

Montana Tech Library

Digital Commons @ Montana Tech

Silver Bow Creek/Butte Area Superfund Site

Montana Superfund

Summer 7-26-2024

Re: Comment letter for the Butte Priority Soils Operable Unit (BPSOU) Draft Butte Treatment Lagoons Stress Test Pre-Design Investigation Work Plan (dated June 17, 2024)

Emma Rott

Follow this and additional works at: https://digitalcommons.mtech.edu/superfund_silverbowbutte



Part of the [Environmental Health and Protection Commons](#), [Environmental Indicators and Impact Assessment Commons](#), and the [Environmental Monitoring Commons](#)



REGION 8

DENVER, CO 80202

July 26, 2024

Mr. Josh Bryson
Liability Manager
Atlantic Richfield Company
317 Anaconda Road
Butte, Montana 59701

Re: Comment letter for the Butte Priority Soils Operable Unit (BPSOU) Draft Butte Treatment Lagoons Stress Test Pre-Design Investigation Work Plan (dated June 17, 2024)

Dear Mr. Bryson:

The U. S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is providing comments on the *Draft Butte Treatment Lagoons Stress Test Pre-Design Investigation Work Plan (dated June 17, 2024)* with the following comments. Please address the following comments, in addition to the comments submitted by DEQ on July 19, and submit the final version for review.

Comments:

Butte Treatment Lagoons Stress Test Pre-Design Investigation Work Plan (PDIWP)

General Comments

1. The Work Plan and attached QAPP and appendices appear to be focused exclusively on the Montana Pole Site as a potential source of COCs that could be impacted by the pumping during the 6-week stress test. The Northwestern Energy (NWE) site, while mentioned is largely neglected in terms of the proposed monitoring to be performed within the Early Detection Network wells. The ongoing monitoring focuses on the pentachlorophenol (PCP) associated with the Montana Pole site, but not on other COCs which have been detected at the NWE site, such as the BTEX compounds (benzene, toluene, ethylbenzene, and xylene), and tetrachloroethene (PCE). The NWE site is well within the capture zone of the proposed pumping and groundwater from beneath NWE will potentially be pulled into BRW and the pumping wells to some extent. Please modify the documents to include potential effects from NWE.
2. Requested additions to the field monitoring of the early detection wells and the analyses to be performed before and after the test are included within the specific comments. Should certain criteria be met (Mann-Kandall increasing trend, drawdown, etc) the pumping rate may be decreased at BRW or shut down entirely.
3. If wells must be shut down at BRW, will the pumping rate of other wells or water sources (BTC and West Camp) be increased in order to provide enough flow to test the capacity of the BTL system?

If so, do other sources have the ability to provide enough water of the right quality or would the whole test need to be shut down? If the test is terminated due to chemical breakthrough, is there an alternative backup plan for performing the stress test? Please add a discussion.

4. GAC, in addition to removal of organics, can remove metals from solution. Therefore, the metals concentrations measured at the pumping wells multiplied by the pumping rates may not accurately reflect the flux of metals entering the BTL. Please discuss how this will be accounted for.

Specific Comments

5. Section 1.2.2, Additional Groundwater Monitoring, 4th sentence: Please add arsenic, BTEX, PAHs, and chlorinated solvents to the list of CoCs at NWE. Arsenic was detected at a concentration of 1,400 ug/L in well MW-03-MPC in October 2019, while tetrachloroethene (PCE) was detected in groundwater at the NWE site in October 1990 (4.3 µg/L in MW-04). Xylenes were detected in groundwater during the 2019-21 sampling just northwest of the pump island on the eastern side of the NWE property.
6. Section 3.3 Functional Capacity Data Gaps, 2nd paragraph: EPA was provided the TM cited in this section as Attachment A of the Capture and Treatment System Performance Evaluation Scoping Document. However, the modeling specifics (model used, input parameters, etc.) and laboratory testing results used to prepare the TM have not been provided. Therefore, it is not possible to evaluate the results presented in the TM and repeated in the WP. Please provide additional details to EPA.
7. Sections 3.4.1 and 3.4.2: What were the resultant well drawdowns, aquifer recovery times, etc. following the steady-state pumping?
8. Section 3.6 Groundwater Monitoring at and near BRW, 1st paragraph, second sentence: Please add BTEX, PCE, and arsenic to the list of potential COCs (see comment above).
9. Section 3.6: Please add a reference to the Early Detection Network Memorandum attached to the QAPP. This provides additional detail on the Early Detection Network (EDN) and what that entails.
10. Section 8.1: What is the staff schedule for monitoring pumping during the stress test (approx. 20 weeks)? Will staff be onsite/monitoring pumping on a 24-hour continuous basis?
11. Section 8.2 Stress Test Event Schedule, and Figure 13: Please update this schedule.
12. Section 9.0 Reporting: Please also include a section on deviations from the Work Plan/QAPP.
13. Table 3, DQOs, Step 1: The identification of each of the first two identified problems (i.e. columns of the table) as Estimation Problems is not consistent with the descriptions. The end product of an estimation problem is one or more values, such as a concentration or a flow. Of course, a maximum flow capacity of the BTL is one component of the study, but it is clear from the description that the study will consist of more than that. Apparently, minor modifications to the BTL will be made on the fly to increase flow capacity during the test, but other findings, such as if the BTL cannot handle the required flow would require a decision.
14. Table 3, DQOs, Step 1: The problem in the third column is unclear from the description what type of problem is defined. Is the end result drawdown numbers? Aquifer parameters? The problem states "The EDN data will be used to monitor and limit adverse effects of pumping at the BRW site and inform decision making for the Stress Test." Decision is mentioned in this sentence,

