

Shell Groundbirch - Water Management Strategy

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Introduction

Shell's Groundbirch Venture is located in the Montney gas play in north east British Columbia, Canada. Responsible water sourcing and use is critical to local residents and critical to our successful development process. Our team has therefore developed an innovative water management strategy which includes sustainable sourcing, transport, recycling and disposal and which takes into account stakeholders concerns, water availability and water chemistry.

Theory and/or Method

Shell uses pad drilling technology with water supplied to, and returned from, these pad locations via water pipelines from central water 'hubs'. Water hubs consist of large ponds for storing water, as well as water treatment and transfer equipment to pump water to the pad locations for use in completions operations. Water pipelines are also utilized to transport produced water during the production phase of a well.

By utilizing pipelines and pumping methods, Shell significantly reduced disturbance for local stakeholders by removing the noise, dust and traffic caused by hauling large amounts of water for our operations. In fact, the Groundbirch water management strategy, and specifically the pipelines, will enable Shell, at full field development, in to remove 3,000,000km/year of truck traffic..

Water needs not met via recycling will be provided for our operations through an exciting partnership with the nearby City of Dawson Creek. Shell and the City have formed a partnership with a unique 10 year agreement to provide reclaimed city waste water to Shell operations. Shell in turn funded the construction of the building which made water reclamation possible (4000m³/day). The water is classified 'non-potable Unrestricted Public access' and as such safe for use in Shell's operations as well as other uses by the City to water roads, ball diamonds etc.



Figure 1: Sunset Water Hub

Conclusions

Shell learned a great deal during our development of the Groundbirch Water Management Strategy and associated water system. . Sharing what we have learned both internally and externally can add tremendous value to other teams and municipalities embarking on the same journey to sustainable resource development. Our strategy is a great example of responsible water management in a natural gas operation. For more information please see our website:

<http://www.shell.ca/en/aboutshell/our-business-tpkg/business-in-canada/upstream/e-and-p/e-and-p-canada/groundbirch-montney/dawson-creek.html>

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