# **Appalachian Storage Hub (ASH) Project**

Pittsburgh

Chambi

Marrisonburg

**Team Meeting Minutes** 

Jul 10, 2017 - 10:00 - 11:00 am

1 (877) 306-9784, Code 211 437 2313

Present: Doug Patchen, Brian Dunst, Toni Markowski, Kris Carter, Steve Shank, Mohammad Fakhari, Jessica Moore, Gary Daft, John Bocan, Phil Dinterman, Mary Behling, Robin Anthony, Katie Schmid, Eric Hirschfeld (PA intern), Ellen Davis (PA intern)

Charleston VIRGINI

## 1) Three prospect areas

Fin dlay

Dayton

Cincinnati

Man sfi el d

Huntington

Columbus

PA and WV are working on the three prospect areas together, and PA reported that it has all the data control it requested of WV to complete reservoir characterization and graphics preparation for the three prospects.

## 2) Rating vs. ranking of storage containers

Kris Carter led a discussion of how the final report will address these two items (which are not the same, as PA had incorrectly told the Research Team previously). "Rating" is about assigning numeric values to various criteria to assess fields or geographic areas that represent storage opportunities; this was part of the 'reservoir characterization' strategy. "Ranking" involves the comparisons among and between types of storage containers that received high ratings during reservoir characterization work; this is part of the 'ranking' strategy, and feeds into the Study's 'recommendations' strategy. Kris will prepare an Excel workbook with proposed ranking results, suggestions for weighting criteria (as needed), and send to the Research Team for review.

#### Report writing – responsibilities and progress

The following list summarizes the writing responsibilities for the final report. Draft reports are due to Doug Patchen and Kris Carter this Friday, July 14, 2017. Doug and Kris will assimilate everyone's submissions, finish writing the remaining chapters and parts, do the copy editing, and get a revised version back to the Research Team for your final review as soon as possible. Doug intends to provide our final report to partners on July 31, 2017.

- Executive Summary, Chapter 8 Doug Patchen (with input from Kris Carter)
- Chapter 1, Chapter 7 Doug Patchen
- Chapter 2, Section 5.1, Section 6.3 Jessica Moore and team
- Chapter 3, Chapter 4 Mohammad Fakhari and team

- Chapter 5 Kris Carter and team
- Chapter 6 Kris Carter and team (with input from Doug Patchen)
- Chapter 9 (Referenced Cited) All

Of the items listed above, OH had questions about the report outline relative to their chapters. Specifically, Mohammad asked (1) whether this level of detailed was required for the report, and (2) whether something had changed in the past month or so because OH was under the impression that they didn't have to write anything for the final report. Kris Carter reiterated that all team members have reporting responsibilities as part of their contract. Doug Patchen will speak with Mohammad off line regarding this.

### 4) Technology transfer – planning and scheduling final workshop

Doug indicated that he is in the final planning stages for two workshops related to the Study: (1) on August 22. Doug will hold an ethane storage regulations workshop at the Alumni Center in Morgantown; there is no fee to attend, but if you'd like to go, please contact Doug so he has a proper head count; and (2) on August 30, we will hold our final Study release workshop at the Hilton Garden Inn in Southpointe, Canonsburg, PA; all Research team members are expected to attend to give presentations regarding their portion of the work on this Study.

## 5) Action Items

- Don't forget to keep up with your monthly invoicing. Each state's last invoice should include work/costs incurred up through August 31, 2017.
- Don't forget that WV is still accepting data for the project website. OH has met their data reporting responsibility, but PA still owes information. The group discussed the best formats, and WV indicated that they preferred tabular data, digital geophysical log curves, and geospatial data in GIS format.
- Other action items are highlighted yellow throughout the meeting minutes.

The meeting adjourned at 11:00 am.

Strategies/Activities	Start Date	End Date
Strategy 1: Data Collection		
<ul> <li>Identify and assemble well log and core data</li> </ul>	Month 1	Month 2
Identify previous studies of interest	Month 1	Month 2
Create a project database (format, prototype)	Month 1	Month 2
Strategy 2: Stratigraphic correlation of key units		
Develop cross sections of the Salina Formation	Month 3	Month 8
Develop cross sections of the Greenbrier Formation	Month 3	Month 8
Develop cross sections of the Keener to Berea Interval	Month 3	Month 8
Develop cross sections of the Upper Devonian Sandstones	Month 3	Month 8
Develop cross sections of the Oriskany Sandstone	Month 3	Month 8
Develop cross sections of the Clinton-Medina through Tuscarora Interval	Month 3	Month 8
Develop cross sections of the Rose Run and Upper Sandy Member of the Gatesburg Formation	Month 3	Month 8
Strategy 3: Map the thickness, extent, and structure of potential storage units in the study area		
Map the Salina Formation	Month 5	Month 7
Map the Greenbrier Limestone	Month 5	Month 7
Map the Keener-Berea, Upper Devonian, Oriskany, Clinton-Medina, and     Gatesburg Formations	Month 5	Month 7
Strategy 4: Conduct studies of reservoir character		
Characterize potential storage intervals in the Salina Formation	Month 5	Month 8
Characterize potential storage intervals in the Greenbrier Formation	Month 5	Month 8
Characterize potential storage pools in gas-depleted sandstone reservoirs	Month 5	Month 8
Strategy 5: Develop ranking criteria for potential storage zones		
Determine criteria and weighted priority of potential storage zones	Month 8	Month 9
Strategy 6: Recommendations		
<ul> <li>Rank all candidates within each category</li> </ul>	Month 10	Month 11
<ul> <li>Rank the top candidates in each category</li> </ul>	Month 10	Month 11
Strategy 7: Suggestions for engineering follow-up study		
<ul> <li>Make suggestions for additional field and lab studies</li> </ul>	Month 10	Month 11
Strategy 8: Project management and technology transfer	<u> </u>	
Project management	Month 1	Month 12
• Final Report	Month 11	Month 12
Technology transfer		Month 12+ ongoing