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REPORT NO.: 53613-01
 WYLE JOB NO.: 53613
 CLIENT P.O. NO.: 2110
 CONTRACT: N/A
 TOTAL PAGES (INCLUDING COVER): 70
 DATE: August 14, 2006

TEST REPORT

REVISION A: August 11, 2006
 REVISION B: August 10, 2009
 REVISION C: February 28, 2011
 REVISION D: March 25, 2011

INSPECTION, TEST AND EVALUATION OF THE AQUA CREEK PRODUCTS PRO POOL LIFT AND RANGER POOL LIFT

D

for

Aqua Creek Products
 3015 W. Railroad St. #8
 Missoula, MT 59808

(sd)

STATE OF ALABAMA }
 COUNTY OF MADISON }

James E. Feller, being duly sworn, deposes and says: The information contained in this report is the result of complete and carefully conducted testing and is to the best of his knowledge true and correct in all respects.

James E. Feller

SUBSCRIBED and sworn to before me this 9th day of August 2006

Patricia Phillips
 Notary Public in and for the State of Alabama at Large

My Commission expires Jan. 7, 2009

Wyle shall have no liability for damages of any kind to person or property, including special or consequential damages, resulting from Wyle's providing the services covered by this report.

PREPARED BY: Frank Padilla 9 Aug 06
 FOR Frank Padilla, NCT, Test Supervisor Date

APPROVED BY: James E. Feller 8/9/06
 James E. Feller, NCT, Senior Project Engineer Date

WYLE Q. A.: Raul F. Terceno 8/9/06
 FOR Raul F. Terceno, Q. A. Manager Date



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1.0 INTRODUCTION

1.1 Scope

This report documents conformance with the applicable requirements of the Americans with Disabilities Act Section 1009.2, ANSI/AAMI ES60601-1:2005 and clause 27 of the Standard for Polymeric Materials UL 746C, as listed below, and details the results of the testing performed on the Aqua Creek Products Pro Pool Lift, Model F-004PLB (fixed mounted unit) and Ranger Pool Lift Model F-411RPL at Wyle Laboratories' Huntsville, Alabama, Test Facility. The specimen was received in good condition on June 24, 2006. This evaluation was authorized by Mr. Brian Goettlich of Aqua Creek Products, Missoula, MT.

Contact: Mr. Brian Goettlich

Telephone: (888) 687-3552

E-mail: bgoettlich@aquacreek.com

1.2 Product Description

The Pro Pool Lift and Ranger Pool Lift are 24VDC Battery, self-operable, in-ground pool or spa lifts that are designed to assist handicap people with access to pools or spas. A detailed description of the Pro Pool Lift and Ranger Pool Lift, hereinafter referred to as the EUT, and support equipment is provided in Section 2.1.

1.3 References

- Aqua Creek Products Purchase Order Number 2110
- Wyle Laboratories' Quotation No. HSV 545/035248/DB
- ADA Guidelines 1009.2
- ANSI/AAMI ES60601-1:2005
- UL 746C Standard for Polymeric Materials
- Wyle Laboratories' Quality Assurance Program Manual, Revision 2
- ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment, General Requirements"
- ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment"
- MIL-STD-45662A, "Calibration System Requirements"

1.4 Compliance Summary

The test configuration of the Aqua Creek Products Pro Pool Lift and Ranger Pool Lift complied with the applicable requirements of ANSI/AAMI ES 60601-1:2005 and ADA Guidelines 1009.2 as listed below, with no modifications necessary. This evaluation report is valid only for the Pro Pool Lift and Ranger Pool Lift fixed mounted models. Any safety changes, revisions, or corrections made to the product after this evaluation shall be reevaluated, and a revised report shall be issued.

| Description | Clause | Compliant/Non-Compliant |
|----------------------------|------------------------|-------------------------|
| General Tests | 60601-1, 4 | Compliant |
| Humidity | 60601-1, 5.7 | Compliant |
| Accessible Parts | 60601-1, 5.9 | Compliant |
| Equipment Identification | 60601-1, 7 | Compliant |
| Dielectric Strength | 60601-1, 8.8.3 | Compliant |
| Protection Against Hazards | 60601-1, 9.2, 9.4, 9.8 | Compliant |
| Temperature | 60601-1, 11 | Compliant |
| ADA Requirements | 1009.2 | Compliant |

