Well Testing Network

MTM#13

8th May 2013 – Houston

**Disclaimer:**

*The below notes have been taken “on the fly”. Errors may have occurred in identifying the speakers or summarizing the point being made and irrespectively these notes do not reflects an official position or statement from any of the participants.*

**Kim Thornton:**

How is the industry comfortable to designing the test? E. Delvaux

* Importance is calculating how many BTU you need avoid freezing.
* Use correlation.

What is the concentration to burn CO2? M. Cheblana

* Straight CO2 wells.. you cannot burn. Vent them to flare pit.
* Wells with 4-40% H2S are closed system that needs to burn it all.
* Our experience is that concentration up to 20-25% C02 can be burn without addition of Propane. M. Cheblana

Does the presence of C02, disrupt the interpretation? B. Roberts

What is the best place to take sample in these wells? R. Bahadur

* ?

M. Cheblana : Does the industry do modified isochronal test for these gas wells?

* Not really… most of them are now straight test (general answer from the room)

How do you handle the exploration?

* Use reference wells. Used the case of the

32% and 10% H2S. There are program that can predict how many BTU that are needed. There are software that can predict the phase envelope. If you have a chromatograph onsite, you could calibrate the model on line.

Multiphase meters is that a solution? R. Bahadur

* You still have to heat it up.
* We only use meters on Oil, not on gas. M. Favret
* Main point is to bring enough heat in the system and know how to dispose of it. E. Delvaux.

Make a list of the SPE papers, publication to share with the WTN. R. Bahadur

* SPE 115946
* “ a case study of carbon dioxide well test” APPEAS Journal 2007, Part I, pp 237-247
* SPE SAS-716, 2011

A lot in central Asia, subsalt target… issue on land when you have population around. How do you dispose when you can’t burn it. T. Prince

**Angel Guzman-Garcia**

Where does the requirement of 3 knots (blowing away) come from? B. Van Den Bosch

* It is a reference used in previous operation in Qatar
* There are a lot of questions on these from operators? Need for plume / dispersion for calculation. B. Van Den Bosch

Any comments from the room? A. Guzman-Garcia

* Is this linked to the gauges movement? Could be.
* Is this related to the gas composition, super-critical situation?
* Experience is similar on regular gas well , we see M. Favret
* You may need to have to wait for a long time to get stabilization. B. Roberts
* The drawdown data were noisy and could not be used?
* What are the T&P? 166-176F, 2288psi … there could be two phases in the tubing as there was a possibility to cross the phase envelope
* Pre-test, then acid, 25% HCl the right chemistry for this well? M. Favret. We got some info and test from core. There was nothing apparent that could lead of a concern on the reservoir contact.
* Acid test may not have been required but was done as a precautionary measure.
* H2S and Co2 was monitored everywhere and the rig? Where the sensors suitable for the temperature. D. Buchanan. Yes, and the sensors where not located in the flame☺.

Train the drillers on the value of surface read out. M. Cheblana.

* This has been really appreciated. The drillers

What type of material did you use for the tubing stream? M. Favret

* All the material was ready. Below 170-180 F, then H2S at 2100 ppm can be a concern

Did you need any sampling? T. Price

* No analysis on site due to the H2S concentration.

Were the concentration of Co2 and H2S, consistent? R. Bahadur

* Yes, they were in line with formation samples.

The gradient from the gases.. Look like a fall off test? B. Roberts

How do you account for 30% Co2 in your gas calculation?

* It is “all” the gas that was measured. If it is Gas, then it is Ok, but if he Co2 is in liquid phase, then it should be corrected for.

**Antonio Gramcko**

What about the people competency? D. Buchanan

* Indeed this is a very important to ensure the right people, with the right experience. H. Kool

What about the last minute requirement for testing when reaching TD? M. Cheblana

* Tendering process is 4-5 months and further delay the readiness or reduces the time for readiness. M. Favret
* From a service company side they struggle to get ready. B. Van Den Bosch
* Nice situation was when you are in the same play for a long time and can build a strong network where both operators and services companies have gained experience in these situations. T. Price
* Situation is more challenging when upper management wants to achieve an objective. L. Nirider
* Question is also raised about the casing design which may not be suitable for testing. K. Folse
* Sometime concerns between different department in an organization. K. Folse
* Provide several basis of design which are approved by Mgt. D. Blalock
* HAZOP, HAZID, Well Test on paper,…. are all part of our process. M. Cheblana
* Doing Mock rig-up are also part of the standard of many organization but no all.

