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31641	D-18734	C-15152	070	316	17	58	316	22	45	73
31642	D-18225	C-14609	019	316	22	50	316	23	59	73
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31721	D-18739	C-15157	061	317	06	08	317	10	26	73
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31741	D-19459	C-15968	070	317	17	50	317	22	33	73
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31841	D-20383	C-16306	002	318	17	50	318	17	54	73
32231	D-20368	C-16291	006	322	13	56	322	15	30	73
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32341	D-17309	C-13752	004	323	21	21	323	22	59	73
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32622	D-17870	C-14431	030	326	10	17	326	12	07	73
32631	D-17271	C-13513	017	326	11	50	326	14	36	73
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32721	D-17868	C-14429	052	327	05	50	327	10	14	73
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32812	D-17270	C-13512	019	328	04	48	328	06	06	73
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32841	D-17227	C-13379	070	328	17	50	328	22	08	73
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32941	D-17029	C-13233	070	329	17	55	329	22	09	73
32942	D-17293	C-13741	030	329	22	13	329	24	04	73
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33131	D-18199	C-14583	043	331	11	50	331	17	50	73
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33831	D-17866	C-14427	056	338	11	50	338	18	09	73
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33911	D-20355	C-16278	070	339	00	02	339	06	05	73
33921	D-20389	C-16311	070	339	05	50	339	10	44	73
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34031	D-18238	C-14622	064	340	11	50	340	17	48	73
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34142	D-18223	C-14607	020	341	21	43	341	23	15	73
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34242	D-17840	C-14401	007	342	23	43	342	24	05	73
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34321	D-18741	C-15159	070	343	05	53	343	10	41	73

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34422	D-20370	C-16293	030	344	10	17	344	12	09	73
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34512	D-18847	C-15482	004	345	05	49	345	06	06	73
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34541	D-17839	C-14400	063	345	18	09	345	23	24	73
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34611	D-18829	C-15464	065	346	00	06	346	04	15	73
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34832	D-18241	C-14625	022	348	16	56	348	18	07	73
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34921	D-20318	C-16185	070	349	05	50	349	11	13	73
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34942	D-20387	C-16310	019	349	22	51	349	24	08	73
3501	D-17314	C-13757	030	350	19	28	350	20	58	73
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35111	D-17272	C-13514	049	351	00	02	351	06	09	73
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35131	D-19446	C-15955	070	351	11	50	351	17	34	73
35141	D-20369	C-16292	070	351	17	50	351	24	06	73
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35231	D-20353	C-16276	070	352	12	36	352	17	05	73
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35242	D-17228	C-13380	016	352	21	51	352	23	38	73
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35321	D-18249	C-14633	070	353	05	50	353	10	57	73
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35341	D-17864	C-14425	070	353	17	50	353	22	23	73
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35421	D-17836	C-14397	069	354	05	50	354	12	06	73
35431	D-20624	C-16716	070	354	11	50	354	15	41	73
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35541	D-18271	C-14654	070	355	17	55	355	23	21	73
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35611	D-18823	C-15458	070	356	00	00	356	06	04	73
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35622	D-17472	C-13936	023	356	10	30	356	12	06	73
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35931	D-17333	C-13905	015	359	11	50	359	12	50	73
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36031	D-20380	C-16303	045	360	14	35	360	18	05	73
36041	D-20311	C-16179	070	360	17	50	360	22	54	73
36042	D-20309	C-16177	021	360	22	58	360	24	03	73
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36112	D-18869	C-15669	035	361	03	20	361	06	07	73
36122	D-18283	C-14665	031	361	10	12	361	12	09	73
36131	D-20322	C-16223	070	361	11	50	361	16	58	73
36141	D-20301	C-16169	070	361	17	50	361	22	01	73
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36241	D-18224	C-14608	070	362	17	50	362	24	02	73
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36322	D-19456	C-15965	014	363	11	15	363	12	09	73
36341	D-22035	C-16899	038	363	21	30	363	24	09	73
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36441	D-18891	C-15691	070	364	17	50	364	22	26	73
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36621	D-20599	C-16692	015	001	10	00	001	11	07	74
36722	D-20672	C-16761	028	002	10	21	002	12	07	74
36812	D-20634	C-16725	002	003	06	03	003	06	07	74
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36842	D-19478	C-15987	002	003	23	23	003	23	27	74
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36921	D-18205	C-14589	070	004	05	50	004	10	36	74
36922	D-17456	C-13921	021	004	10	40	004	12	01	74
36931	D-18898	C-15698	070	004	11	50	004	15	03	74

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37021	D-20643	C-16734	057	005	05	50	005	10	16	74
37042	D-18277		024	005	20	28	005	21	59	74
37111	D-18849	C-15484	028	006	00	16	006	02	43	74
37121	D-19440	C-15949	070	006	06	25	006	11	04	74
37122	D-20345	C-16246	012	006	11	10	006	11	44	74
37131	D-18841	C-15476	042	006	14	19	006	16	39	74
37141	D-22005	C-16869	056	006	19	31	006	24	05	74
37231	D-20593	C-16689	068	007	12	09	007	16	00	74
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37321	D-20633	C-16724	070	008	06	03	008	11	09	74
37331	D-18857	C-15657	070	008	13	05	008	16	47	74
37341	D-19428	C-15835	070	008	19	02	008	23	52	74
37411	D-20339	C-16240	026	009	00	00	009	02	19	74
37421	D-20635	C-16726	055	009	07	28	009	11	38	74
37431	D-18884	C-15684	070	009	12	14	009	17	08	74
37511	D-20629	C-16720	016	010	00	44	010	01	35	74
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37542	D-18853	C-15653	068	010	21	10	010	24	09	74
37611	D-20315	C-16182	007	011	00	00	011	02	20	74
37621	D-18743	C-15161	066	011	07	39	011	12	08	74
37632	D-20313	C-18806	008	011	16	17	011	17	53	74
37641	D-20603	C-16696	070	011	19	13	011	23	53	74
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37731	D-18832	C-15467	070	012	11	50	012	15	20	74
37732	D-19427	C-15834	012	012	15	20	012	17	13	74
37741	D-18863	C-15663	062	012	18	33	012	24	07	74
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37832	D-18893	C-15693	056	013	16	04	013	18	07	74
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37911	D-18890	C-15690	036	014	00	00	014	01	51	74
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37941	D-20349	C-16250	070	014	18	04	014	21	03	74
37942	D-18885	C-15685	046	014	21	07	014	23	35	74
38021	D-18833	C-15468	070	015	06	36	015	11	34	74
38022	D-20326	C-16227	007	015	11	35	015	12	08	74
38032	D-20659	C-16750	048	015	15	30	015	18	04	74
38042	D-20651	C-16742	029	015	22	26	015	24	09	74
38111	D-20612	C-16705	053	016	00	00	016	06	08	74
38122	D-18881	C-15681	036	016	10	01	016	12	08	74
38131	D-20310	C-16178	070	016	12	05	016	15	03	74
38132	D-18268	C-14651	029	016	15	07	016	17	32	74
38142	D-18216	C-14600	030	016	22	18	016	23	55	74
38222	D-19438	C-15844	003	017	11	51	017	12	07	74
38231	D-20329	C-16230	070	017	12	07	017	15	23	74
38232	D-20620	C-16713	056	017	15	28	017	18	09	74
38241	D-22001	C-16866	068	017	17	50	017	21	35	74
38311	D-20619	C-16712	044	018	00	00	018	06	07	74
38321	D-20614	C-16707	070	018	06	07	018	11	08	74
38331	D-19455	C-15964	070	018	11	50	018	16	45	74
38332	D-19402	C-15775	024	018	16	49	018	18	08	74
38341	D-20364	C-16287	070	018	17	50	018	24	01	74
38342	D-19444	C-15953	001	018	24	06	018	24	06	74
38421	D-20645	C-16736	070	019	06	03	019	10	50	74
38422	D-18842	C-15477	013	019	10	56	019	12	08	74
38431	D-18215	C-14599	070	019	11	50	019	15	24	74
38441	D-18889	C-15689	070	019	17	50	019	21	39	74
38442	D-18837	C-15472	052	019	21	40	019	24	08	74
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38621	D-18744	C-15162	058	021	05	50	021	10	19	74
38622	D-22025	C-16889	019	021	10	24	021	12	08	74
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38712	D-17846	C-14407	010	022	05	30	022	06	09	74
38721	D-18859	C-15659	070	022	05	50	022	11	02	74
38731	D-20296	C-16164	070	022	11	50	022	14	55	74
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38821	D-18895	C-15695	070	023	05	50	023	10	48	74
38822	D-18876	C-15676	007	023	10	54	023	11	27	74
38841	D-18834	C-15469	070	023	18	21	023	22	17	74
38842	D-20646	C-16737	039	023	22	18	023	24	08	74
38911	D-22009	C-16873	070	024	00	00	024	04	54	74
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38941	D-20363	C-16286	070	024	19	04	024	22	46	74
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39022	D-20642	C-16733	020	025	10	28	025	11	43	74
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39032	D-17871	C-14432	001	025	18	09	025	18	09	74
39111	D-18860	C-15660	070	026	01	09	026	06	04	74
39112	D-18187	C-14571	002	026	06	04	026	06	07	74
39121	D-20670		070	026	05	50	026	10	18	74
39132	D-20649	C-16740	031	026	16	28	026	18	08	74
39141	D-17323	C-13765	068	026	17	50	026	24	09	74
39211	D-18250	C-14634	070	027	00	00	027	04	56	74
39212	D-22021	C-16885	017	027	04	59	027	06	07	74
39221	D-22031	C-16895	070	027	05	50	027	10	53	74
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39222	D-20617	C-16710	001	027	10	57	027	10	57	74
39231	D-18255	C-14639	047	027	12	45	027	17	29	74
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39322	D-22024	C-16888	027	028	10	09	028	12	06	74
39331	D-20625	C-16717	070	028	11	53	028	16	38	74
39341	D-20656	C-16747	012	028	21	20	028	21	47	74
39342	D-17851	C-14412	011	028	23	27	028	24	09	74
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39412	D-20641	C-16732	018	029	04	48	029	06	09	74
39421	D-18883	C-15683	070	029	05	50	029	10	57	74
39431	D-20331	C-16232	070	029	11	50	029	14	55	74
39432	D-20664	C-16755	023	029	14	56	029	17	27	74
39441	D-18894	C-15694	069	029	19	08	029	24	06	74
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39531	D-20372	C-16295	068	030	12	07	030	17	06	74
39611	D-20291	C-16159	070	031	00	00	031	04	53	74
39612	D-20621	C-16714	017	031	04	58	031	06	06	74
39622	D-20295	C-16163	019	031	10	54	031	12	08	74
39631	D-20608	C-16701	036	031	11	50	031	18	05	74
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39712	D-17299	C-13744	030	032	04	20	032	06	07	74
39721	D-22038	C-16902	070	032	05	52	032	10	17	74
39722	D-22017	C-16881	018	032	10	21	032	11	31	74
39731	D-18275	C-14658	044	032	12	28	032	16	17	74
39741	D-18274	C-14657	070	032	18	35	032	23	37	74

39811	D-18850	C-15485	070	033	00	52	033	05	37	74
39812	D-22007	C-16871	008	033	05	43	033	06	05	74
39821	D-20616	C-16709	070	033	05	50	033	10	38	74
39822	D-20376	C-16299	021	033	10	44	033	12	05	74
39831	D-20381	C-16304	070	033	11	54	033	16	17	74
39841	D-17300	C-13745	070	033	17	50	033	22	49	74
39842	D-17259	C-13501	020	033	22	52	033	24	03	74
39921	D-20341	C-16242	070	034	05	50	034	10	22	74
39922	D-18266	C-18807	028	034	10	27	034	11	40	74
39941	D-18838	C-15473	009	034	23	28	034	24	08	74
40011	D-18848	C-15483	055	035	00	00	035	04	45	74
40021	D-18831	C-15466	055	035	05	51	035	10	46	74
40031	D-20613	C-16706	055	035	11	50	035	16	38	74
40041	D-22019	C-16883	055	035	17	50	035	22	38	74
40042	D-18263	C-14647	016	035	22	44	035	24	07	74
40111	D-22015	C-16879	055	036	00	00	036	04	50	74
40121	D-20344	C-16245	055	036	05	50	036	10	45	74
40122	D-17850	C-14411	015	036	10	51	036	12	09	74
40132	D-22033	C-16897	010	036	17	20	036	18	06	74
40141	D-18247	C-14631	070	036	17	50	036	23	07	74
40142	D-18229	C-14613	012	036	23	11	036	24	07	74
40211	D-18217	C-14601	070	037	00	00	037	05	15	74
40212	D-18867	C-15667	013	037	05	20	037	06	09	74
40221	D-17833	C-14394	070	037	05	50	037	10	24	74
40222	D-18214	C-14598	027	037	10	24	037	12	09	74
40231	D-20628	C-16719	070	037	11	50	037	16	16	74
40232	D-20598	C-16691	031	037	16	18	037	18	08	74
40241	D-17824	C-14385	070	037	17	53	037	22	30	74
40242	D-17862	C-14423	023	037	22	34	037	24	07	74
40311	D-20637	C-16728	070	038	00	00	038	04	39	74
40312	D-22003	C-16868	023	038	04	43	038	06	08	74
40321	D-22004		070	038	05	50	038	10	16	74
40322	D-17446	C-13911	029	038	10	20	038	12	09	74
40331	D-19396	C-15769	070	038	11	50	038	16	18	74
40332	D-20362	C-16285	025	038	16	24	038	18	04	74
40341	D-18239	C-14623	070	038	17	50	038	22	33	74
40342	D-18212	C-14596	027	038	22	39	038	24	09	74
40411	D-17308	C-13751	070	039	00	00	039	04	25	74
40412	D-17260	C-13502	027	039	04	29	039	06	06	74
40421	D-18259	C-14643	035	039	05	50	039	08	07	74

