

# SOUTHWEST RESEARCH INSTITUTE®

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**To:** Don Bannon, Div 20, Ext 5118

**From:** Walt Hill, Group Leader  
Institute Calibration Laboratory

**Date:** Sep 06, 2005

**Subject:** Out-of-tolerance Notice

The as-found condition of the equipment listed below may have caused erroneous measurements affecting safety or quality of services your organization provides customers. The attached measurement report is provided for your evaluation to determine the impact and if further action is required.

When the as-found results are near the test point limits, +/- the measurement uncertainty, it is not possible to state in-tolerance or out-of-tolerance with a 95% level of confidence. Institute Calibration Laboratory policy is to notify the customer because there is a risk the instrument may not meet measurement requirements.

Your evaluation should be conducted in accordance with your organization's quality policy and procedural requirements. If you have any question or need additional assistance, please contact the Institute Calibration Laboratory at 522-5215.

**Manufacturer:** Orion

**Model:**

**Description:** Expandable Ionanalyzer

**Serial Number:** TV64A

**Asset Number:** 5352

**User ID Number:**

**Last Calibration:** Aug 11, 2005

**Date Received for Service:** Mar. 14, 2001 **Work Order Number:** 303065338

**Service Requested:** Scheduled calibration

**Remarks:** Ch 2 out of tolerance, see data sheet. Requires repair.

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303065338	Mfr:	ORION	Technician:	blt
Asset No:	005352	Model:	EA 920	Cal Date:	06-Sep-05
Serial No:	TV64A	Type:	ION ANALYZER		
Remarks:					
LIMITED CAL: mVolts Only					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found
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	865.8	-134.2	1.0	0.12	Fail
	-1000.0	-1157.3	-157.3	1.0	0.12	Fail

END OF REPORT

**Don Bannon**

**From:** Bob Trollinger [robert.trollinger@swri.org]  
**Sent:** Tuesday, September 06, 2005 3:08 PM  
**To:** don.bannon@swri.org  
**Subject:** Request to proceed.dot.doc

**S O U T H W E S T   R E S E A R C H  
I N S T I T U T E ®**

**To:** Don Bannon, Div 20, Ext 5118  
**From:** Institute Calibration Laboratory, Bob Trollinger  
**Date:** September 6, 2005  
**Subject:** Review of Work Request Number 303065338

The work you requested is held pending your review. Please review the information provided and respond with your approval or further instructions for work to proceed. Return a signed copy via mail to Cal Lab Bldg 64, FAX (522-4834) or reply to this email. If you have questions or require additional information please call 522-5215.

Unit Received: Aug 08, 2005                      Work Requested: Cal  
Manufacturer: Orion                      Model: EX 920                      Description: Expandable Analyzer  
Serial Number: TV64A                      Asset Number: 5352                      User ID:

Cause of Review: CH 2 Out of Tolerance. Requires repair. Do you want the item repaired, limited to CH 1 only or returned AS IS?  
If no reply has been received by Sep 16, 2005 the unit will be returned without action.

Approved ( )    Disapproved return unit as is ( )                      Date: 9 SEP 2005

Instructions ( ) As per Xihua He, Ph.D: if ch. 2 can be repaired for \$500 or less then proceed with repair. If the cost of repair is greater than \$500 then no repair is authorized. In that case only calibrate ch. 1.

Authorized by Don Bannon, ext. 5118                      DR Bannon  
Print or Type Name                      Signature

Thank you for your timely response,

Walt Hill, Metrology Group Leader  
Institute calibration Laboratory