A TG-6 meeting was held on 6/29/11 with a quorum (Present: Paul Javora, Saleh Al-Ammari, Brent Estes, Judy Guy-Caffey, Tim Wilkin for Bill Foxenberg, Paul Scott, Tom Shumate, Cheryl Stark; Absent: Catalin Ivan, Roop Prasad, Victoria Qiu) at the Summer Meeting in San Francisco, CA. Paul Javora chaired the meeting. Minutes from the January 2011 Winter Meeting were approved (Motion – Tom Shumate; Second – Cheryl Stark).

TG6 general charges include:

- Recommend, develop and evaluate procedures for field and laboratory testing of heavy brines.
- Form Work Groups to achieve specific charges.

Work Group activity:

a. Revisions to Testing of Heavy Brines Work Group. Charge: Edit, revise and process DIS/FDIS comments of submitted documents – Adopt back as RP-13J. The WG is now activated to address the comments that have come in on the DIS ballot.

b. Buffer Work Group (Del Son, Chair). Charge: Prepare a method for determining the buffering capacity of brine. This group is currently in hibernation after finishing their work. That work was included in the new document. The group will reactivate to address any questions that arise during processing of the document.

c. PCT Work Group (Don Isaac, Chair). Charge: Evaluate and qualify “in-house” PCT test procedures. Paul has assigned a co-chair for this group in order to expedite and close this project out before the end of the year. The group has already gone through a number of round robin studies. One company still needs to submit their data for the final round robin study.

d. Corrosion Work Group (Judy Guy-Caffey, Chair). Charge: Update and complete the corrosion section of RP-13J. This group is also in hibernation. The group of corrosion experts and metallurgists put together a document summarizing what needs to be considered regarding brine packer fluid/metal tubular interactions. This work is also included in the new document.

e. Future Projects Work Group (Judy Guy-Caffey, Chair). Charge: Establish/suggest future projects for TG-6 to go beyond 2009. This group is totally in hibernation.

f. Return Permeability (Dodie Ezzat, Chair). Charge: Compile and evaluate test procedures, summarize testing parameters, determine essential/desired parameters and establish a suitable method or methods that satisfy oilfield requirements. Petrophysicists,
geologists and people with some core analysis experience are needed for the group. Core sample preparation procedures (plug cutting, cleaning, drying and resaturation) will be addressed first. Round robin testing is not the scope of the work group. The first meeting is planned for October 14, 2011.

g. **Displacement Work Group (Ed Malachosky, Chair).** Charge: Compile and evaluate test procedures, summarize testing parameters, determine essential/desired parameters, conduct round robin testing and establish a suitable method or methods that satisfy oilfield requirements. The group has not met yet.

h. **Hydrate Work Group (Keith Morton, Chair).** Charge: Compile a list of hydrate programs, summarize capabilities of each program, generate test fluid compositions and parameters to compare programs, conduct hydrate calculations with each program for the test fluids/conditions, correlate the test results and identify those programs that satisfy oilfield requirements. Round-robin testing is not in the scope of the WG. Keith has put together a preliminary list of brines and parameters to be evaluated by the various hydrate programs.

i. **Scale Work Group (Judy Guy-Caffey, Chair).** Charge: Generate an informative section on oilfield scale for API RP-13J and ISO 13503-3. Objectives: Identify and compile oilfield scaling issues, compile and evaluate test procedures, identify and summarize essential/desired parameters and summarize findings into a ‘knowledge document’ for completion engineers. Since the Winter Meeting in Ft. Worth, the group has met twice (3/31, 6/9). Curtis Sitz at CorsiTech has established a SharePoint site for the group. A number of scale prediction programs have been identified including ScaleSoftPitzer (Rice University), ScaleChem (OLI), MultiSCALE (Expro), Downhole SAT (French Creek Software), PVTSim (Calsep) and StimCADE (Schlumberger). Test case parameters are being compiled for input into the various programs.

j. **Emulsion Technology Work Group (Paul Javora, Chair).** Charge: Establish a laboratory method to evaluate the tendency to form emulsions or sludge when drilling, completing, fracturing or treating fluids that will contact formation fluids. Phase I testing will establish a base-line profile on some crude oil that will emulsify with typical brines. Phase II will develop a round robin scheme. The current need is 55 gallons of a crude oil that is untreated. Another possibility would be to generate an oil-based mud that will form an emulsion with brine. David Ekas suggested checking with companies that sell production chemicals, such as PetroLite, to see where they get oil for their testing. Paul mentioned a paper by Baker Hughes titled “Crude Oil Compatibility Method Significantly Minimizes Volumes Required (SPE 14414).” It is a high-shear method that uses simple, cost-effective apparatus that any laboratory could set up. The method is consistent and repeatable. The apparatus consists of a Dremmel® Tool fitted with one-half of a spatula as a stirrer and a calibrated, square-bottom test tube and uses 10 ml per test. A Variac transformer and tachometer are used to establish 3,600 rpm.

k. **API CRA Testing Program (Paul Javora, Chair).** Charge: Implement and monitor the API CRA Testing Program. Funding Year 4 was initiated at the end of 2010. To further
our understanding of formate test results and the generation of hydrogen and other gases, ConocoPhillips conducted electrochemical tests. Peter Rhodes is writing a report summarizing the results. There are 17 participating companies for Year 4: Baker Hughes, BJ Services Company, Cabot Specialty Fluids, ChevronTexaco Energy Technology Company, ConocoPhillips, ExxonMobil, Halliburton Energy Services, Hamilton Metals, Inc., Marathon Oil Company, M-I SWACO, Saudi Aramco, Schlumberger, Shell International E&P Inc., Siderca SAIC – Tenaris, Sumitomo Metal, Synergy Fluids and TETRA Technologies, Inc. Lillian Skogsberg is the current program advisor.

Old Business:

At the Winter Meeting, we discussed a response from TOTAL Technology Specialists on the DIS version of ISO 13503-3 Testing of Heavy Brines by Bernard Fraboulet who made a presentation on Hydrometers & Density Measurements. All of the documents he provided are on the website for review. Paul’s intent is to see what we can do to improve the document.

There was no new business to be addressed.

The next meeting will be in Ft. Worth on January 23-27, 2012.

Action items were reviewed:

- Identify source of oil for Emulsion Technology work group.

The meeting was adjourned (Motion – Dodie Ezzat; Second – Cheryl Stark).

Judy Guy-Caffey, Secretary

Attachments:

- TG-6 2011 Summer.pdf