Shivani Sidhar
Regulatory Case Manager
San Diego Gas and Electric Company
8330 Century Park Court
San Diego, CA 92123-1530

January 12, 2017

**Sent Via Electronic Mail**

A.15-09-010
Wildfire Expense Memorandum Account

Jennifer S. Betts, Esq.
16305 Salida del Sol
Ramona, CA 92065

**Re: SDG&E Response to SDCAN Data Request 02 – Wildfire Expense Memorandum Account**

Dear Ms.Betts,

Attached please find SDG&E's response to SDCAN Data Request 02 (SDCAN-SDG&E-A.15-09-010-02), dated December 23, 2016. SDG&E's response include general objections, narrative responses and one attachment.

If you have any questions or require additional information, please feel free to contact me by phone at (858) 637-7914 or e-mail: **SSidhar@semprautilities.com**.

Sincerely,

**Signed**

Shivani Sidhar
Regulatory Case Manager

Enclosures

cc: Chris Lyons – SDG&E
Stacie Atkinson – SDG&E
Michael Shames - SDCAN

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

## I. GENERAL OBJECTIONS

1. SDG&E objects generally to each request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, statutory mediation confidentiality (see Cal. Evid. Code §§ 1115-28) or any other applicable privilege or evidentiary doctrine. No information protected by such privileges will be knowingly disclosed.

2. SDG&E objects generally to each request that is overly broad and unduly burdensome. As part of this objection, SDG&E objects to discovery requests that seek "all documents" or "each and every document" and similarly worded requests on the grounds that such requests are unreasonably cumulative and duplicative, fail to identify with specificity the information or material sought, and create an unreasonable burden compared to the likelihood of such requests leading to the discovery of admissible evidence. Notwithstanding this objection, SDG&E will produce all relevant, non-privileged information not otherwise objected to that it is able to locate after reasonable inquiry.

3. SDG&E objects generally to each request to the extent that the request is vague, unintelligible, or fails to identify with sufficient particularity the information or documents requested and, thus, is not susceptible to response at this time.

4. SDG&E objects generally to each request that: (1) asks for a legal conclusion to be drawn or legal research to be conducted on the grounds that such requests are not designed to elicit facts and, thus, violate the principles underlying discovery; (2) requires SDG&E to do legal research or perform additional analyses to respond to the request; or (3) seeks access to counsel's legal research, analyses or theories.

5. SDG&E objects generally to each request to the extent it seeks information or documents that are not reasonably calculated to lead to the discovery of admissible evidence.

6. SDG&E objects generally to each request to the extent that it is unreasonably duplicative or cumulative of other requests.

7. SDG&E objects generally to each request to the extent that it would require SDG&E to search its files for matters of public record such as filings, testimony, transcripts, decisions, orders, reports or other information, whether available in the public domain or through FERC or CPUC sources.

8. SDG&E objects generally to each request to the extent that it seeks information or documents that are not in the possession, custody or control of SDG&E.

9. SDG&E objects generally to each request to the extent that the request would impose an undue burden on SDG&E by requiring it to perform studies, analyses or calculations or to create documents that do not currently exist.

10. SDG&E objects generally to each request that calls for information that contains trade secrets, is privileged or otherwise entitled to confidential protection by reference to statutory protection. SDG&E objects to providing such information absent an appropriate protective order. With respect to the Office of Ratepayer Advocates, however, SDG&E will produce such information subject to the requirements of Public Utilities Code Section 583 and General Order 66-C.

## II. EXPRESS RESERVATIONS

1. No response, objection, limitation or lack thereof, set forth in these responses and objections shall be deemed an admission or representation by SDG&E as to the existence or nonexistence of the requested information or that any such information is relevant or admissible.

2. SDG&E reserves the right to modify or supplement its responses and objections to each request, and the provision of any information pursuant to any request is not a waiver of that right.

3. SDG&E reserves the right to rely, at any time, upon subsequently discovered information.

4. These responses are made solely for the purpose of this proceeding (A.15-09-010) and for no other purpose.

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## III. RESPONSES

SDG&E objects to SDCAN's Second Set of Data Requests. Attached to these requests are 1,013 pages of "Exhibits" that SDG&E is asked to review and respond to in connection with these requests. This approach to discovery is unduly burdensome and a waste of resources. Furthermore, it appears that SDCAN is seeking to prove its conspiracy theory allegations regarding the Witch Fire ignition through discovery requests that are being submitted months after it failed to support those allegations in its Direct Testimony. The appropriate time, if any, for such requests was prior to submitting Ms. Betts' Direct Testimony. While certain requests purport to reference Mr. Yari's Prepared Rebuttal Testimony on Behalf of SDG&E, most of the requests do not relate in any way to either his testimony, or the rebuttal testimony of any other SDG&E witness. Thus, it is unclear what relevance, if any, such requests have.

**Request 1:**

Pertinent to the Prepared Rebuttal Testimony on Behalf of SDG&E dated December 16, 2016, confirm or deny that none of such Prepared Rebuttal Testimony addressed the allegations (or evidence offered in support of such allegations) in the Direct Testimony of Jennifer Betts on behalf of SDCAN re: SDG&E Complicity and Concealment in 2007 Wildfires dated October 17, 2016 that repairs were made to the facilities alleged to have been involved in the ignition of the Witch Fire immediately after TL637 was de-energized.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. SDG&E further objects to this request on the grounds that it seeks information that is not within the scope of Phase 1 of this proceeding, which concerns "SDG&E's operation and maintenance of its facilities prior to the 2007 Wildfires." Scoping Memo at 4. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Confirmed. SDG&E made no such repairs. See the response with the question in Request 24.

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**Request 2:**

Pertinent to the Prepared Rebuttal Testimony on Behalf of SDG&E dated December 16, 2016, confirm or deny that none of such Prepared Rebuttal Testimony addressed the allegations in the Direct Testimony of Jennifer Betts on behalf of SDCAN re: SDG&E Complicity and Concealment in 2007 Wildfires dated October 17, 2016 that SDG&E's transmission down guys were not constructed as designed by SDG&E's own Transmission Standards for grounding transmission down guys by using a ground rod that is connected by means of an appropriate conductor between the down guy and the ground rod.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Denied. See Mr. Yari's Rebuttal Testimony, including Appendix 16.

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**Request 3:**

Pertinent to the Prepared Rebuttal Testimony of Ali Yari on Behalf of SDG&E dated December 16, 2016, please provide a copy of all test results from the Joint Inspection and Testing Protocols referenced in the attached Exhibit to Question 3, Notice of Lodging in Support of San Diego Gas & Electric Company's Opposition to Plaintiffs' Motion for Preliminary Injunction to Preserve Evidence, including, but not limited to any and all test results from:

a) the General Protocol for the Inspection and Testing of Evidence – Witch Creek Wildfire Area, dated May 24, 2008;
b) the General Protocol for the Removal and Preservation of Evidence – Witch Creek Wildfire Area;
c) the Protocol for Metallurgical Analysis of Evidence Removed from the Witch Fire Origin Area, dated October 21, 2009; and
d) the Protocol for Removal and Inspection of Additional Conductor Witch Creek Fire Area used for the takedown of additional conductor in June 2010.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 2, 3, 5 and 10. SDG&E further objects to this request on the grounds that it is not "Pertinent to the Prepared Rebuttal Testimony of Ali Yari on Behalf of SDG&E."

**Response:**

Ms. Betts can seek access to this information through her attorneys in the 2007 Wildfire civil litigation.

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**Request 4:**

Pertinent to the Prepared Rebuttal Testimony of Ali Yari on Behalf of SDG&E dated December 16, 2016, please provide copies of any and all test results and/or reports from any and all "testing" or "additional investigation" referred to in the various pages in the attached Exhibit to Question 4.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Ms. Betts can seek access to this information through her attorneys in the 2007 Wildfire civil litigation.

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**Request 5:**

Pertinent to the Prepared Rebuttal Testimony of Ali Yari on Behalf of SDG&E dated December 16, 2016, please provide copies of the test results for the "black dots" on the guy markers on Pole Number 416657 referred to in the attached Exhibit to Question 5.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

See Attachment Bureau Veritas 8/15/08 Report on Guy Guard Testing hereto.

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**Request 6:**

Pertinent to the Prepared Rebuttal Testimony of Ali Yari on Behalf of SDG&E dated December 16, 2016, please provide copies of the following Deposition Transcripts, including all Exhibits, from the 2007 Wildfire Litigation:

a) Jim Wood dated January 15, 2009,

b) Jeff Wood dated January 16, 2009,

c) James Minton dated April 11, 2014,

d) Timothy Knowd dated June 30, 2014,

e) Henry Flynn dated September 15, 2014,

f) Ralph Amerson dated September 17, 2014,

g) Dave Kindig dated September 19, 2014,

h) Sean Long dated September 30, 2014,

i) Darryn Blanchard dated October 13, 2014,

j) Rudy Montemayor dated October 13, 2014 and

k) Edward L. Clark, Jr. dated May 20, 2016

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3, 5 and 7. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Ms. Betts can seek access to this information through her attorneys in the 2007 Wildfire civil litigation.

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**Request 7:**

Pertinent to the Prepared Rebuttal Testimony of Ali Yari on Behalf of SDG&E dated December 16, 2016, please provide copies of the Exhibits to the following Deposition Transcripts from the 2007 Wildfire Litigation (Copies of the itemization of such Deposition Exhibits are enclosed in the attached Exhibit to Question 7). :

a) Eric Johnson dated June 3, 2009,

b) Matthew Gilbert dated June 4, 2009,

c) John Hotta dated January 8, 2010,

d) John Hotta (Vol. 2) dated January 21, 2010,

e) Joseph Bret Ball dated March 30, 2010 and

f) Michael Venable dated March 31, 2010

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3, 5 and 7. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Ms. Betts can seek access to this information through her attorneys in the 2007 Wildfire civil litigation.

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**Request 8:**

Please provide copies of all operation shift supervisor (OSS) logs from Station M and Station Y and all Distribution Running Logs from Station L for the periods October 19, 2007 through October 26, 2007.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3, 5 and 7.

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**Request 9:**

Please provide copies of all audio files from Station M, Station L, Station A and Station Y for the period October 21, 2007 through October 22, 2007 which reflect or include conversations between SDG&E and CalFire and/or DynCorp personnel and/or United States Forest Service personnel.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3, 5 and 7.

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**Request 10:**

Please provide copies of all audio files from Stations M, Station L and Station Y for the periods October 21, 2007 through October 26, 2007 which reflect or include conversations between SDG&E and CalFire and/or DynCorp personnel.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 11:**

Confirm or deny whether CalFire personnel, DynCorp personnel or any other person requested that SDG&E de-energize TL637 prior to dropping fire retardant on TL637 and/or confirmed that TL637 was de-energized prior to dropping fire retardant on TL637.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

SDG&E is not aware of any such request.

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**Request 12:**

Does SDG&E dispute the statement of fact made by Fire Captain Specialist Matthew Gilbert, in his Deposition dated May 26, 2009 in the 2007 Wildfire Litigation indicated, at Page 231, that in: "[t]he areas that I examined on November 14, 2007 were the areas identified by Larry Hall as areas where damage had occurred to the power line – the conductor"? A copy of the May 26, 2009 Deposition of Matthew Gilbert is attached as Exhibit to Question 12 for reference. If SDG&E disputes this stated fact, please provide all documents that serve as the basis for SDG&E's dispute.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Mr. Gilbert's testimony speaks for itself.

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**Request 13:**

Does SDG&E dispute the accuracy of the photographs Bates-stamped as PARE000554, PARE000555 and PARE000547 (attached hereto as Exhibit to Question 13) which depict burned poles on TL637 after the Witch Creek Fire? If SDG&E disputes the veracity of these photographs, please provide all documents that serve as the basis for SDG&E's dispute.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Photographs speak for themselves.

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**Request 14:**

Does SDG&E dispute that the second and third photographs submitted with the Prepared Direct Testimony of Jennifer S. Betts as "SDG&E TRANSMISSION LINE 637, POLE NO. Z416671 (#71), EDWARD L. CLARK, JR., DECEMBER 11, 2007" (attached hereto as Exhibit to Question 14) depict a cut-off pole stub adjacent to and in front of Pole 71? If SDG&E disputes the veracity of these photographs, please provide all documents that serve as the basis for SDG&E's dispute.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Photographs speak for themselves.

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**Request 15:**

Please state whether SDG&E replaced any transmission poles on TL637 between October 21, 2007 and December 31, 2007? If so, please identify, by Pole Number, which poles were replaced, the date of replacement, and the identity of any and all persons involved in such replacement.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 16:**

Please describe the reason for the "Conductor Splices" and the "Splice" between Poles Z416677 and Z416678 which are referenced in survey pages attached to the Rebuttal Testimony of the Consumer Protection and Safety Division Testimony of San Diego Gas & Company Regarding the Formal Witch and Rice Fire Investigations (I.08-11-006) dated June 22, 2009 (attached hereto as Exhibit to Question 16). Provide all documentation in SDG&E'S possession that relates to such "Conductor Splices" and "Splice" references.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 17:**

Provide all documentation in SDG&E's possession that relates to Fire Captain Specialist Matthew Gilbert locating a point of ignition in what he determined to be the specific origin area for the Witch Fire?

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

See the Investigation Report issued by Cal Fire into the Witch Fire.

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**Request 18:**

Confirm or deny whether Fire Captain Specialist Matthew Gilbert testified in his June 3, 2009 Deposition, at Page 52, that he never located the point of ignition of the Witch Fire within the area he identified as the specific origin area.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Mr. Gilbert's deposition testimony speaks for itself.

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**Request 19:**

On December 6, 2007, in response to the CPUC's November 15, 2007 email request concerning "CPUC Request – Incident Date and Location: 10/21/07, Hwy 78, 2W of Santa Isabel, Ramona, CA (Witch Fire)" that SDG&E provide the "[i]nstallation date, type of equipment, type of type of construction, type of configuration, last patrolling report including finding, last detailed inspection records including finding, for poles number Z416674 & Z416675 (note: Pole Z416676 was to be included instead of Z416674 per supplemental request)," SDG&E responded, in part, as follows:

> "Poles Z416675 and Z416676 were installed in 1960. Both are tangent wood pole structures with post-type insulators. The last ground line inspection for both poles was performed on 6/16/06 at which time there were no findings on Pole Z416675. The 6/16/06 report findings for Pole Z416676 are included with the attachments to this letter."

a) Please provide a copy of the "6/16/06 report findings for Pole Z416676" which were provided to the CPUC with the attachments to SDG&E's December 6, 2007 response.
b) Please confirm or deny whether, as of December 6, 2007, the last ground line inspection for poles on TL637 was performed on 6/16/06.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 20:**

Confirm or deny whether Poles Z416692, Z416694, Z416676, Z416674 and Z206030 on TL637 were designated "Non-Restorable Reject Poles" in the June 2006 Osmose Utilities report. (A copy of the deposition of Jason Milligan dated February 11, 2011 and related Osmose Utilities report are attached as Exhibit to Question 20.)

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 21:**

Confirm or deny whether Poles Z416692, Z416694, Z416676 and/or Z206030 on TL637 were replaced between June 16, 2006 and October 21, 2007 and, if so, provide all documentation in SDG&E'S possession that relates to any and all pole replacement(s).

