



Memorandum

All bidders bidding Contract No. 1744A G, E, H shall read and take note of this Addendum No. 1. The Contract Documents for **Contract No. 1744A G, E, H – Chartiers Creek-Ohio Junction Access Shaft Improvements** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1744A G, E, H; Addendum No. 1

The Acknowledgement attached to Addendum No. 1 is to be signed and returned immediately via email to **Kathleen Uniatowski** at contract.clerks@alcosan.org and acknowledged with Bidder's Proposal.

Michael Lichte, P.E.
Director – Regional Conveyance

AUGUST 17, 2022

CONTRACT NO. 1744A G, E, H

CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

ADDENDUM NO. 1

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

AUGUST 17, 2022

CONTRACT NO. 1744A G, E, H

CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

ADDENDUM NO. 1

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H244026

AUGUST 17, 2022

CONTRACT NO. 1744A G, E, H

CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

ADDENDUM NO. 1

A. Contract Documents

1.

B. Contract Specifications

1. *(No Items)*

D. Contract Drawings

1. *(No Items)*

E. Questions

1. Can the last day for questions be moved until after the site visit?

Answer: the last day for questions has been extended to August 19, 2022.

2. Drawing 18 of 20 Repair Detail Schedule and Quantities, and general construction bid form. The quantities called out on the repair schedule do not match the quantities on the bid form. I assume that we are to bid what is on the bid form? Please clarify.

Answer: The quantities on the Bid Form are correct. Bidders should use the quantities shown on the Bid Form when developing their bid. Repair schedules on drawing 18 of 20 will be updated on the Issued for Construction set.

3. On the bid form there are two items for deep concrete repairs, horizontal and vertical/overhead. There is only one for the shallow concrete repairs. Horizontal repairs are much cheaper than overhead repairs. Please consider breaking this out into two bid items, shallow horizontal concrete repairs and shallow vertical/overhead concrete repairs.

Answer: Shallow concrete repairs are only assumed to be required for vertical and horizontal surfaces. All overhead repairs are assumed to be deep. Based on the quantities shown in the repair schedule on Sheet 18 of 20, approximately 80 percent of the shallow repairs required are assumed to be vertical. Extensive shallow repairs to horizontal surfaces are not anticipated.

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- 4. Is the ladder to access the roof staying in place? If so, does it need to be painted? If not, please provide a detail for the new ladder.**

Answer: The ladder to access the roof shall remain in place unaltered.

- 5. Does the new railing need to be sch40 or sch80?**

Answer: Project Specification 05520 ART 2 PAR C.2 specify aluminum rail and post dimensions and minimum wall thicknesses. Post and railings are nominally 1.5" diameter and rails shall have a minimum wall thickness of 0.145 (Schedule 40) and posts shall have a minimum wall thickness of 0.200 inches (Schedule 80).

- 6. Are we to indicate on the bid envelope which portion of the project we are bidding?**

Answer: Yes.

- 7. The Duraplate 6,000 called out for the finish coat on vertical surfaces comes in two versions, one for potable water and one for non-potable water. Which one should we quote?**

Answer: A coating system for use with potable water systems (NSF 61 Certification) is not required for this project.

- 8. Will we still be allowed to ask questions after our site visit?**

Answer: Yes.

AUGUST 17, 2022

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CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

ADDENDUM NO. 1

ATTACHMENT A PRE-BID MEETING MINUTES



**CONTRACT 1744A
CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS
PREBID MEETING AGENDA
Thursday, August 4, 2022
Microsoft Teams Video Conference**

INTRODUCTIONS AND KICKOFF

- Project Manager (Design): Shawn McWilliams, ALCOSAN
- Project Manager (Construction): Julia Spicher, ALCOSAN
- Project Director: Michael Lichte, ALCOSAN
- Designer, Colin Lampark, HATCH
- CM Services:
 - Project Manager: Vincent Parcher, Anser Advisory (Meeting Presenter)
 - Inspection: Bo DiNaples, Anser Advisory

MEETING INTRODUCTIONS

This Pre-Bid Meeting is being recorded for record purposes and for compiling minutes. The information provided in this meeting is intended to introduce the project details to potential bidders. Questions and requests for clarifications must be submitted in writing prior to the deadline for questions to be officially answered in an issued addendum.

A list of attendees for this meeting will be created based on individual's inputs (name/company/phone number/email address) in the Microsoft Teams Chat function. Participants that do not supply this information may not be accounted for in the attendee list. If anyone attending the meeting does not have the ability to enter their information, they should send it via email to julia.spicher@alcosan.org

SCOPE OF WORK

- Project Address: Adjacent to 3 River Road, McKees Rocks, PA.
- Location: Chartiers Interceptor meeting Ohio River Interceptor.
- 60' Diameter vertical shaft (0-07) with three levels: upper, intermediate, and lower.
- 20 MGD average flow.
- Vortex chamber directs Chartier's flow down the Ohio Interceptor.
- Shaft provides access for maintenance and construction activities.
- Unique Work Site Conditions
 - Safety is paramount.
 - Continuous live flow (high speed vortex).
 - Work will be wet weather dependent.
 - Confined space.
 - Air monitoring required.
 - Removed material shall be captured and not enter the sewer.

2. Separate Contracts Awarded: General, Electrical, Mechanical (HVAC):

- General – Structure Rehabilitation (Estimated Value = \$715,000)
 - Structural rehabilitation of interior concrete
 - Application of protective coatings to interior concrete and metal surfaces
 - Replacement of existing rubber roof
 - Replacement/addition of safety equipment
 - Removal of unused and defunct equipment/hardware
 - Remove sluice gate and float well piping
 - Permitting
- Electrical Rehabilitation (Estimated Value = \$100,000)
 - Replacement of existing lighting and electrical appurtenances.
 - Work on all three levels.
 - Explosion proof lighting.
 - Remove level sensor and data logger.
- HVAC Rehabilitation (Estimated Value = \$75,000)
 - Remove exhaust fan, louver, and damper.
 - Work on roof, upper and intermediate levels.
 - Odor Control Unit reconditions by others (sits outside of building).

