



Apache Energy Limited (Apache), on behalf of the Van Gogh joint venture participants, is proposing to develop an oilfield, known as Van Gogh, off the Exmouth coast.

Meeting Details

Meeting location: WA Art Gallery, Perth
 Time: 11 am – 1.00 pm, including lunch.

Agenda

The meeting agenda was as follows:

1.	Welcome and SCG overview	Caroline de Mori
2.	Introductions	
3.	Project outline	Myles Hyams
4.	Drilling program	Luke Lawrence
5.	Question and answer session	
6.	Other information required by SCG	
7.	Agenda and timing for next meeting	Caroline de Mori

Attendees

The attendees at the meeting are listed in the table below.

#	Name	Company/Organisation	Title
Apache			
	Myles Hyams	Apache Energy	Environmental Manager
	Luke Lawrence	Apache Energy	Drilling Superintendent
	Caroline de Mori	Apache Energy	Public Affairs Manager
	Giulio Pinzone	Apache Energy	Environmental Scientist
Government			
1	Kim Anderson	Department of Industry and Resources (DoIR)	General Manager, Petroleum Environment Branch
2	Chris Zadow	DoIR	Environmental Assessor, Petroleum Environment Branch
3	Mandy Dearden	Department for Planning and Infrastructure (DPI)	Environmental Officer, Marine Safety
4	Rebecca Ince	DPI	Research Officer, Marine Safety
5	Rob Tregonning	Department of Fisheries (Fish Habitat Protection Program)	Senior Policy Officer, Environmental Assessment

Minutes

Myles Hyams presented an overview of the Van Gogh Field Development for 30 minutes.
Luke Lawrence presented an overview of the drilling campaign for 20 minutes.

The following minutes are a record of questions and answers during and after the presentations.

Name	Comment/question	Action
Mandy	What is the worst-case scenario regarding oil spill when the FPSO disconnects from the DTM? How much oil will be spilt?	
Myles	The disconnect process takes approximately 6 hours. The flowlines are de-pressurised and numerous other precautionary measures are taken, ensuring no loss of oil to the sea.	
Rob	How does the size of the Van Gogh FPSO compare with BHPB's proposed Stybarrow FPSO?	
Myles	Our FPSO is classed as an Aframax tanker, capable of holding 111 ML (700,000 bbl) of oil. It will have 20% less capacity than Woodside's <i>Nganhurra</i> FPSO (Enfield) currently on location	Comparison table with other nearby FPSOs now available on FAQ list.
Rob	Does the topography of the seabed indicate no strong currents at depth?	
Myles	The ROV vision indicates no notable sand waves along the seabed, indicating that currents are not likely to be strong at this depth. The Ningaloo and Leeuwin currents have not been recorded as occurring at these depths.	
Chris	Is there a plan to produce gas from the field?	
Myles	No. Gas not required for fuel gas will be reinjected into the reservoir. BHPB may have plans to produce from their FPSOs, tying in to the Griffin pipeline further north.	
Chris	Is the only gas being produced from the FPSO that which is associated with the oil (i.e., from the separation process)?	
Myles	Yes. The wells have been designed to intercept the oil column only, and not the gas cap.	
Chris	Will the water used for the steam boilers be desalinated prior to discharge?	
Myles	Yes.	
Chris	Is the number of (planned production) wells contingent upon results of the appraisal drilling program?	
Luke	Yes. We just received some information from Woodside regarding the results of drilling the Vincent-4 well. The spacing of the wells in the southern section of the field may change based on these results, in that they may need to be closer together. One of the wells to be drilled from Drill Centre 2 may also need to be dropped from the schedule.	
Chris	Is there a contingency plan if the wells start producing sand?	
Luke	The FPSO is being designed to handle some sand. But, if too much starts being produced, the relevant well will need to be worked-over.	

Chris	What is the level of confidence in not having to switch from water-based mud (WBM) during drilling to synthetic-based mud (SBM)?	
Luke	High. We've spent lots of money on WBM studies and getting our formulations right, and have designed shorter laterals in order to use WBM. We should not have to use SBM.	
Myles	The Theo-2/3H drilling program will help to confirm whether this drilling technique can successfully use WBM.	
Kim	Will the FPSO need a tug boat to help it stay on location? The <i>Nganhurra</i> (Woodside) needs to do this.	
Myles	No. A stern thruster on the FPSO will enable it to direct itself into the prevailing current when conditions during parts of the year result in the wind and current conditions not being in phase.	
Rob	Has Apache done any studies on the effects of hydrocarbons on fish?	
Myles	AIMS (Australian Institute of Marine Science) has conducted field studies on the effects on PFW (Produced Formation Water) plume on caged fish from Apache's Harriet Alpha platform. PFW contains traces of hydrocarbons. Fish biomarker studies have also been undertaken by Woodside and Apache from several offshore platforms in the North West Shelf. No significant health effects were observed on the fish species	
Kim	What happens if the spacing of the lateral wells are placed properly (i.e., too high or too low in reservoir)?	
Luke	If the well heads too high and hits the gas zone, or too low and hits the water zone, then the wells can't produce and they have to be shut in. Apache's using a new tool developed by Halliburton, called the 'Geo-Tap', which determines reservoir pressure as they drill, so that the well can be correctly positioned within the reservoir based on the gas-oil-water ratios.	
Kim	Will you use down-hole cameras to assist this process?	
Luke	No. You need very clean reservoir fluids to enable this to occur.	
Caroline	Closed the meeting.	