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Geothermal Resources Act

GEOHERMAL DRILLING AND PRODUCTION REGULATION
[includes amendments up to B.C. Reg. 248/2004]

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Interpretation

1 In this regulation,

"Act" means the Geothermal Resources Act;

"development well" means a well that, upon approval of its well authorization, was located on a geothermal lease;

"exploratory well" means a well that, upon approval of its well authorization, was located on a geothermal permit;

"information obtained from a test hole" includes but is not limited to any unprocessed or processed log data, cores, samples, tests, analyses, descriptions, temperature measurements, drilling information, geological information, test information and reports;

"operator" means the owner responsible to the division for the drilling, completion, production and abandonment of a well or test hole;

"work-over" means any operation that has changed the producing interval or producing characteristics of a well by perforating, abandoning a portion of the well, running casing or any major or recently developed stimulation operation but does not include routine stimulation operations or the changing or replacement of equipment.

[am. B.C. Reg. 54/97, s. 1.]

Service of notice

2 (1) An operator of a well shall register an address within the Province with the division before operations commence.

(2) A notice or order issued under this regulation may be served on an operator by leaving it with a person at the registered address or by sending it by registered mail to that address.

Variation of program

3 (1) Subject to subsection (2), departure from or variance in a program of operations approved or prescribed under this regulation shall not be made without the approval in writing of an officer of the division.

(2) Where an emergency occurs and an immediate departure from or variation in the program is necessary, the division shall be notified immediately of the departure or variation followed by confirmation in writing.

Position of test holes

4 (1) No operator shall drill a test hole within

(a) Repealed. [B.C. Reg. 248/2004, s. 1.]

(b) 20 m of a driveway or gateway,

(c) 80 m of a school, church or other public building or a residence, or

(d) 200 m of a water well.

(2) Where a test hole is drilled in the vicinity of a gas, oil, steam or water pipeline, electric cable, transmission line or utility, an operator shall ensure that every reasonable precaution is taken to ensure that the pipeline, electric cable, transmission line or utility is not damaged or its use interrupted.

[am. B.C. Reg. 248/2004, s. 1.]

Test hole information requirements

5 (1) Not more than 3 months after the date of rig release of the drilling rig from a test hole, the operator shall submit a report to the division containing the following information:

(a) Repealed. [B.C. Reg. 248/2004, s. 2 (a).]

(b) the survey relationship of the test hole drilled to the nearest corner of the legal subdivision or quarter unit in which the test hole is positioned;

(c) the ground elevation of the test holes drilled in metres above sea level;

(d) the total depths of the test holes;

(e) a report of any lost circulation zones encountered or blow-outs reported during the drilling of the test holes;

(f) any other information that may be required by an officer of the division.

(2) Repealed. [B.C. Reg. 248/2004, s. 2 (b).]

(3) One copy of each log, including temperature measurements, taken at a test hole shall be submitted to the division within 30 days after the date the log or measurement was taken.

(4) Subject to subsections (5) to (8), information obtained from a test hole that is received by the ministry in the course of the administration of the Act must be held confidential by the ministry.

(5) Information obtained from a test hole must be released from confidential status 10 years after the date of release of the drilling rig for the test hole.

(6) Information obtained from a test hole by the ministry in the course of the administration of the Act may be made available by the ministry to the government of Canada or an agency of the government of Canada if that government or agency gives adequate assurance that the information will be kept in confidence within that government or agency.

(7) Information obtained from a test hole may be released from confidential status

(a) if the division head is satisfied that the holder of the test hole authorization no longer carries on activities that are pertinent to the information obtained from the test hole, or

(b) with the concurrence of the holder of the test hole authorization.

(8) Information about the position, ground elevation and drilling status of a test hole is available to the public at all times during business hours.

[am. B.C. Regs. 54/97, s. 2; 248/2004, s. 2.]

Position of wells

6 No well shall be drilled within 80 m of

(a) the right of way or easement of any road allowance or public utility,

(b) a permanent building, installation or works,

(c) and (d) Repealed. [B.C. Reg. 248/2004, s. 3.]

unless special circumstances exist and an officer of the division gives written permission to drill a well at a specified position.

[am. B.C. Reg. 248/2004, s. 3.]

Drilling near mine workings and underground storage

7 No well shall be drilled within 3 km of a subsurface mine working or underground storage facility except with the written approval of the division head.

[am. B.C. Reg. 248/2004, s. 4.]