suggesting that No. 3 is also a decision problem. Either re-write the problems in terms of the estimators to be determined (flow, concentrations, etc.) or redefine the problems as decisions.

15. Table 3, DQOs, Step 2: In step 2 there should be either a decision statement or an estimation statement. For decision problems, step 2 also typically contains a table or narrative of the decisions to be made based on different study results. For example, if the BTL has the required capacity or can be made to have the capacity based on system modifications then the decision would be that the BTL is sufficient for construction dewatering and long-term FRE remedy needs, but if not, what will be done?
16. Table 5: Under Early Detection Monitoring, analyses for the wells is listed as Groups 1,3,4,6 and 7 with a frequency of "Pre-test baseline; Daily-Weekly (Appendix D)". However, Appendix D Table D-4 indicates that only PCP field screening (Group 4) is to be done during the test. The larger group (Groups 1,3,4, 6 and 7), according to the text of Appendix D Section 2.5.2 laboratory analyses are to be conducted before and after the test at a minimum. Please correct either Table 5 or Table D-4 and the text of Appendix D as appropriate.
17. Table 6: In this case, samples are collected daily, so there should be adequate samples for M-K. However, as stated below in the comments on Appendix D M-K does not factor in the magnitude of an increasing trend. Please consider adding the Theil-Sen slope into the trend analysis. Also, please monitor the other CoCs for increasing trends and use as suspension triggers along with copper.
18. Table 7, Group 7: Please add the SW-846 8260 and 8270 lists to this table. These analyses should be performed at the beginning and end of the stress test at a minimum.

Butte Treatment Lagoons Stress Test Quality Assurance Project Plan (QAPP)

General Comments

19. Please state that the table references in the QAPP are contained within the Work Plan.

Specific Comments

20. DQOs: See comments on Table 3 of the WP above.
21. Section 6.5 Other Water Quality Sampling: Same comment on the EDN wells as for the Work Plan in that the 8260 and 8270 lists need to be analyzed before and after pumping (at a minimum) and field screening of BTEX (in addition to PCP) during pumping.
22. Section 7.6.2 Modern Water RaPID Assay PCP Screening Kit (PCP Screening Kit): According to the online manual for the Modern Water RaPID test, the assay range for water is 0.06 to 10 ppb as pentachlorophenol. Please correct. Please note that field screening of PCP using immunoassay is an EPA SW-846 method (Method 4010A) and should be referenced in this section and in Table 7. Also, please point out in this section that the field test is not specific to PCP and can also react to other chlorinated phenols. Method 4010A (Table 2) provides instances where false positives and (rarely) false negatives were obtained. 4010A also points out that when exact PCP concentrations are required Method 8270 should be used.
23. Section 7.7 Special Training: Please mention that staff training is a requirement of EPA Method 4010A and that the planned training will meet the requirements.
24. Sections 8.4 and 8.5: Clarify that these apply to both laboratory and field analyses.

