



COMMITTEE D02 on PETROLEUM PRODUCTS, LIQUID FUELS, AND LUBRICANTS

CHAIRMAN: Randy F Jennings, Tennessee Dept Of Agric, P O Box 40627, Nashville, TN 37204, United States (615) 837-5150, Fax: (615) 837-5327, e-mail: randy.jennings@tn.gov

FIRST VICE CHAIRMAN: James J Simnick, Bp America, 150 Warrenville Rd, Naperville, IL 60563, United States (630) 420-5936, Fax: (630) 420-4831, e-mail: simnicjj@bp.com

SECOND VICE CHAIRMAN: Michael A Collier, Petroleum Analyzer Co Lp, 21114 Hwy 113, Custer Park, IL 60481, United States (815) 458-0216, Fax: (815) 458-0217, e-mail: michael.collier@paclp.com

SECOND SECRETARY: Hind M Abi-Akar, Caterpillar Inc, Building H2000, Old Galena Road, Mossville, IL 61552, United States (309) 578-9553, e-mail: abi-akar_hind@cat.com

SECRETARY: Scott Fenwick, National Biodiesel Board, PO Box 104848, Jefferson City, MO 65110-4898, United States (800) 841-5849, Fax: (537) 635-7913, e-mail: sfenwick@biodiesel.org

STAFF MANAGER: Alyson Fick, (610) 832-9710, e-mail: afick@astm.org

Sequence VIII Surveillance Panel Conference Call Minutes
Friday May 13, 2022
9:00-10:00 AM CDT

Minutes recorded by Patrick Lang

Direct any comments or corrections to: patrick.lang@swri.org

The attendance list can be found as attachment # 1.

Agenda:

The agenda can be found as attachment # 2.

Chairman Lang commented to the group that we would not be taking care of routine business during this meeting. The focus will be updating the panel on the initial bearing analysis of the 02-22 bearing batch and the plan for proving them out.

Pat Lang went through the SEM analysis of the bearing surface which compared the 06-16 (current batch) to the new batch 02-22. The presentation can be found as attachment #3.

A summary of the observations are as follows:

- 1) The cross-section analysis of the bearings show copper and lead concentrations in the 02-22 bearings to be within a reasonable range compared to history but show a slight bias to higher copper and lower lead.
- 2) The SEM photos of the cross-section suggest that the lead at the surface is more recessed compare to the current 06-16 batch.
- 3) The surface scan (no preparation to the surface done before the analysis) suggest that the 02-22 batch has more lead voids (slide 6) than the current batch.

Pat commented that although there are some differences in the bearings, it is unknown how it will manifest in terms of bearing weight loss. As a result his recommendation was to proceed with a couple of prove-out tests to get a read on how these bearings will perform.

Adrian agreed with Pat's comments specifically that the copper/lead concentrations shown on the bar chart in the presentation are within a normal range but the bigger concern is the appearance of the surface in the photos provided.

Jason Bowden commented that the machining marks looked different between the two batches; the 02-22 photos seemed to show more detail. Pat commented that he was not sure of the reason for that; perhaps a resolution setting on the SEM's camera.

The question was brought up on the current level of bearings in inventory. Dan Lanctot of TEI stated that there are currently 70 sets of bearings in TEI's inventory. The group agreed that this was a four to six month supply at the current use rate.

Andy Ritchie agreed that the next logical step would be to run two tests on one oil, one at each of the two calibrated labs.

Pat recommended using oil 1006 since it has a higher bearing weight loss target than oil 704. Andy agreed and commented that both oils 1006 and 704 are not adequate for today's standards.

Andy reminded the group that the TMC has 1000 gallons of 1009 in inventory and is available if the panel is interested in bringing it back as a Sequence VIII oil.

Motion: Andy Ritchie/Robert Stockwell

Run two tests on oil TMC 1006 with the 02-22 bearing batch. One test to be run at SwRI and one test to be run at Intertek. Call another surveillance panel meeting as soon as the test data is available.

Motion passed with no objections.

Adjournment:

The meeting was adjourned at 9:30 AM CDT.

