#411

OGO-4

SECOND BY SECOND AIRGLOW DATA

67-073A-12P

Table of Contents

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here. http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

OGO 4

SEC. BY SEC. AIRGLOW

67-073A-12P SPIO-00261

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY 46 9-TRACK, 1600 BPI TAPES, WRITTEN IN BINARY. TWO OF THESE TAPES WERE BAD; D029908 AND D029949. THERE ARE 12 RESTORED TAPES. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 360 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR002747	DS002747	D029906	1-159	07/29/67 - 08/01/67 (a)
		D029905	160-426	08/02/67 - 08/08/67
		D029907	427-714	08/13/67 - 08/17/67
		D029909	715-965	08/22/67 - 08/28/67
DR002748	DS002748	D029910	1-225	08/28/67 - 09/03/67
		D029911	226-495	09/09/67 - 09/18/67
		D029912	496-758	09/18/67 - 09/22/67
DR002749	DS002749	D029913	1-300	10/12/67 - 10/17/67
		D029914	301-588	10/17/67 - 10/22/67
		D029915	589-905	10/27/67 - 11/02/67
DR002750	DS002750	D029916	1-312	11/02/67 - 11/07/67
		D029917	313-558	11/07/67 - 11/13/67
		D029918	559-681	11/13/67 - 11/18/67
		D029919	682-866	11/18/67 - 11/21/67
DR002751	DS002751	D029920	1-153	12/09/67 - 12/12/67
		D029921	154-306	12/12/67 - 12/16/67
		D029922	307-543	12/16/67 - 12/20/67
		D029923	544-746	05/29/68 - 06/04/68
DR002752	DS002752	D029924	1-165	06/04/68 - 06/09/68
		D029925	166-234	06/09/68 - 06/15/68
		D029926	235-411	06/15/68 - 06/17/68
		D029927	412-668	06/17/68 - 06/23/68
DR002753	DS002753	D029928	1-168	06/23/68 - 06/29/68
		D029929	169-411	06/29/68 - 07/04/68
		D029930	412-591	07/04/68 - 07/10/68
		D029931	592-776	07/10/68 - 07/14/68

DR002754	DS002754	D029932	1-180	07/14/68 - 07/19/68	
		D029933	181-327	07/19/68 - 07/23/68	
		D029934	328-480	07/23/68 - 07/25/68	
		D029935	481-641	07/25/68 - 07/27/68	
DR002755	DS002755	D029936	1-180	07/27/68 - 07/31/68	
		D029937	181-300	07/31/68 - 08/03/68	
		D029938	301-408	08/03/68 - 08/06/68	
		D029939	409-533	08/06/68 - 08/08/68	
DR002756	DS002756	D029940	1-168	08/08/68 - 08/11/68	
		D029941	169-534	08/11/68 - 08/14/68	
		D029942	535-696	08/14/68 - 08/23/68	
		D029943	697-851	08/23/68 - 08/27/68	
DR002757	DS002757	D029944	1-186	08/27/68 - 08/30/68	
		D029945	187-360	08/30/68 - 09/03/68	
		D029946	361-561	09/03/68 - 09/07/68	(b)
		D029947	562-738	09/07/68 - 09/11/68	
DR002758	DS002758	D029948	1-207	09/16/68 - 09/21/68	
		D029950	208-411	09/27/68 - 10/02/68	

(a) D029906 - 3 errors, records 1, 160, File 1 and record 426, File 159
(b) D029946 - 1 error, record 1, File 58

DD29949 Was a Bad Tape

REQ. AGENT	RAND NO.	ACQ. AGENT
CAW	RC8015	RNH

OGO-4

SECOND BY SECOND AIRGLOW DATA

67-073A-12P

This data set catalog consists of 45 data tapes created from the IBM 360 computer. All the tapes are 9 track, 1600, Binary, and multi-filed. The tapes are all standard labeled. The D and C numbers along with the number of files and time spans are listed below. The format for the SSB tapes are on the following pages.

