



**Management of Petroleum Exploration/Production Regulations -
Subject: Capacity Building**

Prepared by: Hans van Kregten (Group Manager Environment and Policy)

Meeting Date: 26 January 2012

Report to COUNCIL for decision

SUMMARY

TAG Oil is a Canadian company that owns the rights to explore for petroleum resources on land along parts of the East Coast of the North Island. They have teamed up with Apache Corporation (Apache Canada) that will carry out the exploration in exchange for a stake in any successful outcome.

Resource consents have recently been issued for activities associated with drilling shallow shot holes and seismic testing. The environmental impact of this is minimal. The plan is to follow this with the drilling of two exploratory wells in the Gisborne District in the middle of this year. These will be in the Waitangi and nearby Waingārōmōa areas and to depths of 1,500 to 2,500 metres. These will be tested where oil is found. Depending on results, further 3D seismic testing may be carried out in 2013 and horizontal wells drilled and tested. Following that, production may occur.

Council staff have no significant experience with the processing of resource consents for more complex mining operations, and the controversial practice of hydrological fracturing (fracking). A visit by key staff to Taranaki will take place on 23 January 2012. There is also a joint one week trip planned by representatives of Gisborne District Council, Hawke's Bay Regional Council and Horizons Regional Council (Manawatu-Whanganui) to Canada to learn more about oil exploration from regulating agencies, the impact on first nation people, and from Apache Oil. It is proposed to send Trevor Freeman (Environmental Services Manager) along on this trip at a cost of some \$5,000. The bulk of this cost can be funded by a charge on the consent fee to Apache, who have indicated their willingness to accept this.

RECOMMENDATIONS

That the Council

1. receives the report
2. authorise Trevor Freeman, Environmental Services Manager, to visit Canada to collect information on oil and gas exploration activities pertinent to the Gisborne district, leaving 3 February and returning 13 February 2012.

A handwritten signature in black ink, appearing to read 'Hans van Kregten'.

Hans van Kregten
Group Manager Environment and Policy

1. BACKGROUND

TAG Oil is a Canadian company that owns the rights to explore for petroleum resources on land along parts of the East Coast of the North Island. They have teamed up with Apache Corporation (Apache Canada) that will carry out the exploration in exchange for a stake in any successful outcome.

Resource consents have recently been issued for activities associated with drilling shallow shot holes and seismic testing. The environmental impact of this is minimal, and the applications were not notified. The plan is to follow this with the drilling of two exploratory wells in the Gisborne District in the middle of this year. These will be in the Waitangi and nearby Waingaromia areas and to depths of 1,000 to 2,500 metres. These will be tested where oil is found. Depending on results, further 3D seismic testing may be carried out in 2013 and horizontal wells drilled and tested. Following this, production may occur.

The well testing process will involve "fracking" whereby liquid pumped into specifically identified strata at very high pressure is used to fracture the rock in order to release any hydrocarbons. Materials in the liquid such as sands, gels and surfactants are used to aid flow and to keep the fractures open once pumping ceases. Some of the fracking fluids will remain underground; some will flow back up the well to the surface.

Traditional oil exploration has been focused at seeking reservoirs where hydrocarbons have been contained in porous rocks or reservoirs and is able to easily be extracted to the surface. This has been the case with previous drilling at Waitangi. Fracking enables unconventional hydrocarbon resources to be exploited, and is a technique made possible by development of new technologies and the economics of exploration. The technique is controversial and has been banned in some jurisdictions (France, South Africa, New South Wales).

Fracking has been carried out in the Taranaki region. Large quantities of water may be required. Risks are that fracking fluids or hydrocarbons will migrate up the well casing into groundwater, that flows occur from the well that are uncontrollable (blowout), or that fracking fluids or contaminated well water are improperly contained and contaminate land or surface water.

