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TEST FIRE ENVIRONMENTAL TESTING OPERATIONS

AT
MOUND APPLIED TECHNOLOGIES

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ENVIRONMENTAL TESTING OPERATIONS

MISSION STATEMENT

THE FUNCTION OF ENVIRONMENTAL TESTING IS TO PERFORM QUALITY ENVIRONMENTAL (THERMAL, MECHANICAL, SPIN, RESISTANCE, VISUAL) TESTING/CONDITIONING OF INERT/EXPLOSIVE PRODUCTS TO ASSURE THEIR COMPLIANCE WITH SPECIFIED CUSTOMER ACCEPTANCE CRITERIA.

GROUP FOCUS

THE ENVIRONMENTAL TESTING GROUP'S FOCUS IS TO FULFILL OUR CUSTOMER'S NEEDS IN A QUALITY FASHION AND IN A TIMELY MANNER.

INTRODUCTION

THE ENVIRONMENTAL TESTING GROUP'S OPERATIONS ARE LOCATED WITHIN THE TEST FIRE COMPLEX IN THE LOWER AREA AT MOUND FACILITY. THIS GROUP HAS THE EQUIPMENT AND NECESSARY TECHNICAL EXPERTISE TO SAFELY PERFORM A WIDE VARIETY OF ENVIRONMENTAL TESTING/CONDITIONING OPERATIONS ON EXPLOSIVE AND INERT PIECE PARTS AND/OR COMPONENTS. THE CAPABILITIES OF THE VARIOUS AREAS ARE DISCUSSED IN MORE DEPTH BELOW.

THERMAL TESTING/CONDITIONING OPERATIONS

THE THERMAL TESTING/CONDITIONING OPERATIONS ARE SPLIT BETWEEN BUILDINGS 3 AND 63W. THE TWO AREAS HAVE A TOTAL OF 27 ENVIRONMENTAL CHAMBERS, 17 IN BUILDING 3 AND 10 IN BUILDING 63W. THE TESTING/CONDITIONING CAPABILITIES OF THE THERMAL TESTING AREA INCLUDE: THERMAL STORAGE, THERMAL CYCLING, THERMAL/HUMIDITY CYCLING, AND THERMAL SHOCK.

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ENVIRONMENTAL TESTING OPERATIONS

THERMAL TESTING/CONDITIONING OPERATIONS (CONTINUED)

THE PURPOSE OF THE THERMAL TESTING/CONDITIONING OPERATIONS IS TO SIMULATE THE ACTUAL THERMAL AND HUMIDITY CONDITIONS THAT PIECE PARTS OR COMPONENTS WILL SEE IN THE FIELD. WE CAN SIMULATE HIGH TEMPERATURES (UP TO 120 DEGREES CELSIUS), OR LOW TEMPERATURES (DOWN TO -54 DEGREES CELSIUS). WE CAN SIMULATE HUMIDITY CONDITIONS THAT VARY FROM 40% TO 95% RELATIVE. CHECK OUT RUNS ARE PERFORMED PRIOR TO PLACING ANY PRODUCT IN THE CHAMBERS. ENVIRONMENTAL CHAMBERS ARE MONITORED ON A 24 HOUR BASIS DURING ALL TESTING SERIES. THE SYSTEM MONITORS THE CHAMBER TEMPERATURES AND COMPARES THEM TO PROGRAMMED LIMITS. IF A CHAMBER TEMPERATURE FALLS OUTSIDE THE CONTROL LIMITS, IT TRIGGERS THE SYSTEM TO CONTACT THE OPERATOR BY BEEPER. THE OPERATOR CAN THEN CALL THE MONITORING SYSTEM AND REQUEST ADDITIONAL INFORMATION ON THE PROBLEM BY ENTERING A SERIES OF CODES FROM A TOUCHTONE PHONE. AFTER VERIFYING THE CAUSE OF THE PROBLEM, THE OPERATOR MAY TAKE THE CHAMBER OFF LINE (IF THE TEST HAS SIMPLY BEEN COMPLETED) OR GO TO THE PLANT AND RESOLVE THE PROBLEM PERSONALLY IF NECESSARY.

DETAILED INFORMATION ON THE CAPABILITIES OF THE VARIOUS ENVIRONMENTAL CHAMBERS WILL BE PROVIDED IN THE THERMAL TESTING SECTION OF THIS DOCUMENT.