Next meeting at the call of the chairman

Attachment #1

Attendance List

**ASTM SEQUENCE VIII SURVEILLANCE PANEL
VOTING MEMBERSHIP ATTENDANCE RECORD**

Name	Address	Attendance
Alfonso, Adrian	Intertek 5404 Bandera Road San Antonio, TX 78238 Phone:210-647-9429 adrian.alfonso@intertek.com	Present 5-13-22
Bowden, Jason	OH Technologies, Inc. P.O. Box 5039 Mentor, OH 44061-5039 Phone: 440-354-7007 dhbowden@ohtech.com	Present 5-13-22
Savant, Amol	Valvoline 21st and Front Streets Ashland, KY 41101 Phone: 606-585-8982 acsavant@valvoline.com	
Porter, Christian	Afton Chemical 500 Spring Street P.O. Box 2158 Richmond, VA 23218 Christian.porter@aftonchemical.com	Bob Campbell for Christian Present 5-13-22
Grundza, Rich	ASTM/TMC 6555 Penn Ave Pittsburgh, PA 15206-4489 Phone: 412-365-1031 reg@astmtmc.cmu.edu	Present 5-13-22
Hsu, Jeff	Shell J.Hsu@shell.com	
Tumati, Prasad	Haltermann Solutions Channelview, TX Phone No: 313-300-8300 ptumati@jhaltermann.com	Present 5-13-22
Hendrix, Anthony	Southwest Research Institute 6220 Culebra Road P.O. Box 28510 San Antonio, TX 78228-0510 Phone: 210-522-3720 ahendrix@swri.org	Present 5-13-22

**ASTM SEQUENCE VIII SURVEILLANCE PANEL
VOTING MEMBERSHIP ATTENDANCE RECORD**

Name	Address	Attendance
Lanctot, Dan	Test Engineering Inc. 12718 Cimarron Path San Antonio, TX 78249-3423 Phone: 210-690-1958 dlanctot@tei-net.com	Present 5-13-22
Kowalski, Teri	Toyota Motor North America, Inc. 1555 Woodridge Ann Arbor, Mi 48105 Phone: 734-995-4032 Cell: 734-355-8082 teri.kowalski@tema.toyota.com	
Cosgrove, Bradley	GM Global Propulsion Systems Phone: 313-590-2186 Bradley.Cosgrove@gm.com	
Rubas, Paul	ExxonMobil Research and Engineering Company 600 Billingsport Rd. Paulsboro, NJ 08066 Email: paul.j.rubas@exxonmobil.com	Present 5-13-22
Tang, Haiying	Chrysler (FCA) Phone: 248-512-0593 haiying.tang@fcagroup.com	
Stockwell, Robert	Chevron Oronite Company LLC 4502 Centerview Drive Suite 210 San Antonio, TX 78228 Phone: 210-232-3188 Robert.stockwell@chevron.com	Present 5-13-22
Marks, Brian	BP Lubricants USA 1500 Valley Rd Wayne, NJ 07470 Phone: Brian.Marks@BP.com	Preston Tarry Present 5-13-22

**ASTM SEQUENCE VIII SURVEILLANCE PANEL
VOTING MEMBERSHIP ATTENDANCE RECORD**

Name	Address	Attendance
Deegan, Mike	Ford Motor Company 17228 Federal Drive Allen Park, MI 48101 Phone: 313-805-8942 mdeegan@ford.com	Present 5-13-22
Ritchie, Andy	Infineum P.O. Box 735 1900 East Linden Ave. Linden, NJ 07036-0735 Phone: 908-474-2097 andrew.ritchie@infineum.com	Present 5-13-22
Szappanos, George	Lubrizol Corporation 29400 Lakeland Blvd. Wickliffe, OH 44092	Joe Gleason for George Present 5-13-22

Attachment #2

Agenda

Sequence VIII Surveillance Panel Virtual Meeting Agenda
May 13, 2022
9:00 – 10:00 AM Central

1. Welcome
2. Membership Changes/Attendance
3. Discuss new Bearing Batch
 - a. SEM analysis of 02-22 Batch (Pat Lang)
 - b. Determine plan to prove-out new batch (All)
4. Next Meeting
5. Adjournment

