

DEPARTMENT OF THE NAVY
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From: Commanding Officer, U. S. Naval Ammunition Depot, Crane, Indiana
To: National Aeronautics and Space Administration, Goddard Space
Flight Center, Electrochemical Power Sources Section (716.2),
Space Power Technology Branch, Greenbelt, Maryland 20771

Subj: Monthly Progress Report on National Aeronautics and Space
Administration Space Cell Test Program; submission of

Encl: (1) Monthly Progress Report as of 31 August 1966 (3 copies)

1. The progress report for Goddard Space Flight Center purchase order
S-23404-G on the space cell test program is submitted as enclosure (1).

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By direction

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1. Burgess-Borden Cells:

a. These 10 ampere-hour silver-zinc cells are being tested for separator quality and performance at room temperature under the following conditions.

(1) Pack 8: Pudo Separator Material, Cells Number 1 - 10.

(a) These cells are discharged individually at the c/5 rate (i.e. 2 amps) to a terminal voltage of 1.3 volts per cell. Following a stand of 8 to 12 hours in the discharged state, the cells are then charged at a constant potential of 1.97 volts per cell for 30 hours. The power supply for this charge is current limited at 0.500 amperes. Upon completion of a 2-hour stand in the charged condition, this cycle is repeated.

1. Cells Still Cycling: 5

2. Cycles Completed: 195

(2) Pack 9: Pudo Separator Material, Cells Number 11 - 15 and C-3 Separator Material, Cells Number 11 - 15.

(a) These cells are discharged individually at the c/5 rate to a terminal voltage of 1.3 volts per cell. Following a stand of 6 to 8 hours in the discharged state, the cells are then charged at the c/20 rate to give each individual cell an input of 120 percent of its previous discharge. Upon completion of a 30-day stand in the charged condition, this cycle is repeated.

1. Pudo Cells Still Cycling: 2

2. C/3 Cells Still Cycling: 4

3. Cycles Completed: 12

(3) Pack 16: C-3 Separator Material, Cells Number 36 - 40 and 9107/12, Cells Number 1 - 5.

(a) The cells are discharged individually at the c/5 rate to a terminal voltage of 1.3 volts per cell. Following a stand of 6 to 8 hours in the discharged state, the cells are then charged at the c/20 rate to give each individual cell an input of 120 percent of its previous discharge. Upon completion of a 30-day stand in the charged condition, this cycle is repeated. The electrolyte in these cells is a 30 percent KOH solution.

1. C/3 Cells Cycling: 5

2. 9107/12 Cells Still Cycling: 3

3. Cycles Completed: 6

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(4) Pack 17: C-3 Separator Material, Cells Number 41 - 45.

(a) The cells are discharged individually at the c/5 rate to a terminal voltage of 1.3 volts per cell. Following a stand of 6 to 8 hours in the discharged state, the cells are then charged at the c/20 rate to give each individual cell an input of 120 percent of its previous discharge. Upon completion of a 30-day stand in the charged condition, this cycle is repeated. The electrolyte in these cells is a 40 percent KOH solution.

1. Cells Cycling: 5

2. Cycles Completed: 6

(5) Pack 18: 9107/5, Cells Number 1 - 5 and B/3, Cells Number 1 - 5.

(a) The cells are discharged individually at the c/5 rate to a terminal voltage of 1.3 volts per cell. Following a stand of 6 to 8 hours in the discharged state, the cells are then charged at a constant potential of 2.05 volts per cell for 30 hours with the power supply current limited at 500 milliamperes. Upon completion of a 2-hour stand in the charged condition, this cycle is repeated.

1. 9107/5 Cells Still Cycling: 1

2. B/3 Cells Still Cycling: 1

3. Cycles Completed: 81

(6) Pack 19: C-3 Separator Material, Cells Number 46 - 50.

(a) The cells are discharged individually at the c/5 rate to a terminal voltage of 1.3 volts per cell. Following a stand of 6 to 8 hours in the discharged state, the cells are then charged at a constant potential of 2.05 volts per cell for 30 hours with the power supply current limited at 500 milliamperes. Upon completion of a 2-hour stand in the charged condition, this cycle is repeated.

1. Cells Cycling: 5

2. Cycles Completed: 81

2. Yardney 13XYS11 (13 Cell Pack):

a. This is a test of Yardney, silver-cadmium, 11 ampere-hour cells. The cycles consist of 1-hour discharges at 3.6 amperes followed by recharges at 1 ampere to 1.50 volts per cell average.

(1) Cell No. 1 failed on cycle 297

(2) Cells Cycling: 12

(3) Cycles Completed: 440

3. Yardney-G.E. Auxiliary Electrodes, 12 Ampere-hour, Pack of 8 Cells:

a. The plates for these cells were made by the Yardney Electric Corporation and the auxiliary electrodes were made by the General Electric Company. These cells have completed 100 cycles at each of three temperatures; 0° C, 25° C and 40° C; consisting of discharges for 1 hour at 5.2 amperes followed by constant potential charges to 1.51 volts per cell average with current limited to 0.5 amperes. The same cycling program is continuing at 25° C.

(1) Cells Cycling: 8

(2) Cycles Completed: 515

4. Sonotone, 3.5 Ampere-hour, Nickel-Cadmium Cells:

a. Overcharge Test, One Pack of 10 Cells. These cells are being charged at 35 milliamperes for 1 year, with cell voltages read once a week.

(1) Cells on Test: 10

(2) Time on Charge: 5 Months

b. Open Circuit Stand Test, One Pack of 10 Cells. These cells were charged at 350 milliamperes for 16 hours. They are now on open circuit stand for 1 year with cell voltages read once a week.

(1) Cells on Test: 10

(2) Time on Open Circuit Stand: 5 Months

5. Imp 18:

a. This test is in a stand by condition awaiting further instructions.

(1) Cycles Completed: 1340

6. Imp 19:

a. In this test we are simulating the operation of the Imp satellite (Explorer XXVIII) battery. The simulating test is running approximately 60 days behind the launch of the satellite. The battery is in a vacuum chamber at approximately 25 microns. The charging current varies sinusoidally to simulate the satellite's rotation of 0.75 c.p.s. The test is conducted with test parameters received periodically from the project office. The parameters include charge and discharge time, charge rate, and temperature. Instrumentation provides a low (discharge) voltage cutoff of 12 volts which simulates lock out on the satellite. Charge control is provided by means of a two step regulator which provides better cell balance by lowering the voltage limit when the battery is fully charged and is in the float charge mode.

(1) Cycles Completed: 374 Days as of 1 September 1966.

7. ESB 5XESB #1, Silver-Cadmium, Auxiliary Electrode:

a. These 8 ampere-hour, auxiliary cells with bellows have completed the preliminary tests and have started automatic cycling. Their performance will be reported in the large monthly cycling report put out by this activity.

8. French FR #1:

a. These 3.0 ampere-hour, silver-cadmium cells have completed their conditioning cycling and will be started on automatic cycling in the very near future. Their performance will be reported in the large monthly cycling report put out by this activity.

9. AIMP 06:

a. These 11.0 ampere-hour, silver-cadmium cells have completed their preliminary conditioning tests. The first set of temperature data has been received, and cycling has been started.

10. Cells to be tested during next few months:

a. Silver-Zinc Cells:

(1) Type 1. Negatives contain 5% teflon as a binder and a surfactant - emulphogone BC 840 Separator - Cellophane C19.

(2) Type 2. Negatives contain 5% teflon as a binder, Separator - Cellophane C19.

(3) Type 3. Negatives contain 0.5% CMC, Separator 2.2xH (RAI Material) Series 1 and 2.

b. Several types of Yardney AgCd cells from Contract NAS5-9106 with Pellon/cellophane separation system and teflonated (1%) negatives.

c. Additional silver-cadmium cells with electrodes from G. E. and Gulton.

d. Sealed silver-zinc cells from Delco and Yardney.

e. 100 additional cells of the Borden/Burgess type. These cells will be tested similarly to the tests described under paragraph 1. above.

f. Cells from Leeson Moos, Contract NAS5-9591, Improvements of the Zinc Electrode.

11. Reporting on these programs will be done by either this activity or Goddard Space Flight Center.

MONTHLY PROGRESS REPORT THROUGH 31 AUGUST 1966

LIFE CYCLE TESTS

TOTAL NUMBER OF PACKS IN PROGRAM: 172

SECTION I

1. Status of original Cycling Program: The cycling program has included cells from the following manufacturers; General Electric Company (G.E.), Gould-National Batteries, Inc. (Gould), Sonotone Corporation (Sonotone), and Gulton Industries, Inc. (Gulton).

TOTAL NUMBER OF PACKS IN ORIGINAL PROGRAM: 84

	Total Number of Packs			Cells Failed*	
	Cycled To Date	Cycling	Failed	Since Last Report	Total To Date
NICKEL-CADMIUM (10-cell packs)					
G.E. 3.0 a.h.	12	5	7	1	46
Gould 3.5 a.h.	12	3	9	1	63
Sonotone 5.0 a.h.	12	5	7	0	48
Gulton 6.0 a.h.	12	2	10	0	69
TOTAL	48	15	33	2	226
NICKEL-CADMIUM (5-cell packs)					
G.E. 12 a.h.	12	6	6	0	18
Gulton 20 a.h.	12	2	10	0	35
Gould 20 a.h.	12	3	9	0	27
TOTAL	36	11	25	0	80

*All failure analysis results are cumulative. Total pack failures are shown on pages 11 through 38; partial pack failures on pages 39 through 47.

2. Test Parameters:

a. General Cycling Program:

(1) Ambient Temperature:

(a) 0° C.

(b) 25° C.

(c) 40° C.

(2) Voltage limits per pack on charge:

(a) 1.55 ± 0.03 volts per cell at 0° C.

(b) 1.49 ± 0.03 volts per cell at 25° C.

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(c) 1.45 ± 0.03 volts per cell at 40° C.

(3) Depth of Discharge:

(a) 90-minute and 3-hour orbits:

1. 15 percent and 25 percent at 0° C.
2. 25 percent and 40 percent at 25° C.
3. 15 percent and 25 percent at 40° C.

(4) Orbit Time:

- (a) 90 minutes--30-minute discharge and 60-minute charge.
- (b) 3 hours--30-minute discharge and 150-minute charge.

3. Capacity Tests:

a. Before cycling, each pack was given a capacity test at its respective cycling temperature. This check consisted on a c/10 charge for 16 hours followed by a c/2 discharge to 1.0 volt per cell average. After each 88 days of cycling, each pack was discharged immediately after the end of the regular cycle charge period, at the c/2 rate to 1.0 volt per cell average. The pack was then recharged at the c/10 rate for 16 hours and discharged at the c/2 rate to 1.0 volt per cell average. The pack was then recharged at the c/10 rate for 48 hours, voltage limited to the cycle limits. Data of capacity tests is tabulated on pages 61 through 65.

4. Data:

a. Under normal operation, complete data is scheduled to be recorded every 32 cycles on the 90-minute and 3-hour packs.

b. The attached data sheets give end of discharge and end of charge voltage readings for each cell on each cycle recorded.

SECTION II

1. Status of additions to Cycling Program: The cycling program has included cells from the following manufacturers; General Electric Company (G.E.), Sonotone Corporation (Sonotone), Yardney Electric Corporation (Yardney), Gulton Industries, Inc. (Gulton) and Delco-Remy (Delco).

TOTAL NUMBER OF PACKS ADDED TO THE PROGRAM: 89

	Total Number of Packs			Cells Failed*	
	Cycled			Since Last	Total
	To Date	Cycling	Failed	Report	To Date
NICKEL-CADMIUM (10-cell packs)					
Gulton 3.6 a.h. SHERFEY	1	0	1	4	8
Gulton 3.6 a.h. COULOMETER	1	1	0	0	1
TOTAL	2	1	1	4	9
NICKEL-CADMIUM (5-cell packs)					
G.E. 5.0 a.h. NIMBUS	6	5	1	0	8
G.E. 12 a.h.	1	0	1	0	5
G.E. 12 a.h. 3rd Electrode	4	2	2	0	2
G.E. & Gulton 6.0 a.h. COUL	1	1	0	1	5
Sonotone 3.0 a.h.	6	4	2	1	7
Sonotone 5.0 a.h. COULOMETER	1	1	0	0	0
Sonotone 5.0 a.h. STABISTOR	8	2	6	0	24
Gulton 1.25 a.h.	4	4	0	1	1
Gulton 4.0 a.h. COMMERCIAL	6	4	2	0	7
Gulton 5.0 a.h. NIMBUS	6	5	1	2	5
Gulton 5.6 a.h. FOLDED SEAL	4	4	0	1	2
Gulton 5.6 a.h. NONFOLDED SEAL	4	3	1	0	4
Gulton 6.0 a.h.	1	0	1	0	3
Gulton 6.0 a.h. HSI	3	1	2	1	6
Gulton 6.0 a.h. 3rd Electrode	6	3	3	0	11
Gulton 12 a.h.	6	4	2	0	8
Gulton 50 a.h.	2	0	2	0	6
TOTAL	69	43	26	7	104
SILVER-CADMIUM (10-cell packs)					
Yardney 12 a.h.	2	0	2	0	16
TOTAL	2	0	2	0	16
SILVER-CADMIUM (5-cell packs)					
Yardney 5.0 a.h.	6	2	4	0	12
Yardney 12 a.h.	3	2	1	0	2
TOTAL	9	4	5	0	14

*All failure analysis results are cumulative. Pack failures are shown on pages 48 through 60.

	Total Number of Packs Cycled			Cells Failed*	
	To Date	Cycling	Failed	Since Last Report	Total To Date
SILVER-ZINC (10-cell packs)					
Yardney 12 a.h.	1	0	1	0	6
Delco 25 a.h.	1	0	1	0	5
TOTAL	2	0	2	0	11
SILVER-ZINC (5-cell packs)					
Delco 25 a.h.	4	0	4	1	11
Delco 40 a.h.	1	0	1	0	2
TOTAL	5	0	5	1	13

*All failure analysis results are cumulative. Pack failures are shown on pages 48 through 60.

2. Test Parameters:

a. General Nickel-Cadmium Cycling Program:

(1) Ambient Temperature:

- (a) 0° C.
- (b) 25° C.
- (c) 40° C.

(2) Voltage limits per pack on charge:

- (a) 1.55 ± 0.03 volts per cell at 0° C.
- (b) 1.49 ± 0.03 volts per cell at 25° C.
- (c) 1.45 ± 0.03 volts per cell at 40° C.

(3) Depth of Discharge:

(a) 90-minute and 3-hour orbits:

- 1. 15 percent and 25 percent at 0° C.
- 2. 25 percent and 40 percent at 25° C.
- 3. 15 percent and 25 percent at 40° C.

(b) 24-hour orbits:

- 1. 50 percent at 25° C and 40° C.

(4) Orbit Times:

- (a) 90 minutes--30-minute discharge and 60-minute charge.
- (b) 3 hours--30-minute discharge and 150-minute charge.
- (c) 24 hours--1-hour discharge and 23-hour charge.

b. Nimbus Packs:

(1) Ambient Temperature:

- (a) 0° C.
- (b) 25° C.
- (c) 40° C.

(2) Voltage limit per pack on charge: 1.49 ± 0.03 volts per cell at each temperature.

(3) Depth of Discharge:

- (a) 15 percent and 25 percent at 0° C.
- (b) 25 percent and 40 percent at 25° C.
- (c) 15 percent and 25 percent at 40° C.

(4) Orbit Time: 90-minutes--30-minute discharge and 60-minute charge.

c. Third Electrode Packs (Gulton):

(1) Ambient Temperatures:

- (a) 0° C.
- (b) 25° C.
- (c) 40° C.

(2) Voltage limits per pack on charge: None. Limit is controlled by the third electrode voltage:

- (a) 150 millivolts at 0° C.
- (b) 300 millivolts at 25° C.
- (c) 300 millivolts at 40° C.

(3) Depth of Discharge:

(a) 25 percent and 40 percent at 0° C.

(b) 25 percent and 40 percent at 25° C.

(c) 15 percent and 25 percent at 40° C.

(4) Orbit Time: 90 minutes--30-minute discharge and 60-minute charge.

d. Third Electrode Packs (General Electric):

(1) Ambient Temperatures:

(a) 0° C.

(b) 25° C.

(c) 40° C.

(2) Voltage limit per pack on charge: None. Limit is controlled by the third electrode voltage; 400 millivolts at all temperatures.

(3) Depth of Discharge:

(a) 25 percent and 40 percent at 0° C.

(b) 25 percent and 40 percent at 25° C.

(c) 15 percent and 25 percent at 40° C.

(4) Orbit Time: 90 minutes--30-minute discharge and 60-minute charge.

e. Stabistor Packs:

(1) Ambient Temperatures:

(a) -20° C.

(b) 0° C.

(c) 25° C.

(d) 40° C.

(2) Voltage limits per pack on charge: None. Stabistor controls cell voltage.

(3) Depth of Discharge:

(a) 25 percent and 40 percent at -20° C.

(b) 25 percent and 40 percent at 0° C.

(c) 25 percent and 40 percent at 25° C.

(d) 15 percent and 25 percent at 40° C.

(4) Orbit Time: 90 minutes--30-minute discharge and 60-minute charge.

f. Coulometer Packs:

(1) Ambient Temperature: 25° C.

(2) Voltage limit per pack on charge: None. Coulometer controls cell voltage.

(3) Depth of Discharge:

(a) 30 percent for 5 cells (Sonotone 5 a.h.)--Coulometer built by Goddard Space Flight Center.

(b) 40 percent--coulometer built by G.E. (replaced by Gulton coul.)

1. 10 cells (Gulton 3.6 a.h.)

2. 11 cells (6 Gulton 6.0 a.h. and 5 G.E. 6.0 a.h.)

(4) Orbit Time: 90 minutes--30-minute discharge and 60-minute charge.

g. Sherfey Cycling Packs:

(1) Ambient Temperature: 25° C.

(2) Voltage limit per pack on charge: None. Pack cycled in the partially discharged state.

(3) Depth of Discharge: 40 percent at 25° C.

(4) Orbit Time: 90 minutes--30-minute discharge and 60-minute charge.

(5) Cell Type: Gulton 3.6 a.h.

(6) This type of cycling starts with the cells in a completely discharged condition. Each cycle consists of a charge of 60 percent of the cell's rated capacity followed by a discharge of 40 percent of the cell's rated capacity. Upon completion of each fifth cycle, the cells are discharged through a resistor for 90 minutes to return the cells to the completely discharged condition for the start of the next sequence of five cycles. In this manner, the cells operate below the 100 percent charged state much of the time thereby preventing overcharging and buildup of excessive gas pressure.

h. Neoprene-Seal Packs: (Folded and Nonfolded)

(1) Ambient Temperatures:

- (a) -20° C.
- (b) 0° C.
- (c) 25° C.
- (d) 40° C.

(2) Voltage limits per pack on charge:

- (a) 1.55 ± 0.03 volts per cell at -20° C.
- (b) 1.55 ± 0.03 volts per cell at 0° C.
- (c) 1.49 ± 0.03 volts per cell at 25° C.
- (d) 1.45 ± 0.03 volts per cell at 40° C.

(3) Depth of Discharge: 25 percent at all temperature.

(4) Orbit Times: 90 minutes--30-minute discharge and 60-minute charge.

i. Silver-Cadmium Packs:

(1) Ambient Temperatures:

(a) 90-minute orbit:

- (1) -20° C.
- (2) 0° C.
- (3) 25° C.

(b) 24-hour orbit:

- (1) 0° C.
- (2) 25° C.
- (3) 40° C.

(2) Voltage limits per pack on charge:

(a) 90-minute orbit:

- (1) 1.60 ± 0.03 volts per cell at -20° C.
- (2) 1.58 ± 0.03 volts per cell at 0° C.

(3) 1.55 ± 0.03 volts per cell at 25° C.

(b) 24-hour orbits: 1.50 ± 0.03 volts per cell at 0° C., 25° C., and 40° C.

(3) Depth of Discharge:

(a) 90-minute orbit: 25 percent at all temperatures.

(b) 24-hour orbit:

(1) 20 percent and 50 percent at 0° C.

(2) 20 percent at 25° C.

(3) 20 percent and 50 percent at 40° C.

(4) Orbit Time:

(a) 90-minute--30-minute discharge and 60-minute charge.

(b) 24-hours--1-hour discharge and 23-hour charge.

j. Silver-Zinc Packs:

(1) Ambient Temperature: 25° C.

(2) Voltage limit per pack on charge: 1.97 ± 0.03 volts per cell at 25° C.

(3) Depth of Discharge:

(a) 3-hour orbit: 40 percent at 25° C.

(b) 24-hour orbit: 25 percent and 40 percent at 25° C.

(4) Orbit Times:

(a) 3 hours--30-minute discharge and 150 minute charge.

(b) 24 hours--1-hour discharge and 23-hour charge.

k. Two Step Charge Regulator:

(1) Ambient Temperature: 25° C.

(2) Voltage limit per pack on charge:

(a) Upper Voltage Limit: 1.97 ± 0.03 volts per cell.

(b) Low Current Limit: 0.35 amps.

(c) Overcharge Voltage Limit: 1.87 ± 0.03 volts per cell.

(3) Depth of Discharge: 40 percent at 25° C.

(4) Orbit Time: 24-hour--1-hour discharge and 23-hour charge.

(5) Cell Type: Delco-Remy 25 a.h.

(6) When silver-cadmium and silver-zinc cells are put on a long charge period with only a voltage limit, the cells begin to unbalance when the pack goes into overcharge. A new method of charging cells of these types was developed at Goddard Space Flight Center. The cell pack is charged until it reaches the pack upper voltage limit. At this time, the charge current is reduced to maintain this voltage limit. When the charge current decreases to 350 milliamperes, the on-charge voltage limit is then reduced to the lower pack voltage limit which is equal to the open circuit voltage of the cell pack. In this method, the pack receives no more charge until there is a sufficient drop in the pack voltage to reset the pack voltage limit to the upper value. This method prevents the cells from becoming unbalanced during long charge periods.

3. Capacity Tests:

a. Before cycling, each pack was given a capacity test at its respective cycling temperature. This check consisted of a c/10 charge for 16 hours followed by a c/2 discharge to 1.0 volt per cell average. After each 88 days of cycling, each pack was discharged immediately after the end of the regular cycle charge period, at the c/2 rate to 1.0 volt per cell average. The pack was then recharged at the c/10 rate for 16 hours and discharged at the c/2 rate to 1.0 volt per cell average. The pack was then recharged at the c/10 rate for 48 hours, voltage limited to the cycle limits. Data of capacity tests is tabulated on pages 68 through 74.

4. Data:

a. Under normal operation, complete data is scheduled to be recorded every 32 cycles on the 90-minute and 3-hour packs. On the 24-hour packs, complete data is taken every eight cycles.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 3.0 Ampere-Hour
							FAILURE ANALYSIS
15	25%	1.5	25°	432	7	8065	Low Volt Disch, Low Volt Chg, Blistering on Bottom Edge of Pos Plate, Migration of Neg Plate Material, Separator Completely Deteriorated.
				414	8	8254	Low Volt Disch, Low Volt Chg, Blistering on Bottom Edge of Pos Plate, Migration of Neg Plate Material, Separator Completely Deteriorated.
				479	5	8714	Low Volt Disch, Normal Volt Chg, Deposit on Terminal, Migration of Active Material, Blistering on Edge of Pos Plate, Separator Deteriorated.
				267	10	10123	Low Volt Disch, Normal Volt Chg, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Deteriorated.
				485	4	10382	Low Volt Disch, Low Volt Chg, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Deteriorated.
16	40%	1.5	25°	447	9	10382	Low Volt Disch, Low Volt Chg, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Deteriorated.
				427	7	3985	Low Volt Disch, Normal Volt Chg, Pos Tab Broken and Touching Case, Burned Tape on Tab Caused by Overheating From Poor Tab Weld.
				58	6	4473	Low Volt Disch, Normal Volt Chg, Short on One Edge of Plates, Neg Plate Material Penetrated Separator.
				361	1	4741	Low Volt Disch, Normal Volt Chg, Shorted, Separator Deteriorated, Neg Plate Material Penetrated Separator.
				522	5	4917	Low Volt Disch, Low Volt Chg, Separator Impregnated with Neg Plate Material, Separator Deteriorated.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	CELL TYPE: General Electric 3.0 Ampere-Hour FAILURE ANALYSIS
16	40%	1.5	25°	456	10	4917	Low Volt Disch, Low Volt Chg, Separator Impregnated with Neg Plate Material, Separator Deteriorated.
39	15%	1.5	50°	541	2	779	Low Volt Disch, Low Volt Chg, Separator Impregnated with Neg Plate Material, Separator Deteriorated, Several Small Burned Areas on Separator.
			40°	540	6	2083	Low Volt Disch, High Volt Chg, Leaked, Shorted at Top of Core, Separator Too Short, Pos Tab Burned.
			40°	549	7	2523	Low Volt Disch, High Volt Chg, Leaked, Shorted at Top of Core, Separator Too Short, Pos Tab Burned.
			40°	527	1	7213	Low Volt Disch, Normal Volt Chg, Deposit Around Pos Terminal, Pos Tab Burned, Migration of Neg Plate Material, Separator Deteriorated.
			40°	534	5	8109	Low Volt Disch, Normal Volt Chg, Leaked, Lost 3.5 gm, Pos Tab Burned, Migration of Active Material, Separator Deteriorated.
			40°	550	8	8109	Low Volt Disch, Normal Volt Chg, Pinpoint Penetration, Separator Deteriorated.
40	25%	1.5	40°	464	3	2073	Low Volt Disch, High Volt Chg, Shorted at Top of Core, Separator Too Short, Pos Tab Burned.
			40°	3131	8	2182	Low Volt Disch, Normal Volt Chg, Leaked, Loose Plate Material on Separator.
			40°	47	7	2182	Low Volt Disch, High Volt Chg, Shorted at Top of Core, Separator Too Short, Pos Tab Burned and Broken.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 3.0 Ampere-Hour FAILURE ANALYSIS Nickel-Cadmium
40	25%	1.5	40°	49	5	2446	Low Volt Disch, High Volt Chg, Pos Weld to Terminal Stud Burned, Poor Weld.
			40°	45	10	2461	Low Volt Disch, High Volt Chg, Loose Plate Material on Separator, Short at Outside End of Pos Plate.
			40°	466	2	2509	Low Volt Disch, High Volt Chg, Leaked, Pos Tab Burned and Shorted to Neg Tab.
			40°	441	6	2509	Low Volt Disch, High Volt Chg, Leaked, Shorted at Top of Core, Separator Too Short, Pos Tab Burned.
43	15%	3.0	40°	416	4	1182	Low Volt Disch, Low Volt Chg, Shorted at Top of Core, Separator Too Short, Pos Tab Burned.
			40°	499	3	1515	Low Volt Disch, High Volt Chg, Shorted at Top of Core, Separator Too Short, Pos Tab Burned and Broken.
			40°	412	6	1911	Showed Open Circuit at Start of Cycle, Pos Tab Broken, Burned Tape on Tab Caused by Overheating From Poor Tab Weld.
			40°	426	9	2298	Showed Open at Start of Cycle, Pos Tab Corroded, Pos Tab Broken, Top of Separator Burned, Separator Impregnated with Neg Plate Material, Separator Deteriorated.
			40°	436	7	2515	Showed Open at Start of Cycle, Pos Tab Corroded, Pos Tab Broken, Poor Roll, Uneven Wind at End of Roll, Shorts at Top of Roll, Separator Deteriorated.
			40°	435	10	2656	Showed Open at Start of Cycle, Pos Tab Corroded, Pos Tab Broken, Separator Impregnated with Neg Plate Material, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 3.0 Ampere-Hour FAILURE ANALYSIS Nickel-Cadmium
44	25%	3.0	40°	222	6	1672	Showed Open Circuit at Start of Cycle, Pos Tab Broken, Burned Tape on Tab Caused By Overheating From Poor Tab Weld.
			40°	366	8	3848	Low Volt Disch, High Volt Chg, Pinpoint Penetration, Separator Deteriorated, Blistering on Bottom Edge of Pos Plate.
			40°	459	1	3854	Shorted on Cycling, Deposit on Pos Terminal, Pinpoint Penetration, Separator Deteriorated.
			40°	77	3	3854	Low Volt Disch, Normal Volt Chg, Migration of Active Material, Separator Deteriorated.
			40°	3120	2	4487	Low Volt Disch, High Volt Chg, Deposit on Pos Terminal, Loose Active Pos Plate Material, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetrations, Blistering on Pos Plates, Separator Deteriorated.
			40°	296	10	4487	Low Volt Disch, Low Volt Chg, Deposit on Pos Terminal, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetrations, Blistering on Pos Plates, Separator Deterioration.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	CELL TYPE: Gould 3.5 Ampere-Hour FAILURE ANALYSIS
3	25%	1.5	25°	73	5	2785	Low Volt Disch, High Volt Chg, Short Near Center of Core, Piece of Pos Plate Material Between Plates Causing Short Through Separator.
				54	2	3090	Low Volt Disch, Low Volt Chg, Leaked, Lost 1.7 gm, Weak Weld on Neg Tab to Plate.
				165	9	4081	Low Volt Disch, Normal Volt Chg, Leaked, Lost 1.7 gm, Deposit on Glass Seal, Short Through Separator, Short at Pos Tab Near Center of Core, Neg Tab Weld to Plate Weak.
				93	6	4289	Low Volt Disch, Normal Volt Chg, Leaked Around Glass Seal, Lost 2.6 gm, Separator Deteriorated, Neg Plate Material Penetrated Separator.
				97	7	4401	Low Volt Disch, Normal Volt Chg, Leaked Around Glass Seal, Lost 2.5 gm, Separator Deteriorated, Neg Plate Material Penetrated Separator.
				77	4	4751	Low Volt Disch, Normal Volt Chg, Separator Deteriorated, Separator Impregnated with Neg Plate Material, Blistering on Pos Plates.
				188	10	4751	Low Volt Disch, Normal Volt Chg, Leaked, Lost 2.1 gm, Neg Plate Material on Separator.
				81	7	1609	Low Volt Disch, Normal Volt Chg, Leaked, Lost 3.2 gm, High Pres Bulge Top.
				90	8	1827	Low Volt Disch, Low Volt Chg, Leaked, Lost 2.7 gm, High Pres Bulge Top.
				2	1	2110	Low Volt Disch, Low Volt Chg, Separator Deteriorated at Center of Core, Under Pressure When Opened.
4	40%	1.5	25°				

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gould 3.5 Ampere-Hour FAILURE ANALYSIS
4	40%	1.5	25°	43	6	2954	Low Volt Disch, Low Volt Chg, Leaked, Lost 1.3 gm, Plate Material on Separator.
				27	3	3029	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Separator Deteriorated.
				198	10	3164	Low Volt Disch, Low Volt Chg, Leaked, Lost 1.6 gm, Separator Deteriorated, Pos Plate Material Between Plates.
				49	2	3007	Low Volt Disch, Normal Volt Chg, Leaked Around Glass Seal, Lost 2.7 gm, Neg Plate Material Migrated Through Separator, Separator Deteriorated, One Weak Weld Pos Tab to Plate.
7	25%	3.0	25°	37	1	3130	Low Volt Disch, Normal Volt Chg, Leaked, Lost 1.1 gm, Glass Seal Broken, Separator Very Dry, Neg Plate Material Migration, Pinpoint Penetration, Loose Neg Plate Material on Separator, Separator Deteriorated, All Tab Welds to Plate Weak.
				109	6	3483	Low Volt Disch, Low Volt Chg, Leaked, Lost 2.0 gm, Deposit on Glass Seal, Separator Deteriorated, Pinpoint Penetration, Neg Plate Material on Separator, Weak Weld on One Tab to Pos Plate Weld.
				104	5	3736	Shorted on Cycling, Deposit on Glass Seal, Leaked, Lost 1.1 gm, Weak Weld Pos Tab to Plate, Neg Plate Material on Separator, Pinpoint Penetration, Separator Deteriorated.
				131	7	3884	Low Volt Disch, Normal Volt Chg, Deposit Around Glass Seal, Leaked, Lost 1.7 gm, Neg Plate Material Loose, Pinpoint Penetration, Separator Deteriorated.
			25°	62	3	4173	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Leaked, Lost 1.4 gm, One Weak Weld on Pos Tab to Plate, Pinpoint Penetration, Separator Deteriorated.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Could 3.5 Ampere-Hour Failure Analysis
8	40%	3.0	25°	68	6	1346	Low Volt Disch, Low Volt Chg, Leaked, Lost 1.5 gm, Plate Material on Separator.
				112	8	1704	Low Volt Disch, Normal Volt Chg, Leaked, Lost 2.0 gm, Pos Tab Weld to Bottom of Can Weak, Pos Tab Weld to Plate Weak.
				39	1	1985	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Separator Deteriorated, Neg Plate Material on Separator.
				170	10	1985	Low Volt Disch, Normal Volt Chg, Leaked, Lost 1.8 gm, Pos and Neg Tab Weld Weak to Plates Near Center of Core, Separator Deteriorated at Center of Core.
				78	7	2138	Low Volt Disch, Low Volt Chg, Leaked Around Glass Seal, Lost 1.4 gm, Pos Tab Weld to Case Weak, Separator Deteriorated, Neg Plate Material Penetrated Separator.
27	15%	1.5	25°	41	2	2494	Low Volt Disch, Low Volt Chg, Leaked Around Glass Seal, Lost 1.7 gm, Separator Deteriorated, Neg Plate Material Impregnated Separator, One Bad Weld Neg Tab to Plate.
				130	9	2494	Low Volt Disch, Low Volt Chg, Leaked Around Glass Seal, Lost 2.1 gm, Separator Deteriorated, Pos and Neg Plate Material Impregnated Separator.
				13	3	2901	Low Volt Disch, Low Volt Chg, Leaked, Lost 1.5 gm, Separator Deteriorated, Pos Plate Material on Separator.
				195	8	2901	Low Volt Disch, Normal Volt Chg, Leaked, Lost 3.6 gm, Short Through Separator, Separator Burned at Center of Core, Pos Plate Material on Separator.
				103	7	2998	Low Volt Disch, Normal Volt Chg, High Pres, Short Through Separator, Pieces of Pos Plate Material Between Plates.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Failure Analysis	Cell Type: Gould 3.5 Ampere-Hour
27	15%	1.5	40°	200	10	3270	Low Volt Disch, Normal Volt Chg, Leaked, Lost 2.5 gm, Short Through Separator, Separator Deteriorated at Center of Core, Pos Tab Weld to Case Weak.	Nickel-Cadmium
				197	9	4102	Low Volt Disch, High Volt Chg, Leaked Around Glass Seal, Lost 1.4 gm, Short at Pos Tab, Separator Deteriorated, Neg Plate Material Penetrated Separator.	
				11	2	4485	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Separator Deteriorated, Separator Impregnated with Neg Plate Material.	
				122	2	408	Low Volt Disch, Normal Volt Chg, Leaked, Lost 1.8 gm, Weak Bottom Weld Suspicious Spot but not Definite.	
28	25%	1.5	40°	157	7	484	Low Volt Disch, Normal Volt Chg, Leaked, Lost 2.0 gm, High Pres Bulge.	
				158	8	484	Low Volt Disch, Normal Volt Chg, Leaked, Lost 1.9 gm, High Pres Bulge Top.	
				141	5	860	Low Volt Disch, High Volt Chg, Leaked, Lost 3.5 gm.	
				168	10	1293	Low Volt Disch, High Volt Chg, Weak Weld to Bottom of Case.	
				121	1	1811	Low Volt Disch, Low Volt Chg, Short at Outside End of Plates, Grid Wire Penetrated Separator.	
				133	3	1811	Low Volt Disch, High Volt Chg, Weak Weld on Pos Tab to Case.	
			40°	140	4	1811	Low Volt Disch, Low Volt Chg, Short Around Pos Tab, Blistering on Pos Plate, Active Neg Plate Material on Separator.	

