

## 50092-1 Dust

|                            |                     |                 |           |
|----------------------------|---------------------|-----------------|-----------|
| Certification prepared for | SEAHORSE            |                 |           |
| Attention                  | Mr. Flavio Valencia |                 |           |
| Test start                 | 4/16/2014           | Test completion | 4/16/2014 |
| Purchase order number      | 17295               | Purchase date   | 5/13/2014 |

|                   |                          |        |  |
|-------------------|--------------------------|--------|--|
| Manufacturer      | SEAHORSE                 |        |  |
| Device            | Two (2) Protective Cases |        |  |
| Model/part number | SE430                    | SE1530 |  |
| Serial number     | N/A                      | N/A    |  |

*The results of this test apply only to the units identified in this Engineering Report by device identifier and model / part number, or serial number.*

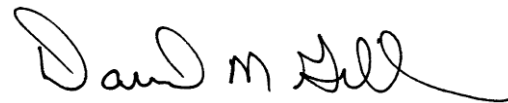
Environ Laboratories LLC certifies that two Protective Cases were subjected to a Dust Test as specified in *IEC 60529*, Edition 2.1, dated 2001-02, Category 1, IP6X, as requested in SEAHORSE purchase order 17295, dated May 13, 2014.

The test units were individually tested. The first test unit was placed on the mounting rack inside the dust chamber. A line to the vacuum pump was connected to the unit under test. Internal unit pressure was reduced by 2 kPa, and a leak rate was measured. No measurable flow was detected. The correct amount of talcum powder was introduced into the chamber, and the chamber was sealed. The dust activation system was started, and the vacuum pump was energized. The duration of the exposure was 8 hours. After completion of the exposure, the test unit was removed from the dust chamber and examined for evidence of dust penetration. The second test unit was then subjected to testing in the same manner as the first. Visual examination of the test units upon completion of the exposure revealed no evidence of damage or dust infiltration. The test units met the requirements of *IEC 60529*, Paragraph 13.4, at the highest degree of protection, IP6X.

The test units were retained at Environ Laboratories LLC.



Peder J. Palm, Test Engineer



David M. Gillen, Vice President

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## Instrumentation

All instrumentation is calibrated regularly by instruments directly traceable to the National Institute of Standards and Technology, and in accordance with *MIL-I-45208A*, *ANSI/NCSL Z540.3-2006*, and *ISO/IEC 17025: 2005*.

| Equipment Number | Description                 | Manufacturer          | Model Number   | Last Calibration | Due Calibration | Range                          |
|------------------|-----------------------------|-----------------------|----------------|------------------|-----------------|--------------------------------|
| 186-004BE        | Talc                        | Powder Technology Inc | Talc #399      | N/A              | N/A             | See Certificate of Conformance |
| 380-559          | DC Power Supply Dual Output | Hewlett Packard       | 6234A          | N/A              | N/A             | 0 to 30 Vdc;<br>0 to 0.25 A    |
| 400-049          | Stopwatch                   | Extech Instruments    | 365510         | 4/2/2014         | 4/2/2015        | 0 to 23 hrs 59 mins<br>59 sec  |
| 504-019          | Dust Chamber                | Environ               | D-4            | N/A              | N/A             | N/A                            |
| 710-337          | Differential Pressure Gage  | Dwyer Instruments     | 2015           | 6/5/2013         | 6/5/2014        | 0 to 15 in. H <sub>2</sub> O   |
| 717-140          | Flowmeter                   | Dwyer Instruments     | RMA-22-APF-TMV | 6/5/2013         | 6/5/2014        | 2 to 25 L/min air              |
| 717-141          | Flowmeter                   | Dwyer Instruments     | RMA-26-APF-TMV | 6/5/2013         | 6/5/2014        | 0.5 to 5.0 L/min air           |
| 717-142          | Flowmeter                   | Dwyer Instruments     | RMA-12-APF-TMV | 6/5/2013         | 6/5/2014        | 50 to 500 cc/min air           |