



In this issue:

October 2003

Recent EUB publications and decisions **2**

EUB to share flaring success with developing countries **3**

Gas flaring and venting in Alberta **3**

Questions, complaints, problems? Who to contact **4**

Upcoming public hearings **4**

Pending decisions **4**

EUB successfully abandons Peace River wells

AS OF SEPTEMBER 9, 2003, THE EUB successfully abandoned the Peace River Oil Company No. 1 well, along with two relief wells drilled in 1955 and 1982.

The original Peace River well—licensed under federal jurisdiction—blew out during drilling in 1916

and flowed salt water and some associated gas until 1955, when the Petroleum and Natural Resources

Conservation Board (a predecessor to the EUB) stopped the flow by drilling a relief well. The well blew out again in 1982, at which time the Energy Resources Conservation Board (the EUB's former name) attempted another relief well.

That effort failed and the original well (through the 1955 and 1982 relief wells) flowed approximately 36 000 barrels per day of salt water into the Peace River since 1982, producing one million cubic feet per day of natural gas with up to 0.1 per cent hydrogen sulphide (sour gas) content, which was flared.

The well-control operations were the product of a collaborative process established by the EUB in conjunction with the Orphan Well Association, the Canadian Association of Petroleum Producers, the Small Explorers and Producers Association of Canada, and provincial and federal authorities. The majority of the \$5 million project was funded by industry.

The EUB also acknowledges the tremendous support and expertise supplied to this project by APA Engineering, which developed the well-kill plan in consultation with GSM Well Control, and Frontier Engineering,

which managed the on-site well operations.

Background

In October 1915, the Government of Canada issued lease 12038, under the Dominion Land Act, to the Peace River Oil Company to drill for hydrocarbons at Legal Subdivision 4-31-85-20W5.

Peace River Oil Company No.1 was spudded in May 1916. At a depth of approximately 350 metres (m), a major natural gas and salt water flow began. Subsequently, the drilling derrick collapsed and the well was left to flow into the Peace River.

In June 1917, the Peace River Oil Company unsuccessfully tried to rebuild the derrick and re-enter the 4-31 well. The Government of Canada sent an engineer into the area in 1921 to complete the abandonment of several improperly abandoned wells. The federal engineer recommended that the 4-31 well be deepened and the water flow brought under control. This recommendation was never implemented.

In 1930, resource ownership was transferred to the provinces.

In 1954, with the well flowing around 19 500 barrels/day of salt water into the Peace River, the Petroleum and Natural Gas Conservation Board (P&NGCB) decided that the 4-31 well should be properly abandoned. In 1955, the first relief well was drilled. Cement was pumped into the well, the flow was stopped, and the wells were abandoned.

A public complaint registered in 1982 reported that a sinkhole had appeared, with gas and water flowing up the outside of the 1955 relief well casing.

(continued on page 2)

Electricity billing accuracy regulation extended

The Alberta Government has extended an electricity billing inaccuracies regulation until December 31, 2003, allowing customers of EPCOR in the Aquila Networks service area to contact the EUB if their bills don't accurately reflect the electricity they've consumed.

Customers in this service area who receive the Regulated Rate Option may call 1-866-215-1181, toll free, from Monday to Friday, 8:00 a.m. to 5:00 p.m. to register their complaint. Customers served by other electricity providers should continue to contact their utility provider with any concerns about the consumption stated on their bill.

About the EUB

Our mission is to ensure that the discovery, development, and delivery of Alberta's resources take place in a manner that is fair, responsible, and in the public interest. We regulate oil, natural gas, oil sands, coal, hydro and electric energy, pipelines, and transmission line development.

On the utilities side, we regulate investor-owned natural gas, electric, and water utilities to ensure that customers receive safe and reliable service at just and reasonable rates. Regulation is done through four core functions: adjudication and regulation, applications, surveillance and enforcement, and information.

For Your Information...

Recent EUB publications

Bulletins

September 17: Bulletin 2003-34: Revised Guide 56: Energy Development Applications and Schedules

September 5: Bulletin 2003-33: Well Test Capture (WTC) Project Team Invites Feedback from Operators on Proposed Pressure ASCII Standard (PAS) Formats for Well Test Data

September 2: Bulletin 2003-32: Electronic Application Submission (EAS) Phase 1; Updated Implementation Schedule for Resource and Utility Applications; Implementation, Rollout, and Training Sessions for Well Licence Applications and Guide 56: Energy Development Applications and Schedules

August 28: General Bulletin 2003-31: Stakeholder Consultation on Proposed Service Quality Plans for Gas and Electric Regulated Rate Providers and Electric Wire Owners; Regulated Service Provider (RSP) Service Quality & Reliability (Draft for Discussion); Electric Distribution System Owner (Wire Owner) Service Quality & Reliability (Draft)