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Gould 3.5 Ampere-Hour Failure Analysis
28	25%	1.5	40°	155	6	1811	Nickel-Cadmium Low Volt Disch, Low Volt Chg, Short Through Separator, Weak Weld to Bottom of Case.
31	15%	3.0	40°	163	9	1811	Low Volt Disch, Low Volt Chg, Short Through Separator, Weak Weld to Bottom of Case, Deposit on Glass Seal.
			40°	R166	9	1500	Low Volt Disch, Low Volt Chg, Leaked, Lost 7.1 gm, Separator Deteriorated.
			40°	R179	10	1500	Low Volt Disch, Low Volt Chg, Leaked, Lost 1.5 gm, Short Through Separator, Separator Deteriorated, One Weak Tab.
			40°	R92	2	1696	Low Volt Disch, High Volt Chg, Pieces of Plate Material Shorted Through Separator, Separator Deteriorated.
			40°	126	3	2411	Low Volt Disch, Low Volt Chg, Leaked Around Glass Seal, Lost 2.1 gm, Short Through Separator by Piece of Pos Plate Material Between Plates, Separator Deteriorated, Neg Plate Material Impregnated Separator, Tab to Plate Weld Poor.
			40°	R162	8	2477	Low Volt Disch, High Volt Chg, Leaked Around Glass Seal, Lost 2.4 gm, Separator Deteriorated, Neg Plate Material Impregnated Separator, Pinpoint Penetration, Poor Weld Pos Tab to Case.
			40°	72	1	2517	Low Volt Disch, Low Volt Chg, Leaked Around Glass Seal, Lost 1.8 gm, Short Between Plates, Extra Piece of Pos Plate Between Plates, Separator Deteriorated, Pos Tabs to Plate Weld Both Weak.
			40°	143	6	2517	Low Volt Disch, Low Volt Chg, Short Through Separator at Start of Core, Extra Piece of Pos Plate Material, Separator Impregnated with Neg Plate Material, Separator Deteriorated, Neg Tab Weld to Pigtail Weak, One Tab to Pos Plate Weld Weak, Still Under Pressure When Opened.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Could 3.5 Ampere-Hour Failure Analysis
32	25%	3.0	40°	125	6	138	Low Volt Disch, Normal Volt Chg, Bottom Weld Weak, Greenish Corrosion Inside at Neg Lead.
			40°	65	3	495	Low Volt Disch, Normal Volt Chg, Leaked, Lost 1.5 gm, Bad Glass Seal Around Neg Terminal.
			40°	1	1	800	Low Volt Disch, Normal Volt Chg, Leaked, Lost 3.2 gm, Shorts Near Center of Core.
			40°	67	4	875	Low Volt Disch, Low Volt Chg, Leaked, Lost 2.2 gm, Short Around Tabs, Pos Tab Weld Weak to Case.
			40°	132	7	875	Failed During Shut Down to Move to Another Chamber, Leaked, Lost 4.4 gm, High Pres. Neg Tabs Pushed Out of Cell, Short at Center and Outside Edge of Core.
			40°	149	9	974	Low Volt Disch, High Volt Chg, Leaked, Lost 1.1 gm, Piece of Pos Plate Material Shorted Through Separator, Weak Welds to Case and Plates.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Sonotone 5.0 Ampere-Hour Failure Analysis
2	40%	1.5	25°	811	10	3155	Shorted on Cycling, Leaked Around Seal, High Pressure Bulge on Bottom, Insulators Brittle, Exposed Grid Wires at Center of Core Penetrated Separator Causing Large Burned Area at Short, Pos and Neg Tab Weld Poor.
			25°	3628	5	3992	Low Volt Disch, Normal Volt Chg, Leaked Around Seal, High Pres Bulge on Bottom, Hole in Separator Exposing Pos and Neg Plates, Neg Plate Material Penetrated Separator.
			25°	3613	2	4411	Low Volt Disch, Low Volt Chg, Two Pieces of Neg Plate Material Wore Hole in Separator at Scoring Mark, Burned Through Plates, Neg Tab Welds Poor, Separator Beginning to Deteriorate.
			25°	3630	6	5262	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Pos and Neg Plate Material on Separator, Separator Deteriorated, Neg Tab to Plate Welds Weak, Burn Marks on Separator at Tabs, High Pressure Bulge.
			25°	3631	7	5262	Low Volt Disch, Low Volt Chg, Uncoined Plate Edges Pierced Separator Causing Partial Shorts, Burn Marks Around Tab Areas, Weak Weld on All Tab to Plate Welds, Deep Pressure Points Caused by Scoring, Separator Torn at Start of Core Exposing Pos and Neg Plate, Separator Deteriorated, Neg Plate Material on Separator.
			25°	3611	1	6671	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, High Pressure Bulge, Excess Scoring, Migration of Pos and Neg Plate Material, Separator Completely Deteriorated.

PAGE NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Sonotone 5.0 Ampere-Hour FAILURE ANALYSIS
25	15%	1.5	40°	4852	5	6348	Nickel-Cadmium Low Volt Disch, High Volt Chg, Separator Deteriorated, Large Burned Area at Center of Core, Pinpoint Penetration, Deep Scoring Caused Hole in Separator, Partial Shorts Around Edge of Plates, Deep Pressure Points Caused by Scoring.
			40°	4364	4	7052	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, High Pressure Bulge, Short Caused by Excess Scoring, Migration of Pos and Neg Plate Material, Separator Completely Deteriorated.
			40°	4317	1	7758	Low Volt Disch, Low Volt Chg, Deposit on Glass Seal, Excess Scoring, Migration of Pos and Neg Plate Material, Separator Completely Deteriorated.
			40°	4350	3	9070	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Hole in Separator Adjacent to Corner of Outside Neg Plates, Grid Wire Penetrated Separator and Shorted to Pos Plate, Separator Completely Deteriorated.
			40°	6850	6	9220	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Hole Through Separator Near Edge of Plate Causing Short, Small Piece of Neg Plate Material Between Plates and Separator.
			40°	4347	2	9328	Low Volt Disch, Low Volt Chg, Deposit on Glass Seal, Neg Plate Material Migrated Through Separator, Separator Deteriorated, Weak Weld Tab to Neg Plate.
26	25%	1.5	40°	4323	1	2487	Grid Wire Penetrated Separator at Tabs.
			40°	6773	9	2902	Shorted on Cycling, Slight Burn Adjacent to Neg Tab, Separator Deteriorated, Neg Plate Material Penetrated Separator, Tab Welds Weak.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Sonotone 5.0 Ampere-Hour FAILURE ANALYSIS
26	25%	1.5	40°	7224	6	2993	Low Volt Disch, Normal Volt Chg, High Pres Bulge, Deposit Around Seal, Neg Tab Weld Weak, Neg Plate Material Penetrated Separator.
			40°	7232	7	2993	Low Volt Disch, Normal Volt Chg, High Pres Bulge, Deposit Around Seal, Pos Tab Weld Weak, Plate Broken at Pos Tab, Deep Pressure Points From Scoring, Separator Completely Deteriorated.
			40°	4881	3	3344	Shorted on Cycling, Complete Short From Deep Scoring, Plate Shorted Through Outer Wrap.
			40°	4240	4	3625	Low Volt Disch, Low Volt Chg, Separator Deteriorated, Plate Material Penetrated Separator.
30	25%	3.0	40°	3657	7	855	Hole in Separator Allowing Pos Plate to Hit Case, Separator Damaged at Center of Cell Allowing Pos and Neg Plate to Short Together.
			40°	3643	4	3068	Low Volt Disch, Low Volt Chg, Separator Completely Deteriorated, Neg Tab to Plate Welds Weak, Burn Spots Around Tabs, Deep Scoring Caused Burn Spots on Separator.
			40°	809	9	3068	Low Volt Disch, Low Volt Chg, Deposit Around Glass Seal, Burn Spots Around Edge of Separator Caused By Uncoined Edge of Plates, Deep Scoring Caused Burn Spots on Separator, Burn Spots Around Tab Areas, Separator Deteriorated.
			40°	3658	8	3684	Low Volt Disch, Low Volt Chg, Deposit on Glass Seal, Leaked, Lost 1.3 gm, Short Caused by Excess Scoring, Migration of Pos and Neg Plate Material, Separator Completely Deteriorated.
			40°	3617	1	4141	Shorted During Cycling, Deposit on Glass Seal, Hole in Separator at Tab Weld Area Caused Short, Separator Completely Deteriorated.
			40°	7230	10	4141	Low Volt Disch, Low Volt Chg, Deposit on Glass Seal, Migration of Neg Plate Material, Separator Completely Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 6.0 Ampere-Hour</u> FAILURE ANALYSIS
13	25%	1.5	25°	2305	1	308	Low Volt Disch, High Volt Chg, Lost 12 gm, CO ₂ Top Ceramic, High Pres Bulge.
				2355	10	502	Low Volt Disch, High Volt Chg, Lost 10 gm, High Pres Bulge.
				3134	5	2969	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plates.
				3211	7	3084	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plates.
				2613	4	3598	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plate, Separator Deteriorated.
				2324	2	4021	Low Volt Disch, Low Volt Chg, Ceramic Short, Separator Deteriorated, Separator Impregnated with Neg Plate Material, Blistering on Pos Plates, High Pres Bulge.
14	40%	1.5	25°	1623	4	262	Low Volt Disch, High Volt Chg, Lost 12 gm, High Pres Bulge.
				1635	5	262	Voltage Fell Off During Charge, Went Flat in 3 Min. on Disch, Lost 6 gm, Concave Wall, High Pres Bulge, Ceramic Broken Inside Case, CO ₂ on Outside of Ceramic, Pos Terminal Loose.
				2356	1	450	Low Volt Disch, High Volt Chg, Lost 12 gm, High Pres.
				2387	2	1113	Low Volt Disch, High Volt Chg, Ceramic Short.
				2391	3	1618	Low Volt Disch, Low Volt Chg, Ceramic Short.
				3208	7	2086	Low Volt Disch, Normal Volt Chg, Ceramic Short.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gulton 6.0 Ampere-Hour	
							FAILURE	ANALYSIS
17	25%	3.0	25°	1862	5	721	Low Volt Disch, High Volt Chg, Ceramic Short.	
			25°	1823	3	721	Low Volt Disch, High Volt Chg, High Pres Bulge, Burnt Spot on Neg Plate Near Bottom Second From End, Ceramic Short.	
			25°	2348	10	1688	Low Volt Disch, Low Volt Chg, Ceramic Short.	
			25°	1757	1	2375	Low Volt Disch, Low Volt Chg, Ceramic Short, Deposit Around Ceramic Seal, High Pres Bulge.	
			25°	1598	2	2449	Low Volt Disch, Low Volt Chg, Pinpoint Penetration of Separator, Blistering on Pos Plate, High Pres Bulge.	
			25°	2347	9	2885	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plates, High Pressure Bulge, Still Under Pressure When Opened.	
18	40%	3.0	25°	1826	6	365	Low Volt Disch, Chg Volt Normal, Lost 3 gm, Concave Wall, Ceramic Short.	
			25°	1615	3	608	Low Volt Disch, Normal Volt Chg, Deposit on Top of Pos Terminal, Lost 5.1 gm, High Pres Bulge.	
			25°	1827	7	643	Low Volt Disch, High Volt Chg, High Pres Bulge, Ceramic Short.	
			25°	2228	9	643	Low Volt Disch, High Volt Chg, Ceramic Short.	
			25°	1562	5	1145	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plates.	
			25°	1233	1	1550	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plate, Neg Plate Material on Separator.	

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 6.0 Ampere-Hour</u> FAILURE ANALYSIS
37	15%	1.5	50°	1764	3	238	Low Volt Disch, Volt Did Not Increase on Following Chg, (1.00 V) Lost 4 gm, Ceramic Short.
				1784	8	1566	Low Volt Disch, Low Volt Chg, Lost 10.5 gm, Ceramic Short.
				1802	4	2819	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plate.
				2333	10	2981	Low Volt Disch, Normal Volt Chg, Ceramic Short, Blistering on Pos Plates.
38	25%	1.5	50°	1769	7	4897	Low Volt Disch, Normal Volt Chg, Ceramic Short, Leaked, Lost 1 gm, Blistering on Pos Plate, Separator Deteriorated.
				1814	6	6064	Low Volt Disch, High Volt Chg, Deposit on Pos Terminal, Separator Deteriorated, Neg Plate Material on Separator, Blistering on Pos Plates, Ceramic Short.
				1454	8	37	No Volt on Chg or Disch, Ceramic Short.
				1815	6	114	Volt Fell Off During Disch, Chg Volt Slightly Low, Lost 3.5 gm, Ceramic Short.
				1853	9	187	Rev on Disch, Chg Volt Normal, Lost 4 gm, Deposits Around Pos Terminal (Outside), Ceramic Short.
				1627	3	225	Low Volt Disch, High Volt Chg on Cycle 219, Dead on 225, Lost 3.5 gm.
			40°	2405	5	1333	Low Volt Disch, Normal Volt Chg, Pos Bus Shorted to Case.
				1626	2	1377	Low Volt Disch, Low Volt Chg, High Pres Bulge, Ceramic Short.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Gulton 6.0 Ampere-Hour Failure Analysis Nickel-Cadmium
41	15%	3.0	40°	1771	9	649	Low Volt Disch, High Volt Chg, Ceramic Short.
			40°	1801	6	1062	Low Volt Disch, Normal Volt Chg, Ceramic Short.
			40°	3135	2	1132	Low Volt Disch, Normal Volt Chg, Ceramic Short.
			40°	1852	7	1157	Low Volt Disch, Normal Volt Chg, Ceramic Short, Blistering on Pos Plates.
			40°	2221	8	1157	Low Volt Disch, Normal Volt Chg, Ceramic Short.
			40°	1632	3	1689	Low Volt Disch, Normal Volt Chg, Ceramic Short, Blistering on Pos Plates.
42	25%	3.0	50°	2309	8	96	Low Volt Disch, Normal Volt Chg, Ceramic Short.
			40°	2346	7	382	Low Volt Disch, Low Volt Chg, CO ₂ on Bottom of Case, Ceramic Short.
			40°	2306	9	416	Low Volt Disch, High Volt Chg, Ceramic Short.
			40°	918	1	484	Low Volt Disch, Low Volt Chg, High Pres Bulge, Deposit on Bottom of Case, Ceramic Short, Lost 3.1 gm.
			40°	2340	6	3619	Low Volt Disch, Normal Volt Chg, Deposit Around Ceramic Seal and Bottom Seam of Can, Leaked, Lost 8.2 gm, Pinpoint Penetration, Separator Deteriorated.
			40°	2334	4	4133	Low Volt Disch, Low Volt Chg, Deposit Around Cracked Pos Terminal, Leaked, Lost 8.8 gm, Migration of Neg Plate Material, Blistering on Pos Plates, Separator Completely Deteriorated, Ceramic Short.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Culton 6.0 Ampere-Hour</u> FAILURE ANALYSIS
61	15%	1.5	0°	1622	2	1	Volt Between 0.25 and 0.3 V Throughout Cycle, Side Concave, Burnt Case, End Neg Pushed Into Pos Tab. Cell Replaced in Pack Due to Early Failure.
			0°	1845	8	6	Lost 5 gm, Leak at Weld on Bottom, High Pres Bulge, Cell Replaced in Pack Due to Early Failure.
			0°	2397	5	2762	Low Volt Disch, Low Volt Chg, Ceramic Short.
			0°	1825	4	4094	Low Volt Disch, Low Volt Chg, Ceramic Short, Separator Impregnated with Neg Plate Material, Blistering on Pos Plates, High Pres Bulge.
			0°	2311	10	4285	Low Volt Disch, Low Volt Chg, Ceramic Short, Separator Impregnated with Neg Plate Material, Blistering on Pos Plates, High Pres Bulge.
			0°	2400	6	4413	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plates, High Pres Bulge.
			0°	1636	3	*9760	Low Volt Disch, Low Volt Chg, High Pres Bulge, Concave Sides, Leaked, Lost 2.7 gm, Rough Place on Pos Plate Shorted Through Separator, Migration of Neg Plate Material Through Separator, Blistering on Pos Plates, Separator Deteriorated, Ceramic Short.
			0°	1616	1	*10146	Low Volt Disch, High Volt Chg, Deposit on Pos Terminal, Concave Sides Causing Bus to Short Against Case, Pos Tab Burned, Migration of Neg Plate Material Through Separator, Separator Very Slightly Deteriorated, Leaked, Lost 6.0 gm.

* FAILED DURING THIS REPORTING PERIOD.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Culton 6.0 Ampere-Hour</u>	
							FAILURE ANALYSIS	Wickel-Cadmium
66	25%	3.0	0°	1794	6	1045	Low Volt Disch, High Volt Chg, High Pres Bulge, Concave Side, Ceramic Broken, No Seal, Lost 5.1 gm, Pos Bus Against Case.	
				1843	8	1173	Low Volt Disch, Low Volt Chg, Wall Concave, Ceramic Short.	
				1781	5	1237	Low Volt Disch, High Volt Chg, High Pres Bulge, Deposit Around Pos Terminal, Ceramic Broken on Pos Terminal, Blisters on Pos Plate, Burnt Spot on Separator at Blisters, Lost 1.3 gm.	
				1634	3	1417	Low Volt Disch, Normal Volt Chg, Ceramic Short, High Pres Bulge, One Side Concave Other Convex, Pos Plates Blistered, Lost 2.3 gm.	
				1823	7	2122	Low Volt Disch, Low Volt Chg, Leaked, Lost 7.8 gm, Separator Impregnated with Neg Plate Material, Blistering on Pos Plates, High Pres Bulge, One Side Concave.	
79	50%	24.0	25°	1591	4	4414	Low Volt Disch, Normal Volt Chg, Deposit on Pos Terminal, High Pressure Bulge, Concave Sides Shorting Against Pos Bus, Ceramic Short, Migration of Neg Plate Material, Pinpoint Penetration of Separator.	
				2982	1	149	Low Volt Disch, Normal Volt Chg, Deposit on Pos Terminal, Still Under Pressure When Opened, Ceramic Short, Very Light Migration, Blistering on Pos Plates, Separator Deteriorated.	
				2984	3	164	Low Volt Disch, Low Volt Chg, Still Under Pressure When Opened, Ceramic Short, Pinpoint Penetration, Blistering on Pos Plates, Separator Deteriorated.	
				2983	2	545	Low Volt Disch, Normal Volt Chg, Burned Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Deteriorated.	
				2985	4	545	Low Volt Disch, Normal Volt Chg, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Deterioration.	

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 12.0 Ampere-Hour	
							FAILURE	ANALYSIS
85	15%	1.5	40°	428	4	8888	Nickel-Cadmium	Low Volt Disch, Low Volt Chg, High Pressure Bulge, Still Under Pressure When Opened, Migration of Neg Plate Material, Separator Completely Deteriorated.
								Low Volt Disch, Low Volt Chg, High Pressure Bulge, Still Under Pressure When Opened, Migration of Neg Plate Material, Separator Completely Deteriorated.
								Low Volt Disch, Normal Volt Chg, Still Under Pressure When Opened, Migration of Neg Plate Material, Separator Completely Deteriorated.
93	50%	24.0	40°	208	2	266		Low Volt Disch, Normal Volt Chg, Was Opened Up But Did Not Show Anything to be Wrong with Cell, Failure Due to Loss of Capacity.
								Low Volt Disch, Normal Volt Chg, Deposit on Pos Terminal, Pinpoint Penetration, Separator Deteriorated.
								Low Volt Disch, Normal Volt Chg, Deposit on Pos and Neg Terminal, Migration of Neg Plate Material, Separator Deteriorated.
								Low Volt Disch, Normal Volt Chg, Deposit on Neg Terminal, Pinpoint Penetration, Separator Deteriorated.
								Low Volt Disch, Normal Volt Chg, Deposit on Neg Terminal, Migration of Neg Plate Material, Separator Deteriorated, Plate Not Packed Evenly.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 12.0 Ampere-Hour
							FAILURE ANALYSIS
96	40%	1.5	25°	445	3	3822	Low Volt Disch, Low Volt Chg, Separator Penetrated by Neg Plate Material, Pinpoint Shorts Through Separator.
				446	2	4020	Low Volt Disch, Low Volt Chg, Separator Penetrated by Neg Plate Material, Pinpoint Shorts Through Separator.
				442	4	4020	Low Volt Disch, Low Volt Chg, Separator Penetrated by Neg Plate Material, Pinpoint Shorts Through Separator.
				438	2	3894	Low Volt Disch, Low Volt Chg, Deposit on Pos and Neg Terminals, Pinpoint Penetration, Separator Deteriorated.
97	40%	3.0	25°	435	3	3946	Low Volt Disch, Normal Volt Chg, Still Under Pressure When Opened, Migration of Neg Plate Material, Blistering on Pos Plate, Separator Deteriorated.
				434	4	5002	Low Volt Disch, Normal Volt Chg, Still Under Pressure When Opened, Migration of Neg Plate Material, Separator Completely Deteriorated.
99	25%	1.5	40°	429	3	3841	Shorted on Cycling, Separator Penetrated by Neg Plate Material, Pinpoint Shorts Through Separator, Leaked at Neg Terminal, Epoxy Lifted Up.
				432	2	3841	Failed During Shut Down of Pack, Separator Deteriorated, Separator Impregnated with Neg Plate Material.
				440	1	4853	Low Volt Disch, Low Volt Chg, Separator Deteriorated, Separator Impregnated with Neg Plate Material.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 12.0 Ampere-Hour FAILURE ANALYSIS
100	25%	3.0	40°	427	3	4170	Nickel-Cadmium Shorted on Cycling, High Pressure Bulge, Still Under Pressure When Opened, Blistering on Pos Plates, Separator Completely Deteriorated.
			40°	431	2	4358	Shorted on Cycling, High Pressure Bulge, Still Under Pressure, Migration of Neg Plate Material, Separator Completely Deteriorated.
			40°	436	1	4424	Shorted on Cycling, Migration of Neg Plate Material Through Separator, Separator Completely Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 12 Ampere-Hour</u> FAILURE ANALYSIS Nickel-Cadmium
290	25%	1.5	40°	1460	4	3060	Low Volt Disch, Low Volt Chg, Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated Allowing Plates to Short Together.
			40°	1459	3	3318	Shorted on Cycling, Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated Allowing Plates to Short Together.
			40°	1461	5	5124	Low Volt Disch, Low Volt Chg, High Pressure Bulge, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated.
296	40%	1.5	25°	1447	4	5036	Low Volt Disch, Normal Volt Chg, Piece of Loose Neg Plate Material Between Plates, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated.
			25°	1443	2	5152	Shorted on Cycling, High Pressure Bulge, Blistering on Pos Plates, Separator Completely Gone, Hottest Point Near Center of Pack, All Insulators Burned, Leaked, Lost 3.3 gm.
			25°	1445	3	5152	Low Volt Disch, Low Volt Chg, Deposit on Both Terminals, High Pressure Bulge, Migration of Neg Plate Material, Short Through Separator Near Center of Plate, Separator Completely Deteriorated.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Gulton 20 Ampere-Hour Failure Analysis
73	25%	1.5	25°	396	3	1776	Low Volt Disch, Normal Volt Chg, Concave Side, Neg Ceramic Seal Broken, Lost 23.7 gm.
				387	1	6120	Low Volt Disch, Low Volt Chg, Lost 13.2 gm, Separator Completely Deteriorated, Neg Plate Material Migration, Pinpoint Penetration, Blistering on Pos Plates, High Pressure Bulge.
				465	4	7763	Low Volt Disch, Low Volt Chg, Deposit on Pos Terminal, Sides Concave, Migration of Active Plate Material, Blistering on Pos Plates, Separator Completely Deteriorated, Ceramic Short.
				458	4	1184	Low Volt Disch, Low Volt Chg, Leaked, Lost 14.2 gm, Blistering on Pos Plates.
74	25%	3.0	25°	419	3	1302	Low Volt Disch, Normal Volt Chg, Leaked, Lost 21.9 gm.
				440	2	1754	Low Volt Disch, Normal Volt Chg, Leaked Around Both Terminals, Ceramic Broken on Neg Terminal, Lost 18.0 gm, Neg Plate Material Penetrated Separator, Sides Concave, Shorting Case to Bus.
				453	2	7697	Shorted on Cycling, Deposit on Neg Terminal, Ceramic Broken Around Neg Terminal, Extraneous Active Material Caused Short Between Plates, Separator Completely Deteriorated.
				431	4	7698	Cell Shorted During Shut Down for Cell Removal, High Pressure Bulge, Still Under Pressure When Opened, Pinpoint Penetration, Causing Shorts, Separator Completely Deteriorated.
76	15%	1.5	40°	455	3	9348	Shorted During Cycling, High Pressure Bulge, Still Under Pressure When Opened, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated, Short on Upper Corner Near Neg Tab.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gulton 20 Ampere-Hour FAILURE ANALYSIS Nickel-Cadmium
87	40%	1.5	25°	468	1	163	Low Volt Disch, High Volt Chg, High Pres Bulge, Lost 8 gm.
				388	2	208	Low Volt Disch, High Volt Chg, Lost 26.7 gm, Ceramic Short Around Pos Terminal.
				394	3	627	Low Volt Disch, High Volt Chg, Lost 16.4 gm, High Pres Bulge, Deposit on Both Terminals, Ceramic Short Neg to Case.
				454	4	627	Low Volt Disch, Low Volt Chg, Lost 21.6 gm, Deposit on Both Terminals, Sides Concave, Hit Bus on Both Sides.
				386	5	627	Low Volt Disch, Low Volt Chg, Lost 18.1 gm, High Pres Bulge, Burnt Separator 5th or 6th Neg Plate Near Top, Ceramic Short.
88	40%	3.0	25°	422	2	151	Low Volt Disch, High Volt Chg, High Pres Bulge, Bottom Ceramic Leak, Lost 25 gm.
				404	1	151	Low Volt Disch, High Volt Chg, High Pres Bulge, Bottom Ceramic Leak, Lost 25 gm.
				466	3	358	Low Volt Disch, High Volt Chg, High Pres Bulge, Lost 16.4 gm.
				429	5	358	Low Volt Disch, Low Volt Chg, Ceramic Short Around Pos Terminal.
				452	4	2824	Low Volt Disch, Low Volt Chg, Short Through Separator at Top of Plates, High Pres Bulge on Sides, High Pres, Separator Deteriorated.
90	25%	1.5	40°	457	5	2824	Low Volt Disch, Normal Volt Chg, Short Through Separator, Blistering on Pos Plate, High Pres Bulge on Sides, High Pres.
				378	3	4045	Normal Volt Disch, Went Dead on Chg During Cap Check, Ceramic Short, Separator Completely Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 20 Ampere-Hour</u> FAILURE ANALYSIS
91	25%	3.0	40°	395	4	2862	Shorted Out Following Capacity Check, Leaked, Lost 6.8 gm, Deposit on Both Terminals, Both Ceramic Seals Broken, Separator Completely Deteriorated, Neg Plate Material Migration, Separator Very Wet, Plastic Wrap Burned, Ceramic Short.
			40°	412	3	3365	Shorted on Cycling, High Pressure Bulge, Pos and Neg Plate Material on Separator, Separator Completely Deteriorated.
			40°	489	1	4480	Shorted During Cycling, Deposit on Both Terminals, Still Under Pressure When Opened, Concave Sides, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated.
			40°	447	2	4480	Shorted During Cycling, Deposit on Neg Terminal, High Pressure Bulge, Concave Sides, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Completely Deteriorated.
101	15%	1.5	0°	435	2	3111	Low Volt Disch, High Volt Chg, Leaked, Lost 24.6 gm, High Pres Bulge, Separator Very Dry.
			0°	407	5	3111	Low Volt Disch, High Volt Chg, Leaked, Lost 20.4 gm, Separator Very Dry.
			0°	438	4	3629	Low Volt Disch, High Volt Chg, Leaked, Lost 13.2 gm, High Pres Bulge, Sides Concave, Blistering on Pos Plates.
115	25%	1.5	0°	490	3	2107	Low Volt Disch, Normal Volt Chg, Walls Concave, Busses Shorted to Case, Lost 26.9 gm.
			0°	508	2	2203	High Pres Bulge, Blisters on Pos Plate, Busses Shorted to Case.
			0°	467	4	2291	Black Deposit on Outside on Neg Terminal, High Pres Bulge, Busses Shorted to Case, Blisters on Pos Plate, Burnt Spot on Separator.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gould 20 Ampere-Hour</u> FAILURE ANALYSIS
104	25%	1.5	25°	69	1	2672	Low Volt Disch, Low Volt Chg, Shorted at Bottom on Pos Plate, Pos Grid Wire Penetrated Separator, Short at Top Between Pos Grid and Neg Tab, High Pressure.
			25°	R36	5	2826	Low Volt Disch, Low Volt Chg, Short Between Plates, Grid Wire Penetrated Separator, Pos Plate Material Between Plates, High Pressure.
			25°	5	3	2980	Low Volt Disch, Low Volt Chg, Separator Completely Deteriorated, Short Between Plates, High Pressure.
112	15%	1.5	40°	17	1	5005	Low Volt Disch, Low Volt Chg, Short Between Plates, Short About One Inch From Bottom of Plates, Separator Completely Deteriorated, High Pressure.
			40°	25	2	5005	Low Volt Disch, Low Volt Chg, Shorted Through Separator, Shorted on Bottom Corner of Plates, Separator Completely Deteriorated, High Pressure.
			40°	38	5	5213	Low Volt Disch, Low Volt Chg, Short at Top Corner of Plate Where Pos Tabs are Connected to Plates, Separator Deteriorated Allowing Plates to Come Together, Blistering on Pos Plates.
118	40%	1.5	25°	61	2	1747	Low Volt Disch, Low Volt Chg, Short at Bottom of Pos Plate, Grid Wires Penetrated Separator Where Tape Holds Plates Together, High Pressure.
			25°	R91	4	1963	Low Volt Disch, Low Volt Chg, Shorted at Bottom Corner of Pos Plates, Grid Wires Through Separator, Rough Grid Showing Through at Top and Bottom of Most Plates, High Pressure.
			25°	92	5	2937	Low Volt Disch, Low Volt Chg, Short Through Separator on Side of Plates, Pos Plate Material Penetrated Separator, High Pressure.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gould 20 Ampere-Hour</u> FAILURE ANALYSIS Nickel-Cadmium
119	40%	3.0	25°	73	5	222	Normal Volt Disch, Low Volt Chg, Short Near Bottom of 5th or 6th Pos, No Obvious Cause.
			25°	80	2	1793	Low Volt Disch, Normal Volt Chg, Neg Plate Material Penetrated Separator, High Pressure, Blistering on Pos Plate.
			25°	86	3	1793	Low Volt Disch, Normal Volt Chg, Neg Plate Material Penetrated Separator, High Pressure, Blistering on Pos Plate.
122	25%	3.0	40°	16	2	801	Low Volt Disch, Low Volt Chg, Blistering on Pos Plates, Separator Deteriorated, Plate Material on Both Sides of Separator, High Pressure.
			40°	58	3	801	Low Volt Disch, Low Volt Chg, Blistering on Pos Plates, Separator Deteriorated, Plate Material on Both Sides of Separator, High Pressure.
			40°	18	5	983	Low Volt Disch, Low Volt Chg, Plate Material Penetrated Separator, Pos Plates Blistered, High Pressure.
126	25%	1.5	40°	9	3	1273	Low Volt Disch, Low Volt Chg, Shorted at Bottom Corner of Neg Plate, Grid Wire Penetrated Separator, Several Other Plates Had Grid Wires Sticking Out, High Pressure.
			40°	R29	4	1509	Low Volt Disch, Low Volt Chg, Shorted at Bottom Corner of Pos Plate, Grid Wire Penetrated Separator, Blistering on Pos Plates, Separator Deteriorated, High Pressure.
			40°	11	5	1569	Low Volt Disch, Low Volt Chg, Shorted on Side of Pos Plate, Grid Wire Penetrated Separator, High Pressure.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 3.0 Ampere-Hour FAILURE ANALYSIS
20	40%	3.0	25°	421	5	3704	Low Volt Disch, Low Volt Chg, Blistering on Bottom and Top Edge of Pos Plate, Migration of Neg Plate Material, Separator Completely Deteriorated.
			25°	433	2	4485	Low Volt Disch, Low Volt Chg, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates, Separator Deteriorated, Burned Pos Tab.
			25°	711	6	4485	Low Volt Disch, Low Volt Chg, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetrations, Blistering on Pos Plates, Separator Deteriorated, Deposit on Pos Terminal.
			25°	710	3	4889	Shorted on Cycling, Deposit on Pos Terminal, Migration of Neg Plate Material Through Separator, Hot Spots Around Pinpoint Penetrations, Blistering on Pos Plates, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gould 3.5 Ampere-Hour FAILURE ANALYSIS
52	25%	1.5	0°	116	8	7258	Nickel-Cadmium Low Volt Disch, Low Volt Chg, Still Under Pressure When Opened, Neg Plate Material on Separator, Excess Migration of Neg Plate Material, Separator Deteriorated.
			0°	194	10	3367	Low Volt Disch, Normal Volt Chg, Under High Pressure When Opened, Pinpoint Penetration, Migration of Active Material Around Tab Areas.
			0°	108	7	9724	Low Volt Disch, High Volt Chg, Loose Active Pos Plate Material, Migration of Neg Plate Material Through Separator, Separator Deteriorated.
			0°	118	9	9724	Low Volt Disch, Low Volt Chg, Loose Active Pos Plate Material, Migration of Neg Plate Material Through Separator, Separator Deteriorated.

