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JOGMEC

MALLIK WEEKLY SCIENCE REPORT # 1

Week:	February 5-12, 2007	**Weekly weather**: Clear and cold (-28 to -33°C) Sun rising about 10:30 setting about 6:00
Supervisor:	Scott Dallimore	
Scientists on site:	Inuvik: Scott Dallimore-GSC; Al Taylor-Aurora; Drill site: Mark Nixon-GSC	

Photo of the week:

Akita Rig 62 rig at Mallik drill site shortly after raising the derrick on Feb 12th c/o M. Nixon

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Camp synopsis:

- **During the past week between 55 and 75 souls have been on site contributing to the mobilization and preparation of our drilling equipment. Looking ahead we expect roughly 100 people will be continuously at the drill site with perhaps 300 individuals contributing overall over the next few months. Personnel on site have all be briefed on wildlife issues with the excitement this week being bear tracks approximately 1.5 Km from camp and a wolf spotting.**
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Well status:

- **Led by our able Inuvialuit Oilfield Services project management staff, over the past five weeks an ice road has been constructed to the Mallik rig site to allow mobilization of our drilling equipment and accommodations. The first 90km from either Inuvik or Tuktoyaktuk is along the government ice road between these two communities. At the southern tip of Richards Island the ice road travels 90km north on private roads. The first 45km of the route is managed jointly by Chevron and the Mallik program, while the remaining 45km to Mallik is exclusive to our project. A strict journey management policy is now in place to regulate and monitoring traffic and ensure safety.**
- **At the present time the main drilling rig, Akita #62, has been mobilization to the site with an expected spud date for our first research well on February 17th or 18th . This rig will be used for the main drilling program and for installing the production casing and instrumentation. A service rig will be ready for operations shortly. The vast amount of support equipment such as mud tanks, chiller, casing, pipe, fuel etc. is all being carefully managed on site and will be ready for full operation this weekend.**

Science report:

The first task to be undertaken by the operations will involve the re-entry of Mallik 2L-38 which was drilled in 1998. The existing permafrost casing will be drilled out shortly after spudding the well and then a new hole section will be advanced through the gas hydrate bearing strata from 900 to 1106m. The target depth of Mallik 2L is 1300m which will allow perforation of an injection zone at depth for produced water.

In addition to technical preparations planning over the past week has turned to people and helping to expedite their contribution to the program. More than 35 scientists from Japan have received invitation letters from NRCan to participate in the program and an additional 15 or so will contribute from NRCan and NRCan collaborators INAC and the Government of NWT. Aurora Research Institute is playing a leading role coordinating their logistics.

<u>Geology & Geophysics</u>- A important early task for the geology and geophysics team will be to assess the formation conditions (gas hydrate saturation, enclosing sediments, presence of fractures etc) in our production research well (Mallik 2L-38 re-entry). This will be accomplished by undertaking a open hole well logging program which is part of a comprehensive open and cased hole logging program. This components and planning for this program have been finalized over the last week under the leadership of Fuji-san. Several tools will be used for the first time in North America and plans call for advanced well log processing and interpretations immediately after logging. The G&G team will then meet together to interpret logs and with the production and operations team the production interval for testing during March and April will be selected. Schlumberger Canada Ltd. is currently assembling and testing the logging tools

in preparation for field deployment. Another major task that has been undertaken over the past week is the design of a wireline gas hydrate coring program. This effort has been led by the GSC with considerable help from Yamamoto-san and researchers in AIST, as well as scientists in Indian and Northern Affairs Canada.

Production-Those involved in designing the production program are looking forward to moving from what has been largely a paper exercise, to the reality of advancing Mallik 2L-38 and embarking on the first long term production test of gas hydrates. This week Scott and Mark had the opportunity to walk with Khalid Sultan of Schlumberger through the inventory of surface equipment that was being tested and readied for deployment in Inuvik. It is an impressive array of equipment, impressive in the breadth of the technology and also for the care that seems to have been taken to build in redundancy and also search for simplicity where possible.

Monitoring-The monitoring program scientists, engineers and technicians have been very active for much of the last week and indeed much of the last month as they have been assembling their equipment and undertaking a wide variety of equipment trials and tests in Nisku, Alberta and Japan. Sugiyama-san is also very patiently tracking shipment of a very valued winch for the hydrophone array across the Pacific ocean. The rest of our team is awaiting news on just how much GST will have to be paid to get this item to the field.

Science Honour role:

Tribute to those in the field! - The Mallik research and development program on which we are embarking is perhaps best described (especially to management) using grand all-encompassing terms like… visionary, cutting edge technology, multidisciplinary, multifaceted etc. Certainly our goals are lofty and we look forward over the coming weeks to report on many science highlights and many first time accomplishments. For the past weeks however, the field side of the project might be best described as taking care of business. That is the business of hauling water and building ice, coordinating arrivals and deliveries of a 1000 tonnes or more of equipment, keeping track of this equipment, and very much dealing with the mundane of such things as how to handle frozen sewage at -30°C! The Arctic is without doubt one of the most challenging place to mount an R&D program like ours. Our success in the coming months will build on the effort of those who have worked in the past weeks and months under often less than glamorous conditions. Scientists please take note… without the hard work of the loader operator, the bear monitor and all those hardy rig personnel we would not get any science done!

Tribute to those enablers working behind the scene!- To the JOGMEC / Aurora / GNWT / NRCan managers, lawyers, risk managers, permit specialists and accountants words like unpredictable, complex, legalistic, over permitted, frustrating and just plain crazy have probably been used to describe the administrative challenges they have faced (and thankfully helped us to overcome) to enable the program. Certainly those involved in leading the science elements of the program extend our thanks to those who have put in the countless hours of effort and stood behind our program during thick and thin. We appreciate your trust and admire your ability to keep your cool under pressure!