Attachment # 3

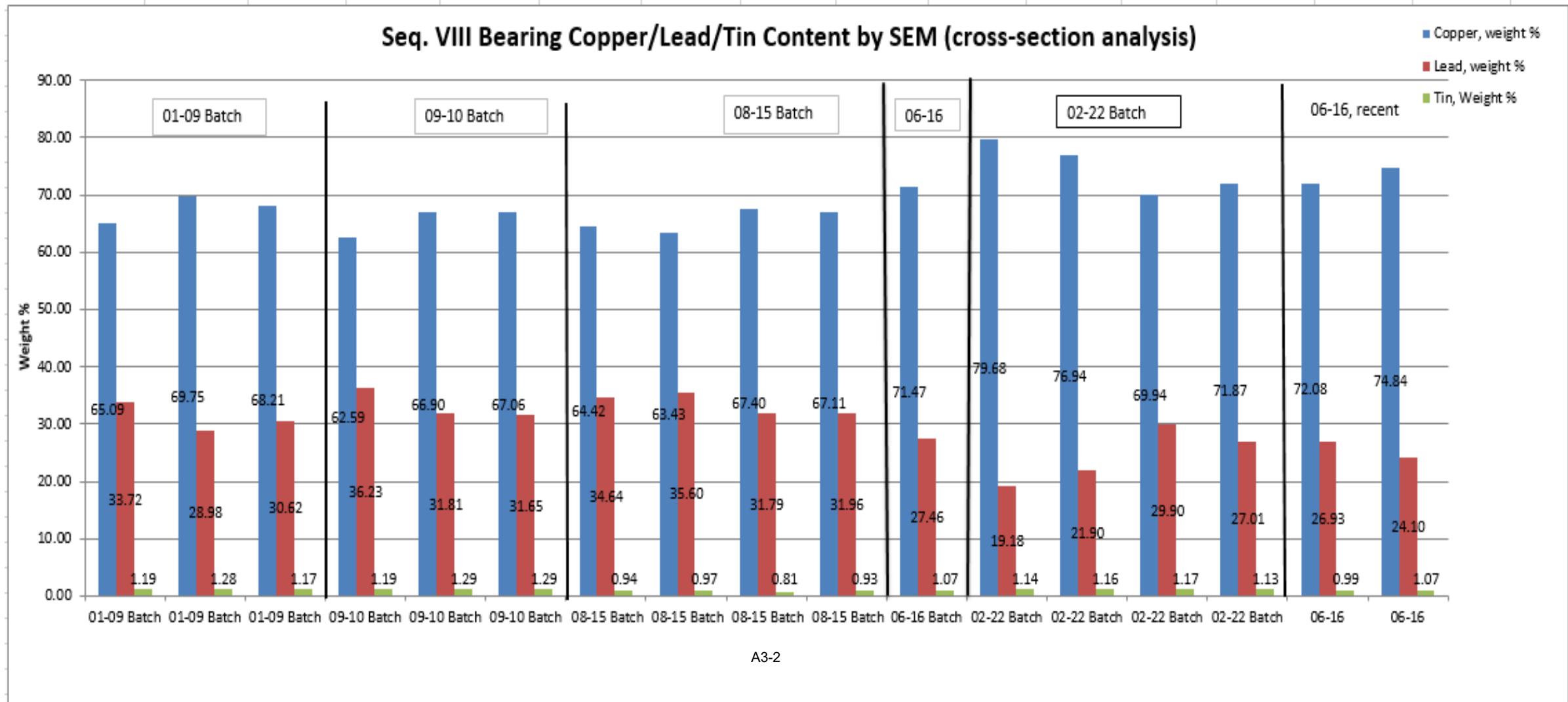
SEM Report on 02-22 Bearing Batch

SEM Analysis of Sequence VIII Bearing Batch 02-22

May 2, 2022

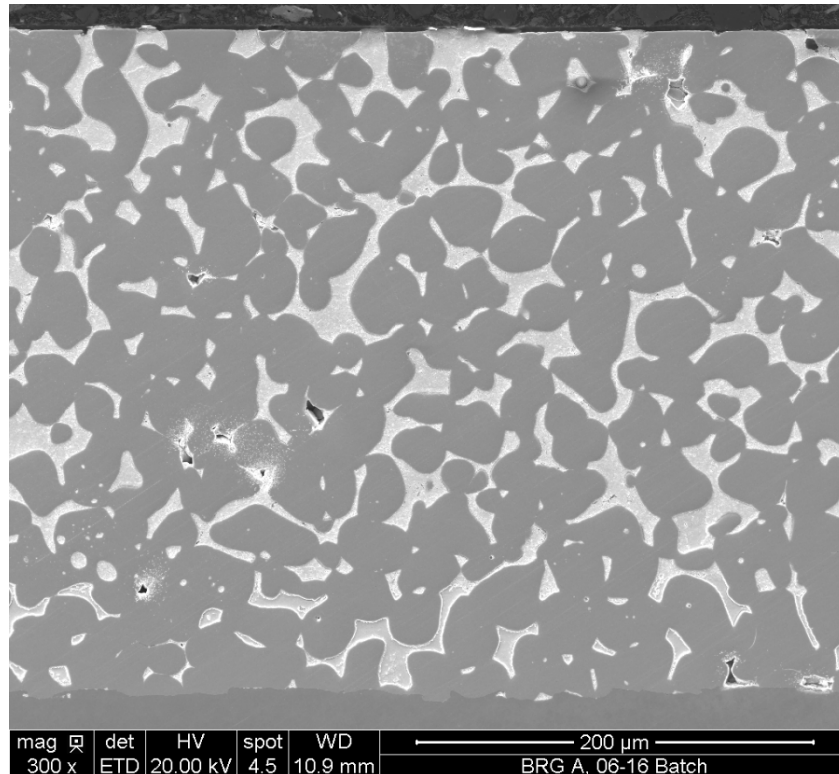
Prepared by: Patrick Lang, SwRI

