

	YEAR	MONTH	DAY	HOUR	MINUTE	SECOND			
GMT	71	7	30	2	17	20.758			
GET			3	12	43	19.966			
STATE VECTOR	X	Y	Z	X DOT	Y DOT	Z DOT			
1950.0	-1421.7424774	-543.1986084	-1032.0208282	-.9153109	1.1309677	.6986531			
SELENOGRAPHIC	-1665.1661987	84.0931139	-775.6502380	.0088158	1.6017186	.1965808			
SIGMA(SELENO)	.01	1.98	.25	.002	.000	.001			
LONGITUDE OF NADIR POINT	177.1089420 DEG	LATITUDE OF NADIR POINT	-24.9486315 DEG						
SIGMA NADIR LONGITUDE	.0011873 DEG	SIGMA NADIR LATITUDE	.0001415 DEG						
LONG OF CAMERA AXIS INTERSECT	177.0724411 DEG	LATI OF CAMERA AXIS INTERSECT	-24.9630084 DEG						
SPACECRAFT RADIUS	1838.8809967 KM	SPACECRAFT ALTITUDE	100.7909898 KM						
SIGMA SPACECRAFT RADIUS	.0000038 KM	AZIMUTH OF VELOCITY VECTOR	277.4912706 DEG						
MEAN ALTITUDE RATE	-.0184979 KM/SEC	HORIZONTAL VELOCITY	1.6138704 KM/SEC						
TILT AZIMUTH	246.5081749 DEG	TILT ANGLE	.6221254 DEG						
SIGMA TILT AZIMUTH	.1852602 DEG	SIGMA TILT ANGLE	.0019891 DEG						
SUN ELEVATION AT PRIN GRND PNT	3.0106421 DEG	SUN AZIMUTH AT PRINCIPAL GRND PNT	271.6881981 DEG						
LONGITUDE OF SUBSOLAR POINT	90.5140724 DEG	LATITUDE OF SUBSOLAR POINT	.2581512 DEG						
ALPHA	-.5958205 DEG	SWING ANGLE	238.8228798 DEG						
EMISSION ANGLE	.6582311 DEG	SIGMA SWING ANGLE	.1852601 DEG						
PHASE ANGLE	87.5851421 DEG	NORTH DEVIATION ANGLE	172.2976055 DEG						
PHI	.5322901 DEG	X-TILT	-.3220729 DEG						
SIGMA PHI	.0019999 DEG	SIGMA X-TILT	.0020002 DEG						
KAPPA	-172.3158855 DEG	Y-TILT	-.5322817 DEG						
SIGMA KAPPA	.0020000 DEG	SIGMA Y-TILT	.0019998 DEG						
OMEGA	-.3220729 DEG	HEADING	-82.3128901 DEG						
SIGMA OMEGA	.0020002 DEG	SIGMA HEADING	.0020001 DEG						
SCALE FACTOR	.0000000 M/KM	LASER SLANT RANGE	104.6089983 KM						
SPACECRAFT ALTITUDE(LASER)	104.6028357 KM	ALTITUDE DIFFERENCE	3.6118658 KM						

SELENOGRAPHIC DIRECTION COSINES OF CAMERA AXIS	X .90780457	Y -.03587440	Z .41785630	MAGNITUDE (KM) 100.797272
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TRANSFORMATION MATRIX FROM
SELENOCENTRIC TO CAMERA

-.58407100+00	.69237117+00	.42365463+00
.25911932+00	.65366594+00	-.71104001+00
-.76923227+00	-.30552077+00	-.58119413+00

TRANSFORMATION MATRIX FROM
LOCAL HORIZONTAL TO CAMERA

-.99097056+00	.13375750+00	.92899338-02
-.13370938+00	-.99100459+00	.56212032-02
.99582503-02	.43282825-02	.99994109+00



LATITUDE	LONGITUDE
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-26.869	174.259
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-22.324	175.003
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-22.896	-179.994
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-27.531	179.369
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* DIVIDE CHECK AT 034207