Other publications

September 29: ST 2003-60B: Upstream Petroleum Industry Flaring and Venting Report for 2002

September 26: Reminder (2003-09-26): EUB Non-compliance Shadow Billing Ending for Volumetric Reporting

September 17: Guide 56: Energy Development Applications and Schedules (October 2003)

September 16: LLR Program Performance Summary

September 12: ST-59: Alberta Drilling Activity Monthly Statistics (July 2003)

September 9: EUB Announces Receipt of the Report: Nature of Local Benefits to Communities Impacted by Sour Gas Development—Part of the Public Safety and Sour Gas Initiatives

September 8: LLR Calculator (Version 10)

September 8: Letter from the EUB Chairman (part of Guide 56 package)

September 5: Letter regarding Bitumen Conservation Requirements, Athabasca-Wabiskaw-McMurray Regional Geological Study

September 2: Guide 56 and Electronic Applications Submission (EAS) Training and Information Session Registration

Recent decisions

September 26: Decision 2003-073: The EUB issues a decision for ATCO Utilities regarding the ATCO I-Tek Information Technology Master Services Agreement

September 23: Decision 2003-070: Globex Resources Ltd. Applications for Licences for a Sour

Gas Well, Sweet Gas Battery, and a Natural Gas Pipeline, Gordondale Field

September 9: Decision 2003-068: The EUB issues a decision for AltaGas Utilities Inc. regarding an application for a revised rider to cover franchise fees and municipal taxes in the town of Bonnyville

September 9: Decision 2003-067: The EUB issues a decision for the town of Bonnyville regarding the review of a proposed standard natural gas franchise agreement with AltaGas Utilities Inc.

September 9: Decision 2003-066: The EUB issues a decision for ATCO Gas and Pipelines Ltd. regarding an application for revised riders to cover franchise fees and municipal taxes in the town of Bow Island

September 9: Decision 2003-065: The EUB issues a decision for the town of Bow Island regarding the review of a proposed standard natural gas franchise agreement with ATCO Gas and Pipelines Ltd.

September 2: Decision 2003-064: The EUB issues a decision for Mr. Klaus Reichert regarding service charges from the City of Airdrie

August 29: Decision 2003-056: The EUB issues a decision for ATCO Electric Ltd. regarding a review and variance of EUB *Decision 2001-082: Year 2000 Outstanding Matters Deferral Accounts (other than pool price), Part A: GENCO and TRANSCO Balances*

News releases

September 29: NR 2003-36: EUB Verifies October Natural Gas Cost Recovery Rates

September 10: NR 2003-35: EUB Issues Statistical Update on Bitumen Conservation Requirements

September 4: NR 2003-34: Input Sought on Drilling Rig Requirements and Inspection Guide (Guide 36)

Recent AGS publications

September 25: GEO 2002-21: Controls on Fluid Flow Systems in Northern Alberta as Related to MVT Mineralization: A Contribution to the Carbonate-Hosted Pb-Zn (MVT) Targeted Geoscience Initiative

September 12: SPE 56: Catalogue of Selected Regional Gravity and Magnetic Maps of Northern Alberta

August 29: GEO 2002-15: Structural Control of Lead-Zinc Mineralization in Carbonate Sequences of Northern Alberta: A Contribution to the Carbonate-Hosted Pb-Zn (MVT) Targeted Geoscience Initiative

August 29: GEO 2002-20: Metallogenic Considerations for Devonian Carbonates in the Fort McMurray and Fort Vermilion Areas, Alberta: A Contribution to the Carbonate-Hosted Pb-Zn (MVT) Targeted Geoscience Initiative

EUB successfully abandons Peace River wells

(continued from page 1)

After the ERCB unsuccessfully attempted to re-enter the 1955 well, a new relief well was drilled a few metres to the northeast. In October 1982, operations were suspended at a depth of 99 m due to the inability to control the water and gas flow and the risk of losing ground stability under the rig. These factors seriously threatened the safety of the workers.

Over the next several years, the ERCB monitored the flow rates from the wells, took water samples, and conducted mobile air monitoring around the location. In December 1986, the ERCB determined that any long-term success at controlling the flow of gas and water from the 4-31 wells was very doubtful using existing technology. Minimizing erosion of the riverbank, preventing further salt-water surface damage, and managing the sour gas odours appeared to be the best means of mitigating the situation.