D#	C#	FILES	TIME SPAN
D-29905	C-19351	207	08/02/67 - 08/08/67
D-29906	C-19352	159	07/29/67 - 08/01/67
D-29907	C-19353	267	08/13/67 - 08/17/67
D-29909	C-19354	288	08/22/67 - 08/28/67
D-29910	C-19355	252	08/28/67 - 09/03/67
D-29911	C-19356	225	09/09/67 - 09/18/67
D-29912	C-19357	270	09/18/67 - 09/22/67
D-29913	C-19358	264	10/12/67 - 10/17/67
D-29914	C-19359	300	10/17/67 - 10/22/67
D-29915	C-19360	288	10/27/67 - 11/02/67
D-29916	C-19361	318	11/02/67 - 11/07/67
D-29917	C-19362	312	11/07/67 - 11/13/67
D-29918	C-19363	246	11/13/67 - 11/18/67
D-29919	C-19364	123	11/18/67 - 11/27/67
D-29920	C-19365	186	12/09/67 - 12/12/67
D-29921	C-19366	153	12/12/67 - 12/16/67

D#	C#	FILE #	TIME SPAN
D-29922	C-19367	153	12/16/67 - 12/20/67
D-29923	C-19368	237	05/29/68 - 06/04/68
D-29924	C-19369	204	06/04/68 - 06/09/68
D-29925	C-19370	165	06/09/68 - 06/15/68
D-29926	C-19371	69	06/15/68 - 06/17/68
D-29927	C-19372	207	06/17/68 - 06/23/68
D-29928	C-19373	228	06/23/68 - 06/29/68
D-29929	C-19374	168	06/29/68 - 07/04/68
D-29930	C-19375	243	07/04/68 - 07/10/68
D-29931	C-19376	180	07/10/68 - 07/14/68
D-29932	C-19377	186	07/14/68 - 07/19/68
D-29933	C-19378	180	07/19/68 - 07/23/68
D-29934	C-19379	147	07/23/68 - 07/25/68
D-29935	C-19561	153	07/25/68 - 07/27/68
D-29936	C-19562	162	07/27/68 - 07/31/68
D-29937	C-19563	180	07/31/68 - 08/03/68
D-29938	C-19564	120	08/03/68 - 08/06/68
D-29939	C-19565	108	08/06/68 - 08/08/68
D-29940	C-19566	126	08/08/68 - 08/11/68
D-29941	C-19567	168	08/11/68 - 08/14/68
D-29942	C-19568	366	08/14/68 - 08/23/68
D-29943	C-19569	162	08/23/68 - 08/27/68
D-29944	C-19570	156	08/27/68 - 08/30/68
D-29945	C-19571	186	08/30/68 - 09/03/68
D-29946	C-19572	174	09/03/68 - 09/07/68
D-29947	C-19573	201	09/07/68 - 09/11/68

D#	C#	FILE #	TIME SPAN
D-29948	C-19574	177	09/16/68 - 09/21/68
D-29949	C-19575	207	09/21/68 - 09/26/68
D-29950	C-19576	204	09/27/68 - 10/02/68

OUCH/SSB

April 3, 1972

TYPES OF RECORDS ON CUCH AND SSB TAPES

First word	length (4-byte words)	type
1	30 -	label record
2	2728 (max)	second record
3	30 -	minute summary
4	23	calibration record
5	30 -	file summary
6	30	subcom data
7	30 -	label record embedded in file (SSB only)
9999	80	last file on this tape, remaining words are 9999's

6-27-74 SSB tapes 10916 21836

DCB=(RECFM=VBS,LRECL=10836,BLKSIZE=21676,DEN=3).

Record format: variable blocked spanned

Maximum record length: 2729 words LRECL = 6684

Block size: 21676 bytes

Density: 1600 bpi

Words 2 and 3 of record types 1, 3, 4, and 5 should be the same as the label of the tape on which the record is written.

E. Reed Nov. 23, 1970
Oct. 21, 1971

Label Record

Word	Contents
1	1 if first record of file; 7 if embedded within a file
2	tape label
3	tape label (cont.)
4	6773 satellite ID for OGO-IV
5	1 satellite ID (cont.)
6	year, last two digits
7	station number
8	analog file
9	analog tape
10	buffer file
11	buffer tape
12	day of digitization
13	bit rate
14	start day
15	start seconds
16	start seconds (cont.)
17	format
18	edit tape
19	edit file
20	A/D line operator
21	A/D line
22	decom reel
23	decom run
24	experiment
25	equipment group

Label Record (cont.)

Word	Contents
26	number of seconds since Jan. 1, 1967
27	date of prog. 2 processing, year, month, day
28	ouch or SXS file number
29	date of SXS processing, year, month, day
30	decom file number