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ENVIRONMENTAL TESTING OPERATIONS

MECHANICAL TESTING OPERATIONS

THE MECHANICAL TESTING OPERATIONS ARE LOCATED IN BUILDING 3. THIS AREA HAS SIX TEST SYSTEMS. THE TESTING/CONDITIONING CAPABILITIES OF THE MECHANICAL TESTING AREA INCLUDE: VIBRATION, SHOCK, AND CENTRIFUGE.

THE PURPOSE OF THE MECHANICAL TESTING/CONDITIONING OPERATIONS IS TO SIMULATE THE ACTUAL VIBRATIONS, SHOCKS, AND SPIN CONDITIONS THAT PIECE PARTS OR COMPONENTS WILL SEE IN THE FIELD. VIBRATION TESTING SIMULATES TRANSPORTATION, SHOCK TESTING SIMULATES FLIGHT CONDITIONS THAT THE PRODUCT IS LIKELY TO SEE, AND CENTRIFUGE TESTING SIMULATES CENTRIFUGAL FORCES THAT THE PRODUCT SEE IN VARIOUS SPIN ENVIRONMENTS. WE CAN SIMULATE VIBRATION ENVIRONMENTS UP TO 132 Gs WITH 1" DISPLACEMENT (SINE) OR 50 GRMS (RANDOM). WE CAN SIMULATE IMPACT SHOCKS UP TO 20,000 Gs WITH PULSE DURATIONS FROM 0.2 TO 30 MSEC AND PYROTECHNIC SHOCKS UP TO 5000 Gs AT 10,000 Hz. OUR CENTRIFUGE CAN GENERATE CENTRIFUGAL FORCES FROM 0 TO 1500 Gs.

DETAILED INFORMATION ON THE CAPABILITIES OF THE VARIOUS MECHANICAL TESTING SYSTEMS WILL BE PROVIDED IN THE MECHANICAL TESTING SECTION OF THIS DOCUMENT.

SPIN TESTING OPERATIONS

THE SPIN TESTING OPERATIONS ARE LOCATED IN BUILDING 63W. THIS AREA HAS TWO SPIN TESTING SYSTEMS THAT ARE BASICALLY IDENTICAL IN OPERATIONAL CHARACTERISTICS EXCEPT THAT ONE HAS A MAXIMUM SPEED OF 15,000 RPMs WHILE THE OTHER HAS A MAXIMUM SPEED OF 20,000 RPMs. THE ONLY OTHER MAJOR DIFFERENCE IN THEM IS THEIR DATA ACQUISITION SYSTEMS, WHICH ARE PRODUCT TESTERS DESIGNED FOR SPECIFIC TYPES OF PRODUCTS.

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ENVIRONMENTAL TESTING OPERATIONS

SPIN TESTING OPERATIONS (CONTINUED)

THE PURPOSE OF THE SPIN TESTING/CONDITIONING OPERATIONS IS TO SIMULATE THE ACTUAL SPIN CONDITIONS THAT A PRODUCT WILL SEE IN USE. THE SYSTEMS ARE CAPABLE OF ACCELERATING FROM 0 TO THEIR MAXIMUM RPMs IN 3 MINUTES.

DETAILED INFORMATION ON THE CAPABILITIES OF THE TWO SPIN TESTING WILL BE PROVIDED IN THE SPIN TESTING SECTION OF THIS DOCUMENT.

ENVIRONMENTAL TESTING FLOWCHART

NOTES:

1. FLOW REPRESENTS INFORMATION AND PRODUCTS
2. THE PROCESS IS REPEATED FOR EACH TEST PERFORMED.

W.J. BANKES
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3/10/01 TESTIT_PC

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ENVIRONMENTAL TESTING ORGANIZATIONAL CHART

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PERSONNEL LIST

NAME	FUNCTION/AREA	TELEPHONE (FTS)
EDWARD HAWLEY	MANAGER <i>ENVIRONMENTAL TESTING</i>	865-4437
THOMAS FRITSCH	ENGINEER <i>ENVIRONMENTAL TESTING</i>	865-4748
ROBERT HART	AREA LEADER <i>THERMAL TESTING</i>	865-4539
KENNETH MUNCY	AREA LEADER <i>ENVIRONMENTAL TESTING</i> <i>CENTRIFUGE</i> <i>SHOCK</i> <i>VIBRATION</i>	865-3200
DAVID OZINGA	AREA LEADER <i>SPIN TESTING</i>	865-4751