In November 1989, Alberta Environment published its Environmental Assessment Study of Peace River Oils #1, which outlined the localized effects of the outflow on the river and evaluated groundwater and soil contamination and effects on the landowner's water-well quality. The report indicated that the dilution effects of the Peace River were so great (1:10 000 at low flows) "that there were no effects other than a slight increase in chloride concentration for a short distance downstream of the wells."

In 1998, an Orphan Fund Manager began managing all orphan oil and gas wells in Alberta, including the Peace River 4-31 wells. In October 2001, the EUB, in conjunction with industry and the Orphan Well Association, developed a well-control program that was implemented in July 2003. On September 9, 2003, all three wells were successfully abandoned by the EUB, and all equipment was removed from the lease. ❖

EUB to share flaring success with developing countries

THE EUB, AT THE REQUEST OF the World Bank, will advise developing countries on how to reduce gas flaring and venting. The request forms part of the World Bank's Global Gas Flaring Reduction Partnership launched in January 2003.

The EUB's global leadership role in reducing flaring and venting gas was solidified following an April 2002 presentation in Norway by EUB Board Member Arden Berg to the government of Norway and the World Bank on the energy regulator's success working with industry to reduce gas flaring and venting in Alberta. The World Bank holds Alberta as a "world standard" from which other jurisdictions should be measured.

"The Alberta Energy and Utilities Board is recognized globally as a leader in public safety and energy regulation. We are proud of the request from the World Bank to help developing countries reduce gas flaring and venting. This is another example of the Alberta energy industry moving onto the world stage," says Mr. Berg.

The EUB will hold a workshop in Calgary from October 21 to October 24, with countries including Algeria, Cameroon, Chad, and Nigeria registered to participate. The workshop will be structured to encourage two-way communication, and the EUB will make suggestions in accordance with each country's political and socio-economic environment. This is the first workshop to be held once each year for three consecutive years.

The EUB recognizes that flaring and venting at petroleum industry facilities are of concern to Albertans and strives to have industry continue to reduce the volumes of gas flared and vented. Through a combination of industry cooperation and enhanced EUB regulation, gas flaring has been reduced by 62 per cent since 1996. Venting has been reduced by 29 per cent.

The portion of gas conserved (captured) through these reductions has reached an all-time record of 94.7 per cent. This means that of all the gas produced in Alberta, only 5.3 per cent of it is flared or vented. Captured gas can be sold, used as on-site fuel, or used to generate electricity.

"Our efforts have a two-fold benefit for Albertans. First, a reduction in flaring and venting increases public safety,

and second it lives up to our mandate of conserving our natural energy resources," says Mr. Berg.

The World Bank is one of the world's largest sources of development assistance. Its primary focus is on helping the poorest people and the poorest countries. ❖

Gas flaring and venting in Alberta

Flaring and venting of solution gas (gas produced from oil wells) have been dramatically reduced over the past seven years.

EUB Flaring Reduction since 1999

| Year | Firm Target Reduction | Actual Reduction |
|------|-----------------------|------------------|
| 1999 | None established | 30% |
| 2000 | 15% | 38% |
| 2001 | 25% | 53% |
| 2002 | 50% | 62% |

What is flaring and venting?

- Flaring is the burning of gas that cannot be conserved.
- Venting is the release of gas into the atmosphere.
- Flaring and venting are a necessary part of some petroleum operations.
- The EUB requires that gas be burned rather than vented wherever possible. The EUB expects operators to evaluate opportunities to reduce or eliminate flaring and venting.

Successes

- Since 1996, flaring has been reduced by 62 per cent in Alberta.
- The World Bank holds Alberta as a "world standard" to be measured by.
- The EUB recognizes that flaring and venting at petroleum industry facilities are of concern to Albertans and strives to have industry continue to reduce the volume of gas flared and vented.
- The portion of gas conserved (captured) rather than being flared or vented has reached a record 94.7 per cent.

Flaring and venting cannot be conducted indiscriminately

- The EUB regulates flaring and venting through performance and reporting requirements and data collection.
- EUB regulations incorporate input from various stakeholders, including the Clean Air Strategic Alliance (CASA), a consensus-based group comprising organizations such as health and environmental groups.

Flaring Research

- Research on flare performance takes place in Edmonton, Calgary and Ottawa and represents some of the leading research in the world.
- Findings of this research are closely monitored by the EUB and are continually incorporated into EUB regulations.
- Government and industry fund flaring and venting studies.

This list is subject to change at any time, so please check the complete list of upcoming public hearings on the EUB Web site at <www.eub.gov.ab.ca/bbs/applications/hearings/hearings.pdf>. If you do not have Internet access, contact EUB Information Services at (403) 297-8190.