SSB

I x 4

Words 2-25 are EBCDIC. The remaining words are integer

Apr. , 1972

Second Record

Word		Contents	In SSB
1		2	
2		Bias for playback data (was uncorrect U.T)	
3		spacecraft clock	
4		Bias for realtime data	
5		corrected Universal time	RT record
6		day — doesn't change as it should on ouch Tape	
7		year	
8		mirror position	
9		=0 if fixed, =1 if stepping	
10		=0 if photocurrent, =1 if dark current	
11		number of samples	recompute
12	real	temperature, degrees C.	RT record
13	real	average electrometer output	recompute
14	real	average dark current (Ave 3rd word - crosstalk)	recompute
15	real	average cross talk	RT record
16	real	average photocurrent (Ave (2nd words 3rd) ~~- word 15~~)	recompute ←
17	real	channel 4 correction for background emissions	RT record
18	real	airglow in volts (word 16 - word 17)	recompute
19		number of seconds since Jan. 1, 1967	
20		Ave log word, if dark current	RT record

for dark current:		for photocurrent:	
21	time (uncorrected)	time (uncorrected) milliseconds	recompute all times
22	electrometer output real	electrometer output real	
23		dark current (ind x trip) real	

Words 21-22 or words 21-23 are repeated for each sample, up to a maximum of 696 samples. All words not specified as real are integer.

Dec. 10, 1970
May 6, 1971
Apr 3, 1972

Minute Summary

Word	Content		
1	3	integer	SSB
2	tape label	EBCDIC	
3	tape label (cont.)	EBCDIC	
4	time, millisecond, end of minute, last sample	integer	
5	last spacecraft clock	integer	
6	Universal time (corrected) of last second	integer	
7	Bias of last second	integer	
8	average temperature, degrees C.	real	
9	ACS Mode, most recent	EBCDIC	From most recent subcom record
10	minimum scan head angle	real	
11	maximum scan head angle	real	
12	number of samples in preceding minute	integer	
13	number of bit errors in preceding minute	integer	
14	number of MP 1 seconds photocurrent	integer	
15	" 2 "	integer	
16	" 3 "	integer	
17	" 4 "	integer	
18	" 5 "	integer	
19	" 6 "	integer	
20	" 7 "	integer	
21	" dark current seconds	integer	
22	SXS record number in this decom file (or OUCH)	integer	
23	number of seconds for temperature = 0	integer	
24	number of seconds since Jan. 1, 1967 (word 6)	integer	
25	total number of seconds of data in this minute	integer	
26 - 30	0 spares		

Calibration Record

Word	Content
1	4
2	tape label
3	tape label (cont.)
4	year (two digits)
5	day of year
6	decom run number
7	format number
8	bit rate
9	universal time, milliseconds, uncorrected
10	temperature, degrees centigrade
11	dark current
12	MP1
13	MP2
14	MP3
15	MP4
16	MP5
17	MP6
18	MP7
19	MP0
20	high electrometer zero
21	medium electrometer zero
22	low electrometer zero
23	log

RT records copied

Words 2 & 3 are EBCDIC; words 1, 4-9 are integer, 10 - 23 are real.

May 6, 1971

File Summary

Word	Content
1	5
2	tape label
3	tape label (cont.)
4	start time, milliseconds
5	end time milliseconds
6	number of minutes in ACS Mode 3C
7	total number of bit errors in decom file
8	total number of samples
9	total number of seconds in MP1 photocurrent
10	" " " MP2 "
11	" " " MP3 "
12	" " " MP4 "
13	" " " MP5 "
14	" " " MP6 "
15	" " " MP7 "
16	" " " dark current
17	total number of records in this decom file
18	number of minute summary records in this decom file
19-30	=0 spares
	No. of [illegible] with BIAS ≠ 0

Words 2 and 3 are EBCDIC, all remaining words are integer.

SUBCOM DATA

Word	Content	Source	Type
1	6		integer
2	time in milliseconds(uncorrected)	ACSTIM	integer
3	day of year	IPUF(3,1)	integer
4	(98,82) 0 volts	4	integer
5	(99,81) 0.5	5	integer
6	(98,83) 1.7	6	integer
7	(99,82) 2.64	7	integer
8	(98,84) 3.18	8	integer
9	(99,83) 4.12	9	integer
10	(98,85) 5.06	10	integer
11	(98,48) Load Bus Voltage	11	integer
12	(99,39) Temp. -X Panel	12	integer
13	(99,43) Temp. OPEP 1 (+Z)	13	integer
14	(97,94) Temp. Main Body Photometer	TEMP(2)	real
15	(97,95) Temp. OPEP Package	IPUF(15,1)	integer
16	(97, 8) Shutter Status	16	integer
17	(98,25) Pitch Error Signal	17	integer
18	(98,26) Roll Error Signal	18	integer
19	(98,41) Horizon Scanner Track Heads	19	integer
20	(98,42) Yaw Error Signal	20	integer
21	(98,42) Array Error Signal	21	integer
22	(98,54) ACS Mode	IACS	EBCDIC
23	(98, 7) Array Shaft Angle,Sine	IPUF(23,1)	integer
24	(98, 8) Array Shaft Angle,Cosine	24	integer
25	(98, 6) Scan Head C Angle	SCAN(1)	real
26	(98,23) Scan Head B Angle	SCAN(2)	real

SUBCOM DATA (cont.)