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THERMAL TESTING OPERATIONS

THE THERMAL TESTING OPERATIONS, LOCATED IN BUILDINGS 3 AND 63W HAVE A TOTAL OF TWENTY-SEVEN CHAMBERS. THESE CHAMBERS ARE AVAILABLE FOR THERMAL TESTING/CONDITIONING OF INERT COMPONENTS OR THOSE THAT CONTAIN ENERGETIC MATERIALS. ROOM LIMITS RESTRICT THE QUANTITY OF ENERGETIC MATERIALS IN EACH CHAMBER ROOM TO 500 GRAMS OR LESS. THE CHAMBERS CAN BE USED FOR TESTING/CONDITIONING OF STANDARD HIGH EXPLOSIVES (HE) OR PYROTECHNIC MATERIALS. THE TYPES OF COMPONENTS TYPICALLY TESTED IN THESE CHAMBERS ARE DETONATORS, TIMERS, ISOLATORS, TRANSDUCERS, AND OCCASIONALLY, EXPLOSIVE FIRESETS. A FLOORPLAN LAYOUT OF EACH THERMAL AREA IS PROVIDED FOR ADDITIONAL INFORMATION.

THE ILLUSTRATIONS ON THE FOLLOWING PAGES WILL IDENTIFY THE CHAMBERS BY NUMBER AND WILL PROVIDE SOME DETAIL OF THEIR CAPABILITY SUCH AS: TYPE (CYCLING, SHOCK, HUMIDITY, ETC.), TEMPERATURE RANGES, HUMIDITY RANGES, CYCLE TIMES, VOLUME, ETC.

IF ADDITIONAL INFORMATION IS NEEDED, PLEASE REFER TO THE PERSONNEL LIST FOR THE APPROPRIATE INDIVIDUAL

THERMAL EQUIPMENT SPECIFICATION

EQUIPMENT MANUFACTURER	CHAMBER NUMBER	TYPE OF CHAMBER	TEMPERATURE RANGE & R.H.	RATE OF CHANGE	BAY SIZE AND VOLUME
<i>Cincinnati Sub-Zero</i>	2, 3, 4, 5, 6, 31 32, 33, 34, 35, 36	Long Term Storage	0 C to 120 C	N/A	18.9 cu ft
<i>Tenny</i>	8 & 9	Long Term Storage	20 C to 120 C	N/A	20.2 cu ft
<i>Tenny</i>	20	Long Term Storage	0 C to 120 C	N/A	19.8 cu ft
<i>Tenny</i>	1 & 12	Short Term Storage	-54 C to 100 C	N/A	19.8 cu ft
<i>Cincinnati Sub-Zero</i>	17	Short Term Storage (Chest)	-54 C to 100 C	N/A	9 cu ft
<i>Cincinnati Sub-Zero</i>	30	Short Term Storage (Chest)	-40 C to 65 C	N/A	12.8 cu ft
<i>Tenny</i>	10 & 11	Temperature Cycling	-54 C to 92 C	30 Min. or Greater	19.8 cu ft
<i>Cincinnati Sub-Zero</i>	16	Temperature Cycling	-54 C to 100 C	30 Min. or Greater	22.6 cu ft
<i>Cincinnati Sub-Zero</i>	22	Temperature Cycling	-54 C to 100 C	30 Min. or Greater	15.4 cu ft
<i>Tenny</i>	14 & 37	Temperature Humidity	60 C/82% R.H. Max 50 C/50% R.H. Min	N/A	20.2 cu ft
<i>Thermotron</i>	15	Temperature Humidity/Cycling	-54 C to 100 C 40% to 95% R.H.	30 Min. or Greater	36 cu ft
<i>Thermotron</i>	38 & 39	Temperature Shock	-54 C to 100 C	5 Min. or Greater	6.5 cu ft

FIGURE 1

THERMAL AREA (3) FLOOR PLAN LAYOUT

FIGURE 2

THERMAL AREA (63W) FLOOR PLAN LAYOUT

FIGURE 3

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MECHANICAL TESTING OPERATIONS

THE MECHANICAL TESTING AREA, LOCATED IN THE TEST FIRE COMPLEX, HAS SEVERAL DIFFERENT TESTING CAPABILITIES. THEY INCLUDE: VIBRATION (SINE & RANDOM), IMPACT SHOCK (GRAVITY ACCELERATED AND BUNGEE ACCELERATED), HOSTILE SHOCK (RESONATE PLATE), AND CENTRIFUGE (ACCELERATION). THESE CAPABILITIES, IN TOTAL, ARE WELL SUITED FOR SIMULATING THE ENVIRONMENTAL CONDITIONS THAT PRODUCTS ARE LIKELY TO SEE IN STORAGE, TRANSPORTATION, OR USE CONDITIONS. THE SYSTEMS ARE CAPABLE OF TESTING STANDARD HIGH EXPLOSIVE (HE), PYROTECHNIC AND/OR INERT PRODUCTS BUILT AT MOUND OR RECEIVED AT MOUND FOR TESTING.