3. Contract Dates:

- Site Pre-Bid Walkthrough – Rescheduled Date: Tuesday, August 16, 2022 @ 11:00 AM
- Bid Opening: August 26, 2022 @ 11 AM

- Award Construction Contracts: September 29, 2022
- Construction Notice to Proceed: October 2022
- Contract Completed: NTP + 210 calendar days

4. Submission of Bids:

- Submit the completed and signed Bid Form
- Submit Bid to:
 - ALCOSAN
 - 3300 Preble Avenue
 - Pittsburgh, PA 15233
 - “SEALED BID FOR CONTRACT NO. 1744G, E, H, CHARTIERS CREEK – OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS
- Any questions regarding the Technical Aspects of the Contract Documents should be directed to Julia Spicher, ALCOSAN, via email to:
 - Julia.spicher@alcosan.org
- Any questions regarding the Purchase of Contract Documents should be directed to Kathleen P. Uniatowski, ALCOSAN, via email to:
 - Contract.clerks@alcosan.org
- There is a form with the addendum to be signed and returned immediately to Kathleen.

5. Recorded Pre-Bid Meeting and Sign In:

- The Pre-Bid meeting was recorded and is available.
- Attendees were requested to sign in at the Microsoft Teams Meeting Chat.

6. Question / Comments?

- There were no question or comments

AUGUST 17, 2022

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CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

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ATTACHMENT B PRE-BID MEETING SIGN-IN SHEET

AUGUST 17, 2022

CONTRACT NO. 1744A G, E, H

CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

ADDENDUM NO. 1

PRE-BID MEETING

1744A Chartiers Creek-Ohio Junction Access Shaft Improvements

August 4, 2022 @ 10:00 AM

Full Name	Company	Email	Join Time	Leave Time
Vincent Parcher	Anser Advisory	vincent.parcher@anseradvisory.com	8/4/2022, 9:51:17 AM	8/4/2022, 10:19:20 AM
Julia Spicher	ALCOSAN	julia.spicher@alcosan.org	8/4/2022, 9:51:56 AM	8/4/2022, 10:15:37 AM
Kathleen P. Uniatowski	ALCOSAN	Kathleen.Uniatowski@alcosan.org	8/4/2022, 9:53:40 AM	8/4/2022, 10:21:18 AM
Mac McAleavey SSM Industries (Guest)	SSM Industries	mac.mcaleavey@ssmi.biz	8/4/2022, 9:57:45 AM	8/4/2022, 10:13:23 AM
Steve McMannis	Mele & Mele	smcmannis@meleinc.com	8/4/2022, 9:57:46 AM	8/4/2022, 10:11:17 AM
Bryan Martucci	Anser Advisory Nathan	bryan.martucci@anseradvisory.com	8/4/2022, 9:58:21 AM	8/4/2022, 10:11:07 AM
Klaus Sailer	Contracting Lone Pine	Klaus@nathancontracting.com	8/4/2022, 9:58:22 AM	8/4/2022, 10:14:39 AM
John Leach	Construction Nathan	jleach@lonepineconstruction.com	8/4/2022, 9:58:37 AM	8/4/2022, 10:14:55 AM
Kyle Cacurak	Contracting	kyle@NATHANCONTRACTING.COM	8/4/2022, 9:59:57 AM	8/4/2022, 10:11:04 AM
Lampark, Colin	HATCH	colin.lampark@hatch.com	8/4/2022, 10:00:00 AM	8/4/2022, 10:13:01 AM
Regan Thompson	FJ Zottola	rthompson@fjzottola.com	8/4/2022, 10:00:04 AM	8/4/2022, 10:11:05 AM
Nate Carll P.E.	ALCOSAN	Nathan.Carll@alcosan.org	8/4/2022, 10:01:15 AM	8/4/2022, 10:11:40 AM
Michael Lichte P.E.	ALCOSAN	Michael.Lichte@alcosan.org	8/4/2022, 10:02:22 AM	8/4/2022, 10:11:00 AM

AUGUST 17, 2022

CONTRACT NO. 1744A G, E, H

CHARTIERS CREEK-OHIO JUNCTION ACCESS SHAFT IMPROVEMENTS

ADDENDUM NO. 1

**ATTACHMENT C PETROGRAPH OBSERVATIONS AND IMAGES, ALCOSAN O-07
TUNNEL ACCESS STRUCTURE H244026**

December 11, 2020

Mr. Nate Carll P.E.
DLZ
300 Bursca Dr
Bridgeville, PA 15017

RE: ALCOSAN O-07 Tunnel Access Structure H2440126
RJ Lee Group Project Number TCH011013

Dear Mr. Carll:

A total of one (1) concrete core identified by you as S-1 Lower Level was received by RJ Lee Group (RJLG) on November 24, 2020, for petrographic examination and chloride content and was assigned RJLG sample number 3166322. The sample was extracted from the wall of O-07 of the ALCOSAN tunnel access structure. The purpose of the examination was to use petrographic methods to characterize the concrete, and to determine the chloride content at specific depths.

The sample was analyzed following ASTM Method C856-17 *Standard Practice for Petrographic Examination of Hardened Concrete*, and ASTM C1723-16 *Standard Guide for Examination of Hardened Concrete Using Scanning Electron Microscopy (SEM)*. A cross sectioned slab was cut and polished for optical microscopy examination. A solution of phenolphthalein, a pH indicator, was applied to a freshly cut cross section to evaluate the depth of carbonation. This solution appears pink in contact with alkaline concrete with pH values in excess of ~9, and colorless at lower pH which results when the paste has reacted to form calcium carbonate.

A polished thin section 44 mm x 32 mm taken from an area of interest was prepared using fluorescent dyed epoxy. The water-cementitious (w/cm) ratio was estimated using a combination of techniques including, but not limited to, polarized and fluorescent light microscopy and SEM backscattered electron microscopy.