Spacing for wells

8 The spacing of a well on a geothermal lease shall conform with the development plan submitted under section 8 (1) of the Act.

Well names

9 (1) Repealed. [B.C. Reg. 248/2004, s. 5 (a).]

(2) The well name shall clearly identify by name, or an abbreviation acceptable to the division head, or by number or letter

(a) the operator,

(b) Repealed. [B.C. Reg. 248/2004, s. 5 (b).]

(c) the site of the well

(i) in the Peace River Block, by legal subdivision, section, township and range, or

(ii) outside the Peace River Block, by quarter-unit, unit and block.

(3) and (4) Repealed. [B.C. Reg. 248/2004, s. 5 (c).]

[am. B.C. Reg. 248/2004, s. 5.]

Changes of well names

10 Where an operator wishes to change the name of a well, he shall submit an application to change a well name, together with a fee of \$35, to the division and, if an officer of the division approves, the name may be changed accordingly.

Notification of commencement of drilling

11 The division shall be notified within 24 hours of the commencement of the drilling of a well.

Signs

12 Unless exempted by an officer of the division, an operator shall ensure that a legible and conspicuous permanent sign is displayed and maintained at a well showing the name of the operator and the name of the well.

[am. B.C. Reg. 248/2004, s. 6.]

Exemption order of the division head

12.1 The division head may exempt, by order, an operator from a requirement under section 13, 15 or 17 (4) in relation to a well on conditions specified in the order.

[en. B.C. Reg. 248/2004, s. 7.]

Samples and cores

13 An operator must

(a) while drilling a well, take a series of samples, at depth intervals of 10 m, of the various formations which drilling penetrates, and

(b) prepare and deliver to the division, within 30 days of the release of the drilling rig, descriptions of these samples and of any cores taken in the well.

[en. B.C. Reg. 248/2004, s. 8.]

Tests, analyses, surveys and logs

14 (1) Immediately on obtaining data and results of

(a) a bottom hole sample analysis,

(b) a pressure, volume or temperature analysis, or

(c) a measurement made on a well for the purpose of investigating the well's producing characteristics,

the operator shall submit the information to the division.

(2) Repealed. [B.C. Reg. 248/2004, s. 9 (a).]

(3) As drilling progresses, an operator shall record abnormal changes in well temperatures and drilling rates on the daily report.

(4) An operator must submit a copy of each log to the division not more than 30 days after the date the log was taken.

[am. B.C. Reg. 248/2004, s. 9.]

Deviation and directional surveys in wells

15 An operator must make

- (a) deviation surveys during well drilling at 150 m depth intervals, or
- (b) a directional survey on completion of drilling operations.

[en. B.C. Reg. 248/2004, s. 10.]

Tools, casing, equipment and materials

16 An operator shall ensure that all tools, casing, equipment and materials used in the drilling or production of a well are in good condition and are adequate for the purpose for which they are used.

Casing requirements

17 (1) An operator shall set surface casing to a minimum depth of 15% of the expected total depth or intermediate casing depth, but in any case not less than 150 m below ground level and 25 m into a competent formation, using a method approved by the division head and in accordance with good practice, and the annulus shall be filled with cement to the surface unless otherwise approved by an officer of the division.

(2) An operator must set surface casing cement under pressure and must not drill out surface casing cement until sufficient compressive strength has been reached to obtain a valid formation integrity test in accordance with good operating practice.

(3) Where a float collar or float shoe is used, pressure at the surface may be released immediately upon completion of the cement job.

(4) An operator must

(a) cement intermediate and production casing through all porous zones, including not less than 150 m above the casing shoe,

(b) test this cementing in accordance with good operating practice, and

(c) not drill out this cementing until sufficient compressive strength has been reached in accordance with good operating practice.

(5) Where there is any reason to doubt the effectiveness of a casing cementation, an operator shall make a survey to determine the top of the cement in the annulus and shall take remedial measures where necessary.

(6) Repealed. [B.C. Reg. 248/2004, s. 11 (c).]

[am. B.C. Reg. 248/2004, s. 11.]