14841	D-18896	C-15696	005	148	18	52	148	19	13	73	
14921	D-17255	C-13497	025	149	05	53	149	11	48	73	
14941	D-18193	C-14577	019	149	18	30	149	24	07	73	
15011	D-18886	C-15686	031	150	00	07	150	02	21	73	
15021	D-17474	C-13938	041	150	06	30	150	11	47	73	
15031	D-17445	C-13910	047	150	14	12	150	17	59	73	
15041	D-17854	C-14415	020	150	17	50	150	19	30	73	*
15041	D-20675	C-16764	020	150	17	50	150	19	30	73	*
15111	D-22012	C-16876	011	151	04	38	151	06	03	73	
15211	D-17487	C-13951	049	152	00	21	152	05	41	73	
15221	D-18771	C-15188	055	152	06	22	152	11	58	73	
15311	D-18845	C-15480	060	153	00	00	153	06	09	73	
15321	D-18769	C-15186	069	153	05	50	153	12	08	73	
15411	D-20602	C-16695	041	154	00	33	154	05	55	73	
15421	D-19410	C-15817	046	154	05	51	154	12	08	73	
15431	D-18220	C-14604	049	154	11	50	154	18	08	73	
15511	D-18210	C-14594	034	155	00	22	155	06	09	73	
15521	D-18768	C-18800	064	155	05	48	155	11	36	73	
15522	D-18825	C-15460	009	155	10	52	155	11	36	73	
15531	D-17483	C-13947	014	155	15	20	155	16	02	73	
15541	D-20386	C-16309	051	155	18	29	155	23	52	73	
15611	D-18253	C-14637	051	156	00	36	156	06	03	73	
15621	D-20306	C-16174	055	156	05	50	156	10	36	73	
15631	D-20304	C-16172	040	156	11	50	156	16	51	73	
15641	D-19404	C-15777	030	156	19	38	156	23	07	73	
15711	D-20600	C-16693	032	157	01	29	157	06	05	73	
15721	D-17478	C-13942	062	157	05	58	157	12	07	73	
15731	D-18846	C-15481	038	157	11	50	157	17	36	73	
15741	D-17852	C-14413	034	157	20	01	157	23	31	73	
15811	D-19467	C-15976	028	158	00	45	158	06	06	73	*
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15821	D-18764	C-15182	055	158	05	50	158	10	33	73	
15822	D-18194	C-14578	007	158	10	33	158	11	00	73	
15911	D-18770	C-15187	050	159	01	52	159	06	08	73	
15921	D-17861	C-14422	018	159	05	50	159	11	14	73	
15931	D-17826	C-14387	026	159	14	11	159	17	50	73	
15941	D-17849	C-14410	026	159	18	38	159	22	40	73	
16011	D-22020	C-16884	049	160	00	54	160	06	03	73	
16021	D-17468	C-13932	047	160	05	50	160	12	05	73	
16031	D-19441	C-15950	020	160	11	50	160	14	03	73	
16041	D-18765	C-15183	023	160	19	55	160	21	47	73	
16111	D-22018	C-16882	050	161	00	16	161	05	45	73	
16131	D-17311	C-13754	026	161	11	50	161	17	57	73	
16141	D-18840	C-15475	035	161	17	52	161	24	05	73	
16211	D-18262	C-14646	049	162	00	00	162	06	08	73	
16221	D-17485	C-13949	043	162	05	50	162	12	04	73	*
16241	D-20676	C-16765	045	162	18	09	162	23	43	73	
16321	D-18901	C-15701	050	163	05	50	163	12	04	73	
16331	D-18261	C-14645	042	163	11	50	163	18	04	73	
16411	D-17482	C-13946	035	164	00	01	164	06	06	73	*
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16421	D-19405	C-15778	014	164	05	50	164	11	53	73	*
16431	D-22016	C-16880	024	164	11	53	164	17	40	73	
16441	D-17848	C-14409	058	164	18	15	164	23	57	73	
16511	D-18281	C-14663	065	165	00	30	165	06	03	73	
16521	D-18736	C-15154	038	165	05	50	165	10	42	73	
16531	D-18766	C-15184	022	165	13	14	165	18	04	73	
16611	D-18236	C-14620	054	166	00	00	166	06	03	73	
16631	D-17449	C-13914	065	166	12	18	166	17	28	73	
16641	D-19473	C-15982	052	166	18	28	166	24	02	73	
16721	D-18204	C-14588	059	167	05	50	167	12	07	73	*
16731	D-20654	C-16745	070	167	11	50	167	17	58	73	
16741	D-18237	C-14621	042	167	17	50	167	24	08	73	*
16732	D-19476	C-15985	002	167	18	03	167	18	07	73	
16811	D-17484	C-13948	066	168	00	00	168	06	07	73	

16822	D-18233	C-14617	004	168	11	40	168	11	44	73	
16831	D-17476	C-13940	051	168	12	13	168	17	45	73	
16841	D-19457	C-15966	026	168	17	50	168	23	50	73	
16911	D-20385	C-16308	041	169	00	46	169	05	54	73	
16921	D-19420	C-15827	035	169	05	50	169	12	08	73	
16941	D-18207	C-14591	048	169	18	11	169	24	09	73	
17011	D-19398	C-15771	055	170	00	05	170	05	44	73	
17021	D-18206	C-14590	020	170	06	18	170	08	16	73	
17041	D-20347	C-16248	035	170	18	05	170	24	07	73	
17121	D-19466	C-15975	049	171	05	58	171	12	04	73	
17131	D-18874	C-15674	070	171	11	50	171	17	20	73	*
17131	D-17857	C-14418	070	171	11	50	171	17	20	73	*
17132	D-18826	C-15461	005	171	17	24	171	18	09	73	*
17132	D-17835	C-14396	005	171	17	24	171	18	09	73	*
17141	D-21999	C-16864	069	171	18	05	171	23	41	73	
17211	D-19423	C-15830	055	172	00	17	172	05	36	73	*
17212	D-19419	C-15826	003	172	05	41	172	05	52	73	*
17241	D-19380	C-15753	035	172	17	50	172	23	00	73	
17431	D-20321	C-16222	019	174	13	28	174	15	01	73	
17911	D-20631	C-16722	035	179	00	24	179	04	27	73	
17931	D-20666	C-16757	039	179	13	08	179	18	05	73	
17941	D-17477	C-13941	047	179	17	50	179	24	08	73	
18011	D-18762	C-15180	043	180	00	00	180	05	21	73	
18041	D-19448	C-15957	052	180	17	50	180	23	59	73	
18111	D-20377	C-16300	047	181	00	00	181	06	06	73	
18121	D-19417	C-15824	047	181	05	50	181	12	06	73	
18131	D-18264	C-14648	044	181	11	50	181	18	08	73	
18141	D-19472	C-15981	048	181	17	50	181	24	05	73	
18211	D-19408	C-15781	042	182	00	00	182	05	35	73	
18221	D-20588	C-16684	051	182	06	12	182	11	47	73	
18231	D-19426	C-15833	055	182	12	26	182	17	44	73	
18232	D-19443	C-15952	003	182	17	51	182	17	57	73	
18241	D-19422	C-15829	049	182	17	51	182	24	09	73	
18311	D-19437	C-15843	035	183	00	00	183	04	54	73	
18331	D-22037	C-16901	038	183	13	29	183	18	09	73	
18341	D-20328	C-16229	046	183	17	58	183	23	33	73	
18411	D-19411	C-15818	043	184	00	11	184	05	54	73	
18511	D-19452	C-15961	052	185	00	00	185	05	04	73	
18531	D-19454	C-15963	032	185	13	38	185	18	09	73	
18541	D-20665	C-16756	014	185	18	09	185	20	33	73	
18611	D-19403	C-15776	011	186	02	44	186	05	23	73	
18641	D-19412	C-15819	069	186	18	00	186	24	06	73	
18712	D-19406	C-15779	018	187	03	55	187	04	55	73	
18811	D-22023	C-16887	062	188	00	00	188	03	48	73	
18841	D-20307	C-16175	070	188	17	50	188	22	18	73	
18832	D-20319	C-16186	003	188	18	01	188	18	07	73	
18911	D-19381	C-15754	070	189	00	00	189	04	05	73	
18912	D-19435	C-15841	011	189	04	07	189	05	00	73	
18941	D-19475	C-15984	055	189	17	50	189	22	21	73	
19041	D-18843	C-15478	055	190	17	50	190	22	20	73	
19131	D-18763	C-15181	055	191	12	46	191	17	41	73	
19132	D-20312	C-16180	004	191	17	46	191	18	03	73	
19141	D-20601	C-16694	055	191	17	50	191	22	41	73	
19142	D-20337	C-16238	015	191	22	46	191	24	04	73	
19211	D-19451	C-15960	036	192	00	00	192	03	13	73	
19221	D-18758	C-15176	010	192	09	42	192	11	05	73	
19241	D-19398	C-15771	050	192	20	00	192	24	08	73	
19311	D-18750	C-15168	033	193	00	00	193	02	34	73	
19331	D-19462	C-15971	055	193	13	10	193	17	30	73	
19411	D-19414	C-15821	055	194	00	00	194	04	35	73	
19412	D-19471	C-15980	005	194	04	40	194	05	02	73	
19442	D-22010	C-16874	021	194	22	29	194	24	05	73	
19511	D-19413	C-15820	051	195	00	00	195	04	16	73	
19531	D-19469	C-15978	056	195	13	16	195	17	25	73	
19532	D-19439	C-15948	008	195	17	30	195	18	01	73	

19611	D-20650	C-16741	044	196	00	00	196	03	39	73	
19631	D-20332	C-16233	050	196	14	00	196	18	08	73	
19641	D-19400	C-15773	055	196	17	50	196	22	03	73	
19642	D-19415	C-15822	024	196	22	09	196	24	08	73	
1971	D-17464	C-13928	045	196	23	49	197	05	49	73	
2021	D-17466	C-13930	010	202	00	12	202	05	23	73	
2031	D-17322	C-13764	027	202	21	42	203	06	01	73	
2032	D-17328	C-13768	025	203	10	59	204	01	26	73	
2041	D-17843	C-14404	065	204	01	23	204	22	47	73	
2061	D-17465	C-13929	025	206	19	00	206	21	13	73	
2071	D-17250	C-13402	031	207	17	26	207	19	05	73	
20941	D-17475	C-13939	008	209	19	19	209	24	07	73	
21011	D-17838	C-14399	049	210	00	00	210	06	02	73	
21021	D-18208	C-14592	007	210	05	58	210	06	26	73	
21031	D-17486	C-13950	016	210	16	33	210	18	06	73	
21041	D-17479	C-13943	065	210	18	01	210	23	34	73	
21111	D-19465	C-15974	056	211	00	15	211	05	49	73	
21121	D-20626		059	211	05	50	211	12	04	73	
21121	D-17014	C-13219	058	211	06	39	211	12	00	73	
21131	D-17326	C-13904	058	211	11	59	211	17	58	73	
21141	D-18195	C-14579	043	211	17	58	211	23	55	73	
21221	D-17034	C-13238	055	212	05	58	212	11	59	73	
21231	D-16668	C-12810	054	212	11	59	212	17	35	73	★
21231	D-20605	C-16698	054	212	11	59	212	17	35	73	★
21241	D-17443	C-13908	054	212	18	05	212	23	48	73	★
21241	D-20647	C-16738	051	212	18	05	212	23	48	73	★
21311	D-19399	C-15772	054	213	00	25	213	05	59	73	
21321	D-17021	C-13225	059	213	05	59	213	12	01	73	
21331	D-19382	C-15755	056	213	11	58	213	17	58	73	
21341	D-17457	C-13922	057	213	17	58	213	24	00	73	
21411	D-17008	C-13213	033	214	00	00	214	05	57	73	
21421	D-18752	C-15170	050	214	05	58	214	11	32	73	
21431	D-16669	C-12811	044	214	12	22	214	17	45	73	★
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21521	D-22011	C-16875	044	215	05	59	215	11	56	73	
21531	D-20300	C-16168	039	215	11	58	215	17	03	73	★
21531	D-16667	C-12809	040	215	11	58	215	17	03	73	★
21541	D-17829	C-14390	029	215	19	35	215	23	16	73	
21611	D-18192	C-14576	029	216	01	54	216	05	29	73	
21621	D-17012	C-13217	015	216	06	07	216	10	49	73	
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21741	D-18751	C-15169	008	217	22	59	217	23	27	73	—
21811	D-19433	C-18802	048	218	00	28	218	05	38	73	★
21811	D-17467	C-13931	048	218	00	28	218	05	38	73	★
21821	D-17011	C-13216	055	218	06	09	218	11	52	73	
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21831	D-18231	C-14615	008	218	12	29	218	12	59	73	★
21911	D-20615	C-16708	019	219	04	07	219	06	14	73	
21921	D-20327	C-16228	049	219	05	58	219	12	00	73	
21931	D-18839	C-15474	055	219	11	50	219	18	04	73	★
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22021	D-20604	C-16697	046	220	06	26	220	11	58	73	
22031	D-18753	C-15171	028	220	11	58	220	17	59	73	★
22031	D-17295	C-13742	031	220	11	58	220	17	59	73	★
22041	D-17452	C-13917	032	220	17	50	220	21	21	73	
22111	D-19386	C-15759	037	221	01	07	221	06	08	73	
22121	D-18265	C-14649	042	221	05	59	221	11	57	73	
22131	D-18221	C-14605	044	221	11	59	221	17	34	73	
22141	D-18258	C-14642	065	221	18	11	221	22	16	73	
22211	D-16666	C-12808	048	222	00	46	222	05	59	73	
22231	D-17247	C-13399	058	222	11	58	222	17	56	73	
22241	D-18232	C-14615	045	222	17	58	222	23	53	73	
22311	D-17290	C-13738	040	223	01	10	223	05	59	73	

22331	D-17010	C-13215	039	223	12	07	223	17	44	73	
22341	D-17297	C-14435	049	223	18	27	223	22	15	73	
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22411	D-19436	C-15842	036	224	00	33	224	05	57	73	
22421	D-17016	C-13221	054	224	05	58	224	11	58	73	
22431	D-17481	C-13945	013	224	11	58	224	18	04	73	
22441	D-22000	C-16865	063	224	17	59	224	24	01	73	
22511	D-18257	C-14641	057	225	00	00	225	05	41	73	
22511	D-20627	C-16718	052	225	00	00	225	05	25	73	
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22521	D-19453	C-15962	062	225	06	03	225	11	40	73	
22531	D-17447	C-13912	070	225	11	55	225	17	45	73	
22532	D-17249	C-13401	004	225	17	45	225	17	52	73	
22611	D-17015	C-13220	054	226	00	00	227	05	57	73	
22621	D-18267	C-14650	045	226	05	58	226	11	57	73	
22631	D-20652	C-16743	066	226	11	58	226	17	56	73	
22642	D-18218	C-14602	006	226	23	13	226	23	24	73	
22711	D-17019	C-13780	068	227	00	04	227	05	41	73	
22721	D-17022	C-13226	068	227	06	13	227	11	47	73	
22731	D-17026	C-13230	068	227	12	01	227	17	57	73	
22732	D-18873	C-15673	008	227	17	28	227	17	57	73	
22741	D-18754	C-15172	070	227	17	58	227	23	42	73	
22742	D-18747	C-15165	005	227	23	43	227	23	57	73	
22821	D-19407	C-15780	046	228	05	58	228	11	07	73	
22831	D-17028	C-13232	059	228	12	21	228	17	23	73	
22841	D-21996		070	228	18	03	228	23	25	73	
22841	D-20594	C-16690	070	228	18	03	228	23	37	73	
22842	D-17489	C-13953	004	228	23	26	228	23	45	73	
22911	D-17233	C-13385	056	229	00	17	229	05	46	73	
22921	D-17232	C-13384	058	229	06	23	229	11	59	73	
22931	D-17448	C-13913	070	229	11	58	229	17	33	73	
22932	D-17023	C-13227	010	229	17	37	229	18	05	73	
22941	D-17450	C-13915	061	229	17	50	229	24	07	73	
23011	D-18855	C-15655	051	230	00	00	230	06	07	73	
23021	D-17226	C-13378	055	230	05	54	230	12	07	73	
23031	D-17035	C-13239	070	230	11	58	230	17	01	73	
23032	D-17292	C-13740	014	230	17	02	230	17	33	73	
23041	D-17480	C-13944	070	230	18	12	230	23	22	73	
23042	D-17463	C-18803	073	230	23	22	230	23	41	73	
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23131	D-18749	C-15167	070	231	11	58	231	17	42	73	
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23132	D-18774	C-15191	007	231	17	47	231	18	01	73	
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23142	D-18728	C-15146	011	231	23	13	231	24	01	73	
23231	D-18745	C-15163	070	232	12	24	232	17	30	73	
23232	D-18772	C-15189	006	232	17	32	232	17	48	73	
23241	D-18892	C-15692	070	232	18	25	232	23	41	73	
23241	D-22002	C-16867	070	232	18	25	232	23	47	73	
23311	D-20595		059	233	00	00	233	06	03	73	
23321	D-18191	C-14575	051	233	05	50	233	12	03	73	
23331	D-18186	C-14570	069	233	11	50	233	18	08	73	
2341	D-16670	C-12812	095	234	00	00	234	09	29	73	
2342	D-16663	C-12805	113	234	09	34	234	20	59	73	
2343	D-16665	C-12807	055	234	21	05	235	01	44	73	
2351	D-16664	C-12806	076	235	01	44	235	09	36	73	
2352	D-17006	C-13212	127	235	09	36	235	20	08	73	
2353	D-16661	C-12803	074	235	20	14	236	08	05	73	
2361	D-16662	C-12804	094	236	08	11	237	06	29	73	
2362	D-16674	C-12912	080	237	06	35	237	13	50	73	
2363	D-16673	C-12911	115	237	13	51	237	22	02	73	
2371	D-16672	C-12910	094	237	22	07	238	06	01	73	
2381	D-16671	C-12909	075	238	06	02	238	11	53	73	