The core was analyzed in accordance with ASTM C1218-17 *Standard Test Method for Water-Soluble Chloride in Mortar and Concrete*. Portions were extracted from depths of 0-1", 1-2", 2-3" and the bottom 1" of the core and ground for analyses.

Summary of Results

The concrete was comprised of ordinary Portland cement with natural gravel comprised of siliceous sandstone and natural siliceous sand. The interior paste was dense with a water-cement ratio estimated at 0.35 ± 0.05 .

The top surface was moderately scaled up to $\frac{3}{8}$ " deep with soft, orange discolored paste and exposed coarse aggregate. A thin layer (50 μ m) of gypsum was deposited on the surface. The top $\frac{3}{8}$ " paste was soft and de-calcified with elevated iron and phosphorous. Localized sub-parallel microcracks were present in the altered paste. A layer of gypsum was present in the altered paste approximately $\frac{1}{4}$ " deep. Minor amounts of thaumasite was observed lining and filling voids up to $\frac{1}{2}$ " deep. Severe amount of secondary ettringite deposits in the paste and filling voids was present up to $\frac{3}{8}$ ", then in moderate amounts up to $1 \frac{1}{4}$ " deep. Together, these observations indicate that the top $\frac{1}{2}$ " has been damaged by severe external sulfate attack.

The water-soluble chloride results are presented in Table 1. All of the values are significantly lower than the 0.15 wt. % water soluble chloride recommended for reinforced concrete as per ACI 318 Building Code Requirements for Structural Concrete.

Table 1. Summary of ASTM C1218 Water-Soluble Chloride Results.

Client ID	RJLG ID	Depth (in.)	Chloride, Wt%
Lower level S-1 3166322		0-1"	0.019
		1-2"	0.016
		2-3"	0.006
		Bottom 1"	<0.0042

Full descriptions of the petrographic examinations of the cores are presented in Appendix A at the end of this report, including photographs and representative images of the sample.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. This test report is not to be reproduced except in full, without written approval of the laboratory. Unless notified to return the samples covered in this report, RJ Lee Group will store them for a period of ninety (90) days before discarding.

Should you have any questions regarding this information, please do not hesitate to contact me.

Sincerely,



Patty Sue Kysliger
Concrete Petrographer



April Snyder
Senior Concrete Petrographer
CM Laboratory Manager

Appendix A

Petrographic Observations and Images

ALCOSAN O-07 Tunnel Access Structure H244026

RJLG Project TCH011013

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Table 1. Petrographic Results for Lower level S-1 (3166322).

Client ID: Lower level S-1		RJLG ID: 3166322	
Sample description: Concrete core			
Diameter	3 5/8"	Length	10"

Summary of Petrography and Analytical Results

Overall Condition	Estimated Air (%)	Estimated Paste (%)	Estimated w/cm ratio	Cement Type & Hydration	Reinforcement Cover
Good below top 1/2"	3-5	27-28	0.35 ± 0.05	Well hydrated Portland cement	None detected

Properties

Coarse Aggregate Type	Natural gravel consisting of siliceous sandstone
Maximum Size	1 1/8"; typical 7/8"
Gradation	Even
Shape	Rounded
Distribution	Good
Bond to Paste	Good
Fine aggregate type	Natural siliceous sand
Air Void Type & Distribution	Fairly well distributed entrained air with trace entrapped voids with longest at 1/2"
Carbonation	Not observed
Paste Color & Hardness	Light gray (Munsell N7), hard
Cracks/Microcracks	<ul style="list-style-type: none"> • Sub-parallel microcracks through porous de-calcified paste in top 1/8". • Autogenous shrinkage microcracks in trace amounts.

Observations

<ul style="list-style-type: none"> • Top surface with moderate scaling up to 3/8" deep with exposed coarse aggregate. A thin white coating covered the orange discolored paste which was friable. • Bottom surface was fractured through coarse aggregates indicating a good paste/aggregate bond. • 19 to 50 µm thick coating of gypsum with titanium on the surface of the core. • Leaching of the top surface resulting in soft, friable paste up to 3/16" deep. Sub-parallel microcracks observed in altered paste. The decalcified paste in this region is rich in iron and a trace of phosphorus. • Paste leached of calcium hydroxide up to 1/2" deep. • Gypsum deposits less than 1/16" thick at approximately 1/4" deep. Thaumasite deposits lining/filling voids from 1/4" to 1/2" deep. Abundant secondary ettringite deposits in the paste from 1/4" to 1/2" deep. • Moderate amount of secondary ettringite deposits from 1/2" to 1 1/4" deep.
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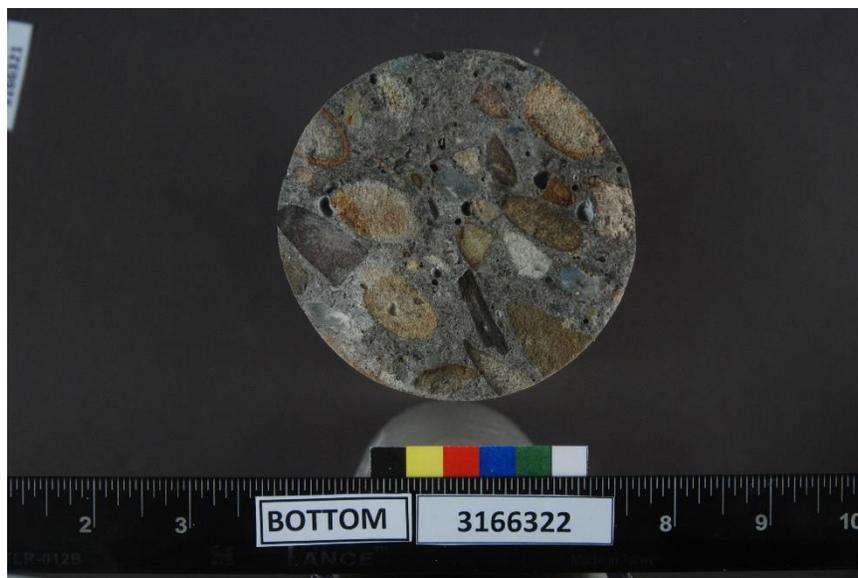


Figure 1. Lower level S-1 (3166322). Photographs of core in as-received condition.