PAGE NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Sonotone 5.0 Ampere-Hour FAILURE ANALYSIS
1	25%	1.5	25°	4361	4	2995	Nickel-Cadmium Low Volt Disch, High Volt Chg, Inclusion on Surface of Outside Pos Plate Wore Hole Through Separator and Thin Outside Wrap, Separator Sticking to Neg Plate, Glass Seal Leaked.
			25°	4335	1	4423	Low Volt Disch, High Volt Chg, Neg Tabs Weak Weld to Plates, Separator Melted at Center of Core, Extreme Pressure Points on Separator From Scoring Causing High Resistance Shorts.
			25°	4878	6	7782	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Short Caused by Excess Scoring, Migration of Neg Plate Material, Separator Completely Deteriorated.
5	25%	3.0	25°	4351	2	3771	Low Volt Disch, High Volt Chg, Deposit on Glass Seal, Excess Scoring, Migration of Neg Plate Material, Deep Pressure Points Resulting in Intermittant Shorts, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES CONTAINING	CELL TYPE: <u>Sonotone 5.0 Ampere-Hour</u> FAILURE ANALYSIS
6	40%	3.0	25°	4324	8	1069	Low Volt Disch, Normal Volt Chg, Separator Impregnated With Active Material, Separator Sticking to Neg Plate.
			25°	6904	10	1136	Low Volt Disch, Low Volt Chg, Small Hole in Separator at Start of Coil, Pos Plate Edge Broken Allowing Grid Wire to Penetrate Separator.
			25°	3637	4	1161	Grid Wires of Pos Plate Penetrated Separator and Shorted to Neg Plate, Active Plate Material Penetrated Separator at Three Points, Bad Tab Welds.
			25°	6875	9	3798	Low Volt Disch, Normal Volt Chg, High Pressure Bulge, Excess Scoring, Migration of Pos and Neg Plate Material, Separator Completely Deteriorated.
			25°	6882	7	4608	Low Volt Disch, Normal Volt Chg, Excess Scoring, Shorts at Edge of Plates, Neg Tab Area, and at Scoring, Weak Weld Neg Plate to Tab, Separator Deteriorated.
29	15%	3.0	40°	3626	1	1418	Shorted on Cycling, Neg Tab Welds Poor, Active Plate Material Penetrated Separator at Scoring Marks.
			40°	810	7	4835	Low Volt Disch, Low Volt Chg, Deposit on Glass Seal, Burn Spots Along Top Edge of Neg Plate, Hole Burned in Separator, Weak Weld Neg Tab to Plate.
			40°	4327	8	4340	Low Volt Disch, Normal Volt Chg, Deposit on Glass Seal, Hole in Separator Adjacent to Score Band, Separator Completely Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: FAILURE ANALYSIS
49	15%	1.5	0°	6887	9	2010	<u>Sonotone 5.0 Ampere-Hour</u> Nickel-Cadmium
			0°	4370	3	10073	Low Volt Disch, Low Volt Chg, Burn on Separator Opposite Pos Tab. Shorted During Cycling, Short Through Separator Caused By Deep Pressure Points Adjacent to Scoring, Migration of Neg Plate Material, Small Inclusion on Plates Starting to Penetrate Through Separator.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 6.0 Ampere-Hour</u> FAILURE ANALYSIS
62	25%	1.5	0°	1630	10	2995	Nickel-Cadmium Low Volt Disch, High Volt Chg, Leaked, Lost 6.8 gm, Ceramic Seal Broke, Deposit on Inside of Ceramic, High Pres Bulge, Blistering on Pos Plates.
			0°	1192	4	4066	Low Volt Disch, Low Volt Chg, Small Shorts Through Separator Near Pos Tab, Blistering on Pos Plate, Separator Deteriorated.
			0°	1196	5	4441	Low Volt Disch, Low Volt Chg, Ceramic Short, Blistering on Pos Plates, High Pres Bulge.
			0°	2227	7	3590	Low Volt Disch, Low Volt Chg, High Pressure Bulge, Still Under Pressure When Opened, Pinpoint Penetration, Blistering on Pos Plates, Ceramic Short.
65	15%	3.0	0°	1284	4	5012	Low Volt Disch, Low Volt Chg, Deposit on Pos Terminal, Still Under Pressure When Opened, Concave Sides, Edge of Pos Tab Shorted to Top of Neg Plates, Very Light Migration of Neg Plate Material, Blistering on Pos Plates.
			0°	2095	6	*5706	Low Volt Disch, Low Volt Chg, Concave Sides Shorted Pos and Neg Bus to Case, Pinpoint Migration Through Separator, Blisters on Pos Plate, Separator Deteriorated.
			0°	1808	8	*6186	Low Volt Disch, Low Volt Chg, Concave Sides Shorted Pos and Neg Bus to Case, Pos Plate Penetrated Separator and Shorted to Neg Plate, Pinpoint Migration Through Separator, Blisters on Pos Plates, Separator Deteriorated.

* FAILED DURING THIS REPORTING PERIOD

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gould 20 Ampere-Hour	
							FAILURE ANALYSIS	Nickel-Cadmium
98	25%	1.5	0°	77	5	3556	Low Volt Disch, Low Volt Chg, Separator Deteriorated, Neg Plate Material Penetrated Separator, Two Pos Plates Not Welded to Tabs.	
			0°	47	1	3617	Low Volt Disch, Low Volt Chg, High Pressure Bulge, Pieces of Loose Neg Plate Material Between Plates, Migration of Neg Plate Material, Separator Deteriorated, Short Through Separator at Bottom of Plates Where Tape Holds Plates Together.	
			0°	14	4	*10641	Low Volt Disch, Low Volt Chg, High Pressure Bulge, Migration of Neg Plate Material, Short Between Pos and Neg, Separator Completely Deteriorated.	
105	25%	3.0	25°	40	1	4306	Low Volt Disch, Low Volt Chg, Still Under Pressure When Opened, Hot Spots Around Pinpoint Penetration, Deep Penetration by Blisters on Pos Plate, Separator Deteriorated.	
			25°	23	3	*5580	Low Volt Disch, Low Volt Chg, Deposit on Pos Term, Still Under Pressure When Opened, Migration of Neg Plate Material, Short Between Pos and Neg Plates, Separator Completely Deteriorated.	
			25°	41	4	*5690	Low Volt Disch, Low Volt Chg, Still Under Pressure When Opened, Weak Weld on Comb to Plate, Migration of Neg Plate Material, Separator Deteriorated.	
108	15%	3.0	40°	81	2	4403	Shorted on Cycling, Still Under Pressure When Opened, Several Shorts Caused by Small Pieces of Metal Between Plates, Blistering on Pos Plates, Separator Deteriorated.	
			40°	82	3	4233	Shorted During Cycling, Still Under Pressure When Opened, Loose Pieces of Pos Plate Material Between Plates, Pinpoint Penetration, Blistering on Pos and Neg Plates, Separator Deteriorated, Short Between Pos Plate and Neg Tab at Top of Cell.	

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES TESTED	CHILL TYPE: <u>Gulton 20 Ampere-Hour</u> FAILURE ANALYSIS
77	15%	3.0	40°	462	2	*5510	Nickel-Cadmium Shorted on Cycle, Deposit on Neg Term, Concave Sides, Migration of Neg Plate Material, Separator Completely Deteriorated.
			40°	413	1	*5684	Shorted on Cycle, High Pressure Bulge, Still Under Pressure When Opened, Migration of Neg Plate Material, Short Between Pos and Neg Plates at Top of Plate, Separator Completely Deteriorated.
			40°	427	4	*6032	Shorted on Cycle, Deposit on Pos and Neg Term, High Pressure Bulge, Migration of Neg Plate Material, Short Between Pos and Neg Plates, Separator Completely Deteriorated.
102	15%	3.0	0°	449	2	135	Volt Fell Suddenly at End of Chg, Burn Spots at Busses, Concave Around Spots, End Neg Pushed Into Pos Tab.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: General Electric 12.0 Ampere-Hour FAILURE ANALYSIS
82	25%	1.5	25°	430	2	7527	Nickel-Cadmium Low Volt Disch, Normal Volt Chg, Pierced Separator Caused By Rough Place at Top Edge of Neg Plate, Neg Plate Material Migrated, Separator Deteriorated.
124	25%	1.5	25°	410	5	3027	Cell Lost Capacity on Cycling But Came Back When Removed From Pack, So It was Put Back on Cycling in Same Pack.

PACK NUMBER	202	DEPTH OF DISCHARGE	40%	ORBIT PERIOD (HOURS)	1.5	TEST TEMPERATURE	25°	CELL NUMBER	A3553	POSITION IN PACK	3	CYCLES COMPLETED	1630	CELL TYPE: <u>Sonotone 3.0 Ampere-Hour</u> FAILURE Nickel-Cadmium ANALYSIS
Low Volt Disch, Normal Volt Chg, Cell Very Dry, Capacity Decay Due to Insufficient Electrolyte, Migration of Plate Material Around Tab and Scoring Areas.														

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Failure Analysis
Sherfey	40%	1.5	25	106	2	2409	CELL TYPE: Gulton 3.6 Ampere-Hour FAILURE Nickel-Cadmium ANALYSIS Low Volt Disch, Low Volt Chg, Deposit on Edge of Top to Side Weld, Leaked, Lost 3.9 gm., Loose Active Material Pos and Neg, Pinpoint Penetration, Separator Very Dry.
				111	3	*3190	Low Volt Disch, Normal Volt Chg, Deposit on Edge of Top to Side Weld, Leaked. Lost 3.0 gm, Weak Weld Neg Tab to Case, Loose Active Material Pos and Neg, Migration of Neg Plate Material, Blisters on Pos Plates, Separator Deteriorated.
				125	10	*2472	Low Volt Disch, Low Volt Chg, Deposit on Edge of Top to Side Weld, Leaked, Lost 4.2 gm, Loose Active Material Neg, Migration of Neg Plate Material, Separator Deteriorated.
259	45%	1.5	25	134	6	*2038	Low Volt Disch, Normal Volt Chg, Deposit on Edge of Top to Side Weld, Leaked, Lost 3.5 gm, Pos Active Material Loose, Migration of Neg Plate Material, Blisters on Pos Plates, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 4.0 Ampere-Hour</u> FAILURE ANALYSIS
214	40%	1.5	25	None	3	*7564	Shorted on Cycling, Gassing When Opened, Concave Sides, Weak Weld on Pos Plates to Comb For 3-Plate Group, Migration and Separator Deteriorated Heavy Between 4-Plate Group.
				None	1	*8474	Low Volt Disch, Low Volt Chg, High Pressure Bulge and Gassing, Weak Weld on Pos Plates to Comb for 3-Plate Group, Migration and Separator Deteriorated Heavy Between 4-Plate Group.
				None	5	*8474	Low Volt Disch, Low Volt Chg, High Pressure Bulge and Gassing, Migration of Neg Plate Material, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gulton 5.0 Ampere-Hour (NIMBUS)
128	25	1.5	40	291	3	2422	FAILURE ANALYSIS Nickel-Cadmium
318	25	1.5	25	278	2	4863	Shorted During Cycling, Neg Plate Not Welded To Case, Loose Neg Plate Material at Center of Core, Migration of Neg Plate Material, Separator Deteriorated, Ceramic Short. Shorted During Cycling, Pos Tab Touched Top of Neg Plate Shorting Out Cell, Burned Pos Tab, Weak Weld Neg Tab to Case, Migration of Neg Plate Material, Separator Deteriorated.

PACK NUMBER	276	DEPTH OF DISCHARGE	25%	ORBIT PERIOD (HOURS)	1.5	TEST TEMPERATURE	25°	CELL NUMBER	115	POSITION IN PACK	2	CYCLES COMPLETED	*2025	CELL TYPE: Gulton 5.6 Ampere-Hour (Folded Neoprene Seal)
														FAILURE ANALYSIS
														Nickel-Cadmium
														Low Volt Disch, High Volt Chg, Deposit Around Top To Side Weld, Pos Tab Burned and Broken, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gulton 5.6 Ampere-Hour (Nonfolded Neoprene Seal)
230	25%	1.5	40°	111	5	*1195	FAILURE ANALYSIS Nickel-Cadmium Low Volt Disch, Low Volt Chg. Deposit Around Top to Side Weld, Leaked, Lost 1.6 gm, Weak Weld Pos Tab to Term, Migration of Neg Plate Material, Separator Deteriorated.
			40°	103		*1196	Low Volt Disch, High Volt Chg, Still Under Pressure When Opened, Burned Pos Tab, Separator Deteriorated.
			40°	101	1	*1275	Low Volt Disch, High Volt Chg, Still Under Pressure When Opened, Pos Tab Burned and Broken, Migration of Neg Plate Material, Separator Deteriorated.

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gulton 6.0 Ampere-Hour (HSI)
							FAILURE ANALYSIS
218	40%	1.5	25°	5323	2	*5364	Low Volt Disch, Low Volt Chg, Ceramic Short, Nickel Plating Flaked Off on Pos Term, Pinpoint Migration Through Separator Blisters on Pos Plates, Separator Deteriorated.
219	25%	1.5	40°	5324	5	4350	Low Volt Disch, Low Volt Chg, Still Under Pressure When Opened, Pos Tab Burned, Migration of Neg Plate Material, Blistering on Pos Plate, Separator Completely Deteriorated, Neg Plate Shorted Through Separator.
			40°	5318	2	*5134	Low Volt Disch, Low Volt Chg, Deposit on Pos Term, Burned Pos Tab, Ceramic Short, Migration of Neg Plate Material, Blisters on Pos Plate, Separator Deteriorated.
			40°	5320	4	*5766	Low Volt Disch, Normal Volt Chg, Burned Pos Tab, Ceramic Short, Migration of Neg Plate Material, Blisters on Pos Plate, Separator Deteriorated.

PAGE NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: Gulton 6.0 Ampere-Hour (Third Electrode)
11	25%	1.5	25°	147	3	2753	FAILURE ANALYSIS Nickel-Cadmium Third Electrode Shorted to Pos, Ceramic Short, Blistering on Pos Plates, Separator Deteriorated, Leaked, Lost 1.3 gm.
12	40%	1.5	25°	153	5	*5223	Shorted on Cycling, Deposit on Neg Term Seal, Under Pressure When Opened, Migration of Neg Plate Material, Blisters on Pos Plate, Short Through Separator Between Pos and Neg Plate Near Top of Cell, Separator Deteriorated.
13	15%	1.5	0°	140	3	4202	Third Electrode Shorted to Neg Plate, Migration of Neg Plate Material, Shorted Out Third Electrode, High Pressure Bulge, Still Under Pressure When Opened, Lost 1.4 gm.
14	40%	1.5	0°	130	5	2993	Low Volt Disch, High Volt Chg, Deposit on Neg Terminal, Leaked, Lost 8.7 gm, High Pressure Bulge, Large Deposits of Loose Active Neg Plate Material, Hot Spots Around Pinpoint Penetration, Blistering on Pos Plates.
15			0°	141	4	*5070	Low Volt Disch, High Volt Chg, Leaked, Lost 5.9 gm, Separator Very Dry, Migration of Neg Plate Material, Blisters on Pos Plates.

PACK NUMBER	301	DEPTH OF DISCHARGE	25%	ORBIT PERIOD (HOURS)	1.5	TEST TEMPERATURE	0°	CELL NUMBER	1455	POSITION IN PACK	4	CYCLES COMPLETED	*5586	CELL TYPE: <u>Gulton 12.0 Ampere-Hour</u> FAILURE Nickel-Cadmium ANALYSIS
Low Volt Disch, High Volt Chg, High Pressure Bulge, Leaked, Lost 9.6 gm, Migration of Neg Plate Material, Blisters on Pos Plates, Separator Very Dry.														

PACK NUMBER	DEPTH OF DISCHARGE	ORBIT PERIOD (HOURS)	TEST TEMPERATURE	CELL NUMBER	POSITION IN PACK	CYCLES COMPLETED	CELL TYPE: <u>Gulton 50 Ampere-Hour</u> FAILURE Nickel-Cadmium ANALYSIS
95	25%	1.5	0°	109	3	2643	Shorted Out While Cycling, All Plates Shorted at Bottom Center, Separator Very Dry and Stiff From Heat, Blistering on Pos Plate.
			0°	107	5	2938	Shorted Out While Cycling, Short Between Plates at Center Near Bottom of Plates, Separator Dry, Small Amount of Neg Plate Material Migration on Separator.
			0°	115	1	3227	Low Volt Disch, High Volt Chg, Separator Impregnated with Neg Plate Material, Large Blisters on Pos Plate, One Neg Plate Stuck to Can.
123	15%	1.5	40°	119	2	1873	Low Volt Disch, Low Volt Chg, Separator Decomposed, Hot Spots Through Separator Shorted Out Several Plates, High Pres Bulge, Still Under Pressure When Opened.
			40°	118	3	1873	Went Dead During Shutdown, Separator Decomposed, Several Small Hot Spots on Each Plate, Outside Neg Plates Stuck to Case, High Pres Bulge, Deposit Around Ceramic Seal of Pos Terminal.
			40°	117	4	1873	Went Dead During Shutdown, Separator Decomposed, Neg Plate Stuck to Case, High Pres Bulge, Still Under Pressure When Opened.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	Cell Type: Yardney 12 Ampere-Hour Failure Analysis Silver-Cadmium
33	50%	24.0	40°		3	52	Leaked, Dried Out.
					2	126	Leaked, Dried Out.
					1	152	Leaked, Dried Out.
					3	197	Leaked, Dried Out.
					4	210	Leaked, Dried Out.
					10	210	Leaked, Dried Out.
57	50%	24.0	0°		1	162	Leaked, Electrolyte Shorted Out Cell.
					2	162	Leaked, Electrolyte Shorted Out Cell.
					10	162	Leaked, Electrolyte Shorted Out Cell.
					3	166	Leaked, Electrolyte Shorted Out Cell.
					4	166	Leaked, Electrolyte Shorted Out Cell.
					5	166	Leaked, Electrolyte Shorted Out Cell.
					6	166	Leaked, Electrolyte Shorted Out Cell.
					7	166	Leaked, Electrolyte Shorted Out Cell.
					8	166	Leaked, Electrolyte Shorted Out Cell.
					9	166	Leaked, Electrolyte Shorted Out Cell.

Pack Number	Depth of Discharge	Orbit Period (Hours)	Test Temperature	Cell Number	Position in Pack	Cycles Completed	CELL TYPE: <u>Delco 25 Ampere-Hour</u> FAILURE Silver-Zinc ANALYSIS
75	40%	24.0	25°			32	Cell Blew Up, Pack Returned to Manufacturer.
89	40%	24.0	25°			80	Returned to Manufacturer for Analysis.
288	40%	3.0	25°			120	Returned to Manufacturer for Analysis.

PACK NUMBER	275	DEPTH OF DISCHARGE	25%	ORBIT PERIOD (HOURS)	24.0	TEST TEMPERATURE	25°	CELL NUMBER		POSITION IN PACK		CYCLES COMPLETED	139	CELL TYPE: <u>Delco 40 Ampere-Hour</u> FAILURE Silver-Zinc ANALYSIS
Returned to Manufacturer for Analysis.														

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	PRECONDITIONING		CAPACITY CHECKS AFTER 88-DAY INTERVALS								CYCLES TO PACK FAILURE
					INITIAL	*(See Note)	FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	
G.E. 3 A.H.	63	1.5	15	0	3.48		3.18	3.12	3.05	3.03	3.05	2.90	3.30	3.20	10382
	64		25	0	3.50		3.27	3.20	3.38	3.25	3.42	3.27	3.12	3.08	
	15		25	25	4.00		2.38	2.92	2.33	1.50	1.47	1.15	1.10	---	
	16		40	25	4.08		2.75	2.10	1.35	---	---	---	---	---	
	39		15	50/40	1.65	2.43 (779)	2.10	1.53	1.25	1.17	0.70	---	---	---	
	40		25	50/40	1.80	2.50 (1440)	0.88*	0.88	---	---	---	---	---	---	
G.E. 3 A.H.	67	3	15	0	3.63		3.25	3.40	3.53	2.97	3.25	2.95	3.04	3.08	5410
	68		25	0	3.50		3.35	3.53	3.40	3.07	3.25	2.93	2.87	3.20	
	19		25	25	3.93		3.78	3.48	3.15	3.00	2.78	2.48	2.29	2.20	
	20		40	25	3.78		3.00	2.35	2.07	1.83	2.00	1.62	1.47	1.20	
	43		15	50/40	1.77	2.63 (320)	2.20	1.61	1.65	---	---	---	---	---	
	44		25	50/40	1.60	2.00 (327)	1.35	1.19	1.15	1.10	0.95	0.88	---	---	
Gould 3.5 A.H.	51	1.5	15	0	3.62		4.00	3.33	2.41	3.21	3.35	3.15	3.47	3.00	4751
	52		25	0	3.72		3.85	2.52	2.18	3.10	3.24	2.80	2.65	2.96	
	3		25	25	4.00		3.22	2.90	2.21	---	---	---	---	---	
	4		40	25	3.74		2.38	2.70	---	---	---	---	---	---	
	27		15	50/40	1.52	2.62 (779)	2.07	1.75	1.90	---	---	---	---	---	
	28		25	50/40	1.55	2.67 (424)	2.86	---	---	---	---	---	---	---	
Gould 3.5 A.H.	55	3	15	0	3.27		3.59	3.15	2.38	3.23	3.27	3.03	2.77	3.73	4173
	56		25	0	3.50		3.91	3.53	3.05	3.41	3.38	3.30	3.27	3.24	
	7		25	25	4.32		4.02	3.79	3.53	2.77	2.28	2.51	---	---	
	8		40	25	4.29		3.65	3.35	3.03	---	---	---	---	---	
	31		15	50/40	1.60	1.31 (318)	1.75	1.98	2.16	---	---	---	---	---	
	32		25	50/40	1.55	1.46 (495)	1.49	---	---	---	---	---	---	---	

* Preconditioning at change to 40° C. Number of cycles completed at 50° C is in parentheses.

** Still at 50° C.

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	CAPACITY CHECKS AFTER 88-DAY INTERVALS										CYCLES TO PACK FAILURE		
					INITIAL	*(See Note)	NINTH 88 DAYS	TENTH 88 DAYS	ELEVENTH 88 DAYS	TWELFTH 88 DAYS	THIRTEENTH 88 DAYS	FOURTEENTH 88 DAYS	FIFTEENTH 88 DAYS	SIXTEENTH 88 DAYS		SEVENTEENTH 88 DAYS	
G.E. 3 A.H.	63	1.5	15 0	0			3.10	2.65									
	64		25 0	0			2.70	2.85									
	15		25 25	25													10382
	16		40 25	25													5013
	39		15 50/40	50/40													8109
	40		25 50/40	50/40													2509
G. E. 3 A.H.	67	3	15 0	0			2.95										
	68		25 0	0			2.78	2.75									
	19		25 25	25			1.88	2.00									
	20		40 25	25													5410
	43		15 50/40	50/40													2656
	44		25 50/40	50/40													4487
Gould 3.5 A.H.	51	1.5	15 0	0			2.83	3.21									
	52		25 0	0			2.42										
	3		25 25	25													4751
	4		40 25	25													3164
	27		15 50/40	50/40													4495
	28		25 50/40	50/40													1811
Gould 3.5 A.H.	55	3	15 0	0			3.60	3.15									
	56		25 0	0			2.92	2.83									
	7		25 25	25													4173
	8		40 25	25													2494
	31		15 50/40	50/40													2524
	32		25 50/40	50/40													975

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	PRECONDITIONING		CAPACITY CHECKS AFTER 88-DAY INTERVALS								CYCLES TO PACK FAILURE
					INITIAL	*	FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	
Sonotone 5 A.H.	49	1.5	15	0	5.45		5.54	5.50	4.96	4.79	4.71	4.50	4.24	4.08	11745 6671 9328 3625
	50		25	0	5.04		4.96	4.58	4.25	3.79	3.67	3.67	3.12	2.25	
	51		25	25	5.42		3.67	2.33	2.88	2.79	2.21	2.58	2.80	2.46	
	52		40	25	6.42		4.38	4.17	3.25	3.00					
	25		15	50/40	3.08	3.63 (703)	2.25	1.83	2.04	1.17	1.17	1.54			
	26		25	50/40	3.17	3.17 (445)	2.75	2.93							
Sonotone 5 A.H.	53	3	15	0	5.67		5.79	5.67	5.42	5.33	5.50	5.54	5.00	4.62	5211 5975 4141
	54		25	0	4.92		3.96	3.96	4.13	3.96	3.75	3.29	3.38	3.13	
	55		25	25	5.71		4.58	3.04	2.04	2.13	2.13	2.08	2.21	2.25	
	56		40	25	5.83		4.50	3.29	3.25	2.92	2.33	2.33	2.00		
	29		15	50/40	3.33	4.92 (1223)	2.75	2.38	2.42	2.08	1.96	1.29	1.79		
	30		25	50/40	3.75	3.50 (183)	1.88	2.88	2.38	1.67	1.21				
Gulton 6 A.H.	61	1.5	15	0	5.00		5.10	5.40	4.45	3.15	2.60	2.15	1.75		10146 4021 2086 6064 1377
	62		25	0	5.00		4.75	3.80	4.35	3.55	3.30	3.30	2.95	2.85	
	13		25	25	5.80		2.75	2.85	2.70						
	14		40	25	6.40		3.45								
	37		15	50/40	2.75	3.60 (239)	1.70	2.95	1.85	2.00					
	38		25	50/40	2.65	2.90 (114)	1.55								
Gulton 6 A.H.	65	3	15	0	4.50		5.45	5.35	5.15	4.50	4.50	5.15	4.20	4.10	4414 2885 1550 1689 4133
	66		25	0	4.25		5.00	3.50	2.50	3.80	3.90	3.45			
	17		25	25	5.80		3.65	3.45	2.50	2.30					
	18		40	25	4.55		4.95	3.16							
	41		15	50/40	2.75	4.55 (239)	2.05	1.63							
	42		25	50/40	2.60	3.80 (96)	2.15	2.10	2.35	1.85	1.50	1.30			

* Preconditioning at change to 40° C. Number of cycles completed at 50° C is in parentheses.

AMPERE-HOUR CAPACITY ON PRECONDITIONING AND CAPACITY CHECK CYCLES

[illegible]

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	PRECONDITIONING		CAPACITY CHECKS AFTER 88-DAY INTERVALS								CYCLES TO PACK FAILURE
					INITIAL	*	FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	
G.E. 12 A.H.	110	1.5	15	0	13.9		12.7	10.4	13.0	12.5	14.1	13.7			
	124		25	0	14.2		13.5	12.9	12.8	11.4	11.5	11.7			
	82		25	25	15.2		8.00	5.55	5.50	5.40	5.70	5.00			10228
	96		40	25	14.8		6.00	7.65							4030
	85		15	50/40	6.80	8.20	5.00	4.70	5.00	4.90	5.00	1.90			7770
	99		25	50/40	6.90	6.00	4.90	5.20	5.00	4.40					4853
G.E. 12 A.H.	111	3	15	0	14.2		13.2	10.7	11.0	12.1	12.9	12.0		11.2	
	125		25	0	14.6		13.0	12.1	11.9	12.2	12.9	11.7		11.3	
	83		25	25	15.2		11.7	8.20	6.13	5.20	4.80	4.40		5.60	
	97		40	25	14.9		5.60	5.86	7.90	8.20	6.80	5.50	5.70		5770
	86		15	50/40	7.10	8.20	6.30	3.70	4.00	3.50	2.90	2.30	4.40	3.70	
	100		25	50/40	7.00	9.80	3.80	4.70	5.70	5.10	4.00	4.00			4420
Gould 20 A.H.	84	1.5	15	0	22.5		27.7	26.5	24.2	24.7	21.7	22.3		17.0	
	98		25	0	23.1		21.2	15.2	18.7	17.2	17.5	13.5			15641
	104		25	25	25.0		18.5	14.0							2980
	113		40	25	24.7		23.3								2937
	112		15	50/40	9.67	6.83	15.7	15.3	12.5	12.4					5213
	126		25	50/40	9.00	13.9	15.2								1574
Gould 20 A.H.	80	3	15	0	23.0		23.2	21.5	20.3	25.8	19.7	18.3			
	94		25	0	23.0		17.5	25.0	18.2	18.8	16.8	17.0		15.8	
	105		25	25	23.3		23.5	22.2	21.3	21.2	20.7	10.5		17.3	5690
	119		40	25	24.8		24.7	21.7							1793
	108		15	50/40	9.50	9.67	11.8	14.8	16.8	15.2	12.3				4273
	122		25	50/40	9.33	7.50	8.17**								983

* Preconditioning at change to 40° C. Number of cycles completed at 50° C is in parentheses.

** Still at 50° C.

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	CAPACITY CHECKS AFTER 88-DAY INTERVALS										CYCLES TO PACK FAILURE		
					NINTH 88 DAY	TENTH 88 DAY	ELEVENTH 88 DAY	TWELVEETH 88 DAY	THIRTEENTH 88 DAY	FOURTEENTH 88 DAY	FIFTEENTH 88 DAY	SIXTEENTH 88 DAY	SEVENTEENTH 88 DAY	EIGHTEENTH 88 DAY		NINETEENTH 88 DAY	
G.E. 12 A.H.	110	1.5	15	0	11.9	12.0											
	124		25	0	7.20	10.5											
	82		25	25													10828
	96		40	25													4020
	85		15	50/40													9710
	99		25	50/40													4853
G.E. 12 A.H.	111	3	15	0	10.0	10.3											
	125		25	0	10.9	10.9											
	83		25	25	7.20	6.80											
	97		40	25													5002
	86		15	50/40	3.10	3.40											
	100		25	50/40													4424
Gould 20 A.H.	84	1.5	15	0	18.5	16.3											
	98		25	0													10641
	104		25	25													2980
	118		40	25													2937
	112		15	50/40													5213
	126		25	50/40													1574
Gould 20 A.H.	80	3	15	0	17.2												
	94		25	0	17.7	15.2											5690
	105		25	25													1793
	119		40	25													4273
	108		15	50/40													993
	122		25	50/40													

*Preconditioning at change to 40° C. Number of cycles completed at 50° C is in parentheses.

**Still at 50° C.

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	PRECONDITIONING		CAPACITY CHECKS AFTER 88-DAY INTERVALS								CYCLES TO PACK FAILURE
					INITIAL	*	FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	
Gulton 20 A.H.	101	1.5	15	0	17.2		12.5	5.67							3631
	115		25	0	17.7		11.2								2288
	73		25	25	23.3		7.17	9.50	7.83	8.67	8.83				7763
	87		40	25	23.3										627
	76		15	50/40	10.3	13.8 (172)	6.50	4.83	5.50	4.67	5.00	5.17			9348
Gulton 20 A.H.	90		25	50/40	9.00	11.3 (65)	6.00	10.3	7.33*						4045
	102	3	15	0	16.7		19.8	25.2	20.3	19.5	17.3	17.0	15.0	14.7	1754
	116		25	0	21.7		20.7	21.8	19.3	17.5	15.2	15.7	13.5	13.2	358
	74		25	25	20.3		6.17	7.17							6032
	88		40	25	19.8										4480
Yardney 12 A.H.	77		15	50/40	9.50	12.7 (71)	7.33	5.33	4.83	5.33	4.67	5.00	5.17	6.16	
	91		25	50/40	9.17	10.3 (47)	6.67	6.67	7.67	6.83	7.17	5.50			
Gulton 6 A.H.	57	24	50	0	13.8		8.60								166
	33		50	40	13.5		12.0								210
Gulton 6 A.H.	79	24	50	25	6.60		3.55	4.40	4.25	4.05	3.50				545
	93	24	50	40 ***	13.0		7.60	6.50	5.00						349
G.E. 12 A.H.	95	1.5	25	0	54.6		59.6	45.4							3227
	123		15	40	27.4										1874

* Preconditioning at change to 40° C. Number of cycles completed at 50° C is in parentheses.