23022	D-17246	C-13398	002	238	21	36	238	21	40	73
2383	D-16677	C-12915	039	238	21	40	239	00	39	73
23912	D-17257	C-13499	001	239	11	22	239	11	27	73
2392	D-16676	C-12914	114	239	11	28	239	21	32	73
2393	D-16675	C-12913	073	239	21	33	240	03	07	73
2401	D-16680	C-12918	089	240	04	10	240	13	32	73
2402	D-16679	C-12917	133	240	13	36	240	22	50	73
2403	D-16686	C-12924	096	240	22	56	241	06	55	73
2411	D-16685	C-12923	100	241	07	01	241	17	03	73
2412	D-17009	C-13214	109	241	17	05	242	01	43	73
2421	D-16690	C-12928	103	242	02	21	242	14	01	73
2422	D-16689	C-12927	090	242	14	01	242	21	09	73
2423	D-16684	C-12922	073	242	21	10	243	02	34	73
2431	D-16683	C-12921	092	243	03	31	243	15	50	73
2432	D-16682	C-12920	093	243	15	56	244	00	22	73
2441	D-16983	C-13062	062	244	00	22	244	06	32	73
24412	D-17017	C-13222	050	244	10	16	244	14	19	73
2442	D-16681	C-12919	102	244	13	43	244	23	35	73
2443	D-16688	C-12926	037	244	23	36	245	02	30	73
24511	D-19432	C-15839	007	245	02	28	245	02	41	73
2451	D-16687	C-12925	117	245	02	31	245	16	09	73
2461	D-16700	C-12945	090	245	03	11	246	18	17	73
2452	D-16699	C-12944	120	245	16	15	246	03	05	73
2462	D-16696	C-12941	114	246	19	17	247	02	22	73
2463	D-16695	C-12940	011	247	02	24	247	02	55	73
2471	D-16698	C-12943	132	247	03	33	247	21	26	73
2472	D-16697	C-12942	025	247	21	27	248	00	14	73
2481	D-16692	C-12937	101	248	00	22	248	15	26	73
2482	D-16691	C-12936	138	248	15	31	248	23	34	73
2483	D-16694	C-12939	051	248	23	38	249	04	33	73
2491	D-16693	C-12938	041	249	09	54	249	14	53	73
2492	D-16978	C-13057	108	249	14	59	250	00	21	73
2501	D-16985	C-13064	113	250	00	27	250	14	46	73
2502	D-17013	C-13218	108	250	14	48	251	01	03	73
2511	D-18260	C-14644	094	251	01	32	251	16	51	73
2512	D-16956	C-13035	077	251	17	59	252	00	32	73
2521	D-16957	C-13036	115	252	00	33	252	17	12	73
2522	D-16977	C-13056	133	252	17	17	253	04	08	73
2531	D-16970	C-13049	125	253	04	14	253	11	49	73
2532	D-16984	C-13063	053	253	21	54	254	02	41	73
2541	D-16968	C-13047	111	254	06	48	254	19	47	73
2542	D-16971	C-13050	035	254	19	51	254	23	43	73
2551	D-16979	C-13058	101	254	23	46	255	15	39	73
2552	D-16976	C-13055	116	255	15	45	256	08	44	73
2561	D-18256	C-14640	107	256	08	50	257	00	21	73
2571	D-17265	C-13507	096	257	00	25	257	15	26	73
2572	D-16980	C-13059	075	257	15	30	257	22	24	73
2573	D-16962	C-13041	091	257	23	09	258	09	48	73
2581	D-16961	C-13040	104	258	09	48	258	20	56	73
2582	D-16975	C-13054	105	258	20	58	259	04	30	73
2591	D-16966	C-13045	104	259	11	34	259	23	18	73
2592	D-16969	C-13048	081	259	23	18	260	10	09	73
2601	D-16972	C-13051	105	260	10	10	260	18	43	73
2602	D-17321	C-13763	086	260	18	48	261	09	48	73
2611	D-16973	C-13052	104	261	09	52	261	20	28	73
2612	D-16967	C-13046	101	261	20	31	262	03	28	73
2621	D-16974	C-13053	164	262	03	32	262	17	54	73
2622	D-16960	C-13039	106	262	17	58	263	00	27	73
2631	D-17330	C-13770	072	263	00	32	263	10	26	73
2632	D-16959	C-13038	137	263	10	29	263	22	44	73
2642	D-17266	C-13508	083	264	09	42	264	20	22	73
2643	D-17268	C-13510	075	264	20	27	265	02	05	73
2641	D-17030	C-13234	072	264	22	46	264	09	36	73
2651	D-16981	C-13060	080	265	02	11	265	18	28	73
2652	D-16958	C-13037	076	265	08	32	266	00	08	73

2662	D-17253	C-13495	075	266	06	05	266	11	42	73
2663	D-16963	C-13042	084	266	11	47	266	17	25	73
2664	D-17305	C-13748	089	266	17	26	266	23	17	73
2671	D-16964	C-13043	117	266	23	22	267	07	29	73
2672	D-17230	C-13383	076	267	07	33	267	13	05	73
2673	D-17269	C-13511	088	267	13	11	267	19	03	73
2674	D-17462	C-13927	075	267	19	08	268	00	53	73
2681	D-17229	C-13381	078	268	00	53	268	06	27	73
2682	D-17256	C-13498	035	268	06	32	269	01	51	73
2691	D-17248	C-13400	086	269	10	03	269	18	02	73
2692	D-17312	C-13755	057	269	18	08	269	22	12	73
2701	D-16965	C-13044	075	269	22	16	270	03	51	73
2702	D-17262	C-13504	057	270	03	57	270	16	34	73
2703	D-19379	C-15752	082	270	16	37	270	22	40	73
2711	D-17263	C-13505	093	270	22	46	271	13	46	73
2712	D-17261	C-13503	077	271	13	51	271	19	52	73
2713	D-17031	C-13235	042	271	19	58	271	22	59	73
2721	D-17224	C-13376	089	271	22	59	272	15	19	73
2722	D-17225	C-13377	077	272	15	23	272	21	24	73
2723	D-17032	C-13236	090	272	21	28	273	03	46	73
2731	D-17267	C-13509	086	273	03	50	273	18	46	73
2732	D-17244	C-13396	080	273	18	51	274	00	31	73
2741	D-17239	C-13391	098	274	00	37	274	16	15	73
2742	D-17251	C-13493	117	274	16	20	274	23	54	73
2751	D-19418	C-15825	093	274	23	54	275	16	00	73
2752	D-17222	C-13374	090	275	16	06	275	22	38	73
2761	D-17231	C-13382	099	275	22	42	276	13	53	73
2762	D-17223	C-13375	088	276	13	57	276	20	14	73
2771	D-17240	C-13392	078	276	20	19	277	02	00	73
2772	D-17241	C-13393	107	277	02	06	277	17	35	73
2773	D-17252	C-13494	033	277	17	39	278	22	47	73
2791	D-17306	C-13749	097	279	13	03	281	15	53	73
2811	D-17318	C-13761	083	281	15	54	281	21	44	73
2812	D-17329	C-13769	097	281	21	48	282	13	34	73
2821	D-18773	C-15190	081	282	13	35	282	19	34	73
2822	D-17319	C-13762	080	282	19	38	283	01	26	73
2831	D-18776	C-15193	082	283	01	30	283	16	03	73
2832	D-17316	C-13759	079	283	16	03	283	21	50	73
2833	D-17242	C-13394	080	283	21	54	284	03	33	73
2841	D-18746	C-15164	081	284	03	38	284	17	53	73
2842	D-17243	C-13395	074	284	17	57	284	23	36	73
2843	D-17307	C-13750	077	284	23	42	285	15	42	73
2851	D-17334	C-13773	073	285	15	46	285	21	21	73
2852	D-17245	C-13397	084	285	21	27	286	02	57	73
2861	D-17335	C-13774	108	286	03	02	286	21	30	73
2862	D-17234	C-13386	080	286	21	33	286	02	36	73
2871	D-17325	C-13903	096	287	02	32	287	17	25	73
2872	D-18742	C-15160	078	287	17	29	287	23	04	73
2881	D-18871	C-15671	078	287	23	09	288	13	33	73
22841	D-18868	C-15668	070	288	18	03	288	23	25	73
2891	D-17320	C-13902	079	289	01	06	289	17	01	73
2892	D-17317	C-13760	084	289	17	06	289	23	05	73
2901	D-17264	C-13506	080	289	23	11	290	20	13	73
29111	D-18731	C-15149	070	291	00	00	291	04	46	73
29131	D-19385	C-15758	042	291	13	26	291	18	05	73
29142	D-18200	C-14584	018	291	22	51	291	24	07	73
29211	D-19447	C-15956	054	292	00	00	292	05	58	73
29231	D-20371	C-16294	070	292	13	05	292	17	57	73
29241	D-18280	C-14662	070	292	17	50	292	22	22	73
29232	D-18777	C-15194	006	292	17	57	292	18	07	73
29242	D-17855	C-14416	022	292	22	24	292	24	05	73
29311	D-22036	C-16900	070	293	00	00	293	04	33	73
29331	D-17847	C-14408	061	293	13	59	293	18	09	73
29341	D-20320	C-16221	070	293	17	50	293	22	46	73
29342	D-22032	C-16896	018	293	22	50	293	24	01	73

29442	D-18190	C-14574	012	294	23	16	294	24	05	73
29511	D-18760	C-15178	070	295	00	00	295	05	24	73
29521	D-17830	C-14391	070	295	05	50	295	11	30	73
29522	D-18872	C-15672	014	295	11	09	295	12	07	73
29541	D-18284	C-14666	070	295	17	50	295	22	59	73
29542	D-20334	C-16235	015	295	23	03	295	24	07	73
29611	D-19391	C-15764	070	296	00	00	296	05	08	73
29621	D-19397	C-15770	070	296	05	50	296	11	00	73
29622	D-19464	C-15973	015	296	11	04	296	12	08	73
29631	D-19388	C-15761	070	296	11	50	296	17	09	73
29632	D-19425	C-15832	013	296	17	13	296	18	08	73
29642	D-20330	C-16231	014	296	23	10	296	24	04	73
29731	D-18854	C-15654	070	297	12	39	297	17	37	73
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29741	D-19434	C-15840	070	297	17	50	297	22	41	73
29742	D-19477	C-15986	021	297	22	45	297	24	06	73
29812	D-18878	C-15678	002	298	04	41	298	04	59	73
29841	D-22014	C-16878	070	298	17	50	298	22	04	73
29832	D-18209	C-14593	002	298	18	11	298	18	15	73
29911	D-19458	C-15967	067	299	00	00	299	04	12	73
29931	D-19468	C-15977	070	299	12	51	299	17	54	73
29932	D-18778	C-15195	005	299	17	59	299	18	09	73
29942	D-19383	C-15756	023	299	22	22	299	24	07	73
30011	D-18779	C-15196	067	300	00	00	300	04	36	73
30031	D-19394	C-15767	067	300	11	57	300	18	09	73
30042	D-20671	C-16760	021	300	22	34	300	24	07	73
30111	D-20657	C-16748	070	301	00	02	301	04	43	73
30112	D-22027	C-16891	003	301	04	47	301	05	38	73
30141	D-20354	C-16277	070	301	17	50	301	23	00	73
30142	D-20293	C-16161	016	301	23	02	301	24	05	73
30241	D-19384	C-15757	070	302	17	50	302	22	45	73
30242	D-19389	C-15762	017	302	22	49	302	24	01	73
30311	D-18759	C-15177	052	303	00	10	303	03	59	73
30412	D-19392	C-15765	011	304	04	54	304	05	40	73
30441	D-21997	C-16862	070	304	19	08	304	24	02	73
30442	D-22034	C-16898	001	304	24	06	304	24	06	73
30511	D-18755	C-15173	070	305	00	00	305	04	41	73
30512	D-18761	C-15179	019	305	04	45	305	05	59	73
30531	D-18756	C-15174	042	305	14	55	305	18	05	73
30541	D-20335	C-16236	070	305	17	49	305	22	44	73
30542	D-19445	C-15954	019	305	22	50	305	24	07	73
30611	D-20388	C-18804	070	306	00	00	306	04	32	73
30612	D-19395	C-15768	016	306	04	35	306	05	37	73
30641	D-20622		070	306	17	50	306	22	41	73
30642	D-18197	C-14581	021	306	22	45	306	24	08	73
30711	D-18757	C-15175	070	307	00	00	307	04	33	73
30741	D-20314	C-16181	070	307	17	50	307	21	55	73
30742	D-20316	C-16183	032	307	21	59	307	24	04	73
30811	D-18189	C-14573	054	308	00	00	308	03	49	73
30941	D-20360	C-16283	070	309	18	54	309	23	35	73
31041	D-20661	C-16752	070	310	17	50	310	22	58	73
31042	D-18732	C-15150	015	310	23	02	310	24	09	73
31121	D-19460	C-15969	055	311	06	44	311	12	06	73
31131	D-18202	C-14586	070	311	11	50	311	16	46	73
31132	D-20623	C-16715	020	311	16	51	311	18	08	73
31141	D-18201	C-14585	070	311	17	50	311	22	39	73
31142	D-18730	C-15148	023	311	22	43	311	24	08	73
31211	D-19421	C-15828	046	312	00	00	312	04	53	73
31221	D-18243	C-14627	054	312	08	09	312	12	09	73
31231	D-20673	C-16762	070	312	11	50	312	17	01	73
31232	D-18851	C-15486	016	312	17	05	312	18	07	73
31242	D-18235	C-14619	018	312	22	19	312	24	07	73
31331	D-19390	C-15763	070	313	11	50	313	16	59	73
31332	D-18729	C-15147	014	313	17	05	313	18	06	73
31511	D-19474	C-15983	032	315	00	00	315	03	49	73