2.0 SYSTEM TEST CONFIGURATION

2.1 Details of Tested System

The identifiers for the EUTs are listed as follows:

| Item | Part No. | Serial No. | Quantity |
|------------------|----------|------------|----------|
| Pro Pool Lift | F-004PLB | 05062485 | 1 |
| Ranger Pool Lift | F-411RPL | NA | 1 |

2.2 Electrical Ratings

24 VDC, 6A

2.3 Construction Details

For specific construction details, reference should be made to the photographs and descriptions of each lift indicated in Attachments A and D of this report. All dimensions are approximate unless specified as exact or within a tolerance. The overall weight of the Pro Pool Lift and Ranger Pool Lift is approximately 130 lbs. The pool lift frames are constructed of stainless steel and coated with a UV resistant powder coat finish. The lifts measure approximately 38 inches high by 25 inches wide by 41.75 inches deep.

2.0 SYSTEM TEST CONFIGURATION (continued)

2.3 Construction Details (continued)

The weight capacities of the lifts are as follows:

| Lift | Operational Rated Weight Capacity (lbs.) | Static Load Capacity (lbs.) |
|----------|--|-----------------------------|
| Pro Pool | 450 | 675 |
| Ranger | 300 | 450 |

2.4 Quality Assurance

All work performed on this test program was completed in accordance with Wyle Laboratories' Quality Assurance Program Manual, which conforms to the applicable portions of 10CFR 50 Appendix B, ASME NQA-1, and ANSI N45.2. The Wyle Laboratories, Huntsville Facility, Quality Management System is registered in compliance with the ISO-9001 International Quality Standard. Registration has been completed by Quality Management Institute (QMI), a Division of Canadian Standards Association (CSA). Wyle Laboratories, Huntsville Facility is registered in compliance with the American Association for Laboratory Accreditation (A2LA) International Standard Organization (ISO) Guide 17025. Wyle's certification number is 845.01.

2.5 Test Equipment and Instrumentation

All instrumentation, measuring, and test equipment to be used in the performance of this test program was calibrated in accordance with Wyle Laboratories' Quality Assurance Program, which complies with the requirements of ANSI/NCSL Z540-1, ISO 10012-1, and Military Specification MIL-STD-45662A. Standards used in performing all calibrations are traceable to the National Institute of Standards and Technology (NIST) by report number and date. When no national standards exist, the standards are traceable to international standards, or the basis for calibration is otherwise documented.

ATTACHMENT B
SAFETY CRITICAL COMPONENTS

Table B-1 Model Designation

| Pool Lift Designation | Model No. |
|------------------------------|------------------|
| Pro Pool Lift | F-004PLB |
| Ranger Pool Lift | F-411RPL |

Table B-2 Safety Critical Components

| Item | Part/Model No. |
|------------------------------|-----------------------|
| Battery Control Combination | CBJ |
| Combination Charger | CH |
| Derock Direct Drive Actuator | YLSDTZ |
| Battery* | BAJ |
| Control Box* | CBJ |
| Battery Charger* | CHJ |
| Actuator* | LA |
| Handset (Pendant Control) | HB |

* Optional equipment which can be interchanged with these models.

ATTACHMENT C
TEST DATA

DATA SHEET



Customer: Aquacreek _____
Specimen: Pool Lift _____

| | | | | | |
|----------|------------|----------------|-------|------------|------------|
| Part No. | F004PPPB | Amb. Temp. | _____ | Job. No. | 53613 |
| Spec. | IEC60601-1 | Photo | _____ | Report No. | 53613-01 |
| Para. | Section 4 | Test Med. | _____ | Start Date | 07/24/2006 |
| S/N | 05062485 | Specimen Temp. | _____ | | |
| GSI | _____ | | | | |

Test Title: General Tests Section 4

The following sections were considered and inspected by visual and or inspection of accompanying documents.

Sec. 4.7 Single Fault Condition

EUT is powered by an internal 24 VDC battery. The EUT battery charging circuit is connected to AC mains and has been tested under UL file no. E175209.