Blow out prevention requirements

18 (1) The following classes of blow out prevention equipment shall be used for the depth of well specified:

(a) Class A equipment shall be used on a well with a depth of not more than 1 850 m;

- (b) Class B equipment shall be used on a well with a depth of not more than 3 000 m;
 - (c) Class C equipment shall be used on a well with a depth of not more than 5 500 m;
 - (d) Class D equipment shall be used on a well with a depth of more than 5 500 m.
- (2) The pressure rating of blow out prevention equipment shall be as follows:
- (a) for Class A equipment, 14 000 to 21 000 kPa;
 - (b) for Class B equipment, 21 000 kPa;
 - (c) for Class C equipment, 34 000 kPa;
 - (d) for Class D equipment, 70 000 kPa.
- (3) An operator must maintain blow out prevention equipment in good working order if a well is being drilled and must regularly test this equipment in accordance with good operating practice so that all flows from the well are safely controlled and the environment is protected.

[am. B.C. Reg. 248/2004, s. 12.]

Sections Repealed

19 and 20 Repealed. [B.C. Reg. 248/2004, s. 13.]

Testing blow out prevention equipment

21 (1) Prior to drilling out cement from a string of casing, each unit of the blow out prevention equipment shall be pressure tested, first to a pressure of 1 000 kPa and then to not less than 7 000 kPa for a period of 10 minutes and until the equipment passes the test the operator shall not proceed with further drilling.

(2) Where a well is being drilled, tested during drilling operations, completed or worked over

(a) the appropriate blow out prevention equipment shall be operated daily and if found to be defective, the operator shall ensure that it is repaired before operations are resumed,

(b) the operator shall ensure that at least one person is on tour at the well site who

(i) is trained in blow out prevention, and

(ii) has a first line supervisor certificate issued within the past 3 years by the Petroleum Industry Training Service,

and evidence of his qualifications shall be made available to an officer of the division on request,

(c) the operator shall ensure that the rig manager and the operator's representative at the well site

(i) are trained in blow out prevention, and

(ii) possess a second line supervisor certificate issued within the past 3 years by the Petroleum Industry Training Service.

(d) and (e) Repealed. [B.C. Reg. 248/2004, s. 14 (a).]

(3) Repealed. [B.C. Reg. 248/2004, s. 14 (b).]

(4) An operator shall report full particulars of all tests in the daily report and, in the case of a pressure test, the pressure applied and the duration of the test shall be recorded.

[am. B.C. Reg. 248/2004, s. 14.]

Operation of blow out prevention equipment

22 A rig crew shall have an adequate understanding of, and be able to operate, the blow out prevention equipment and, when requested by an officer of the division, the contractor or rig crew shall

(a) demonstrate the operation and effectiveness of the blow out prevention equipment, and

(b) perform a blow out prevention drill in accordance with the Well Control Procedure placard issued by the Canadian Association of Oilwell Drilling Contractors or as outlined by the Petroleum Industry Training Service, Blow Out Prevention Manual.

Maintenance of blow out prevention equipment

23 An operator shall maintain blow out prevention equipment so that its operation will not be impaired by low temperatures.

Section Repealed

24 Repealed. [B.C. Reg. 248/2004, s. 15.]

Surface and sub-surface equipment

25 An operator must keep at all times prior to abandonment of the well a detailed record of all sub-surface equipment in the well and must make the record available to an officer of the division on request.

[en. B.C. Reg. 248/2004, s. 16.]

Uncontrolled flow

26 An operator shall take every reasonable precaution to prevent a well from flowing uncontrolled and shall immediately make a verbal report of any well flowing uncontrolled to the division and confirm it in writing forthwith.

Submission of information

27 On request by an officer of the division, the operator shall provide all information connected with or derived from the drilling, production or other work performed on a well.

Daily drilling reports

28 (1) An operator must keep a daily report at the site of a well being drilled or otherwise worked on.

(2) An operator must submit a copy of each daily report to the division at the completion of operations.

(3) An operator must include in a daily report complete data on all operations performed at the well on the day for which the report is prepared.

[en. B.C. Reg. 248/2004, s. 17.]

Section Repealed

29 Repealed. [B.C. Reg. 248/2004, s. 17.]

Wellsite geology reports

30 Not more than 2 months after the date of rig release of the drilling rig from a well, the operator shall submit a wellsite geology report to the division.

[am. B.C. Reg. 248/2004, s. 18.]

Work-over reports

31 (1) An operator shall submit a work-over report to the division not more than one month after a work-over operation.

(2) Repealed. [B.C. Reg. 248/2004, s. 19.]

[am. B.C. Reg. 248/2004, s. 19.]