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31641	D-18734	C-15152	070	316	17	58	316	22	45	73
31642	D-18225	C-14609	019	316	22	50	316	23	59	73
31711	D-18775	C-15192	011	317	00	00	317	00	51	73
31721	D-18739	C-15157	061	317	06	08	317	10	26	73
31722	D-22008	C-16872	017	317	10	59	317	12	04	73
31731	D-20359	C-16282	070	317	11	50	317	16	35	73
31741	D-19459	C-15968	070	317	17	50	317	22	33	73
31742	D-20607	C-16700	020	317	22	35	317	24	01	73
31841	D-20383	C-16306	002	318	17	50	318	17	54	73
32231	D-20368	C-16291	006	322	13	56	322	15	30	73
32241	D-20648	C-16739	002	322	23	32	322	23	38	73
32331	D-17024	C-13228	007	323	13	16	323	15	08	73
32341	D-17309	C-13752	004	323	21	21	323	22	59	73
32431	D-20591	C-16687	059	324	14	01	324	17	30	73
32441	D-17473	C-13937	070	324	17	50	324	22	33	73
32511	D-17236	C-13388	055	325	00	00	325	06	04	73
32522	D-22040	C-16904	028	325	10	26	325	12	07	73
32531	D-17235	C-13387	070	325	11	50	325	16	20	73
32532	D-18827	C-15462	029	325	16	23	325	18	09	73
32542	D-17254	C-13496	031	325	22	15	325	24	06	73
32611	D-17458	C-13923	070	326	00	00	326	04	16	73
32612	D-17338	C-13777	028	326	04	20	326	06	06	73
32621	D-18234	C-14618	070	326	05	50	326	10	13	73
32622	D-17870	C-14431	030	326	10	17	326	12	07	73
32631	D-17271	C-13513	017	326	11	50	326	14	36	73
32711	D-17302	C-13746	022	327	04	36	327	06	08	73
32721	D-17868	C-14429	052	327	05	50	327	10	14	73
32811	D-17441	C-13906	070	328	00	00	328	04	43	73
32812	D-17270	C-13512	019	328	04	48	328	06	06	73
32831	D-20325	C-16226	070	328	11	50	328	16	39	73
32832	D-20374	C-16297	023	328	16	43	328	18	05	73
32841	D-17227	C-13379	070	328	17	50	328	22	08	73
32842	D-20343	C-16244	033	328	22	12	328	24	08	73
32922	D-18242	C-14626	028	329	10	09	329	12	08	73
32931	D-18282	C-14664	033	329	11	54	329	18	08	73
32941	D-17029	C-13233	070	329	17	55	329	22	09	73
32942	D-17293	C-13741	030	329	22	13	329	24	04	73
33011	D-17859	C-14420	070	330	00	00	330	05	10	73
33012	D-18244	C-14628	011	330	05	16	330	06	09	73
33022	D-20298	C-16166	018	330	10	49	330	12	08	73
33121	D-18738	C-15156	070	331	05	50	331	10	49	73
33122	D-18184	C-14568	016	331	10	54	331	12	06	73
33131	D-18199	C-14583	043	331	11	50	331	17	50	73
33142	D-22022	C-16886	021	331	23	04	331	24	01	73
33211	D-18864	C-15664	059	332	00	02	332	06	06	73
33221	D-18273	C-14656	070	332	05	50	332	10	47	73
33222	D-20663	C-16754	021	332	10	52	332	12	09	73
33241	D-18196	C-14580	070	332	17	51	332	23	55	73
33242	D-17825	C-14386	003	332	23	59	332	27	04	73
33311	D-19424	C-15831	070	333	00	00	333	04	47	73
33312	D-17442	C-13907	015	333	05	09	333	06	09	73
33321	D-18740	C-15158	070	333	05	50	333	10	49	73
33322	D-18246	C-14630	016	333	10	55	333	12	08	73
33341	D-18213	C-14597	056	333	17	50	333	24	04	73
33411	D-17845	C-14406	050	334	00	00	334	06	01	73
33421	D-18270	C-14653	070	334	05	50	334	10	25	73
33422	D-17858	C-14419	024	334	10	30	334	12	04	73
33431	D-20356	C-16279	063	334	11	50	334	16	36	73
33541	D-18203	C-14587	070	335	19	00	335	23	56	73
33542	D-17304	C-13901	004	335	23	00	335	24	08	73
33611	D-22028	C-16892	058	336	00	00	336	06	08	73
33621	D-20342	C-16243	070	336	05	50	336	10	24	73
33622	D-20303	C-16171	026	336	10	27	336	12	04	73
33631	D-19463	C-15972	056	336	11	50	336	16	43	73

33712	D-17842	C-14403	003	337	05	59	337	06	07	73		
33722	D-17291	C-13739	015	337	10	47	337	11	55	73		
33731	D-17832	C-14393	032	337	11	50	337	18	09	73		
33741	D-18230	C-14614	070	337	17	56	337	23	52	73		
33742	D-18866	C-15666	065	337	23	58	337	24	09	73		
33812	D-18188	C-14572	012	338	05	17	338	06	06	73		
33821	D-18240	C-14624	070	338	05	50	338	10	29	73		
33822	D-20336	C-16237	022	338	10	30	338	12	08	73		
33831	D-17866	C-14427	056	338	11	50	338	18	09	73		
33841	D-18733	C-15151	070	338	17	50	338	22	21	73		
33842	D-18198	C-14582	030	338	22	25	338	24	06	73		
33911	D-20355	C-16278	070	339	00	02	339	06	05	73		
33921	D-20389	C-16311	070	339	05	50	339	10	44	73		
33922	D-20609	C-16702	017	339	10	47	339	12	05	73		
33931	D-18902	C-15702	055	339	11	50	339	18	09	73		
33942	D-22030	C-16894	029	339	22	21	339	24	06	73		
34011	D-18822	C-15457	070	340	00	00	340	04	23	73		
34012	D-20350	C-16273	022	340	04	26	340	05	56	73		
34021	D-18285	C-14667	070	340	05	50	340	10	40	73		
34022	D-17860	C-14421	023	340	10	41	340	12	07	73		
34031	D-18238	C-14622	064	340	11	50	340	17	48	73		
34041	D-17856	C-14417	070	340	18	29	340	22	01	73		
34111	D-20333	C-16234	070	341	00	00	341	04	45	73		
34112	D-20590	C-16686	019	341	04	50	341	06	06	73		
34121	D-18828	C-15463	070	341	05	50	341	10	29	73		
34131	D-18252	C-14636	063	341	12	10	341	18	09	73		
34141	D-18865	C-15665	070	341	17	50	341	21	43	73		
34142	D-18223	C-14607	020	341	21	43	341	23	15	73		
34211	D-18269	C-14652	065	342	01	33	342	06	09	73		
34221	D-18251	C-14635	070	342	05	50	342	10	42	73		
34222	D-17837	C-14398	021	342	10	46	342	12	02	73		
34231	D-18887	C-15687	070	342	11	50	342	17	44	73	X	
34231	D-17831	C-14392	070	342	11	50	342	17	44	73	X	
34232	D-17834	C-14395	007	342	17	48	342	18	08	73		
34242	D-17840	C-14401	007	342	23	43	342	24	05	73		
34311	D-20290	C-16158	036	343	00	00	343	06	06	73		
34321	D-18741	C-15159	070	343	05	53	343	10	41	73		
34322	D-19450	C-15959	021	343	10	46	343	12	08	73		
34331	D-19470	C-15979	046	343	11	50	343	18	09	73		
34341	D-18875	C-15675	060	343	17	50	343	20	15	73		
34342	D-18245	C-14629	038	343	20	17	343	23	29	73		
34422	D-20370	C-16293	030	344	10	17	344	12	09	73		
34441	D-20294	C-16162	070	344	17	50	344	21	54	73		
34511	D-18882	C-15682	070	345	00	00	345	05	44	73		
34512	D-18847	C-15482	004	345	05	49	345	06	06	73		
34521	D-18219	C-14603	070	345	05	50	345	10	34	73		
34522	D-17873	C-14434	026	345	10	34	345	12	06	73		
34541	D-17839	C-14400	063	345	18	09	345	23	24	73		
34542	D-17841	C-14402	016	345	23	25	345	24	06	73		
34611	D-18829	C-15464	065	346	00	06	346	04	15	73		
34621	D-19431	C-15838	070	346	07	14	346	11	43	73		
34622	D-21998	C-16863	006	346	11	47	346	12	06	73		
34631	D-20340	C-16241	070	346	11	50	346	17	25	73		
34641	D-18830	C-15465	070	346	17	50	346	22	20	73		
3461	D-17461	C-13926	110	346	18	05	347	00	31	73		
34642	D-19430	C-15837	036	346	22	23	346	24	06	73		
34711	D-18737	C-15155	066	347	00	00	347	06	05	73		
34721	D-20324	C-16225	070	347	05	50	347	10	13	73		
34731	D-20373	C-16296	064	347	11	50	347	17	24	73		
34741	D-20375	C-16298	070	347	18	20	347	24	03	73		
34742	D-22026	C-16890	001	347	24	07	347	24	07	73		
34821	D-20348	C-16249	058	348	05	50	348	10	21	73		
34831	D-20358	C-16281	070	348	11	50	348	16	52	73		
34832	D-18241	C-14625	022	348	16	56	348	18	07	73		
34842	D-20384	C-16307	029	348	21	22	348	22	36	73		

34922	D-20317	C-16184	012	349	11	18	349	12	06	73	
34931	D-20346	C-16247	070	349	11	50	349	18	00	73	
3491	D-17337	C-13776	038	349	18	00	349	19	59	73	
34932	D-20365	C-16288	002	349	18	05	349	18	09	73	
34942	D-20387	C-16310	019	349	22	51	349	24	08	73	
35011	D-20378	C-16301	049	350	00	00	350	03	33	73	
35022	D-20655	C-16746	007	350	11	37	350	12	06	73	
3501	D-17314	C-13757	030	350	19	28	350	20	58	73	
35042	D-20587	C-16683	012	350	23	00	350	24	08	73	
35111	D-17272	C-13514	049	351	00	02	351	06	09	73	
35121	D-21995	C-16861	070	351	05	50	351	10	15	73	
35122	D-20382	C-16305	026	351	10	20	351	12	05	73	
35131	D-19446	C-15955	070	351	11	50	351	17	34	73	
35141	D-20369	C-16292	070	351	17	50	351	24	06	73	
35211	D-20662	C-16753	032	352	00	00	352	06	06	73	
35221	D-20361	C-16284	047	352	05	50	352	10	02	73	
35231	D-20353	C-16276	070	352	12	36	352	17	05	73	
35232	D-17332	C-13772	017	352	17	06	352	18	09	73	
35241	D-20357	C-16280	070	352	17	50	352	22	42	73	
35242	D-17228	C-13380	016	352	21	51	352	23	38	73	
35311	D-20292	C-16160	069	353	00	18	353	06	08	73	
35321	D-18249	C-14633	070	353	05	50	353	10	57	73	
3531	D-20352	C-16275	021	353	12	50	353	13	59	73	
35332	D-20644	C-16735	019	353	17	07	353	18	08	73	
35341	D-17864	C-14425	070	353	17	50	353	22	23	73	
35342	D-17238	C-13390	001	353	22	25	353	22	25	73	
35411	D-18248	C-14632	070	354	01	05	354	05	36	73	
35412	D-17863	C-14424	006	354	05	40	354	06	04	73	
35421	D-17836	C-14397	069	354	05	50	354	12	06	73	
35431	D-20624	C-16716	070	354	11	50	354	15	41	73	
35432	D-20305	C-16173	058	354	15	42	354	18	08	73	
35441	D-20366	C-16289	070	354	17	50	354	21	18	73	
35442	D-20297	C-16165	049	354	21	22	354	24	09	73	
35511	D-17298	C-14436	070	355	00	00	355	05	54	73	*
35511	D-17470	C-13934	070	355	00	00	355	05	54	73	*
35521	D-18824	C-15459	070	355	05	50	355	10	30	73	
35522	D-22029	C-16893	023	355	10	34	355	12	07	73	
35531	D-17258	C-13500	070	355	11	55	355	17	16	73	
35532	D-17025	C-13229	009	355	17	20	355	18	01	73	
35541	D-18271	C-14654	070	355	17	55	355	23	21	73	
35542	D-17336	C-13775	010	355	23	25	355	24	01	73	
35611	D-18823	C-15458	070	356	00	00	356	06	04	73	
35621	D-17455	C-13920	070	356	05	50	356	10	26	73	
35622	D-17472	C-13936	023	356	10	30	356	12	06	73	
35641	D-18835	C-15470	070	356	18	30	356	22	57	73	
35642	D-20668	C-16759	020	356	23	01	356	24	05	73	
35712	D-20660	C-16751	014	357	05	10	357	06	08	73	
35721	D-20653	C-16744	070	357	05	50	357	11	15	73	
35722	D-20632	C-16723	009	357	11	21	357	12	05	73	
35731	D-20606	C-16699	050	357	11	50	357	18	05	73	
35741	D-19461	C-15970	070	357	17	50	357	22	50	73	
35742	D-20323	C-16224	015	357	22	55	357	24	08	73	
35811	D-20351	C-16274	069	358	00	00	358	06	05	73	
35821	D-18836	C-15471	070	358	05	50	358	10	44	73	
35822	D-19429	C-15836	022	358	10	50	358	12	07	73	
35831	D-20589	C-16685	070	358	11	50	358	16	18	73	
35832	D-18861	C-15661	027	358	16	22	358	18	08	73	
35841	D-20638	C-16729	070	358	17	50	358	23	29	73	
35911	D-18735	C-15153	057	359	00	04	359	06	07	73	
35921	D-20611	C-16704	070	359	05	50	359	11	00	73	
35922	D-19442	C-15951	018	359	11	05	359	12	09	73	
35931	D-17333	C-13905	015	359	11	50	359	12	50	73	
36011	D-18877	C-15677	013	360	03	57	360	05	37	73	
36031	D-20380	C-16303	045	360	14	35	360	18	05	73	
36041	D-20311	C-16179	070	360	17	50	360	22	54	73	

36111	D-18879	C-15679	070	361	00	00	361	03	19	73	
36112	D-18869	C-15669	035	361	03	20	361	06	07	73	
36122	D-18283	C-14665	031	361	10	12	361	12	09	73	
36131	D-20322	C-16223	070	361	11	50	361	16	58	73	
36141	D-20301	C-16169	070	361	17	50	361	22	01	73	
36211	D-18226	C-14610	070	362	00	00	362	03	43	73	
36221	D-20639	C-16730	070	362	05	50	362	12	01	73	
36231	D-18870	C-15670	070	362	11	50	362	17	47	73	*
36231	D-17454	C-13919	070	362	11	50	362	17	47	73	*
36222	D-20367	C-16290	002	362	12	03	362	12	07	73	
36241	D-18224	C-14608	070	362	17	50	362	24	02	73	
36232	D-17471	C-13935	004	362	17	52	362	18	09	73	
36311	D-20302	C-16170	056	363	00	00	363	06	07	73	
36321	D-19449	C-15958	070	363	05	50	363	11	09	73	
36322	D-19456	C-15965	014	363	11	15	363	12	09	73	
36341	D-22035	C-16899	038	363	21	30	363	24	09	73	
36431	D-17237	C-13389	053	364	13	05	364	18	07	73	
36441	D-18891	C-15691	070	364	17	50	364	22	26	73	
36511	D-20308	C-16176	060	365	00	00	365	05	30	73	
36521	D-19416	C-15823	070	365	07	03	365	11	44	73	
36522	D-18228	C-14612	006	365	11	49	365	12	08	73	
36531	D-17310	C-13753	068	365	11	50	365	11	50	73	
36611	D-20592	C-16688	049	001	00	39	001	03	12	74	
36621	D-20599	C-16692	015	001	10	00	001	11	07	74	
36722	D-20672	C-16761	028	002	10	21	002	12	07	74	
36821	D-18899	C-15699	043	003	05	50	003	12	09	74	
36812	D-20634	C-16725	002	003	06	03	003	06	07	74	
0031	D-17296	C-13743	062	003	16	55	003	20	57	74	
36841	D-20338	C-16239	070	003	17	52	003	23	18	74	
36842	D-19478	C-15987	002	003	23	23	003	23	27	74	
36912	D-22013	C-16877	013	004	05	19	004	06	09	74	
36921	D-18205	C-14589	070	004	05	50	004	10	36	74	
36922	D-17456	C-13921	021	004	10	40	004	12	01	74	
36931	D-18898	C-15698	070	004	11	50	004	15	03	74	
36932	D-18897	C-15697	065	004	15	08	004	17	54	74	
37011	D-18185	C-14569	054	005	01	12	005	06	06	74	
37021	D-20643	C-16734	057	005	05	50	005	10	16	74	
0051	D-17339	C-13778	069	005	19	00	005	22	00	74	—
37042	D-18277		024	005	20	28	005	21	59	74	—
37111	D-18849	C-15484	028	006	00	16	006	02	43	74	
37121	D-19440	C-15949	070	006	06	25	006	11	04	74	
37122	D-20345	C-16246	012	006	11	10	006	11	44	74	
37131	D-18841	C-15476	042	006	14	19	006	16	39	74	
37141	D-22005	C-16869	056	006	19	31	006	24	05	74	—
0061	D-17315	C-13758	023	006	20	26	006	22	05	74	—
37231	D-20593	C-16689	068	007	12	09	007	16	00	74	
37241	D-20630	C-16721	041	007	18	51	007	23	49	74	
37311	D-18227	C-14611	036	008	00	23	008	02	53	74	
37321	D-20633	C-16724	070	008	06	03	008	11	09	74	
37331	D-18857	C-15657	070	008	13	05	008	16	47	74	
37341	D-19428	C-15835	070	008	19	02	008	23	52	74	
37411	D-20339	C-16240	026	009	00	00	009	02	19	74	
37421	D-20635	C-16726	055	009	07	28	009	11	38	74	
37431	D-18884	C-15684	070	009	12	14	009	17	08	74	
37511	D-20629	C-16720	016	010	00	44	010	01	35	74	
37541	D-18852	C-15652	070	010	17	50	010	21	08	74	
37542	D-18853	C-15653	068	010	21	10	010	24	09	74	
37611	D-20315	C-16182	007	011	00	00	011	02	20	74	
37621	D-18743	C-15161	066	011	07	39	011	12	08	74	
37632	D-20313	C-18806	008	011	16	17	011	17	53	74	
37641	D-20603	C-16696	070	011	19	13	011	23	53	74	—
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37642	D-22039	C-16903	005	011	23	56	011	24	07	74	
37731	D-18832	C-15467	070	012	11	50	012	15	20	74	
37732	D-19427	C-15834	012	012	15	20	012	17	13	74	