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 22:**

Confirm or deny whether a climbing inspection was recommended for Pole Z416675 pursuant to the June 16, 2006 Osmose Utilities report.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 23:**

Confirm or deny whether a climbing inspection was conducted for Pole Z416675 on TL637 between June 16, 2006 and October 21, 2007 and, if a climbing inspection was conducted, provide all documentation in SDG&E'S possession that relates to such climbing inspection.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 24:**

On December 6, 2007, in response to the CPUC's November 15, 2007 email request concerning "CPUC Request – Incident Date and Location: 10/21/07, Hwy 78, 2W of Santa Isabel, Ramona, CA (Witch Fire)" that SDG&E provide the "[t]ype of repair made to SDG&E facilities as the result of the fire," SDG&E responded as follows:

> "To date, no repairs have been made on the poles in question as a result of the fire. Once investigative work is complete, SDG&E plans to perform the following work: Pole Z416674: Inspect and replace in-line guy anchors, as needed, and re-set wood pole, if needed. A longer term plan for replacement of this wood pole with a steel pole is under evaluation. Pole Z416675: Replace the wood pole with a steel pole; install longer insulators in a 1 over 2 configuration to allow leaving the existing wood pole in place for further investigations. Pole Z416676: Replace the wood with a steel pole; install longer insulators in a 1 over 2 configuration to allow leaving the existing wood pole in place for further investigations."

Please describe the reasons for SDG&E's response with respect to the planned work for Pole Z416674.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**Request 25:**

Please identify the location which CalFire Captain Eric Johnson testified to as being the origin of the Witch Fire during his June 3, 2009 deposition. (A copy of the Deposition of Eric Johnson, albeit without exhibits, is attached as Exhibit to Question 25.)

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5. Subject to the foregoing objections, SDG&E responds as follows.

**Response:**

Mr. Johnson's deposition speaks for itself.

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**Request 26:**

Please confirm the fact that SDG&E and/or Sempra Energy issued a check in the amount of $794,763.54 to the California District Attorneys Fund (ie. Commonly known as the "WiFiter Fund") in partial settlement of CalFire's claim against SDG&E/Sempra Energy for fire suppression costs related to the 2007 Wildfires. (See Exhibit 118 to the Declaration of William Warne in Support of Rule 60(d) Motion for Fraud Upon the Court, in United States of America v. Sierra Pacific Industries, et. al., U.S. District Court, Eastern District of California Case No. 2:09-cv-02445-WBS-AC, Docket Number 598-38, filed on October 9, 2014, at pg. 2, attached as Exhibit to Question 26.)

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

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**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 27:**

If SDG&E confirms the $794,763.54 check in Question 26 above, please confirm that this payment represents the single largest deposit by CalFire into the WiFiter Fund, as compared with all other deposits as evidenced in such Exhibit 118, pg. 2, attached as Exhibit to Question 26.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 28:**

Please provide a copy of the notice, pursuant to Appendix B, Paragraph 1 of D.06-04-055, that SDG&E provided to the designated CPUC staff and/or the Commission and/or CPSD (now SED) to report the October 21, 2007 McCoy Fire incident. A copy of the McCoy fire documents, relative to the 2007 Wildfire Litigation are attached as Exhibit to Question 28.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 29:**

Please provide a copy of the "written account," pursuant to Appendix B, Paragraph 2 of D.06-04-055, and/or a copy of the "report," pursuant to Appendix B, Paragraph 4 of D.06-04-055, that SDG&E provided to the designated CPUC staff and/or the Commission and/or CPSD (now SED) regarding SDG&E's report of the October 21, 2007 McCoy Fire incident.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 30:**

Confirm or deny whether SDG&E (or SDG&E contract personnel) were repairing and or replacing "lightning arrestors" in the aftermath of the McCoy Fire, as described in the McCoy Fire documents attached as Exhibit to Question 28, and in the Exhibit to this Question 30.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 31:**

Please provide a copy of the notice, pursuant to Appendix B, Paragraph 1 of D.06-04-055, that SDG&E and/or Southern California Gas Company provided to the designated CPUC staff and/or the Commission and/or CPSD (now SED) to report the May 18, 2008 electrocution death of Grant James Valentine.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 32:**

Please provide a copy of the "written account," pursuant to Appendix B, Paragraph 2 of D.06-04-055, and/or a copy of the "report," pursuant to Appendix B, Paragraph 4 of D.06-04-055, that SDG&E and/or Southern California Gas Company provided to the designated CPUC staff and/or the Commission and/or CPSD (now SED) regarding the May 18, 2008 electrocution death of Grant James Valentine.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 33:**

Please provide a copy of the notice, pursuant to Appendix B, Paragraph 1 of D.06-04-055, that SDG&E provided to the designated CPUC staff and/or the Commission and/or SED to report the August 28, 2015 electrocution (and September 1, 2015 death) of SDG&E lineman Thomas Michael Hopewell, as reported in the attached news story and obituary attached as Exhibit to Question 33.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 34:**

Please provide a copy of the "written account," pursuant to Appendix B, Paragraph 2 of D.06-04-055, and/or a copy of the "report," pursuant to Appendix B, Paragraph 4 of D.06-04-055, that SDG&E provided to the designated CPUC staff and/or the Commission and/or SED to report the August 28, 2015 electrocution (and September 1, 2015 death) of SDG&E lineman Thomas Michael Hopewell.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 35:**

Please provide a copy of the notice, pursuant to Appendix B, Paragraph 1 of D.06-04-055, that SDG&E provided to the designated CPUC staff and/or the Commission and/or SED to report the August 15, 2016 accident involving an SDG&E lineman, as reported in the news story attached as Exhibit to Question 35.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

**SDCAN DATA REQUEST**
**SDCAN-SDG&E DR-02, Q1-36**
**SDG&E WEMA PROCEEDING - A.15-09-010**
**SDG&E RESPONSE**
**DATE RECEIVED: December 23, 1016**
**DATE RESPONDED: January 12, 2017**

**Request 36:**

Please provide a copy of the "written account," pursuant to Appendix B, Paragraph 2 of D.06-04-055, and/or a copy of the "report," pursuant to Appendix B, Paragraph 4 of D.06-04-055, that SDG&E provided to the designated CPUC staff and/or the Commission and/or SED to report the August 15, 2016 accident involving an SDG&E lineman, as reported in the news story attached as Exhibit to Question 35.

**Objection:** SDG&E objects to this request on the grounds set forth in General Objections 3 and 5.

September 24, 2008

Contract No.: 148612

San Diego Gas & Electric
8316 Century Park Court, CP52B
San Diego, CA 92123

Attention: Mr. Tim Moore

Subject: Report on Guy Wire Guard from SDG&E Pole 416657 TL 637

Dear Mr. Moore:

Submitted herewith are the metallurgical test results and conclusions performed by Mr. Ken Holko of Holko Consulting for the East and West Guy Wire Guards for the above referenced SDG&E Pole. In summary, evidence of electric arcing was not found on either guy wire guard examined. After review of the enclosed report please feel free to contact the undersigned with respect to comments, questions, and/or scheduling of a meeting to discuss the findings.

Respectfully submitted,
**Bureau Veritas North America, Inc.**

Van Olin, PE, GE
Principal Geotechnical Engineer

Attachment: Report by Holko Consulting

Distribution: (1) Addressee

7895 Convoy Court, Suite 18
San Diego, CA 92111

Main: (858) 715.5800
Fax: (858) 715.5810
www.us.bureauveritas.com

# REPORT ON EXAMINATION OF GUY WIRE GUARDS

BY:

Kenneth H. Holko, PE
Holko Consulting
September 22, 2008

**Introduction**

Two guy wire guards were provided for examination and analysis to determine if evidence of arcing was present. A sample of one of the guy wire tail ends was also provided for examination. All materials were from 69KV TL 637, pole 416657 located in the vicinity of the Witch Fire. Samples consisted of two plastic guards, one from the West side of the pole and one from the East side along with a cut piece of excess steel guy wire from the West side. Samples were wrapped in bubble wrap and shrink wrap for protection and identified with tags and permanent marker on the guards. A transfer of evidence form was signed upon receipt.

The guy wire sample is shown in Figure 1. It consisted of seven strands of 0.108" diameter wire that appeared to be coated. No specification was available to describe the wire so it was characterized here as described in the next section. A photograph and drawing of the steel anchor around which the guy wire was wrapped is shown in Figure 2. It was identified as a Joslyn J75XX Twineye hot dipped galvanized design with a ¾" rod diameter. The actual anchor could not be removed for examination. Other components of the guy wire clamp assembly were not available for examination at this time.

The guy wire guards provided for examination are shown in Figure 3. Time in service was not available at this time. The manufacturer was identified as Virginia Plastics Company with specifications shown in Figure 4. The guards are described as longitudinally split U.V. stabilized polyethylene tubing, originally 2.5" diameter by eight feet long. As shown, each guard had a bolt, washer, and clamp at one end. The guard surrounds the guy wire and serves as a visual marker to prevent injury from impact with the guy wire in the field. The guards were badly distorted overall and melted on one end from the heat of the fire. This is shown in Figure 3 and closer in Figure 5. The melted end with the bolt, washer, and clamp in place was the down end during service.

The principal area of interest for potential arcing was the guard interior surface. Suspect markings on the guard exterior surface were also examined.

**Examination**

The guy wire was sectioned, mounted and metallurgically examined. Metallurgical polishing and etching were done to reveal wire microstructure and coating structure. The sections and the wire surface were also examined by scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS) for composition. Microhardness testing was done to extrapolate wire strength and determine coating hardness.

The guard exteriors were visually examined and photographed. Any suspicious features were identified with a letter (W for west and E for east) and number. Location was noted relative to the guard ends with the bolts and a tape measure as seen in Figure 3. The interiors of the guards at the ends were visually examined. Suspicious features were noted so they could be avoided when the guards were sectioned.

The guards were then sectioned longitudinally with a high speed steel cutter without lubricant to avoid contamination. Care was taken to avoid cutting through areas of interest. Stereomicroscopic examination to 63X magnification was done on the interior surfaces. Location of suspicious defects was indicated with a letter and number (W for West guard and E for East guard) and reference to the tape measure shown. Samples were removed at suspicious locations with a high speed steel cutter.

Scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS) were done on samples in an environmental chamber equipped SEM to avoid coating of the plastic and compromising results.

Guard samples from relatively clean undisturbed locations were analyzed by Fourier transform infra-red spectroscopy (FTIR) to identify base composition.

**Results**

Guy wire sections are shown in Figure 6. As seen the surface is rough and irregular with contaminant particles present. The wire had a medium to high carbon steel microstructure consisting of ferrite and pearlite. The relatively low hardness (Table 1) indicates it is probably a drawn and heat treated steel product with an approximate tensile strength of 110 ksi. The coating SEM/EDS analyses of the surface and cross section are also shown in Figure 6. This shows the wire has been hot dip galvanized with resultant iron (Fe) - zinc (Zn) alloy formation. Microhardness for the coating is shown in Table 1. The low outer surface hardness and surface EDS indicates at least some free Zn is present. The contaminant shown in Figure 6 was analyzed (not shown) and is probably aluminum oxide. The combination of a rough, irregular surface, low hardness, and contaminants result in a friable surface condition. As the coated guy wire surface impacted and rubbed against the guard interior, particle fracture and release are probable events.

Figure 7 shows the longitudinal sections made by cutting the West and East guards. Figure 8 shows close-ups of locations where samples were removed for analysis. Figure 9 shows actual West and East samples examined and analyzed. Samples were removed from both guards in relatively unaffected areas for FTIR. Results shown in Figure 10 confirm both guards are polyethylene (PE). PE is a high molecular weight carbon based organic polymer with formula $(-CH_2CH_2-)_n$ . This is of particular interest since the SEM/EDS analyses presented here will show high carbon (C).

The W-1 sample shows the melted end of the West guard in Figures 9 and 11. The longitudinal impressions with the black “dots” are from embedment of the guy wire(s) in the softened PE. SEM/EDS analysis shown in Figure 11 shows the black dots are pieces of the guy wire coating that have been pulled off. This illustrates how easily the friable guy wire coating can be removed and transferred to the PE.

The W-2 location showed a large black area and some suspicious discrete spots under the stereomicroscope. When examined by SEM and analyzed by EDS these proved to be deposits transferred from the guy wire coating and pulled out / material from the PE as seen in Figure 12. Other contaminant elements are also present in the EDS spectrum which are from a sand-like mineral that was present all over the interior guard surface. This type of contaminant had been previously analyzed on a guard located in San Diego County. The EDS spectrum from the discrete areas does not show carbonization since when dark material was present the EDS spectrum confirmed this was a wire coating deposit as seen in Figure 12. When the black deposits were not present the EDS spectrum showed normal PE as shown in Figure 12 for an undisturbed and uncontaminated area.

The W-5 dark area location showed abrasion deformation when examined by SEM as shown in Figure 13. EDS showed this dark appearance was from guy wire coating transfer along with the sand-like contaminant.

The W-3 location is representative of the discrete black spots on the guard exterior surfaces shown in Figure 14. The stereomicroscopic photographs, SEM photographs, and EDS

spectrum show this is a deposit from an unknown source and is not arcing. The deposit easily chips off and may be a paint or adhesive-type material.

The E-1 location shows burned and carbonized grass / weeds that have mixed with the melted PE at the bottom of the east guard. The stereomicroscopic and SEM photos in Figure 15 illustrate the appearance of melted PE and carbonized material.

Stereomicroscopic and SEM photos at a suspicious location in E-4 are shown in Figure 15. EDS analyses at the two locations indicated are also shown. Abrasion type distortion and transfer of guy wire coating and sand-like contaminant particles were found. Arcing and carbonization of PE were not found.

Similar results were found for location E-5 as shown in Figure 17.

The other locations shown in Figure 9 were examined and analyzed in a similar manner. No evidence of arcing such as carbonization or "treeing" type attack[a] sometimes found in PE insulators was found in the areas selected.