** Two cells only; pack failed during capacity check.

*** Changed from 25° to 40° C ambient after 173 cycles.

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	CAPACITY CHECKS AFTER 88-DAY INTERVALS										CYCLES TO PACK FAILURE			
					NINTH 88 DAYS	TENTH 88 DAYS	ELEVENTH 88 DAYS	TWELFTH 88 DAYS	THIRTEENTH 88 DAYS	FOURTEENTH 88 DAYS	FIFTEENTH 88 DAYS	SIXTEENTH 88 DAYS	SEVENTEENTH 88 DAYS	EIGHTEENTH 88 DAYS		NINETEENTH 88 DAYS		
Gulton 20 A.H.	101	1.5	15	0														
	115		25	0														
	73		25	25														
	87		40	25														
	76		15	50/40														
	90		25	50/40														
Gulton 20 A.H.	108	3	15	0	10.1													
	116		25	0	13.0	12.0												
	74		25	25														
	88		40	25														
	77		15	50/40														
	91		25	50/40														
Yardney 12 A.H.	57	24	50	0														
	33		50	40														
Gulton 6 A.H.	79	24	50	25														
G.E. 12 A.H.	93	24	50	40														
Gulton 50 A.H.	95	1.5	25	0														
	123		15	40														

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

[illegible]

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	INITIAL PRECONDI- TIONING	CAPACITY CHECKS AFTER 88-DAY INTERVALS										CYCLES TO PACK FAILURE	
						FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	NINTH 88 DAYS	TENTH 88 DAYS		
Gulton (Comm.) 4 A.H.	315	1.5	15	0	5.04	3.57	4.03	4.00	3.80	4.07	4.03	4.60					
	326		25	0	4.87	4.00	3.87	3.73	3.60	3.60	3.93	3.03					
	204		25	25	4.63	2.47	2.07	1.83	1.80	3.67	1.93	1.70	1.60	1.60			8474
	214		40	25	5.00	2.00	2.07	1.87	1.93	1.93	1.67						
	228		15	40	4.20	1.77	1.67	1.47	1.53	1.93	1.75	1.67	1.70				10360
	240		25	40	3.37	1.17	1.13	1.30	1.03	1.30	1.01	1.00					
Gulton 12 A.H.	216	1.5	15	0	14.0	14.0	14.1	14.2	13.7	13.7	12.4						
	301		25	0	14.2	14.5	14.4	14.2	13.0	11.9	11.0						5152
	227		25	25	14.1	5.90	3.50	4.10	4.20	4.80	5.10						5124
	296		40	25	13.3	4.70	5.40	5.00	3.40	3.40	3.20						
	78		15	40	6.80	4.30	3.10	3.30									
	290		25	40	11.4	5.40	3.60	3.70									
Gulton (HSI) 6 A.H.	213	1.5	25	0	7.30	7.30	7.25	7.20	7.00	6.75	6.75						7577
	218		40	25	6.90	3.00	3.60	3.80	3.05								5766
	238		25	40	5.00	1.75	2.00	1.85	2.80								
Yardney (AgZn)	9	24	42	25	14.0												57

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	INITIAL PRECONDI- TIONING	CAPACITY CHECKS AFTER 88-DAY INTERVALS										CYCLES TO PACK FAILURE	
					FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	NINTH 88 DAYS	TENTH 88 DAYS		
Gulfon (Mins) 5 A.H.	117	15	0	5.00	5.17	5.46	5.17	4.75	4.75							6345
	121	25	0	5.38	5.38	5.33	5.20	4.46	4.29							
	124	15	25	5.25	5.40	4.13	2.73	2.33								
	317	25	25	5.46	2.55	2.55	1.50	1.67								
	121	15	40	3.39	1.67	1.67	3.8	1.42	1.70							
	123	25	40	3.04	1.42	1.42	1.71	1.83								
Gulfon (Mins) 6 A.H. (elec- trode)	99	25	0	7.15	7.00	6.20	6.75	6.50								5754 7743
	70	40	0	7.25	7.50	7.00	5.65									
	111	40	25	7.10	3.15	6.20	4.35	3.95	2.75							
	23	25	25	5.95	3.85	5.20	4.00	4.45	4.20							
	35	15	40	2.95	2.25	1.60	1.85	2.00								
	47	25	40	3.95	2.10	2.25	2.25									
G.H. (Mins) 5 A.H.	103	15	0	5.42	5.08	5.38	5.58	5.42	5.54							5521
	107	25	0	5.21	5.50	5.46	5.33	5.17	5.42							
	109	15	25	4.67	4.13	4.13	3.50	3.50	3.21	3.09						
	304	25	25	5.58	3.58	2.54	2.54	1.75	2.04							
	113	15	40	3.67	2.42	2.25	1.83	1.83								
	114	25	40	3.83	2.25	1.71	1.71	1.63	1.42							
G.H. (Mins) 12 A.H. (elec- trode)	60	15	0	1.50	5.1	14.6										4998 1698 665
	12	25	25	10.2												
	12	40	25	9.10												
	24	40	25													
	34	25	40/0	5.20												
	49	25/30	40/0	5.20		11.5										

* At 40° C.

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

TYPE	PACK NUMBER	ORBIT PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	INITIAL PRECONDI- TIONING	CAPACITY CHECKS AFTER 88-DAY INTERVALS										CYCLES TO PACK FAILURE
						FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	NINTH 88 DAYS	TENTH 88 DAYS	
Gulton (Neoprene seal folded) 5.6 A.H.	244	1.5	25	-20	4.01	4.67										
	200		25	0	6.25	5.09										
	276		25	25	5.60	1.63	1.59									
	242		25	40	4.34	1.00	1.35									3798
Gulton (Neoprene seal non- folded) 5.6 A.H.	232	1.5	25	-20	4.53	4.57										
	390		25	0	6.58	5.48	5.50									
	396		25	25	4.30	2.33	2.24									
	230		25	40	4.90											1215
Yardney (C-3 Separator) 5 A.H.	257	2.4	20	0	3.67	1.23	1.33									
	21		20	25	4.93	1.76										267
	45		20	40	6.02											98
	5 A.H.															61
Yardney (Radiated Separator) 5 A.H.	409															
	233		20	25	5.25											34
	5 A.H.		20	25	5.20	5.85	6.13	6.35								
Yardney (Pellon Control Separator) 5 A.H.	69		20	25	5.22	4.95	4.17	3.20								

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CAPACITY CHECK CYCLES

[illegible]

AMPERE-HOUR CAPACITIES ON PRECONDITIONING AND CALACITY CHECK CYCLES

TYPE	PACK NUMBER	CHARGE PERIOD (Hours)	DEPTH OF DISCHARGE	TEMPERATURE °C	PRECONDITIONING		CAPACITY CHECKS AFTER 88-DAY INTERVALS								CYCLES TO PACK FAILURE
					INITIAL	*(See note)	FIRST 88 DAYS	SECOND 88 DAYS	THIRD 88 DAYS	FOURTH 88 DAYS	FIFTH 88 DAYS	SIXTH 88 DAYS	SEVENTH 88 DAYS	EIGHTH 88 DAYS	
Gulton 1.25 A.H.	174	1.5	25	-20	1.43		0.54								
	301		25	0	1.78		1.76								
	195		60	0	1.83		1.66								
	365		25	-20	1.28		0.52								
G.E. 50.4. Gulton 2A.E.	330	1.5	25	40	4.35										

MFR.	CAP. (AH)	PACK NO.	TEMP. °C	ORBIT		PERCENT DEPTH OF DISCH.	PERCENT OF RECHG.	CHG. VOLT LIMIT	CYCLES COVERED		CELLS IN PACK			
				DISCH.	CHG.				INITIAL	FINAL	DIFF	INITIAL	THIS MONTH START	END
G. E. (pages 81-85)	3	63	0	0.5	1.0	15	115	1.55	14639	14917	279	10	10	9
		64	0	"	"	25	"	"	14709	15192	483	"	10	10
		15	25	"	"	25	125	1.49	FAILED	10382		"		
		16	25	"	"	40	"	"	FAILED	5013		"		
		17	40	"	"	15	160	1.45	FAILED	8109		"		
		18	40	"	"	25	"	1.45	FAILED	2509		"		
		19	0	"	2.5	15	115	1.55	7193	7221	228	"	10	10
		20	0	"	"	25	"	"	7080	7308	228	"	9	9
		21	25	"	"	25	125	1.49	7143	7394	251	"	10	10
		22	25	"	"	40	"	"	Failed	5410		"		
GOULD (pages 86-88)	3.5	23	40	"	"	15	160	1.45	Failed	2658		"		
		24	40	"	"	25	"	"	FAILED	4487		"		
		25	0	"	1.0	15	115	1.55	14607	15067	460	"	10	9
		26	0	"	"	25	"	"	Failed	13728		"		
		27	25	"	"	25	125	1.49	FAILED	4751		"		
		28	25	"	"	40	"	"	FAILED	3164		"		
		29	40	"	"	15	160	1.45	FAILED	4495		"		
		30	40	"	"	25	"	"	FAILED	1811		"		
		31	0	"	2.5	15	115	1.55	7241	7469	228	"	10	10
		32	0	"	"	25	"	"	7211	7446	228	"	10	10
SCOTONE Pages 89-93	5	33	25	"	"	25	125	1.49	FAILED	4173		"		
		34	25	"	"	40	"	"	FAILED	2494		"		
		35	40	"	"	15	160	1.45	FAILED	2517		"		
		36	40	"	"	25	"	1.45	FAILED	975		"		
		37	0	0.5	1.0	15	115	1.55	14415	14835	420	"	8	8
		38	0	"	"	25	"	"	14209	14718	420	"	7	7
		39	25	"	"	25	125	1.49	FAILED	11745		"		
		40	25	"	"	40	"	"	FAILED	6671		"		
		41	40	"	"	15	160	1.45	FAILED	9328		"		
		42	40	"	"	25	"	"	FAILED	3625		"		

MFR.	CAP (A/E)	PACK NO.	TEMP. °C	ORBIT PERIOD (HRS)		PERCENT DEPTH OF DISCH.	PERCENT OF RECHG.	CHG. VOLT LIMIT	CYCLES COVERED			CELLS IN PACK THIS MONTH	
				DISCH.	CHG.				INITIAL	FINAL	DIFF	INITIAL	END
GULTON (pages 94-95)	6	61	0	0.5	1.0	15	115	1.55	FAILED	10146		10	
		62	0	"	"	25	"	"	14080	14500	420	"	6
		13	25	"	"	25	125	1.49	FAILED	4021		"	
		14	25	"	"	40	"	"	FAILED	2086		"	
		37	40	"	"	15	160	1.45	FAILED	6064		"	
		38	40	"	"	25	"	"	FAILED	1377		"	
		65	0	"	2.5	15	115	1.55	4893	7121	228	"	7
		66	0	"	"	25	"	"	FAILED	4414		"	
		17	25	"	"	25	125	1.43	FAILED	2885		"	
		18	25	"	"	40	"	"	FAILED	1550		"	
		41	40	"	"	15	160	1.45	FAILED	1689		"	
		42	40	"	"	25	"	"	FAILED	4133		"	
G. E. (pages 96-101)	12	110	0	"	1.0	15	115	1.55	14202	14620	418	"	5
		124	0	"	"	25	"	"	13821	14246	418	5	4
		82	25	"	"	25	125	1.49	FAILED	10878		"	
		96	25	"	"	40	"	"	FAILED	4020		"	
		85	40	"	"	15	160	1.45	FAILED	9710		"	
		99	40	"	"	25	"	"	FAILED	4953		"	
		111	0	"	2.5	15	115	1.55	6976	7200	228	"	5
		125	0	"	"	25	"	"	6977	7205	228	"	5
		83	25	"	"	25	125	1.49	7076	7304	228	"	5
		97	25	"	"	40	"	"	FAILED	5002		"	
		86	40	"	"	15	160	1.45	6876	7099	227	"	5
		100	40	"	"	25	"	"	FAILED	4424		"	
GOULD (pages 102-104)	20	84	0	"	1.0	15	115	1.55	14109	14521	412	"	5
		93	0	"	"	25	"	"	FAILED	10641		"	
		104	25	"	"	25	125	1.49	FAILED	2980		"	
		116	25	"	"	40	"	"	FAILED	2937		"	
		112	40	"	"	15	160	1.45	FAILED	5213		"	
		126	40	"	"	25	"	1.45	FAILED	1569		"	
		80	0	"	2.5	15	115	1.55	7015	7266	251	"	5
		94	0	"	"	25	"	"	6899	7150	251	"	5
		105	25	"	"	25	125	1.49	FAILED	5690		"	
		119	25	"	"	40	"	"	FAILED	1794		"	
		108	40	"	"	15	160	1.45	FAILED	4233		"	
		122	40	"	"	25	"	1.45	FAILED	983		"	

[illegible]

MFR.	CAP. (AH)	PACK NO.	TEMP. °C	ORBIT		PERCENT DEPTH OF DISCH.	PERCENT OF RECHG. (1)	CHG. VOLT LIMIT	CYCLES COVERED		CELLS IN PACK	
				DISCH.	PERIOD (HRS)				INITIAL	FINAL	INITIAL	THIS MONTH START END
G. L. (NABUS) Pages 107-111	5.0	103	0	0.5	1.0	15	110	1.109	7055	7524	5	5
		107	0	0.5	1.0	25	110	1.109	6429	6832	5	5
		106	25	0.5	1.0	15	120	1.149	7062	7531	5	5
		304	25	0.5	1.0	25	120	1.149	6344	6812	5	4
		113	40	0.5	1.0	15	130	1.149	FAILED	4998	5	
		114	40	0.5	1.0	25	130	1.149	6147	6566	5	3
G. L. (Third Electrode) Pages 112-113a E. Coulton (Coulometer) Page 114	12.0	93	25**	1.0	23.0	50	210***	1.149**	Failed	349	5	5
		90	0	0.5	1.0	25	*	*	4360	4810	5	5
		12	25	0.5	1.0	25	*	*	Discontinued	1698	5	
		2	25	0.5	1.0	40	*	*	Discontinued	665	5	
		40	40/0	0.5	1.0	25/40	*	*	3825	4324	5	5
		336	40	0.5	1.0	40	*	1.101	3825	3827	11	9
Sonotone (Triple Seal) Pages 115-116- 118	3.6	243	0	0.5	1.0	15	115	1.55	5723	6181	5	5
		231	0	0.5	1.0	25	115	1.55	5731	6206	5	5
		203	25	0.5	1.0	25	125	1.149	6060	6529	5	5
		202	25	0.5	1.0	40	125	1.149	FAILED	5399	5	
		226	40	0.5	1.0	15	160	1.145	5482	5871	5	5
		237	40	0.5	1.0	25	160	1.145	5561	5624	5	3
Sonotone (Coulometer) Page 117	5.0		25	0.5	1.0	30	*	1.60	9916	10395	5	5
Sonotone (STARTISTOR) Pages 119-120	5.0	275	-20	0.5	1.0	25	*	*	FAILED	2145	5	
		284	-20	0.5	1.0	40	*	*	FAILED	1530	5	
		92	0	0.5	1.0	25	*	*	4985	5454	5	5
		322	0	0.5	1.0	40	*	*	4390	4830	5	3
		273	25	0.5	1.0	25	*	*	FAILED	3742	5	
		287	25	0.5	1.0	40	*	*	FAILED	2392	5	
		299	40	0.5	1.0	25	*	*	FAILED	4339	5	
		312	40	0.5	1.0	40	*	*	Failed	3262	5	

* Does Not Apply

** CHANGED TO 40°C, 1.45 V/Cell Limit after Cycle 173

*** INCREASED TO 250% after Cycle 266

(1) Actual percent of recharge may be lower due to voltage limit.

MFR.	CAP. (AH)	PACK NO.	TEMP. °C	ORBIT		PERCENT DEPTH OF DISCH.	PERCENT OF RECH. (1)	CHG. VOLT LIMIT	CYCLES COVERED		CELLS IN PACK	
				PERIOD (HRS)	DISCH. CHG.				INITIAL	FINAL	INITIAL	THIS MONTH START END
Gulton Pages 121-124	1.25	174	-20	0.5	1.0	25	*	*	1993	2451	5.0	5 5
		388	-20	0.5	1.0	25	*	*	1622	1997	5.0	5 4
		308	0	0.5	1.0	25	*	*	2252	2721	5.0	5 5
		198	0	0.5	1.0	60	*	*	2252	2721	5.0	5 5
Gulton (SHERFEEY) Page 125	3.6		25	0.5	1.0	40	60	*	5261	5585	10	6 0
Gulton (Coulometer) Page 126	3.6	239	25	0.5	1.0	40	*	1.48	3817	4237	10	9 9
Gulton (Commercial) Page 127-130	4.0	315	0	0.5	1.0	15	115	1.55	10990	11359	5	5 5
		326	0	0.5	1.0	25	115	1.55	11301	11770	5	5 5
		204	25	0.5	1.0	25	125	1.49	11170	11574	5	5 5
		214	25	0.5	1.0	40	125	1.49	FAILED	8474	5	
		215	40	0.5	1.0	15	160	1.45	11064	11483	5	5 5
		240	40	0.5	1.0	25	160	1.45	FAILED	10359	5	
	5.0	117	0	0.5	1.0	15	110	1.49	6149	7311	5	5 5
		121	0	0.5	1.0	25	110	1.49	6384	6792	5	5 4
Gulton (NIMBLE) Pages 131-136		120	25	0.5	1.0	15	120	1.49	6974	7443	5	5 5
		318	25	0.5	1.0	25	120	1.49	6316	6817	5	4 4
		127	40	0.5	1.0	15	130	1.49	7012	7364	5	5 4
		128	40	0.5	1.0	25	130	1.49	6033	6344	5	3 0
	5.0	244	-20	0.5	1.0	25	115	1.55	3212	3680	5	5 5
		230	0	0.5	1.0	25	115	1.55	3394	3831	5	5 5
		376	25	0.5	1.0	25	125	1.49	3436	3904	5	4 4
		222	40	0.5	1.0	25	160	1.45	3626	3772	5	5 4
GULTON (G.O.FOLDED SEAL) Pages 137-140	5.6	232	-20	0.5	1.0	25	115	1.55	3189	3641	5	5 5
		290	0	0.5	1.0	25	115	1.55	3426	3895	5	5 5
		296	25	0.5	1.0	25	125	1.49	3526	3993	5	4 4
		230	40	0.5	1.0	25	160	1.45	FAILED	1215	5	
	6.0	19	25	1.0	23.0	50	200	1.49	failed	545	5	
	6.0	213	0	0.5	1.0	25	115	1.55	9018	9437	5	5 5
		218	25	0.5	1.0	40	125	1.49	FAILED	7577	5	
		238	40	0.5	1.0	25	160	1.45	FAILED	5766	5	

*Does Not Apply

(1) Actual percent of recharge may be lower due to voltage limit.

MFR.	CAP. (AH)	PACK NO.	TEMP. °C	ORBIT PERIOD (HRS)		PERCENT DEPTH OF DISCH.	PERCENT OF RECH. (1)	CHG. VOLT LIMIT	CYCLES COVERED			CELLS IN PACK	
				DISCH.	CHG.				INITIAL	FINAL	DIFF	INITIAL	FINAL
Gulton (Thiara Electrode) Pages 145-147a	0.0	57	0	0.5	1.0	25	*	*	6738	7207	469	5	4
		71	0	0.5	1.0	40	*	*	FAILED	5753		5	
		20	25	0.5	1.0	25	*	*	8077	8344	267	5	5
		11	25	0.5	1.0	40	*	*	FAILED	7743		5	
		35	40	0.5	1.0	15	*	*	6071	6540	469	5	5
Gulton Pages 148-151	12.0	10	40	0.5	1.0	25	*	*	FAILED	5521		5	
		218	0	0.5	1.0	15	115	1.55	8105	8509	404	5	5
		122	0	0.5	1.0	25	115	1.55	8959	9377	418	5	4
		121	25	0.5	1.0	25	125	1.49	8273	8888	615	5	5
		121	25	0.5	1.0	40	125	1.49	Failed	5152	469	5	4
Gulton	50.0	121	40	0.5	1.0	15	150	1.45	8878	9397	519	5	4
		121	40	0.5	1.0	25	150	1.45	Failed	5124		5	
		121	40	0.5	1.0	25	115	1.45	Failed	3227		5	
		121	40	0.5	1.0	15	160	1.45	Failed	1874		5	
		121	40	0.5	1.0	15	160	1.45	Failed	1874		5	
Garcney Pages 152-153	12.0	121	25	1.0	23.0	50	*	1.50	Failed	166		10	
		121	25	1.0	23.0	50	*	1.50	Failed	210		10	
		121	25	1.0	23.0	20	*	1.50	Failed	266		5	
		121	25	1.0	23.0	20	*	1.50	Failed	34		5	
		121	25	1.0	23.0	20	*	1.50	Failed	98		5	
Garcney Pages 154-155	12.0	121	25	1.0	23.0	20	*	1.50	264	293	29	5	5
		121	25	1.0	23.0	20	*	1.50	Failed	61		5	
		121	25	1.0	23.0	20	*	1.50	264	293	29	5	5
		121	25	1.0	23.0	25	130	1.50	DISCONTINUED	214		5	
		121	25	1.0	23.0	25	130	1.50	2105	2525	420	5	5
Garcney Limited Electrolyte CELLC	12	121	25	1.0	23.0	25	130	1.50	2883	3273	490	5	5
		121	25	1.0	23.0	42	*	1.97	Failed	57		10	
		121	25	1.0	23.0	40	*	1.97	Failed	119		10	
		121	25	1.0	23.0	40	*	1.97	Failed	32		5	
		121	25	1.0	23.0	40	*	1.97	Failed	80		5	
NaOH DELCC	40	121	25	1.0	23.0	40	*	1.57	Discontinued	120		5	
		121	25	1.0	23.0	40	*	1.97	Failed	325		5	
		121	25	1.0	23.0	25	*	1.97	Discontinued	139		5	
		121	25	1.0	23.0	25	*	1.97	Discontinued	139		5	
		121	25	1.0	23.0	25	*	1.97	Discontinued	139		5	

* Does Not Apply
(1) Actual percent of recharge may be lower due to voltage limit.

PACK NO. 63
G.E. 3 A.M.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO.	PACK VOLTAGE	CURRENT	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
14670.	12.25	.89	1.24	1.23	1.22	1.22	1.23	1.21	1.23	1.20	1.27	1.18	
14702.	12.36	.89	1.25	1.25	1.26	1.20	1.24	1.22	1.23	1.23	1.26	1.23	
14734.	12.35	.90	1.25	1.25	1.25	1.20	1.24	1.22	1.23	1.23	1.24	1.23	
14767.	12.37	.90	1.25	1.25	1.25	1.20	1.24	1.22	1.23	1.23	1.26	1.23	
14798.	12.33	.89	1.25	1.25	1.25	1.19	1.23	1.22	1.23	1.22	1.26	1.23	
14830.	12.35	.89	1.25	1.25	1.25	1.19	1.24	1.23	1.23	1.23	1.26	1.23	
14862.	12.34	.89	1.25	1.26	1.25	1.19	1.24	1.23	1.23	1.22	1.26	1.23	
14895.	12.31	.90	1.25	1.25	1.25	1.19	1.23	1.22	1.23	1.22	1.26	1.22	
14917.	10.32	.89	1.19	1.20	1.20	1.06	1.18	.19	1.18	1.18	1.20	1.16	
.52													
14670.	15.24	.23	1.56	1.59	1.60	1.45	1.54	1.50	1.56	1.44	1.57	1.41	END OF CHARGE
14702.	15.64	.23	1.62	1.48	1.61	1.57	1.66	1.58	1.51	1.52	1.53	1.55	
14734.	15.63	.23	1.62-	1.49	1.60	1.57	1.66	1.58	1.51	1.51	1.49	1.54	
14767.	15.65	.23	1.63	1.49	1.60	1.58	1.66	1.57	1.52	1.51	1.52	1.55	
14798.	15.66	.23	1.63	1.49	1.60	1.57	1.65	1.58	1.52	1.51	1.53	1.55	
14830.	15.72	.21	1.64	1.49	1.61	1.57	1.66	1.60	1.51	1.53	1.54	1.55	
14862.	15.67	.22	1.62	1.49	1.60	1.57	1.65	1.61	1.51	1.52	1.54	1.55	
14895.	15.66	.22	1.63	1.49	1.61	1.57	1.65	1.59	1.52	1.52	1.53	1.54	
14917.	13.78	.52	1.38	1.37	1.38	1.45	1.38	1.39	1.37	1.36	1.38	1.36	

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PACK NO. 64
G.E. 3 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO.	PACK VOLTAGE	CURRENT	CELL VOLTAGES										END OF DISCHARGE	
			1	2	3	4	5	6	7	8	9	10		
14756.	12.25	1.51	1.23	1.24	1.23	1.23	1.23	1.22	1.22	1.22	1.22	1.22	1.25	1.21
14819.	12.17	1.51	1.22	1.23	1.22	1.22	1.22	1.21	1.22	1.22	1.21	1.21	1.21	1.20
14851.	12.18	1.51	1.22	1.23	1.22	1.22	1.22	1.21	1.22	1.22	1.21	1.21	1.24	1.21
14883.	12.14	1.51	1.22	1.22	1.22	1.22	1.22	1.21	1.21	1.21	1.21	1.21	1.23	1.20
14915.	12.11	1.50	1.22	1.22	1.21	1.21	1.21	1.20	1.21	1.20	1.20	1.20	1.23	1.20
14980.	12.07	1.51	1.21	1.22	1.21	1.21	1.21	1.20	1.20	1.20	1.20	1.23	1.23	1.19
15074.	12.23	1.51	1.23	1.24	1.23	1.23	1.23	1.22	1.22	1.22	1.22	1.22	1.22	1.21
15096.	12.03	1.51	1.22	1.22	1.21	1.21	1.21	1.20	1.20	1.20	1.20	1.23	1.23	1.19
15128.	12.20	1.50	1.23	1.24	1.23	1.23	1.23	1.22	1.22	1.22	1.22	1.24	1.24	1.21
15192.	12.16	1.50	1.23	1.24	1.22	1.22	1.22	1.22	1.22	1.21	1.21	1.24	1.24	1.20
14756.	15.81	.86	1.54	1.56	1.63	1.68	1.68	1.52	1.57	1.55	1.58	1.63	1.55	
14819.	15.74	.49	1.52	1.54	1.64	1.68	1.68	1.51	1.59	1.57	1.53	1.56	1.54	
14851.	15.76	.50	1.53	1.54	1.65	1.68	1.68	1.52	1.59	1.57	1.54	1.61	1.55	
14883.	15.76	.54	1.52	1.54	1.66	1.68	1.68	1.51	1.59	1.57	1.54	1.59	1.54	
14915.	15.75	.44	1.53	1.57	1.64	1.66	1.66	1.52	1.58	1.55	1.56	1.60	1.54	
14980.	15.66	.50	1.52	1.53	1.64	1.68	1.68	1.51	1.58	1.55	1.53	1.58	1.53	
15074.	15.71	.44	1.54	1.56	1.64	1.67	1.67	1.53	1.59	1.55	1.55	1.56	1.55	
15096.	15.60	.72	1.53	1.56	1.60	1.61	1.61	1.54	1.57	1.53	1.55	1.59	1.56	
15128.	15.71	.51	1.53	1.55	1.65	1.68	1.68	1.52	1.60	1.55	1.54	1.59	1.53	
15192.	15.74	.52	1.54	1.55	1.66	1.69	1.69	1.52	1.60	1.54	1.54	1.60	1.54	

PACK NO. 67
G.E. 3 A.H.

DEPTH OF DISCHARGE 15 TEST TEMPERATURE 0 C
PERCENT OF RECHARGE 115 ORBIT PERIOD 3 HOURS

CYCLE NO.	PACK CURRENT VOLTAGE 0.90	CELL VOLTAGES										END OF DISCHARGE
		1	2	3	4	5	6	7	8	9	10	
7223.	12.44	.90	1.24	1.25	1.23	1.25	1.24	1.24	1.24	1.23	1.26	1.24
7267.	12.64	.90	1.27	1.27	1.25	1.28	1.27	1.26	1.26	1.25	1.29	1.26
7298.	12.51	.89	1.26	1.26	1.23	1.26	1.25	1.25	1.25	1.24	1.27	1.24
7330.	12.53	.89	1.27	1.27	1.24	1.27	1.26	1.26	1.25	1.24	1.28	1.25
7389.	12.69	.85	1.28	1.28	1.25	1.28	1.27	1.27	1.27	1.26	1.30	1.26
7421.	12.57	.90	1.27	1.27	1.24	1.27	1.26	1.26	1.26	1.25	1.28	1.25
7223.	15.69	.21	1.60	1.49	1.51	1.60	1.61	1.60	1.55	1.57	1.54	1.58
7267.	15.78	.13	1.63	1.52	1.53	1.60	1.57	1.59	1.57	1.57	1.57	1.59
7298.	15.83	.11	1.63	1.51	1.51	1.62	1.60	1.60	1.59	1.57	1.56	1.59
7330.	15.82	.11	1.63	1.52	1.51	1.63	1.61	1.61	1.59	1.57	1.60	1.59
7389.	15.86	.09	1.64	1.50	1.58	1.63	1.62	1.60	1.60	1.57	1.62	1.60
7421.	15.69	.08	1.63	1.49	1.48	1.63	1.62	1.59	1.58	1.55	1.60	1.57

PACK NO. 68
G.E. 3 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0
ORBIT PERIOD 3 HOURS

CYCLE NO.	PACK VOLTAGE	CURRENT 1.50	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
7110.	10.86	1.50	1.20	1.20	1.23	1.22	1.20	1.21	1.21	1.20	.00	1.21	
7144.	10.82	1.50	1.20	1.20	1.22	1.22	1.20	1.20	1.21	1.20	.00	1.21	
7226.	11.02	1.49	1.22	1.22	1.24	1.25	1.23	1.23	1.23	1.22	.00	1.23	
7250.	11.11	1.50	1.23	1.24	1.25	1.26	1.23	1.24	1.24	1.23	.00	1.24	
7276.	10.93	1.49	1.21	1.22	1.23	1.23	1.21	1.22	1.22	1.21	.00	1.22	
7308.	10.83	1.49	1.20	1.21	1.21	1.23	1.21	1.22	1.22	1.20	.00	1.21	
.34													
7110.	13.90	.13	1.61	1.61	1.44	1.53	1.54	1.56	1.52	1.59	.00	1.49	
7144.	14.05	.09	1.64	1.64	1.47	1.52	1.55	1.58	1.54	1.60	.00	1.50	
7226.	14.34	.24	1.60	1.62	1.61	1.55	1.59	1.62	1.58	1.62	.00	1.55	
7250.	12.90	.34	1.46	1.44	1.45	1.42	1.46	1.42	1.43	1.41	.00	1.45	
7276.	14.54	.30	1.67	1.68	1.64	1.53	1.62	1.64	1.60	1.61	.00	1.56	
7308.	14.02	.11	1.62	1.65	1.55	1.54	1.55	1.57	1.54	1.59	.00	1.50	

END OF
CHARGE

END OF
DISCHARGE

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PACK NO. 19
G.E. 3 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

TEST TEMPERATURE 25 C
ORBIT PERIOD 3 HOURS

CYCLE NO.	PACK VOLTAGE	CURRENT	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
7173.	11.99	1.51	1.20	1.20	1.20	1.21	1.20	1.20	1.19	1.19	1.22	1.20	
7207.	11.94	1.51	1.20	1.20	1.20	1.21	1.20	1.19	1.19	1.19	1.21	1.19	
7241.	11.94	1.52	1.19	1.20	1.20	1.20	1.19	1.19	1.18	1.18	1.21	1.19	
7271.	11.83	1.52	1.17	1.19	1.19	1.20	1.19	1.18	1.17	1.17	1.20	1.18	
7312.	12.08	1.51	1.21	1.22	1.22	1.23	1.22	1.21	1.20	1.20	1.20	1.20	
7336.	11.90	1.52	1.18	1.20	1.20	1.21	1.20	1.20	1.17	1.19	1.19	1.19	
7362.	12.00	1.52	1.20	1.21	1.21	1.22	1.20	1.20	1.19	1.20	1.22	1.20	
7394.	11.91	1.51	1.19	1.20	1.20	1.22	1.20	1.20	1.18	1.19	1.22	1.19	
7173.	14.63	.38	1.47	1.48	1.48	1.44	1.46	1.45	1.45	1.45	1.49	1.45	END OF CHARGE
7207.	14.62	.38	1.48	1.48	1.48	1.44	1.46	1.44	1.46	1.44	1.48	1.45	
7241.	14.56	.37	1.48	1.47	1.48	1.44	1.45	1.44	1.45	1.43	1.47	1.44	
7271.	14.70	.24	1.46	1.49	1.45	1.47	1.49	1.47	1.45	1.44	1.50	1.47	
7312.	14.46	.32	1.44	1.45	1.44	1.46	1.44	1.45	1.43	1.45	1.47	1.44	
7336.	14.57	.15	1.44	1.45	1.44	1.48	1.44	1.50	1.42	1.49	1.45	1.47	
7362.	14.96	.16	1.47	1.48	1.46	1.51	1.49	1.55	1.46	1.53	1.52	1.53	
7394.	14.88	.22	1.46	1.50	1.46	1.52	1.49	1.54	1.46	1.52	1.51	1.52	

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PACK NO. 51
GOULD 3.5 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO.	PACK VOLTAGE	CURRENT	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
14672.	12.21	1.06	1.24	1.23	1.22	1.21	1.23	1.21	1.23	1.20	1.27	1.16	
14704.	12.08	1.06	1.24	1.23	1.21	1.22	1.20	1.20	1.23	1.22	1.25	1.04	
14737.	11.01	1.06	1.25	1.23	1.22	1.23	1.20	1.23	1.24	1.24	1.27	.09	
14790.	11.18	1.06	1.25	1.23	1.22	1.26	1.25	1.25	1.23	1.25	1.27	.00	
14822.	11.15	1.06	1.25	1.24	1.22	1.26	1.24	1.23	1.23	1.24	1.27	.00	
14854.	11.08	1.06	1.24	1.23	1.22	1.25	1.23	1.22	1.23	1.23	1.27	.00	
14877.	11.04	1.06	1.25	1.23	1.22	1.23	1.23	1.22	1.23	1.22	1.26	.00	
14909.	11.18	1.06	1.25	1.24	1.23	1.25	1.25	1.25	1.24	1.25	1.27	.00	
14939.	11.20	1.06	1.25	1.24	1.23	1.28	1.25	1.26	1.24	1.25	1.26	.00	
14971.	11.19	1.06	1.26	1.24	1.23	1.28	1.24	1.24	1.24	1.24	1.28	.00	
15003.	11.23	1.06	1.25	1.24	1.23	1.29	1.25	1.26	1.24	1.26	1.29	.00	
15035.	11.20	1.06	1.26	1.24	1.23	1.27	1.25	1.25	1.24	1.25	1.28	.00	
15067.	11.17	1.06	1.25	1.24	1.22	1.28	1.24	1.25	1.24	1.24	1.29	.00	
14672.	15.20	.60	1.56	1.59	1.61	1.45	1.53	1.46	1.57	1.45	1.57	1.41	
14704.	15.13	.60	1.56	1.59	1.60	1.46	1.47	1.45	1.57	1.46	1.54	1.41	
14737.	15.23	.60	1.57	1.59	1.61	1.46	1.46	1.48	1.57	1.49	1.56	1.43	
14790.	14.11	.61	1.56	1.59	1.60	1.47	1.61	1.57	1.57	1.59	1.56	.00	
14822.	13.93	.61	1.56	1.59	1.60	1.47	1.58	1.51	1.56	1.52	1.56	.00	
14854.	13.87	.61	1.57	1.60	1.61	1.48	1.54	1.48	1.57	1.50	1.57	.00	
14877.	13.55	.61	1.51	1.51	1.53	1.44	1.52	1.47	1.67	1.47	1.50	.00	
14909.	14.08	.54	1.58	1.61	1.62	1.46	1.62	1.57	1.60	1.52	1.56	.00	
14939.	13.99	.52	1.55	1.57	1.59	1.48	1.57	1.62	1.58	1.55	1.51	.00	
14971.	13.92	.61	1.57	1.60	1.61	1.49	1.56	1.53	1.57	1.50	1.56	.00	
15003.	14.03	.61	1.57	1.60	1.61	1.50	1.56	1.58	1.57	1.56	1.57	.00	
15035.	13.98	.61	1.57	1.59	1.60	1.48	1.57	1.56	1.58	1.55	1.56	.00	
15067.	13.92	.61	1.56	1.60	1.60	1.50	1.55	1.54	1.57	1.51	1.56	.00	