Figure 2. Lower level S-1 (3166322). Photograph of freshly cut surface with phenolphthalein indicator applied. The surface of the core was coated with fluorescent dyed epoxy before cutting.



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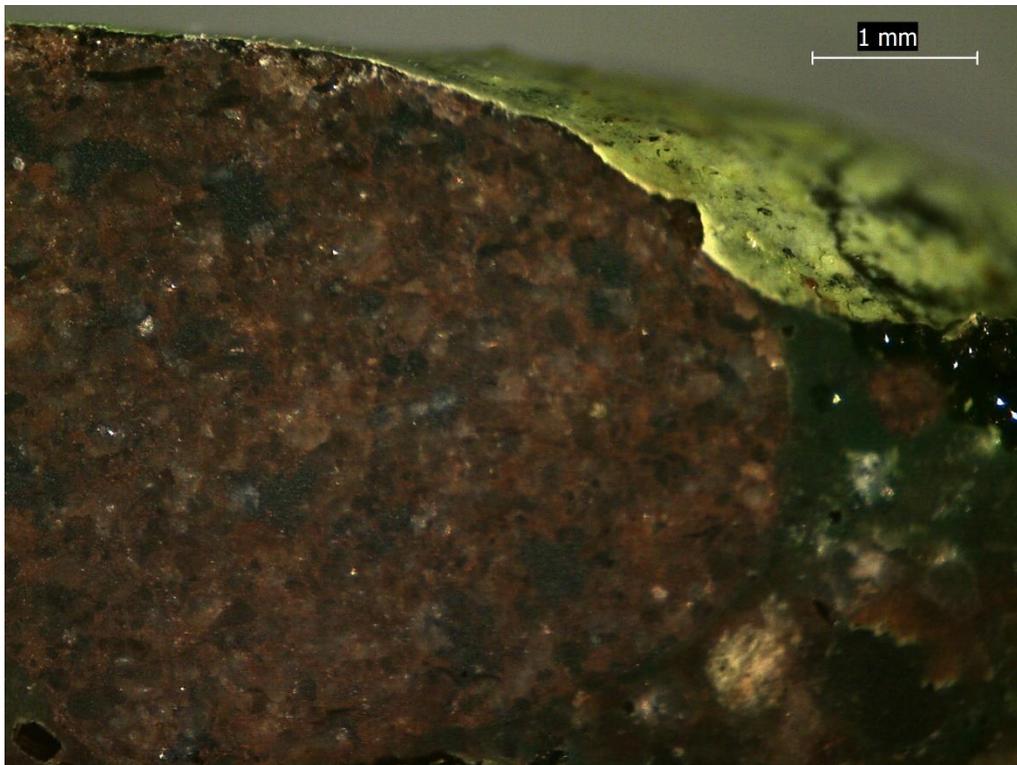


Figure 4. Lower level S-1 (3166322). Stereo-optical micrographs showing a cracked, white desposit on the surface.

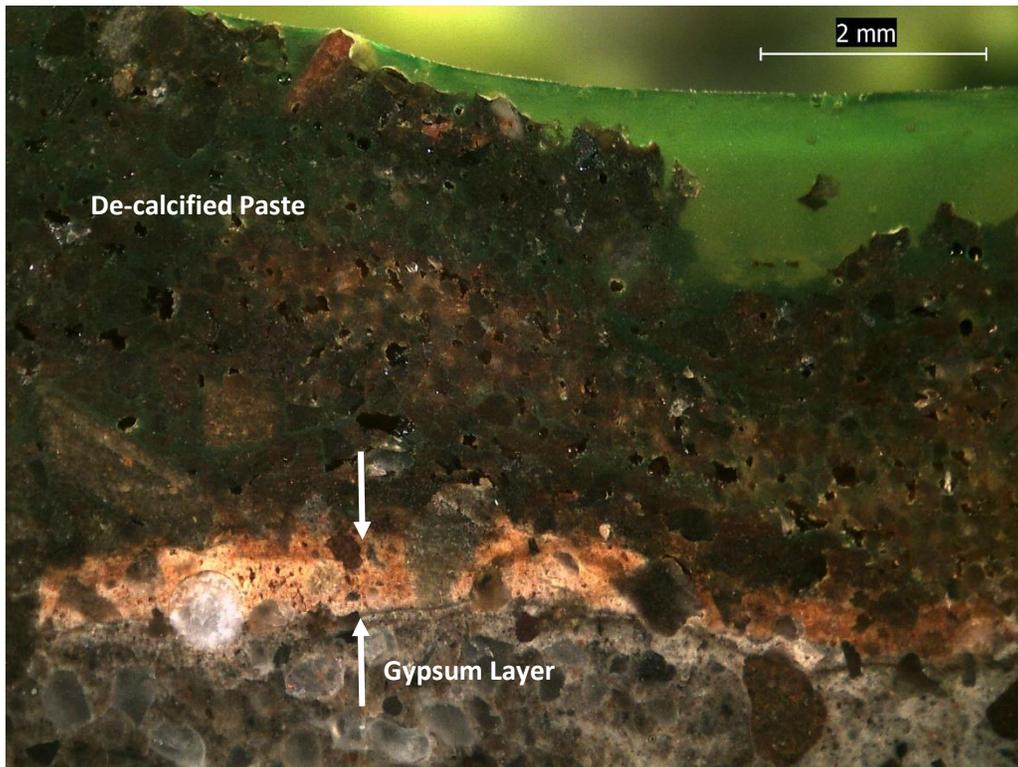


Figure 5. Lower level S-1 (3166322). Stereo-optical micrographs showing porous, de-calcified paste along the surface and a layer of gypsum desposits highlighted by the two arrows.