[a] Handbook of Polyethylene, Andrew J. Peacock, Marcel Dekker, Inc. 2000, p.218

**Conclusions**

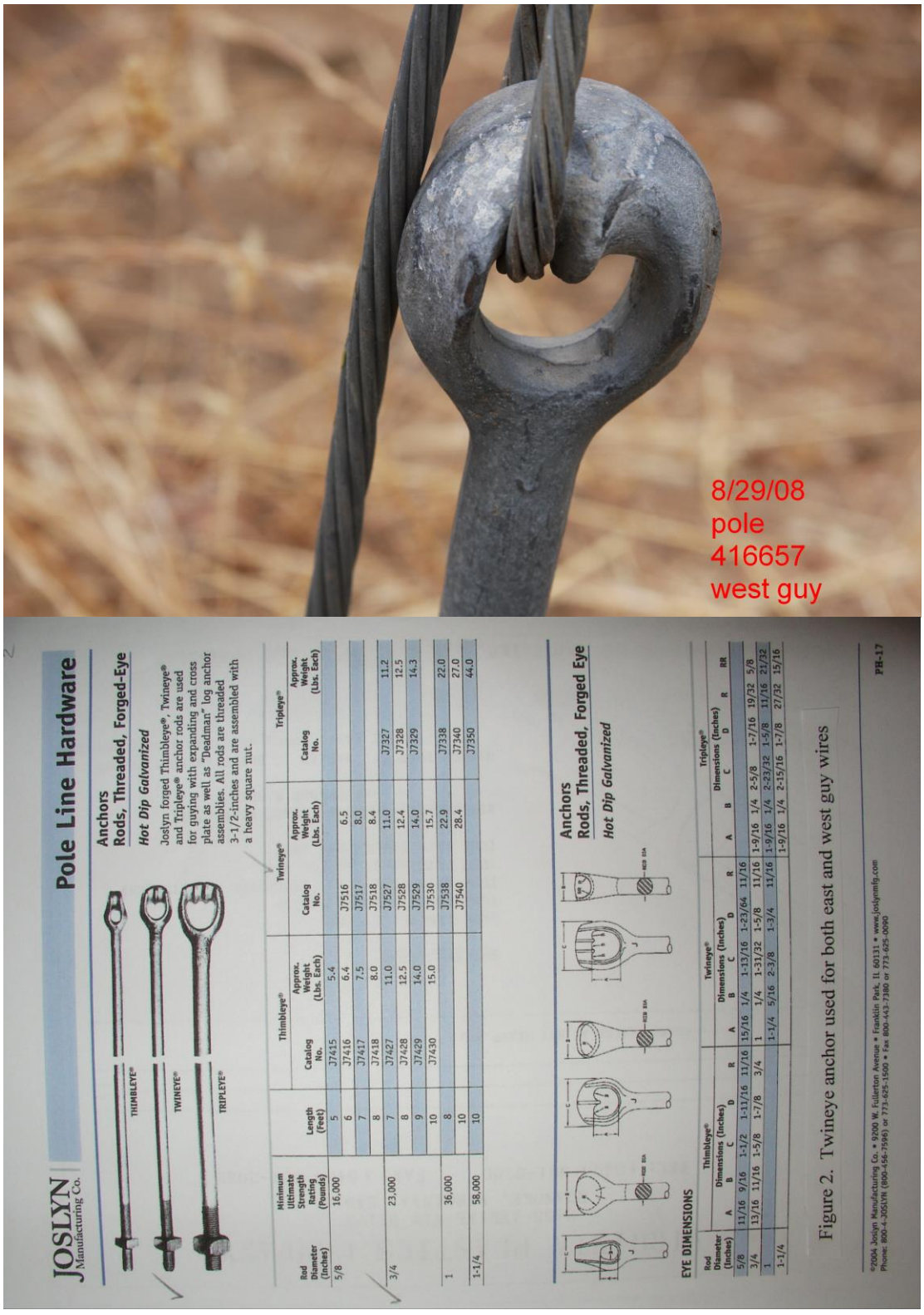
Evidence of electric arcing was not found here on either guy guard examined. When suspicious, darkened areas were examined by SEM and EDS techniques it was found they were the result of abrasion from contact with the guy wire and pickup of wire coating material along with a sand-like mineral present on the guy guard surface. It was confirmed that both guards were polyethylene by FTIR analysis.

Kenneth H. Holko, PE
Met. E. Lic. 1759
September 22, 2008

**Table 1. Microhardness results for guy wire section**

| Microhardness Location | Load | Average KHN | Conversion to Rc or Rb |
|---|---|---|---|
| Core | 500 g. | 268 | Rc 20 |
| Inner Coating | 25 g. | 232 | Rb 94 |
| Outer Coating | 25 g. | 58 | N/A |


Figure 1. Guy wire sample removed from West guy




JOSLYN Manufacturing Co.

## Pole Line Hardware

THIMBLEYE®
TWINEYE®
TRIPLEYE®

### Anchors
### Rods, Threaded, Forged-Eye

*Hot Dip Galvanized*

Joslyn forged Thimbleye®, Twineye® and Tripleye® anchor rods are used for guying with expanding and cross plate as well as "Deadman" log anchor assemblies. All rods are threaded 3-1/2-inches and are assembled with a heavy square nut.

| Rod Diameter (Inches) | Minimum Ultimate Strength Rating (Pounds) | Length (Feet) | Thimbleye® Catalog No. | Thimbleye® Approx. Weight (Lbs. Each) | Twineye® Catalog No. | Twineye® Approx. Weight (Lbs. Each) | Tripleye® Catalog No. | Tripleye® Approx. Weight (Lbs. Each) |
|---|---|---|---|---|---|---|---|---|
| 5/8 | 16,000 | 5 | J7415 | 5.4 | | | | |
| | | 6 | J7416 | 6.4 | J7516 | 6.5 | | |
| | | 7 | J7417 | 7.5 | J7517 | 8.0 | | |
| | | 8 | J7418 | 8.0 | J7518 | 8.4 | | |
| 3/4 | 23,000 | 7 | J7427 | 11.0 | J7527 | 11.0 | J7327 | 11.2 |
| | | 8 | J7428 | 12.5 | J7528 | 12.4 | J7328 | 12.5 |
| | | 9 | J7429 | 14.0 | J7529 | 14.0 | J7329 | 14.3 |
| | | 10 | J7430 | 15.0 | J7530 | 15.7 | | |
| 1 | 36,000 | 8 | | | J7538 | 22.9 | J7338 | 22.0 |
| | | 10 | | | J7540 | 28.4 | J7340 | 27.0 |
| 1-1/4 | 58,000 | 10 | | | | | J7350 | 44.0 |



### Anchors
### Rods, Threaded, Forged Eye

*Hot Dip Galvanized*

**EYE DIMENSIONS**

| Rod Diameter (Inches) | Thimbleye® Dimensions (Inches) A | B | C | D | R | Twineye® Dimensions (Inches) A | B | C | D | R | Tripleye® Dimensions (Inches) A | B | C | D | R | RR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/8 | 11/16 | 9/16 | 1-1/2 | 1-11/16 | 11/16 | 15/16 | 1/4 | 1-13/16 | 1-23/64 | 11/16 | | | | | | |
| 3/4 | 13/16 | 11/16 | 1-5/8 | 1-7/8 | 3/4 | 1 | 1/4 | 1-31/32 | 1-5/8 | 11/16 | 1-9/16 | 1/4 | 2-5/8 | 1-7/16 | 19/32 | 5/8 |
| 1 | | | | | | 1-1/4 | 5/16 | 2-3/8 | 1-3/4 | 11/16 | 1-9/16 | 1/4 | 2-23/32 | 1-5/8 | 11/16 | 21/32 |
| 1-1/4 | | | | | | | | | | | 1-9/16 | 1/4 | 2-15/16 | 1-7/8 | 27/32 | 15/16 |





Figure 2. Twineye anchor used for both east and west guy wires

Figure 2. Photograph and drawing of West guy wire anchor and guy wire

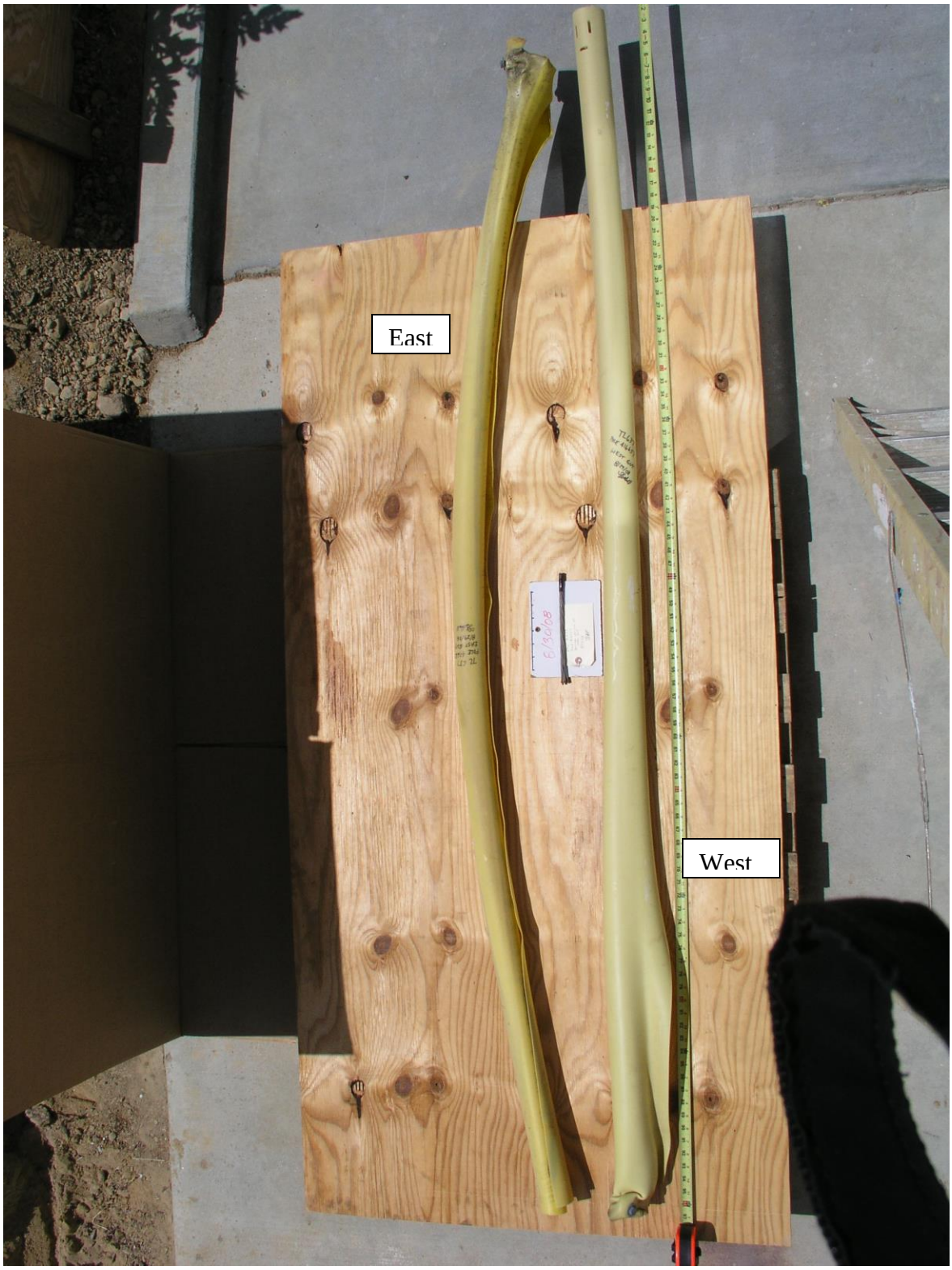



Figure 3. Overall photo of both guy guards – end with bolt was down in the field

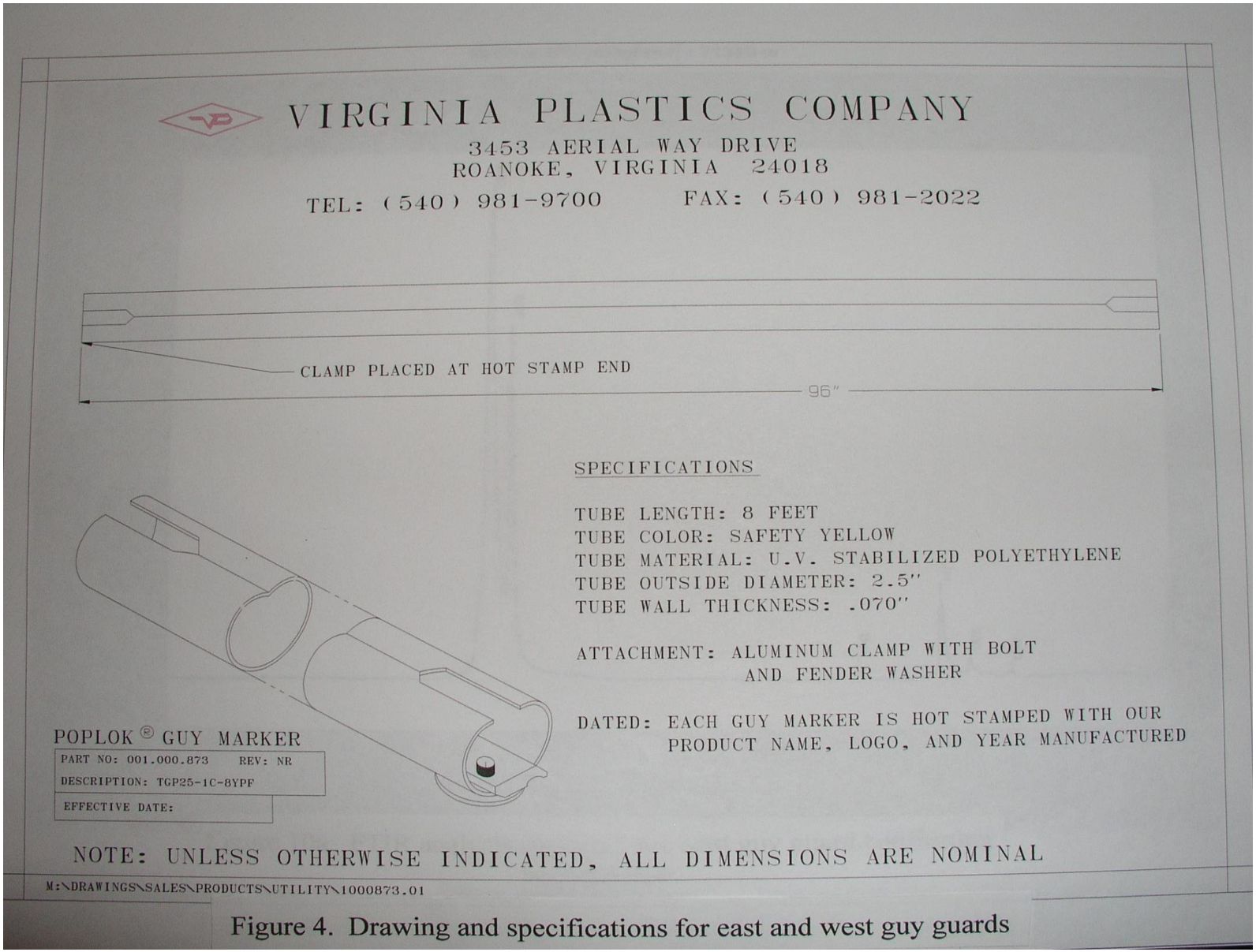



Figure 4. Drawing and specifications for east and west guy guards


Figure 5. Close-ups of distortion and melting from fire in west guard (top) and east guard (bottom)