25. Section 14.0 Schedule – Please update.

Appendix D to Attachment A - BTL Stress Test Early Detection Network Sampling Logic

General Comments

26. Appendix D is not consistent with the Work Plan and QAPP in some instances. For example, Appendix D should make reference to the analytical groups defined in Table 7 of the Work Plan instead of using more vague terms such as “laboratory analyses”. Other instances are provided within the specific comments below.

Specific Comments

27. Section 2, Objectives, 2c – Please add “and other potential CoCs” to this goal.
28. Section 2.1 Objective 1: Define an Early Detection Network, 1st sentence – Early detection wells are also located on the BRW Site on the boundary between BNSF/NWE and BRW. Please add.
29. Section 2.3 Objective 2b: Monitor Changes in Chemical Concentration: It’s unclear why these two wells were selected for this calculation. It would be more useful to use a pumping well as one of the wells. Also, the dh given is the change in water levels due to pumping. This calculation needs to use the predicted difference between groundwater elevations during pumping. Please revise. Also, a useful metric to present would be the total distance traveled during the test.
30. Section 2.3 Objective 2b: Monitor Changes in Chemical Concentration: Another calculation should be presented using an impacted well at NWE. It is expected that the dh may be larger than the example presented resulting in a higher velocity and greater travel distance during the test.
31. Section 2.3 Objective 2b: Monitor Changes in Chemical Concentration, last paragraph, 2nd to last sentence – The sentence implies that analytical testing may be done during the test, but Table D-4 states only field PCP will be determined during the test. If analytical testing is done during the test, what conditions would trigger this testing? Presumably, laboratory analyses would be used to confirm detections or increasing concentrations of the field-determined parameters (PCP and BTEX). Please explain in the text.
32. Section 2.4.1, 1st full paragraph – The monitoring of PCP in the early warning wells as a surrogate for other less mobile compounds makes sense if the source of all of the COCs is the same. In this case, there are multiple potential source locations with different COCs. For example, BTEX or PCE from NWE would not likely be accompanied by an increase in PCP concentrations. Please add field screening of BTEX, using a suitable test kit, to Table 7 of the Work Plan, the QAPP and Appendix D to Attachment A. In addition, please include the full EPA SW-846 8260 (volatiles) and 8270 (semivolatiles) parameters for the samples collected at the beginning and end of the stress test for each of the 17 wells in the early detection network. The 8260 list includes BTEX, chlorinated solvents, lead scavengers, and MTBE while the 8270 list includes PCP, and PAHs.
33. Section 2.4.1 IDENTIFY APPROPRIATE THRESHOLD VALUES FOR EARLY DETECTION NETWORK– The use of early warning wells is justified and much appreciated. The dual criteria of either an increasing Mann-Kendal (M-K) trend within an early warning well or a threshold value (1/2 of the human health criteria) at a pumping well is also logical and justified. However, the required minimum number of samples for M-K (six) and the weekly sampling interval dictate that the threshold number of samples will not be reached until the 6-week test (23 August to 6 October) is nearly concluded, making M-K less useful for early warning. Please either increase the sampling

frequency or specify a less certain M-K criteria to indicate an increasing trend, or both. An increased sampling frequency would be preferred because it would identify any migration of contaminants sooner, before entering the pumping wells. Twice per week field testing for the EDN wells would seem like a reasonable sampling frequency that would provide adequate samples for M-K as well as an earlier identification of any off-site plumes entering the BRW. Also, M-K does not take into account the magnitude of a trend, only that concentrations consistently increase (or decrease) from one sample event to the next. Please also consider incorporating the Theil-Sen Slope into the trend analysis to look at the magnitude of any trend observed. The specified 2X initial concentration criteria kind of does this, but in a crude fashion that does not account for analytical spikes that are possible, particularly when using a field analysis method.

34. Section 2.4.1, IDENTIFY APPROPRIATE THRESHOLD VALUES FOR EARLY DETECTION NETWORK: Table D-3 and supporting text do not provide a basis for the threshold drawdown values. All that is provided is that excessive drawdown will be avoided. What constitutes excessive drawdown?
35. Section 2.5.2 SAMPLING DURING PUMPING – This sentences states “Weekly laboratory sample locations may be adjusted as necessary, but laboratory samples will be submitted from each location at the start and end of pumping, at a minimum, to compare to baseline analytical trends.” Laboratory samples are not included in Table D-4 for the early detection wells during pumping, only PCP field screening (Group 4). Please add to Table D-4 and explain under what circumstances laboratory analyses would be performed during pumping.
36. Table D-5: The table title includes “Cont.” suggesting that there may be more to this table not presented in the file. Is the entire table presented? Do the duplicate and blank frequencies also apply to field tests? If not, please explain.
37. Second Table below D-5 – A second table, without a table number is located below Table D-5. This table has sample group 8, which is not present in the Work Plan Table 7, but appears to be the same as Group 7 within Table 7 of the Work Plan. Please either delete this table or assign a table number and designate as Group 7 to be consistent with the Work Plan.
38. Figure D-1: How was the ‘Estimated Drawdown Contour’ delineated?