37[illegible]	D-20674	C-16763	020	013	00	01	013	00	54	74	
37821	D-17827	C-14388	065	013	06	27	013	12	08	74	
37831	D-18880	C-15680	070	013	11	50	013	16	02	74	
37832	D-18893	C-15693	056	013	16	04	013	18	07	74	
37841	D-18858	C-15658	070	013	17	50	013	20	41	74	
37911	D-18890	C-15690	036	014	00	00	014	01	51	74	
37921	D-20640	C-16731	068	014	07	06	014	12	09	74	
37931	D-17867	C-14428	036	014	11	52	014	18	09	74	
37941	D-20349	C-16250	070	014	18	04	014	21	03	74	—
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37942	D-18885	C-15685	046	014	21	07	014	23	35	74	
38021	D-18833	C-15468	070	015	06	36	015	11	34	74	
38022	D-20326	C-16227	007	015	11	35	015	12	08	74	
38032	D-20659	C-16750	048	015	15	30	015	18	04	74	
38042	D-20651	C-16742	029	015	22	26	015	24	09	74	
38111	D-20612	C-16705	053	016	00	00	016	06	08	74	
38122	D-18881	C-15681	036	016	10	01	016	12	08	74	
38131	D-20310	C-16178	070	016	12	05	016	15	03	74	
38132	D-18268	C-14651	029	016	15	07	016	17	32	74	
0161	D-17327	C-13767	056	016	20	55	016	23	55	74	—
38142	D-18216	C-14600	030	016	22	18	016	23	55	74	—
38222	D-19438	C-15844	003	017	11	51	017	12	07	74	
38231	D-20329	C-16230	070	017	12	07	017	15	23	74	
38232	D-20620	C-16713	056	017	15	28	017	18	09	74	
38241	D-22001	C-16866	068	017	17	50	017	21	35	74	
38311	D-20619	C-16712	044	018	00	00	018	06	07	74	
38321	D-20614	C-16707	070	018	06	07	018	11	08	74	
38331	D-19455	C-15964	070	018	11	50	018	16	45	74	
38332	D-19402	C-15775	024	018	16	49	018	18	08	74	
38341	D-20364	C-16287	070	018	17	50	018	24	01	74	
38342	D-19444	C-15953	001	018	24	06	018	24	06	74	
38421	D-20645	C-16736	070	019	06	03	019	10	50	74	
38422	D-18842	C-15477	013	019	10	56	019	12	08	74	
38431	D-18215	C-14599	070	019	11	50	019	15	24	74	
38441	D-18889	C-15689	070	019	17	50	019	21	39	74	
38442	D-18837	C-15472	052	019	21	40	019	24	08	74	
38522	D-22006	C-16870	024	020	11	06	020	12	08	74	
0201	D-17324	C-13766	031	020	14	59	020	16	58	74	
38541	D-20667	C-16758	070	020	17	50	020	22	31	74	
38542	D-18278	C-14660	020	020	22	33	020	24	09	74	
38611	D-17444	C-13909	070	021	00	00	021	04	38	74	
38621	D-18744	C-15162	058	021	05	50	021	10	19	74	
38622	D-22025	C-16889	019	021	10	24	021	12	08	74	
38632	D-20618	C-16711	027	021	16	15	021	18	06	74	
38641	D-20636	C-16727	070	021	17	50	021	22	00	74	
38711	D-20596		070	022	00	00	022	05	12	74	
38712	D-18862	C-15662	013	022	05	17	022	06	09	74	☆
~~38712~~	~~D-17846~~	~~C-14407~~	~~010~~	~~022~~	~~05~~	~~30~~	~~022~~	~~06~~	~~09~~	~~74~~	☆ RELEASED
38721	D-18859	C-15659	070	022	05	50	022	11	02	74	
38731	D-20296	C-16164	070	022	11	50	022	14	55	74	
38732	D-19387	C-15760	047	022	14	57	022	17	09	74	
38811	D-17853	C-14414	070	023	00	00	023	05	40	74	
38812	D-17869	C-14430	006	023	05	44	023	06	04	74	
38821	D-18895	C-15695	070	023	05	50	023	10	48	74	
38822	D-18876	C-15676	007	023	10	54	023	11	27	74	
38841	D-18834	C-15469	070	023	18	21	023	22	17	74	
38842	D-20646	C-16737	039	023	22	18	023	24	08	74	
38911	D-22009	C-16873	070	024	00	00	024	04	54	74	
38912	D-20379	C-16302	013	024	05	00	024	06	06	74	
38941	D-20363	C-16286	070	024	19	04	024	22	46	74	
0241	D-17460	C-13925	068	024	19	58	024	23	57	74	
39011	D-20610	C-16703	070	025	00	00	025	04	32	74	
39012	D-18888	C-15688	024	025	04	38	025	06	08	74	
39022	D-20642	C-16733	020	025	10	28	025	11	43	74	
39031	D-18279	C-14661	070	025	12	12	025	16	30	74	

39111	D-18860	C-15660	070	026	01	09	026	06	04	74	
39121	D-20670		070	026	05	50	026	10	18	74	
39112	D-18187	C-14571	002	026	06	04	026	06	07	74	
39132	D-20649	C-16740	031	026	16	28	026	18	08	74	
39141	D-17323	C-13765	068	026	17	50	026	24	09	74	
39211	D-18250	C-14634	070	027	00	00	027	04	56	74	
39212	D-22021	C-16885	017	027	04	59	027	06	07	74	
39221	D-22031	C-16895	070	027	05	50	027	10	53	74	
39221	D-18900	C-15700	070	027	05	50	027	10	53	74	
39221	D-17453	C-13918	070	027	05	50	027	10	53	74	
39222	D-20617	C-16710	001	027	10	57	027	10	57	74	
39231	D-18255	C-14639	047	027	12	45	027	17	29	74	
39321	D-20669		070	028	05	54	028	10	05	74	
39322	D-22024	C-16888	027	028	10	09	028	12	06	74	
39331	D-20625	C-16717	070	028	11	53	028	16	38	74	
39341	D-20656	C-16747	012	028	21	20	028	21	47	74	
39342	D-17851	C-14412	011	028	23	27	028	24	09	74	
39411	D-18254	C-14638	070	029	00	00	029	04	44	74	
39412	D-20641	C-16732	018	029	04	48	029	06	09	74	
39421	D-18883	C-15683	070	029	05	50	029	10	57	74	
39431	D-20331	C-16232	070	029	11	50	029	14	55	74	
39432	D-20664	C-16755	023	029	14	56	029	17	27	74	
39441	D-18894	C-15694	069	029	19	08	029	24	06	74	
39511	D-17313	C-13756	053	030	00	00	030	06	09	74	
39521	D-18276	C-14659	058	030	05	50	030	10	17	74	
39522	D-20658	C-16749	015	030	10	22	030	12	07	74	
39531	D-20372	C-16295	068	030	12	07	030	17	06	74	
39611	D-20291	C-16159	070	031	00	00	031	04	53	74	
39612	D-20621	C-16714	017	031	04	58	031	06	06	74	
39622	D-20295	C-16163	019	031	10	54	031	12	08	74	
39631	D-20608	C-16701	036	031	11	50	031	18	05	74	
39711	D-17844	C-14405	070	032	00	00	032	04	16	74	
39712	D-17299	C-13744	030	032	04	20	032	06	07	74	
39721	D-22038	C-16902	070	032	05	52	032	10	17	74	
39722	D-22017	C-16881	018	032	10	21	032	11	31	74	
39731	D-18275	C-14658	044	032	12	28	032	16	17	74	
39741	D-18274	C-14657	070	032	18	35	032	23	37	74	
39742	D-17331	C-13771	004	032	23	38	032	23	46	74	
39811	D-18850	C-15485	070	033	00	52	033	05	37	74	
39812	D-22007	C-16871	008	033	05	43	033	06	05	74	
39821	D-20616	C-16709	070	033	05	50	033	10	38	74	
39822	D-20376	C-16299	021	033	10	44	033	12	05	74	
39831	D-20381	C-16304	070	033	11	54	033	16	17	74	
39841	D-17300	C-13745	070	033	17	50	033	22	49	74	
39842	D-17259	C-13501	020	033	22	52	033	24	03	74	
39921	D-20341	C-16242	070	034	05	50	034	10	22	74	
39922	D-18266	C-18807	028	034	10	27	034	11	40	74	
39941	D-18838	C-15473	009	034	23	28	034	24	08	74	
40011	D-18848	C-15483	055	035	00	00	035	04	45	74	
40021	D-18831	C-15466	055	035	05	51	035	10	46	74	
40031	D-20613	C-16706	055	035	11	50	035	16	38	74	
40041	D-22019	C-16883	055	035	17	50	035	22	38	74	
40042	D-18263	C-14647	016	035	22	44	035	24	07	74	
40111	D-22015	C-16879	055	036	00	00	036	04	50	74	
40121	D-20344	C-16245	055	036	05	50	036	10	45	74	
40122	D-17850	C-14411	015	036	10	51	036	12	09	74	
40132	D-22033	C-16897	010	036	17	20	036	18	06	74	
40141	D-18247	C-14631	070	036	17	50	036	23	07	74	
40142	D-18229	C-14613	012	036	23	11	036	24	07	74	
40211	D-18217	C-14601	070	037	00	00	037	05	15	74	
40212	D-18867-8	C-15668 8	013	037	05	20	037	06	09	74	
40221	D-17833	C-14394	070	037	05	50	037	10	24	74	
40222	D-18214	C-14598	027	037	10	24	037	12	09	74	
40231	D-20628	C-16719	070	037	11	50	037	16	16	74	
40232	D-20598	C-16691	031	037	16	18	037	18	08	74	

40242	D-17862	C-14423	023	037	22	34	037	24	07	74
40311	D-20637	C-16728	070	038	00	00	038	04	39	74
40312	D-22003	C-16868	023	038	04	43	038	06	08	74
40321	D-22004		070	038	05	50	038	10	16	74
40322	D-17446	C-13911	029	038	10	20	038	12	09	74
40331	D-19396	C-15769	070	038	11	50	038	16	18	74
40332	D-20362	C-16285	025	038	16	24	038	18	04	74
40341	D-18239	C-14623	070	038	17	50	038	22	33	74
40342	D-18212	C-14596	027	038	22	39	038	24	09	74
40411	D-17308	C-13751	070	039	00	00	039	04	25	74
40412	D-17260	C-13502	027	039	04	29	039	05	06	74
40421	D-18259	C-14643	035	039	05	50	039	08	07	74

SKYLAB
SORT BY 'D' NUMBER

2353	D-16661	C-12803	074	235	20	14	236	08	05	73
2361	D-16662	C-12804	094	236	08	11	237	06	29	73
2342	D-16663	C-12805	113	234	09	34	234	20	59	73
2351	D-16664	C-12806	076	235	01	44	235	09	36	73
2343	D-16665	C-12807	055	234	21	05	235	01	44	73
22211	D-16666	C-12808	048	222	00	46	222	05	59	73
21531	D-16667	C-12809	040	215	11	58	215	17	03	73
21231	D-16668	C-12810	054	212	11	59	212	17	35	73
21431	D-16669	C-12811	044	214	12	22	214	17	45	73
2341	D-16670	C-12812	095	234	00	00	234	09	29	73
2381	D-16671	C-12909	075	238	06	02	238	11	53	73
2371	D-16672	C-12910	094	237	22	07	238	06	01	73
2363	D-16673	C-12911	115	237	13	51	237	22	02	73
2362	D-16674	C-12912	080	237	06	35	237	13	50	73
2393	D-16675	C-12913	073	239	21	33	240	03	07	73
2392	D-16676	C-12914	114	239	11	28	239	21	32	73
2383	D-16677	C-12915	039	238	21	40	239	00	39	73
23821	D-16678	C-12916	116	238	11	58	238	21	30	73
2402	D-16679	C-12917	133	240	13	36	240	22	50	73
2401	D-16680	C-12918	089	240	04	10	240	13	32	73
2442	D-16681	C-12919	102	244	13	43	244	23	35	73
2432	D-16682	C-12920	093	243	15	56	244	00	22	73
2431	D-16683	C-12921	092	243	03	31	243	15	50	73
2423	D-16684	C-12922	073	242	21	10	243	02	34	73
2411	D-16685	C-12923	100	241	07	01	241	17	03	73
2403	D-16686	C-12924	096	240	22	56	241	06	55	73
2451	D-16687	C-12925	117	245	02	31	245	16	09	73
2443	D-16688	C-12926	037	244	23	36	245	02	30	73
2422	D-16689	C-12927	090	242	14	01	242	21	09	73
2421	D-16690	C-12928	103	242	02	21	242	14	01	73
2482	D-16691	C-12936	138	248	15	31	248	23	34	73
2481	D-16692	C-12937	101	248	00	22	248	15	26	73
2491	D-16693	C-12938	041	249	09	54	249	14	53	73
2483	D-16694	C-12939	051	248	23	38	249	04	33	73
2463	D-16695	C-12940	011	247	02	24	247	02	55	73
2462	D-16696	C-12941	114	246	19	17	247	02	22	73
2472	D-16697	C-12942	025	247	21	27	248	00	14	73
2471	D-16698	C-12943	132	247	03	33	247	21	26	73
2452	D-16699	C-12944	120	245	16	15	246	03	05	73
2461	D-16700	C-12945	090	245	03	11	246	18	17	73
2512	D-16956	C-13035	077	251	17	59	252	00	32	73
2521	D-16957	C-13036	115	252	00	33	252	17	12	73
2652	D-16958	C-13037	076	265	08	32	266	00	08	73
2632	D-16959	C-13038	137	263	10	29	263	22	44	73
2622	D-16960	C-13039	106	262	17	58	263	00	27	73
2581	D-16961	C-13040	104	258	09	48	258	20	56	73
2573	D-16962	C-13041	091	257	23	09	258	09	48	73
2663	D-16963	C-13042	084	266	11	47	266	17	25	73
2671	D-16964	C-13043	117	266	23	22	267	07	29	73
2701	D-16965	C-13044	075	269	22	16	270	03	51	73
2591	D-16966	C-13045	104	259	11	34	259	23	18	73
2612	D-16967	C-13046	101	261	20	31	262	03	28	73
2541	D-16968	C-13047	111	254	06	48	254	19	47	73
2592	D-16969	C-13048	081	259	23	18	260	10	09	73
2531	D-16970	C-13049	125	253	04	14	253	11	49	73
2542	D-16971	C-13050	035	254	19	51	254	23	43	73
2601	D-16972	C-13051	105	260	10	10	260	18	43	73
2611	D-16973	C-13052	104	261	09	52	261	20	28	73
2621	D-16974	C-13053	164	262	03	32	262	17	54	73
2582	D-16975	C-13054	105	258	20	58	259	04	30	73
2552	D-16976	C-13055	116	255	15	45	256	08	44	73
2522	D-16977	C-13056	133	252	17	17	253	04	08	73