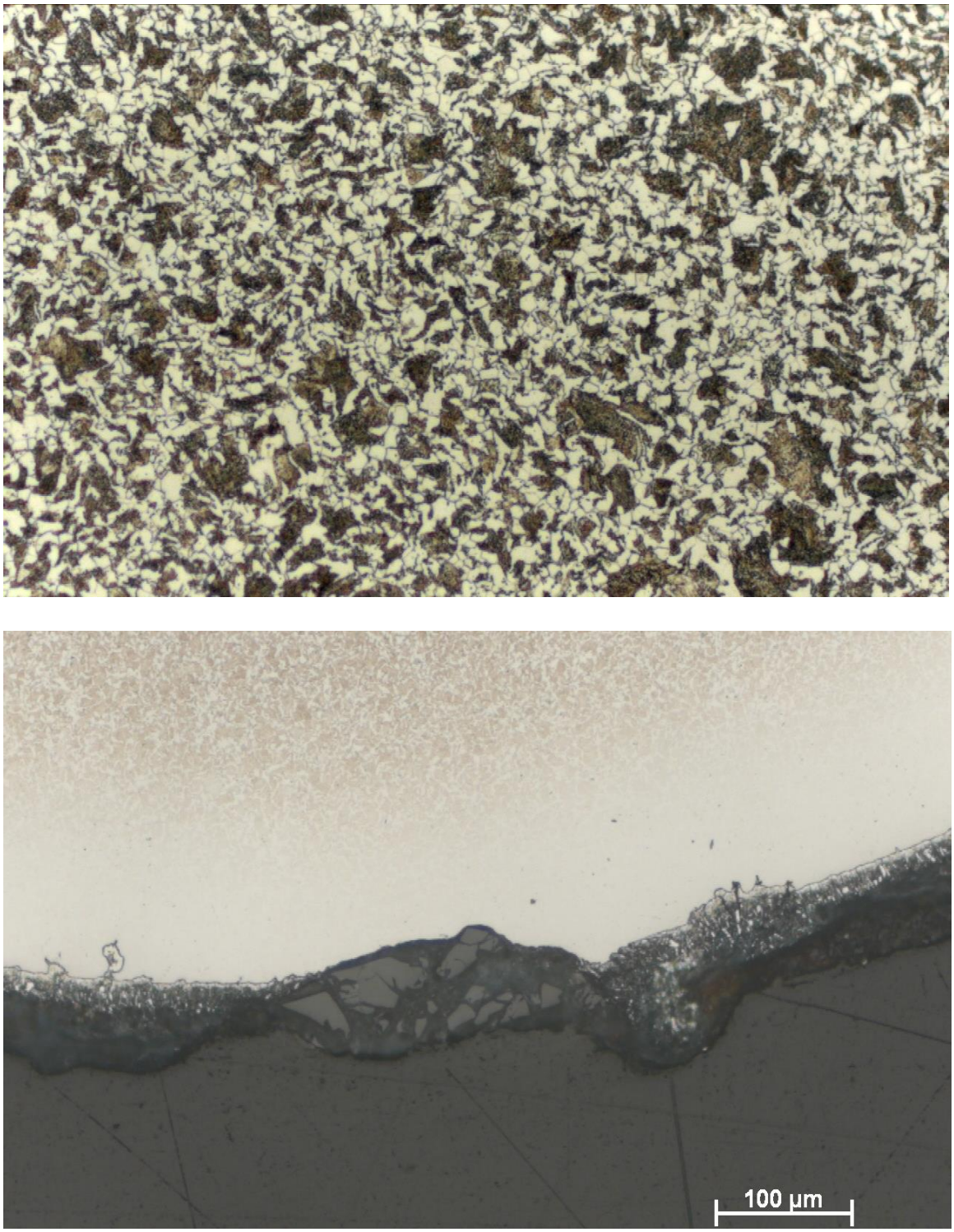
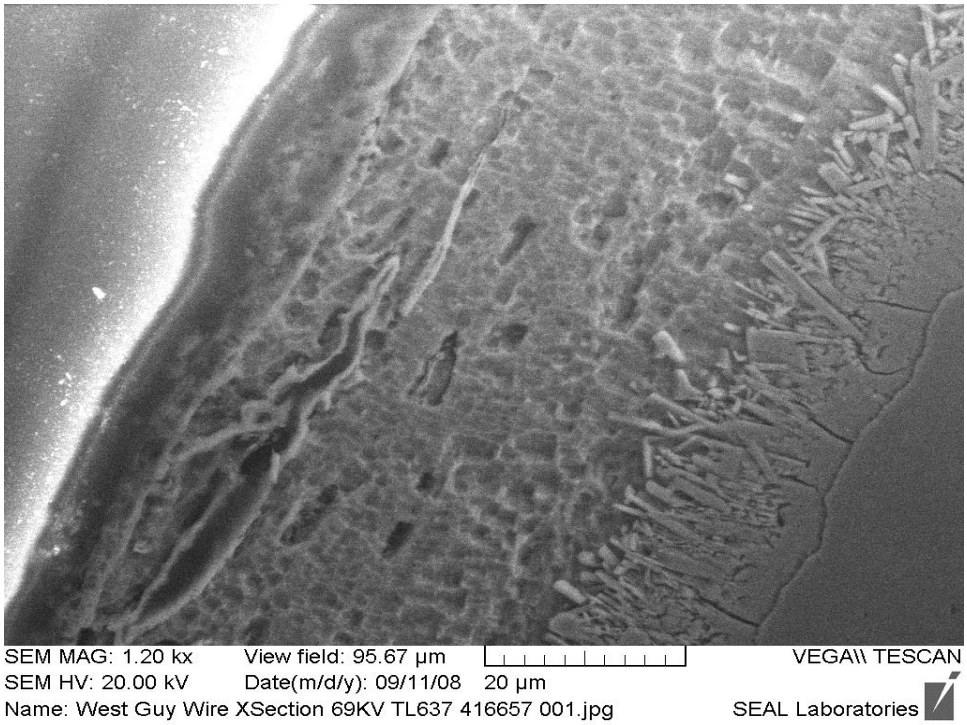
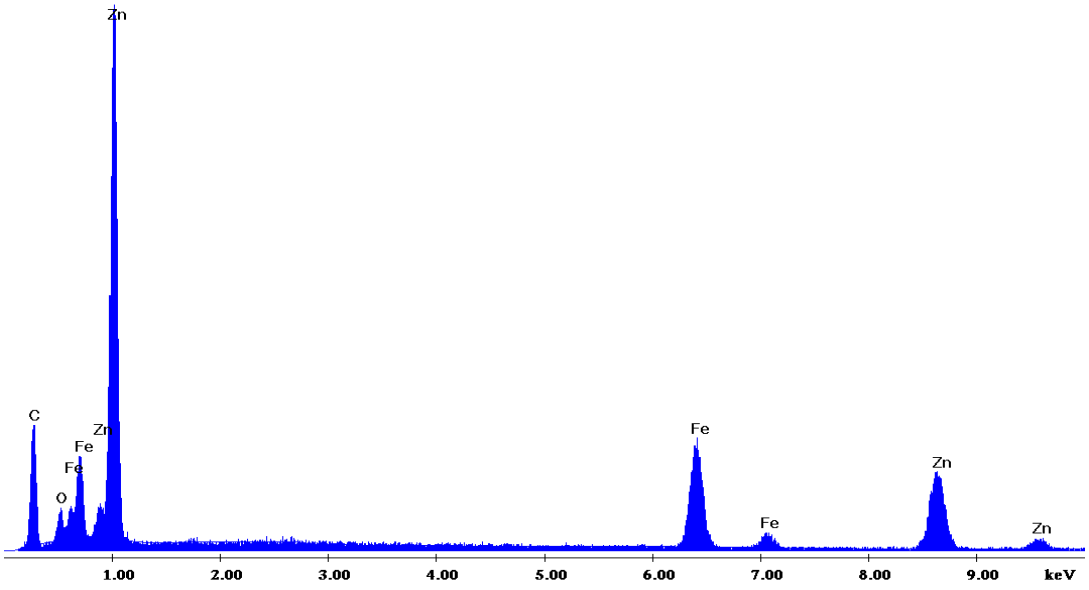



Figure 6a. Metallurgical sections through guy wire in core (top) at 500X and at surface (bottom) at 200X. Etchant: Nital

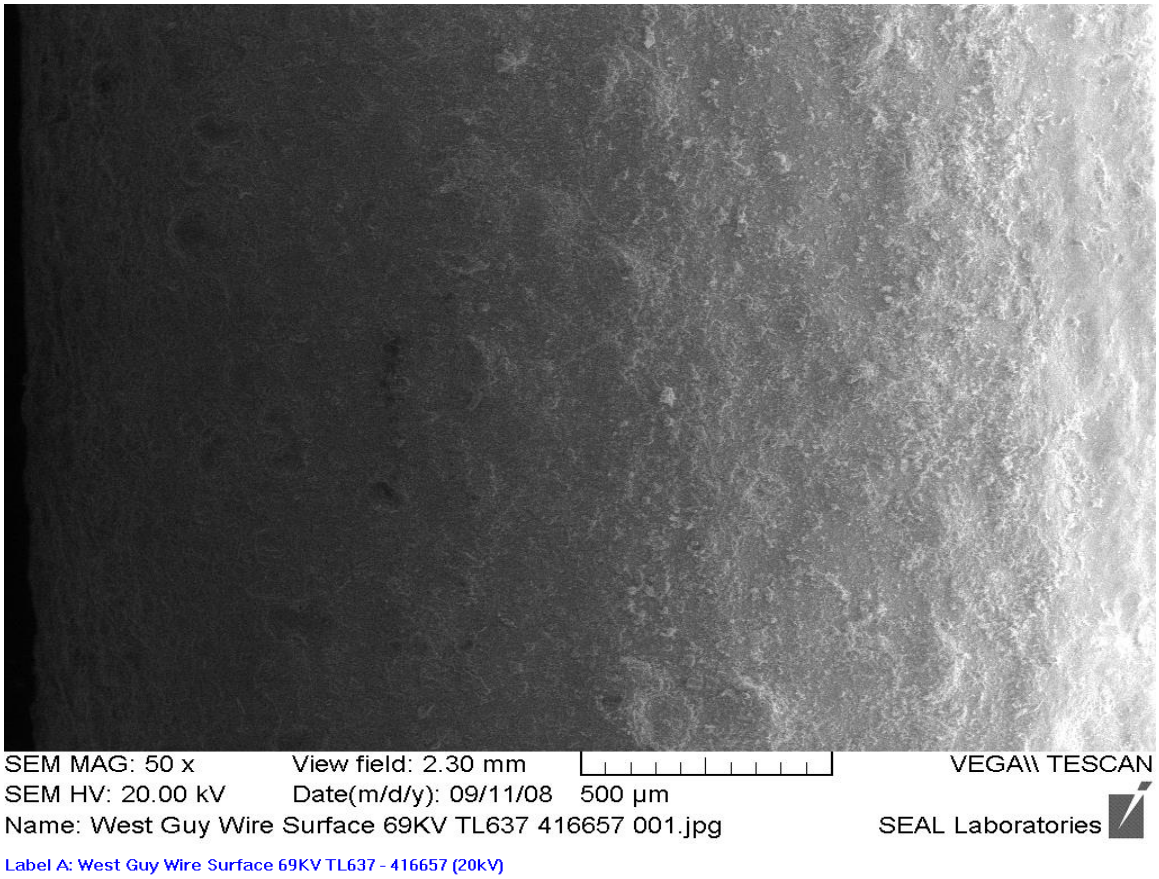



Label A: W-1 West Guy Wire 69KV TL637 - 416657 XSection Coating (20kV)




| Elem | Wt % | At % |
|---|---|---|
| FeK | 34.03 | 37.64 |
| ZnK | 65.97 | 62.36 |

