

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

NONCONFORMANCE REPORT

Project No. 20.06002.01.322

NCR No. 2005-07

PART 1: DESCRIPTION OF NONCONFORMANCE:

Expandable Ion Analyzer (Model: Orion EA920, Serial Number: TV64A, Asset Number: 005352) was found to be out of tolerance during a normally scheduled calibration.

Initiated by: Darrell S. Dunn

Date: 3/24/2005

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION

Disposition:

No measurements are affected by this out of tolerance condition.

Basis of Disposition:

As noted in the out of tolerance report, the out of tolerance condition was limited to Channel #2. All pH measurements are conducted using only Channel #1 which was in tolerance. In addition, the pH measurements are conducted using the theoretical (default) mV to pH calibration and checked using standard pH buffers (pH 1,4, 7, and 10). Significant deviations in pH measurements resulting from the out of tolerance condition are easily identified by the instrument operator. Weekly checks are documented in Scientific Notebook 308.

Action to Correct Nonconformance:

The instrument was adjusted and returned in tolerance.

Target date for completion: 4/11/2005

Proposed by: Darrell S. Dunn

Date: 3/24/2005

PART 3: APPROVAL

Element Manager: [Signature]

Date: 3/25/2005

Director of QA: [Signature]

Date: 3/28/2005

Comments/Instructions:

PART 4: CLOSE OUT

Comments: No additional action is required.

Distribution:

Verified by: [Signature]

Date: 4/8/05

To: Darrell Dunn, Div. 20, B57

From: Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Date: Jul. 13, 2004

Subject: Out-of-tolerance Notice

The purpose of this notice is to alert you of a condition, which may have caused erroneous measurements affecting safety or the quality of products or services your organization provides. The attached as-found readings are provided for your evaluation to determine if the instrument listed below had an impact and if further action is required.

When the as-found results are near the specification limit, +/- a margin less than the measurement uncertainty, it is not possible to state in-tolerance or out-of-tolerance with a 95% level of confidence. It is the Institute Calibration Laboratory policy that the client is made aware of this situation because the end-user is taking some of the risk that the instrument listed below may not meet the end-user measurement requirements.

Your review/evaluation should be conducted in accordance with your organizational quality policy and procedural requirements. If we can be of further assistance, please contact the Calibration Laboratory at 522-5215.

Manufacturer: Orion **Model:** EA 920

Description: Expandable Ion Analyzer

Serial Number: TV64A

Asset Number: 5352 **User ID Number:**

Last Calibration: 7/15/2003

Date Received for Service: Jul. 12, 2004 **Work Order Number:** 444059852

Service Requested: Scheduled calibration

Remarks: Unit out of tolerance on Channel 2.
See attached data.

OUT OF TOLERANCE

Southwest Research Institute
Calibration Laboratory
Calibration Report

Work Order:	444059852	Mfr.	ORION	Technician	TJH
Asset No.	005352	Model	EA 920	Cal Date.	13-Jul-04
Serial No.	TV64A	Type.	ION ANALYZER		
Remarks:					
LIMITED CAL: mVolts Only					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	As Found
Ch 1	mVolts	mVolts	mVolts	mVolts	mVolts	Result
	1000.0	999.6	-0.4	1.0	0.12	Pass
	-1000.0	-999.8	0.2	1.0	0.12	Pass
Ch 2	mVolts	mVolts	mVolts	mVolts	mVolts	
	1000.0	754.7	-245.3	1.0	0.12	Fail
	-1000.0	-1243.3	-243.3	1.0	0.12	Fail
END OF REPORT						



SOUTHWEST RESEARCH INSTITUTE™

6220 Culebra Road, P.O. Drawer 28510
Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692

Certificate of Calibration

Submitted By: DIV20
Address: B57
Contact: DARRELL DUNN
Manufacturer Model: ORION EA 920
Description: EXPANDABLE IONANALYZER
Serial No: TV64A
Asset No: 005352
Procedure: CL-79, Jun/99

Work Order: 444059852
Date Issued: Aug 11, 2004
Calibration Date: Aug 11, 2004
****Calibration Due:** Aug 11, 2005
Calibration Location: Bldg. 64
Environment: Temp. 73.0°F Hum. 40 %RH
***As Found:** OUT OF TOLERANCE
***As Left:** IN TOLERANCE

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 1999 and ANSI/NCCL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of $k=2$ to approximate a 95% confidence level. See Remarks or attached Calibration Report with the same Work Order number for calibration data.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: Limited Cal: Millivolt Use Only

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
000182	FLUKE	5700A/EP	CALIBRATOR	Sep 08, 04

Approved by: Walt Hill
Metrology Group Leader
m:\Nona2\al.rpt Rev date 11, May 04


Measurements by: Scott Kester
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Calibration Report

Work Order:	444059852	Mfr.	ORION	Technician	SRK
Asset No.	005352	Model	EA 920		
Serial No.	TV64A	Type.	ION ANALYZER	Cal Date.	11-Aug-04
Remarks:					
LIMITED CAL: mVolts Only					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Left
Ch 1	mVolts	mVolts	mVolts	mVolts	mVolts	Result
	1000.0	999.9	-0.1	1.0	0.12	Pass
	-1000.0	-1000.2	-0.2	1.0	0.12	Pass
Ch 2	mVolts	mVolts	mVolts	mVolts	mVolts	
	1000.0	999.9	-0.1	1.0	0.12	Pass
	-1000.0	-1000.3	-0.3	1.0	0.12	Pass

END OF REPORT