Word	Content	Source	Type
27	(98,72) Scan Head D Angle	SCAN(3)	real
28	(98,81) Scan Head A Angle	SCAN(4)	real
29	Bit rate (0 to 3)		integer
30	First spacecraft clock in record	IPUF(1,2)	integer

5B

RECORD TYPES ON 9-TRACK ATTITUDE-ORBIT TAPE

TYPE

20 AO data for integer minute

21 AO data for ascending node

22 AO data for north point

23 AO data for descending node

24 AO data for south point

25 AO data for shadow entry

26 AO data for shadow exit

27 AO data for moonrise

28 AO data for moonset

~~29 AO data for eclipse start and stop as computed by IPD~~

40 AO label record data

~~49 no data for this orbit, remaining words are 0.0~~

~~9999 last file on this tape, remaining words are 9999~~

~~Each file consists of the label and data for one orbit.~~

~~Record format : fixed, blocked~~

~~Record length: 320 bytes~~

~~Block-size: 16000 bytes~~

~~Density: 1600 bpi (DEN=3)~~

Attitude-Orbit Table Record

Words 1 and 30 are integer; remaining words are real.

Word	Function or Name		Attitude-Orbit Table Word Number
1	40		
2	Attitude Orbit Identification		1
3	Start time of orbit	- year (last two digits)	2
4		- month	3
5		- day	4
6	Eclipse start	- day GMT	5
7		- millisec of day	6
8	Eclipse end	-day GMT	7
9		- millisec of day	8
10	Orbit start	- day GMT	9
11		- millisec of day	10
12	Orbit end	- day GMT	11
13		- millisec of day	12
14	Epoch	- day GMT	15
15		- millisec of day	16
16	Orbit number		18
17	Semi-major axis -- earth radii		19
18	Eccentricity		20
19	Inclination -- degrees		21
20	Longitude of ascending node -- degrees		22
21	Rate of change of longitude of ascending node -- degrees/day = 0,		23
22	Argument of perigee -- degrees		24
23	Rate of change of argument of perigee -- degrees/day = 0,		25
24	Period -- minutes = 0,		26
25	Rate of change of period -- minutes/day = 0,		27
26	Spin rate -- degrees/sec = 0,		100
27	Rate of change of spin rate -- degrees/sec/day = 0		101

Word	Function or Name		Attitude-Orbit Tape Word Number
28	GEI spin axis	$-Ax = 0$	102
29		$-Ay = 0.$	103
30		$-Az = 0.$	104
31	Body spin axis	$-Abx = 0.$	105
32		$-Aby = 0.$	106
33		$-Abz = 0.$	107
34	Corrected orbit number		
35-79	Spares set to 0.0		
80	Integer number of seconds since Jan. 1, 1967		

Attitude-Orbit Minute Record and Special Event Record

Word 1 is an integer, words 2-79 are real , word 80 is integer.

Word	Function or Name		Attitude-Orbit Tape Word Number
1	Integer Code Indicates Type of Record,		
2	Time	- day count	1
3	Time	- milliseconds of day (Greenwich Mean Time)	2
4	Local time	- hours	3
5		- minutes	4
6		- tenths of minutes	5
7	Right ascension	- degrees	6
8	Declination	- degrees	7
9	Position vector	- Px	8
10		- Py	9
11		- Pz	10
12	Solar vector	- Sx	14
13		- Sy	15
14		- Sz	16
15	Latitude	- degrees	17
16	Longitude	- degrees	18
17	Height	- kilometers (above the spheroid)	19
18	True anomaly	- degrees	20
19	Sun earth satellite angle	- degrees	21
20	Ideal body roll axis	bXIx	22
21		bXIy	23
22		bXIz	24
23	Ideal body pitch axis	bYIx	25
24		bYIy	26
25		bYIz	27

Word	Function or Name		Attitude-Orbit Tape Word Number
26	Ideal body yaw axis	bZIx	28
27		bZIy	29
28		bZIz	30
29	Actual body roll axis	bXx	49
30		bXy	50
31		bXz	51
32	Actual body pitch axis	bYx	52
33		bYy	53
34		bYz	54
35	Actual body yaw axis	bZx	55
36		bZy	56
37		bZz	57
38	Magnetic range -- earth radii		76
39	Magnetic latitude -- degrees		77
40	McIlwain parameter -- earth radii	L	78
41	GSE transformation matrix		100
42	"		101
43	"		102
44	"		103
45	"		104
46	"		105
47	"		106
48	"		107
49	"		108
50	GEI spin axis	Ax	118
51	GEI spin axis	Ay	119
52	GEI spin axis	Az	120
53	Paddle angle -- degrees		121
54	OPEP angle -- degrees		122