Figure 6b. SEM image of guy wire coating section and EDS analysis



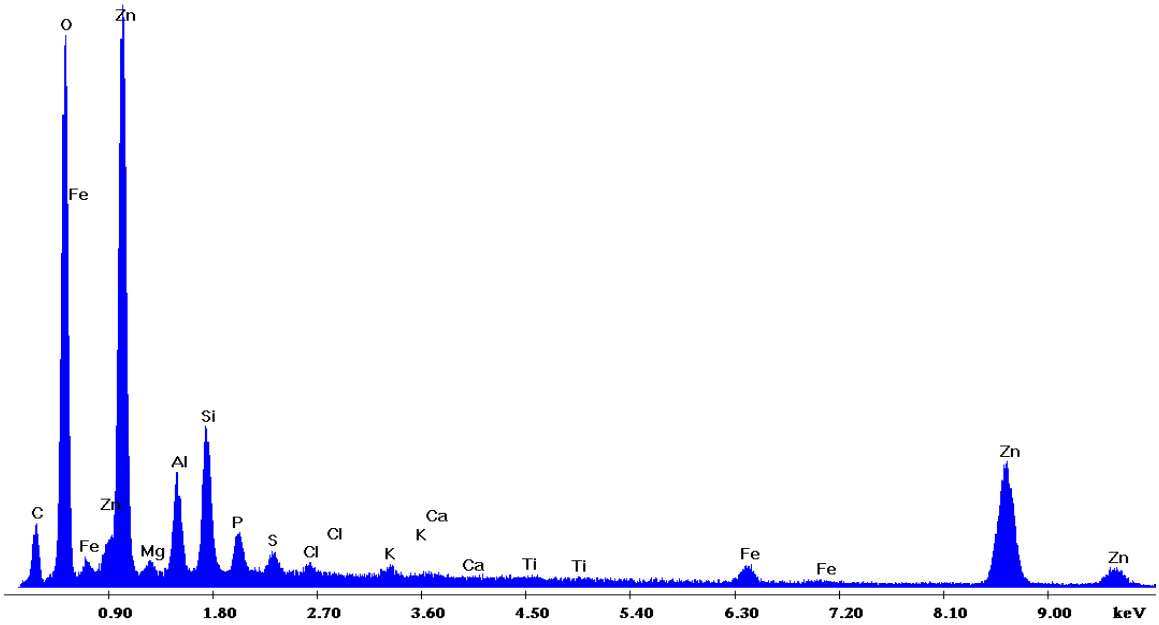




Figure 6c. SEM (top) and EDS analysis (bottom) of guy wire surface


West – free state East – free state East - restrained

Figure 7. Overall sections of guy guards


Figure 8a. Sample locations from West guard


Figure 8b. Sample locations from East guard


Figure 9a. Close-up of samples removed from West guard


Figure 9b. Close-up of samples removed from East guard

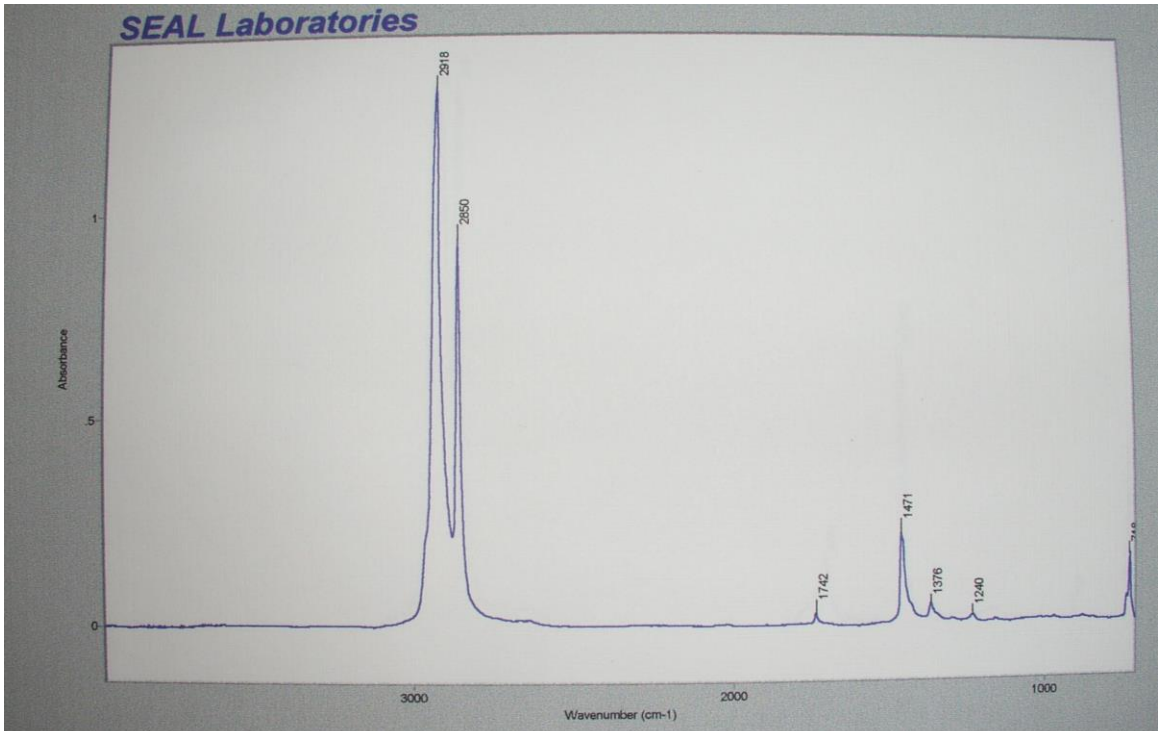



Figure 10a. FTIR analysis spectrum for west guy guard confirming polyethylene

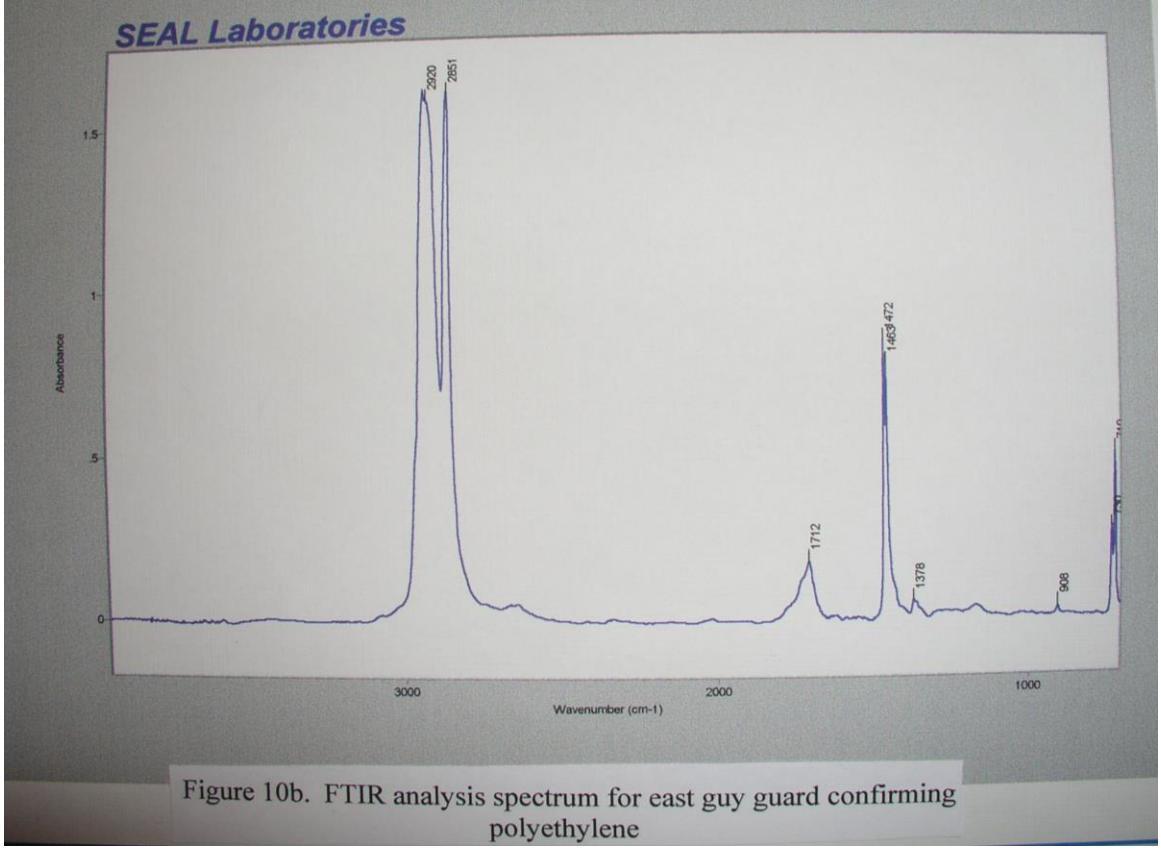
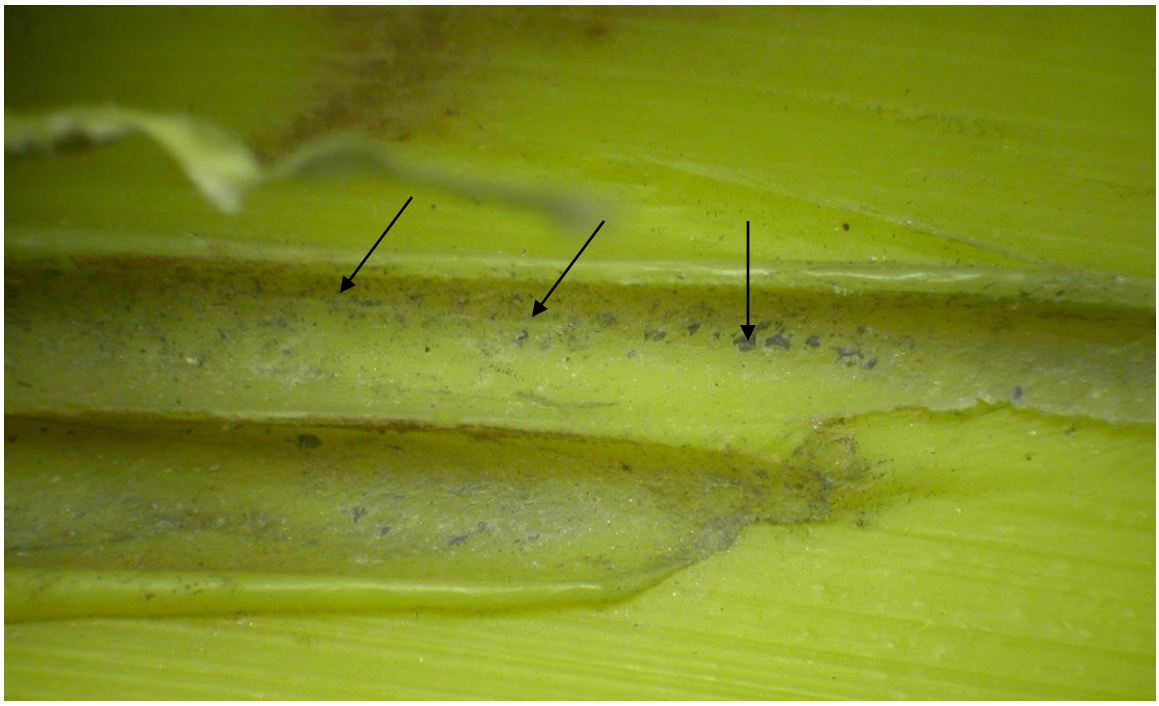
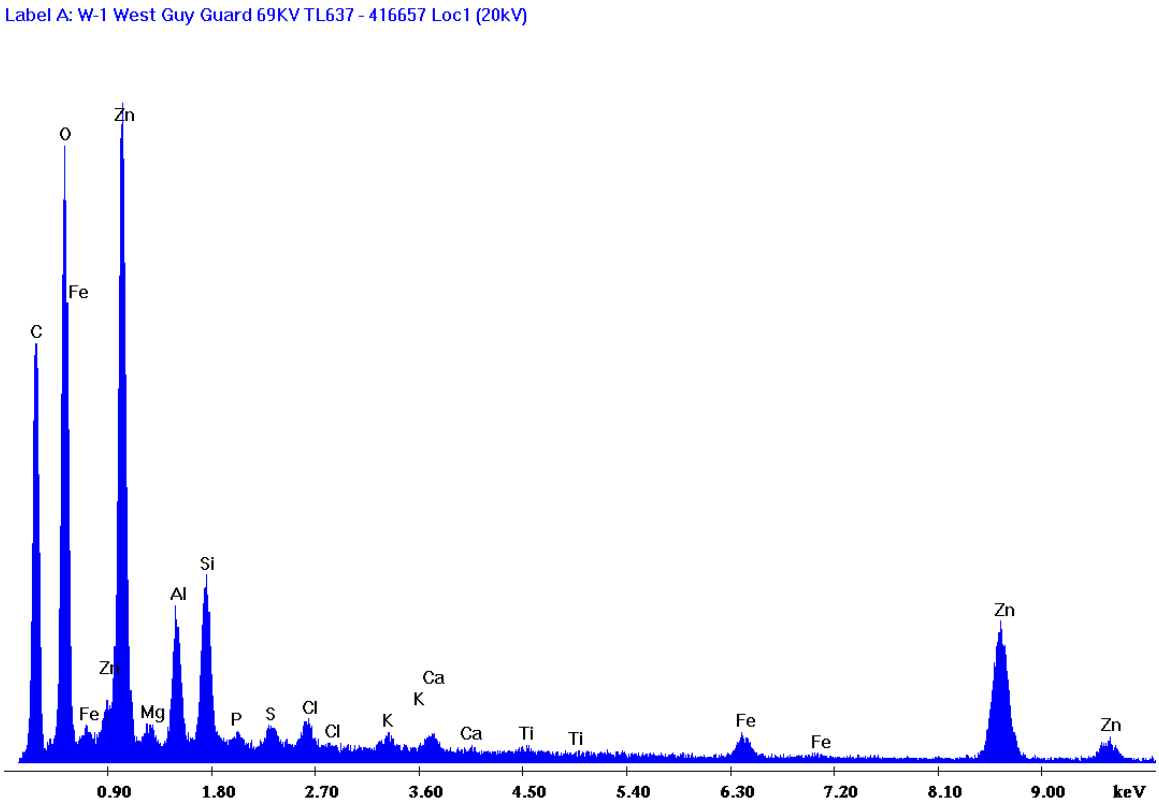



Figure 10b. FTIR analysis spectrum for east guy guard confirming polyethylene

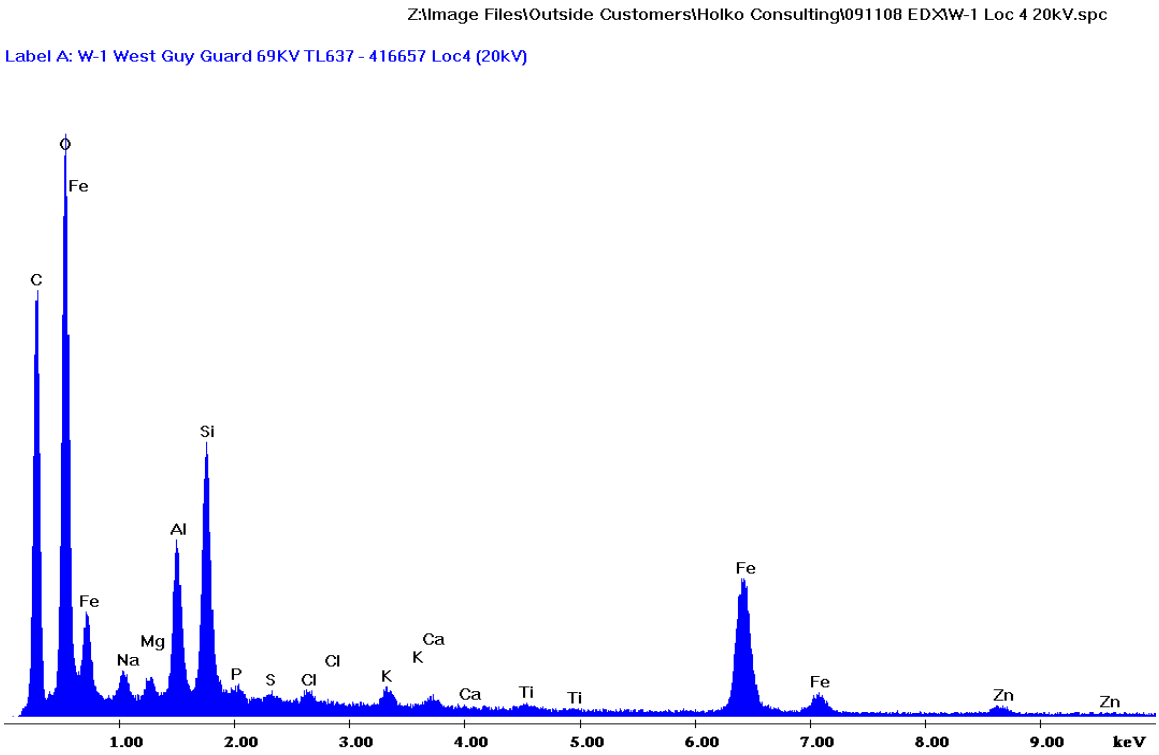


a) Close-up of W-1 showing particles analyzed by EDS, 5X original mag.

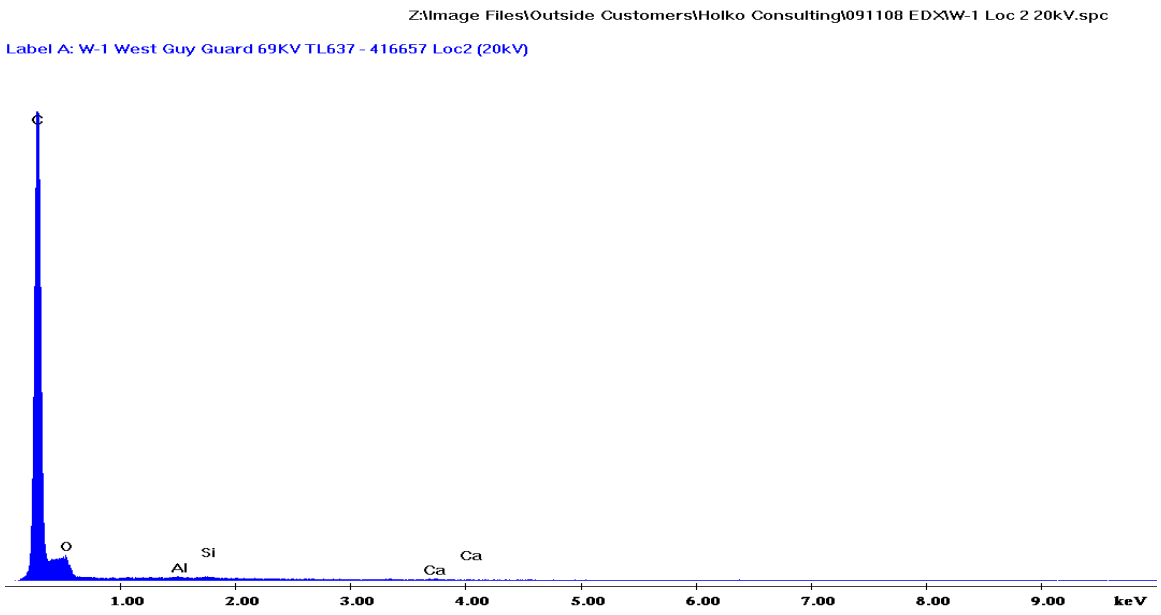



b) Typical particle EDS spectrum

Figure 11. Sample W-1 examination results (cont.)