Comparison of Historic Copper & Lead Concentrations for H-24 Bearings

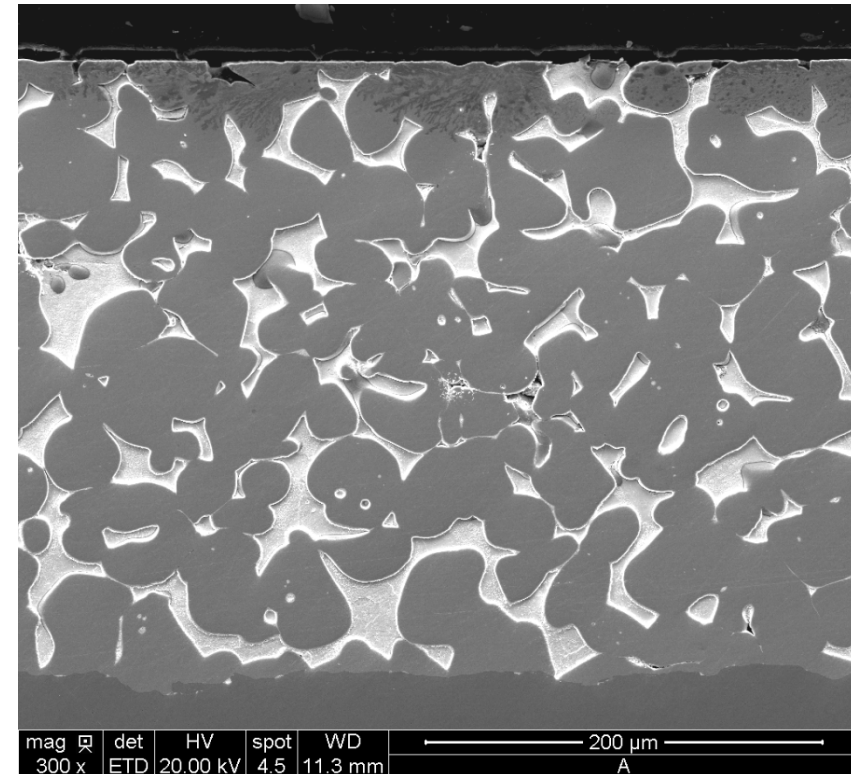


Visual Comparison of 06-16 and 02-22 Batches (photos are a cross-section, mounted and polished)

Current Batch 06-16 (Sample A)