What about connection? The design, qualification… M. Favret

* PH6 test data are from 1996? Are these still reliable despite all the changes that occur in the industry. B. Van den Bosch
* In completion, we need to test all the connection and we need a deviation if we want to test with PH6 as they are not allowed in Shell. K. Folse
* All our X-over have been tested and can sometime feel are over engineered. J. Reddington
* It would be nice that the X-over have met some specific test - M. Favret
* What would be the minimum standard, performance envelope that could be shared with everyone? V. Zeller
* How many API licensed shop exist in Macae, Brazil? None that could be located. D. Blalock
* In the landing string, due to the nature of the job, this is pretty well covered. V. Garcia
* If you have a leak, the test is over. Hence, this is a very critical item. M. Favret
* VAM type.. be careful on consideration between Tensile and Compression. M. Favret
* Connection has to be fit for purposes.

Are the service company engaged enough in consulting the operator and indeed applying the policy to refuse to do a job that is deemed unsafe?. B. Van den Bosch

* Improvement could be done.
* However, it is important that Operators are willing to reconsider decision that may have been taken very early in the design stage
* Operators and Service Company need to review all the connections to ensure that they will work on all the test conditions (tensile, compression, P, T,…)

Keep the test simple. V. Zeller

**Curtis Wendler**

Supplier technology is rated for 350F maximum temperature. 85% of the wells are less than 350F.

Why are providers pushing back when designing test to 345F? B. Van den Bosch

* The impact of temperature on the battery may be part of the answer. J. Redddington

Cost versus Value… driven by reservoir understanding. Multizone testing, is it possible? M. Fravet

* That would require multiple packer and valve
* What are we trying to achieve in the first place?

What about size?

* Size is not so much of a concern than the discussion on P, T and communication challenges

What do the operators need?

* Casing test for example. R. Andersen
* Pseudo PLT, i.e. DTS
* Working on a job where we do multizone testing and have to run PLT … if we could remove that operation that would be very interesting. R. Andersen
* Put the gauges in the perf. M. Favret
* Disposal exploration wells. We could be leaving a gauge behind, switch it on.. and collect data on regular basis. T. Price
* Visualization of the data must be drastically improved. Cam Le

Wired pipe is really hard to maintain. V. Zeller.

Repeater may be cheaper and easier to maintain. C. Wendler

Calibrate the system needs to be run tool on a wire in a hole. Is his still needed? B. Van den Bosch

* The system is improving but each job remains specific. V.
* When you run a wire, it has to be above the packer

A lot of the data we are already getting we are not using it sufficiently. Decisions are not being done in real time. All these solutions are great … but are we using really all the data we are generating. M. Ward

Moving the right data to the right people is key to going in the right directions. M. Ward

When we do well test, we are working in a very dynamic environment. We are quick to blame the equipment rather than challenging our understanding. Putting information together is very important. The benefit of wireless telemetry is to know for sure the status of our downhole tools, so that we do not have to unnecessarily POH. M. Ward

The value of the Real Time data is not about real time it is about knowing. Zeller.

It is about reducing Non Productive time. M. Ward.

Challenges also include integrating the data with existing system. It is also difficult to find the right people to look at these data. K. Folse

Cost of the system of telemetry is still double the cost of the tool string. This is a hindrance to deploying the technologies on all wells. R. Andersen / B. Van den Bosch

**Bruno Pinguet**

Why SLB does is planning to have 30% of their separators with Coriolis considering the challenges? M. Favret

* SLB is not using the data without check and still relies on separate measurement such as density measurement.

Coriolis were developed to work in single phase flow. Multiphase flow meters were designed for multiphase flow. Hence, depending on the job consideration you will select the appropriate measurement?

By using multiphase flow meters and Coriolis meter, you can now have a “feedback” loop to assess the separation efficiency. B. Roberts

From an HSE perspective, Coriolis is providing an improved safety due to the lack of