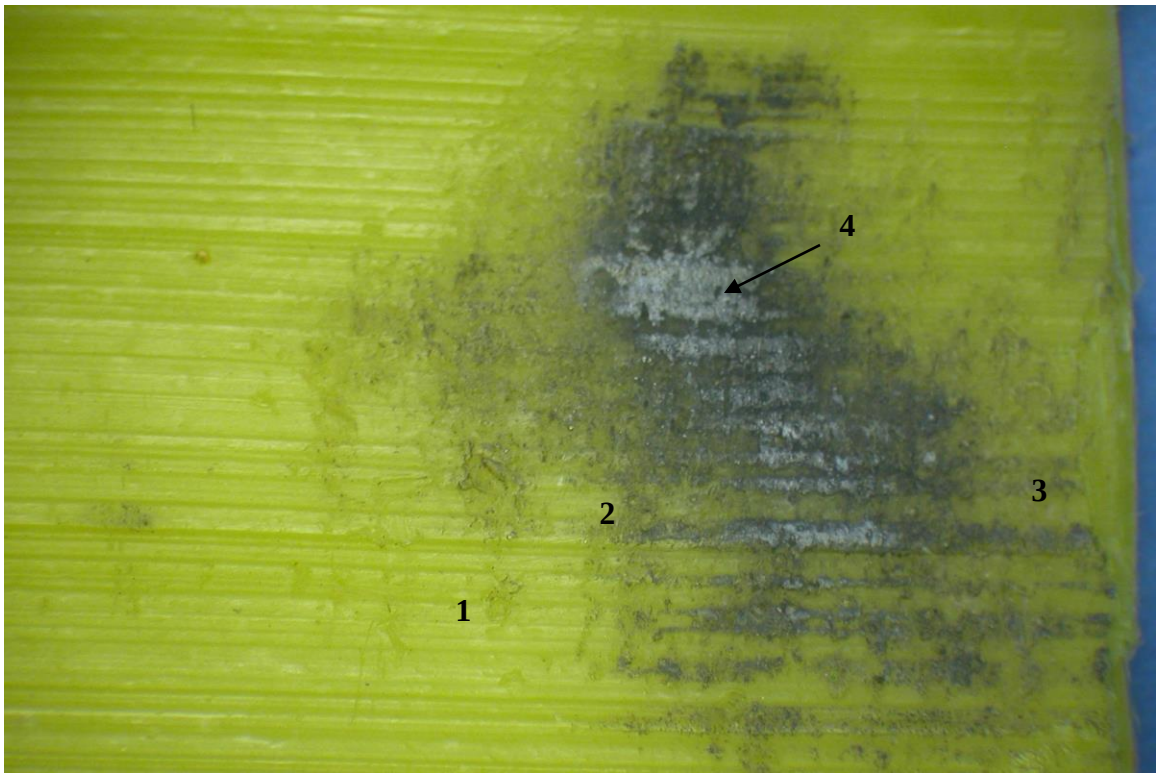



c) Another typical particle EDS spectrum

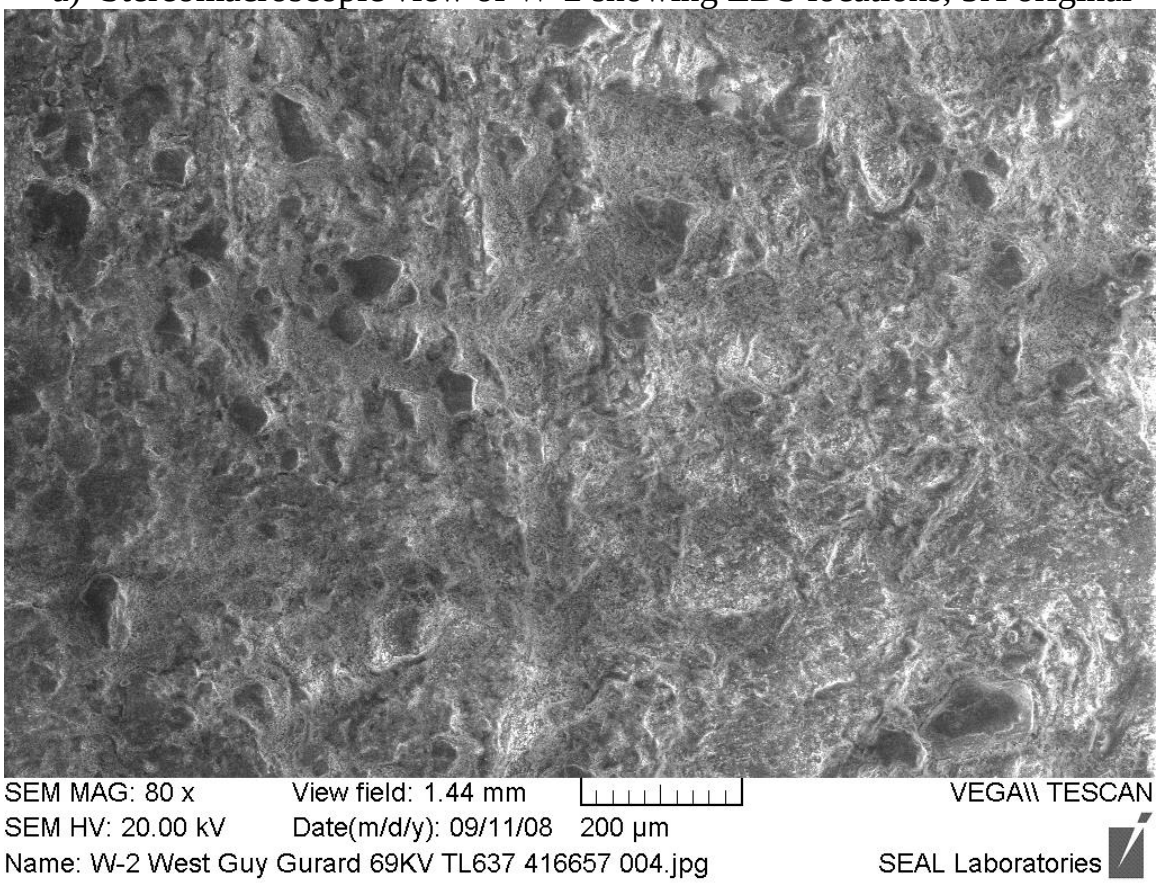



d) Clean cut surface EDS for PE without contaminants or particles

Figure 11. Sample W-1 examination results (concluded)

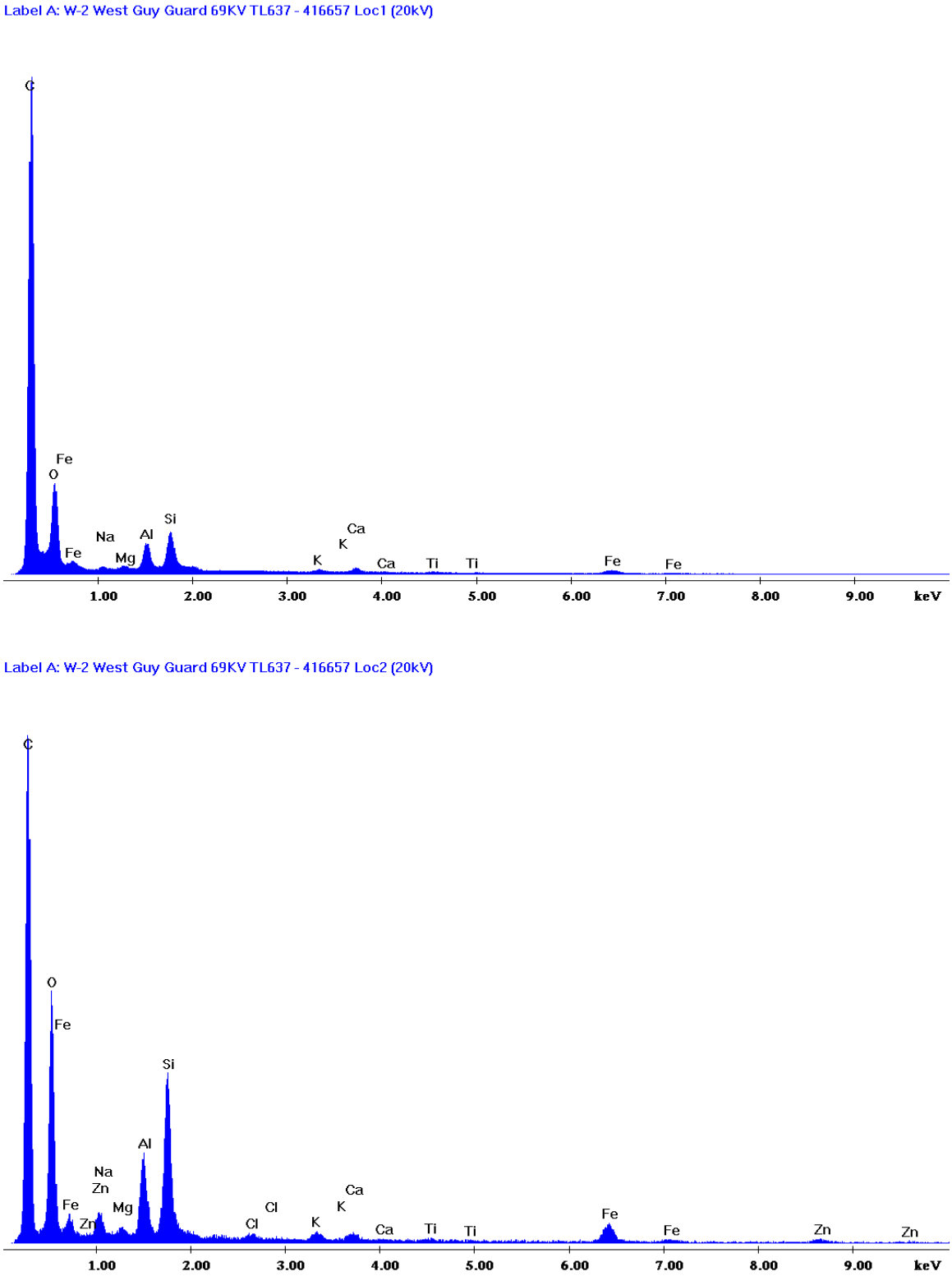



a) Stereomacroscopic view of W-2 showing EDS locations, 5X original



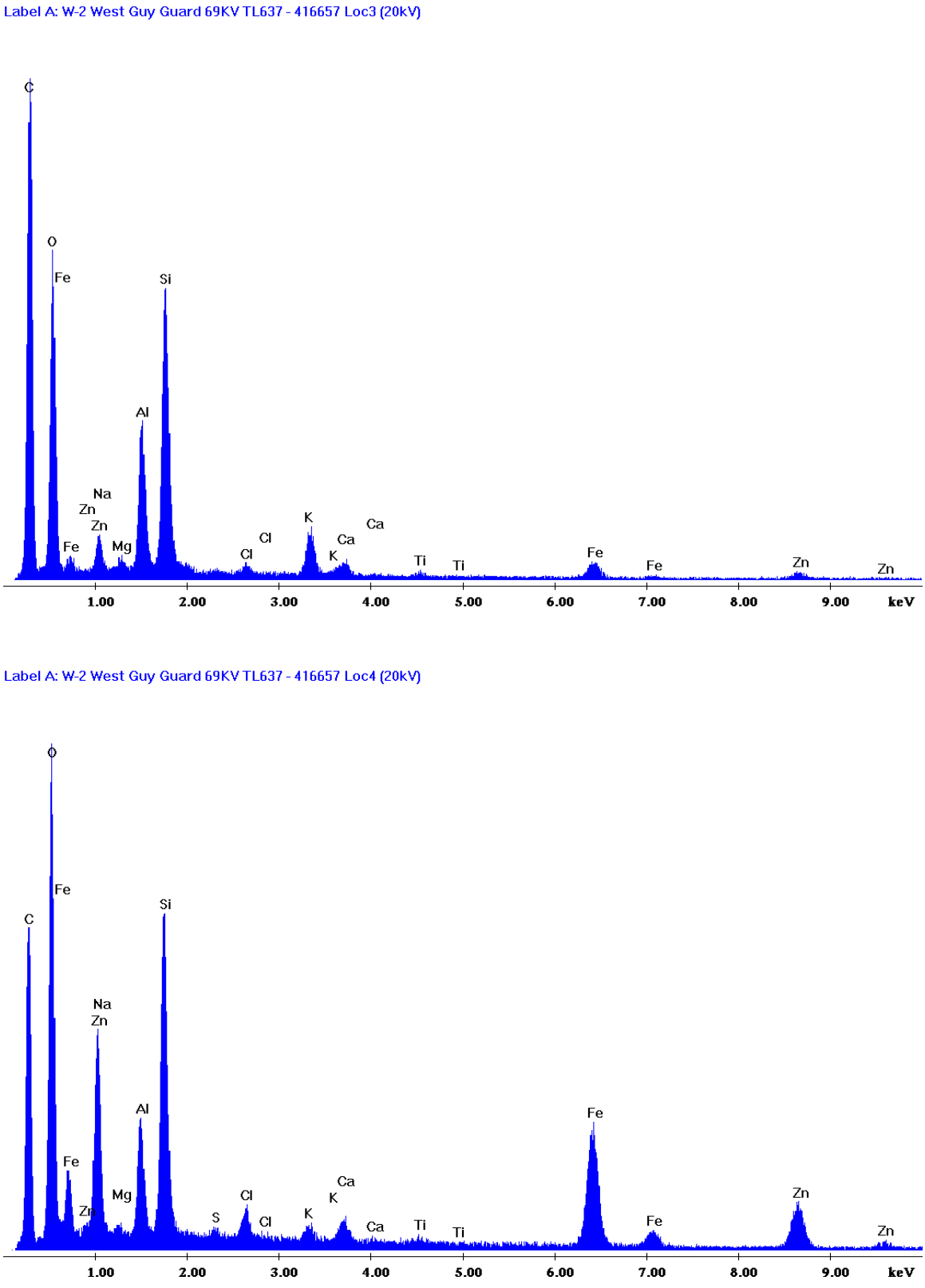

b) SEM view at location 4 in (a) above

Figure 12. Sample W-2 examination results (cont.)



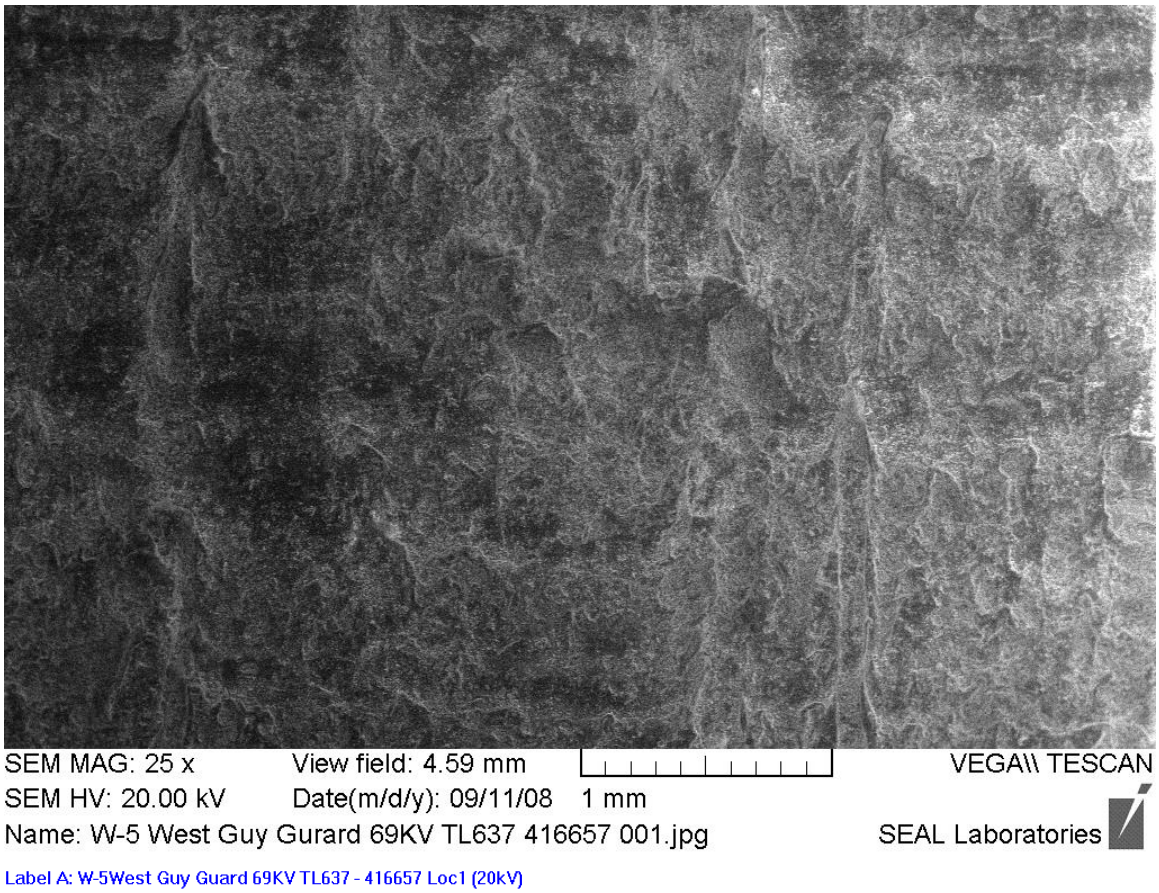

c) EDS spectra from locations 1 and 2, sample W-2

Figure 12. (cont.)