END OF CHARGE

86

PACK NO. 55
GOULD 3.5 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 1.05

CELL VOLTAGES

10

9

8

7

6

5

4

3

2

1

END OF
DISCHARGE

END OF
CHARGE

7271. 12.45 1.05 1.25 1.25 1.26 1.24 1.24 1.23 1.23 1.24 1.27 1.25
7316. 12.48 1.07 1.25 1.26 1.26 1.24 1.24 1.24 1.24 1.24 1.27 1.25
7346. 12.26 1.06 1.23 1.23 1.24 1.22 1.21 1.21 1.22 1.24 1.24
7393. 12.38 1.06 1.25 1.25 1.26 1.24 1.23 1.23 1.23 1.24 1.24
7417. 12.74 1.07 1.28 1.28 1.29 1.28 1.27 1.27 1.27 1.27 1.27
7437. 12.61 1.06 1.27 1.27 1.27 1.26 1.25 1.25 1.26 1.26 1.26
7469. 12.50 1.06 1.26 1.26 1.26 1.25 1.25 1.25 1.24 1.25 1.25

.24

7271. 15.43 .24 1.54 1.58 1.55 1.55 1.54 1.52 1.52 1.54 1.56 1.52
7316. 15.63 .16 1.53 1.62 1.58 1.54 1.53 1.52 1.52 1.64 1.59 1.56
7346. 14.26 .10 1.43 1.43 1.43 1.43 1.43 1.41 1.42 1.42 1.44 1.41
7393. 14.12 .24 1.42 1.41 1.43 1.42 1.42 1.41 1.41 1.40 1.42 1.40
7417. 14.27 .14 1.44 1.43 1.44 1.44 1.43 1.42 1.42 1.42 1.42 1.41
7437. 15.49 .23 1.54 1.64 1.55 1.55 1.54 1.53 1.53 1.58 1.56 1.52
7469. 14.56 .05 1.48 1.47 1.47 1.49 1.48 1.47 1.47 1.45 1.47 1.45

87

PACK NO. 56
GOULD 3.5 A.M.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE PACK CURRENT
NO. VOLTAGE 1.75

CELL VOLTAGES

	1	2	3	4	5	6	7	8	9	10	
7248.	1.20	1.20	1.21	1.21	1.20	1.19	1.20	1.20	1.22	1.20	END
7282.	1.20	1.20	1.21	1.21	1.20	1.19	1.20	1.20	1.21	1.20	DISC
7323.	1.20	1.21	1.21	1.21	1.20	1.20	1.20	1.19	1.21	1.20	
7355.	1.22	1.22	1.22	1.23	1.21	1.21	1.21	1.21	1.23	1.21	
7383.	1.22	1.22	1.24	1.23	1.22	1.21	1.22	1.22	1.21	1.22	
7414.	1.22	1.22	1.24	1.24	1.22	1.21	1.22	1.21	1.23	1.22	
7446.	1.21	1.22	1.22	1.23	1.21	1.21	1.21	1.21	1.23	1.21	

.40

7248.	1.54	1.55	1.51	1.59	.00	1.55	1.53	1.53	1.58	1.55	END
7282.	1.55	1.56	1.52	1.58	1.55	1.56	1.53	1.54	1.55	1.55	CHAR
7323.	1.52	1.54	1.49	1.57	1.58	1.56	1.52	1.53	1.54	1.52	
7355.	1.53	1.55	1.50	1.61	1.56	1.55	1.52	1.52	1.57	1.55	
7383.	1.53	1.54	1.51	1.58	1.54	1.55	1.53	1.52	1.54	1.54	
7414.	1.54	1.54	1.52	1.62	1.55	1.55	1.54	1.52	1.57	1.54	
7446.	1.54	1.55	1.52	1.61	1.56	1.55	1.54	1.53	1.57	1.54	

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PACK NO. 49
SONOTONE 5 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK CURRENT
VOLTAGE 1.50

CELL VOLTAGES

1 2 3 4 5 6 7 8 9 10

END OF
DISCHARGE

.86

END OF
CHARGE

14478.	9.68	1.51	1.20	1.20	1.20	1.21	1.23	1.22	.00	1.22	.00	1.22
14510.	9.67	1.52	1.20	1.20	1.20	1.21	1.22	1.22	.00	1.22	.00	1.22
14541.	9.67	1.52	1.20	1.20	1.20	1.21	1.22	1.22	.00	1.21	.00	1.21
14574.	9.66	1.52	1.21	1.21	1.21	1.22	1.23	1.23	.00	1.24	.00	1.24
14606.	9.60	1.51	1.19	1.19	1.19	1.21	1.22	1.21	.00	1.21	.00	1.21
14632.	9.62	1.50	1.19	1.19	1.19	1.21	1.22	1.21	.00	1.21	.00	1.21
14677.	9.79	1.52	1.22	1.22	1.22	1.24	1.24	1.24	.00	1.23	.00	1.23
14709.	9.78	1.51	1.22	1.22	1.22	1.24	1.25	1.24	.00	1.23	.00	1.23
14739.	9.75	1.49	1.22	1.22	1.22	1.23	1.24	1.23	.00	1.23	.00	1.23
14771.	9.76	1.51	1.22	1.22	1.22	1.23	1.24	1.23	.00	1.23	.00	1.23
14835.	9.74	1.52	1.22	1.22	1.21	1.23	1.24	1.23	.00	1.23	.00	1.23
14478.	12.41	.54	1.55	1.54	1.53	1.59	1.55	1.54	.00	1.54	.00	1.54
14510.	12.41	.54	1.54	1.54	1.53	1.60	1.55	1.54	.00	1.54	.00	1.54
14541.	12.40	.54	1.54	1.54	1.53	1.60	1.55	1.54	.00	1.54	.00	1.54
14574.	12.43	.54	1.55	1.54	1.53	1.60	1.55	1.54	.00	1.55	.00	1.55
14606.	12.47	.45	1.54	1.55	1.51	1.64	1.55	1.54	.00	1.56	.00	1.56
14632.	12.43	.51	1.53	1.54	1.52	1.63	1.55	1.54	.00	1.00	.00	1.00
14677.	12.45	.39	1.61	1.57	1.53	1.62	1.52	1.51	.00	1.55	.00	1.55
14709.	12.41	.45	1.56	1.56	1.53	1.63	1.54	1.53	.00	1.54	.00	1.54
14739.	12.39	.48	1.54	1.54	1.52	1.63	1.55	1.53	.00	1.54	.00	1.54
14771.	12.48	.46	1.55	1.56	1.53	1.64	1.56	1.55	.00	1.55	.00	1.55
14835.	12.63	.57	1.56	1.57	1.56	1.67	1.58	1.57	.00	1.57	.00	1.57

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PACK NO. 50
SONOTONE 5 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO.	PACK VOLTAGE	CURRENT	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
14331.	9.23	2.50	1.07	.00	.00	1.07	.00	1.17	1.18	1.18	1.20	1.17	
14414.	9.29	2.53	1.11	.00	.03	1.13	.00	1.21	1.21	1.21	1.21	1.22	
14440.	9.21	2.54	1.06	.00	.00	1.07	.00	1.17	1.18	1.17	1.18	1.16	
14473.	9.21	2.54	1.07	.00	.00	1.07	.00	1.17	1.18	1.17	1.19	1.17	
14510.	9.21	2.54	1.07	.00	.00	1.07	.00	1.18	1.18	1.17	1.19	1.17	
14544.	9.24	2.53	1.08	.00	.01	1.08	.00	1.18	1.19	1.18	1.20	1.17	
14592.	9.13	2.53	1.04	.00	.01	1.04	.00	1.18	1.18	1.18	1.18	1.15	
14621.	9.16	2.53	1.05	.00	.01	1.06	.00	1.18	1.18	1.18	1.18	1.17	
14653.	9.17	2.53	1.04	.00	.01	1.05	.00	1.18	1.19	1.18	1.20	1.17	
14685.	9.12	2.52	1.03	.00	.00	1.04	.00	1.18	1.18	1.18	1.20	1.17	
14718.	9.09	2.53	1.03	.00	.00	1.03	.00	1.17	1.18	1.17	1.19	1.16	
14331.	12.39	.63	1.53	.00	.00	1.52	.00	1.54	1.49	1.57	1.52	1.68	END OF CHARGE
14414.	12.29	.62	1.50	.00	.01	1.52	.00	1.53	1.48	1.55	1.51	1.66	
14440.	12.29	.61	1.53	.00	.00	1.52	.00	1.53	1.47	1.55	1.48	1.66	
14473.	12.30	.60	1.53	.00	.00	1.52	.00	1.53	1.47	1.55	1.50	1.66	
14510.	12.29	.61	1.53	.00	.00	1.52	.00	1.53	1.47	1.55	1.51	1.66	
14544.	12.29	.62	1.53	.00	.01	1.52	.00	1.54	1.48	1.56	1.51	1.67	
14592.	12.22	.61	1.53	.00	.01	1.52	.00	1.53	1.47	1.55	1.47	1.64	
14621.	12.23	.59	1.53	.00	.01	1.52	.00	1.53	1.47	1.55	1.47	1.66	
14653.	12.24	.62	1.53	.00	.01	1.52	.00	1.53	1.47	1.55	1.50	1.65	
14685.	12.24	.61	1.53	.00	.00	1.52	.00	1.53	1.48	1.55	1.51	1.65	
14718.	12.22	.61	1.54	.00	.01	1.52	.00	1.53	1.47	1.54	1.51	1.66	

PACK NO. 53
SONOTONE 5 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE PACK CURRENT
NO. VOLTAGE 1.50

CELL VOLTAGES

10

END OF
DISCHARGE

	1	2	3	4	5	6	7	8	9	10
7112.	1.50	1.21	1.22	1.24	1.24	1.23	1.22	1.23	1.22	1.23
7146.	1.50	1.20	1.21	1.23	1.23	1.22	1.22	1.22	1.21	1.24
7180.	1.49	1.21	1.22	1.23	1.24	1.23	1.23	1.23	1.22	1.25
7210.	1.50	1.20	1.22	1.23	1.23	1.23	1.22	1.22	1.21	1.25
7252.	1.53	1.24	1.26	1.27	1.26	1.26	1.26	1.26	1.24	1.25
7278.	1.50	1.23	1.24	1.25	1.26	1.25	1.25	1.25	1.24	1.28
7310.	1.50	1.22	1.24	1.24	1.25	1.24	1.24	1.23	1.23	1.27

35
7112. 15.68
7146. 15.66
7180. 15.59
7210. 15.69
7252. 14.22
7278. 16.40
7310. 15.74

END OF
CHARGE

	1	2	3	4	5	6	7	8	9	10
7112.	1.49	1.50	1.54	1.62	1.55	1.49	1.62	1.64	1.60	1.61
7146.	1.49	1.51	1.58	1.64	1.56	1.49	1.65	1.65	1.62	1.46
7180.	1.50	1.51	1.55	1.60	1.54	1.49	1.57	1.64	1.58	1.61
7210.	1.48	1.48	1.54	1.63	1.56	1.49	1.62	1.65	1.59	1.61
7252.	1.44	1.44	1.44	1.43	1.42	1.43	1.42	1.41	1.40	1.40
7278.	1.56	1.63	1.65	1.67	1.65	1.58	1.68	1.67	1.67	1.66
7310.	1.51	1.53	1.57	1.63	1.58	1.52	1.61	1.65	1.61	1.63

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PACK NO. 54
SONOTONE 5 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE NO.	PACK VOLTAGE	CURRENT 2.50	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
7094.	11.53	2.51	1.18	1.16	.89	1.15	1.20	1.19	1.17	1.18	1.21	1.19	
7136.	11.60	2.50	1.19	1.17	.92	1.16	1.21	1.19	1.18	1.19	1.21	1.20	
7167.	11.52	2.50	1.18	1.16	.90	1.15	1.20	1.19	1.17	1.18	1.21	1.19	
7199.	11.54	2.50	1.19	1.17	.90	1.16	1.20	1.19	1.18	1.19	1.22	1.19	
7227.	11.66	2.51	1.20	1.18	.91	1.17	1.22	1.21	1.19	1.20	1.21	1.21	
7258.	11.61	2.51	1.20	1.18	.91	1.16	1.21	1.20	1.19	1.19	1.23	1.20	
7290.	11.54	2.50	1.19	1.17	.90	1.16	1.20	1.20	1.18	1.19	1.22	1.19	
7094.	15.53	.58	1.51	1.52	1.60	1.52	1.53	1.59	1.60	1.59	1.55	1.50	END OF CHARGE
7136.	15.54	.39	1.51	1.51	1.58	1.52	1.53	1.58	1.62	1.64	1.51	1.49	
7167.	15.56	.30	1.50	1.50	1.57	1.52	1.54	1.58	1.65	1.65	1.53	1.49	
7199.	15.52	.34	1.51	1.52	1.59	1.53	1.54	1.57	1.62	1.63	1.56	1.50	
7227.	15.50	.33	1.52	1.53	1.61	1.53	1.54	1.56	1.61	1.59	1.52	1.51	
7258.	15.56	.37	1.52	1.52	1.61	1.54	1.54	1.56	1.62	1.61	1.56	1.51	
7290.	15.55	.35	1.51	1.52	1.59	1.53	1.54	1.59	1.63	1.63	1.55	1.50	

PACK NO. 5
SONOTONE 5 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

TEST TEMPERATURE 25 C
ORBIT PERIOD 3 HOURS

CYCLE NO.	PACK VOLTAGE	CURRENT 2.50	CELL VOLTAGES										END OF DISCHARGE
			1	2	3	4	5	6	7	8	9	10	
6983.	9.45	2.47	1.17	.00	.00	1.19	1.18	1.17	1.19	1.17	1.20	1.18	
7017.	9.41	2.47	1.16	.00	.00	1.19	1.17	1.17	1.18	1.17	1.19	1.18	
7051.	9.43	2.47	1.16	.00	.00	1.19	1.18	1.17	1.18	1.17	1.19	1.18	
7099.	9.63	2.45	1.20	.00	.00	1.22	1.21	1.20	1.21	1.20	1.20	1.20	
7123.	9.54	2.41	1.19	.00	.00	1.21	1.19	1.19	1.20	1.19	1.19	1.19	
7149.	9.52	2.49	1.19	.00	.00	1.21	1.19	1.19	1.20	1.19	1.21	1.19	
7181.	9.46	2.50	1.17	.00	.00	1.20	1.18	1.18	1.19	1.18	1.20	1.18	
6983.	11.74	.62	1.45	.00	.00	1.46	1.46	1.46	1.45	1.44	1.49	1.45	END OF CHARGE
7017.	11.74	.62	1.45	.00	.00	1.46	1.46	1.46	1.45	1.44	1.49	1.44	
7051.	11.72	.62	1.45	.00	.00	1.46	1.46	1.46	1.44	1.44	1.48	1.44	
7099.	11.74	.63	1.45	.00	.00	1.46	1.47	1.53	1.45	1.44	1.47	1.45	
7123.	11.67	.63	1.45	.00	.00	1.46	1.46	1.53	1.44	1.44	1.45	1.44	
7149.	11.71	.63	1.46	.00	.00	1.46	1.46	1.53	1.45	1.44	1.48	1.44	
7181.	11.72	.61	1.46	.00	.00	1.47	1.47	1.55	1.46	1.44	1.48	1.45	

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PACK NO. 62
GULTON 6 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK CURRENT
VOLTAGE 3.00

CELL VOLTAGES

10

9

8

7

6

5

4

3

2

1

END OF
DISCHARGE

0.00

1.20

1.14

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

0.00

1.20

1.14

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

0.00

1.20

1.14

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

1.16

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PACK NO. 65
GULTON 6 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 1.80

CELL VOLTAGES

1 2 3 4 5 6 7 8 9 10

END OF
DISCHARGE

END OF
CHARGE

6923. 8.53 1.79 1.23 1.23 1.23 .00 1.24 .00 1.19 .00 1.25 1.18
6957. 8.52 1.79 1.23 1.23 1.23 .00 1.24 .00 1.18 .00 1.25 1.18
6991. 8.51 1.78 1.22 1.23 1.23 .00 1.23 .00 1.18 .00 1.24 1.18
7021. 8.50 1.79 1.22 1.23 1.23 .00 1.23 .00 1.18 .00 1.24 1.17
7063. 8.73 1.83 1.25 1.26 1.26 .00 1.26 .00 1.24 .00 1.26 1.22
7089. 8.59 1.81 1.24 1.25 1.24 .00 1.25 .00 1.20 .00 1.25 1.20
7121. 8.55 1.80 1.24 1.25 1.24 .00 1.24 .00 1.20 .00 1.25 1.19

.41
6923. 10.89 .28 1.60 1.52 1.55 .00 1.52 .00 1.65 .00 1.50 1.53
6957. 10.87 .27 1.59 1.52 1.55 .00 1.53 .00 1.65 .00 1.50 1.53
6991. 10.83 .25 1.58 1.52 1.54 .00 1.50 .00 1.65 .00 1.50 1.54
7021. 10.82 .25 1.58 1.52 1.53 .00 1.50 .00 1.64 .00 1.50 1.52
7063. 10.02 .41 1.44 1.44 1.44 .00 1.42 .00 1.44 .00 1.42 1.44
7089. 10.94 .40 1.56 1.54 1.56 .00 1.54 .00 1.68 .00 1.52 1.57
7121. 11.01 .35 1.58 1.55 1.57 .00 1.51 .00 1.68 .00 1.52 1.64

95

PACK NO. 110
G.E. 12 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK CURRENT
VOLTAGE 3.60

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

14297.	6.09	3.64	1.23	1.21	1.23	1.22	1.22	1.22
14328.	6.10	3.59	1.23	1.21	1.23	1.23	1.23	1.23
14361.	6.12	3.60	1.24	1.22	1.25	1.25	1.24	1.24
14393.	6.12	3.61	1.23	1.21	1.24	1.23	1.23	1.23
14419.	6.09	3.61	1.23	1.21	1.24	1.23	1.22	1.22
14457.	6.08	3.56	1.23	1.22	1.22	1.23	1.22	1.22
14483.	6.15	3.62	1.24	1.23	1.24	1.24	1.24	1.24
14512.	6.06	3.62	1.22	1.20	1.21	1.22	1.22	1.22
14544.	6.16	3.61	1.25	1.22	1.25	1.24	1.24	1.25
14580.	5.15	3.62	1.24	1.23	1.22	1.25	1.23	1.23

END OF
CHARGE

14297.	7.68	2.07	1.51	1.64	1.48	1.60	1.48	1.48
14328.	7.67	1.17	1.51	1.65	1.47	1.60	1.49	1.49
14361.	7.70	1.04	1.52	1.66	1.48	1.60	1.47	1.47
14393.	7.70	1.07	1.50	1.65	1.49	1.60	1.49	1.49
14419.	7.68	1.14	1.52	1.63	1.49	1.58	1.48	1.48
14457.	7.67	1.16	1.52	1.65	1.46	1.60	1.48	1.48
14483.	7.68	1.12	1.52	1.60	1.48	1.58	1.51	1.51
14512.	7.69	1.03	1.52	1.66	1.45	1.60	1.48	1.48
14544.	7.68	1.05	1.52	1.60	1.53	1.57	1.50	1.50
14580.	7.68	1.43	1.52	1.63	1.43	1.61	1.51	1.51

96

PACK NO. 124
G.E. 12 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLF NO.	PACK VOLTAGE	CURRENT 6.00	1	2	3	4	5
13891.	4.63	5.86	1.17	1.16	.00	1.17	1.14
13923.	4.63	5.92	1.17	1.16	.00	1.17	1.14
13954.	4.64	5.91	1.17	1.17	.00	1.17	1.14
13987.	4.66	5.96	1.18	1.17	.01	1.16	1.16
14019.	4.66	5.99	1.19	1.17	.00	1.17	1.15
14049.	4.69	5.94	1.17	1.16	.01	1.16	1.14
14083.	4.62	5.73	1.14	1.16	.01	1.17	1.14
14119.	4.76	5.96	1.20	1.21	.01	1.21	1.18
14178.	4.58	5.87	1.16	1.16	.01	1.17	1.14
14179.	4.79	5.90	1.20	1.20	.01	1.20	1.18

END OF
DISCHARGE

97

CYCLF NO.	PACK VOLTAGE	CURRENT 2.45	1.57	1.48	.00	1.48	1.39
13891.	6.13	1.41	1.57	1.48	.00	1.48	1.39
13923.	6.14	1.35	1.57	1.49	.00	1.48	1.60
13954.	6.14	1.34	1.57	1.49	.00	1.48	1.60
13987.	5.14	1.36	1.58	1.49	.00	1.48	1.60
14019.	6.15	1.33	1.55	1.49	.00	1.50	1.58
14045.	6.14	1.35	1.58	1.48	.01	1.48	1.59
14083.	6.14	1.34	1.56	1.48	.01	1.48	1.60
14119.	6.15	1.21	1.55	1.52	.00	1.52	1.58
14138.	6.11	1.45	1.58	1.50	.01	1.50	1.58
14170.	6.13	1.28	1.57	1.52	.01	1.51	1.58

END OF
CHARGE

PACK NO. 111
G.E. 12 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 3.60

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

7002.	6.12	3.63	1.23	1.22	1.23	.00	1.22
7036.	6.53	3.66	1.33	1.33	1.33	1.33	1.33
7060.	6.10	3.64	1.23	1.22	1.23	1.23	1.22
7100.	6.13	3.64	1.23	1.22	1.22	1.23	1.22
7132.	6.14	3.61	1.24	1.24	1.24	1.24	1.23
7150.	6.08	3.62	1.23	1.22	1.23	1.23	1.22
7200.	6.24	3.65	1.26	1.26	1.26	1.26	1.25

.83

END OF
CHARGE

7002.	7.73	.32	1.50	1.55	1.55	.00	1.58
7035.	7.50	.34	1.50	1.56	1.55	1.51	1.59
7069.	7.79	.31	1.54	1.58	1.55	1.50	1.59
7100.	7.79	.35	1.60	1.55	1.54	1.51	1.58
7132.	7.78	.34	1.61	1.55	1.56	1.51	1.59
7150.	7.50	.26	1.60	1.55	1.58	1.51	1.60
7200.	7.94	.42	1.56	1.53	1.63	1.59	1.58

98

PACK NO. 125
G.E. 12 A.H.

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 6.00

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

CELL VOLTAGES

1 2 3 4 5

END OF
DISCHARGE

7007.	5.93	5.94	1.18	1.19	1.19	1.19
7041.	5.93	6.01	1.18	1.19	1.19	1.19
7074.	5.94	5.97	1.19	1.19	1.19	1.19
7105.	5.92	5.99	1.19	1.20	1.20	1.19
7137.	5.96	5.99	1.20	1.20	1.20	1.19
7165.	5.89	6.00	1.19	1.18	1.19	1.18
7205.	5.93	5.98	1.22	1.21	1.22	1.22

END OF
CHARGE

7007.	7.70	1.36	1.59	1.57	1.58	1.46
7041.	7.70	.25	1.59	1.57	1.60	1.46
7074.	7.70	.25	1.59	1.56	1.58	1.46
7105.	7.68	.26	1.59	1.57	1.59	1.47
7137.	7.72	.25	1.60	1.58	1.58	1.46
7165.	7.69	.22	1.59	1.57	1.58	1.47
7205.	7.80	.29	1.56	1.57	1.56	1.58

99

PACK NO. 83
G.E. 12 A.H.

TEST TEMPERATURE 25 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 6.00

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

7106.	5.72	5.97	1.14	1.15	1.16	1.15	1.14
7140.	5.72	6.03	1.14	1.15	1.16	1.15	1.14
7173.	5.74	6.03	1.15	1.16	1.16	1.15	1.15
7213.	4.44	5.99	.95	.90	.95	.78	.92
7241.	5.85	6.01	1.17	1.18	1.19	1.18	1.18
7272.	5.85	6.03	1.18	1.19	1.18	1.18	1.17
7304.	5.78	6.02	1.16	1.17	1.17	1.17	1.16

END OF
CHARGE

7106.	7.30	1.50	1.48	1.45	1.49	1.47	1.43
7140.	7.31	1.52	1.48	1.45	1.49	1.47	1.44
7173.	7.30	1.53	1.48	1.45	1.49	1.47	1.44
7213.	7.12	1.54	1.43	1.44	1.44	1.44	1.43
7241.	7.24	1.54	1.47	1.45	1.48	1.46	1.43
7272.	7.30	1.53	1.48	1.46	1.49	1.48	1.44
7304.	7.27	1.53	1.48	1.45	1.49	1.47	1.44

PACK NO. 86
G.E. 12 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 160

TEST TEMPERATURE 40 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 3.60

CELL VOLTAGES
1 2 3 4 5

6903.	5.59	3.59	1.14	1.11	1.10	1.13	1.12	END OF DISCHARGE
6945.	5.63	3.62	1.15	1.11	1.12	1.14	1.11	
6976.	5.58	3.64	1.14	1.11	1.12	1.13	1.11	
7008.	5.62	3.62	1.16	1.11	1.12	1.14	1.12	
7036.	5.60	3.59	1.15	1.12	1.11	1.13	1.12	

7060.	5.62	3.62	1.16	1.12	1.11	1.14	1.13
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6903.	7.15	1.17	1.41	1.44	1.44	.00	1.43	END OF CHARGE
6945.	7.14	1.17	1.43	1.41	1.43	1.44	1.42	
6976.	7.13	1.17	1.43	1.42	1.44	1.45	1.42	
7008.	7.14	1.18	1.44	1.42	1.43	1.45	1.42	
7036.	7.13	1.18	1.44	1.42	1.42	1.45	1.43	

7060.	7.12	1.17	1.43	1.43	1.43	1.45	1.44
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PACK NO. 84
GOULD 20 A.H.

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 6.00

CELL VOLTAGES

END OF
DISCHARGE

END OF
CHARGE

14143.	5.99	5.86	1.20	1.22	1.19	1.22	1.18
14174.	5.96	5.97	1.20	1.22	1.20	1.22	1.16
14205.	5.94	6.15	1.20	1.21	1.20	1.21	1.15
14243.	5.94	5.92	1.20	1.21	1.20	1.22	1.14
14301.	5.89	5.98	1.20	1.21	1.20	1.21	1.11
14334.	5.97	5.88	1.19	1.21	1.18	1.21	1.21
14371.	6.00	5.00	1.20	1.22	1.19	1.22	1.21
14395.	6.06	5.98	1.20	1.24	1.21	1.22	1.24
14424.	5.92	6.11	1.17	1.22	1.18	1.20	1.21
14456.	5.94	6.11	1.18	1.22	1.18	1.21	1.21
14488.	5.95	5.98	1.18	1.23	1.18	1.21	1.21
14521.	5.92	6.01	1.18	1.22	1.18	1.21	.02
14143.	7.60	3.45	1.55	1.54	1.53	1.52	1.46
14174.	7.57	2.39	1.54	1.54	1.53	1.52	1.45
14205.	7.55	2.52	1.53	1.53	1.53	1.52	1.45
14243.	7.56	2.41	1.53	1.53	1.53	1.52	1.45
14301.	7.55	2.39	1.53	1.53	1.53	1.52	1.45
14334.	7.60	2.13	1.54	1.55	1.54	1.50	1.49
14371.	7.56	2.31	1.53	1.54	1.52	1.51	1.48
14395.	7.48	1.86	1.50	1.53	1.50	1.53	1.47
14424.	7.42	2.27	1.50	1.50	1.50	1.47	1.49
14456.	7.41	2.45	1.50	1.50	1.49	1.48	1.48
14488.	7.41	2.46	1.50	1.50	1.49	1.48	1.47
14521.	7.42	2.41	1.51	1.51	1.50	1.48	.02

PACK NO. 80 GOULD 20 A.H.		TEST TEMPERATURE 0 C ORBIT PERIOD 3 HOURS					END OF DISCHARGE	
CYCLE NO.	PACK VOLTAGE	CURRENT 6.00	DEPTH OF DISCHARGE 15 PERCENT OF RECHARGE 115					END OF CHARGE
			1	2	3	4	5	
7045.	6.15	6.05	1.26	1.22	1.20	1.26	1.25	
7113.	6.15	6.03	1.26	1.22	1.20	1.26	1.25	
7143.	6.03	6.01	1.24	1.19	1.16	1.24	1.23	
7184.	6.07	6.01	1.25	1.20	1.19	1.25	1.24	
7234.	6.05	5.99	1.25	1.20	1.17	1.25	1.23	
7266.	6.08	5.97	1.25	1.22	1.18	1.25	1.24	
7045.	7.74	1.38 .94	1.52	1.56	1.58	1.55	1.55	
7113.	7.52	.69	1.49	1.51	1.53	1.50	1.50	
7143.	7.51	.75	1.47	1.50	1.55	1.51	1.51	
7184.	7.50	.74	1.48	1.51	1.55	1.50	1.51	
7234.	7.48	.84	1.48	1.51	1.53	1.50	1.50	
7266.	7.54	.77	1.49	1.52	1.54	1.51	1.51	

PACK NO. 94
GOULD 20 A.H.

TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE NO. PACK CURRENT
VOLTAGE 10.00

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

CELL VOLTAGES

1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

6929.	5.97	10.11	1.22	1.20	1.17	1.21	1.20
7027.	5.92	10.17	1.21	1.18	1.16	1.20	1.19
7068.	5.96	10.14	1.22	1.20	1.17	1.21	1.19
7079.	5.95	10.11	1.22	1.20	1.17	1.21	1.19
7092.	6.07	10.17	1.24	1.22	1.20	1.23	1.22
7118.	5.94	10.19	1.22	1.20	1.17	1.20	1.19
7150.	5.94	9.98	1.22	1.20	1.17	1.21	1.19

6929.	7.72	1.04	1.50	1.50	1.59	1.59	1.54
7027.	7.67	1.04	1.48	1.47	1.60	1.57	1.54
7068.	7.68	.98	1.50	1.49	1.59	1.57	1.54
7079.	7.67	1.13	1.50	1.50	1.58	1.57	1.52
7092.	7.45	1.79	1.46	1.47	1.51	1.53	1.50
7118.	7.67	1.16	1.51	1.50	1.58	1.57	1.52
7150.	7.68	1.02	1.50	1.49	1.58	1.58	1.53

104

PACK NO. 102
GULTON 20 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115
TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE PACK CURRENT
NO. VOLTAGE 6.00

CELL VOLTAGES
2 3 4 5

END OF
DISCHARGE

6873.	4.77	6.03	1.19	.00	1.19	1.23	1.18
6907.	4.75	6.00	1.19	.00	1.19	1.22	1.17
6941.	4.76	5.97	1.19	.00	1.19	1.22	1.18
6971.	4.75	6.04	1.19	.00	1.18	1.23	1.18
7012.	4.77	6.01	1.19	.00	1.20	1.24	1.20
7036.	4.86	6.06	1.22	.00	1.22	1.25	1.22
7062.	4.71	6.06	1.19	.00	1.19	1.21	1.16
7094.	4.74	6.00	1.19	.00	1.19	1.23	1.18

6873.	6.14	1.20	1.58	.00	1.56	1.50	1.51
6907.	6.12	1.26	1.58	.00	1.58	1.48	1.49
6941.	6.12	1.23	1.57	.00	1.57	1.49	1.51
6971.	6.12	1.23	1.59	.00	1.56	1.49	1.50
7012.	6.14	1.17	1.58	.00	1.57	1.51	1.52
7036.	5.74	1.38	1.46	.00	1.45	1.43	1.43
7062.	6.01	1.37	1.57	.00	1.57	1.44	1.47
7094.	6.13	1.24	1.58	.00	1.56	1.49	1.51

END OF
CHARGE

PACK NO. 116
GULTON 20 A.H. TEST TEMPERATURE 0 C
ORBIT PERIOD 3 HOURS

CYCLE PACK CURRENT
NO. VOLTAGE 10.00

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

6717. 5.72 9.84 1.14 1.16 1.09 1.18 1.16
6751. 5.69 9.72 1.12 1.16 1.09 1.18 1.16
6785. 5.74 9.76 1.15 1.16 1.09 1.18 1.16
6815. 5.70 9.70 1.13 1.16 1.08 1.18 1.15
6856. 6.41 9.86 1.30 1.29 1.24 1.30 1.30

6906. 5.72 9.56 1.19 1.17 1.09 1.18 1.16
6938. 5.71 9.66 1.15 1.17 1.09 1.18 1.15

2.30
6717. 7.72 1.25 1.45 1.60 1.56 1.59 1.53
6751. 7.74 1.15 1.44 1.59 1.55 1.63 1.53
6785. 7.75 1.17 1.45 1.59 1.54 1.62 1.53
6815. 7.76 1.13 1.44 1.61 1.54 1.63 1.52
6856. 7.69 1.26 1.46 1.59 1.56 1.56 1.54

6906. 7.72 1.23 1.46 1.60 1.56 1.60 1.53
6938. 7.72 1.16 1.46 1.60 1.55 1.60 1.53

PACK NO. 103
G.E. 5 A.H. NIMBUS

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 110

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 1.50

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

7088.	6.16	1.48	1.24	1.21	1.26	1.23	1.25
7110.	6.15	1.49	1.24	1.21	1.26	1.22	1.25
7150.	6.15	1.48	1.24	1.21	1.26	1.22	1.25
7198.	6.14	1.48	1.24	1.20	1.25	1.22	1.25
7220.	6.13	1.48	1.26	1.22	1.28	1.23	1.27
7246.	6.08	1.49	1.23	1.19	1.25	1.20	1.24
7279.	6.15	1.48	1.23	1.23	1.25	1.24	1.24
7315.	6.16	1.47	1.24	1.23	1.25	1.23	1.25
7353.	6.16	1.45	1.20	1.23	1.26	1.23	1.26
7398.	6.11	1.48	1.24	1.21	1.26	1.21	1.25
7427.	6.13	1.47	1.24	1.23	1.26	1.25	1.25
7459.	6.17	1.43	1.23	1.23	1.26	1.26	1.25
7491.	6.19	1.47	1.24	1.23	1.26	1.26	1.25
7524.	6.19	1.48	1.24	1.24	1.25	1.26	1.25

END OF
CHARGE

7088.	7.51	.83	1.54	1.43	1.60	1.43	1.52
7119.	7.49	.55	1.54	1.43	1.60	1.43	1.52
7150.	7.50	.56	1.54	1.43	1.60	1.42	1.52
7188.	7.50	.55	1.54	1.42	1.60	1.43	1.53
7220.	7.49	.53	1.54	1.42	1.61	1.43	1.52
7246.	7.51	.48	1.54	1.41	1.62	1.42	1.53
7279.	7.51	.40	1.53	1.44	1.61	1.44	1.51
7316.	7.51	.52	1.54	1.45	1.60	1.43	1.52
7353.	7.53	.53	1.53	1.44	1.60	1.42	1.52
7398.	7.53	.47	1.54	1.43	1.63	1.41	1.53
7427.	7.50	.48	1.53	1.44	1.61	1.45	1.52
7459.	7.54	.74	1.54	1.44	1.61	1.46	1.53
7491.	7.53	.53	1.54	1.44	1.60	1.47	1.52
7524.	7.53	.50	1.54	1.46	1.60	1.47	1.52

