**To:** Rao, Kate[Rao.kate@epa.gov]
**Cc:** Rumrill, Nancy[Rumrill.Nancy@epa.gov]; Jim Walker[jameswalker5@msn.com]; Albright, David[Albright.David@epa.gov]
**From:** Jonathan Koplos
**Sent:** Tue 5/31/2016 10:53:35 AM
**Subject:** RE: Technical Direction Memo: Contract No. EP-C-15-022, WA 0-90; Task 1, Subtask 1.2 -- Excelsior Mining Company - Class III UIC Permit # R9UIC-AZ1-FY-16-1, Permit Technical Review Analysis

Good morning, Kate and Nancy.

As of yesterday, Jim and I determined that the Excelsior review will take a few more calendar days than planned (it is currently due to you on June 2). So far, the review materials we're preparing are 20+ pages.

Would it be ok if we submit the review materials to you by June 8?

Please let me know if you need it earlier than the 8th and we'll make it work out.

Thank you,

Jonathan

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Jonathan Koplos, Ph.D.

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**From:** Jonathan Koplos
**Sent:** Thursday, May 26, 2016 8:15 AM
**To:** 'Rao, Kate' <Rao.kate@epa.gov>
**Cc:** Rumrill, Nancy <Rumrill.Nancy@epa.gov>; Jim Walker <jameswalker5@msn.com>; Albright, David <Albright.David@epa.gov>
**Subject:** RE: Technical Direction Memo: Contract No. EP-C-15-022, WA 0-90; Task 1, Subtask 1.2 -- Excelsior Mining Company - Class III UIC Permit # R9UIC-AZ1-FY-16-1, Permit Technical Review Analysis

Thank you, Kate.

We will keep you posted.

Jonathan

**From:** Rao, Kate [mailto:Rao.kate@epa.gov]
**Sent:** Wednesday, May 25, 2016 9:57 AM
**To:** Jonathan Koplos <Jonathan.Koplos@cadmusgroup.com>
**Cc:** Rumrill, Nancy <Rumrill.Nancy@epa.gov>; Jim Walker <jameswalker5@msn.com>; Albright, David <Albright.David@epa.gov>
**Subject:** RE: Technical Direction Memo: Contract No. EP-C-15-022, WA 0-90; Task 1, Subtask 1.2 -- Excelsior Mining Company - Class III UIC Permit # R9UIC-AZ1-FY-16-1, Permit Technical Review Analysis

Morning Jonathan. Thanks for the email and update on the progress you are making with the Excelsior tech review. Nancy has been in contact with Jim on this TDM and understands that

the material to review is extensive and the technical nature of the proposed project is very complex so going over the Ex. 4 - CBI seems reasonable. If you think you'll go over 125 LOE, please let me know.

Thanks. Kate

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Kate Rao
Drinking Water Protection Section (WTR 3-2)
USEPA Region 9
75 Hawthorne St., San Francisco, CA 94105
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**From:** Jonathan Koplos [mailto:Jonathan.Koplos@cadmusgroup.com]
**Sent:** Tuesday, May 24, 2016 1:56 PM
**To:** Rao, Kate <Rao.kate@epa.gov>
**Cc:** Rumrill, Nancy <Rumrill.Nancy@epa.gov>; Jim Walker <jameswalker5@msn.com>
**Subject:** RE: Technical Direction Memo: Contract No. EP-C-15-022, WA 0-90; Task 1, Subtask 1.2 -- Excelsior Mining Company - Class III UIC Permit # R9UIC-AZ1-FY-16-1, Permit Technical Review Analysis

Hi Kate and Nancy,

Work is proceeding well on this Excelsior TD. Based on the work so far, we might be using around Ex. 4 - CBI to get the Technical Analysis Review to you (now scheduled for June 2). It is a big application with lots of material to read and process.

Just an FYI.

Thanks,

Jonathan

**From:** Rao, Kate [mailto:Rao.kate@epa.gov]
**Sent:** Thursday, March 24, 2016 6:34 PM
**To:** Jonathan Koplos <Jonathan.Koplos@cadmusgroup.com>
**Cc:** Albright, David <Albright.David@epa.gov>; Rumrill, Nancy <Rumrill.Nancy@epa.gov>; Dermer, Michele <Dermer.Michele@epa.gov>; Parrotta, Nancy <Parrotta.Nancy@epa.gov>; Adams, Tammy <Adams.Tammy@epa.gov>
**Subject:** Technical Direction Memo: Contract No. EP-C-15-022, WA 0-90; Task 1, Subtask 1.2 -- Excelsior Mining Company - Class III UIC Permit # R9UIC-AZ1-FY-16-1, Permit Technical Review Analysis

Hi Jonathan – another work request under WA 0-90. Please let me know who the technical lead will be on this project. I have one hardcopy application with CDs that I will send to the tech lead and have another set of CDs (includes complete revised application) that I can send to you if needed. Nancy Rumrill is the tech lead for EPA.

Please let me know if you have any questions.

Thanks. Kate

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**Contract No. EP-C-15-022, Workplan Assignment No. 0-90**

**R9 Tech Support for Implementation of the UIC Program – Excelsior Mining Company - Class III UIC Permit #R9UIC-AZ1-FY-16-1**

**[Task 1; Subtask 1.2 - Permit Technical Review Analysis]**

**Technical Direction**

**Background:** Excelsior Mining Company (Excelsior) has submitted a UIC area permit application to operate a Class III ISR copper mining facility in Chochise County, AZ. EPA

determined that the application, which includes an aquifer exemption, is administratively complete (see attached letter). The applicant also submitted an Aquifer Protection Permit to the Arizona Department of Environmental Quality (ADEQ) and this is also available on CD.

**Action:** Under Task 1, Subtask 1.2 – Technical Review Analysis, review and provide an evaluation of Excelsior's permit application, including the aquifer exemption proposal, dated *February 2016/revised March 2016*. The following evaluation must be conducted:

- Analyze well log data and testing results submitted by the prospective owner or operator.
- Evaluate local and regional geology, including injection zone and confining zone characteristics.
- Assess area of review (AoR) determinations or zone of endangering influence calculations, including information related to aquifer exemptions (if applicable).
- Provide recommendations for any corrective action required at existing wells within the AoR.
- Identify and recommending technical terms and conditions to be imposed in the draft permit (related to well operation, monitoring, testing, reporting, and other activities required by applicable UIC Program regulations).
- Evaluate proposed plugging and abandonment plans.
- Assess the acceptability of proposed financial assurance procedures/mechanisms.
- Review and evaluation other applicable attachment(s) in the permit application.

**Deliverable:** Provide a technical analysis summarizing the results of the technical review of the permit application. The analysis should include an itemized list of additional information necessary to clarify, modify, or supplement the permit application materials. Deliverable should be emailed in WORD to Kate Rao and Nancy Rumrill. If necessary, based on further technical direction from Kate Rao, Cadmus may be asked to evaluate subsequent submittals made to address the identified technical deficiencies, until the permit application is determined to be technically sufficient.

**Material:**

- Hardcopy permit application (dated February 2016/revised March 2016) which includes CDs of

a) February 2016 application, b) February 2016/revised March 2016 permit application, and c) ADEQ APP Application January 2016.

- March 24, 2016 Admin Review letter from EPA to Excelsior (attached).

Ex. 4 - CBI

**Schedule:** Due 8 weeks from the date of this TDM (May 19, 2016).

**Kick-off Call:** Nancy Rumrill with schedule a call with the Cadmus tech lead once the material is received to discuss the TDM. Ex. 4 - CBI