d) EDS spectra from locations 3 and 4, sample W-2

Figure 12. Sample W-2 examination results (concluded)



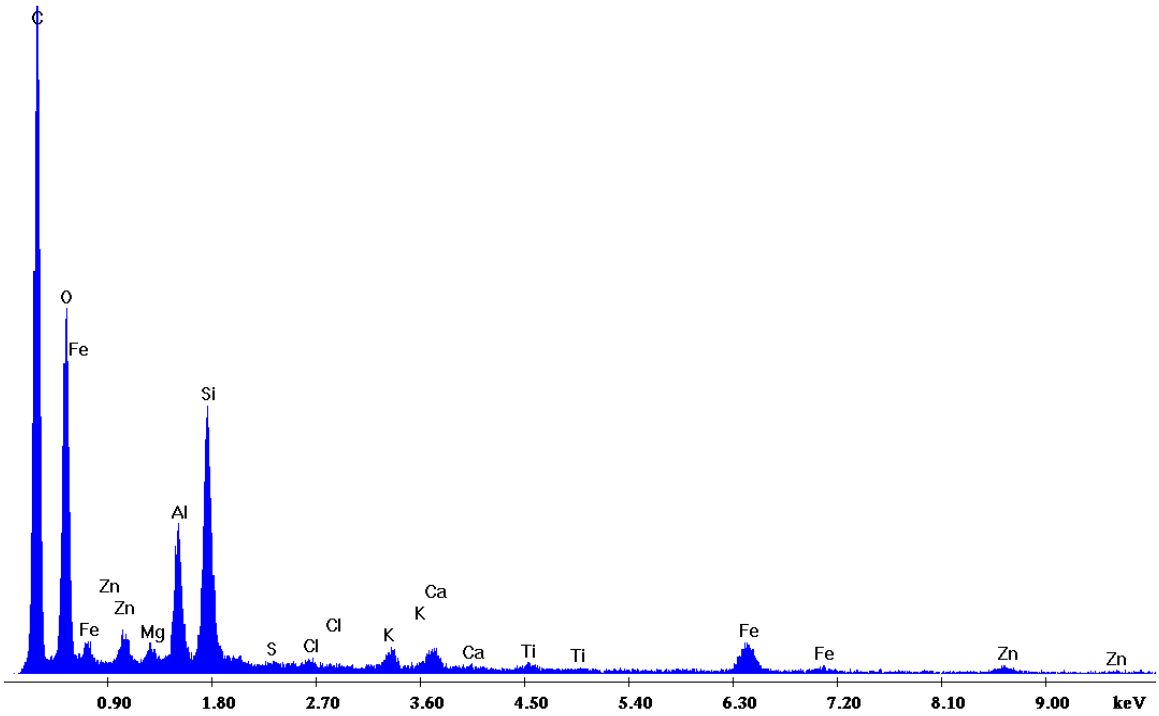
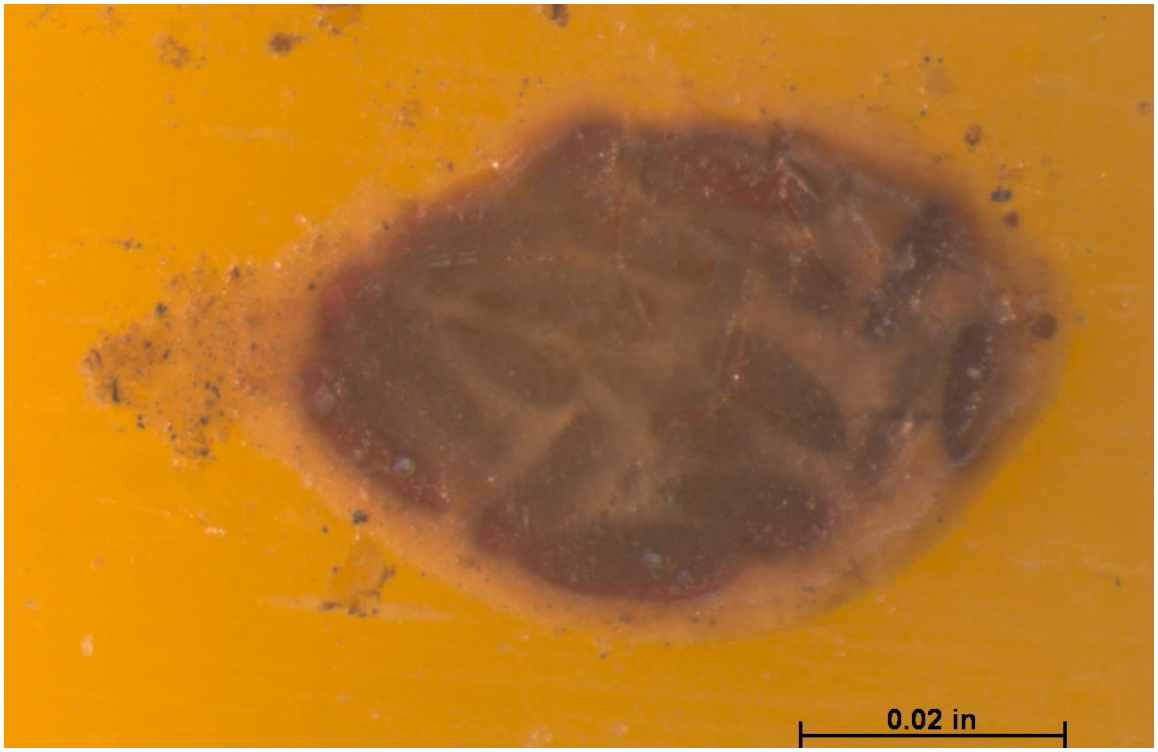




Figure 13. Sample W-5 SEM and EDS results in middle of dark area shown in Figure 9(a)




Label A: W-3 West Guy Guard 69KV TL637 - 416657 Loc1 (20kV)

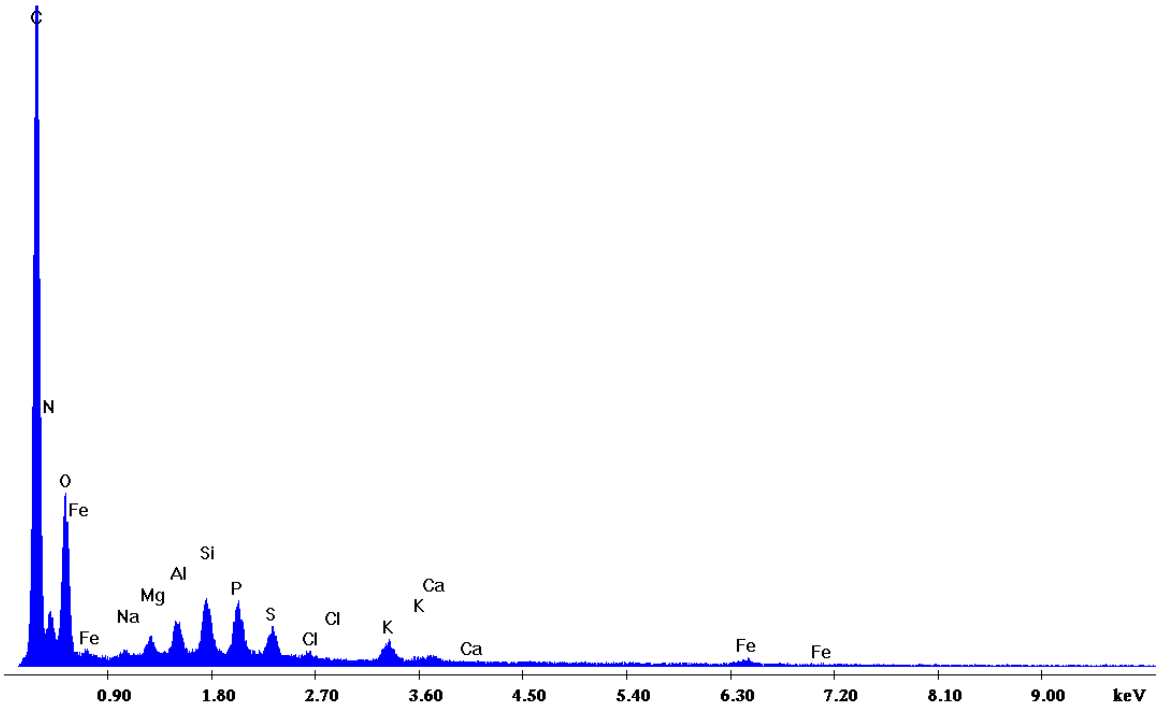



Figure 14. Examination of W-3 “black dot” on outside surface. Stereomicroscopic image (top) and EDS spectrum (bottom).

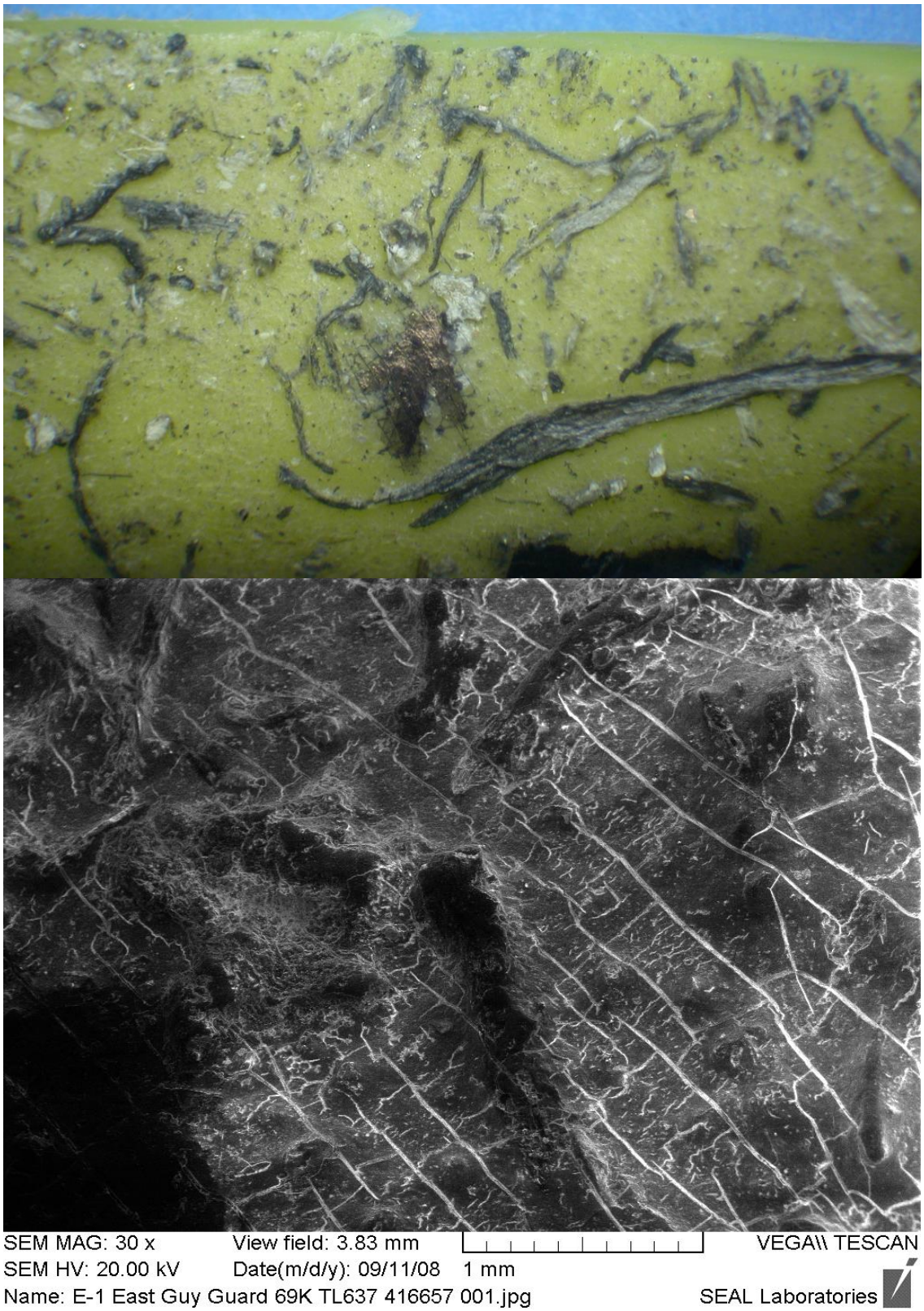
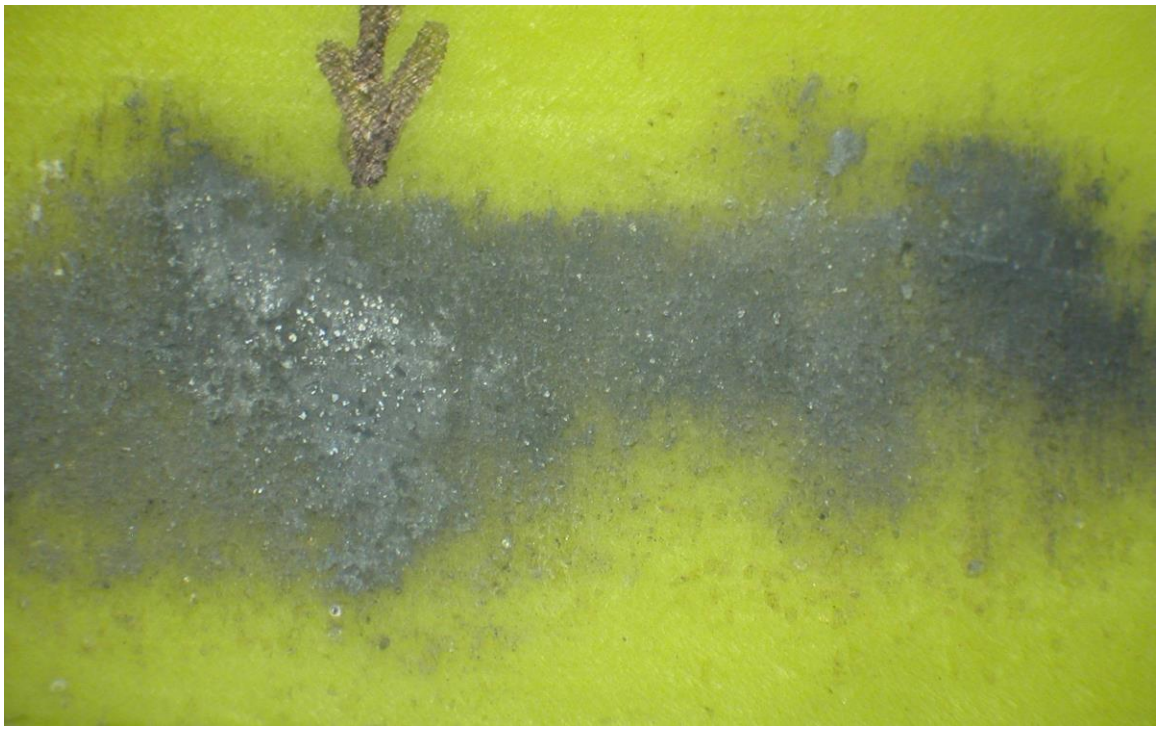