PACK NO. 107 , NINEUS
G.E. 5 A.M. NINEUS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 110
TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN

CYCLE PACK CURRENT
NO. VOLTAGES 2.50

CELL VOLTAGES

PSIA

END OF
DISCHARGE

	1	2	3	4	5	
6491.	2.45	1.19	1.19	1.19	1.19	16.901
6504.	2.47	1.19	1.19	1.19	1.19	16.516
6505.	2.45	1.19	1.19	1.19	1.19	16.076
6537.	2.49	1.18	1.19	1.19	1.19	14.728
6619.	2.48	1.19	1.19	1.19	1.19	15.108
6624.	2.49	1.19	1.19	1.19	1.19	14.348
6743.	2.47	1.19	1.19	1.19	1.19	13.330
6779.	2.46	1.19	1.20	1.19	1.19	13.653
6819.	2.47	1.18	1.18	1.17	1.18	13.219
6902.	2.47	1.20	1.20	1.19	1.20	13.292

END OF
CHARGE

	1	2	3	4	5	
6491.	1.39	1.49	1.46	1.46	1.48	17.229
6523.	.71	1.49	1.46	1.46	1.49	16.773
6545.	.73	1.49	1.46	1.46	1.49	15.527
6567.	.73	1.49	1.46	1.46	1.49	14.985
6619.	.76	1.48	1.47	1.47	1.48	15.280
6634.	.74	1.48	1.47	1.46	1.49	14.614
6743.	.77	1.49	1.47	1.46	1.49	13.577
6748.	.75	1.49	1.47	1.46	1.49	13.777
6778.	.70	1.50	1.47	1.46	1.49	13.225
6800.	.97	1.50	1.48	1.46	1.49	13.225
6919.	.73	1.50	1.47	1.47	1.50	13.492

PACK NO. 106
G.E. 5 A.H. NIMBUS

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 120

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 1.50

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

CYCLE NO.	PACK VOLTAGE	CURRENT	1	2	3	4	5
7094.	6.07	1.51	1.22	1.21	1.21	1.23	1.22
7125.	6.05	1.51	1.21	1.21	1.21	1.23	1.23
7152.	6.02	1.50	1.20	1.21	1.20	1.22	1.23
7191.	6.08	1.49	1.22	1.22	1.23	1.23	1.23
7222.	6.04	1.48	1.21	1.21	1.21	1.23	1.22
7254.	6.05	1.48	1.21	1.21	1.21	1.22	1.22
7286.	6.02	1.45	1.22	1.22	1.22	1.22	1.22
7319.	6.03	1.48	1.21	1.21	1.21	1.23	1.22
7341.	6.11	1.49	1.22	1.23	1.24	1.24	1.23
7373.	6.06	1.48	1.22	1.22	1.22	1.23	1.23
7403.	6.07	1.49	1.22	1.22	1.24	1.23	1.22
7435.	6.04	1.49	1.21	1.22	1.22	1.23	1.22
7467.	6.06	1.48	1.22	1.22	1.23	1.23	1.22
7499.	6.04	1.49	1.22	1.21	1.22	1.23	1.22
7531.	6.03	1.48	1.22	1.22	1.21	1.23	1.22
7024.	7.14	.90	1.44	1.42	1.41	1.44	1.43
7125.	7.13	.89	1.42	1.43	1.41	1.44	1.44
7152.	7.07	.90	1.41	1.42	1.40	1.43	1.43
7191.	7.13	.90	1.42	1.43	1.42	1.44	1.43
7222.	7.12	.90	1.42	1.42	1.41	1.44	1.43
7254.	7.12	.90	1.43	1.43	1.41	1.44	1.43
7286.	7.12	.90	1.43	1.43	1.41	1.44	1.43
7319.	7.11	.90	1.42	1.43	1.41	1.44	1.43
7341.	7.15	.90	1.43	1.42	1.42	1.44	1.43
7373.	7.13	.90	1.43	1.43	1.42	1.45	1.44
7403.	7.10	.90	1.43	1.43	1.42	1.44	1.43
7435.	7.13	.90	1.44	1.43	1.42	1.44	1.44
7467.	7.15	.90	1.44	1.43	1.43	1.45	1.44
7499.	7.12	.90	1.44	1.43	1.42	1.44	1.44
7531.	7.14	.90	1.44	1.44	1.42	1.45	1.44

PACK NO. 304 G.E. 5 A.H. NIMBUS		DEPTH OF DISCHARGE 25 PERCENT OF RECHARGE 120		TEST TEMPERATURE 25 C ORBIT PERIOD 90 MIN		END OF DISCHARGE	
CYCLE PACK CURRENT NO. VOLTAGES 2.50		CELL VOLTAGES					
		1	2	3	4	5	
6376.	4.40 2.49	1.10	1.12	1.09	.00	1.11	31.323
6407.	4.23 2.49	1.11	1.05	1.02	.00	1.07	31.492
6439.	4.23 2.47	1.03	1.07	1.05	.00	1.00	31.502
6471.	4.47 2.49	1.13	1.12	1.12	.00	1.12	30.181
6503.	4.42 2.46	1.12	1.12	1.10	.00	1.11	32.369
6535.	4.40 2.50	1.10	1.13	1.11	.00	1.09	32.432
6600.	4.48 2.46	1.14	1.13	1.10	.00	1.14	31.562
6623.	4.72 2.49	1.19	1.20	1.17	.00	1.18	29.674
6654.	4.26 2.45	1.09	1.07	1.04	.00	1.10	31.745
6694.	4.48 2.44	1.14	1.13	1.12	.00	1.14	29.959
6716.	4.20 2.46	1.11	1.06	1.00	.00	1.07	31.196
6748.	4.54 2.46	1.16	1.15	1.13	.00	1.14	32.189
6812.	4.50 2.46	1.15	1.15	1.09	.00	1.15	28.754
110							
6376.	5.82 1.50	1.45	1.46	1.48	.00	1.45	29.843
6407.	5.79 1.30	1.46	1.45	1.46	.00	1.44	31.418
6439.	5.80 1.17	1.44	1.45	1.46	.00	1.45	30.657
6471.	5.83 1.11	1.45	1.46	1.48	.00	1.45	30.900
6503.	5.81 1.10	1.45	1.45	1.48	.00	1.45	31.069
6535.	5.82 1.08	1.45	1.46	1.49	.00	1.45	30.731
6600.	5.83 1.08	1.46	1.46	1.48	.00	1.46	27.160
6623.	5.84 .93	1.46	1.47	1.49	.00	1.46	29.642
6654.	5.82 .98	1.46	1.46	1.48	.00	1.46	32.411
6694.	5.83 1.01	1.46	1.46	1.49	.00	1.46	31.058
6716.	5.85 1.16	1.47	1.47	1.47	.00	1.47	29.948
6748.	5.85 1.03	1.47	1.46	1.50	.00	1.46	31.048
6812.	5.85 1.00	1.47	1.47	1.49	.00	1.46	28.331
END OF CHARGE							

TEST TEMPERATURE 40 C
ORBIT PERIOD 90 MIN

DISCHARGE 25
PERCENT OF RECHARGE 130

DISCHARGE 25
PERCENT OF RECHARGE 130

CELL VOLTAGES

CELL VOLTAGES

PSIA

END OF
DISCHARGE

END OF
CHARGE

	1	2	3	4	5	PSIA
1.170	1.12	1.11	.00	1.00	.00	1.148
1.171	1.11	1.10	.00	1.00	.00	.966
1.172	1.10	1.09	.00	1.00	.00	1.062
1.173	1.09	1.08	.00	.99	.00	1.834
1.174	1.08	1.07	.00	.97	.00	1.141
1.175	1.07	1.06	.00	1.01	.00	1.000
1.176	1.06	1.05	.00	.97	.00	1.234
1.177	1.05	1.04	.00	1.10	.00	1.300
1.178	1.04	1.03	.00	.95	.00	.870
1.179	1.03	1.02	.00	1.14	.00	1.048
1.180	1.02	1.01	.00	.90	.00	1.094

	1	2	3	4	5	PSIA
1.170	1.47	1.46	.00	1.40	.00	1.747
1.171	1.46	1.45	.00	1.40	.00	1.148
1.172	1.45	1.44	.00	1.40	.00	1.105
1.173	1.44	1.43	.00	1.40	.00	1.705
1.174	1.43	1.42	.00	1.40	.00	1.155
1.175	1.42	1.41	.00	1.44	.00	1.041
1.176	1.41	1.40	.00	1.40	.00	1.361
1.177	1.40	1.39	.00	1.44	.00	1.642
1.178	1.39	1.38	.00	1.40	.00	1.031
1.179	1.38	1.37	.00	1.40	.00	1.304
1.180	1.37	1.36	.00	1.40	.00	1.072

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PACK NO.	DEPTH OF DISCHARGE	TEST TEMPERATURE
60	25	0 C
12 A.H.	3	ORBIT PERIOD 90 MIN.
G.E.	3	
3RD ELECTRODE R	3	

CYCLE NO.	PACK VOLTAGE	CURRENT	3RD ELECT			CELL VOLTAGES			END OF DISCH		
			1	2	3	1	2	3			
4374.	6.22	6.05	.031	.039	.017	.029	1.26	1.26	1.25	1.24	.000
4405.	6.14	6.06	.039	.039	.015	.018	1.24	1.24	1.23	1.23	.000
4438.	6.10	6.07	.051	.057	.012	.021	1.23	1.23	1.22	1.23	.000
4477.	6.07	6.10	.059	.065	.019	.021	1.23	1.23	1.22	1.21	.000
4500.	6.07	6.06	.058	.069	.018	.019	1.23	1.23	1.22	1.21	.000
4534.	6.07	6.14	.075	.088	.022	.023	1.23	1.23	1.22	1.23	.000
4565.	6.06	6.05	.059	.078	.025	.021	1.22	1.23	1.22	1.21	.000
4605.	6.06	6.04	.062	.076	.026	.018	1.22	1.23	1.22	1.21	.000
4633.	6.05	6.11	.060	.084	.019	.019	1.22	1.22	1.21	1.21	.000
4624.	6.05	6.05	.066	.076	.015	.015	1.22	1.22	1.21	1.21	.000
4684.	6.04	6.08	.062	.078	.015	.012	1.22	1.22	1.21	1.21	.000
4715.	6.11	6.09	.141	.092	.016	.018	1.23	1.23	1.22	1.22	.000
4747.	6.03	6.11	.090	.077	.019	.019	1.21	1.22	1.21	1.20	.000
4779.	6.04	6.10	.080	.078	.019	.019	1.22	1.22	1.21	1.20	.000
4810.	6.03	6.09	.069	.061	.019	.013	1.21	1.21	1.20	1.20	.000

TRIP POINT	7.32	.92	556	386	369	502	572	1.47	1.48	1.47	1.47	1.47	1.47
4374.	7.32	.92	556	386	369	502	572	1.47	1.48	1.47	1.47	1.47	1.47
4405.	7.55	3.61	172	132	106	401	388	1.52	1.53	1.52	1.51	1.51	1.50
4438.	7.50	1.76	096	087	056	366	406	1.50	1.51	1.50	1.51	1.51	1.50
4477.	7.42	1.35	034	034	026	082	406	1.47	1.48	1.47	1.51	1.51	1.52
4500.	7.57	2.24	082	089	052	000	405	1.51	1.52	1.51	1.53	1.53	1.52
4534.	7.46	1.35	075	092	046	196	403	1.49	1.50	1.49	1.51	1.51	1.51
4565.	7.53	1.66	092	112	058	232	412	1.51	1.51	1.50	1.52	1.52	1.52
4605.	7.51	2.07	083	092	052	232	409	1.50	1.50	1.50	1.52	1.52	1.52
4633.	7.56	2.67	105	112	058	286	406	1.51	1.52	1.51	1.53	1.53	1.53
4624.	7.50	1.44	109	112	052	332	401	1.50	1.51	1.50	1.51	1.51	1.51
4684.	7.49	1.70	102	102	048	281	402	1.50	1.50	1.50	1.51	1.51	1.51
4715.	7.13	.91	475	300	148	423	417	1.42	1.43	1.42	1.43	1.43	1.43
4747.	7.43	1.85	129	160	069	296	399	1.48	1.49	1.49	1.50	1.50	1.50
4779.	7.49	1.62	273	228	125	394	399	1.50	1.51	1.51	1.51	1.51	1.49
4810.	7.43	1.28	119	132	061	307	399	1.48	1.49	1.48	1.49	1.49	1.49

PACK NO.	48	DEPTH OF DISCHARGE					TEST TEMPERATURE 0 C					END OF DISCHARGE	
		3RD ELECTRODE R 3 3 3 3 3					ORBIT PERIOD 90 MIN.						
CYCLE PACK CURRENT		3RD ELECT VOLTAGES					CELL VOLTAGES					TRIP POINT	
NO.	VOLTAGE 9.60	1	2	3	4	5	1	2	3	4	5		
AH OUT													
3888.	5.82	9.44	.102	.112	.035	.015	.035	1.18	1.17	1.18	1.18	1.17	.000
3919.	5.79	9.41	.103	.109	.035	.013	.039	1.17	1.16	1.17	1.17	1.17	.000
3952.	5.76	9.40	.099	.108	.039	.013	.032	1.16	1.16	1.16	1.17	1.16	.000
3991.	5.76	9.40	.097	.105	.036	.013	.033	1.16	1.15	1.16	1.17	1.16	.000
4013.	5.75	9.39	.099	.105	.041	.015	.029	1.16	1.15	1.16	1.17	1.16	.000
4048.	5.75	9.39	.099	.108	.041	.016	.036	1.16	1.16	1.16	1.17	1.16	.000
4079.	5.74	9.39	.093	.100	.048	.015	.044	1.16	1.15	1.16	1.17	1.16	.000
4119.	5.75	9.36	.096	.097	.051	.012	.042	1.16	1.15	1.16	1.16	1.16	.000
4143.	5.79	9.39	.099	.105	.049	.018	.042	1.17	1.16	1.17	1.17	1.17	.000
4168.	5.74	9.36	.090	.100	.026	.007	.028	1.15	1.14	1.15	1.16	1.16	.000
4198.	5.70	9.34	.090	.094	.037	.006	.032	1.14	1.14	1.15	1.15	1.15	.000
4229.	5.73	9.38	.087	.092	.041	.009	.031	1.15	1.15	1.15	1.16	1.15	.000
4261.	5.69	9.37	.086	.092	.052	.006	.039	1.14	1.14	1.14	1.15	1.15	.000
4293.	5.71	9.38	.091	.094	.055	.007	.039	1.15	1.14	1.15	1.16	1.15	.000
4324.	5.70	9.61	.086	.092	.053	.005	.035	1.14	1.14	1.14	1.15	1.15	.000
3888.	7.32	3.07	.236	.212	.425	.367	.364	1.47	1.46	1.46	1.47	1.48	
3919.	7.32	3.27	.238	.212	.422	.350	.319	1.47	1.47	1.46	1.47	1.48	
3952.	7.34	3.48	.229	.209	.424	.359	.262	1.47	1.47	1.46	1.48	1.49	
3991.	7.37	2.94	.229	.206	.425	.341	.105	1.47	1.07	1.47	1.49	1.49	
4013.	7.31	3.20	.232	.209	.425	.329	.243	1.47	1.46	1.46	1.47	1.48	
4048.	7.32	3.08	.230	.208	.425	.338	.252	1.47	1.47	1.46	1.48	1.48	
4079.	7.29	2.68	.229	.205	.429	.385	.336	1.46	1.46	1.46	1.47	1.47	
4119.	7.31	2.77	.228	.202	.432	.390	.338	1.46	1.46	1.46	1.47	1.48	
4143.	7.29	2.68	.229	.208	.424	.378	.316	1.46	1.46	1.46	1.47	1.47	
4168.	7.34	3.54	.232	.218	.421	.262	.215	1.46	1.47	1.46	1.48	1.49	
4198.	7.29	2.91	.226	.203	.419	.338	.299	1.46	1.46	1.46	1.47	1.47	
4229.	7.27	2.45	.221	.201	.418	.382	.376	1.45	1.46	1.45	1.46	1.46	
4261.	7.28	2.51	.224	.202	.424	.409	.393	1.46	1.46	1.45	1.46	1.47	
4293.	7.27	2.48	.229	.206	.422	.402	.389	1.46	1.45	1.45	1.47	1.46	
4324.	7.33	3.60	.225	.200	.419	.422	.429	1.47	1.47	1.46	1.47	1.47	

PACK NO. 338 DEPTH OF DISCHARGE 25 TEST TEMPERATURE 40 °C
 6.5/6.0. 6 A.4. PERCENT. OF RECHARGE ORBIT PERIOD 90 MIN.

CYCLE NO.	PACK VOLTAGE	CURRENT	CELL VOLTAGES						END OF DISCHARGE					
			1	2	3	4	5	6		7	8	9	10	
3827.	1.27	2.74	1.44	.86	.86	.85	.79	1.36	.02	1.27	.02	.00	.00	END OF DISCHARGE
3827.	9.40	2.98	1.43	.80	.91	.93	.71	1.42	.00	1.60	.00	.00	.00	END OF CHARGE

PACK NO. 243
SONOTONE 3 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 0.90

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

CYCLE NO.	PACK VOLTAGE	1	2	3	4	5	END OF DISCHARGE
5786.	6.12	.92	1.23	1.22	1.23	1.23	1.23
5818.	6.11	.92	1.22	1.22	1.23	1.23	1.23
5849.	6.12	.90	1.23	1.22	1.24	1.24	1.23
5882.	6.08	.90	1.24	1.23	1.24	1.25	1.25
5914.	6.13	.90	1.23	1.23	1.24	1.24	1.24
5940.	6.30	.91	1.22	1.21	1.22	1.22	.04
5978.	6.10	.90	1.22	1.22	1.22	1.24	1.22
6004.	6.11	.90	1.23	1.22	1.23	1.24	1.23
6033.	6.14	.90	1.24	1.24	1.24	1.24	1.24
6065.	6.17	.90	1.24	1.24	1.24	1.25	1.25
6095.	6.08	.89	1.22	1.23	1.22	1.23	1.22
6127.	6.07	.89	1.22	1.22	1.22	1.23	1.21
6191.	6.08	.86	1.23	1.23	1.23	1.24	1.21
5786.	7.82	.52	1.47	1.52	1.51	1.68	1.66
5818.	7.81	.21	1.48	1.52	1.51	1.67	1.67
5849.	7.81	.22	1.48	1.50	1.51	1.68	1.67
5882.	7.80	.22	1.48	1.50	1.51	1.68	1.66
5914.	7.86	.21	1.48	1.52	1.51	1.70	1.68
5940.	4.11	.34	1.47	1.51	1.51	1.64	.04
5978.	7.84	.23	1.49	1.52	1.51	1.68	1.67
6004.	7.64	.40	1.50	1.61	1.53	1.61	1.45
6033.	7.83	.24	1.49	1.52	1.52	1.70	1.66
6065.	7.83	.23	1.50	1.51	1.52	1.68	1.67
6095.	7.67	.40	1.46	1.48	1.48	1.68	1.62
6127.	7.79	.20	1.48	1.52	1.51	1.68	1.64
6191.	7.71	.19	1.47	1.51	1.50	1.68	1.62

PACK NO. 231
SONOTONE 3 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115
TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 1.50

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

CYCLE NO.	PACK CURRENT VOLTAGE	1	2	3	4	5	END OF DISCHARGE
5801.	5.78	1.18	1.17	1.18	1.18	1.10	
5833.	5.77	1.18	1.16	1.18	1.18	1.10	
5864.	5.81	1.18	1.17	1.19	1.18	1.12	
5897.	5.80	1.17	1.18	1.20	1.20	1.13	
5929.	5.81	1.18	1.18	1.19	1.19	1.11	
5955.	5.77	1.17	1.17	1.18	1.18	1.10	
5993.	5.78	1.17	1.17	1.18	1.18	1.10	
6049.	5.82	1.19	1.18	1.19	1.19	1.12	
6080.	5.80	1.20	1.20	1.20	1.20	1.14	
6110.	5.86	1.20	1.19	1.19	1.19	1.16	
6142.	5.77	1.18	1.17	1.18	1.18	1.10	
6206.	5.82	1.20	1.18	1.19	1.19	1.12	
5801.	7.70	1.55	1.53	1.56	1.54	1.55	END OF CHARGE
5833.	7.72	1.55	1.54	1.56	1.55	1.56	
5864.	7.71	1.55	1.54	1.57	1.55	1.54	
5897.	7.74	1.56	1.54	1.57	1.55	1.55	
5929.	7.80	1.57	1.57	1.58	1.57	1.55	
5955.	7.75	1.56	1.55	1.57	1.56	1.55	
5993.	7.73	1.57	1.56	1.58	1.57	1.55	
6048.	7.75	1.56	1.55	1.58	1.56	1.55	
6080.	7.77	1.57	1.57	1.58	1.57	1.54	
6110.	7.60	1.54	1.53	1.54	1.53	1.52	
6142.	7.71	1.56	1.55	1.56	1.54	1.56	
6206.	7.64	1.54	1.53	1.55	1.54	1.54	

Coulometer
SONOTONE 5 A.H. DEPTH OF DISCHARGE 30 ORBIT PERIOD 90 MINUTES
TEST TEMPERATURE 25° C

CYCLE NO.	PACK VOLTAGE	CURRENT	CTM	CELL VOLTAGES				
				1	2	3	4	5
9920	5.48	3.00	-0.158	1.14	1.12	1.14	1.13	1.12
9960	5.49		-0.156	1.14	1.12	1.14	1.14	1.13
9980	5.56		-0.136	1.15	1.12	1.15	1.14	1.13
10020	5.47		-0.136	1.10	1.10	1.10	1.10	1.13
10060	5.50		-0.100	1.13	1.11	1.14	1.13	1.11
10100	5.52		-0.106	1.14	1.11	1.14	1.13	1.12
10140	5.50		-0.094	1.13	1.11	1.14	1.13	1.11
10180	5.48		-0.168	1.13	1.11	1.14	1.13	1.11
10220	5.58		-0.077	1.15	1.12	1.15	1.14	1.13
10260	5.64		-0.073	1.16	1.13	1.16	1.14	1.13
10300	5.50		-0.091	1.14	1.11	1.14	1.12	1.11
10340	5.49		-0.094	1.14	1.11	1.14	1.11	1.11
10380	5.70		-0.082	1.09	1.05	1.09	1.09	1.10

END OF DISCHARGE

TIME TO
START OF
TRICKLE
CHARGE

9920	8.00	0.300	+0.809	1.43	1.44	1.43	1.44	1.44	28.30
9960			+0.838	1.43	1.44	1.43	1.44	1.44	28.42
9980			+0.843	1.43	1.44	1.42	1.44	1.43	28.34
10020			+0.840	1.40	1.40	1.39	1.40	1.40	28.42
10060			+0.839	1.43	1.44	1.42	1.44	1.44	28.34
10100			+0.838	1.42	1.43	1.43	1.44	1.44	28.30
10140			+0.840	1.43	1.44	1.43	1.44	1.44	28.40
10180			+0.839	1.43	1.44	1.43	1.44	1.43	28.42
10220			+0.849	1.42	1.43	1.42	1.44	1.44	28.32
10260			+0.832	1.43	1.44	1.43	1.44	1.44	28.40
10300			+0.857	1.42	1.43	1.42	1.44	1.43	28.28
10340			+0.846	1.43	1.44	1.43	1.44	1.43	28.50
10380			+0.787	1.41	1.40	1.42	1.42	1.41	

END OF CHARGE

PACK NO. 203
SONOTONE 3 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

CYCLE PACK CURRENT NO.	VOLTAGE	1	2	3	4	5
6092.	5.75	1.50	1.17	1.16	1.11	1.17
6124.	5.77	1.49	1.17	1.17	1.12	1.17
6156.	5.76	1.50	1.17	1.17	1.10	1.17
6189.	5.78	1.50	1.17	1.17	1.12	1.17
6220.	5.75	1.50	1.17	1.17	1.11	1.17
6252.	5.75	1.49	1.17	1.17	1.11	1.16
6284.	5.75	1.50	1.17	1.17	1.11	1.17
6319.	5.81	1.50	1.18	1.18	1.14	1.17
6371.	5.75	1.50	1.17	1.17	1.11	1.17
6401.	5.74	1.50	1.17	1.17	1.11	1.17
6433.	5.76	1.51	1.17	1.17	1.11	1.17
6465.	5.75	1.50	1.17	1.17	1.11	1.17
6497.	5.76	1.50	1.18	1.18	1.11	1.17
6529.	5.74	1.50	1.17	1.18	1.11	1.17
6092.	7.39	.94	1.48	1.48	1.49	1.47
6124.	7.39	.94	1.48	1.48	1.49	1.47
6156.	7.20	.95	1.47	1.47	1.48	1.46
6189.	7.36	.94	1.47	1.48	1.49	1.47
6220.	7.38	.94	1.48	1.48	1.49	1.47
6252.	7.38	.94	1.48	1.48	1.49	1.47
6284.	7.37	.94	1.48	1.48	1.49	1.47
6319.	7.37	.95	1.48	1.48	1.49	1.47
6371.	7.38	.94	1.48	1.48	1.49	1.48
6401.	7.32	.95	1.47	1.47	1.49	1.47
6433.	7.38	.95	1.48	1.49	1.50	1.47
6465.	7.40	.95	1.49	1.49	1.50	1.47
6497.	7.37	.95	1.48	1.48	1.50	1.47
6529.	7.39	.95	1.49	1.49	1.50	1.47

PACK NO. 92
SONOTONC 5 A.H.

DEPTH OF DISCHARGE 25
STABILIZER

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 2.50

CELL VOLTAGES

1

2

3

4

5

END OF
DISCHARGE

5017.	5.32	2.48	1.00	1.14	1.11	1.11	1.11	.97
5049.	5.16	2.49	.93	1.12	1.08	1.08	1.08	.94
5081.	5.21	2.50	.96	1.12	1.07	1.07	1.07	.97
5114.	5.20	2.49	.97	1.12	1.07	1.07	1.07	.97
5145.	5.22	2.49	1.00	1.12	1.06	1.06	1.06	.95
5177.	5.12	2.49	.90	1.11	1.04	1.04	1.04	.94
5209.	5.11	2.49	.86	1.11	1.03	1.03	1.03	.95
5242.	5.07	2.49	.84	1.10	1.02	1.02	1.02	.93
5274.	5.07	2.49	.84	1.11	1.10	1.10	1.10	1.07
5306.	5.13	2.49	1.01	1.11	1.09	1.09	1.09	1.05
5326.	5.12	2.49	1.01	1.11	1.10	1.10	1.10	1.04
5358.	5.30	2.50	1.09	1.15	1.13	1.13	1.13	1.08
5390.	5.47	2.49	1.03	1.14	1.13	1.13	1.12	1.06
5422.	5.46	2.50	1.00	1.13	1.12	1.12	1.11	1.06
5454.	5.66	2.49	1.02	1.14	1.13	1.13	1.12	1.05

END OF
CHARGE

5017.	5.00							
5049.	4.08	1.57	1.56	1.57	1.60	1.60	1.66	
5081.	4.06	1.57	1.56	1.57	1.61	1.61	1.57	
5114.	4.06	1.57	1.56	1.57	1.61	1.61	1.56	
5145.	4.06	1.57	1.56	1.57	1.60	1.60	1.66	
5177.	4.07	1.57	1.56	1.57	1.60	1.60	1.55	
5209.	4.06	1.57	1.56	1.57	1.60	1.60	1.66	
5242.	4.07	1.57	1.56	1.57	1.60	1.60	1.66	
5264.	4.06	1.56	1.56	1.57	1.61	1.61	1.65	
5296.	4.06	1.56	1.56	1.57	1.60	1.60	1.65	
5326.	4.06	1.56	1.56	1.57	1.60	1.60	1.66	
5358.	4.07	1.56	1.56	1.57	1.60	1.60	1.60	
5390.	4.06	1.56	1.56	1.57	1.60	1.60	1.60	
5422.	4.07	1.56	1.56	1.57	1.60	1.60	1.61	
5454.	4.08	1.56	1.56	1.57	1.60	1.60	1.58	

PACK NO. 222
CONCTIONS 5 A.M.

DEPTH OF DISCHARGE 40
STABILIZER
TEST TEMPERATURE 0
ORBIT PERIOD 90 MIN.

CYCLE BACK CURRENT
NO. VOLTAGE 4.00

CFLL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

NO.	VOLTAGE	1	2	3	4	5	END OF DISCHARGE
4425.	3.27	3.92	1.00	1.13	.00	.00	1.13
4426.	3.25	3.63	1.00	1.13	.00	.00	1.13
4428.	3.18	4.04	1.00	1.11	.00	.00	1.10
4429.	3.17	4.03	.99	1.10	.00	.00	1.10
4430.	3.16	3.97	.98	1.10	.00	.00	1.10
4431.	3.15	3.95	.99	1.11	.00	.00	1.10
4432.	3.17	3.98	1.00	1.11	.00	.00	1.10
4433.	3.17	4.00	1.00	1.11	.00	.00	1.10
4434.	3.14	4.00	1.00	1.10	.00	.00	1.10
4435.	3.11	3.97	1.00	1.10	.00	.00	1.09
4437.	3.11	4.07	1.01	1.10	.00	.00	1.07
4438.	3.09	3.97	.99	1.06	.00	.00	1.06
4439.	4.74	4.93	1.00	1.07	.00	.00	1.61
4440.	4.01	4.76	1.00	1.07	.00	.00	1.61
4441.	4.03	4.94	1.00	1.08	.00	.00	1.62
4442.	4.02	4.91	1.00	1.07	.00	.00	1.62
4443.	4.01	4.90	1.00	1.07	.00	.00	1.62
4444.	4.00	4.92	1.00	1.07	.00	.00	1.61
4445.	4.00	4.91	1.00	1.07	.00	.00	1.61
4446.	4.00	4.90	1.00	1.07	.00	.00	1.60
4447.	4.00	4.90	1.00	1.07	.00	.00	1.60
4448.	4.00	4.90	1.00	1.07	.00	.00	1.59
4449.	4.00	4.90	1.00	1.07	.00	.00	1.59
4450.	4.00	4.90	1.00	1.07	.00	.00	1.59

DATE NO. 176
G. 1.25 A. 14.

DEPTH OF DISCHARGE	TEST TEMPERATURE
25	-20 C
PERCENT OF RECHARGE	ORBIT PERIOD
	90 MIN.

CYCLE BACK CURRENT
NO. VOLTAGE .63

CELL	VOLTAGE
4	5

END OF DISCHARGE

END OF CHARGE

121

[illegible]

TEST TEMPERATURE -20°C
CYCLE PERIOD 90 MIN.

E9 • SAVING •
 INFLUENCE •

CELL VOLTAGES

Figure 1

W
O
R
K
I
N
G

100.000
100.000

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

100.000
100.000

CELL VOLTAGES

END OF
DISCHARGE

		1	2	3	4	5
2285.	5.00	1.20	1.20	1.21	1.20	1.21
2315.	5.01	1.19	1.20	1.21	1.19	1.21
2347.	5.03	1.20	1.20	1.21	1.20	1.22
2385.	5.01	1.20	1.20	1.21	1.19	1.21
2417.	5.03	1.20	1.20	1.21	1.20	1.21
2448.	5.04	1.19	1.20	1.20	1.19	1.21
2476.	5.00	1.19	1.20	1.20	1.19	1.21
2513.	5.00	1.20	1.21	1.20	1.20	1.21
2547.	5.00	1.20	1.21	1.21	1.20	1.22
2583.	5.00	1.20	1.21	1.21	1.20	1.21
2624.	5.00	1.19	1.21	1.21	1.20	1.22
2656.	5.01	1.20	1.21	1.21	1.20	1.22
2688.	5.00	1.20	1.21	1.21	1.20	1.21
2721.	5.00	1.20	1.21	1.20	1.20	1.21

END OF
CHARGE

		1	2	3	4	5
2285.	5.67	1.66	1.74	1.79	1.77	1.72
2315.	5.61	1.67	1.72	1.76	1.76	1.72
2347.	5.75	1.67	1.78	1.81	1.78	1.74
2385.	5.76	1.68	1.75	1.81	1.79	1.75
2417.	5.74	1.69	1.72	1.81	1.80	1.75
2448.	5.76	1.68	1.76	1.80	1.79	1.75
2476.	5.72	1.67	1.77	1.80	1.77	1.73
2513.	5.75	1.68	1.77	1.80	1.79	1.75
2547.	5.82	1.69	1.76	1.81	1.80	1.75
2583.	5.70	1.68	1.75	1.80	1.78	1.74
2624.	5.60	1.57	1.72	1.79	1.77	1.72
2656.	5.55	1.57	1.73	1.79	1.78	1.73
2688.	5.73	1.64	1.77	1.81	1.79	1.74
2721.	5.70	1.64	1.75	1.80	1.79	1.74

TEST TEMPERATURE 90 MIN. 06 01 1990
06317 06100 90 MIN.

CHARGE, 69
CHARGE

7-00000

12. 01. 1961

CELL VOLTAGES

10-10-10

SECRET
NO FORN DISSEM

PACK NO. 239
GUE COUL 3.6 A.H.