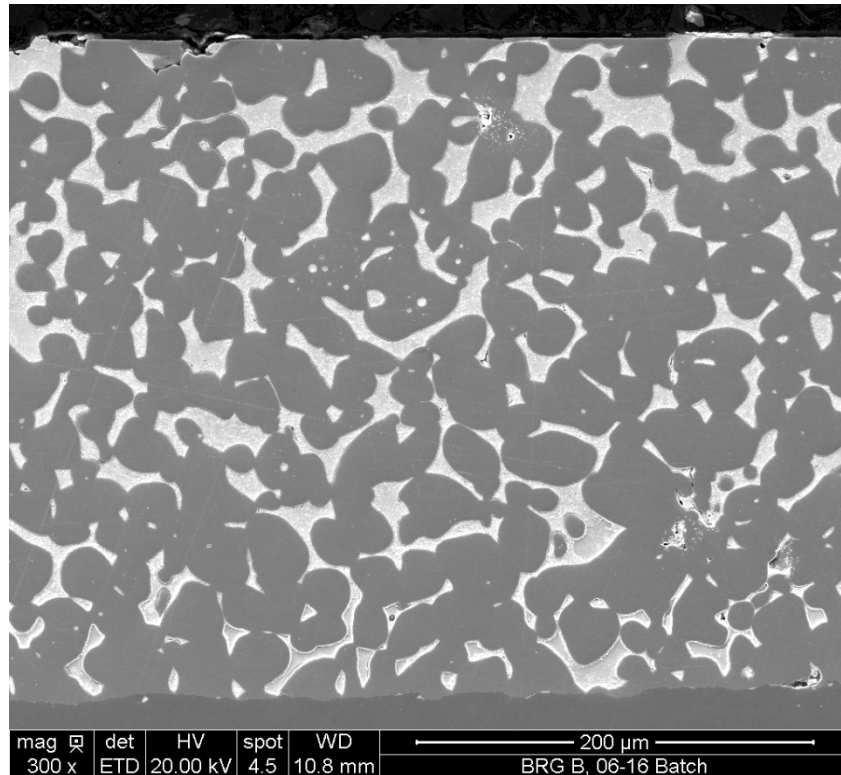


New Batch 02-22 (Sample A)

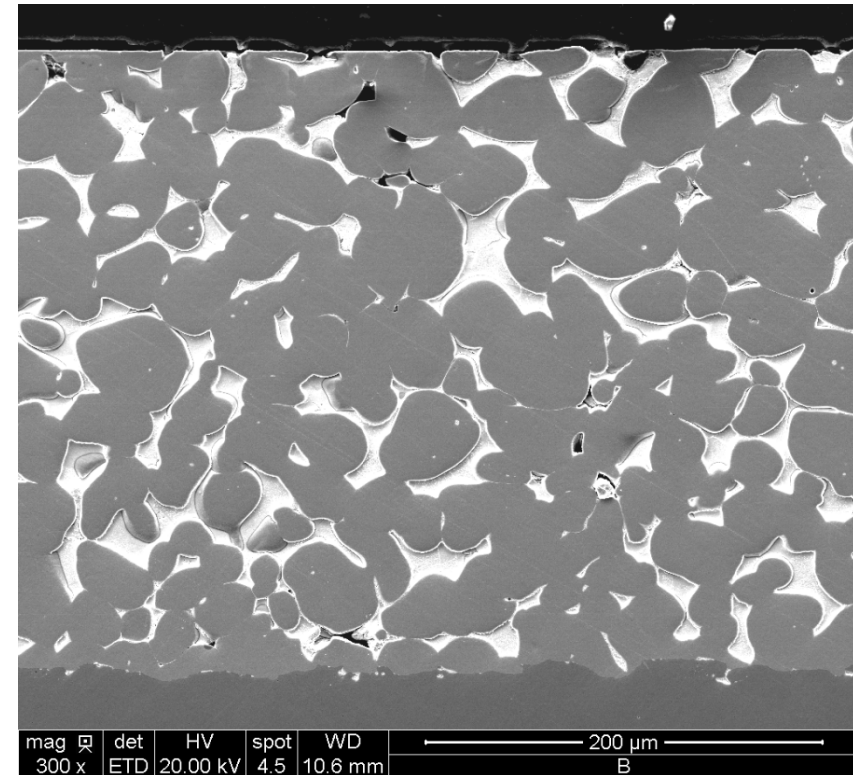


Visual Comparison of 06-16 and 02-22 Batches (photos are a cross-section, mounted and polished)

Current Batch 06-16 (Sample B)