11-2-72

Word	Function or Name	Attitude-Orbit Tape Word Number
55	NO DATA flag	124
56	SUSPECT DATA flag	125
57	Ecliptic latitude (degrees)	
58	Ecliptic longitude (degrees) $(\lambda - \lambda_0)$	
59	Galactic latitude (degrees)	
60	Galactic longitude (degrees)	
61	Depression of horizon (degrees)	
62	Coelevation of the moon (degrees)	
63	Lunar phase (degrees)	
64	Lunar radiance -- percent of full moon	
65	Lunar right ascension	
66	Lunar declination (degrees)	
67	Angular distance of sun above horizon (degrees)	
3	Shadow height above earth's surface (kilometers)	
69	Computed Geomagnetic Latitude in degrees (with Dipole lat)	550 7-17-74
70	Computed Geomagnetic Longitude in degrees	
71	Computed Geomagnetic Time in seconds	
72	Azimuth of the moon, degrees	
73	Normal component of lunar radiance, percent of zenith full moon	
74	0.0 Lat [illegible]	
75	0.0 Lat [illegible]	future
76	0.0 [illegible] (word 4 + word 5 and 6)	
77	0.0 [illegible]	SAB 7-17-74
78	0.0 [illegible]	
79	0.0	
80	[illegible] number of seconds since Jan. 1, 1967	

207 FILES

DUPE OF 0-29905

```
$JOB 22:33:2?
$ASS IN MS3
$NOP /8CR/ ENTER TYPE, # FILES, MAXIMUM # ERRORS/TAPE,DUMP IF BAD CO /JCPm
$COP *********** DUMP OF #TOUT-C1 **********
$AVE IN 1
$EXEC DPHEX RS
 INPUT TAPE ON MS3
 DATA INPUT     1 1 1
  FILE  1          RECORD     1          LENGTH   2176BYTES
```