2492	D-16978	C-13057	108	249	14	59	250	00	21	73
2551	D-16979	C-13058	101	254	23	46	255	15	39	73
2572	D-16980	C-13059	075	257	15	30	257	22	24	73
2651	D-16981	C-13060	080	265	02	11	265	18	28	73
2661	D-16982	C-13061	077	266	00	14	266	05	59	73
2441	D-16983	C-13062	062	244	00	22	244	06	32	73
2532	D-16984	C-13063	053	253	21	54	254	02	41	73
2501	D-16985	C-13064	113	250	00	27	250	14	46	73
2352	D-17006	C-13212	127	235	09	36	235	20	08	73
23131	D-17007	C-13779	070	231	11	58	231	17	16	73
21411	D-17008	C-13213	033	214	00	00	214	05	57	73
2412	D-17009	C-13214	109	241	17	05	242	01	43	73
22331	D-17010	C-13215	039	223	12	07	223	17	44	73
21821	D-17011	C-13216	055	218	06	09	218	11	52	73
21621	D-17012	C-13217	015	216	06	07	216	10	49	73
2502	D-17013	C-13218	108	250	14	48	251	01	03	73
21121	D-17014	C-13219	058	211	06	39	211	12	00	73
22611	D-17015	C-13220	054	226	00	00	227	05	57	73
22421	D-17016	C-13221	054	224	05	58	224	11	58	73
24412	D-17017	C-13222	050	244	10	16	244	14	19	73
22321	D-17018	C-13223	045	223	05	58	223	11	28	73
22711	D-17019	C-13780	068	227	00	04	227	05	41	73
2151	D-17020		029	215	00	29	215	05	54	73
21321	D-17021	C-13225	059	213	05	59	213	12	01	73
22721	D-17022	C-13226	068	227	06	13	227	11	47	73
22932	D-17023	C-13227	010	229	17	37	229	18	05	73
32331	D-17024	C-13228	007	323	13	16	323	15	08	73
35532	D-17025	C-13229	009	355	17	20	355	18	01	73
22731	D-17026	C-13230	068	227	12	01	227	17	57	73
21831	D-17027		016	218	12	28	218	17	17	73
22831	D-17028	C-13232	059	228	12	21	228	17	23	73
32941	D-17029	C-13233	070	329	17	55	329	22	09	73
2641	D-17030	C-13234	072	264	22	46	264	09	36	73
2713	D-17031	C-13235	042	271	19	58	271	22	59	73
2723	D-17032	C-13236	090	272	21	28	273	03	46	73
22411	D-17033	C-13237	038	224	00	33	224	05	57	73
21221	D-17034	C-13238	055	212	05	58	212	11	59	73
23031	D-17035	C-13239	070	230	11	58	230	17	01	73
2752	D-17222	C-13374	090	275	16	06	275	22	38	73
2762	D-17223	C-13375	088	276	13	57	276	20	14	73
2721	D-17224	C-13376	089	271	22	59	272	15	19	73
2722	D-17225	C-13377	077	272	15	23	272	21	24	73
23021	D-17226	C-13378	055	230	05	54	230	12	07	73
32841	D-17227	C-13379	070	328	17	50	328	22	08	73
35242	D-17228	C-13380	016	352	21	51	352	23	38	73
2681	D-17229	C-13381	078	268	00	53	268	06	27	73
2672	D-17230	C-13383	076	267	07	33	267	13	05	73
2761	D-17231	C-13382	099	275	22	42	276	13	53	73
22921	D-17232	C-13384	058	229	06	23	229	11	59	73
22911	D-17233	C-13385	056	229	00	17	229	05	46	73
2862	D-17234	C-13386	080	286	21	33	286	02	36	73
32531	D-17235	C-13387	070	325	11	50	325	16	20	73
32511	D-17236	C-13388	055	325	00	00	325	06	04	73
36431	D-17237	C-13389	053	364	13	05	364	18	07	73
35342	D-17238	C-13390	001	353	22	25	353	22	25	73
2741	D-17239	C-13391	098	274	00	37	274	16	15	73
2771	D-17240	C-13392	078	276	20	19	277	02	00	73
2772	D-17241	C-13393	107	277	02	06	277	17	35	73
2833	D-17242	C-13394	080	283	21	54	284	03	33	73
2842	D-17243	C-13395	074	284	17	57	284	23	36	73
2732	D-17244	C-13396	080	273	18	51	274	00	31	73
2852	D-17245	C-13397	084	285	21	27	286	02	57	73
23822	D-17246	C-13398	002	238	21	36	238	21	40	73
22231	D-17247	C-13399	058	222	11	58	222	17	56	73

2691	D-17248	C-13400	086	269	10	03	269	18	02	73
22532	D-17249	C-13401	004	225	17	45	225	17	52	73
2071	D-17250	C-13402	031	207	17	26	207	19	05	73
2742	D-17251	C-13493	117	274	16	20	274	23	54	73
2773	D-17252	C-13494	033	277	17	39	278	22	47	73
2662	D-17253	C-13495	075	266	06	05	266	11	42	73
32542	D-17254	C-13496	031	325	22	15	325	24	06	73
14921	D-17255	C-13497	025	149	05	53	149	11	48	73
2682	D-17256	C-13498	035	268	06	32	269	01	51	73
23912	D-17257	C-13499	001	239	11	22	239	11	27	73
35531	D-17258	C-13500	070	355	11	55	355	17	16	73
39842	D-17259	C-13501	020	033	22	52	033	24	03	74
40412	D-17260	C-13502	027	039	04	29	039	06	06	74
2712	D-17261	C-13503	077	271	13	51	271	19	52	73
2702	D-17262	C-13504	057	270	03	57	270	16	34	73
2711	D-17263	C-13505	093	270	22	46	271	13	46	73
2901	D-17264	C-13506	080	289	23	11	290	20	13	73
2571	D-17265	C-13507	096	257	00	25	257	15	26	73
2642	D-17266	C-13508	083	264	09	42	264	20	22	73
2731	D-17267	C-13509	086	273	03	50	273	18	46	73
2643	D-17268	C-13510	075	264	20	27	265	02	05	73
2673	D-17269	C-13511	088	267	13	11	267	19	03	73
32812	D-17270	C-13512	019	328	04	48	328	06	06	73
32631	D-17271	C-13513	017	326	11	50	326	14	36	73
35111	D-17272	C-13514	049	351	00	02	351	06	09	73
22311	D-17290	C-13738	040	223	01	10	223	05	59	73
33722	D-17291	C-13739	015	337	10	47	337	11	55	73
23032	D-17292	C-13740	014	230	17	02	230	17	33	73
32942	D-17293	C-13741	030	329	22	13	329	24	04	73
23111	D-17294	C-13900	057	231	00	04	231	06	01	73
22031	D-17295	C-13742	031	220	11	58	220	17	59	73
0031	D-17296	C-13743	062	003	16	55	003	20	57	74
22341	D-17297	C-14435	049	223	18	27	223	22	15	73
35511	D-17298	C-14436	070	355	00	00	355	05	54	73
39712	D-17299	C-13744	030	032	04	20	032	06	07	74
39841	D-17300	C-13745	070	033	17	50	033	22	49	74
33721	D-17301	C-14021	070	337	05	55	337	10	43	73
32711	D-17302	C-13746	022	327	04	36	327	06	08	73
23132	D-17303	C-13747	013	231	17	20	231	18	01	73
33542	D-17304	C-13901	004	335	23	00	335	24	08	73
2664	D-17305	C-13748	089	266	17	26	266	23	17	73
2791	D-17306	C-13749	097	279	13	03	281	15	53	73
2843	D-17307	C-13750	077	284	23	42	285	15	42	73
40411	D-17308	C-13751	070	039	00	00	039	04	25	74
32341	D-17309	C-13752	004	323	21	21	323	22	59	73
36531	D-17310	C-13753	068	365	11	50	365	11	50	73
16131	D-17311	C-13754	026	161	11	50	161	17	57	73
2692	D-17312	C-13755	057	269	18	08	269	22	12	73
39511	D-17313	C-13756	053	030	00	00	030	06	09	74
3501	D-17314	C-13757	030	350	19	28	350	20	58	73
0061	D-17315	C-13758	023	006	20	26	006	22	05	74
2832	D-17316	C-13759	079	283	16	03	283	21	50	73
2892	D-17317	C-13760	084	289	17	06	289	23	05	73
2811	D-17318	C-13761	083	281	15	54	281	21	44	73
2822	D-17319	C-13762	080	282	19	38	283	01	26	73
2891	D-17320	C-13902	079	289	01	06	289	17	01	73
2602	D-17321	C-13763	086	260	18	48	261	09	48	73
2031	D-17322	C-13764	027	202	21	42	203	06	01	73
39141	D-17323	C-13765	068	026	17	50	026	24	09	74
0201	D-17324	C-13766	031	020	14	59	020	16	58	74
2871	D-17325	C-13903	096	287	02	32	287	17	25	73
21131	D-17326	C-13904	058	211	11	59	211	17	58	73
0161	D-17327	C-13767	056	016	20	55	016	23	55	74
2032	D-17328	C-13768	025	203	10	59	204	01	26	73

1	2812	D-17329	C-13769	097	281	21	48	282	13	34	73
2	2631	D-17330	C-13770	072	263	00	32	263	10	26	73
3	39742	D-17331	C-13771	004	032	23	38	032	23	46	74
4	35232	D-17332	C-13772	017	352	17	06	352	18	09	73
5	35931	D-17333	C-13905	015	359	11	50	359	12	50	73
6	2851	D-17334	C-13773	073	285	15	46	285	21	21	73
7	2861	D-17335	C-13774	108	286	03	02	286	21	30	73
8	35542	D-17336	C-13775	010	355	23	25	355	24	01	73
9	3491	D-17337	C-13776	038	349	18	00	349	19	59	73
10	32612	D-17338	C-13777	028	326	04	20	326	06	06	73
11	0051	D-17339	C-13778	069	005	19	00	005	22	00	74
12	32811	D-17441	C-13906	070	328	00	00	328	04	43	73
13	33312	D-17442	C-13907	015	333	05	09	333	06	09	73
14	21241	D-17443	C-13908	054	212	18	05	212	23	48	73
15	38611	D-17444	C-13909	070	021	00	00	021	04	38	74
16	15031	D-17445	C-13910	047	150	14	12	150	17	59	73
17	40322	D-17446	C-13911	029	038	10	20	038	12	09	74
18	22531	D-17447	C-13912	070	225	11	55	225	17	45	73
19	22931	D-17448	C-13913	070	229	11	58	229	17	33	73
20	16631	D-17449	C-13914	065	166	12	18	166	17	28	73
21	22941	D-17450	C-13915	061	229	17	50	229	24	07	73
22	15811	D-17451	C-13916	028	158	00	45	158	06	06	73
23	22041	D-17452	C-13917	032	220	17	50	220	21	21	73
24	39221	D-17453	C-13918	070	027	05	50	027	10	53	74
25	36231	D-17454	C-13919	070	362	11	50	362	17	47	73
26	35621	D-17455	C-13920	070	356	05	50	356	10	26	73
27	36922	D-17456	C-13921	021	004	10	40	004	12	01	74
28	21341	D-17457	C-13922	057	213	17	58	213	24	00	73
29	32611	D-17458	C-13923	070	326	00	00	326	04	16	73
30	21931	D-17459	C-13924	055	219	11	50	219	18	04	73
31	0241	D-17460	C-13925	068	024	19	58	024	23	57	74
32	3461	D-17461	C-13926	110	346	18	05	347	00	31	73
33	2674	D-17462	C-13927	075	267	19	08	268	00	53	73
34	23042	D-17463		073	230	23	22	230	23	41	73
35	1971	D-17464	C-13928	045	196	23	49	197	05	49	73
36	2061	D-17465	C-13929	025	206	19	00	206	21	13	73
37	2021	D-17466	C-13930	010	202	00	12	202	05	23	73
38	21811	D-17467	C-13931	048	218	00	28	218	05	38	73
39	16021	D-17468	C-13932	047	160	05	50	160	12	05	73
40	0141	D-17469	C-13933	083	014	19	00	014	22	58	74
41	35511	D-17470	C-13934	070	355	00	00	355	05	54	73
42	36232	D-17471	C-13935	004	362	17	52	362	18	09	73
43	35622	D-17472	C-13936	023	356	10	30	356	12	06	73
44	32441	D-17473	C-13937	070	324	17	50	324	22	33	73
45	15021	D-17474	C-13938	041	150	06	30	150	11	47	73
46	20941	D-17475	C-13939	008	209	19	19	209	24	07	73
47	16831	D-17476	C-13940	051	168	12	13	168	17	45	73
48	17941	D-17477	C-13941	047	179	17	50	179	24	08	73
49	15721	D-17478	C-13942	062	157	05	58	157	12	07	73
50	21041	D-17479	C-13943	065	210	18	01	210	23	34	73
51	23041	D-17480	C-13944	070	230	18	12	230	23	22	73
52	22431	D-17481	C-13945	013	224	11	58	224	18	04	73
53	16411	D-17482	C-13946	035	164	00	01	164	06	06	73
54	15531	D-17483	C-13947	014	155	15	20	155	16	02	73
55	16811	D-17484	C-13948	066	168	00	00	168	06	07	73
56	16221	D-17485	C-13949	043	162	05	50	162	12	04	73
57	21031	D-17486	C-13950	016	210	16	33	210	18	06	73
58	15211	D-17487	C-13951	049	152	00	21	152	05	41	73
59	21741	D-17488	C-13952	015	217	18	04	217	23	27	73
60	22842	D-17489	C-13953	004	228	23	26	228	23	45	73
61	40241	D-17824	C-14385	070	037	17	53	037	22	30	74
62	33242	D-17825	C-14386	003	332	23	59	332	27	04	73
	15931	D-17826	C-14387	026	159	14	11	159	17	50	73
	37821	D-17827	C-14388	065	013	06	27	013	12	08	74