This round of prospecting has been encouraged by the New Zealand government opening up new licence areas, and the economics of oil and gas demand and supply. There appears to be considerable optimism in the industry around the potential for unconventional finds. A tentative programme has been proposed for additional wells should testing prove positive. Seismic testing and wells are also proposed in the Hawke's Bay and Horizons regions.

2. DISCUSSION

A Complex Activity and Potential Effects

There is potential for economic benefits to the district as a whole. Horizontal drilling and fracking involves complex issues and risks that are additional to more traditional exploration activities such as have occurred here previously. Community interest is high. It is important that information available to Council and the community is detailed and accurate, that activities are able to be monitored, and that robust conditions are in place that address potential adverse effects.

The type of well drilling and the fracking proposed are new to this district. It is a new activity area for staff, and for TAG Oil will involve different geological structures and receiving environments than they have experienced in Taranaki.

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ExxonMobil and Apache Corporation are active in British Columbia, Canada, where fracking has been carried out for many years. They have suggested council staff travel to this area to meet oil industry and regulatory specialists and see at first hand well drilling and fracking activities. Hawke's Bay Regional Council and Horizons Regional Council have confirmed that they will send a staff member. Apache Corporation have offered to pay external costs and are keen that Gisborne also be in attendance in order to build regulatory staff capacity across all of their licence area. They accept that capacity building is a legitimate cost of consent processing and will accept this as their cost as part of consent processing. The airfare costs to Canada and return would be approximately \$2,500. There would be additional internal flights and accommodation. Total costs should not exceed \$5,000.

Hawke's Bay Regional Council are assembling an itinerary covering five days in early February, starting from Vancouver and visiting Victoria, Fort St John and Calgary. It is winter over there, but it is important to visit prior to well drilling here. Contacts have been supplied by Apache Corporation, and these have lead to others. The trip is being organised independently by Hawke's Bay Regional Council staff with help from Horizons and Gisborne District Council. The emphasis is on regulatory authorities: British Columbia Oil and Gas Commission, Energy Resources Conservation Board, National Energy Board and Ministry of Energy and Mines. It is anticipated well drilling and fracking will be observed at various stages, supported by round table discussions with appropriate staff.

Learning objectives for a visit are to at least explore the following:

- community perceptions, education, consultation and involvement
- First Nations involvement given the parallel with Maori groups
- the well drilling process, step by step
- water takes and discharges associated with well drilling
- issues around the integrity of well casing and grouting
- fracking fluids and their potential environmental effects
- the fracking process, step by step
- risk management
- Regulatory standards applied and how these are monitored
- Good and bad environmental results
- Contacts for future liaison.

It is important for Gisborne District Council staff to be involved with peer councils to develop contacts and knowledge in an area when traditionally our involvement has been limited. There is a prospect that oil exploration and production may become a significant activity in our region, and the environmental issues associated with this are potentially significant. Public concern and interest in this matter are high. Expert consultant advice will in all likelihood still be required to manage the resource consent process, but it is important to build our internal capacity in this matter to direct and understand the consultants' contributions.

3. SIGNIFICANCE

This is significant in terms of possible effects to our ground and surface water quality. It is significant in terms of possible economic benefits if fracking goes ahead and commercial quantities of oil and gas are found. It is important that staff are appropriately technically informed and familiar with community involvement.

4. CONSULTATION

Consultation will be carried out when the resource consent application is received. There has been some pre-consultation with GDC staff and iwi by Tag Oil/Apache. Consultation with Hawke's Bay and Horizons Regional Councils has been integral to planning this Canadian visit.

5. COMMUNITY OUTCOMES

The decisions will positively affect community outcomes by enabling better decision-making around resource consent applications.

6. LEVELS OF SERVICE

Does not affect levels of service.

7. FINANCIAL

The bulk of the costs will be met by Tag Oil/Apache through the resource consents process. Some costs will be met through the regular Council training budget.

8. LEGAL

None

9. POLICY

No policy implications

10. OTHER CONSIDERATIONS

No other considerations

11. APPENDICES

Nil