Figure 6. Lower level S-1 (3166322). Photograph of cross sectioned slab showing location of thin section preparation outlined in black.

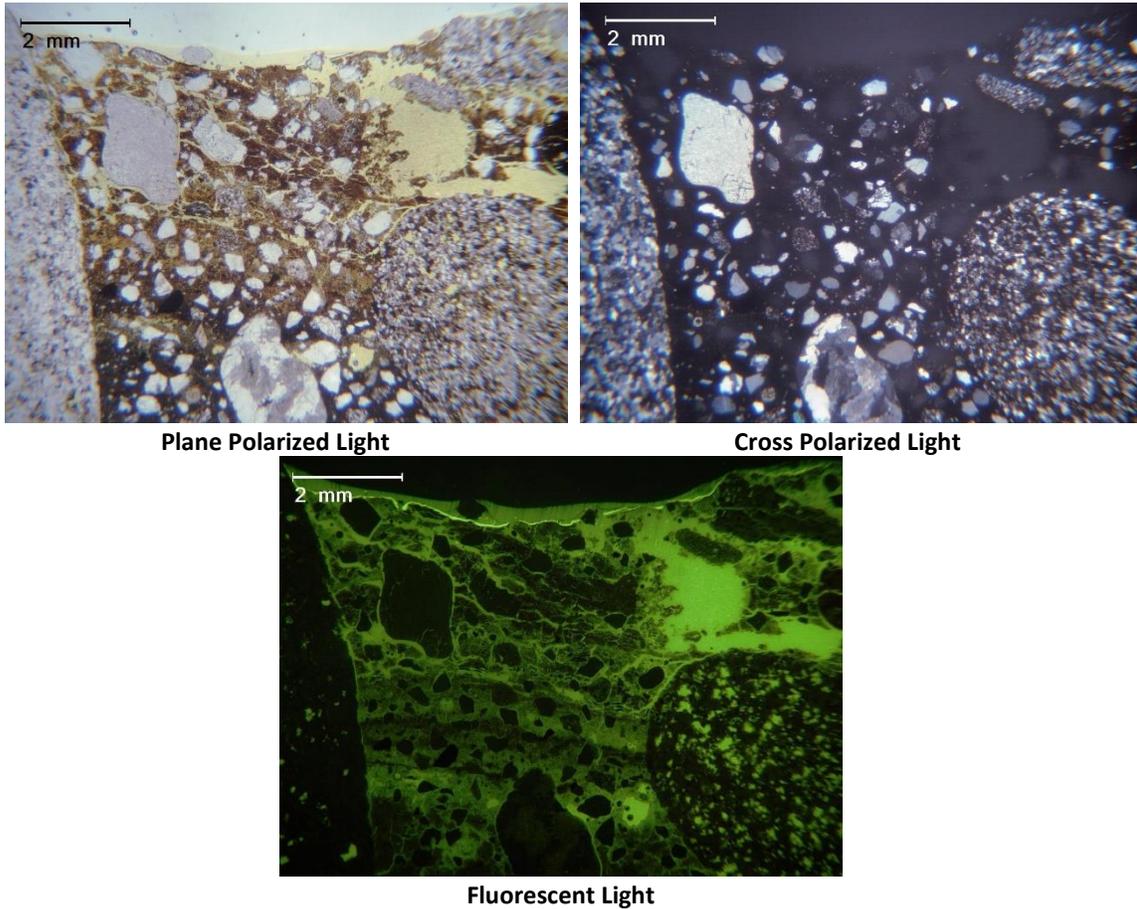


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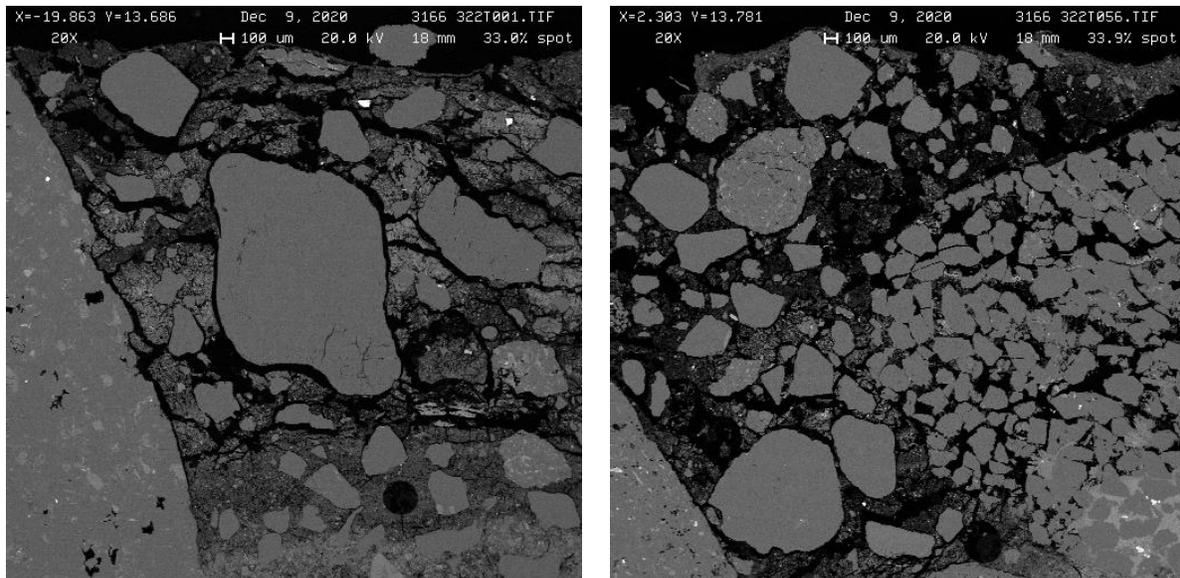