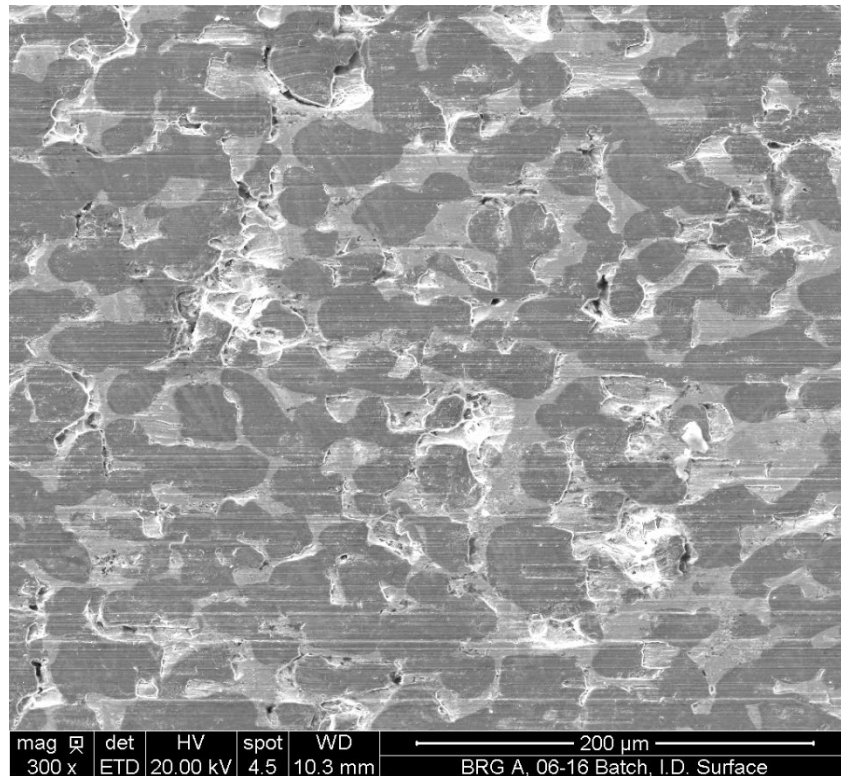


New Batch 02-22 (Sample B)

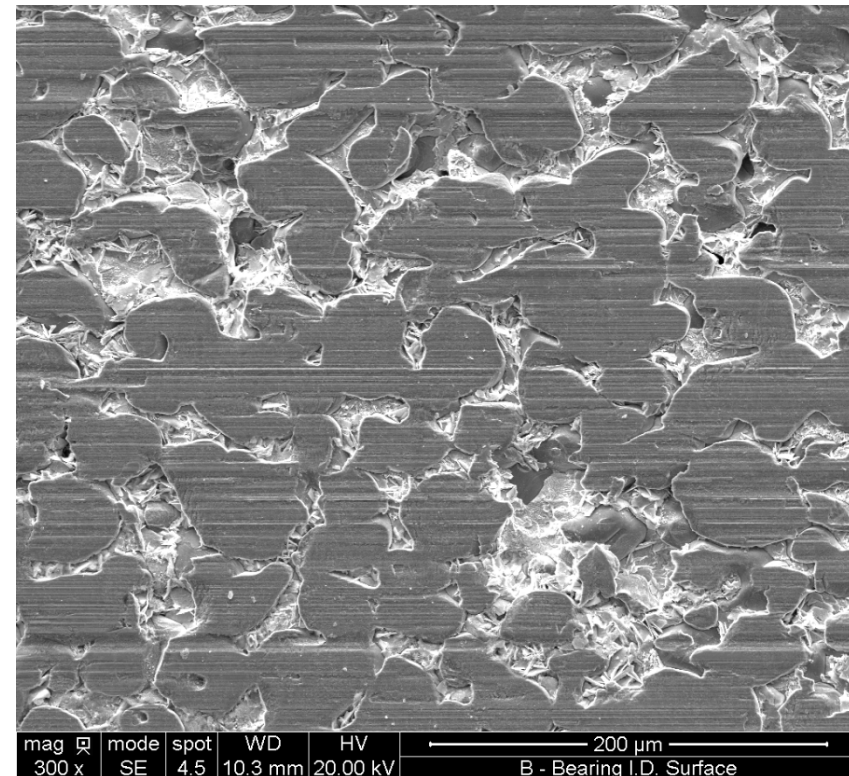


Surface Scan Comparison of 02-22 and 06-16 batches. Note more voids in 02-22 Sample.