DEPTH OF DISCHARGE 40
PERCENT OF RECHARGE

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 2.88

CELL VOLTAGES

1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

CYCLE NO.	PACK CURRENT VOLTAGE 2.88	1	2	3	4	5	1	2	3	4	5	END OF DISCHARGE
3849.	8.54	2.84	.93	.92	.87	.94	.93	.95	.94	.92	1.04	1.04
3881.	8.50	2.84	.95	.92	.91	.91	.97	.95	.95	.96	1.02	1.02
3913.	9.44	2.84	1.00	1.07	1.00	1.00	1.07	1.04	1.06	1.05	1.05	1.05
3945.	9.38	2.89	1.14	1.10	1.08	1.07	1.14	1.09	1.11	1.13	1.11	1.11
3977.	8.43	2.87	1.04	1.05	.93	.93	1.04	1.03	1.04	1.07	1.06	1.06
4009.	8.27	2.92	1.11	1.11	1.03	1.05	1.11	1.05	1.05	1.10	1.06	1.06
4041.	10.26	2.92	1.17	1.17	1.10	1.12	1.16	1.13	1.14	1.15	1.15	1.15
4073.	9.69	2.90	1.11	1.11	1.01	1.06	1.11	1.09	1.09	1.08	1.07	1.07
4105.	9.52	2.90	1.10	1.09	1.00	1.07	1.12	1.09	1.08	1.07	1.05	1.05
4141.	9.64	2.88	1.10	1.10	.99	1.06	1.12	1.08	1.08	1.09	1.06	1.06
4173.	9.46	2.87	1.09	1.09	.96	1.05	1.11	1.07	1.06	1.06	1.04	1.04
4205.	9.53	2.88	1.09	1.10	.96	1.05	1.12	1.09	1.07	1.07	1.05	1.05
4237.	9.47	2.89	1.09	1.06	.96	1.04	1.11	1.07	1.06	1.07	1.06	1.06
4269.	10.93	3.50	1.43	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4301.	12.02	.16	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4333.	12.02	.14	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4365.	12.40	.15	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4397.	12.02	.12	1.43	1.43	1.43	1.45	1.42	1.42	1.42	1.43	1.41	1.41
4429.	13.10	.10	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4461.	13.10	.10	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4493.	13.10	.10	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4525.	13.07	.21	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4557.	13.07	.33	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4589.	13.04	.30	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4621.	13.01	.27	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4653.	13.00	.27	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42
4685.	13.00	.25	1.44	1.44	1.44	1.46	1.43	1.43	1.43	1.45	1.42	1.42

TEST NO. 113
3 JAN 4 4.4.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115
TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CELL BACK CURRENT
NO. VOLTAGE 1.20

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

11953.	6.18	1.13	1.24	1.23	1.23	1.24	1.23
11954.	6.17	1.12	1.24	1.22	1.23	1.23	1.23
11955.	6.16	1.14	1.24	1.22	1.23	1.24	1.23
11956.	6.21	1.17	1.24	1.24	1.24	1.25	1.25
11957.	6.17	1.15	1.24	1.23	1.23	1.24	1.23
11958.	6.14	1.20	1.23	1.22	1.23	1.23	1.23
11959.	6.16	1.17	1.24	1.23	1.23	1.23	1.23
11960.	6.20	1.16	1.24	1.25	1.26	1.25	1.24
11961.	6.19	1.13	1.24	1.24	1.25	1.24	1.24
11962.	6.22	1.20	1.26	1.25	1.25	1.26	1.25
11963.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
11964.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
11965.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
11966.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
11967.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
11968.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
11969.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
11970.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
11971.	6.18	1.13	1.24	1.25	1.25	1.25	1.24
11972.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
11973.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
11974.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
11975.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
11976.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
11977.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
11978.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
11979.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
11980.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
11981.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
11982.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
11983.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
11984.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
11985.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
11986.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
11987.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
11988.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
11989.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
11990.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
11991.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
11992.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
11993.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
11994.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
11995.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
11996.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
11997.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
11998.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
11999.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12000.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12001.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12002.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12003.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12004.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12005.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12006.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12007.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12008.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12009.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12010.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12011.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12012.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12013.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12014.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12015.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12016.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12017.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12018.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12019.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12020.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12021.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12022.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12023.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12024.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12025.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12026.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12027.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12028.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12029.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12030.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12031.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12032.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12033.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12034.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12035.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12036.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12037.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12038.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12039.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12040.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12041.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12042.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12043.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12044.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12045.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12046.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12047.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12048.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12049.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12050.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12051.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12052.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12053.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12054.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12055.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12056.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12057.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12058.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12059.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12060.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12061.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12062.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12063.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12064.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12065.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12066.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12067.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12068.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12069.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12070.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12071.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12072.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12073.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12074.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12075.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12076.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12077.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12078.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12079.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12080.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12081.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12082.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12083.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12084.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12085.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12086.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12087.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12088.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12089.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12090.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12091.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12092.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12093.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12094.	6.17	1.17	1.25	1.25	1.25	1.25	1.24
12095.	6.16	1.16	1.25	1.25	1.25	1.25	1.24
12096.	6.20	1.16	1.24	1.26	1.25	1.25	1.24
12097.	6.19	1.13	1.24	1.25	1.25	1.25	1.24
12098.	6.22	1.20	1.26	1.25	1.25	1.25	1.24
12099.	6.18	1.18	1.25	1.23	1.24	1.24	1.24
12100.	6.20	1.18	1.25	1.24	1.24	1.25	1.24
12101.	6.17	1.20	1.25	1.25	1.25	1.25	1.24
12102.	6.19	1.19	1.25	1.25	1.25	1.25	1.24
12103.	6.17	1.17	1.25	1.25	1.25	1.25	1.2

PACK NO. 326
GULTON 4 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO. 1
PACK VOLTAGE 2.00
CURRENT

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

11324.	5.98	2.00	1.20	1.20	1.19	1.19	1.20
11365.	5.98	2.02	1.20	1.20	1.20	1.19	1.19
11396.	5.98	2.03	1.20	1.20	1.20	1.20	1.20
11434.	5.98	2.00	1.20	1.20	1.20	1.20	1.20
11464.	5.97	2.00	1.20	1.20	1.20	1.20	1.19
11499.	5.96	2.01	1.19	1.20	1.20	1.19	1.19
11520.	5.95	1.99	1.20	1.20	1.19	1.19	1.19
11560.	5.97	1.97	1.20	1.21	1.20	1.20	1.20
11596.	5.97	1.98	1.21	1.21	1.19	1.20	1.20
11644.	5.97	1.98	1.20	1.21	1.21	1.20	1.20
11673.	5.95	1.99	1.20	1.21	1.20	1.19	1.20
11705.	5.97	1.99	1.20	1.21	1.20	1.20	1.20
11737.	5.95	1.97	1.20	1.21	1.19	1.20	1.19
11775.	5.93	1.97	1.20	1.21	1.19	1.20	1.19

END OF
CHARGE

11324.	7.06	1.15	1.60	1.56	1.59	1.61	1.58
11365.	7.04	1.16	1.60	1.56	1.60	1.61	1.57
11396.	7.06	1.17	1.60	1.57	1.60	1.61	1.57
11434.	7.06	1.15	1.60	1.57	1.60	1.61	1.58
11465.	7.06	1.16	1.61	1.57	1.61	1.62	1.58
11493.	7.04	1.18	1.60	1.56	1.60	1.61	1.58
11526.	7.05	1.17	1.60	1.57	1.60	1.62	1.57
11563.	7.05	1.18	1.60	1.57	1.60	1.62	1.58
11593.	7.05	1.18	1.60	1.56	1.59	1.62	1.57
11644.	7.04	1.13	1.60	1.57	1.61	1.62	1.58
11673.	7.09	1.14	1.61	1.58	1.62	1.63	1.59
11705.	7.09	1.14	1.61	1.58	1.61	1.63	1.59
11737.	7.06	.92	1.57	1.55	1.57	1.58	1.54
11775.	7.06	.67	1.59	1.55	1.57	1.59	1.54

TRAIL NO. 258
SOLUTION 4 A.M.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 160

TEST TEMPERATURE 40 C
ORBIT PERIOD 90 MIN.

CYCLE BACK CURRENT

NO. VOLTAGE 1.20

CELL VOLTAGES

1

2

3

4

5

END OF
DISCHARGE

11096.	5.94	1.19	1.19	1.20	1.20	1.18	1.18	1.18
11127.	5.93	1.20	1.19	1.20	1.20	1.18	1.18	1.18
11159.	5.92	1.21	1.19	1.20	1.19	1.18	1.18	1.19
11171.	5.93	1.20	1.19	1.20	1.19	1.18	1.18	1.18
11223.	5.91	1.20	1.19	1.20	1.19	1.18	1.18	1.19
11255.	5.92	1.19	1.19	1.20	1.20	1.18	1.18	1.18
11320.	5.90	1.18	1.19	1.20	1.19	1.18	1.18	1.18
11343.	5.13	1.18	1.23	1.25	1.24	1.23	1.23	1.23
11374.	5.95	1.18	1.20	1.21	1.21	1.19	1.19	1.20
11414.	5.91	1.18	1.19	1.20	1.20	1.18	1.18	1.19
11436.	5.88	1.18	1.19	1.20	1.19	1.17	1.17	1.18
11483.	5.97	1.21	1.20	1.22	1.21	1.19	1.19	1.20

.96

END OF
CHARGE

11096.	7.18	1.45	1.45	1.43	1.44	1.44	1.43	1.43
11127.	7.18	1.45	1.45	1.43	1.44	1.44	1.43	1.43
11159.	7.15	1.45	1.45	1.43	1.43	1.44	1.44	1.44
11171.	7.18	1.45	1.45	1.44	1.44	1.44	1.44	1.44
11223.	7.12	1.44	1.44	1.42	1.43	1.43	1.42	1.42
11255.	7.15	1.45	1.45	1.43	1.43	1.44	1.43	1.43
11320.	7.12	1.44	1.44	1.43	1.43	1.44	1.43	1.43
11343.	7.12	1.44	1.44	1.43	1.43	1.43	1.42	1.42
11374.	7.12	1.44	1.44	1.43	1.43	1.44	1.43	1.43
11414.	7.11	1.44	1.44	1.43	1.43	1.44	1.43	1.43
11436.	7.14	1.45	1.45	1.44	1.44	1.44	1.43	1.43
11483.	7.15	1.45	1.45	1.44	1.44	1.44	1.44	1.44

CYCLE NO. 117		TEST TEMPERATURE 0 C						
COLLISION E 4.41 NIMBUS		ORBIT PERIOD 90 MIN.						
CYCLE NO.	BACK VOLTAGE	CURRENT	DEPTH OF DISCHARGE 15 PERCENT OF RECHARGE 110					END OF DISCHARGE
			1	2	3	4	5	
6882.	6.06	1.50	1.22	1.21	1.21	1.22	1.20	END OF DISCHARGE
6913.	6.05	1.51	1.22	1.21	1.21	1.22	1.20	
6944.	6.06	1.51	1.22	1.21	1.21	1.22	1.20	
6980.	6.06	1.50	1.22	1.21	1.21	1.22	1.20	
7014.	6.11	1.49	1.24	1.22	1.22	1.23	1.22	
7040.	6.05	1.50	1.22	1.21	1.21	1.22	1.20	
7073.	6.06	1.48	1.22	1.21	1.21	1.22	1.20	
7111.	6.06	1.47	1.23	1.21	1.21	1.22	1.20	
7144.	6.09	1.47	1.23	1.22	1.22	1.23	1.21	
7172.	6.09	1.47	1.23	1.22	1.22	1.23	1.21	
7221.	6.06	1.47	1.23	1.22	1.22	1.22	1.20	
7253.	6.08	1.48	1.23	1.22	1.22	1.23	1.20	
7285.	6.04	1.47	1.23	1.22	1.22	1.23	1.17	
7318.	6.06	1.47	1.23	1.22	1.22	1.23	1.20	
6892.	7.53	.83	1.51	1.48	1.55	1.49	1.50	END OF CHARGE
6913.	7.54	.54	1.51	1.48	1.55	1.49	1.49	
6944.	7.53	.55	1.51	1.49	1.55	1.49	1.50	
6982.	7.53	.53	1.51	1.49	1.55	1.49	1.50	
7014.	7.53	.53	1.51	1.49	1.54	1.49	1.50	
7040.	7.53	.51	1.51	1.48	1.54	1.48	1.49	
7073.	7.54	.47	1.51	1.48	1.56	1.48	1.49	
7110.	7.54	.48	1.52	1.49	1.55	1.49	1.49	
7144.	7.54	.49	1.51	1.48	1.54	1.49	1.48	
7172.	7.52	.49	1.52	1.49	1.55	1.49	1.49	
7221.	7.53	.50	1.52	1.49	1.56	1.48	1.49	
7253.	7.55	.52	1.52	1.49	1.56	1.49	1.50	
7285.	7.57	.54	1.52	1.50	1.56	1.50	1.51	
7317.	7.55	.53	1.52	1.49	1.56	1.50	1.50	

PACK NO. 121
GULTON 5 A.H. NIMBUS

CYCLE PACK CURRENT
NO. VOLTAGES 2.50

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 110

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN

CELL VOLTAGES

PSIA

END OF
DISCHARGE

	1	2	3	4	5	
6416.	2.47	1.05	1.16	1.17	1.17	11.050
6447.	2.47	1.02	1.15	1.17	1.16	11.003
6479.	2.47	1.01	1.15	1.16	1.17	11.027
6511.	2.45	.98	1.16	1.17	1.17	11.132
6543.	2.45	.99	1.14	1.15	1.15	10.160
6575.	2.47	1.17	1.17	1.17	1.17	10.522
6607.	2.46	.98	1.16	1.16	1.17	10.675
6634.	2.42	.91	1.13	1.15	1.15	9.984
6702.	2.50	.90	1.20	1.21	1.20	11.155

END OF
CHARGE

	1	2	3	4	5	
6416.	2.47	1.45	1.45	1.45	1.46	11.331
6447.	2.47	1.44	1.45	1.45	1.46	11.237
6479.	2.47	1.44	1.46	1.47	1.46	11.214
6511.	2.48	1.44	1.47	1.46	1.46	10.675
6543.	2.47	1.43	1.45	1.46	1.46	10.347
6575.	2.47	1.44	1.47	1.47	1.46	10.910
6607.	2.47	1.43	1.47	1.48	1.47	10.921
6634.	2.40	1.23	1.30	1.31	1.30	10.148
6702.	2.50	.84	1.51	1.51	1.51	11.495

PACK NO. 120
GULTON 5 A.H. NIMBUS

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 120

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 1.50 1

CELL VOLTAGES
2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

7006.	5.87	1.48	1.23	.98	1.23	1.23	1.21
7038.	5.86	1.48	1.22	.98	1.23	1.23	1.21
7070.	5.85	1.48	1.23	.95	1.22	1.23	1.21
7103.	5.88	1.50	1.23	.99	1.23	1.24	1.22
7134.	5.79	1.50	1.22	.95	1.21	1.22	1.21
7166.	5.83	1.50	1.23	.96	1.21	1.23	1.21
7198.	5.84	1.50	1.22	.98	1.21	1.23	1.21
7231.	5.82	1.50	1.22	.98	1.21	1.23	1.20
7253.	5.95	1.50	1.25	1.03	1.24	1.24	1.22
7285.	5.89	1.50	1.23	1.01	1.23	1.23	1.22
7315.	5.89	1.51	1.24	1.01	1.23	1.23	1.22
7347.	5.89	1.50	1.24	1.01	1.23	1.23	1.21
7379.	5.89	1.49	1.23	1.01	1.23	1.23	1.21
7411.	5.89	1.50	1.23	1.02	1.23	1.24	1.21
7443.	5.86	1.49	1.22	1.01	1.23	1.24	1.21

7006.	7.58	.90	1.44	1.57	1.45	1.47	1.45
7038.	7.38	.90	1.43	1.58	1.45	1.47	1.46
7070.	7.34	.91	1.43	1.57	1.43	1.46	1.45
7103.	7.36	.90	1.43	1.57	1.44	1.47	1.45
7134.	7.36	.91	1.43	1.56	1.44	1.47	1.45
7166.	7.37	.91	1.44	1.56	1.43	1.47	1.46
7198.	7.34	.91	1.43	1.56	1.43	1.47	1.45
7231.	7.31	.91	1.42	1.54	1.43	1.46	1.44
7253.	7.36	.91	1.44	1.55	1.43	1.47	1.45
7285.	7.37	.91	1.44	1.56	1.44	1.47	1.46
7315.	7.33	.91	1.44	1.55	1.44	1.46	1.45
7347.	7.35	.91	1.44	1.56	1.45	1.46	1.45
7379.	7.35	.91	1.43	1.56	1.45	1.47	1.45
7411.	7.34	.91	1.43	1.55	1.45	1.47	1.45
7443.	7.35	.91	1.43	1.57	1.45	1.48	1.45

PACK NO. 319		GULFON 5 A.H. NIMBUS		DEPTH OF DISCHARGE 25 PERCENT OF RECHARGE 120		TEST TEMPERATURE 25 ORBIT PERIOD 90 MIN		C	
CYCLE BACK CURRENT		CELL VOLTAGES		PSIA		END OF DISCHARGE			
NO.	VOLTAGES 2.50	1	2	3	4	5			END OF CHARGE
6412.	4.44	2.48	1.16	.00	1.20	1.07	1.03	12.811	
6444.	4.41	2.46	1.15	.00	1.19	1.06	1.03	12.978	
6476.	4.41	2.47	1.15	.00	1.19	1.06	1.03	12.755	
6488.	4.35	2.31	1.14	.00	1.17	1.04	1.01	12.064	
6491.	4.39	2.42	1.13	.00	1.18	1.05	1.02	11.913	
6513.	4.35	2.49	1.15	.00	1.17	1.04	1.02	12.029	
6526.	4.41	2.49	1.10	.00	1.21	1.10	1.05	12.963	
6538.	4.30	2.45	1.17	.00	1.16	1.02	1.01	12.041	
6550.	4.27	2.45	1.13	.00	1.17	1.00	1.00	11.954	
6563.	4.14	2.44	1.11	.00	1.11	.94	.97	11.399	
6575.	4.14	2.43	1.17	.00	1.16	1.00	.69	11.866	
6517.	4.11	2.42	1.13	.00	1.14	1.00	.85	12.006	
6412.	4.03	1.50	1.40	.00	1.49	1.50	1.53	20.864	
6444.	4.09	1.32	1.40	.00	1.46	1.50	1.54	21.786	
6475.	4.36	1.13	1.40	.00	1.48	1.49	1.52	19.732	
6488.	4.04	1.03	1.42	.00	1.48	1.48	1.51	16.499	
6491.	4.36	1.08	1.43	.00	1.49	1.49	1.52	17.013	
6503.	4.06	1.10	1.40	.00	1.42	1.49	1.53	17.468	
6513.	4.05	1.11	1.43	.00	1.45	1.49	1.53	21.494	
6526.	4.05	1.09	1.40	.00	1.49	1.49	1.53	16.301	
6538.	4.06	1.03	1.40	.00	1.43	1.49	1.53	16.499	
6550.	4.04	1.07	1.40	.00	1.00	1.50	1.54	14.445	
6563.	4.04	1.04	1.40	.00	1.42	1.49	1.56	15.639	
6575.	4.00	1.00	1.40	.00	1.46	1.49	1.57	14.994	

PACK NO. 127
GULTON 5 A.H. NIMBUS

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 130

TEST TEMPERATURE 40 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK CURRENT
VOLTAGE 1.50

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

7075.	5.91	1.47	1.18	1.15	1.19	1.18	1.15
7107.	5.79	1.47	1.18	1.14	1.19	1.17	1.15
7138.	5.91	1.48	1.19	1.14	1.19	1.18	1.16
7171.	5.80	1.47	1.19	1.14	1.20	1.19	1.17
7203.	5.73	1.46	1.18	1.08	1.18	1.18	1.15
7226.	4.75	1.53	1.23	.00	1.18	1.19	1.17
7255.	4.63	1.48	1.18	.00	1.16	1.17	1.15
7287.	4.76	1.48	1.21	.00	1.19	1.20	1.19
7317.	4.69	1.46	1.19	.00	1.18	1.18	1.16
7364.	4.68	1.47	1.20	.00	1.17	1.18	1.16

END OF
CHARGE

7075.	7.21	1.44	1.44	1.45	1.44	1.44	1.43
7107.	7.21	1.44	1.44	1.46	1.44	1.44	1.44
7138.	7.22	1.44	1.44	1.46	1.45	1.45	1.44
7171.	7.22	1.44	1.44	1.46	1.45	1.45	1.44
7203.	7.26	1.45	1.45	1.50	1.44	1.44	1.44
7226.	5.73	1.00	1.44	.00	1.43	1.44	1.43
7255.	5.76	1.00	1.45	.00	1.44	1.44	1.44
7287.	5.72	.99	1.45	.00	1.43	1.43	1.43
7317.	5.77	.99	1.45	.00	1.44	1.45	1.44
7364.	5.70	.93	1.44	.00	1.43	1.43	1.43

135-

PACK NO. 128 GULTON 5 A.H. NIMBUS		DEPTH OF DISCHARGE 25 PERCENT OF RECHARGE 130		TEST TEMPERATURE 40 C ORBIT PERIOD 90 MIN.			
CYCLE PACK CURRENT NO. VOLTAGES 2.50		CELL VOLTAGES		PSIA			
	1	2	3	4	5		
6066.	3.11	2.43	1.13	.00	1.14	.85	1.838
6097.	3.10	2.41	1.13	.00	1.15	.82	.235
6129.	3.08	2.46	1.13	.00	1.15	.81	2.489
6161.	2.91	2.44	1.12	.00	1.14	.65	4.305
6193.	2.95	2.40	1.12	.00	1.14	.69	8.497
6225.	2.90	2.42	1.12	.00	1.15	.63	3.195
6290.	2.85	2.41	1.10	.00	1.14	.63	9.091
6315.	2.84	2.39	1.13	.00	1.13	.59	1.087
							END OF DISCHARGE
6066.	4.51	1.62	1.48	.00	1.44	1.59	6.390
6097.	4.51	1.64	1.48	.00	1.45	1.59	2.477
6129.	4.52	1.66	1.48	.00	1.45	1.61	4.562
6161.	4.35	.77	1.44	.00	1.41	1.52	4.439
6193.	4.58	1.54	1.47	.00	1.44	1.67	6.547
6225.	4.59	1.52	1.48	.00	1.44	1.67	7.017
6290.	4.58	1.56	1.47	.00	1.45	1.68	6.244
6315.	4.63	1.31	1.49	.00	1.44	1.72	3.184
							END OF CHARGE

PACK NO. 244
GULTON 5.6 A.H. FRS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE -20 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGES 2.80

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

3244.	5.67	2.78	1.15	1.14	1.14	1.14	1.14	1.13
3275.	5.67	2.76	1.15	1.14	1.14	1.14	1.14	1.13
3307.	5.69	2.78	1.15	1.15	1.14	1.14	1.14	1.14
3339.	5.71	2.74	1.17	1.15	1.15	1.15	1.15	1.14
3403.	5.72	2.77	1.15	1.15	1.15	1.15	1.15	1.14
3458.	5.68	2.76	1.15	1.15	1.14	1.15	1.15	1.14
3522.	5.67	2.77	1.15	1.15	1.15	1.15	1.15	1.14
3562.	5.66	2.75	1.14	1.14	1.14	1.14	1.14	1.14
3584.	5.52	2.76	1.14	1.14	1.13	1.13	1.13	1.13
3615.	5.69	2.77	1.15	1.15	1.14	1.15	1.15	1.14
3683.	5.69	2.78	1.14	1.15	1.14	1.14	1.14	1.13
3244.	7.63	1.61	1.53	1.53	1.54	1.53	1.53	1.53
3275.	7.61	1.75	1.53	1.52	1.53	1.53	1.53	1.53
3307.	7.61	1.75	1.53	1.53	1.53	1.53	1.53	1.53
3339.	7.62	1.72	1.53	1.52	1.54	1.53	1.53	1.53
3403.	7.59	1.72	1.52	1.52	1.53	1.52	1.52	1.52
3458.	7.62	1.78	1.54	1.53	1.54	1.53	1.53	1.53
3522.	7.62	1.74	1.54	1.53	1.54	1.54	1.54	1.54
3562.	7.59	1.72	1.53	1.53	1.53	1.53	1.53	1.53
3584.	7.48	1.60	1.51	1.51	1.51	1.50	1.50	1.50
3615.	7.56	1.71	1.52	1.52	1.53	1.52	1.52	1.52
3683.	7.60	1.84	1.55	1.55	1.54	1.54	1.54	1.54

PACK NO. 200
GULTON 5.6 A.H. FRS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE BACK CURRENT
NO. VOLTAGES 2.80

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

3426.	6.74	.66	1.36	1.35	1.36	1.35	1.35	1.35
3458.	5.82	2.74	1.17	1.17	1.17	1.16	1.16	1.16
3490.	5.81	2.72	1.17	1.16	1.16	1.16	1.16	1.16
3523.	5.83	2.73	1.17	1.17	1.16	1.16	1.16	1.17
3554.	5.80	2.75	1.17	1.16	1.15	1.15	1.15	1.16
3586.	5.80	2.75	1.17	1.16	1.15	1.15	1.16	1.16
3618.	5.80	2.74	1.17	1.16	1.15	1.15	1.16	1.16
3651.	5.79	2.76	1.17	1.16	1.15	1.15	1.16	1.16
3673.	5.81	2.75	1.15	1.17	1.16	1.16	1.16	1.15
3715.	5.80	2.74	1.17	1.16	1.15	1.16	1.16	1.16
3735.	5.77	2.80	1.17	1.16	1.15	1.15	1.15	1.16
3757.	5.81	2.73	1.17	1.17	1.16	1.16	1.16	1.16
3799.	5.81	2.75	1.17	1.17	1.15	1.15	1.15	1.15
3831.	5.79	2.77	1.17	1.16	1.15	1.16	1.16	1.16
1.61								
3426.	7.60	.87	1.52	1.52	1.52	1.53	1.51	1.51
3458.	7.62	.85	1.52	1.53	1.52	1.53	1.52	1.52
3490.	7.59	.89	1.52	1.53	1.51	1.53	1.52	1.52
3523.	7.59	.81	1.52	1.52	1.51	1.52	1.52	1.52
3554.	7.63	.86	1.52	1.53	1.52	1.53	1.52	1.52
3586.	7.63	.90	1.53	1.53	1.51	1.53	1.52	1.52
3618.	7.60	.91	1.53	1.53	1.51	1.53	1.52	1.52
3651.	7.63	.90	1.53	1.53	1.51	1.53	1.52	1.52
3673.	7.62	.89	1.53	1.53	1.51	1.53	1.52	1.52
3705.	7.61	.85	1.53	1.53	1.51	1.53	1.52	1.52
3737.	7.61	.89	1.53	1.54	1.51	1.53	1.52	1.52
3757.	7.65	.95	1.53	1.54	1.52	1.54	1.53	1.53
3799.	7.63	.88	1.52	1.54	1.52	1.53	1.52	1.52
3831.	7.63	.92	1.53	1.54	1.52	1.53	1.52	1.52

PACK NO. 276
GULTON 5.6 A.H. FRS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGES 2.80

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

3469.	4.44	2.71	1.08	.00	1.14	1.12	1.12
3500.	4.36	2.73	1.04	.00	1.12	1.11	1.11
3531.	4.41	2.76	1.06	.00	1.13	1.12	1.12
3567.	4.39	2.75	1.06	.00	1.12	1.12	1.12
3626.	4.30	2.76	1.03	.00	1.11	1.09	1.10
3659.	4.38	2.78	1.07	.00	1.11	1.11	1.10
3696.	4.43	2.76	1.09	.00	1.13	1.13	1.12
3730.	4.44	2.77	1.10	.00	1.13	1.13	1.13
3773.	4.33	2.75	1.06	.00	1.10	1.11	1.11
3817.	4.26	2.72	1.03	.00	1.08	1.10	1.10
3812.	4.39	2.77	1.08	.00	1.10	1.13	1.12
3871.	4.38	2.78	1.09	.00	1.09	1.10	1.12
3914.	4.31	2.77	1.07	.00	1.06	1.12	1.11

END OF
CHARGE

1.75							
3469.	5.08	1.59	1.46	.00	1.49	1.47	1.46
3500.	5.57	1.56	1.46	.00	1.49	1.47	1.47
3531.	5.83	1.61	1.46	.00	1.49	1.47	1.47
3569.	5.58	1.60	1.46	.00	1.49	1.47	1.47
3626.	5.26	1.74	1.46	.00	1.49	1.47	1.46
3659.	5.88	1.74	1.46	.00	1.49	1.47	1.46
3696.	5.89	1.72	1.47	.00	1.49	1.48	1.47
3730.	5.04	1.73	1.47	.00	1.49	1.47	1.47
3773.	5.89	1.73	1.47	.00	1.50	1.48	1.47
3817.	5.49	1.73	1.47	.00	1.50	1.48	1.48
3812.	5.89	1.74	1.47	.00	1.50	1.48	1.48
3871.	5.90	1.73	1.48	.00	1.50	1.48	1.48
3914.	5.90	1.73	1.48	.00	1.50	1.48	1.48

PACK NO. 242
GULTON 5.6 A.H. FRS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 160

TEST TEMPERATURE 40 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGES 2.80

CELL VOLTAGES

1 2 3 4 5

3644.	4.30	2.67	1.13	.00	1.03	1.10	END OF DISCHARGE
3676.	4.15	2.66	1.11	.00	1.03	1.00	
3709.	4.15	2.77	1.11	.00	1.04	1.01	
3741.	4.02	2.66	1.04	.00	.99	.92	
3773.	4.26	2.77	1.07	.00	1.10	1.06	

3644.	3.77	1.00	1.45	.00	1.44	1.44	END OF CHARGE
3676.	3.71	.93	1.44	.00	1.44	1.43	
3709.	3.75	.94	1.43	.00	1.44	1.43	
3741.	3.74	.93	1.44	.00	1.44	1.42	
3773.	3.72	.94	1.44	.00	1.44	1.42	

PACK NO. 232
GULTON 5.6 A.H. RS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115
TEST TEMPERATURE -20 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGES 2.80

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

3221.	5.58	2.72	1.12	1.12	1.13	1.12	1.12
3252.	5.74	2.77	1.15	1.15	1.16	1.15	1.15
3283.	5.73	2.80	1.15	1.14	1.16	1.15	1.15
3321.	5.73	2.81	1.15	1.15	1.15	1.15	1.15
3353.	5.64	2.82	1.17	1.16	1.18	1.18	1.18
3379.	5.71	2.66	1.15	1.14	1.15	1.14	1.15
3412.	5.75	2.69	1.15	1.15	1.16	1.15	1.15
3467.	5.74	2.78	1.16	1.16	1.16	1.16	1.16
3515.	5.72	2.68	1.15	1.15	1.16	1.15	1.15
3544.	5.72	2.70	1.15	1.15	1.16	1.15	1.15
3576.	5.78	2.70	1.17	1.16	1.16	1.17	1.16
3608.	5.75	2.67	1.16	1.16	1.16	1.16	1.16

END OF
CHARGE

3221.	7.35	1.61	1.47	1.49	1.48	1.48	1.46
3252.	7.60	.83	1.51	1.55	1.53	1.52	1.51
3283.	7.57	.86	1.51	1.54	1.53	1.52	1.59
3321.	7.56	.90	1.51	1.54	1.52	1.52	1.50
3353.	7.57	.87	1.51	1.54	1.53	1.52	1.50
3379.	7.60	.84	1.51	1.56	1.53	1.52	1.50
3412.	7.60	.83	1.52	1.55	1.53	1.52	1.50
3467.	7.66	.72	1.53	1.56	1.54	1.53	1.51
3515.	7.60	.83	1.52	1.56	1.54	1.53	1.51
3544.	7.60	.79	1.52	1.56	1.54	1.53	1.51
3576.	7.61	.76	1.52	1.56	1.54	1.54	1.51
3608.	7.60	.72	1.52	1.56	1.54	1.54	1.51

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DATE NOV. 30
SUN 8.4 A.M. RS

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE BACK CURRENT
NO. VOLTAGE 2.80

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

CYCLE BACK CURRENT	1	2	3	4	5
1.11	1.12	1.10	1.11	1.12	1.10
1.12	1.10	1.07	1.08	1.10	1.09
1.13	1.11	1.07	1.10	1.12	1.09
1.14	1.12	1.08	1.11	1.13	1.10
1.15	1.13	1.09	1.12	1.14	1.11
1.16	1.14	1.10	1.13	1.15	1.12
1.17	1.15	1.11	1.14	1.16	1.13
1.18	1.16	1.12	1.15	1.17	1.14
1.19	1.17	1.13	1.16	1.18	1.15
1.20	1.18	1.14	1.17	1.19	1.16
1.21	1.19	1.15	1.18	1.20	1.17
1.22	1.20	1.16	1.19	1.21	1.18
1.23	1.21	1.17	1.20	1.22	1.19
1.24	1.22	1.18	1.21	1.23	1.20
1.25	1.23	1.19	1.22	1.24	1.21
1.26	1.24	1.20	1.23	1.25	1.22
1.27	1.25	1.21	1.24	1.26	1.23
1.28	1.26	1.22	1.25	1.27	1.24
1.29	1.27	1.23	1.26	1.28	1.25
1.30	1.28	1.24	1.27	1.29	1.26
1.31	1.29	1.25	1.28	1.30	1.27
1.32	1.30	1.26	1.29	1.31	1.28
1.33	1.31	1.27	1.30	1.32	1.29
1.34	1.32	1.28	1.31	1.33	1.30
1.35	1.33	1.29	1.32	1.34	1.31
1.36	1.34	1.30	1.33	1.35	1.32
1.37	1.35	1.31	1.34	1.36	1.33
1.38	1.36	1.32	1.35	1.37	1.34
1.39	1.37	1.33	1.36	1.38	1.35
1.40	1.38	1.34	1.37	1.39	1.36
1.41	1.39	1.35	1.38	1.40	1.37
1.42	1.40	1.36	1.39	1.41	1.38
1.43	1.41	1.37	1.40	1.42	1.39
1.44	1.42	1.38	1.41	1.43	1.40
1.45	1.43	1.39	1.42	1.44	1.41
1.46	1.44	1.40	1.43	1.45	1.42
1.47	1.45	1.41	1.44	1.46	1.43
1.48	1.46	1.42	1.45	1.47	1.44
1.49	1.47	1.43	1.46	1.48	1.45
1.50	1.48	1.44	1.47	1.49	1.46
1.51	1.49	1.45	1.48	1.50	1.47
1.52	1.50	1.46	1.49	1.51	1.48
1.53	1.51	1.47	1.50	1.52	1.49
1.54	1.52	1.48	1.51	1.53	1.50
1.55	1.53	1.49	1.52	1.54	1.51
1.56	1.54	1.50	1.53	1.55	1.52
1.57	1.55	1.51	1.54	1.56	1.53
1.58	1.56	1.52	1.55	1.57	1.54
1.59	1.57	1.53	1.56	1.58	1.55
1.60	1.58	1.54	1.57	1.59	1.56
1.61	1.59	1.55	1.58	1.60	1.57
1.62	1.60	1.56	1.59	1.61	1.58
1.63	1.61	1.57	1.60	1.62	1.59
1.64	1.62	1.58	1.61	1.63	1.60
1.65	1.63	1.59	1.62	1.64	1.61
1.66	1.64	1.60	1.63	1.65	1.62
1.67	1.65	1.61	1.64	1.66	1.63
1.68	1.66	1.62	1.65	1.67	1.64
1.69	1.67	1.63	1.66	1.68	1.65
1.70	1.68	1.64	1.67	1.69	1.66
1.71	1.69	1.65	1.68	1.70	1.67
1.72	1.70	1.66	1.69	1.71	1.68
1.73	1.71	1.67	1.70	1.72	1.69
1.74	1.72	1.68	1.71	1.73	1.70
1.75	1.73	1.69	1.72	1.74	1.71
1.76	1.74	1.70	1.73	1.75	1.72
1.77	1.75	1.71	1.74	1.76	1.73
1.78	1.76	1.72	1.75	1.77	1.74
1.79	1.77	1.73	1.76	1.78	1.75
1.80	1.78	1.74	1.77	1.79	1.76
1.81	1.79	1.75	1.78	1.80	1.77
1.82	1.80	1.76	1.79	1.81	1.78
1.83	1.81	1.77	1.80	1.82	1.79
1.84	1.82	1.78	1.81	1.83	1.80
1.85	1.83	1.79	1.82	1.84	1.81
1.86	1.84	1.80	1.83	1.85	1.82
1.87	1.85	1.81	1.84	1.86	1.83
1.88	1.86	1.82	1.85	1.87	1.84
1.89	1.87	1.83	1.86	1.88	1.85
1.90	1.88	1.84	1.87	1.89	1.86
1.91	1.89	1.85	1.88	1.90	1.87
1.92	1.90	1.86	1.89	1.91	1.88
1.93	1.91	1.87	1.90	1.92	1.89
1.94	1.92	1.88	1.91	1.93	1.90
1.95	1.93	1.89	1.92	1.94	1.91
1.96	1.94	1.90	1.93	1.95	1.92
1.97	1.95	1.91	1.94	1.96	1.93
1.98	1.96	1.92	1.95	1.97	1.94
1.99	1.97	1.93	1.96	1.98	1.95
2.00	1.98	1.94	1.97	1.99	1.96