Sec. 4.10 .1 Source of power for ME Equipment

EUT is classified as powered by an **Internal Electrical Power Source**. This was determined by visual inspection and inspection of the accompanying documents.

Sec. 4.11 Power Input

EUT is not powered directly by mains supply, and charging system has received approval under UL file no. E175209.

END

| | | | |
|-----------|-------------------------------|------|-------------------|
| Tested By | <u>Brian Coppock</u> | Date | <u>07/24/2006</u> |
| Witness | <u>N/A</u> | Date | <u>NA</u> |
| Sheet No. | <u>1</u> | of | <u>1</u> |
| Approved | <u>Fred M. Pickett 8-9-06</u> | | |

Notice of Anomaly NA
Wyle Form WH614A, Rev. APR '84

DATA SHEET



Customer: Aquacreek _____
Specimen: Pool Lift _____

| | | | | | |
|----------|--------------------|----------------|-------|------------|-------------------|
| Part No. | <u>F004PPPB</u> | Amb. Temp. | _____ | Job. No. | <u>53613</u> |
| Spec. | <u>IEC60601-1</u> | Photo | _____ | Report No. | <u>53613-01</u> |
| Para. | <u>Section 5.7</u> | Test Med. | _____ | Start Date | <u>07/24/2006</u> |
| S/N | <u>05062485</u> | Specimen Temp. | _____ | | |
| GSI | _____ | | | | |

Test Title: Humidity Section 5.7

The humidity preconditioning treatment was performed on the EUT in a humidity cabinet containing air with a relative humidity of 93 % \pm 3 %. The temperature of the air in the cabinet, at all places where the EUT was located, was maintained within 2 °C of any convenient value *T* in the range of + 20 °C to + 32 °C.

Before being placed in the humidity cabinet, the EUT was brought to a temperature between *T* and *T* + 4 °C, and kept at this temperature for at least 4 h before the humidity treatment.

The EUT and its parts were kept in the humidity cabinet for 48 h.

END

| | | | |
|-----------|-----------------------|------|-------------------|
| Tested By | <u>Brian Coppock</u> | Date | <u>07/24/2006</u> |
| Witness | <u>N/A</u> | Date | <u>NA</u> |
| Sheet No. | <u>1</u> | of | <u>1</u> |
| Approved | <u>Frank M. Patel</u> | | <u>8-9-06</u> |

Notice of Anomaly NA

Wyle Form WH614A, Rev. APR '84

DATA SHEET



Customer: Aquacreek _____
Specimen: Pool Lift _____

Part No. F004PPPB Amb. Temp. _____ Job. No. 53613
Spec. IEC60601-1 Photo _____ Report No. 53613-01
Para. Section 5.9 Test Med. _____ Start Date 07/24/2006
S/N 05062485 Specimen Temp. _____
GSI _____

Test Title: Determination of applied parts and accessible parts section 5.9

Section 5.9.2 Accessible parts

Sec. 5.9.2.1 Test finger

No parts are accessible to the operator in normal operation of the EUT. All parts are sealed and do not have access doors or other points of entry for the operators access. No hazardous live voltages are accessible to the operator. The use of the standard test finger was not necessary for testing as all points of entry to circuits are sealed and inaccessible to the operator.

Sec. 5.9.2.2 Test hook

A visual inspection determined that the EUT has no accessible panels or cutouts which the operator might in the normal use of the EUT come into contact with.

Sec. 5.9.2.3 Actuating mechanisms

Conductive parts of actuating mechanisms that may come into contact with the operator would not be capable of containing hazardous live voltages in normal operation or single fault conditions as the unit is powered by an internal electrical power system (24 VDC battery pack).

The EUT is compliant with the requirements of these sections.

END

Tested By Brian Coppock Date 07/24/2006
Witness _____ Date _____
Sheet No. 1 of 1
Approved Frank M. Padgett 8-9-06

Notice of Anomaly NA

Wyle Form WH614A, Rev. APR '84

DATA SHEET



Customer: Aquacreek _____
Specimen: Pool Lift _____

| | | | | | |
|----------|------------|----------------|-------|------------|------------|
| Part No. | F004PPPB | Amb. Temp. | _____ | Job. No. | 53613 |
| Spec. | IEC60601-1 | Photo | _____ | Report No. | 53613-01 |
| Para. | Section 7 | Test Med. | _____ | Start Date | 07/24/2006 |
| S/N | 05062485 | Specimen Temp. | _____ | | |
| GSI | _____ | | | | |

Test Title: ME equipment identification, marking and documents

Section 7 ME equipment identification, marking and documents.