1 KB09 3700 6773 1 YR67 0220 0100

08/02/67 THRU 08/09/67

(0)	54AC0000	007C0000	00000001	D2C2F0F9	F3F74040	F6F7F7F3	F1000000	F6F70000	F0F2F200	F0F10000
(40)	F0F0F3F0	F0F10000	F0F0F5F6	F2F2F600	F2000000	F2F1F400	40F8F2F6	F8000000	F0F00000	F0F0F9F0
(80)	F0F1[illegible]	F4F40000	F0F30000	F0F20000	F0F0F600	F1F20000	F1000000	0118EFCC	000AD8A6	00000001
(120)	00034E29	00000047	14400000	00000026	47493D08	42430000	41800000	41200000	00000000	00000000
(160)	00000000	00000000	42D60000	4650871D	42D60000	46A95F60	42D10000	44CBE800	42420000	4111A7C5
(200)	3F9[illegible]7268	4256[illegible]165	42E[illegible]1E34	00000000	4299C093	00000000	00000000	00000000	00000000	00000000
(240)	00000000	00000000	00000000	00000000	00000000	00000000	42420000	00000000	00000000	00000000
(280)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(320)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(360)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(400)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
(440)	00000000	00000001	0118E41D	01440001	00000014	42D60000	467D6D60	41600000	41300000	41102874
(480)	422A5203	C15EDF7C	441386E7	4411F41E	C32C4F7C	C75B66AD	47671CFC	472CB6DF	C15F7685	423A144C
(520)	431E4E05	422CDFB5	42581967	CC47C1A9	40296E56	C0F2384B	409DF01F	CCB98A81	C04E864E	C0BC4316
(560)	C0AB725F	401A723E	C047C1A9	40296E56	C0F2384B	409DF01F	C0B98A81	C04E864E	C0BC4316	C0AB725F
(600)	401A723E	4110D577	C1CF5F04	4111B774	C0A13543	40B637BD	404F048B	C0C69CEA	C0942FF0	C04042B7
(640)	00000000	0065D95C	40EADE18	41400000	41400000	41400000	00000000	00000000	423F0000	00000000
(680)	C2152CDF	C25B2DCE	C2363488	42B59EAE	4215AAB1	4230322B	42829597	411B9EBB	424DF879	421AA32B
(720)	4214914A	40B3483B	C1CE0519	427E5248	44552280	422CF937	4112693E	00000000	00000000	00000000
(760)	00000000	00000000	00000000	0118EF9C	01BC0000	00000002	00000000	000669B1	00000000	007E2A4E
(800)	000000D6	00000043	000000C2	00000001	00000000	0000001D	42106CCC	404B8599	00000000	00000000
(840)	404B8599	00000000	404B8599	0118EFCC	411A8DA2	007E2A58	404E98B5	00000000	007E2A6B	4051B93C
(880)	00000000	007E2A7D	404D7BF3	00000000	007E2A8F	404C1DC4	00000000	007E2AA1	404BA904	00000000
(920)	007E2AB2	404D7BF3	00000000	007E2AC5	404A9364	00000000	007E2AD7	404CCF3C	00000000	007E2AE8
(960)	40503857	00000000	007E2AFB	404DB3F7	00000000	007E2B0C	404E2659	00000000	007E2B1F	404C5CE0
(1000)	00000000	007E2B31	40519682	00000000	007E2B43	404D419F	00000000	007E2B55	404B05C1	00000000
(1040)	007E2B66	4048EC9D	00000000	007E2B79	404CCF3C	00000000	007E2B8B	4050AD0C	00000000	007E2B9D
(1080)	40503857	00000000	007E2BAE	404F0B0E	00000000	007E2BC0	404C5CE0	00000000	007E2BD2	40506227
(1120)	00000000	007E2BE5	404E2659	00000000	007E2BF7	404E2659	00000000	007E2C09	404A9364	00000000
(1160)	007E2C1A	404D073D	00000000	007E2C2C	404F0B0E	00000000	007E2C3F	40506227	00000000	007E2C51
(1200)	40FD11D1	00000000	007C0000	00000006	007E4AB4	000000D6	00000800	00000800	00000800	00000800
(1240)	00000800	00000800	00000800	00000800	00000800	00000800	42106CCC	00000800	00000800	00000800
(1280)	00000800	00000800	00000800	00000800	E7E74040	00000800	00000800	C1166666	C2640000	C2640000
(1320)	C2640000	00000002	000669B7	01EC0000	00000002	00000000	000669B2	00000000	007E2E36	000000D6
(1360)	00000043	00000002	00000000	00000000	00000022	42106CCC	4048C3B4	00000000	00000000	4048C3B4
(1400)	00000000	4048C3B4	0118EFCD	411A8DA2	007E2DCB	404A9364	00000000	007E2DDC	404A4AD3	00000000
(1440)	007E2DEE	4049D613	00000000	007E2E01	40485786	00000000	007E2E12	405630D4	00000000	007E2E25
(1480)	404B05C1	00000000	007E2E36	404DB3F7	00000000	007E2E48	405625BE	00000000	007E2E5B	40503857
(1520)	00000000	007E2E6C	404CCF3C	00000000	007E2E7E	4045BB72	00000000	007E2E90	40470068	00000000
(1560)	007E2EA2	404ABF8F	00000000	007E2EB5	4049AEA6	00000000	007E2EC7	4048EC9D	00000000	007E2ED9
(1600)	404C5CE0	00000000	007E2EEA	40487824	00000000	007E2EFC	4049AEA6	00000000	007E2F0F	404A9364
(1640)	00000000	007E2F21	4046302A	00000000	007E2F32	4050AD0C	00000000	007E2F44	405382AF	00000000
(1680)	007E2F56	4052209C	00000000	007E2F69	405956CD	00000000	007E2F7B	405382AF	00000000	007E2F8D
(1720)	404D419F	00000000	007E2F9E	40485786	00000000	007E2FB0	404BA904	00000000	007E2FC3	404D419F
(1760)	00000000	007E2FD5	405146E4	00000000	007E2FE7	404DB3F7	00000000	007E2FF8	404E656B	00000000
(1800)	007E300A	404EDA26	00000000	007E301D	404D7BF3	00000000	007C0000	00000006	007E53B4	000000D6
(1840)	00000000	00000019	00000055	00000084	0000009F	000000CE	000000FD	000000D7	00000080	00000081
(1880)	42106CCC	00000000	00000500	00000082	00000086	000000F9	0000007C	00000081	F3E24040	00000800
(1920)	0000082C	C2640000	424455C6	424455C6	42464ED9	00000002	FFFFFFFF	02F40000	00000002	00000000
(1960)	00066933	00000000	007E321F	000000D6	00000043	00000002	00000000	00000000	00000038	42106E12
(2000)	4044EEEF	00000000	00000000	4044EEEF	00000000	4044EEEF	0118EFCE	411A8DA2	007E302F	404E656B
(2040)	00000000	007E3041	404B05C1	00000000	007E3052	404D419F	00000000	007E3064	404ABF8F	00000000
(2080)	007E3076	404C1DC4	00000000	007E3089	40487824	00000000	007E309A	404ABF8F	00000000	007E30AC
(2120)	4048C9E9	00000000	007E30BE	40493C44	00000000	007E30D1	40461BA9	00000000	007E30E3	4049AEA6
(2160)	00000000	007E30F5	40468E05	00000000	007E3106	4045BB72	00000000	007E3118	4044C486	00000000