Additional Comments to Consider

The following comments are suggestions aimed at using the pumping associated with the BTL stress test to collect additional data for evaluating the aquifer hydraulic and water quality responses to longer term testing than has previously been conducted. We consider this to be a good opportunity to learn more about the effects of dewatering and future groundwater controls.

Twice weekly surface water quality synoptic sampling of BTC and Upper SBC in between the subdrain pump vault and BMFOU Discharge Structure for pH, total and dissolved Cu and Zn is not included in the Draft BTL Stress Test Work Plan. No surface water sampling is proposed. This misses the opportunity to provide directly measured performance data on the effects of pumping well BTC-PW-01 on surface water quality that would be extremely useful for remedy design of the BTC Groundwater Hydraulic Control System.

Surface water stage monitoring sufficient to determine how pumping BTC-PW-01 reduces groundwater gain to surface water is not included in the Draft BTL Stress Test Work Plan. Under the Draft BTL Stress Test Work Plan, continuous stage data would be limited to two USGS stations, and transducers at SS-04

and the KOA wetland. The plan includes only two stage measurements at the five BTC synoptic sites during the test and none on Upper SBC. This misses data needed to show trends in surface water stage vs groundwater levels as the test progresses and may not provide sufficient data to assess and remove the effects of other causes of variability in stream stage (diurnal effects, upstream withdrawals, etc.).

Groundwater level monitoring to evaluate reversal of gradients near the subdrain is limited to weekly water level measurements in the Draft BTL Stress Test Work Plan. The plan includes continuous transducer measurement at the deeper wells in the nested well pairs (BPS07-21/BPS07-21B and BPS07-22R/BPS07-22B) located near the subdrain that showed a gradient reversal during the 72-hour test last year, but only weekly measurement of the shallow wells. More frequent data at all nested well pairs is needed to provide data to evaluate trends in vertical gradients caused by pumping BTC-PW-01.

Groundwater pH and SC monitoring at all wells is not included in the Draft BTL Stress Test Work Plan. Field parameter monitoring (Temp, SC, DO, pH, ORP, turbidity) is limited to six wells in the BTC and subdrain vault area in the Draft BTL Stress Test Work Plan. This limits data needed to interpret plume changes, preferential flow paths, migration of contaminated groundwater during long-term pumping, and capture system performance.

Twice weekly sampling of pumping well BTC-PW-01 for Arsenic, Cadmium, Copper, Lead, Mercury, Zinc, Hardness, Alkalinity, Alkalinity, Sulfate, and TDS is not included. Sampling BTC-PW-01 is limited to one metals sample before and one during the test in the Draft BTL Stress Test Work Plan. This limits data to characterize metal trends during pumping, and potential construction dewatering water and future captured water treatment.

Twice weekly sampling of pumping wells BRW-PW-01B and BRW-PW-01A for Arsenic, Cadmium, Copper, Lead, Mercury, Zinc, Hardness, Alkalinity, Alkalinity, Sulfate, and TDS is not included. Sampling BRW-PW-01B and BRW-PW-01A is limited to field parameters and potential organic contaminants in the Draft BTL Stress Test Work Plan. This misses data needed to characterize metal trends during pumping, and potential construction dewatering water and future captured water treatment.

Subdrain tracer testing is not included in the Draft BTL Stress Test Work Plan. This misses data needed to demonstrate whether pumping BTC-PW-01 causes the subdrain to lose water to the aquifer and data needed to better evaluate the hydraulic gradient reversal observed in nested wells BPS07-21/BPS07-21B and BPS07-22R/BPS07-22B during the 72-hour test.

BTC PDIER existing data

Water quality data collected during the prior 72-hour pumping test and reported in AR's BTC Pumping Test Interpretation Technical Memo, September 1, 2023 are helpful to show what additional data should be collected during the proposed 6-week pump test.