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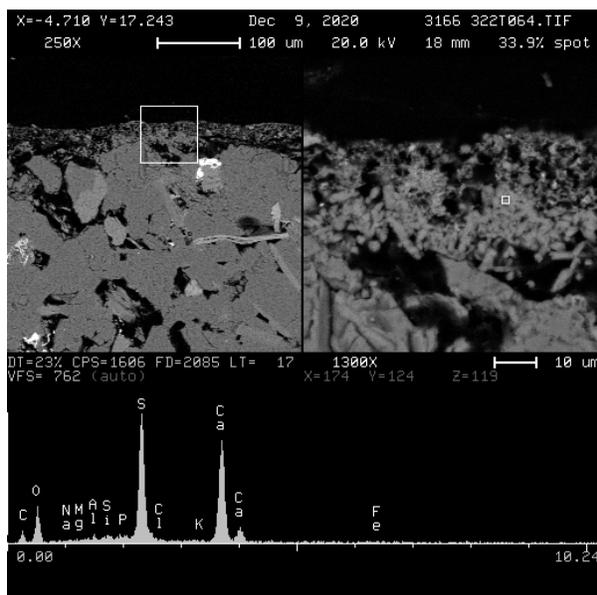


Figure 9. Lower level S-1 (3166322). BSE images with EDS spectrum of gypsum coating on an exposed coarse aggregate.

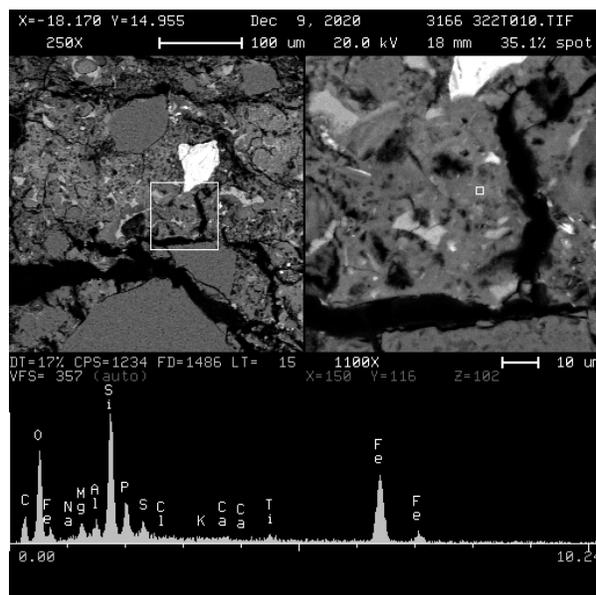


Figure 10. Lower level S-1 (3166322). BSE images with EDS spectrum of iron-rich de-calcified paste with minor phosphorous.

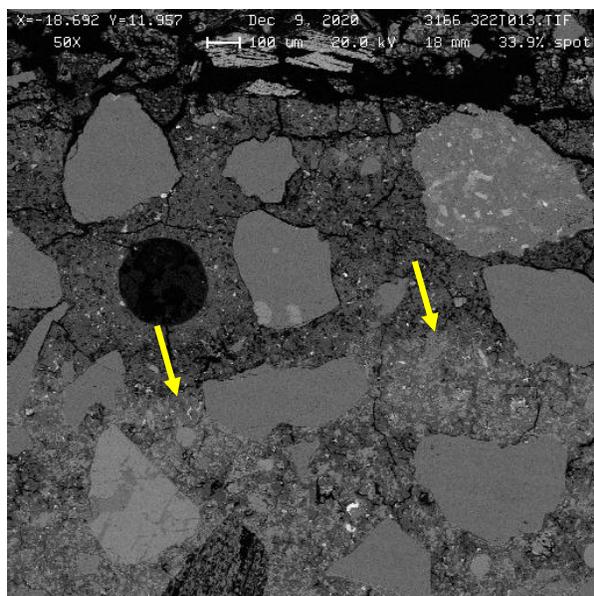


Figure 11. Lower level S-1 (3166322). BSE image showing the gypsum in the paste (in area highlighted by the arrows).

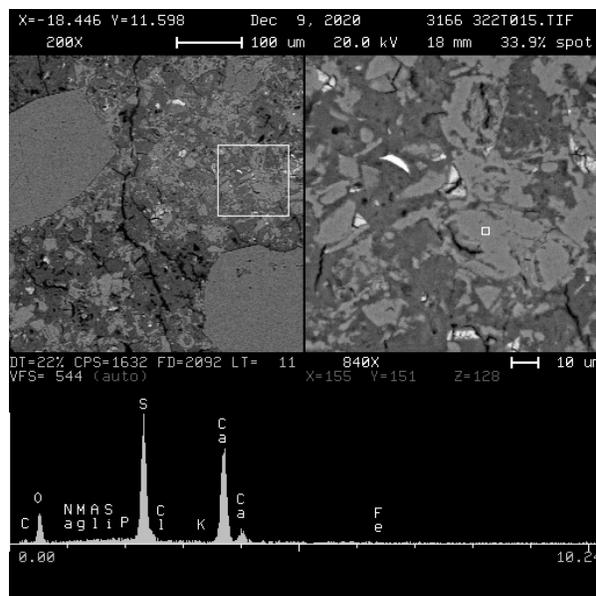


Figure 12. Lower level S-1 (3166322). BSE images with EDS spectrum of gypsum in the de-calcified paste.

