Queensland

Geothermal Exploration Regulation 2005

Subordinate Legislation 2005 No. 44

made under the

Geothermal Exploration Act 2004

Contents

Part 1 Preliminary

1 Short title

This regulation may be cited as the *Geothermal Exploration Regulation 2005*.

2 Commencement

This regulation commences on 25 March 2005.

Part 2 Interpretation

3 Definitions

The dictionary in schedule 3 defines particular words used in this regulation.

4 Graticulation of earth's surface into blocks and sub-blocks

(1) For section 10(4) of the Act, the way for locating and describing a block or sub-block is the way shown on a block identification map.

(2) In this section—

block identification map means a map forming part of the series of maps known as the 'Block Identification Map—Series B' held by the department.[1]

1 A copy of each map in the series may be inspected, free of charge, during office hours at the department's head office at 41 George Street, Brisbane.

Part 3 Fees

5 Fees

The fees payable under the Act are stated in schedule 1.

Part 4 Tender process

6 Security for permit—Act, s 31

(1) The following forms of security are prescribed—

(a) cash;

(b) cheque;

(c) electronic transfer of funds;

(d) an unconditional financial institution security issued by a financial institution that—

(i) is in favour of the 'State of Queensland' and is payable on demand; and

(ii) has no expiry day; and

(iii) states—

(A) the holder for the proposed permit on whose behalf the security is issued; and

(B) the address of the financial institution; and

(iv) is signed for the financial institution by an officer who has authority to sign the security;

(e) a combination of the forms mentioned in paragraphs (a) to (d).

(2) The amount of security prescribed is $12 000.

(3) A tenderer must give security for a permit at—

(a) the office of the department for lodging the security, as stated in a gazette notice by the chief executive; or

(b) if no office is gazetted under paragraph (a)—the office of the chief executive.

Part 5 Annual rent and interest

7 Annual rent

(1) For section 43(1)[2] of the Act, the annual rent for a permit is $2.00 for each sub-block in the area of the permit.

(2) If annual rent payable is for a supply for which GST is payable, the rent is to be increased to take account of the GST.

(3) For section 43(2) of the Act—

(a) the prescribed way for paying the annual rent is by—

(i) cash; or

(ii) cheque; or

(iii) electronic transfer of funds; or

(iv) a combination of the forms mentioned in subparagraphs (i) to (iii); and

(b) the prescribed day is the day before the anniversary day for the permit.

(4) If the annual rent is paid for a year and the permit ends during the year, the proportion of the annual rent that relates to the remainder of the year may be refunded.

(5) The permit holder must pay the annual rent at—

(a) the office of the department for lodging the annual rent, as stated in a gazette notice by the chief executive; or

(b) if no office is gazetted under paragraph (a)—the office of the chief executive.

2 Section 43 (Annual rent and interest) of the Act

8 Interest rate on annual rent

For section 43(3) of the Act, the rate of interest is 15% a year.

Part 6 Reporting

9 Reporting to chief executive

(1) For section 49[3] of the Act, the prescribed requirements for reporting are stated in schedule 2.

(2) A report mentioned in the schedule, other than a daily activity report or an expenditure report, must—

(a) be lodged electronically using the department's system for submission of reports;[4] and

(b) be in the digital form stated in the document called 'Guidelines for the submission of digital company reports' held by the department.[5]

3 Section 49 (Reporting) of the Act

4 Queensland digital exploration reports system (QDEX)

5 A copy of the document may be inspected, free of charge, during office hours at the department's head office at 41 George Street, Brisbane, and can be accessed on the department's website at <www.nrm.qld.gov.au/science/geoscience/pdf/qdex_reporting_guidelines.pdf>.

Part 7 Prescribed conditions for permits

Division 1 Notices

10 Notice of intention to drill exploration bore

(1) A permit holder or an authorised person for the permit must, at least 5 business days before starting to drill an exploration bore in the area of the permit, notify the chief executive that the bore is to be drilled.

(2) The notice must—

(a) state a proposed identifying name for the bore; and

(b) be in the approved form; and

(c) be accompanied by a map showing the location of the bore in relation to the area of the permit.

(3) The proposed identifying name for the bore stated in the notice must not be the same, or substantially the same, as a name recorded for an exploration bore in the geothermal register.

11 Notice of completion, alteration or abandonment of exploration bore

(1) This section applies if, for an exploration bore in the area of a permit—

(a) drilling of the bore is completed; or

(b) the completion configuration of the bore changes; or

(c) the bore is abandoned.

(2) For subsection (1)—

(a) drilling of the bore is completed if—

(i) the drilling rig last used to drill the bore is moved so it is no longer above the bore; and

(ii) the permit holder intends no further drilling of the bore to occur; and

(b) the completion configuration of the bore changes if, after drilling of the bore is completed—

(i) additional casing is installed in the bore; or

(ii) any part of the bore is plugged, other than for decommissioning the bore; or

(iii) an interval in the bore is altered in any other way.

(3) The permit holder or an authorised person for the permit must, within 10 business days after the event mentioned in subsection (1) happens, give the chief executive a notice stating that the event has happened.

(4) The notice must—

(a) be in the approved form; and

(b) be accompanied by a map showing the location of the exploration bore.

12 Notice of intention to carry out seismic survey or scientific or technical survey

(1) This section applies if a seismic survey or a scientific or technical survey is to be carried out in the area of a permit.

(2) The permit holder or an authorised person for the permit must, at least 10 business days before the survey starts, give the chief executive a notice stating the following—

(a) a proposed identifying name or code for the survey;

(b) the type of survey to be carried out;

Examples—

seismic, geochemical, geophysical, geotechnical

(c) a description of the area to be surveyed;

(d) the day surveying will start;

(e) the expected duration of the surveying.