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$JOB  14:18:06
$NOP ***************DUMP IV/JCPT0097
DATA IGNORED
DATA IGNORED
DATA IGNORED
DATA IGNORED
DATA IGNORED
DATA IGNORED
DATA IGNORED
DATA IGNORED
DATA IGNORED
$NOP ******** FILE 203 OF WOOUT1 *****
$ASS IN MS4
$AVF IN 202
$EXEC DPHEX BS
 INPUT TAPE ON MS4
 DATA INPUT     1 1 STOP
  FILE  1       RECORD   1       LENGTH   21676BYTES
   (    0)  54ACCCCC  007C0000  CCCCCCC1  D2C2F0F9  F3F7404C  F6F7F7F3  F1000000  F6F70000  F0F1F900  FCF10000
   (   40)  F0F8F6F8  F0F10000  F1F9F9F8  F2F7F1C0  F30CCCCC  F2F2F0C0  F5F0F8F1  F4000000  F1F50000  F2F1F3F1
   (   80)  F0F1CCCC  F5F700C0  F0F30000  F0F10000  F0F0F400  F1F20000  F2000000  01217EFE  000AD76D  CCCCCC44
   (  120)  000B4E29  00000003  01440000  00000014  42DC0000  473C773A  42110000  42180000  415AEEF2  42DAF2DF
   (  160)  4137ACAE  C4159DA0  C4117BD9  431B0A79  C766F277  475D55C6  47287950  4138026A  4232CE0E  432EE59B
   (  200)  42F91C4D  425C8846  4037B2D0  CC2D22D7  40F5C1BE  4C9776E6  CCC227CD  CC45FCA7  40C6B9F8  4CA0A196
   (  240)  BFF89A75  4037B2D0  CC2D22D7  40F5C1BE  409776E6  CCC227CD  CC45FCA7  40C6B9F8  40A0A196  BFF89A75
   (  280)  41115DD8  C125A85F  4111655A  CCBC17CA  40A5169B  4C4796F4  CCB3F13A  CCA7CFC8  C04871B2  CCCCCCC0
   (  320)  CC65D95C  40EADE18  41400CCC  41400CC0  41400CC0  CCCCCCCC  00000CC0  423FCCC0  00000000  4211C705
   (  360)  425CCD85  423CFC8E  43162916  421A8672  42311CC5  C293AD71  4C8CFAA2  42AA88CC  417B8230  4223FE2C
   (  400)  00000CC0  C12565EF  4278AA86  44F63D3A  43115389  4C5C5E6F  00000CC0  C0000CC0  00000000  CCC00000
   (  440)  00000CC0  CCCCCCCC  C1217F04  005C0CC0  C0000CC2  CCCCCCC0  000EF923  C0000C00  03084F94  00C0000C
   (  480)  00000043  00000CC5  C0000001  00000001  41F7FF10  405CC9AC  405CC9AC  00000000  CCCCCCCC
   (  520)  00000CC0  00000CC0  C1217F3C  414F0A30  0308500A  405CC9AC  CC7C0CCC  CCCCCCC3  00000C0C  CCCCCCC0
   (  560)  03085CCA  C00EF923  C3C84F94  000000C0  41FD0A88  E7E74C40  4264CCC0  C264CCC0  0000001E  00CC0000
   (  600)  00000CC0  00000000  C0CCCCCC  0000000C  00000CCC  CCCCCCCC  00000CC0  C0000CC2  00000004  00CC0000
   (  640)  C1217F3C  00000002  CCCCCCCC  0000C0CC  00000CCC  CCCCCCCC  00000CCC  CC7C0CC0  C0000006  031A7DA0
   (  680)  CCCCCCDC  00000CC0  CCCCC019  00000055  00000084  CCCCCC9F  C000000E  C000000D  000000D0  00CC0085
   (  720)  00000003  4210B851  C0000C00  0000000A  00000081  00CCC083  000000F8  0000007D  0000007F  F3C34040
   (  760)  0000002F  0000CCCE  424718E1  424718E1  424718E1  42464ED9  00000003  000EFA7A  01440000  00CC0014
   (  800)  42DCCCC0  473C85E0  4211C000  42190000  415BE596  42DB336D  4170F402  C4155EB4  C4116DF0  4336A420
   (  840)  C766F2C4  475D557D  4728793E  4171A0F6  4232CE71  432DFA81  42FCBDA2  424FCF7B  40423CEB  C021333F