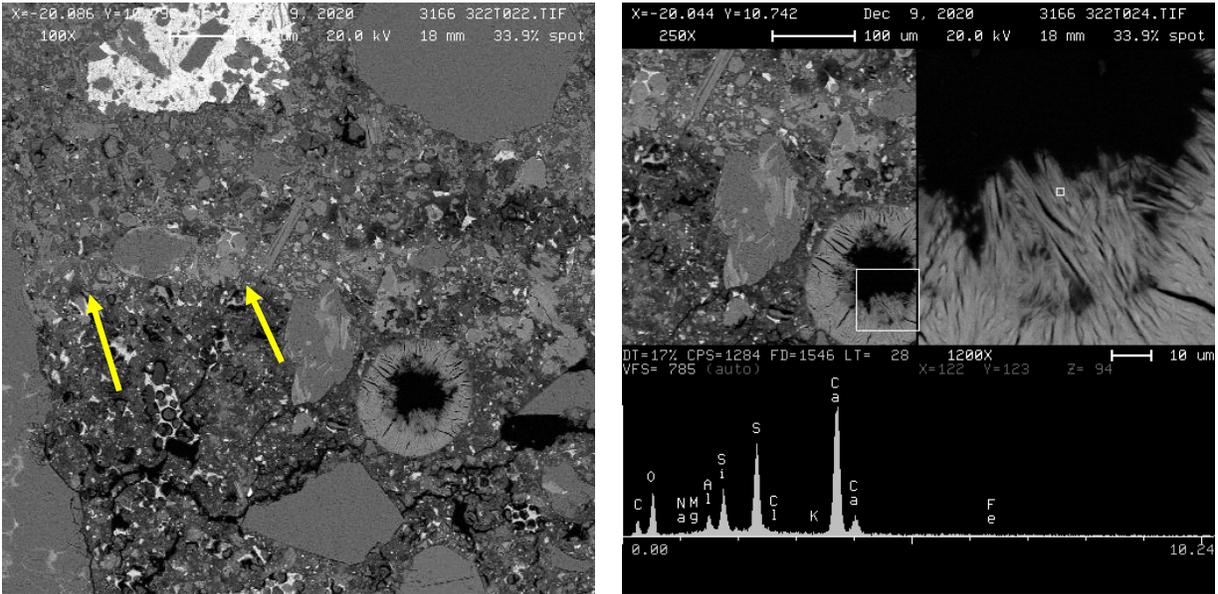


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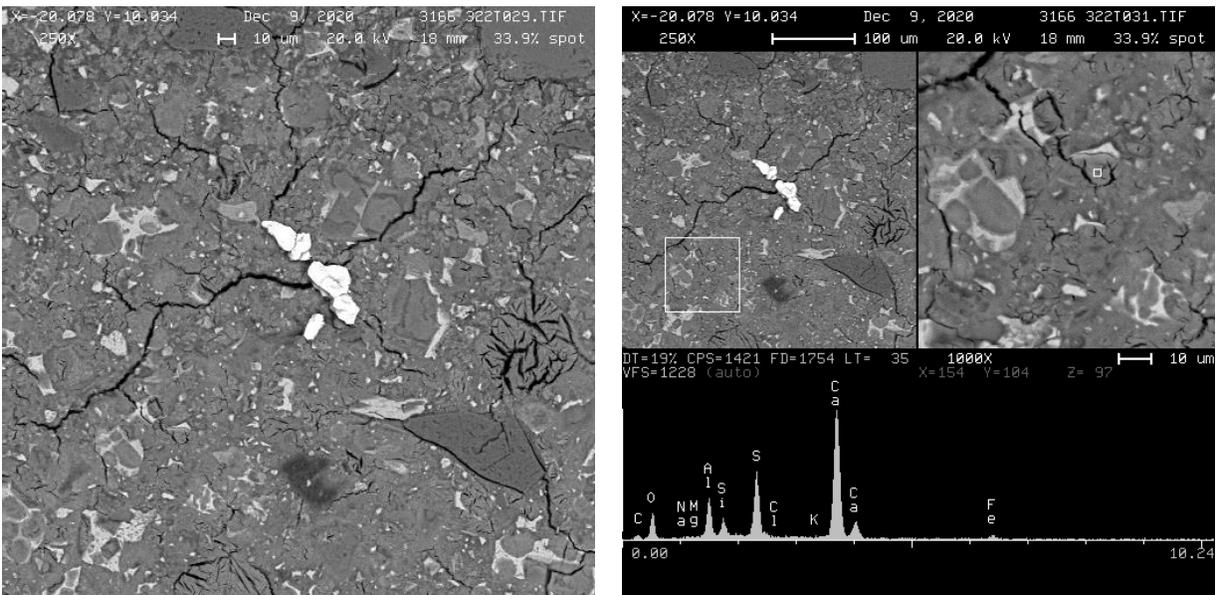


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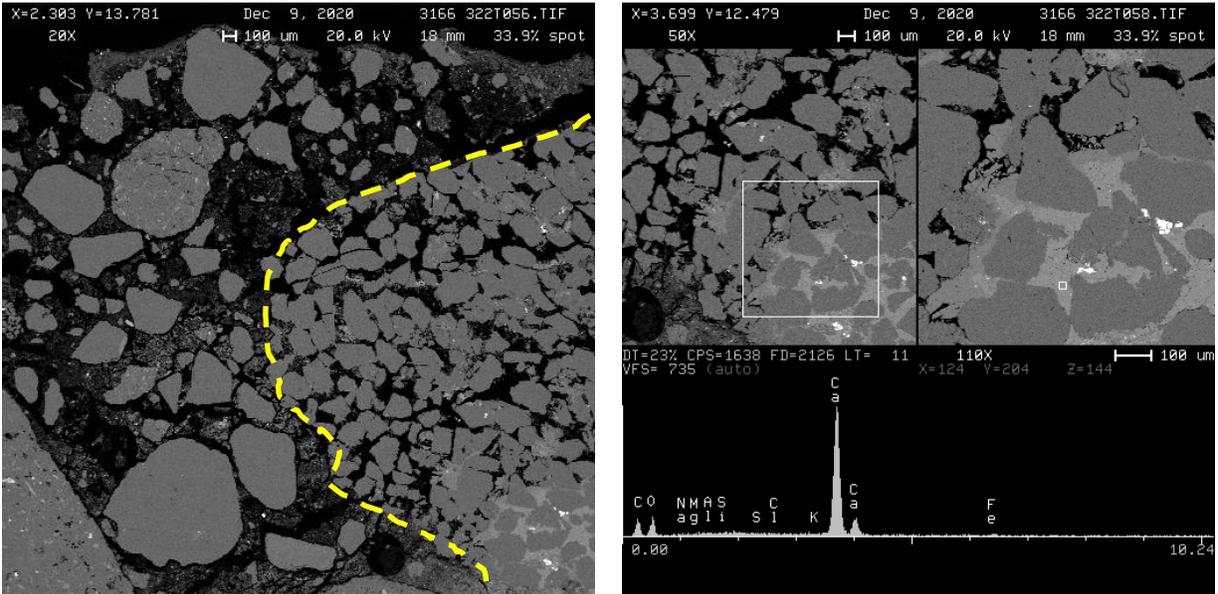