06-16 Sample A



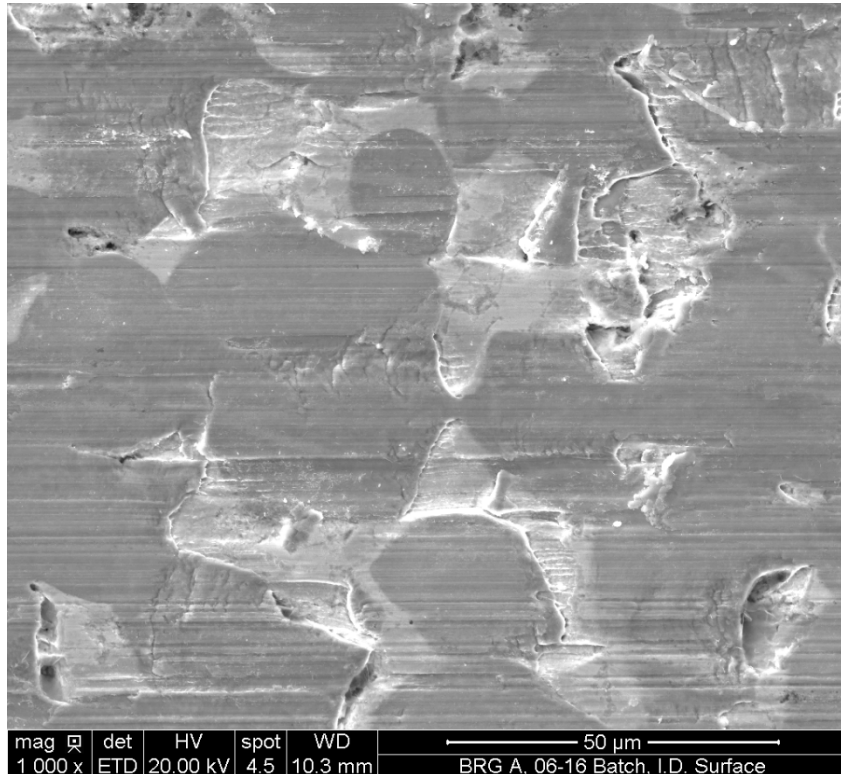
02-22 Sample A



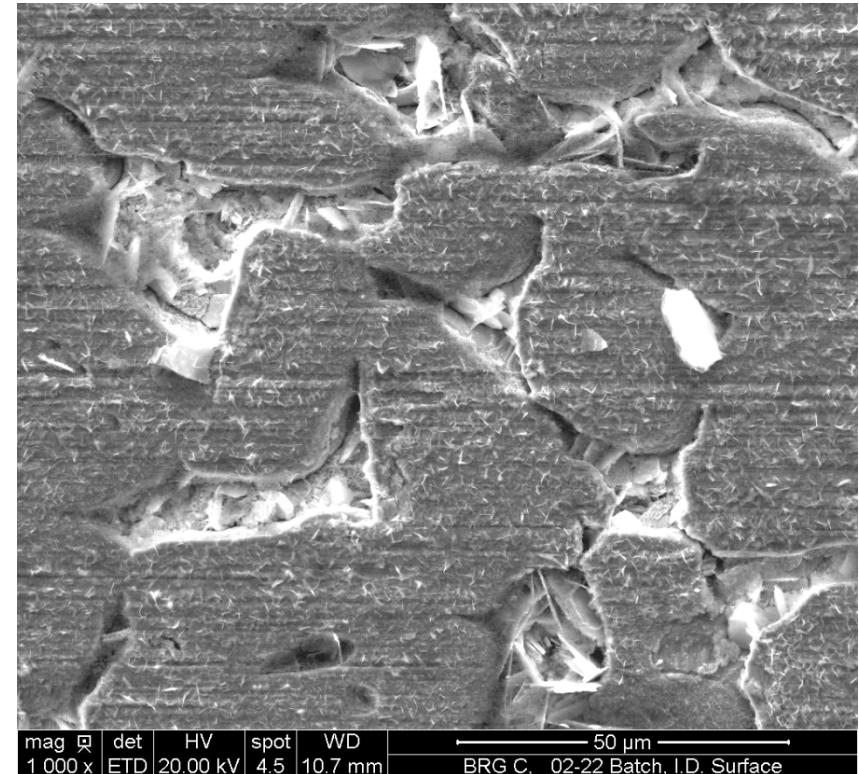
A3-5

Surface Scan of 06-16 and 02-22 @ 1000X Magnification

06-16 Sample A



02-22 Sample C



Summary of Initial Observations on 02-22 Bearing batch

- Comparing the 02-22 bearing batch with the recent analysis of the 06-16 batch (analysis done April 2022), lead and copper concentrations based on the cross-section analysis are similar but the two samples from the 02-22 batch showed more variation than desirable. One looks fairly typical but the other is lower on lead concentration compared to historic values.
- SEM surface scan suggests that there are lead voids in the 02-22 batch that are more pronounced than the 06-16 batch.