Release of information

32 (1) In this section:

"geothermal reports" means geothermal reports, geological reports, geophysical reports and geothermal resource estimates, but does not include well reports and well data;

"well reports and well data" means information obtained from a geothermal well, for example, unprocessed and processed log data, dipmeter surveys, directional surveys, drill stem test data and analyses, wire line data, pressure-volume-temperature and flow test data and analyses, completion information, geological information, drilling depths, casing and cementing information, well status, fluid sample or analysis data, drill cuttings and any analysis and description of the drill cuttings and cores, but does not include geothermal reports.

(2) Subject to this section, geothermal reports and well reports and well data that are received by the ministry in the course of the administration of the Act must be held confidential by the ministry.

(3) Geothermal reports must be released from confidential status 28 years after the date of receipt by the ministry.

(4) Repealed. [B.C. Reg. 248/2004, s. 20 (a).]

(5) Information obtained from a well and recorded with the division must be released from confidential status 2 years after the date of release of the drilling rig for that well.

(6) The following information is available to the public at all times during business hours:

(a) position, ground elevation and drilling status of a well;

(b) Repealed. [B.C. Reg. 248/2004, s. 20 (c).]

(c) information about monthly production, or injection of steam, brine or any fluids, for wells on regular production or injection.

(7) Well reports, well data and geothermal reports may be released from confidential status

(a) if, for any reason, the rights to the well have reverted to the Crown, or

(b) with the concurrence of the person who submitted the information to the ministry.

(8) Geological and well reports and well data may be made available by the ministry to the government of Canada or an agency of the government of Canada if that government or agency gives adequate assurance that the information will be kept in confidence within that government or agency.

(9) The Lieutenant Governor in Council may release well reports and well data or geothermal reports at any time if the Lieutenant Governor in Council considers it in the public interest to do so.

[en. B.C. Reg. 54/97, s. 3; am. B.C. Reg. 248/2004, s. 20.]

Sections Repealed

33 to 36 Repealed. [B.C. Reg. 248/2004, s. 21.]

Plugging requirements of wells and test holes

37 (1) An operator must not leave a well or test hole unplugged or uncased after it is no longer used for the purpose for which it was drilled or converted.

(2) The division head may order one or more of the following persons to abandon, plug or restore a well or test hole:

(a) a owner or operator of the well or test hole;

(b) a trustee in bankruptcy, receiver or receiver-manager of the owner or operator or other person, not the owner or operator of the well or test hole, who, in the opinion of the division head, has a financial interest in the well or test hole equivalent to that of an owner or operator.

[en. B.C. Reg. 248/2004, s. 22.]

Restoration of surface

38 (1) As soon as weather permits on completion of a well or final abandonment of a well, test hole or production facility, the operator must return the surface to a condition that duplicates as closely as is reasonable the surface condition at the time operations were commenced.

(2) An operator shall submit an application for a certificate of restoration to the division, after restoration of the surface of an abandoned well, test hole or production facility in accordance with this section.

(3) Where the owner of the surface consents in writing, an operator need not comply with subsection (1).

[am. B.C. Reg. 248/2004, s. 23.]

Disposal of drilling and production material

39 (1) An operator must ensure that

(a) a fluid produced from or used in a well or test hole does not create a hazard to public health or safety or to the environment, and

(b) gaseous substances or odors produced from a well, test hole or production facility do not create a hazard to public health or safety.

(2) An operator must dispose of fluid or gaseous substances produced from a well, test hole or production facility by a method that safeguards public health or safety and the environment.

[en. B.C. Reg. 248/2004, s. 24.]

Measurement of fluid production

40 (1) An operator shall measure fluid produced from a well by a method approved by an officer of the division.

(2) An officer of the division may, on application by an operator, exempt the operator from complying with this section where special circumstances exist.

Well testing

41 (1) An operator shall production test a well using a method approved by an officer of the division.

(2) The operator shall submit a detailed report of the test to the division within 2 months of the date in which the test was completed.

Report of geothermal production

42 An operator shall submit a monthly report on production of a geothermal resource to the division giving particulars of dates produced, hours produced, volumes produced and pressures measured.

Exemptions

43 The division head may, in relation to a particular location or well and subject to conditions the division head specifies, exempt a person from the application of all or part of this regulation.

Offence

44 A person who contravenes a section of this regulation other than section 2 (1), 5 (4) or 32 (1), (2) or (3) commits an offence.

[am. B.C. Reg. 248/2004, s. 25.]

[Provisions of the Geothermal Resources Act, R.S.B.C. 1996, c. 171, relevant to the enactment of this regulation: section 23]

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