PACK NO. 396
GULTON 5.6 A.H. RS

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE NO.	PACK CURRENT VOLTAGES 2.80	CELL VOLTAGES					END OF DISCHARGE
		1	2	3	4	5	
3589.	4.53	2.72	.00	1.14	1.15	1.13	1.12
3621.	4.53	2.80	.00	1.14	1.15	1.13	1.12
3652.	4.54	2.74	.00	1.14	1.15	1.13	1.12
3685.	4.55	2.77	.00	1.14	1.16	1.13	1.13
3717.	4.50	2.74	.00	1.13	1.15	1.12	1.11
3742.	4.49	2.66	.00	1.11	1.14	1.09	1.07
3750.	4.49	2.73	.00	1.13	1.15	1.12	1.10
3816.	4.50	2.77	.00	1.17	1.17	1.16	1.14
3837.	4.45	2.71	.00	1.13	1.16	1.12	1.10
3867.	4.50	2.75	.00	1.14	1.17	1.17	1.15
3897.	4.52	2.69	.00	1.14	1.15	1.13	1.12
3929.	4.52	2.75	.00	1.14	1.15	1.13	1.12
3993.	4.44	2.74	.00	1.13	1.15	1.11	1.09
3589.	5.95	1.75	.00	1.46	1.44	1.47	1.48
3621.	5.94	1.40	.00	1.46	1.53	1.47	1.48
3652.	5.91	1.42	.00	1.45	1.52	1.46	1.47
3685.	5.94	1.45	.00	1.45	1.52	1.47	1.48
3717.	5.94	1.32	.00	1.45	1.53	1.47	1.47
3742.	5.92	1.40	.00	1.45	1.53	1.46	1.46
3780.	5.95	1.42	.00	1.46	1.54	1.47	1.47
3806.	5.91	1.66	.00	1.47	1.51	1.48	1.48
3837.	5.94	1.30	.00	1.47	1.56	1.48	1.47
3867.	5.99	1.84	.00	1.47	1.51	1.48	1.48
3897.	5.95	1.25	.00	1.47	1.54	1.47	1.48
3929.	5.97	1.40	.00	1.47	1.54	1.48	1.48
3993.	5.84	1.22	.00	1.45	1.56	1.45	1.48

END OF
CHARGE

PACK NO. 213
GULTON HSI 6 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK VOLTAGE 3.00 CURRENT

CELL VOLTAGES

1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

8064.	6.12	3.00	1.23	1.23	1.23	1.23	1.23	1.23
8095.	6.09	2.99	1.22	1.22	1.23	1.23	1.23	1.22
8128.	6.03	2.96	1.23	1.23	1.23	1.23	1.23	1.23
8160.	6.06	2.98	1.22	1.22	1.22	1.22	1.21	1.21
8186.	6.08	3.01	1.21	1.21	1.22	1.21	1.21	1.21
8224.	6.02	2.98	1.21	1.22	1.21	1.21	1.21	1.21
8250.	6.11	3.06	1.23	1.24	1.23	1.23	1.23	1.23
8279.	6.01	2.98	1.21	1.22	1.22	1.21	1.21	1.21
8311.	6.00	2.96	1.22	1.23	1.23	1.23	1.23	1.23
8341.	6.00	2.96	1.21	1.22	1.22	1.21	1.21	1.21
8417.	6.01	2.97	1.22	1.22	1.21	1.21	1.21	1.21
8064.	7.08	1.27	1.59	1.59	1.59	1.54	1.54	1.52
8095.	7.77	.84	1.54	1.55	1.54	1.57	1.57	1.57
8128.	7.72	.85	1.53	1.54	1.53	1.59	1.56	1.56
8161.	7.73	.90	1.54	1.54	1.54	1.57	1.56	1.56
8186.	7.71	.88	1.54	1.54	1.54	1.57	1.56	1.56
8224.	7.72	.94	1.54	1.56	1.54	1.59	1.57	1.57
8250.	7.65	.76	1.53	1.54	1.53	1.55	1.55	1.55
8279.	7.64	.80	1.52	1.54	1.52	1.56	1.56	1.56
8311.	7.63	.77	1.53	1.54	1.53	1.55	1.55	1.55
8341.	7.60	.81	1.53	1.54	1.53	1.56	1.56	1.56
8417.	7.64	.81	1.53	1.55	1.53	1.51	1.51	1.51

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PACK NO.	DEPTH OF DISCHARGE	TEST TEMPERATURE
59	25	0 C
GULFON 6 A.H.	3RD ELECTRODE R	ORRIT PERIOD 90 MIN.
	10 10 10 10 10	

CYCLE NO.	PACK VOLTAGE	CURRENT 3.00	3RD ELECT VOLTAGES					CELL VOLTAGES					TRIP POINT	
			1	2	3	4	5	1	2	3	4	5		
AH OUT														
6770.	4.88	2.94	.187	.112	.000	.160	.133	1.23	1.23	.00	1.23	1.22	.000	END OF
6802.	4.87	2.95	.190	.113	.000	.165	.130	1.23	1.22	.00	1.22	1.22	.000	DISCHA
6834.	4.86	2.97	.196	.109	.000	.166	.127	1.23	1.22	.00	1.22	1.22	.000	
6867.	4.86	2.96	.190	.109	.000	.166	.123	1.23	1.22	.00	1.22	1.22	.000	
6898.	4.95	2.96	.176	.092	.000	.141	.105	1.21	1.21	.00	1.25	1.19	.000	
6930.	4.86	2.94	.192	.107	.000	.166	.132	1.23	1.22	.00	1.22	1.22	.000	
6962.	4.86	2.95	.192	.103	.000	.168	.130	1.22	1.22	.00	1.22	1.22	.000	
6993.	4.85	2.96	.186	.103	.000	.162	.128	1.22	1.22	.00	1.22	1.22	.000	
7017.	4.89	2.94	.182	.096	.000	.164	.121	1.23	1.22	.00	1.23	1.23	.000	
7050.	4.87	2.96	.188	.100	.000	.159	.123	1.22	1.22	.00	1.22	1.22	.000	
7111.	4.81	3.04	.116	.058	.000	.080	.073	1.21	1.20	.00	1.21	1.20	.000	
7143.	4.85	2.93	.154	.080	.000	.126	.112	1.22	1.21	.00	1.22	1.21	.000	
7175.	4.80	2.98	.105	.052	.000	.076	.069	1.21	1.20	.00	1.20	1.20	.000	
7207.	4.85	2.97	.206	.105	.000	.163	.149	1.22	1.21	.00	1.22	1.22	.000	
6770.	5.85	.06	.150	.140	.000	.192	.155	1.47	1.47	.00	1.47	1.46		
6802.	5.78	.05	.167	.146	.000	.206	.165	1.45	1.45	.00	1.45	1.44		
6834.	5.84	.06	.154	.138	.000	.193	.150	1.47	1.47	.00	1.46	1.46		
6867.	5.79	.05	.159	.141	.000	.205	.160	1.46	1.46	.00	1.45	1.45		
6898.	5.76	.05	.165	.148	.000	.206	.166	1.45	1.45	.00	1.45	1.44		
6920.	5.79	.05	.163	.142	.000	.203	.166	1.46	1.46	.00	1.45	1.45		
6952.	5.82	.05	.157	.133	.000	.196	.157	1.46	1.46	.00	1.46	1.46		
6993.	5.79	.06	.157	.142	.000	.203	.150	1.46	1.46	.00	1.46	1.45		
7017.	5.79	.05	.152	.130	.000	.192	.152	1.45	1.45	.00	1.45	1.45		
7050.	5.76	.05	.150	.133	.000	.196	.159	1.45	1.45	.00	1.44	1.44		
7111.	5.75	.06	.155	.132	.000	.195	.120	1.44	1.44	.00	1.44	1.44		
7143.	5.78	.06	.152	.140	.000	.190	.179	1.44	1.45	.00	1.45	1.45		
7175.	5.73	.06	.146	.139	.000	.186	.132	1.45	1.45	.00	1.45	1.45		

NO. 23 DEPTH OF DISCHARGE 25 TEST TEMPERATURE 25 C
 SECTION 5 A.H. 120 ELECTRODE P 12 18 20 29 24 OPBIT PERIOD 90 MIN.

NO.	PACK VOLTAGE	CURRENT	200 FLECT VOLTAGES					CELL VOLTAGES					END OF DISCHARGE
			1	2	3	4	5	1	2	3	4	5	
8109.	5.95	2.99	.203	.216	.181	.199	.372	1.20	1.20	1.19	1.20	1.19	.000
8141.	5.88	3.00	.182	.212	.177	.192	.352	1.18	1.19	1.18	1.19	1.17	.000
8173.	5.88	3.02	.169	.205	.180	.176	.325	1.19	1.19	1.18	1.19	1.17	.000
8237.	5.95	3.03	.156	.192	.158	.172	.219	1.16	1.17	1.16	1.22	1.14	.000
8269.	5.82	3.00	.172	.202	.173	.185	.344	1.17	1.18	1.16	1.19	1.16	.000
8301.	5.81	3.00	.170	.196	.176	.207	.340	1.17	1.18	1.16	1.19	1.16	.000
8324.	5.71	3.02	.101	.200	.163	.199	.321	1.15	1.16	1.14	1.17	1.12	.000
8387.	5.77	3.01	.155	.186	.163	.203	.325	1.16	1.16	1.15	1.18	1.15	.000
8450.	5.73	3.01	.132	.180	.161	.184	.323	1.15	1.16	1.14	1.17	1.14	.000
8482.	5.79	3.01	.140	.192	.169	.192	.332	1.16	1.17	1.15	1.18	1.15	.000
8514.	5.78	3.01	.146	.186	.163	.210	.319	1.16	1.16	1.15	1.18	1.14	.000
8546.	5.74	3.02	.141	.185	.161	.199	.322	1.14	1.15	1.14	1.17	1.14	.000

TRIP
POINT

8109.	7.02	.01	.209	.236	.226	.235	.430	1.41	1.41	1.41	1.40	1.41
8141.	6.99	.01	.196	.238	.225	.229	.428	1.41	1.41	1.40	1.40	1.40
8173.	6.91	.01	.195	.241	.240	.223	.423	1.39	.01	1.39	1.38	1.38
8237.	6.94	.01	.199	.244	.238	.241	.431	1.40	1.40	1.39	1.39	1.39
8269.	6.95	.01	.201	.246	.239	.239	.430	1.40	1.40	1.40	1.40	1.39
8301.	6.95	.01	.200	.239	.243	.262	.426	1.40	1.40	1.39	1.40	1.40
8324.	7.23	1.27	.182	.229	.222	.243	.303	1.45	1.46	1.45	1.45	1.45
8387.	7.06	.02	.178	.216	.216	.242	.341	1.41	1.42	1.42	1.42	1.41
8450.	7.22	1.24	.159	.210	.214	.230	.300	1.44	1.45	1.45	1.45	1.44
8482.	7.22	2.01	.163	.216	.228	.238	.300	1.46	1.47	1.46	1.47	1.46
8514.	7.00	.02	.169	.216	.221	.250	.330	1.41	1.42	1.42	1.42	1.42
8546.	7.08	.02	.169	.216	.221	.240	.350	1.41	1.42	1.42	1.42	1.42

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AM IN
END OF
CHARGE

8109.	6.93	.01	.217	.246	.237	.239	.439	1.40	1.29	1.39	1.39	1.39	1.39
8141.	6.91	.01	.205	.249	.235	.232	.436	1.39	1.39	1.39	1.39	1.39	1.39
8173.	6.87	.01	.197	.245	.240	.221	.419	1.38	.01	1.38	1.38	1.38	1.38
8237.	6.91	.01	.202	.249	.239	.241	.429	1.39	1.39	1.39	1.39	1.39	1.39
8269.	6.92	.01	.202	.248	.241	.239	.428	1.39	1.39	1.39	1.39	1.39	1.39
8301.	6.92	.01	.200	.241	.245	.260	.424	1.39	1.39	1.39	1.39	1.39	1.39
8334.	6.91	.02	.193	.250	.240	.256	.417	1.39	1.39	1.39	1.39	1.39	1.39
8387.	6.89	.01	.190	.235	.235	.258	.416	1.39	1.39	1.38	1.38	1.38	1.38
8450.	6.91	.01	.170	.229	.235	.239	.416	1.38	1.39	1.38	1.38	1.39	1.39
8497.	6.92	.01	.175	.230	.239	.241	.416	1.38	1.39	1.38	1.38	1.39	1.38
8514.	6.91	.01	.182	.236	.235	.265	.419	1.38	1.39	1.38	1.38	1.38	1.38
8546.	6.90	.01	.179	.234	.238	.252	.414	1.38	1.39	1.38	1.38	1.38	1.38

PACK NO.	DEPTH OF DISCHARGE	TEST TEMPERATURE
35	15	40
GULTON 6 A.H.	R 47 47 47 47	ORBIT PERIOD 90 MIN.
3RD ELECTRODE	47 47 47 47	

CYCLE NO.	PACK VOLTAGE	CURRENT	3RD ELECT VOLTAGES					CELL VOLTAGES				
			1	2	3	4	5	1	2	3	4	5
6103.	5.70	1.85	.112	.092	.085	.158	.180	1.14	1.15	1.14	1.17	1.15
6135.	5.73	1.85	.113	.094	.082	.153	.172	1.14	1.15	1.15	1.17	1.16
6167.	5.86	1.86	.120	.095	.092	.156	.172	1.17	1.18	1.17	1.18	1.18
6200.	5.74	1.86	.112	.092	.087	.152	.160	1.15	1.16	1.15	1.17	1.16
6231.	5.83	1.86	.099	.080	.070	.126	.152	1.13	1.14	1.13	1.15	1.13
6263.	5.73	1.85	.115	.092	.089	.155	.180	1.15	1.16	1.15	1.17	1.16
6295.	5.79	1.74	.118	.093	.095	.152	.178	1.16	1.17	1.16	1.17	1.17
6327.	5.75	1.82	.118	.097	.086	.150	.176	1.15	1.16	1.15	1.17	1.16
6357.	5.82	1.81	.119	.101	.090	.146	.172	1.16	1.17	1.17	1.18	1.17
6382.	5.74	1.81	.109	.092	.082	.148	.168	1.14	1.16	1.15	1.16	1.16
6445.	5.72	1.83	.108	.090	.083	.146	.170	1.14	1.15	1.14	1.16	1.15
6476.	5.73	1.82	.109	.090	.085	.140	.170	1.14	1.15	1.14	1.16	1.15
6508.	5.79	1.74	.113	.092	.085	.143	.169	1.15	1.16	1.16	1.17	1.16
6540.	5.73	1.80	.112	.086	.086	.146	.160	1.14	1.15	1.14	1.16	1.16

6.92	.05	.239	.179	.176	.476	.440	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.90	.05	.242	.182	.180	.472	.439	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.90	.06	.246	.189	.192	.468	.436	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.92	.06	.239	.181	.185	.469	.426	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.93	.06	.239	.185	.186	.466	.429	1.39	1.39	1.40	1.39	1.39	1.39	1.39	1.39
6.93	.05	.230	.182	.191	.476	.429	1.39	1.39	1.40	1.39	1.39	1.39	1.39	1.39
6.93	.06	.240	.186	.195	.470	.426	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.90	.06	.246	.192	.192	.469	.426	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.90	.06	.247	.193	.192	.462	.429	1.38	1.38	1.39	1.39	1.39	1.39	1.39	1.39
6.91	.06	.241	.192	.187	.460	.429	1.38	1.38	1.39	1.39	1.39	1.39	1.39	1.39
6.92	.06	.239	.190	.192	.463	.421	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.91	.05	.237	.190	.195	.459	.423	1.38	1.38	1.39	1.39	1.39	1.39	1.39	1.39
6.90	.06	.242	.195	.198	.457	.422	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
6.90	.06	.240	.196	.198	.465	.422	1.38	1.38	1.39	1.39	1.39	1.39	1.39	1.39

TRIP
POINT

• 000 END OF
• 000 DISCHA

147

PACK NO. 216
GULTON 12 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 115

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE PACK CURRENT
NO. VOLTAGE 3.60

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

8137.	5.11	3.57	1.23	1.23	1.23	1.23	1.23	1.22
8168.	5.12	3.58	1.23	1.23	1.23	1.23	1.23	1.22
8210.	5.11	3.59	1.23	1.23	1.23	1.23	1.23	1.23
8232.	5.12	3.57	1.23	1.23	1.23	1.23	1.23	1.22
8264.	5.11	3.55	1.23	1.23	1.23	1.23	1.23	1.22
8296.	5.15	3.59	1.24	1.24	1.24	1.24	1.24	1.23
8341.	5.15	3.59	1.23	1.23	1.23	1.23	1.23	1.22
8384.	5.20	3.55	1.23	1.23	1.23	1.23	1.23	1.24
8415.	5.20	3.57	1.22	1.22	1.22	1.22	1.22	1.22
8456.	5.24	3.57	1.22	1.22	1.22	1.22	1.22	1.22
8477.	6.04	3.55	1.22	1.22	1.22	1.22	1.22	1.21
8519.	6.12	3.59	1.23	1.24	1.24	1.24	1.24	1.23

END OF
CHARGE

8137.	7.23	2.07	1.44	1.44	1.44	1.44	1.44	1.45
8168.	7.23	1.20	1.44	1.44	1.44	1.44	1.44	1.45
8210.	7.22	1.21	1.47	1.44	1.43	1.44	1.44	1.45
8232.	7.24	1.18	1.48	1.43	1.44	1.44	1.44	1.45
8264.	7.23	1.26	1.48	1.44	1.44	1.44	1.44	1.45
8296.	7.26	1.16	1.49	1.45	1.44	1.44	1.44	1.45
8341.	7.22	1.24	1.49	1.45	1.44	1.44	1.44	1.45
8384.	7.28	1.02	1.45	1.44	1.44	1.44	1.44	1.45
8415.	7.27	1.01	1.44	1.43	1.44	1.44	1.44	1.45
8456.	7.31	1.14	1.44	1.44	1.44	1.44	1.44	1.45
8477.	7.37	1.44	1.44	1.44	1.44	1.44	1.44	1.45
8519.	7.26	1.17	1.43	1.46	1.45	1.45	1.45	1.46

PACK NO. 301
GULTON 12 A.H.

TEST TEMPERATURE 0 C
ORBIT PERIOD 90 MIN.

CYCLE NO. 301
PACK CURRENT
VOLTAGE 6.00

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 115

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

9022.	4.74	6.02	1.20	1.17	1.21	.00	1.18
9054.	4.73	6.05	1.20	1.17	1.21	.00	1.18
9085.	4.74	6.00	1.20	1.18	1.21	.00	1.18
9118.	4.68	6.04	1.21	1.19	1.22	.00	1.19
9150.	4.74	6.00	1.20	1.18	1.20	.00	1.18
9175.	4.71	6.07	1.19	1.17	1.20	.00	1.17
9214.	4.72	6.03	1.20	1.18	1.20	.00	1.18
9240.	4.83	5.92	1.22	1.20	1.21	.00	1.21
9268.	4.71	5.99	1.20	1.17	1.19	.00	1.17
9300.	4.81	6.04	1.22	1.20	1.22	.00	1.21
9377.	4.79	5.96	1.22	1.19	1.21	.00	1.20

3.45

9022.	6.23	1.68	1.54	1.60	1.53	.00	1.57
9054.	6.24	1.68	1.55	1.60	1.53	.00	1.58
9085.	6.24	1.68	1.54	1.60	1.54	.00	1.58
9118.	6.27	1.58	1.55	1.61	1.54	.00	1.58
9150.	6.24	1.62	1.54	1.62	1.53	.00	1.57
9176.	6.23	1.67	1.54	1.60	1.53	.00	1.57
9214.	6.25	1.66	1.55	1.61	1.53	.00	1.58
9240.	6.25	1.57	1.55	1.61	1.53	.00	1.58
9268.	6.29	1.65	1.56	1.62	1.53	.00	1.60
9300.	6.21	1.69	1.54	1.61	1.52	.00	1.56
9377.	6.22	1.73	1.54	1.61	1.52	.00	1.58

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PACK NO. 227
GULTON 12 A.H.

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 125

TEST TEMPERATURE 25 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK VOLTAGE 6.00 CURRENT

CELL VOLTAGE

1

2

3

4

5

END OF
DISCHARGE

8300.	5.12	5.94	1.24	1.22	1.24	1.23	1.23
8332.	5.86	5.62	1.20	1.16	1.19	1.18	1.16
8364.	6.02	4.33	1.23	1.21	1.21	1.20	1.19
8395.	5.67	5.07	1.16	1.11	1.15	1.14	1.14
8426.	5.48	5.09	1.13	1.10	1.13	1.06	1.10
8441.	5.69	6.46	1.19	1.14	1.15	1.12	1.13

8498.	5.94	5.94	1.21	1.16	1.20	1.21	1.20
8520.	5.69	5.99	1.17	1.13	1.14	1.14	1.15
8560.	5.72	5.97	1.12	1.14	1.14	1.16	1.15
8592.	5.69	5.05	1.12	1.14	1.13	1.15	1.14
8624.	5.63	6.05	1.17	1.13	1.12	1.14	1.13
8656.	5.69	5.04	1.18	1.14	1.13	1.16	1.15
8688.	5.61	5.98	1.16	1.12	1.13	1.13	1.14

END OF
CHARGE

8300.	7.42	3.75	1.46	1.52	1.50	1.46	1.50
8332.	7.53	3.83	1.47	1.62	1.55	1.47	1.46
8364.	7.28	3.78	1.43	1.55	1.48	1.42	1.42
8395.	7.43	2.97	1.45	1.62	1.49	1.45	1.45
8426.	7.36	2.08	1.43	1.61	1.47	1.44	1.43
8441.	7.35	2.47	1.44	1.63	1.46	1.43	1.43
8498.	7.37	2.24	1.45	1.57	1.48	1.45	1.47
8520.	7.41	2.35	1.45	1.54	1.47	1.46	1.45
8560.	7.41	3.76	1.45	1.63	1.47	1.46	1.46
8592.	7.43	2.97	1.46	1.64	1.46	1.46	1.45
8624.	7.47	3.05	1.46	1.66	1.47	1.47	1.46
8656.	7.49	2.60	1.47	1.66	1.47	1.47	1.47
8688.	7.45	2.75	1.46	1.65	1.47	1.46	1.46

PACK NO. 78
GULTON 12 A.H.

DEPTH OF DISCHARGE 15
PERCENT OF RECHARGE 160

TEST TEMPERATURE 40 C
ORBIT PERIOD 90 MIN.

CYCLE NO. PACK CURRENT
VOLTAGE 3.60

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

8910.	4.37	3.61	1.15	1.02	1.09	.00	1.12
8942.	4.07	3.59	1.15	.77	1.06	.00	1.12
8974.	4.11	3.57	1.15	.81	1.05	.00	1.12
9007.	4.25	3.59	1.14	.92	1.07	.00	1.13
9038.	4.24	3.61	1.13	.97	1.05	.00	1.11
9070.	4.37	3.61	1.13	1.06	1.06	.00	1.12
9102.	4.37	3.60	1.13	1.07	1.06	.00	1.12
9135.	4.30	3.61	1.14	1.14	1.12	.00	1.13
9167.	4.63	3.58	1.15	1.10	1.15	.00	1.17
9199.	4.44	3.59	1.14	1.12	1.08	.00	1.13
9219.	4.33	3.56	1.13	1.11	1.02	.00	1.11
9251.	4.47	3.62	1.15	1.15	1.06	.00	1.14
9283.	4.36	3.62	1.14	1.12	1.01	.00	1.12
9315.	4.37	3.61	1.14	1.14	1.00	.00	1.13
9347.	4.38	3.60	1.14	1.14	1.02	.00	1.12

END OF
CHARGE

8910.	5.75	2.84	1.47	1.41	1.45	.00	1.43
8942.	5.74	2.85	1.47	1.42	1.43	.00	1.43
8974.	5.74	2.91	1.45	1.42	1.43	.00	1.43
9007.	5.74	2.90	1.46	1.42	1.43	.00	1.43
9038.	5.73	2.92	1.45	1.42	1.43	.00	1.42
9070.	5.65	2.20	1.42	1.41	1.42	.00	1.41
9102.	5.73	2.94	1.45	1.43	1.43	.00	1.43
9135.	5.75	2.89	1.46	1.43	1.44	.00	1.43
9167.	5.78	2.94	1.47	1.44	1.45	.00	1.43
9199.	5.75	2.65	1.46	1.44	1.44	.00	1.44
9219.	5.74	2.63	1.46	1.43	1.43	.00	1.44
9251.	5.77	2.66	1.47	1.45	1.44	.00	1.44
9283.	5.75	2.75	1.46	1.45	1.44	.00	1.43
9315.	5.76	2.67	1.47	1.45	1.43	.00	1.43
9347.	5.75	2.65	1.47	1.45	1.44	.00	1.44

PACK NO. 69
YARDNEY 5 A.H.

DEPTH OF DISCHARGE 20
PERCENT OF RECHARGE .3A

TEST TEMPERATURE 25 C
ORBIT PERIOD 24 HRS.

CYCLE PACK CURRENT
NO. VOLTAGE 1.00

CELL VOLTAGES
1 2 3 4 5

271.	5.34	1.00	1.07	1.08	1.08	1.08	1.06	END OF DISCHARGE
285.	5.36	1.00	1.08	1.09	1.09	1.09	1.07	
293.	5.35	1.00	1.08	1.09	1.09	1.09	1.07	

.30

271.	7.46	.01	1.48	1.49	1.49	1.49	1.52	END OF CHARGE
285.	7.54	.00	1.42	1.42	1.65	1.69	1.41	
293.	7.57	.00	1.42	1.43	1.68	1.68	1.42	

PACK NO. 233
YARDNEY 5 A.H.

DEPTH OF DISCHARGE 20
PERCENT OF RECHARGE .3A

TEST TEMPERATURE 25 C
ORBIT PERIOD 24 HRS.

CYCLE PACK CURRENT
NO. VOLTAGE 1.00

CELL VOLTAGES
1 2 3 4 5

271.	5.39	1.00	1.08	1.08	1.09	1.08	1.07	END OF DISCHARGE
285.	5.37	.99	1.08	1.08	1.08	1.09	1.08	
293.	5.36	1.00	1.08	1.08	1.08	1.09	1.08	

		.30						END OF CHARGE
271.	7.61	.04	1.52	1.55	1.53	1.52	1.51	
285.	7.55	.01	1.52	1.51	1.52	1.53	1.52	
293.	7.61	.01	1.53	1.54	1.53	1.53	1.53	

PACK NO. 197
YARDNEY 12 AH AGCD

TEST TEMPERATURE 0
ORBIT PERIOD 1.5 HRS.

CYCLE PACK CURRENT
NO. VOLTAGE 4.00

DEPTH OF DISCHARGE 17
PERCENT OF RECHARGE 130

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

2168.	5.29	3.96	1.06	1.06	1.06	1.06	1.06	1.06
2185.	5.23	4.05	1.05	1.05	1.05	1.05	1.05	1.04
2216.	5.11	4.00	1.02	1.02	1.04	1.04	1.04	1.02
2248.	5.26	3.96	1.06	1.06	1.06	1.06	1.06	1.04
2280.	5.25	3.96	1.06	1.06	1.06	1.06	1.06	1.04
2313.	5.20	4.01	1.04	1.04	1.05	1.05	1.05	1.04
2335.	6.62	3.95	1.33	1.33	1.34	1.34	1.34	1.33
2367.	6.61	3.96	1.32	1.33	1.34	1.34	1.34	1.33
2397.	6.71	3.81	1.35	1.35	1.36	1.36	1.35	1.35
2429.	5.22	4.00	1.05	1.05	1.06	1.06	1.06	1.04
2461.	6.52	4.04	1.30	1.31	1.33	1.33	1.32	1.31
2493.	6.58	3.98	1.32	1.33	1.33	1.33	1.33	1.32
2525.	5.60	3.95	1.07	1.08	1.22	1.18	1.18	1.10
2168.	8.01	3.90	1.63	1.58	1.59	1.62	1.62	1.62
2185.	8.01	.98	1.63	1.57	1.59	1.62	1.62	1.62
2216.	8.06	.94	1.67	1.58	1.61	1.62	1.62	1.60
2248.	8.06	1.04	1.64	1.58	1.61	1.63	1.63	1.63
2280.	8.04	1.01	1.63	1.57	1.61	1.63	1.63	1.62
2313.	8.01	.92	1.63	1.57	1.61	1.62	1.62	1.62
2335.	8.04	.77	1.62	1.62	1.61	1.62	1.62	1.62
2367.	8.02	.89	1.66	1.59	1.61	1.62	1.62	1.60
2397.	8.01	.95	1.62	1.61	1.61	1.62	1.62	1.61
2429.	8.06	.95	1.64	1.59	1.62	1.63	1.63	1.63
2461.	8.05	.98	1.63	1.59	1.62	1.63	1.63	1.63
2493.	8.03	1.10	1.64	1.59	1.61	1.63	1.63	1.62
2525.	8.05	1.01	1.64	1.59	1.62	1.63	1.63	1.63

PACK NO. 182
YARDNEY 12 AH AGZN

TEST TEMPERATURE 25
ORBIT PERIOD 1.5 HRS.

CYCLE PACK CURRENT
NO. VOLTAGE 6.00

DEPTH OF DISCHARGE 25
PERCENT OF RECHARGE 130

CELL VOLTAGES
1 2 3 4 5

END OF
DISCHARGE

END OF
CHARGE

2968.	5.33	5.94	1.07	1.07	1.06	1.07	1.06	1.06	1.06
3000.	5.35	6.00	1.07	1.07	1.07	1.07	1.07	1.07	1.07
3031.	5.35	5.99	1.07	1.07	1.07	1.07	1.07	1.07	1.07
3064.	5.34	5.97	1.08	1.08	1.07	1.08	1.08	1.08	1.08
3096.	5.31	5.85	1.07	1.08	1.04	1.06	1.06	1.06	1.06
3122.	5.32	6.00	1.07	1.07	1.06	1.06	1.06	1.06	1.06
3160.	5.29	5.99	1.07	1.08	1.04	1.06	1.06	1.06	1.06
3186.	5.33	5.92	1.08	1.08	1.05	1.07	1.07	1.07	1.07
3215.	5.28	5.99	1.07	1.08	1.03	1.06	1.06	1.06	1.06
3247.	5.35	5.99	1.08	1.08	1.06	1.08	1.08	1.08	1.08
3277.	5.23	5.96	1.07	1.08	1.00	1.06	1.06	1.06	1.06
3309.	5.24	5.98	1.07	1.08	1.01	1.05	1.05	1.05	1.05
3373.	5.25	5.96	1.07	1.07	1.01	1.06	1.06	1.06	1.06

2968.	7.84	3.90	1.59	1.58	1.54	1.57	1.59	1.59	1.59
3000.	7.88	1.19	1.61	1.57	1.55	1.58	1.59	1.59	1.59
3031.	7.86	1.26	1.61	1.57	1.56	1.57	1.58	1.58	1.58
3064.	7.95	1.27	1.61	1.57	1.56	1.57	1.57	1.57	1.57
3096.	7.85	1.29	1.60	1.57	1.56	1.57	1.57	1.57	1.57
3122.	7.87	1.00	1.60	1.58	1.57	1.57	1.57	1.57	1.57
3160.	7.84	1.22	1.60	1.58	1.56	1.57	1.57	1.57	1.57
3186.	7.84	1.20	1.61	1.58	1.54	1.55	1.57	1.57	1.57
3215.	7.81	1.42	1.59	1.56	1.55	1.56	1.57	1.57	1.57
3247.	7.84	1.02	1.61	1.57	1.56	1.57	1.57	1.57	1.57
3277.	7.82	1.29	1.59	1.57	1.56	1.57	1.58	1.58	1.58
3309.	7.85	1.11	1.60	1.58	1.57	1.58	1.58	1.58	1.58
3373.	7.83	1.37	1.59	1.57	1.55	1.57	1.58	1.58	1.58

DEPARTMENT OF THE NAVY

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From: Commanding Officer, U. S. Naval Ammunition Depot, Crane, Indiana
To: National Aeronautics and Space Administration, Goddard Space
Flight Center, Electrochemical Power Sources Section (716.2),
Space Power Technology Branch, Greenbelt, Maryland 20771

Subj: Monthly Progress Report on National Aeronautics and Space
Administration Space Cell Test Program; Submission of

Encl: (1) Monthly Progress Report as of 31 August 1966 (3 copies)

1. The progress report for National Aeronautics and Space Administration
purchase order W11,252B on the space cell test program is submitted as
enclosure (1).

E. R. PETTEBONE

C. M. AUSTIN

By direction

Copy to:

NASA (Mr. Ernst M. Cohn, RNW), Washington, D. C. 20546

NASA (Mr. Emil Hymowitz, 672), Greenbelt, Maryland 20771

NASA, Scientific and Technical Information Facility (NASA REP RQT-20238),
Bethesda, Maryland 20014