

MINUTES

IADC Geothermal Committee meeting,

16 July 2026

Present at the meeting were:

Bruce Gatherer, Iceland Drilling; Doug Gourlay, H&P (Committee Chair; Peter Kazar, H&P; Scott Farmer, Helmerich & Payne; Antoine Locht, Elements Geothermal; Alexa Gonzalez, Mazama Energy; Alex Heger, OMV; Antonio Torrealba, Stasis Drilling; Gabriel Houg, Beyond Energy, Enis Aliko, Wellynx, Sam Abraham, Eric Villepreux, Sam Shibliq, Lars Nydahl Jørgensen, IADC (minutes).

In total 15.

The holiday season took its toll, reducing the number of participants to less than half of the usual. This will be remembered for future occasions at this time of year. Unless absolutely necessary, it may be a good idea not to hold meetings during July and the first three weeks of August.

1. New Members

New members were introducing themselves and were welcomed to the committee. There are now 66 companies that are members of the committee.

2. Committee Leadership

The previous leadership, Scott Farmer and Shaun Toralde, officially stepped down on 1st July 2026. Lars praised what had taken place during their leadership. In particular, he noted that the work carried out by all the individuals working on the Guideline was phenomenal and that this had not been the case without Scott's strong leadership and a significant personal contribution to the thought processes and the actual editorial work.

The leadership was now being taken over by Doug Gourlay and Toney Deer. Both are heavily involved in the work with the Guideline. Lars observed that their work made the near future look very promising.

3. Upcoming Committee Meetings – 2026

- A virtual meeting will be planned for Early September 2026, the exact date to be determined.
- A 4th Quarter meeting will be held as a hybrid meeting in association with the IADC Geothermal Drilling conference in Copenhagen. The meeting will be held on 19th November 2026.

4. World Geothermal Congress feedback

It was good. Good feedback. Please refer to the presentation appended at the end of this document, slide entitled *World Geothermal Congress 2026 – Feedback*.

6. Work Group Updates

Please refer to the appended slides.

5. External conferences; Presentations and Abstracts

A number of geothermal meetings and conferences taking place in 2H of 2026 were listed. Several of these will undoubtedly have representation by members of the committee.

After meeting additions:

- Haas Malik will participate in the SPE/IADC APDT conference in Bali 5th - 6th August.
- Gregg Walz will be presenting at the Geothermal Rising conference 20th-23rd September in Houston.

7. GRMS

In March 2026, SPE and Project Innerspace launched an initiative to build a Geothermal Resource Management System along the lines done in the oil- and gas sector (please refer to slides). Like in oil and gas, the work is very much reservoir engineering based, and the goal of the project is to have a formalised system that will make geothermal projects bankable.

There was some discussion in the committee about what role IADC should play in this work. It is after all geothermal operators, and note the drilling contractors, who will be raising the necessary capital for the projects. At this stage, we have been asked to comment on the current draft document. Committee members are of course as individuals welcome to give their comments. However, as the work is on the margins of IADC's expertise, IADC will not offer any formal advice. This does not exclude our possible support for the application document that will come later as this will go into methodologies of geothermal system types.

8. API Committee for Low Carbon Standardization (CLC)

Please refer to the slide below.

9. Model Contracts for Geothermal Drilling

The question had been brought up whether it would be a good idea to establish a model drilling contract for drilling of geothermal wells, and whether this could be based IADC's existing model contracts for oil and gas wells. With regard to the former question, there was general support to build a geothermal model contract. With regard to the second question this would have to be subject to a review and a discussion with the IADC Contracts Committee.

Antoine Lochet has significant contracts expertise, which he offered for an initial review. His findings would then be discussed with Bruce Gatherer ahead of a meeting with the IADC Contracts Committee on 30th July. Bruce has offered to be present at this meeting, where the case can be made:

- Is a Model Contract for Geothermal Drilling a significant need?
- Could this be an adaptation of existing IADC contracts? - and
- Who should then make it?

With regard to the third question, the likely "home" of the contract would be in the Contracts Committee, but with significant support from the Geothermal Committee.

10. AOB

- Geothermal UK is holding a geothermal drilling guideline workshop on 1st October 2026. Doug has been invited to present (the status) of our guideline at this workshop.
- A suggestion has been made (out with our committee) to call the guideline a “Geothermal **Well Construction Guideline**”, rather than “Geothermal Well Drilling Guideline”, as the guideline contains a number of elements of completion etc., which are not “drilling” sensu strictu. There was general agreement that this was probably a good idea, not only because of the completion argument, but also because “well construction” would offer some more leeway.

As the matter was taken up under AOB, a clear decision would have to be made at the next committee meeting.

/ Lars Nydahl Jørgensen



Geothermal Committee
Q2 – 2026 – 16/07/26

Agenda

- New Members
- Committee Leadership
- Upcoming Committee Meetings – 2026
 - World Geothermal Congress feedback
- Work Group Updates
- Presentations and Abstracts
- GRMS
- API
- Model Contracts for Geothermal
- AOB

New Members

- ...