THE TYPES OF COMPONENTS TYPICALLY TESTED IN THE MECHANICAL AREA ARE: DETONATORS, TIMERS, ISOLATORS, TRANSDUCERS, AND OCCASIONALLY EXPLOSIVE FIRESETS. SAFETY REQUIREMENTS RESTRICT THE TOTAL QUANTITY OF ENERGETIC MATERIALS ALLOWED IN THE MECHANICAL TESTING AREAS TO 500 GRAMS OR LESS.

THE FOLLOWING PAGES IDENTIFY EQUIPMENT MANUFACTURERS AND PROVIDE SOME DETAILED INFORMATION OF EACH SYSTEMS' CAPABILITIES.

IF ADDITIONAL INFORMATION IS NEEDED, PLEASE REFER TO THE PERSONNEL LIST FOR THE APPROPRIATE INDIVIDUAL

VIBRATION TESTING

THE VIBRATION TESTING AREA HAS TWO VIBRATION TESTING SYSTEMS. ONE IS A 12000 FORCE POUND SYSTEM, APPROXIMATELY 12 YEARS OLD, AND THE OTHER IS A 15000 FORCE POUND SYSTEM, APPROXIMATELY 8 YEARS OLD. BOTH USE UNHOLTZ-DICKIE ELECTRO MAGNETIC

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MECHANICAL TESTING OPERATIONS

VIBRATION TESTING (CONTINUED)

SHAKERS AND POWER AMPLIFIERS. BOTH SYSTEMS ARE CONTROLLED BY HEWLETT PACKARD 5427A CONTROLLERS. BOTH SYSTEMS ARE CAPABLE OF PERFORMING TESTS AT TEMPERATURES RANGING FROM -100 F TO 200 F.

SHOCK TESTING

THE SHOCK TESTING AREA HAS THREE SHOCK TESTING SYSTEMS. THE THREE SYSTEMS INCLUDE AN IMPAC 1212 DROP (GRAVITY OR BUNGEE ACCELERATED), IMPAC 1818 FREE FALL AND A HOSTILE SHOCK TEST SYSTEM (FIVE FOOT AIR GUN WITH RESONANT PLATE). THE IMPAC 1212 SHOCK TEST SYSTEM IS USED TO SIMULATE A WIDE RANGE OF HIGH GRAVITY (20,000 G'S MAX.) SHOCK ENVIRONMENTS. WHEN CONVENTIONAL LOW GRAVITY (1,000 G'S MAX.) SHOCK ENVIRONMENTS ARE REQUIRED THE IMPAC 1818 TEST SYSTEM CAN BE IS USED. THE HOSTILE SHOCK TEST SYSTEM IS USED TO SIMULATE A PYROTECHNIC SHOCK PULSE, AT LOW OR HIGH FREQUENCIES, WITH FORCES UP TO 5,000 G'S.

CENTRIFUGE (ACCELERATION) TESTING

THE CENTRIFUGE TESTING AREA HAS ONLY ONE ACCELERATION TEST SYSTEM. THIS SYSTEM, A GENISCO CENTRIFUGE, PERFORMS PASSIVE TESTING OF EXPLOSIVE/INERT COMPONENTS. THE ARM IS DRIVEN BY A HYDRAULIC PUMP AND CAN SIMULATE AN ENVIRONMENT OF 0 TO 1,500 G'S (0 TO 1,715 RPM'S AT A RADIUS OF 18 INCHES). TWO ITEMS CAN BE TESTED AT ONE TIME AND ARE LIMITED TO 5 POUNDS EACH.