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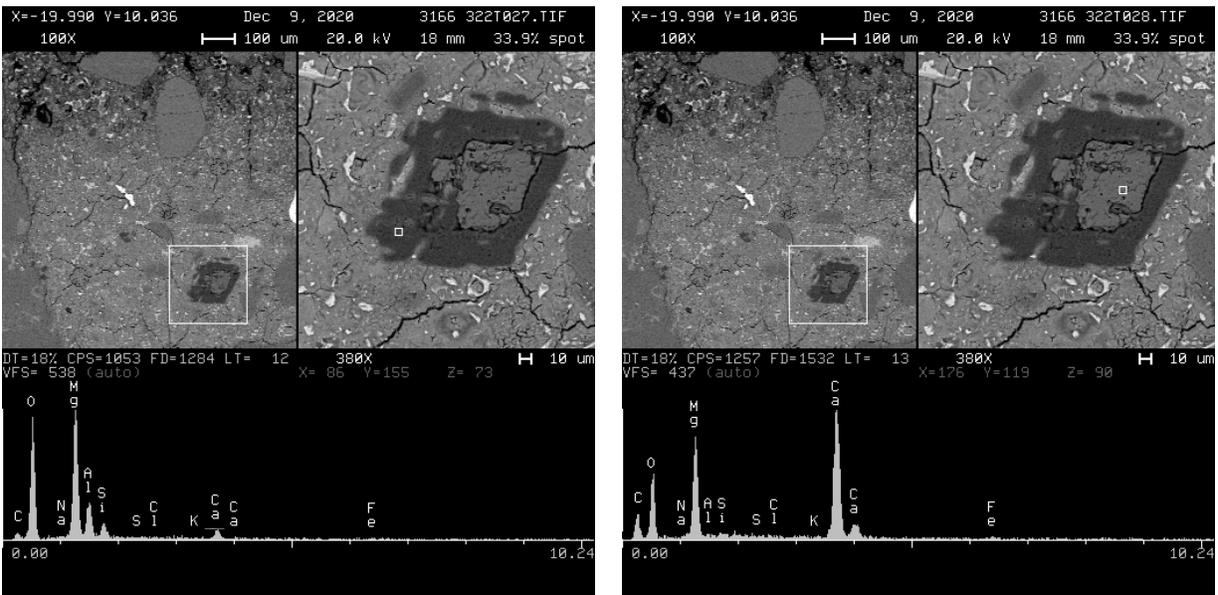


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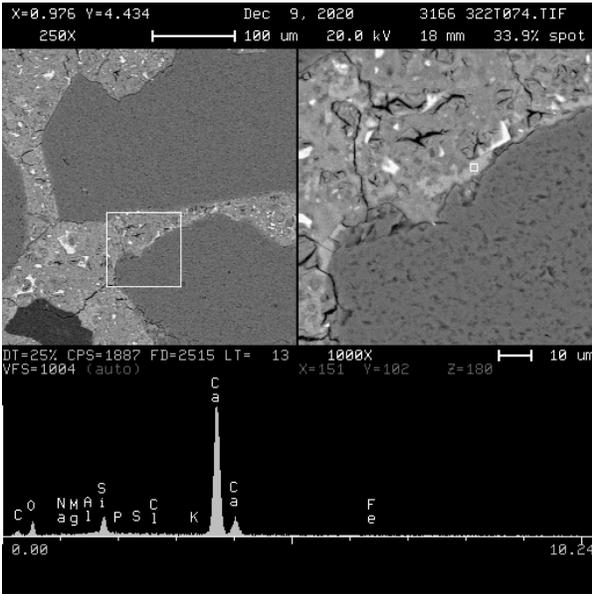


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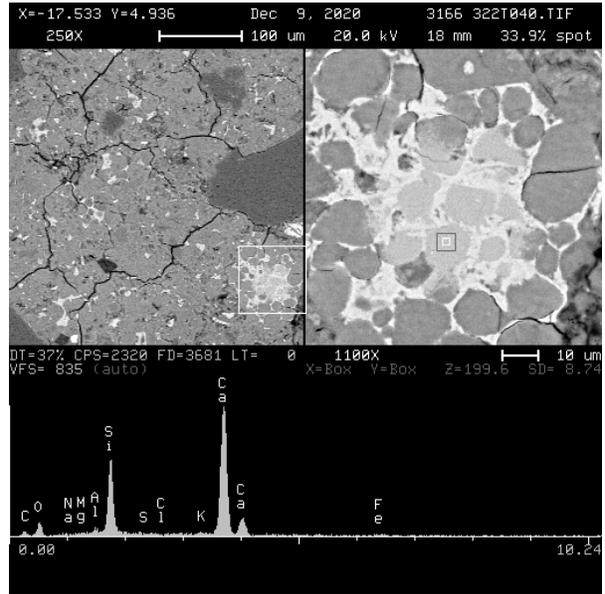


Figure 18. Lower level S-1 (3166322). BSE images with EDS spectrum of partially hydrated cement grain.

AUGUST 17, 2022

CONTRACT NO. 1744A G, E, H

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ADDENDUM NO. 1

***** END OF ADDENDUM NO. 1 *****