Sec. 7.1.2 Legibility of markings

All warning statements, instructive statements, safety signs and drawings on the outside of the EUT are legible and readable from the intended position of the person performing the related function.

The unit is compliant with this clause.

END

| | | | |
|-----------|------------------------------|------|-------------------|
| Tested By | <u>Brian Coppock</u> | Date | <u>07/24/2006</u> |
| Witness | <u>N/A</u> | Date | <u>NA</u> |
| Sheet No. | <u>1</u> | of | <u>1</u> |
| Approved | <u>Frank M. Pacht 8-9-06</u> | | |

Notice of Anomaly NA
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DATA SHEET



Customer: Aquacreek _____
 Specimen: Pool Lift _____

Part No. F004PPPB Amb. Temp. _____ Job. No. 53613
 Spec. IEC60601-1 Photo _____ Report No. _____
 Para. Section 9 Test Med. _____ Start Date 07/24/2006
 S/N 05062485 Specimen Temp. _____
 GSI _____

Test Title: Protection against mechanical hazards of ME equipment and ME systems.

The following clauses were considered and inspected by visual and or testing in accordance with this section.

| Mechanical Hazard | Covered by sub clause | Compliant/Noncompliant |
|-----------------------------------|-----------------------|------------------------|
| Crushing hazard | 9.2, 9.4 and 9.8 | Compliant |
| Shearing hazard | 9.2 and 9.8 | Compliant |
| Cutting or severing hazard | 9.2, 9.3 and 9.8 | Compliant |
| Entanglement hazard | 9.2 | Compliant |
| Trapping hazard | 9.2 | Compliant |
| Stabbing or puncturing hazard | 9.2, 9.3 and 9.8 | Compliant |
| Friction or abrasion hazard | 9.2 and 9.3 | Compliant |
| Instability hazard | 9.4 | Compliant |
| Impact hazard | 9.2 and 9.8 | Compliant |
| Moving and positioning of patient | 9.2 and 9.4 | Compliant |

END

Tested By Brian Coppock ^{8/9/06} Date 07/24/2006
 Witness _____ Date _____
 Sheet No. 1 of 1
 Approved Frank M. Pickett ⁸⁻⁹⁻⁰⁶

Notice of Anomaly NA
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DATA SHEET



Customer: Aquacreek _____
 Specimen: Pool Lift _____

Part No. F0004PPPb Amb. Temp. 74.0 Job. No. 53613
 Spec. IEC60601-1 Photo _____ Report No. 53613-01
 Para. 11.1.1 Test Med. _____ Start Date 08/08/2006
 S/N 05062485 Specimen Temp. _____
 GSI _____

Test Title: Maximum temperature during normal use

Test conditions
 After 10 minutes of continuous up and down travel of the EUT, maximum temperatures were taken with an IR thermometer from 4 points on the unit. The maximum temperatures are listed below.

Ambient temperature 23.3 degrees Celsius (74 deg. F)
 Ambient humidity 39%

| Location | Deg. C Max. | Deg. F Max. |
|-------------------|-------------|-------------|
| Motor housing | 30.7 | 87.3 |
| Battery | 23.4 | 74.1 |
| Main control unit | 24.4 | 76.0 |
| Motor shaft | 24.5 | 76.1 |

Unit is compliant with section 11.1.1.
 END

Tested By Brian Coppock *Brian Coppock 8/9/06* Date 08/08/2006
 Witness N/A Date NA
 Sheet No. 1 of 1
 Approved Frank M. Rickett *Frank M. Rickett 8-9-06*

Notice of Anomaly NA
 Wyle Form WH614A, Rev. APR '84

DATA SHEET



Customer: Aqua Creek
 Specimen: Pool Lift
 Part Number F-004PLB Amb. Temp. N/A Job. No. 53613
 Specification ADA 1990 (2008) Guidelines Section 1009.2 Photo N/A Report No. 53613-01
 Para. Various (see table below) Test Med. N/A Start Date July 7, 2009
 S/N 6500 Specimen Temp. N/A