   (  880)  40F5CB1E  40959F83  C0C49801  C04314A7  40C4E11A  40AC9371  CC1F7675  40423CEB  C021333F  40F5CB1E
   (  920)  40959F83  C0C498C1  C04314A7  40C4E11A  40AC9371  CC1F7675  411136F8  411319EB  411138E2  CCB61793
   (  960)  40A5161C  404796BD  CCB3F0B0  C0A70F86  C04871E8  CCCCCCC0  C065D95C  40EADE18  41400000  41400000
   ( 1000)  41400CCC  00000CC0  CCCCCCCC  423F0000  00000CC0  42153DEC  424FCFCF  4239484E  43167837  421A499F
   ( 1040)  423DF3D2  C293A63D  4C8D5D24  42AA8B1E  417B6FCA  42247A24  00000CC0  41135EED  4279485A  44F7CD31
   ( 1080)  43112051  405CD4E3  C0000000  00000000  00000CC0  CCCCCCC0  00000000  00000000  01217F40  005C0000
   ( 1120)  00000CC2  00000CC0  CCCEF93C  00000000  0308B13B  CCCCCCDC  00000043  00000006  00000001  00000001
   ( 1160)  C0000CC1  00CC0CCC  4C49A161  4C49A161  00000CCC  CCCCCCC0  C0000CC0  00000CC0  01217F55  414F0A32
   ( 1200)  0308B2C2  4049A161  0C7C0000  00000006  031EFD90  0CCCCCDC  00000000  00000019  00000055  00000084
   ( 1240)  00000C9F  0000000E  CCCCCCFD  0CCCCCD5  00000084  CCCCCCC2  421103D6  C0000CC0  C000000A  00000081
   ( 1280)  0000CC90  0000CCF9  CCCCCC7C  00000081  F3C34040  CCCCCC46  C0000011  4245E9D5  42458402  42451FCE
   ( 1320)  42458402  00000003  CCCEFDCA  005C00C0  00000002  0CCCCCC0  C0CEF94E  C0000CC0  0308F78A  00CCC0DC
   ( 1360)  00000C43  00000000  CCCCCCC1  00000001  00000001  CCCCCCC0  405CC9AC  405CC9AC  00000000  CCCCCCC0
   ( 1400)  00CCCCC0  00000000  01217F67  414F0A30  0308F8A6  4C5CC9AC  C144CCC0  00000014  42DC0000  473C9486
   ( 1440)  4211CCC0  421A0000  416015D0  42DB7546  41AA78F9  C415C9F4  C411513A  435205CA  C766F310  475D5534
   ( 1480)  4728791E  41AB7B21  4232DC1E  432DCC24  43100563  424F1FEC  404C9BC6  CC1507B5  40F35C92  40941AE8
   ( 1520)  C0C6D24C  C03FCDB8  40C23F4F  409FE2FF  C02F54BE  4C4C9BC6  C01507B5  40F35C92  40941AE8  CCC6D24C
   ( 1560)  C03FCDB8  40C23F4F  409FE2FF  C02F54BE  411119B1  414C12E5  411137FA  C0B6181C  40A5159D  40479686
   ( 1600)  C0B3FC25  C0A71003  C048721F  00CC0CC0  C065D95C  4CEADE18  41400CC0  41400000  41400000  00CCCCC0
   ( 1640)  0CCCCCC0  423F0000  C0CCCCCC  42188705  424EC333  423B5E1D  4151B462  421A0B39  42310BD7  C2939CFE
   ( 1680)  408DDB9E  42AA8D6F  417B5D64  4224EB4D  C000C0CC  414C5A88  4279E876  44F7DF4B  4310ED1F  4C5CFB0F
   ( 1720)  0C0C0CCC  00C00000  CCCCCCCC  0000000C  00CCCCCC  0CCCCCCC  C1217F7C  005C0000  00000002  C0000000
   ( 1760)  C00EF972  00000000  C3C9842A  0000000C  C0000043  0CCCCCC4  00000001  C0000001  00000001  CCC00000
   ( 1800)  405CC9AC  405CC9AC  00000000  000000C0  00000000  0CCCC00C  01217F8B  414F0A30  030984FE  4C5CC9AC
   ( 1840)  0C7CCCCC  00000003  C0CCCCCC  000C00C0  C30984FE  CCCEF972  C3C9842A  00000000  00000000  F3C34040
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FILE 203

DUMP OF 0-29905

08/08/67

23
492