23141	D-17828	C-14389	070	231	17	58	231	22	51	73
21541	D-17829	C-14390	029	215	19	35	215	23	16	73
29521	D-17830	C-14391	070	295	05	50	295	11	30	73
34231	D-17831	C-14392	070	342	11	50	342	17	44	73
33731	D-17832	C-14393	032	337	11	50	337	18	09	73
40221	D-17833	C-14394	070	037	05	50	037	10	24	74
34232	D-17834	C-14395	007	342	17	48	342	18	08	73
17132	D-17835	C-14396	005	171	17	24	171	18	09	73
35421	D-17836	C-14397	069	354	05	50	354	12	06	73
34222	D-17837	C-14398	021	342	10	46	342	12	02	73
21011	D-17838	C-14399	049	210	00	00	210	06	02	73
34541	D-17839	C-14400	063	345	18	09	345	23	24	73
34242	D-17840	C-14401	007	342	23	43	342	24	05	73
34542	D-17841	C-14402	016	345	23	25	345	24	06	73
33712	D-17842	C-14403	003	337	05	59	337	06	07	73
2041	D-17843	C-14404	065	204	01	23	204	22	47	73
39711	D-17844	C-14405	070	032	00	00	032	04	16	74
33411	D-17845	C-14406	050	334	00	00	334	06	01	73
38712	D-17846	C-14407	010	022	05	30	022	06	09	74
29331	D-17847	C-14408	061	293	13	59	293	18	09	73
16441	D-17848	C-14409	058	164	18	15	164	23	57	73
15941	D-17849	C-14410	026	159	18	38	159	22	40	73
40122	D-17850	C-14411	015	036	10	51	036	12	09	74
39342	D-17851	C-14412	011	028	23	27	028	24	09	74
15741	D-17852	C-14413	034	157	20	01	157	23	31	73
38811	D-17853	C-14414	070	023	00	00	023	05	40	74
15041	D-17854	C-14415	020	150	17	50	150	19	30	73
29242	D-17855	C-14416	022	292	22	24	292	24	05	73
34041	D-17856	C-14417	070	340	18	29	340	22	01	73
17131	D-17857	C-14418	070	171	11	50	171	17	20	73
33422	D-17858	C-14419	024	334	10	30	334	12	04	73
33011	D-17859	C-14420	070	330	00	00	330	05	10	73
34022	D-17860	C-14421	023	340	10	41	340	12	07	73
15921	D-17861	C-14422	018	159	05	50	159	11	14	73
40242	D-17862	C-14423	023	037	22	34	037	24	07	74
35412	D-17863	C-14424	006	354	05	40	354	06	04	73
35341	D-17864	C-14425	070	353	17	50	353	22	23	73
01112	D-17865	C-14426	059	011	19	13	011	22	21	74
33831	D-17866	C-14427	056	338	11	50	338	18	09	73
37931	D-17867	C-14428	036	014	11	52	014	18	09	74
32721	D-17868	C-14429	052	327	05	50	327	10	14	73
38812	D-17869	C-14430	006	023	05	44	023	06	04	74
32622	D-17870	C-14431	030	326	10	17	326	12	07	73
39032	D-17871	C-14432	001	025	18	09	025	18	09	74
16421	D-17872	C-14433	014	164	05	50	164	11	53	73
34522	D-17873	C-14434	026	345	10	34	345	12	06	73
33122	D-18184	C-14568	016	331	10	54	331	12	06	73
37011	D-18185	C-14569	054	005	01	12	005	06	06	74
23331	D-18186	C-14570	069	233	11	50	233	18	08	73
39112	D-18187	C-14571	002	026	06	04	026	06	07	74
33812	D-18188	C-14572	012	338	05	17	338	06	06	73
30811	D-18189	C-14573	054	308	00	00	308	03	49	73
29442	D-18190	C-14574	012	294	23	16	294	24	05	73
23321	D-18191	C-14575	051	233	05	50	233	12	03	73
21611	D-18192	C-14576	029	216	01	54	216	05	29	73
14941	D-18193	C-14577	019	149	18	30	149	24	07	73
15822	D-18194	C-14578	007	158	10	33	158	11	00	73
21141	D-18195	C-14579	043	211	17	58	211	23	55	73
33241	D-18196	C-14580	070	332	17	51	332	23	55	73
30642	D-18197	C-14581	021	306	22	45	306	24	08	73
33842	D-18198	C-14582	030	338	22	25	338	24	06	73
33131	D-18199	C-14583	043	331	11	50	331	17	50	73
29142	D-18200	C-14584	018	291	22	51	291	24	07	73
31141	D-18201	C-14585	070	311	17	50	311	22	39	73

31131	D-18202	C-14586	070	311	11	50	311	16	46	73
33541	D-18203	C-14587	070	335	19	00	335	23	56	73
16721	D-18204	C-14588	059	167	05	50	167	12	07	73
36921	D-18205	C-14589	070	004	05	50	004	10	36	74
17021	D-18206	C-14590	020	170	06	18	170	08	16	73
16941	D-18207	C-14591	048	169	18	11	169	24	09	73
21021	D-18208	C-14592	007	210	05	58	210	06	26	73
29832	D-18209	C-14593	002	298	18	11	298	18	15	73
15511	D-18210	C-14594	034	155	00	22	155	06	09	73
21511	D-18211	C-14595	026	215	02	36	215	05	54	73
40342	D-18212	C-14596	027	038	22	39	038	24	09	74
33341	D-18213	C-14597	056	333	17	50	333	24	04	73
40222	D-18214	C-14598	027	037	10	24	037	12	09	74
38431	D-18215	C-14599	070	019	11	50	019	15	24	74
38142	D-18216	C-14600	030	016	22	18	016	23	55	74
40211	D-18217	C-14601	070	037	00	00	037	05	15	74
22642	D-18218	C-14602	006	226	23	13	226	23	24	73
34521	D-18219	C-14603	070	345	05	50	345	10	34	73
15431	D-18220	C-14604	049	154	11	50	154	18	08	73
22131	D-18221	C-14605	044	221	11	59	221	17	34	73
29732	D-18222	C-14606	008	297	17	38	297	18	09	73
34142	D-18223	C-14607	020	341	21	43	341	23	15	73
36241	D-18224	C-14608	070	362	17	50	362	24	02	73
31642	D-18225	C-14609	019	316	22	50	316	23	59	73
36211	D-18226	C-14610	070	362	00	00	362	03	43	73
37311	D-18227	C-14611	036	008	00	23	008	02	53	74
36522	D-18228	C-14612	006	365	11	49	365	12	08	73
40142	D-18229	C-14613	012	036	23	11	036	24	07	74
33741	D-18230	C-14614	070	337	17	56	337	23	52	73
21831	D-18231	C-14615	008	218	12	29	218	12	59	73
22241	D-18232	C-14615	045	222	17	58	222	23	53	73
16822	D-18233	C-14617	004	168	11	40	168	11	44	73
32621	D-18234	C-14618	070	326	05	50	326	10	13	73
31242	D-18235	C-14619	018	312	22	19	312	24	07	73
16611	D-18236	C-14620	054	166	00	00	166	06	03	73
16741	D-18237	C-14621	042	167	17	50	167	24	08	73
34031	D-18238	C-14622	064	340	11	50	340	17	48	73
40341	D-18239	C-14623	070	038	17	50	038	22	33	74
33821	D-18240	C-14624	070	338	05	50	338	10	29	73
34832	D-18241	C-14625	022	348	16	56	348	18	07	73
32922	D-18242	C-14626	028	329	10	09	329	12	08	73
31221	D-18243	C-14627	054	312	08	09	312	12	09	73
33012	D-18244	C-14628	011	330	05	16	330	06	09	73
34342	D-18245	C-14629	038	343	20	17	343	23	29	73
33322	D-18246	C-14630	016	333	10	55	333	12	08	73
40141	D-18247	C-14631	070	036	17	50	036	23	07	74
35411	D-18248	C-14632	070	354	01	05	354	05	36	73
35321	D-18249	C-14633	070	353	05	50	353	10	57	73
39211	D-18250	C-14634	070	027	00	00	027	04	56	74
34221	D-18251	C-14635	070	342	05	50	342	10	42	73
34131	D-18252	C-14636	063	341	12	10	341	18	09	73
15611	D-18253	C-14637	051	156	00	36	156	06	03	73
39411	D-18254	C-14638	070	029	00	00	029	04	44	74
39231	D-18255	C-14639	047	027	12	45	027	17	29	74
2561	D-18256	C-14640	107	256	08	50	257	00	21	73
22511	D-18257	C-14641	057	225	00	00	225	05	41	73
22141	D-18258	C-14642	065	221	18	11	221	22	16	73
40421	D-18259	C-14643	035	039	05	50	039	08	07	74
2511	D-18260	C-14644	094	251	01	32	251	16	51	73
16331	D-18261	C-14645	042	163	11	50	163	18	04	73
16211	D-18262	C-14646	049	162	00	00	162	06	08	73
40042	D-18263	C-14647	016	035	22	44	035	24	07	74
18131	D-18264	C-14648	044	181	11	50	181	18	08	73
22121	D-18265	C-14649	042	221	05	59	221	11	57	73

39922	D-18266		028	034	10	27	034	11	40	74
22621	D-18267	C-14650	045	226	05	58	226	11	57	73
38132	D-18268	C-14651	029	016	15	07	016	17	32	74
34211	D-18269	C-14652	065	342	01	33	342	06	09	73
33421	D-18270	C-14653	070	334	05	50	334	10	25	73
35541	D-18271	C-14654	070	355	17	55	355	23	21	73
22521	D-18272	C-14655	064	225	06	03	225	11	40	73
33221	D-18273	C-14656	070	332	05	50	332	10	47	73
39741	D-18274	C-14657	070	032	18	35	032	23	37	74
39731	D-18275	C-14658	044	032	12	28	032	16	17	74
39521	D-18276	C-14659	058	030	05	50	030	10	17	74
37042	D-18277		024	005	20	28	005	21	59	74
38542	D-18278	C-14660	020	020	22	33	020	24	09	74
39031	D-18279	C-14661	070	025	12	12	025	16	30	74
29241	D-18280	C-14662	070	292	17	50	292	22	22	73
16511	D-18281	C-14663	065	165	00	30	165	06	03	73
32931	D-18282	C-14664	033	329	11	54	329	18	08	73
36122	D-18283	C-14665	031	361	10	12	361	12	09	73
29541	D-18284	C-14666	070	295	17	50	295	22	59	73
34021	D-18285	C-14667	070	340	05	50	340	10	40	73
23142	D-18728	C-15146	011	231	23	13	231	24	01	73
31332	D-18729	C-15147	014	313	17	05	313	18	06	73
31142	D-18730	C-15148	023	311	22	43	311	24	08	73
29111	D-18731	C-15149	070	291	00	00	291	04	46	73
31042	D-18732	C-15150	015	310	23	02	310	24	09	73
33841	D-18733	C-15151	070	338	17	50	338	22	21	73
31641	D-18734	C-15152	070	316	17	58	316	22	45	73
35911	D-18735	C-15153	057	359	00	04	359	06	07	73
16521	D-18736	C-15154	038	165	05	50	165	10	42	73
34711	D-18737	C-15155	066	347	00	00	347	06	05	73
33121	D-18738	C-15156	070	331	05	50	331	10	49	73
31721	D-18739	C-15157	061	317	06	08	317	10	26	73
33321	D-18740	C-15158	070	333	05	50	333	10	49	73
34321	D-18741	C-15159	070	343	05	53	343	10	41	73
2872	D-18742	C-15160	078	287	17	29	287	23	04	73
37621	D-18743	C-15161	066	011	07	39	011	12	08	74
38621	D-18744	C-15162	058	021	05	50	021	10	19	74
23231	D-18745	C-15163	070	232	12	24	232	17	30	73
2841	D-18746	C-15164	081	284	03	38	284	17	53	73
22742	D-18747	C-15165	005	227	23	43	227	23	57	73
23111	D-18748	C-15166	055	231	00	24	231	06	01	73
23131	D-18749	C-15167	070	231	11	58	231	17	42	73
19311	D-18750	C-15168	033	193	00	00	193	02	34	73
21741	D-18751	C-15169	008	217	22	59	217	23	27	73
21421	D-18752	C-15170	050	214	05	58	214	11	32	73
22031	D-18753	C-15171	028	220	11	58	220	17	59	73
22741	D-18754	C-15172	070	227	17	58	227	23	42	73
30511	D-18755	C-15173	070	305	00	00	305	04	41	73
30531	D-18756	C-15174	042	305	14	55	305	18	05	73
30711	D-18757	C-15175	070	307	00	00	307	04	33	73
19221	D-18758	C-15176	010	192	09	42	192	11	05	73
30311	D-18759	C-15177	052	303	00	10	303	03	59	73
29511	D-18760	C-15178	070	295	00	00	295	05	24	73
30512	D-18761	C-15179	019	305	04	45	305	05	59	73
18011	D-18762	C-15180	043	180	00	00	180	05	21	73
19131	D-18763	C-15181	055	191	12	46	191	17	41	73
15821	D-18764	C-15182	055	158	05	50	158	10	33	73
16041	D-18765	C-15183	023	160	19	55	160	21	47	73
16531	D-18766	C-15184	022	165	13	14	165	18	04	73
16821	D-18767	C-15185	070	168	06	07	168	11	40	73
15521	D-18768		064	155	05	48	155	11	36	73
15321	D-18769	C-15186	069	153	05	50	153	12	08	73
15911	D-18770	C-15187	050	159	01	52	159	06	08	73
15221	D-18771	C-15188	055	152	06	22	152	11	58	73

23232	D-18772	C-15189	006	232	17	32	232	17	48	73
2821	D-18773	C-15190	081	282	13	35	282	19	34	73
23132	D-18774	C-15191	007	231	17	47	231	18	01	73
31711	D-18775	C-15192	011	317	00	00	317	00	51	73
2831	D-18776	C-15193	082	283	01	30	283	16	03	73
29232	D-18777	C-15194	006	292	17	57	292	18	07	73
29932	D-18778	C-15195	005	299	17	59	299	18	09	73
30011	D-18779	C-15196	067	300	00	00	300	04	36	73
34011	D-18822	C-15457	070	340	00	00	340	04	23	73
35611	D-18823	C-15458	070	356	00	00	356	06	04	73
35521	D-18824	C-15459	070	355	05	50	355	10	30	73
15522	D-18825	C-15460	009	155	10	52	155	11	36	73
17132	D-18826	C-15461	005	171	17	24	171	18	09	73
32532	D-18827	C-15462	029	325	16	23	325	18	09	73
34121	D-18828	C-15463	070	341	05	50	341	10	29	73
34611	D-18829	C-15464	065	346	00	06	346	04	15	73
34641	D-18830	C-15465	070	346	17	50	346	22	20	73
40021	D-18831	C-15466	055	035	05	51	035	10	46	74
37731	D-18832	C-15467	070	012	11	50	012	15	20	74
38021	D-18833	C-15468	070	015	06	36	015	11	34	74
38841	D-18834	C-15469	070	023	18	21	023	22	17	74
35641	D-18835	C-15470	070	356	18	30	356	22	57	73
35821	D-18836	C-15471	070	358	05	50	358	10	44	73
38442	D-18837	C-15472	052	019	21	40	019	24	08	74
39941	D-18838	C-15473	009	034	23	28	034	24	08	74
21931	D-18839	C-15474	055	219	11	50	219	18	04	73
16141	D-18840	C-15475	035	161	17	52	161	24	05	73
37131	D-18841	C-15476	042	006	14	19	006	16	39	74
38422	D-18842	C-15477	013	019	10	56	019	12	08	74
19041	D-18843	C-15478	055	190	17	50	190	22	20	73
15311	D-18845	C-15480	060	153	00	00	153	06	09	73
15731	D-18846	C-15481	038	157	11	50	157	17	36	73
34512	D-18847	C-15482	004	345	05	49	345	06	06	73
40011	D-18848	C-15483	055	035	00	00	035	04	45	74
37111	D-18849	C-15484	028	006	00	16	006	02	43	74
39811	D-18850	C-15485	070	033	00	52	033	05	37	74
31232	D-18851	C-15486	016	312	17	05	312	18	07	73
37541	D-18852	C-15652	070	010	17	50	010	21	08	74
37542	D-18853	C-15653	068	010	21	10	010	24	09	74
29731	D-18854	C-15654	070	297	12	39	297	17	37	73
23011	D-18855	C-15655	051	230	00	00	230	06	07	73
29441	D-18856	C-15656	070	294	17	50	294	23	11	73
37331	D-18857	C-15657	070	008	13	05	008	16	47	74
37841	D-18858	C-15658	070	013	17	50	013	20	41	74
38721	D-18859	C-15659	070	022	05	50	022	11	02	74
39111	D-18860	C-15660	070	026	01	09	026	06	04	74
35832	D-18861	C-15661	027	358	16	22	358	18	08	73
38712	D-18862	C-15662	013	022	05	17	022	06	09	74
37741	D-18863	C-15663	062	012	18	33	012	24	07	74
33211	D-18864	C-15664	059	332	00	02	332	06	06	73
34141	D-18865	C-15665	070	341	17	50	341	21	43	73
33742	D-18866	C-15666	065	337	23	58	337	24	09	73
40212	D-18867	C-15667	013	037	05	20	037	06	09	74
22841	D-18868	C-15668	070	288	18	03	288	23	25	73
36112	D-18869	C-15669	035	361	03	20	361	06	07	73
36231	D-18870	C-15670	070	362	11	50	362	17	47	73
2881	D-18871	C-15671	078	287	23	09	288	13	33	73
29522	D-18872	C-15672	014	295	11	09	295	12	07	73
22732	D-18873	C-15673	008	227	17	28	227	17	57	73
17131	D-18874	C-15674	070	171	11	50	171	17	20	73
34341	D-18875	C-15675	060	343	17	50	343	20	15	73
38822	D-18876	C-15676	007	023	10	54	023	11	27	74
36011	D-18877	C-15677	013	360	03	57	360	05	37	73
29812	D-18878	C-15678	002	298	04	41	298	04	59	73