102 members
66 companies

Committee Chairman and Vice-Chairman

- New Chairman : **Douglas “Doug” Gourlay, H&P**
- New Vice-Chairman : **Toney Deer, Well Control School**
- Official handover 1st July 2026
- Many thanks to Scott and Shaun!

Proposed Planning – 2026

- Quarterly Committee Meetings, but more frequent work group meetings
 - 2 x in-person and 2 x virtual with longer format
 - Work Group leaders can dictate the frequency of WG meetings
- Committee Meetings for 2026:
 - Q1 – Virtual – 17/03/26
 - Q2 – In-Person Only – WGC – Calgary – 8-11/6/26
 - Q2ish – Virtual – 17/06/26
 - Q3 – Virtual – Early Sept 2026 – **Exact Date TBC**
 - Q4 – Hybrid – IADC Geothermal Drilling – Copenhagen – **19/11/26**

World Geothermal Congress 2026 - Feedback

- 23 attendees in total, almost half from the committee
- Presented overview of the guidelines and update on status
- Two case studies – one on well design and another on well control
- 4 tables split up to discuss the cases and the guidelines – nothing groundbreaking as feedback
- Attracted new members from Kenya and Mexico



Work Group Updates

- Working Group Leaders:
 - Drilling Technologies – Alex Vetsak
 - Classification – Scott Farmer
 - Well Control – Toney Deer
 - Rig & Equipment – Bruce Gatherer & Andreas Karkossa
 - Well Design – Douglas Gourlay
 - Safety & Environment – **TBD → Happy that it is covered sufficiently in the above chapters?**
- **Target guideline completion by end of 2026**

Drilling Technologies – Alex Vetsak

- Alex Vetsak could regrettably not participate in the meeting, and reporting was deferred until later.

Classification – Scott Farmer

- Tweaks made to the logic for scores related to attributes such as temp and vertical depth
- IADC reference well defined based on “zero” values in certain attributes:
 - 400m vertical depth,
 - 2 hole sections
 - <100°C
 - 39bar at TD (hydrostatic)
- Category weights proposed by Péter – to be confirmed, anyone want to contribute?
- Next steps:
 - Confirm section weights, finalize logic, and pass to IADC web master
 - Publish short document defining reference well and overview of complexity calculator
 - Layer meta-data on top of classification (project, names, realized/planned) etc.
 - Release to the public...when?

Well Control – Toney Deer (presented by Doug Gourlay)

- Guidelines are complete and published. (Have yet to hear any negative feedback)
- IADC advisory board approved the geothermal well control supplemental course to be built.
- The curriculum for the supplemental course to the wellsharp drilling supervisor course is completed.
- We are currently writing questions for the exam for each learning topic.
- There will be an instructor course (led by myself) to ensure there is at least a baseline knowledge for instructors to teach this course, they must attend before receiving a certification to teach.
- Current timeline looks to be end of year(ish).

Rig & Equipment – Bruce Gatherer & Andreas Karkossa

- GAP analysis initiated to assess applicability of existing oil & gas and water-well equipment for geothermal drilling across low-, medium- and high-temperature applications.
- Approach is to develop a geothermal equipment supplement to the IADC Drilling Manual, rather than a standalone equipment specification.
- Initial findings indicate that much of the existing drilling equipment base can be leveraged for geothermal projects, subject to project-specific fit-for-purpose assessment.
- Key equipment and operational gaps identified for:
 - Low-temperature geothermal – logistics, environmental and community considerations.
 - Medium-temperature geothermal – hot fluids, steam control, well integrity and BOP suitability.
 - High-temperature geothermal – steam, H₂S, corrosive fluids, thermal cycling and equipment reliability.
- Additional focus on environmental, personnel safety and location-specific requirements for urban, residential and environmentally sensitive operations.
- Development of practical guidance underway for BOP systems, fluid cooling, solids control, aerated drilling and MPD applications.
- **Challenge:** Progress constrained by limited volunteer resources and a lack of industry experience in high-temperature geothermal drilling.
- **Opportunity:** The GAP analysis is helping identify where conventional drilling practices remain applicable and where geothermal-specific guidance is required.
- **Target:** First draft for committee review by December 2026.

Well Design – Douglas Gourlay

- Working rhythm established
 - Metting every 2 weeks for 30mins – 1hr
- Section Leaders defined
 - Full speed in the writing stage
 - ~40% completed
 - **Sections started:** Well Design Inputs, Well Architecture Definition, Casing Design, Cement Design, Monitoring, Interventions & Workovers
 - **Section to be started:** Completion Design, Well Testing (**assistance required**), Wellhead Design

Presentations & Abstracts

- Presentations:

- 4 – 6th of February 2026, Baku – IADC Drilling Caspian & Black Sea 2026 – **DONE** (Drummond)
- 11 – 12th of March 2026, Aberdeen – SPE Accelerating Geothermal Energy – **DONE** (Scott)
- 19th of March 2026, Houston – AADE, Innovative and Emerging Technology Study Group – **DONE** (Toney)
- 8 – 12th of June 2026, Calgary – WGC 2026 – Have Your Say: The IADC Geothermal Well Drilling Guideline – **DONE**