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VIBRATION EQUIPMENT SPECIFICATION

	SHAKER SYSTEM #1	SHAKER SYSTEM #2
<i>Manufacture</i>	Unholtz-Dickie	Unholtz-Dickie
<i>Model #</i>	MA145-120	MA145A-150IAR
<i>Max. Force Pound (SINE)</i>	12,000 G's	15,000 G's
<i>(RANDOM)</i>	9,500 G's	15,000 G's
<i>Max. Amplitude/Displacement (SINE)</i>	1" / 132 G's	1" / 132 G's
<i>(RANDOM)</i>	45 GRMS	50 GRMS
<i>Table Size</i>	18"	18"
<i>Frequency Range</i>	10 - 5 Kc	10 - 5 Kc
<i>Temperature Range</i>	-100 F to +200 F	-100 F to +200 F
<i>Controller</i>	Hewlett Packard 5427A	Hewlett Packard 5427A
<i>Type of Controller</i>	Digital	Digital
<i>Number of Channels</i>	2	4
<i>Cooling</i>	Cooling Tower	Cooling Tower

FIGURE 4

SHOCK EQUIPMENT SPECIFICATION

	SHOCK SYSTEM #1	SHOCK SYSTEM #2	HOSTILE SHOCK
<i>Manufacture</i>	MTS	Monterey	Mound
<i>Model #</i>	1212	1818	HS-1
<i>Max. Acceleration</i>	20,000 G's	1,000 G's	5,000 G's
<i>Max. Velocity</i>	140 Ft/sec	18 Ft/sec	20 Ft/sec
<i>Max. Weight</i>	50 Lbs	300 Lbs	50 Lbs
<i>Max. Height</i>	14 Ft	5 Ft	
<i>Table Size</i>	12" X 12"	18" X 18"	
<i>Pulse Duration</i>	0.2 to 30 msec	1.0 to 3.0 msec	
<i>Controller</i>	Mound Built	Hewlett Packard 5427A	Mound Built
<i>Number of Channels</i>	1	2	4
<i>Plate Frequency Low</i>			250 Hz
<i>Plate Frequency High</i>			3,000 Hz

FIGURE 5

CENTRIFUGE EQUIPMENT SPECIFICATION

	CENTRIFUGE SYSTEM #1
<i>Manufacture</i>	Genisco
<i>Model #</i>	A944
<i>Speed Range</i>	0 - 1715 RPM
<i>Max. Force</i>	0 - 1,500 G's
<i>Max. Arm Radius</i>	21"
<i>Max. Fixture Size</i>	6" X 6"
<i>Max. Fixture Weight</i>	5 Lb *
<i>Motor Controller</i>	Hydraulic
<i>Number of Rings</i>	8 Pairs
<i>Current Rating</i>	5 Amp

** 2 Test Packages (One on each end)*

MECHANICAL AREA FLOOR PLAN

FIGURE 7

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SPIN TESTING OPERATIONS

THE SPIN TESTING AREA HAS TWO TRIO-TECH CENTRIFUGE MACHINES MODIFIED TO PERFORM PASSIVE AND/OR ACTIVE TEST ON EXPLOSIVE/INERT COMPONENTS UNDERGOING A SPIN ENVIRONMENT OF UP TO 20,000 RPM. EACH MACHINE IS DRIVEN BY AN ELECTRICAL MOTOR, CONNECTED TO A SPINDLE THROUGH A DRIVE BELT AND GOVERNED THROUGH A CURRENT MONITORING ELECTRICAL FEEDBACK CIRCUIT. THE ROTOR PLATE, ATTACHED TO THE SPINDLE, HAS A UNIQUE ELECTRICAL PLUG-IN FEATURE THAT MINIMIZES TEST PREPARATION AND ALLOWS HIGH AND LOW TEMPERATURE TEST TO BE PERFORMED RAPIDLY. THERE ARE FOUR MAGNETIC PICKUPS LOCATED NEAR THE ROTOR PLATE WHICH ARE USED FOR MONITORING PITCH, SPEED AND BALANCING OF A TEST PACKAGE.

EACH CENTRIFUGE IS CONTROLLED BY A REMOTELY LOCATED COMPUTER AIDED PRODUCT TESTER EQUIPPED WITH HIGH SPEED DIGITIZERS AND OSCILLOSCOPES FOR CAPTURING THE REQUIRED DATA DURING A TEST. SIGNAL FLOW, TO OR FROM THE TEST PACKAGE, IS ESTABLISHED VIA SIXTEEN LIQUID COOLED SLIP RINGS FOR A TOTAL CAPACITY OF THIRTY-TWO CHANNELS.

A TYPICAL COMPLETED TEST PACKAGE WEIGHT 110 LBS. AND CAN BE ACCELERATED TO 20,000 RPM IN APPROXIMATELY 3 MINUTES WITH AN ACCELERATION FORCE REACHING APPROXIMATELY 45,000 G'S AT THE OUTER EDGE OF THE TEST FIXTURE.