→ 36212 D-18844 C-15479 34 362 03:49 362 05:59 73

36111	D-18879	C-15679	070	361	00	00	361	03	19	73
37831	D-18880	C-15680	070	013	11	50	013	16	02	74
38122	D-18881	C-15681	036	016	10	01	016	12	08	74
34511	D-18882	C-15682	070	345	00	00	345	05	44	73
39421	D-18883	C-15683	070	029	05	50	029	10	57	74
37431	D-18884	C-15684	070	009	12	14	009	17	08	74
37942	D-18885	C-15685	046	014	21	07	014	23	35	74
15011	D-18886	C-15686	031	150	00	07	150	02	21	73
34231	D-18887	C-15687	070	342	11	50	342	17	44	73
39012	D-18888	C-15688	024	025	04	38	025	06	08	74
38441	D-18889	C-15689	070	019	17	50	019	21	39	74
37911	D-18890	C-15690	036	014	00	00	014	01	51	74
36441	D-18891	C-15691	070	364	17	50	364	22	26	73
23241	D-18892	C-15692	070	232	18	25	232	23	41	73
37832	D-18893	C-15693	056	013	16	04	013	18	07	74
39441	D-18894	C-15694	069	029	19	08	029	24	06	74
38821	D-18895	C-15695	070	023	05	50	023	10	48	74
14841	D-18896	C-15696	005	148	18	52	148	19	13	73
36932	D-18897	C-15697	065	004	15	08	004	17	54	74
36931	D-18898	C-15698	070	004	11	50	004	15	03	74
36821	D-18899	C-15699	043	003	05	50	003	12	09	74
39221	D-18900	C-15700	070	027	05	50	027	10	53	74
16321	D-18901	C-15701	050	163	05	50	163	12	04	73
33931	D-18902	C-15702	055	339	11	50	339	18	09	73
2703	D-19379	C-15752	082	270	16	37	270	22	40	73
17241	D-19380	C-15753	035	172	17	50	172	23	00	73
18911	D-19381	C-15754	070	189	00	00	189	04	05	73
21331	D-19382	C-15755	056	213	11	58	213	17	58	73
29942	D-19383	C-15756	023	299	22	22	299	24	07	73
30241	D-19384	C-15757	070	302	17	50	302	22	45	73
29131	D-19385	C-15758	042	291	13	26	291	18	05	73
22111	D-19386	C-15759	037	221	01	07	221	06	08	73
38732	D-19387	C-15760	047	022	14	57	022	17	09	74
29631	D-19388	C-15761	070	296	11	50	296	17	09	73
30242	D-19389	C-15762	017	302	22	49	302	24	01	73
31331	D-19390	C-15763	070	313	11	50	313	16	59	73
29611	D-19391	C-15764	070	296	00	00	296	05	08	73
30412	D-19392	C-15765	011	304	04	54	304	05	40	73
30031	D-19394	C-15767	067	300	11	57	300	18	09	73
30612	D-19395	C-15768	016	306	04	35	306	05	37	73
40331	D-19396	C-15769	070	038	11	50	038	16	18	74
29621	D-19397	C-15770	070	296	05	50	296	11	00	73
19241	D-19398	C-15771	050	192	20	00	192	24	08	73
17011	D-19398	C-15771	055	170	00	05	170	05	44	73
21311	D-19399	C-15772	054	213	00	25	213	05	59	73
19641	D-19400	C-15773	055	196	17	50	196	22	03	73
31521	D-19401	C-15774	054	315	07	34	315	11	43	73
38332	D-19402	C-15775	024	018	16	49	018	18	08	74
18611	D-19403	C-15776	011	186	02	44	186	05	23	73
15641	D-19404	C-15777	030	156	19	38	156	23	07	73
16421	D-19405	C-15778	014	164	05	50	164	11	53	73
18712	D-19406	C-15779	018	187	03	55	187	04	55	73
22821	D-19407	C-15780	046	228	05	58	228	11	07	73
18211	D-19408	C-15781	042	182	00	00	182	05	35	73
19542	D-19409	C-15816	027	195	22	12	195	24	09	73
15421	D-19410	C-15817	046	154	05	51	154	12	08	73
18411	D-19411	C-15818	043	184	00	11	184	05	54	73
18641	D-19412	C-15819	069	186	18	00	186	24	06	73
19511	D-19413	C-15820	051	195	00	00	195	04	16	73
19411	D-19414	C-15821	055	194	00	00	194	04	35	73
19642	D-19415	C-15822	024	196	22	09	196	24	08	73
36521	D-19416	C-15823	070	365	07	03	365	11	44	73
18121	D-19417	C-15824	047	181	05	50	181	12	06	73
2751	D-19418	C-15825	093	274	23	54	275	16	00	73

17212	D-19419	C-15826	003	172	05	41	172	05	52	73
16921	D-19420	C-15827	035	169	05	50	169	12	08	73
31211	D-19421	C-15828	046	312	00	00	312	04	53	73
18241	D-19422	C-15829	049	182	17	51	182	24	09	73
17211	D-19423	C-15830	055	172	00	17	172	05	36	73
33311	D-19424	C-15831	070	333	00	00	333	04	47	73
29632	D-19425	C-15832	013	296	17	13	296	18	08	73
18231	D-19426	C-15833	055	182	12	26	182	17	44	73
37732	D-19427	C-15834	012	012	15	20	012	17	13	74
37341	D-19428	C-15835	070	008	19	02	008	23	52	74
35822	D-19429	C-15836	022	358	10	50	358	12	07	73
34642	D-19430	C-15837	036	346	22	23	346	24	06	73
34621	D-19431	C-15838	070	346	07	14	346	11	43	73
24511	D-19432	C-15839	007	245	02	28	245	02	41	73
21811	D-19433		048	218	00	28	218	05	38	73
29741	D-19434	C-15840	070	297	17	50	297	22	41	73
18912	D-19435	C-15841	011	189	04	07	189	05	00	73
22411	D-19436	C-15842	036	224	00	33	224	05	57	73
18311	D-19437	C-15843	035	183	00	00	183	04	54	73
38222	D-19438	C-15844	003	017	11	51	017	12	07	74
19532	D-19439	C-15948	008	195	17	30	195	18	01	73
37121	D-19440	C-15949	070	006	06	25	006	11	04	74
16031	D-19441	C-15950	020	160	11	50	160	14	03	73
35922	D-19442	C-15951	018	359	11	05	359	12	09	73
18232	D-19443	C-15952	003	182	17	51	182	17	57	73
38342	D-19444	C-15953	001	018	24	06	018	24	06	74
30542	D-19445	C-15954	019	305	22	50	305	24	07	73
35131	D-19446	C-15955	070	351	11	50	351	17	34	73
29211	D-19447	C-15956	054	292	00	00	292	05	58	73
18041	D-19448	C-15957	052	180	17	50	180	23	59	73
36321	D-19449	C-15958	070	363	05	50	363	11	09	73
34322	D-19450	C-15959	021	343	10	46	343	12	08	73
19211	D-19451	C-15960	036	192	00	00	192	03	13	73
18511	D-19452	C-15961	052	185	00	00	185	05	04	73
22521	D-19453	C-15962	062	225	06	03	225	11	40	73
18531	D-19454	C-15963	032	185	13	38	185	18	09	73
38331	D-19455	C-15964	070	018	11	50	018	16	45	74
36322	D-19456	C-15965	014	363	11	15	363	12	09	73
16841	D-19457	C-15966	026	168	17	50	168	23	50	73
29911	D-19458	C-15967	067	299	00	00	299	04	12	73
31741	D-19459	C-15968	070	317	17	50	317	22	33	73
31121	D-19460	C-15969	055	311	06	44	311	12	06	73
35741	D-19461	C-15970	070	357	17	50	357	22	50	73
19331	D-19462	C-15971	055	193	13	10	193	17	30	73
33631	D-19463	C-15972	056	336	11	50	336	16	43	73
29622	D-19464	C-15973	015	296	11	04	296	12	08	73
21111	D-19465	C-15974	056	211	00	15	211	05	49	73
17121	D-19466	C-15975	049	171	05	58	171	12	04	73
15811	D-19467	C-15976	028	158	00	45	158	06	06	73
29931	D-19468	C-15977	070	299	12	51	299	17	54	73
19531	D-19469	C-15978	056	195	13	16	195	17	25	73
34331	D-19470	C-15979	046	343	11	50	343	18	09	73
19412	D-19471	C-15980	005	194	04	40	194	05	02	73
18141	D-19472	C-15981	048	181	17	50	181	24	05	73
16641	D-19473	C-15982	052	166	18	28	166	24	02	73
31511	D-19474	C-15983	032	315	00	00	315	03	49	73
18941	D-19475	C-15984	055	189	17	50	189	22	21	73
16732	D-19476	C-15985	002	167	18	03	167	18	07	73
29742	D-19477	C-15986	021	297	22	45	297	24	06	73
36842	D-19478	C-15987	002	003	23	23	003	23	27	74
34311	D-20290	C-16158	036	343	00	00	343	06	06	73
39611	D-20291	C-16159	070	031	00	00	031	04	53	74
35311	D-20292	C-16160	069	353	00	18	353	06	08	73
30142	D-20293	C-16161	016	301	23	02	301	24	05	73

34441	D-20294	C-16162	070	344	17	50	344	21	54	73
39622	D-20295	C-16163	019	031	10	54	031	12	08	74
38731	D-20296	C-16164	070	022	11	50	022	14	55	74
35442	D-20297	C-16165	049	354	21	22	354	24	09	73
33022	D-20298	C-16166	018	330	10	49	330	12	08	73
31611	D-20299	C-16167	011	316	00	36	316	01	26	73
21531	D-20300	C-16168	039	215	11	58	215	17	03	73
36141	D-20301	C-16169	070	361	17	50	361	22	01	73
36311	D-20302	C-16170	056	363	00	00	363	06	07	73
33622	D-20303	C-16171	026	336	10	27	336	12	04	73
15631	D-20304	C-16172	040	156	11	50	156	16	51	73
35432	D-20305	C-16173	058	354	15	42	354	18	08	73
15621	D-20306	C-16174	055	156	05	50	156	10	36	73
18841	D-20307	C-16175	070	188	17	50	188	22	18	73
36511	D-20308	C-16176	060	365	00	00	365	05	30	73
36042	D-20309	C-16177	021	360	22	58	360	24	03	73
38131	D-20310	C-16178	070	016	12	05	016	15	03	74
36041	D-20311	C-16179	070	360	17	50	360	22	54	73
19132	D-20312	C-16180	004	191	17	46	191	18	03	73
37632	D-20313		008	011	16	17	011	17	53	74
30741	D-20314	C-16181	070	307	17	50	307	21	55	73
37611	D-20315	C-16182	007	011	00	00	011	02	20	74
30742	D-20316	C-16183	032	307	21	59	307	24	04	73
34922	D-20317	C-16184	012	349	11	18	349	12	06	73
34921	D-20318	C-16185	070	349	05	50	349	11	13	73
18832	D-20319	C-16186	003	188	18	01	188	18	07	73
29341	D-20320	C-16221	070	293	17	50	293	22	46	73
17431	D-20321	C-16222	019	174	13	28	174	15	01	73
36131	D-20322	C-16223	070	361	11	50	361	16	58	73
35742	D-20323	C-16224	015	357	22	55	357	24	08	73
34721	D-20324	C-16225	070	347	05	50	347	10	13	73
32831	D-20325	C-16226	070	328	11	50	328	16	39	73
38022	D-20326	C-16227	007	015	11	35	015	12	08	74
21921	D-20327	C-16228	049	219	05	58	219	12	00	73
18341	D-20328	C-16229	046	183	17	58	183	23	33	73
38231	D-20329	C-16230	070	017	12	07	017	15	23	74
29642	D-20330	C-16231	014	296	23	10	296	24	04	73
39431	D-20331	C-16232	070	029	11	50	029	14	55	74
19631	D-20332	C-16233	050	196	14	00	196	18	08	73
34111	D-20333	C-16234	070	341	00	00	341	04	45	73
29542	D-20334	C-16235	015	295	23	03	295	24	07	73
30541	D-20335	C-16236	070	305	17	49	305	22	44	73
33822	D-20336	C-16237	022	338	10	30	338	12	08	73
19142	D-20337	C-16238	015	191	22	46	191	24	04	73
36841	D-20338	C-16239	070	003	17	52	003	23	18	74
37411	D-20339	C-16240	026	009	00	00	009	02	19	74
34631	D-20340	C-16241	070	346	11	50	346	17	25	73
39921	D-20341	C-16242	070	034	05	50	034	10	22	74
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37122	D-20345	C-16246	012	006	11	10	006	11	44	74
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37941	D-20349	C-16250	070	014	18	04	014	21	03	74
34012	D-20350	C-16273	022	340	04	26	340	05	56	73
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33911	D-20355	C-16278	070	339	00	02	339	06	05	73
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35241	D-20357	C-16280	070	352	17	50	352	22	42	73

34831	D-20358	C-16281	070	348	11	50	348	16	52	73
31731	D-20359	C-16282	070	317	11	50	317	16	35	73
30941	D-20360	C-16283	070	309	18	54	309	23	35	73
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38941	D-20363	C-16286	070	024	19	04	024	22	46	74
38341	D-20364	C-16287	070	018	17	50	018	24	01	74
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38711	D-20596		070	022	00	00	022	05	12	74
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39011	D-20610	C-16703	070	025	00	00	025	04	32	74
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40321	D-22004		070	038	05	50	038	10	16	74
37141	D-22005	C-16869	056	006	19	31	006	24	05	74
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21521	D-22011	C-16875	044	215	05	59	215	11	56	73
15111	D-22012	C-16876	011	151	04	38	151	06	03	73
36912	D-22013	C-16877	013	004	05	19	004	06	09	74
29841	D-22014	C-16878	070	298	17	50	298	22	04	73
40111	D-22015	C-16879	055	036	00	00	036	04	50	74
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18811	D-22023	C-16887	062	188	00	00	188	03	48	73
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38622	D-22025	C-16889	019	021	10	24	021	12	08	74
34742	D-22026	C-16890	001	347	24	07	347	24	07	73
30112	D-22027	C-16891	003	301	04	47	301	05	38	73
33611	D-22028	C-16892	058	336	00	00	336	06	08	73
35522	D-22029	C-16893	023	355	10	34	355	12	07	73
33942	D-22030	C-16894	029	339	22	21	339	24	06	73
39221	D-22031	C-16895	070	027	05	50	027	10	53	74
29342	D-22032	C-16896	018	293	22	50	293	24	01	73
40132	D-22033	C-16897	010	036	17	20	036	18	06	74
30442	D-22034	C-16898	001	304	24	06	304	24	06	73
36341	D-22035	C-16899	038	363	21	30	363	24	09	73
29311	D-22036	C-16900	070	293	00	00	293	04	33	73
18331	D-22037	C-16901	038	183	13	29	183	18	09	73
39721	D-22038	C-16902	070	032	05	52	032	10	17	74
37642	D-22039	C-16903	005	011	23	56	011	24	07	74
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55 FILES 73-027A-06A SKYLAB EUV DATA

DUPE OF D-18768 06/04/73

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