Figure 3 of the draft BTC GHCS PDIER shows the BTC pumping test monitoring locations (attachment 1). Water quality data collected during the 72-hour test was fairly limited, with only two samples analyzed for a comprehensive suite of mining metal contaminants of concern (COCs) from pumping well BTC-PW-01, and a third sample from well BPS07-21. Other than those samples, the remaining monitoring wells and three surface water monitoring sites only included continuous specific conductivity (SC) and

temperature monitoring. The contaminant data collected was limited; however, SC data can be used as a proxy for identifying metals contaminated groundwater because higher SC is correlated with sulfate and metals contamination in the BPSOU. For example, water quality data shown in Table 5 of MBMG's contamination in the BPSOU. For example, water quality data shown in Table 5 of MBMG's 2010 Open File Report 613 (attachment 2), demonstrates that higher SC is associated with known mining impacted groundwater at Diggings East and downgradient of Diggings East. MBMG OFR 613 Appendix B also shows the SC of groundwater impacted by waste in the area of the proposed BTC GHCS is much higher than the SC of surface water in BTC (attachment 3). USGS has also recently begun continuous SC monitoring of BTC at USGS 12323233 above Grove Gulch (attachment 4).

The interpretation of the SC data is very limited in the Pumping Test Memo, and we find some of the conclusions are not supported. For instance, pp 2.15 states, "Except for BPS07-21B, the SC at surface water monitoring locations is generally 1.5 – 2 times higher than the SC at groundwater monitoring wells/piezometers at the BTC area." In contrast to this, the SC time series graphs in the Pumping Test Memo Attachment B-3 (attachment 5) show that the highest SC is present in groundwater, including in the pumping well (BTC-PW-01) prior to the pumping test.

The draft BTC GHCS PDIER pp 11 also states, "Pumping at BTC-PW-01 raised the SC of two monitoring locations (BTC-PZ04S and PMP-11B) to the level close to that of BTC, indicating the hydraulic connection between BTC and these groundwater monitoring wells." Attachment B-3 shows the SC at these locations actually rose higher than any levels measured at the upgradient site BWE-3 in BTC. The interpretation incorrectly attributes the increased SC to surface water capture.

Instead, the data show elevated SC in groundwater is associated with discrete waste sources in the alluvial aquifer. The SC monitoring during the 72-hour pumping test show that contaminant plumes migrated towards the pumping well, which caused the increase in SC observed in most well during or immediately after the test. Well BPS07-21B being an exception; SC starts highest in this well, but it is apparently replaced by lower SC water derived from induced surface water leakage from Upper Silver Bow Creek. We believe these are important data regarding connections between the BTC pumping well, groundwater in the lower subdrain area, and hydraulic connection to the lowest part of Upper Silver Bow Creek that should be further evaluated during the BTL stress test.

The surface water SC measurements in Attachment B-3 show SC increases in a downstream direction from BWE-3, BWE-4, to SS-04. This may be indicative of discharge of contaminated groundwater to BTC. The time series graph for SS-04 appears to show a reduction in SC during the 72-hour test which may indicate contaminated groundwater was diverted by the pumping well. This is also an important finding that should be supported with additional water quality monitoring during the 6-week pumping test.

BRW PDIER existing data

Two 72-hour pumping tests were previously completed in October 2020 which are described in the Phase 1&2 BRW PDIER and Draft Final Butte Reduction Works (BRW) Pumping Tests Interpretation Technical Memorandum (Appendix B to the Phase 1&2 BRW PDIER). Those pumping tests included relatively comprehensive synoptic streamflow and chemistry monitoring and pumping well water

sampling. The phase 1&2 PDIER also includes significant groundwater sampling of the BRW monitoring network collected over several years.

The BRW hydraulic controls are anticipated to be constructed in clean soil (not onsite material) that is backfilled after waste excavation. Therefore, the surface water – groundwater hydraulics and groundwater chemistry will change significantly from those that may be measured during tests performed now. Due to this, we do not see the same value in extensive surface water and groundwater sampling during the BRW pumping test as during the BTL pumping test. The two previous 72-hour pumping tests and existing groundwater and surface water monitoring are likely sufficient for characterizing water produced during construction dewatering.