Figure 15. Sample E-1 stereomacroscopic image (5X) and SEM at same location (bottom)



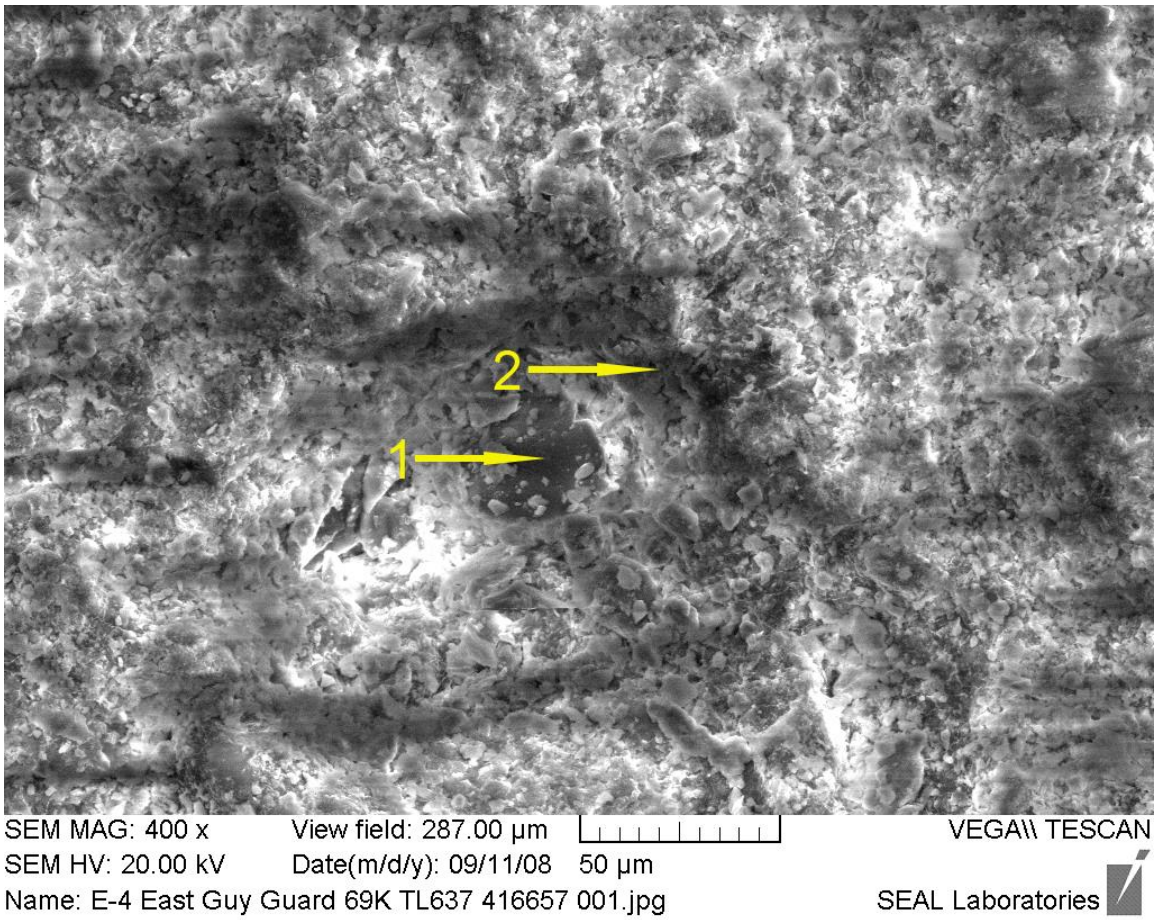



Figure 16. Sample E-4 Stereomacroscopic view (5X original) and SEM indicating EDS locations and results (cont.)

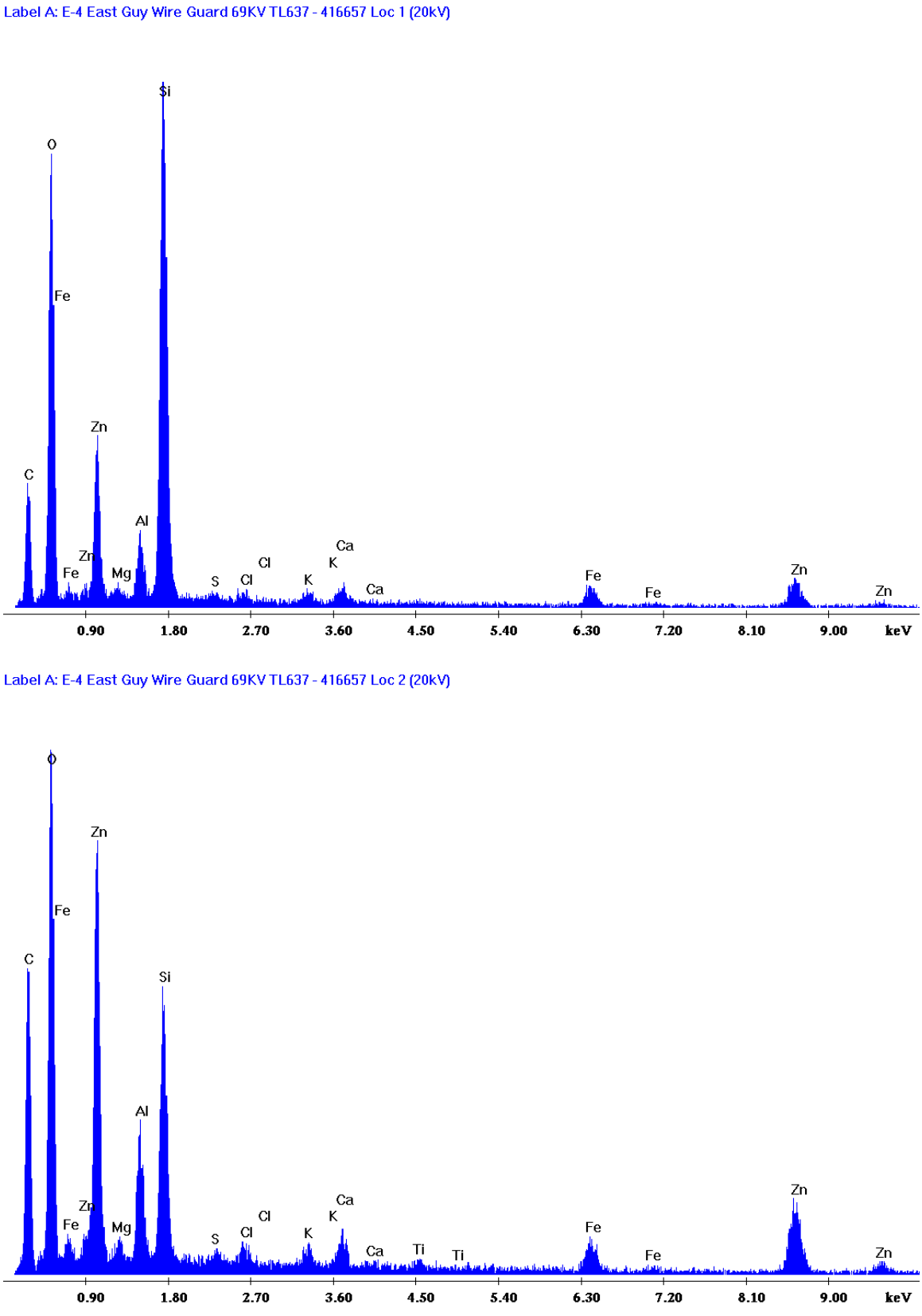



Figure 16. Sample E-4 Stereomacroscopic view (5X original) and SEM indicating EDS locations and results (concluded)

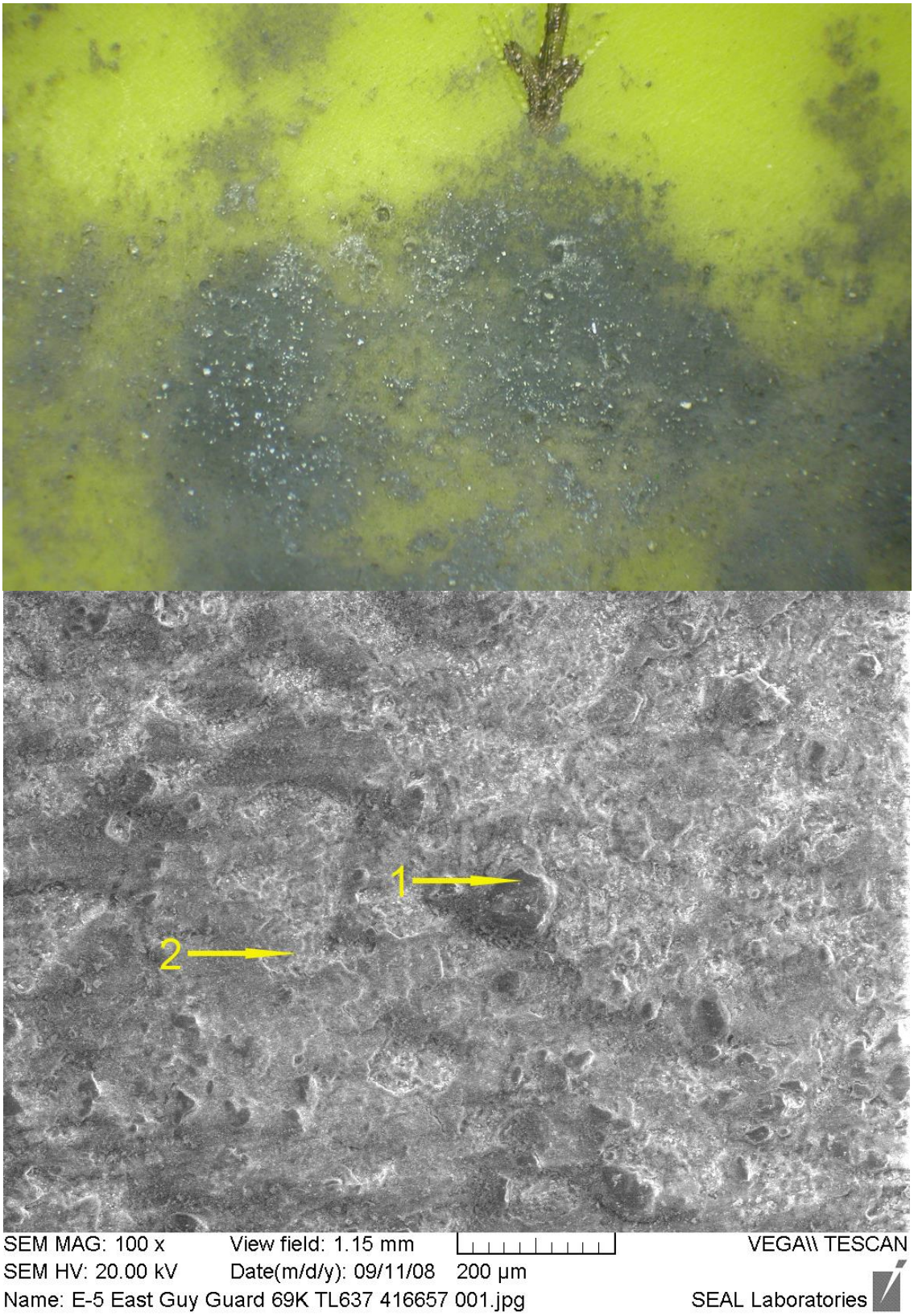



Figure 17. Sample E-5 Stereomacroscopic view (10X original) and SEM indicating EDS locations and results (cont.)

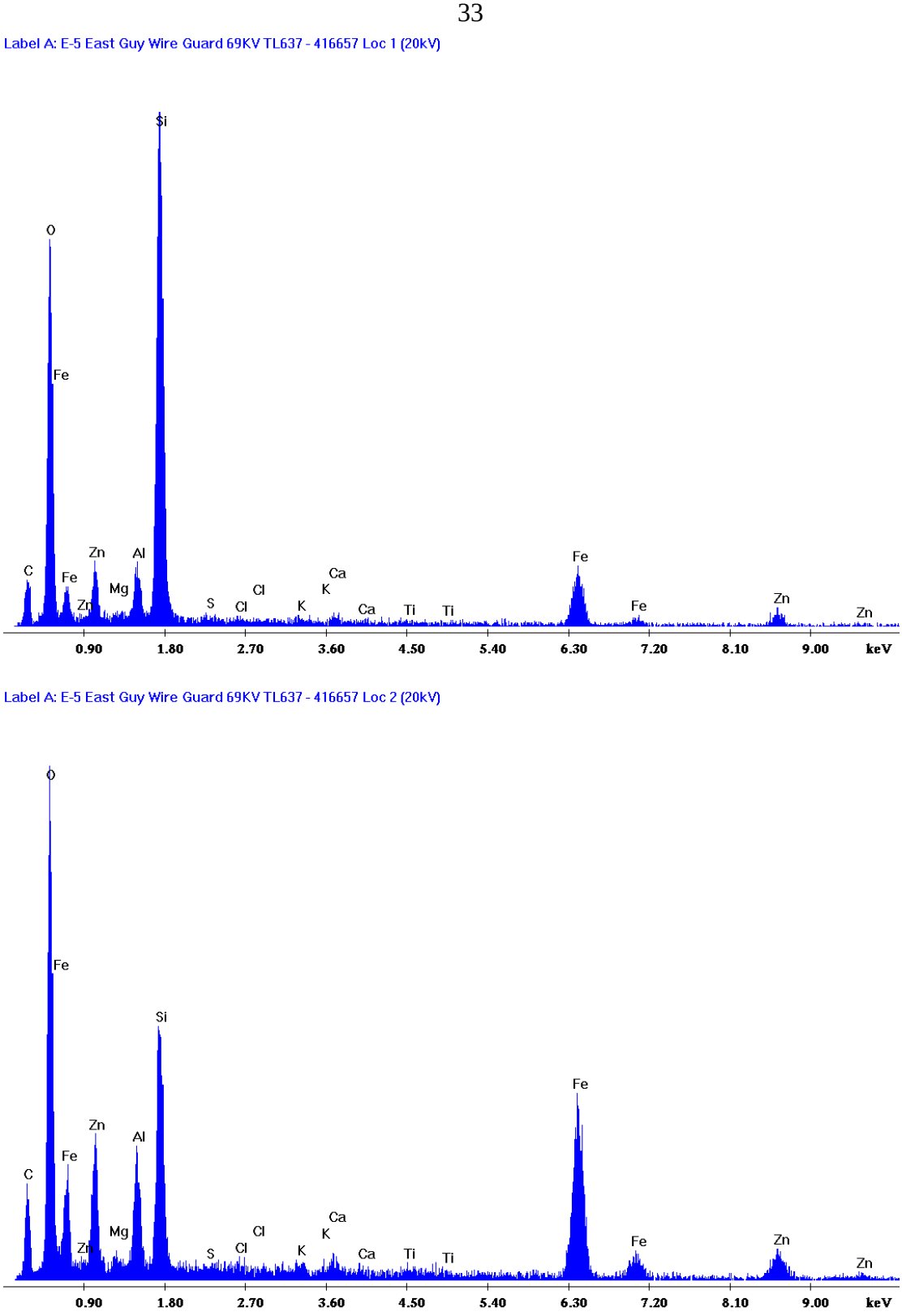



Figure 17. Sample E-5 Stereomacroscopic view (10X original) and SEM indicating EDS locations and results (concluded)