- Upcoming:

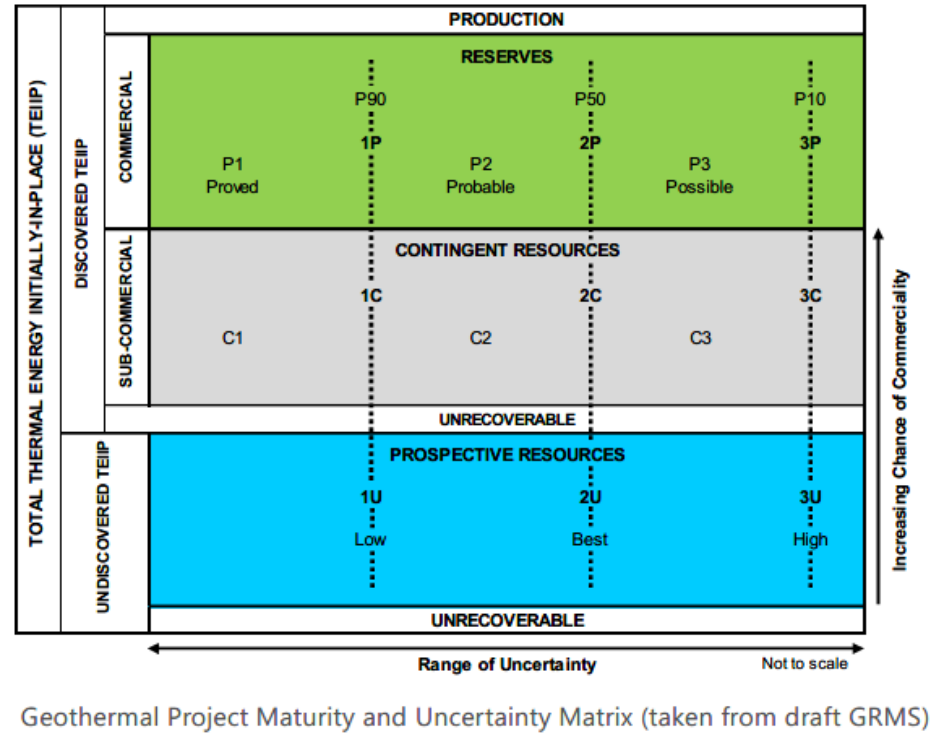
- 30 July 2026, virtual – SPE Geothermal TS (Doug)
- 23rd October, Houston – SPE ATCE (Toney)
- 17 – 18 November 2026, Copenhagen – IADC Geothermal Drilling (Doug on IADC, Numerous others)
- 9 - 11 March 2027, Stavanger – SPE/IADC Drilling Conference – (Gregory Waltz)
- **Others?**

Presentations & Abstracts

- Others:
- August 2026
 - 10–15 August — NZ Geothermal Week (Taupō, New Zealand)
 - 19–21 August — 12th Indonesia International Geothermal Convention & Exhibition (Jakarta, Indonesia)
- September
 - 2–4 September — 7th Philippine International Geothermal Conference (Legazpi, Philippines)
 - 14 September — Budapest Geothermal Energy Summit (Budapest, Hungary)
 - 15–16 September — Celle Drilling 2026 (Celle, Germany)
 - 20–23 September — Geothermal Rising Conference (Houston, Texas, USA)
- October
 - 20–22 October — German Geothermal Congress / Der Geothermiekongress 2026 (Potsdam, Germany)
- November
 - 9–11 November — 13th UK Geothermal Symposium (Leeds, UK)
 - 9–11 November — 2nd EAGE/AAPG Geothermal Energy in the Middle East Workshop (Jeddah, Saudi Arabia)
 - 17–18 November — IADC Geothermal Drilling Conference & Exhibition (Copenhagen, Denmark)
 - 18–20 November — 48th New Zealand Geothermal Workshop (Auckland, New Zealand)

Geothermal Resource Management System (GRMS)

- SPE / Project InnerSpace initiative launched in March 2026
- Modelled on the existing PRMS adapted
- Goal: Make geothermal projects bankable and eligible for reserves-based lending
- Timeline:
 - Draft document generated
 - Review and editing (**starting now**)
 - Final release September/October
- Technology & Technique agnostic
- Application document may come in future →
Our input valued here



API Committee for Low Carbon Standardization (CLC)

- Geothermal working group formed
 - ~4 meetings held
- Identifying any standardization gaps/needs where a standard or modification to a standard could help
- **Opportunity for collaboration** → any gaps identified by our working groups can be shared with API to work on

IADC Model Contracts for Geothermal

- Do we need a model contract developed specifically for geothermal?
 - In what way would we like to see the contracts changed?
- If so, we can represent our case at the IADC Contracts Committee meeting on 30th July.
 - They would then lead the initiative with our input.

AOB

- Geothermal UK holding a geothermal drilling guideline workshop 1st October 2026
- Guideline naming:
 - Change to IADC Geothermal Well Construction Guideline -> to be confirmed at next meeting
- ...