BTC Monitoring Network

At a minimum we recommend the same water quality sampling plan used for the 72-hour pump test. We also recommend the following monitoring beginning two weeks prior to the start of the 6-week test and continuing during the test to establish water quality baseline and changes to contaminant plumes and surface water – groundwater hydraulics during the test:

- Add continuous pH monitoring of all groundwater monitoring locations.
- Twice weekly surface water synoptic sampling of pH and total and dissolved Cu and Zn at surface water sites BWE-1, BWE-3, BWE-4, SS-04 and Silver Bow Creek SS-05. Additionally, we recommend sampling the water in the MSD channel midway between the pump vault (MH-MSD106) and the BMFOU Discharge Structure (near the Wardell Bridge). Past studies showed that reduced efficiency at the pump vault would cause a release of captured groundwater in the MSD channel in that location. This data will be useful for evaluating any reduction in loading of surface water COCs during the test.
- Twice weekly sampling of pumping well BTC-PW-01 for the following parameters (Arsenic, Cadmium, Copper, Lead, Mercury, Zinc, Hardness, Alkalinity, Alkalinity, Sulfate, TDS). This data will be useful for determining the chemistry of produced water and future captured water that will require treatment.

Subdrain

We recommend a chemical or isotopic tracer test is performed on the subdrain during the 6-week pump test. The tracer should be released in the subdrain and monitored for groundwater. This data will be useful for evaluating the potential for the BTC GHCS to induce leakage from the subdrain. The data will also help to evaluate the hydraulic gradient reversal observed in nested wells BPS07-21/BPS07-21B and BPS07-22R/BPS07-22B during the 72-hour test.

BRW Monitoring Network

The following limited sampling may be useful to further support the data in the Phase 1&2 BRW PDIER.

- Continuous SC and pH monitoring of groundwater monitoring locations. This data may help to evaluate preferential flow paths and migration of contaminated groundwater during long-term pumping.
- Twice weekly sampling of pumping wells BRW-PW-01B and BRW-PW-01A for the following parameters (Arsenic, Cadmium, Copper, Lead, Mercury, Zinc, Hardness, Alkalinity, Alkalinity,

Sulfate, TDS). This data may be useful for characterizing construction dewatering chemistry.

If you have any questions or concerns, please call me at (406) 438-0823.

Sincerely,

Emma Rott, PE
Remedial Project Manager

ENCLOSURE:

1. EPA Crosswalk

cc: (email only)

Butte File

Chris Greco / Atlantic Richfield

Mike Mcanulty / Atlantic Richfield

Loren Burmeister / Atlantic Richfield

Dave Griffis / Atlantic Richfield

Jean Martin / Atlantic Richfield

Irene Montero / Atlantic Richfield

David A. Gratson / Environmental Standards

Mave Gasaway / DGS

Adam Cohen / DGS

Brianne McClafferty / Holland & Hart

Daryl Reed / DEQ

Logan Dudding / DEQ

Jon Morgan / DEQ

Kevin Stone / DEQ

Amy Steinmetz / DEQ

Katie Garcin-Forba / DEQ

Doug Martin / NRDP

Jim Ford / NRDP

Pat Cunneen / NRDP

Katherine Hausrath / NRDP

Ted Duaine / MBMG

Gary Icopini / MBMG

Becky Summerville / MR

John DeJong / UP

Robert Bylsma / UP

John Gilmour / Kelley Drye

Leo Berry / BNSF

Robert Lowry / BNSF

Brooke Kuhl / BNSF

Lauren Knickrehm / BNSF

Doug Brannan / Kennedy Jenks
Matthew Mavrinac / RARUS
Harrison Roughton / RARUS
Mark Neary / BSB
Eric Hassler / BSB
Chad Anderson / BSB
Brandon Warner / BSB
Abigail Peltomaa / BSB
Eileen Joyce / BSB
Sean Peterson/BSB
Josh Vincent / WET
Scott Bradshaw / W&C
Emily Evans / W&C
Pat Sampson / Pioneer
Andy Dare / Pioneer
Karen Helfrich / Pioneer
Randa Colling / Pioneer
Scott Sampson / Pioneer
Jesse Schwarzrock / Pioneer
Ian Magruder/ CTEC
CTEC of Butte
Scott Juskievicz / Montana Tech
David Shanight / CDM Smith
Curt Coover / CDM Smith
Chapin Storrar / CDM Smith
Erin Agee / EPA
Will Lindsey / EPA
Ben Mathieu / EPA
Jamie Miller / EPA
Carolina Balliew / EPA
Molly Roby / EPA
Katherine Jenkins / EPA
Charlie Partridge / EPA