IF ADDITIONAL INFORMATION IS NEEDED, PLEASE REFER TO THE PERSONNEL LIST FOR THE APPROPRIATE INDIVIDUAL

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SPIN EQUIPMENT SPECIFICATION

	CENTRIFUGE SYSTEM #1	CENTRIFUGE SYSTEM #2
<i>Acceleration</i>	Approx 3 min to 20,000 RPM	Approx 3 min to 15,000 RPM
<i>Deceleration</i>	Approx 3 min from 20,000 RPM	Approx 3 min from 15,000 RPM
<i>Speed Range</i>	0 TO 20,000 RPM	0 TO 15,000 RPM
<i>Speed Accuracy</i>	±0.5 %	±0.5 %
<i>Motor Rating</i>	15 H.P. DC	10 H.P. DC
<i>Motor Controller</i>	Current Limited	Current Limited
<i>Brake</i>	Two-Step Dynamic	Two-Step Dynamic
<i>Max. Fixture Size</i>	14" (dia.) X 7" (High)	14" (dia.) X 7" (High)
<i>Max. Fixture Weight</i>	110 Lb	110 Lb
<i>Number of Rings</i>	16	16
<i>Brushes</i>	Two per Ring	Two per Ring
<i>Breakdown Voltage</i>	10,000 Megohm @ 200V	10,000 Megohm @ 200V
<i>Current Rating</i>	1 Amp	1 Amp
<i>Electrical Noise</i>	.10mv pp	.10mv pp

FIGURE 8

SPIN AREA FLOOR PLAN

FIGURE 9

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FUTURE CAPABILITIES

THERMAL AREA

SEVERAL CHANGES ARE UNDERWAY IN THE THERMAL TESTING AREA AT THIS TIME. WE HAVE JUST COMPLETED INSTALLATION OF A NEW THERMAL/HUMIDITY CYCLING CHAMBER IN BUILDING 3, ROOM 326. THIS CHAMBER WAS A REPLACEMENT FOR AN EARLIER ONE THAT HAD OUTLIVED ITS USEFULNESS. ANOTHER THERMAL/HUMIDITY CYCLING CHAMBER IS IN THE PURCHASE CYCLE, AND WILL BE USED TO REPLACE ANOTHER ONE THAT HAS BEGUN TO HAVE FREQUENT FAILURES. WE ALSO HAVE TWO NEW THERMAL CYCLING CHAMBERS ON ORDER THAT WILL BE RECEIVED IN APRIL OF 1992 AND SHOULD BECOME OPERATIONAL SHORTLY THEREAFTER.

MECHANICAL TESTING AREA

WE ARE IN THE PROCESS OF REPLACING OUR OLDER 12,000 FORCE POUND VIBRATION TESTING SYSTEM WITH A NEW ONE. THE NEW VIBRATION TEST SYSTEM WILL BE STATE OF THE ART. IT WILL HAVE AN UNHOLTZ-DICKIE ELECTRO MAGNETIC SHAKER WITH A HEWLETT PACKARD DIGITAL CONTROLLER. IT WILL BE CAPABLE OF 15,000 FORCE POUND IN BOTH SINE AND RANDOM TESTING. FOR THE SYSTEM IS BEING SUPPLIED BY LMTS CORPORATION. THE SYSTEM IS EXPECTED TO BE OPERATIONAL BY JULY 1992.

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FUTURE CAPABILITIES (CONTINUED)

WE ARE ALSO MOVING TO EXPAND OUR CAPABILITIES IN THE CENTRIFUGE TESTING AREA. WE ARE IN THE PROCESS OF PURCHASING A NEW CENTRIFUGE FROM WYLE LABORATORIES ALONG WITH AN ADDITION TO BUILDING 3 TO HOUSE IT. THE NEW CENTRIFUGE WILL HAVE AN EIGHT FT. RADIUS ARM AND BE CAPABLE OF UP TO 200 RPMs (100 Gs) WITH A 100 POUND TEST PACKAGE. THE TEST PACKAGE SIZE WILL BE LIMITED TO 24" X 24" X 24". THE CENTRIFUGE WILL HAVE 120 SHIELDED SLIP RINGS. IT WILL HAVE 30 SLIP RINGS RATED AT 40 AMPERES AND 90 RATED AT 5 AMPERES. THE CENTRIFUGE IS EXPECTED TO BE READY FOR USE BY JULY 1993.

DISTRIBUTION

DESTRUCTIVE TESTING

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