Test Title: Compliance with American with Disabilities Act (Guidelines for Pool Lifts Section 1009.2)

| ADA Guidelines for Pool Lifts Section & Description | Requirement | Compliance | | Comments |
|---|--|------------|----|---|
| | | Yes | No | |
| 1009.2.2 Seat Location | In the raised position, the centerline of the seat shall be located over the deck and 16 inches (405 mm) minimum from the edge of the pool. The deck surface between the centerline of the seat and the pool edge shall have a slope not steeper than 1:48. | X | | Instructions for installation of the lift in accordance with ADA Guidelines are included in the Aqua Creek Products® "Installation, Assembly and Operating Instructions" Revised June, 2009 |
| 1009.2.3 Clear Deck Space | On the side of the seat opposite the water, a clear deck space shall be provided parallel with the seat. The space shall be 36 inches (915 mm) wide minimum and shall extend forward 48 inches (1220 mm) minimum from a line located 12 inches (305 mm) behind the rear edge of the seat. The clear deck space shall have a slope not steeper than 1:48. | X | | Instructions for installation of lift in compliance with ADA Guidelines are included in the Aqua Creek Products® "Installation, Assembly and Operating Instructions" Revised June, 2009 |
| 1009.2.4 Seat Height | The height of the lift seat shall be designed to allow a stop at 16 inches (405 mm) minimum to 19 inches (485 mm) maximum measured from the deck to the top of the seat surface when in the raised (load) position. | X | | The Seat Height was verified to be compliant with the requirements of the ADA Guidelines. |
| 1009.2.5 Seat Width | The seat shall be 16 inches (405 mm) wide minimum. | X | | The Seat Width was verified to be compliant with the requirements of the ADA Guidelines. |

Tested By [Signature] Date July 9, 2009
 Witness N/A Date N/A
 Sheet No. 1 of 2
 Approved [Signature] 8/6/09

Notice of Anomaly None

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DATA SHEET



Customer: Aqua Creek
 Specimen: Pool Lift
 Part Number F-004PLB Amb. Temp. N/A Job. No. 53613
 Specification ADA 1990 (2008) Guidelines
 Section 1009.2 Photo N/A Report No. 53613-01
 Para. Various (see table below) Test Med. N/A Start Date July 7, 2009
 S/N 6500 Specimen Temp. N/A

Test Title: Compliance with American with Disabilities Act (Guidelines for Pool Lifts Section 1009.2)
 (continued)

| ADA Guidelines for Pool Lifts Section & Description | Requirement | Compliance | | Comments |
|---|---|------------|----|--|
| | | Yes | No | |
| 1009.2.6 Footrests and Armrests | Footrests shall be provided and shall move with the seat. If provided, the armrest positioned opposite the water shall be removable or shall fold clear of the seat when the seat is in the raised (load) position. | X | | Removable footrests are provided on the lift. Armrests are provided and can be folded clear for access and egress on either side of the seat. |
| 1009.2.7 Operation | The lift shall be capable of unassisted operation from both the deck and water levels. Controls and operating mechanisms shall be unobstructed when the lift is in use. | X | | The Handset Control allows the user to adjust the lift on a vertical plane (up/down) without any obstructions. |
| 1009.2.8 Submerged Depth | The lift shall be designed so that the seat will submerge to a water depth of 18 inches (455 mm) minimum below the stationary water level. | X | | The seat was verified to submerge up to 24 inches below water depth. |
| 1009.2.9 Lifting Capacity | Single person pool lifts shall have a weight capacity of 300 pounds. (136 kg) minimum and be capable of sustaining a static load of at least one and a half times the rated load. | X | | The Load Capacity of the lift was verified up to 450 pounds and Static Load Capacity was verified up to 675 pounds which exceeds the minimum ADA Guidelines. |

Tested By Jay Smith Date July 9 2009
 Witness N/A Date N/A
 Sheet No. 2 of 2
 Approved Robert Dancy 8/6/09

Notice of Anomaly None

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