Upcoming public hearings

| Application No. | Applicant | Hearing Purpose |
|--|--|--|
| 1283973 | Solex Gas Processing Corp | Application for a licence for new pipelines Harmattan Elkton Field |
| Start Date: October 28 at Govier Hall, Energy and Utilities Board Building, 640 - 5 Avenue SW, Calgary | | |
| 1296133 | ConocoPhillips Canada Resources Corp. | Application for sour oil effluent pipeline licence Rimbey Area |
| Start Date: October 29 at Rimbey Recreational Centre (Upper Auditorium), 5109 - 54 Street, Rimbey | | |
| 1302342 | Rubicon Energy Corporation | Application for a licence to drill a sour well Ghost Pine Field |
| Start Date: November 6 at Drumheller Inn, (Drumheller Room), 100 South Railway Avenue, Drumheller | | |
| 1271597 | AltaGas Utilities Inc. AltaLink Management Ltd. Aquila Networks Canada (Alberta) Ltd. The ATCO Group of Companies ENMAX Power Corporation (Distribution) The EPCOR Group of Companies NOVA Gas Transmission Ltd. | Generic cost of capital hearing |
| Start Date: November 12 at EUB Edmonton Office, 12th Floor, 10055 - 106 Street, Edmonton | | |
| 1281258 | Burlington Resources Canada Ltd. and and Enermark Inc. | Application for a holding to reduce gas well spacing-Kaybob South Field |
| Start Date: November 27 at West Hall, Energy and Utilities Board Building, 640 - 5 Avenue SW, Calgary | | |
| 1298953 | Advantage Oil and Gas Ltd. | Application for a sweet natural gas pipeline licence Provost Area |
| Start Date: December 2 at Central Park Hall, 4815 - 51 Avenue, Provost, 10:00 am | | |
| 1311825 | MGV Energy Inc. and Great Northern Exploration Ltd. | Compulsory pooling - Stettler Field |
| Start Date: December 4 at West Hall, Energy and Utilities Board Building, 640 - 5 Avenue SW, Calgary | | |

Pending decisions

| Application No. | Applicant | Hearing Purpose |
|-----------------|---------------------------------------|--|
| 1085114 | Canadian Natural Resources Limited | Special oil well spacing |
| 1276521 | Polaris Resources Ltd. | Application for a licence to drill a sour natural gas well, compulsory pooling and special well spacing orders - Livingstone Field |
| 1276489 | | |
| 1273113 | Canadian Natural Resources Limited | Horizon oil sands project, Fort McMurray Area |
| 1095525 | Stylus Exploration Inc. | Approval to produce gas - Hardy Field |
| 1095526 | | |
| 1095602 | | |
| 1275288 | | |
| 1271285 | Shell Canada Limited | Jackpine mine - phase I, Fort McMurray Area |
| 1271307 | | |
| 1271383 | | |
| 1290683 | Alberta Electric System Operator | 2003 General Tariff Application (Negotiated Settlement) |
| 1303342 | Aquila Networks Canada (Alberta) Ltd. | 2002 Transmission Deferral Account |
| 1287577 | City of Grande Prairie | Review of proposed standard natural gas franchise agreement |
| 1287571 | ATCO Gas and Pipelines Ltd. | |
| 1292783 | ATCO Pipelines North, South | 2003-2004 General Rate Application |
| 1257976 | Aquila Networks Canada (Alberta) Ltd. | Review and variance of Board Decision 2001-92, 2001-93 |
| 1306929 | ATCO Electric | 2002 Transmission and Distribution Deferral Account balances |

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Questions, complaints, problems?

Utilities: For information or to file a consumer utility complaint, contact us at:
EUB Utilities Branch, 10th floor, 10055-106 Street,
Edmonton, Alberta T5J 2Y2
Fax: (780) 427-6970
Complaints: (780) 427-4903*
E-mail: <utilities.concerns@eub.gov.ab.ca>

Oil and gas: For information or complaints about new or existing oil and gas developments and facilities, we recommend contacting the operating company first. If the company does not respond appropriately, you may contact the nearest EUB Field Centre.

EUB Field Centres (24-hour service)

| | |
|----------------|-----------------|
| Bonnyville | (780) 826-5352* |
| Drayton Valley | (780) 542-5182* |
| Grande Prairie | (780) 538-5138* |
| Medicine Hat | (403) 527-3385* |
| Midnapore | (403) 297-8303* |
| Red Deer | (403) 340-5454* |
| St. Albert | (780) 460-3800* |
| Wainwright | (780) 842-7570* |

*To call toll free from anywhere in Alberta, dial 310-0000 and enter the phone number, including area code, or press zero for a RITE operator.

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