(3) The notice must—

(a) be in the approved form; and

(b) be accompanied by a map showing the location of the area to be surveyed.

(4) The proposed identifying name or code for the survey stated in the notice must not be the same, or substantially the same, as the name or code for another survey recorded in the geothermal register.

13 Notice of completion of seismic survey or scientific or technical survey

(1) This section applies if a seismic survey or a scientific or technical survey carried out within the area of a permit is completed.

(2) For subsection (1), a survey is completed as soon as all of the raw data for the survey has been recorded or recovered.

(3) The permit holder or an authorised person for the permit must, within 10 business days after the completion day for the survey, give the chief executive a notice in the approved form stating that the survey has been completed.

Division 2 Samples

14 Keeping samples

(1) This section applies if a permit holder or an authorised person for the permit obtains samples of materials from an exploration bore in the carrying out of geothermal exploration in the area of the permit.

(2) The holder or authorised person must—

(a) keep the samples for at least 3 months after giving the chief executive a bore completion report for the bore; and

(b) ensure the samples are stored in a secure way that—

(i) prevents the loss or theft of the samples; and

(ii) protects the samples against damage from the effects of weather.

15 Cutting samples

(1) A permit holder or an authorised person for the permit must, for each exploration bore drilled under the permit, keep the cutting samples of the geological formations penetrated by the drill for each interval mentioned in subsection (2).

(2) For subsection (1), the intervals are—

(a) each 10 m interval, or part of a 10 m interval, from the surface to as close as practicable to the top of the geological formation nearest to the surface that is likely to contain a natural underground reservoir; and

(b) each 3 m interval, or part of a 3 m interval, from as close as practicable to the top of the geological formation mentioned in paragraph (a) to the bottom of the bore.

(3) If the permit holder or authorised person is, under section 107 of the Act, required to give the chief executive cutting samples, the part of the sample given must, unless the notice requires otherwise, be—

(a) at least 250 g, but not more than 500 g; and

(b) washed and dried; and

(c) in a container that is suitable for long-term storage and handling and labelled with the following—

(i) the identifying name of the exploration bore from which the sample was taken;

(ii) the depth in metres of the top and bottom of the interval from which the sample was taken.

(4) The sample must be lodged at the location stated in the notice.

(5) In this section—

cutting sample means a sample of the cuttings produced by drilling an exploration bore.

16 Cores

(1) A permit holder or an authorised person for the permit must keep each core recovered from an exploration bore in the area of the permit.

(2) If the permit holder or authorised person is, under section 107 of the Act, required to give the chief executive samples of the core, the part of the core given must, unless the notice requires otherwise—

(a) be at least 50% of the core recovered; and

(b) have as complete a vertical face as is practicable; and

(c) be given in a box or other suitable container that is suitable for long-term storage and handling and labelled with each of the following—

(i) the identifying name of the exploration bore from which the core was recovered;

(ii) if more than 1 core is recovered from the bore—the number of the core;

(iii) the depth in metres of the top and bottom of the interval cored;

(iv) the length in metres of the core recovered.

(3) The sample must be lodged at the location stated in the notice.

Division 3 Other obligations

17 Open exploration bore

A permit holder or an authorised person for the permit must ensure an open exploration bore in the area of the permit is left in a condition that enables—

(a) samples of fluids to be safely taken from the bore; and

(b) bore head temperatures to be measured.

18 Displaying sign at exploration bore

(1) A permit holder must ensure a sign complying with the requirements of subsections (2) and (3) is displayed in a conspicuous position at each exploration bore in the area of the permit.

(2) The sign must—

(a) prominently state the following details—

(i) the holder's name;

(ii) the identifying name of the bore; and

(b) be clearly visible to a person approaching the bore; and

(c) be displayed until the geothermal exploration at the bore stops.

(3) Each letter on the sign must be legible, durable and clearly visible.

19 Using existing roads

A permit holder or an authorised person for the permit must ensure that—

(a) existing roads or vehicular tracks are, to the greatest practicable extent, used to transport persons, equipment and materials to and from an exploration bore in the area of the permit; and

(b) if damage is caused to a vehicular track that is not an improvement mentioned in section 46[6] of the Act—the track is restored at least to the same, or substantially the same, condition that it was in before the damage happened.

20 Uncontrolled flow from exploration bore

(1) A permit holder or an authorised person for the permit must take all reasonable steps to prevent an uncontrolled flow of gas or liquid from an exploration bore in the area of the permit.

(2) If there is an uncontrolled flow of gas or liquid from the bore, the holder or authorised person must, as soon as practicable, notify the chief executive of the flow.

6 Section 46 (Improvement restoration) of the Act

21 Distance of excavation from railway works

(1) This section applies if railway works for a railway are in, on or near the land to which a permit relates.

(2) The permit holder or an authorised person for the permit must not excavate the land less than 12 m horizontally, or 15 m vertically, from the railway works.

(3) However, subsection (2) does not apply if the holder or person—

(a) has written consent from the chief executive officer of Queensland Rail;[7] and

(b) gives the chief executive a copy of the consent.

(4) In this section—

railway works, for a railway, means works erected or placed for the railway, and includes, for example, a bridge, culvert, cutting, drain, embankment or pier.

22 Removing drilling rig

A permit holder or an authorised person for the permit must ensure a drilling rig used to drill an exploration bore in the area of the permit is not removed from the bore before the bore is in a safe and stable condition.

23 Preventing spread of declared pests

(1) A permit holder or an authorised person for the permit must take reasonable steps to ensure the holder, the person or anyone else acting for the holder or person does not disperse the reproductive material of any declared pest when—

(a) entering or leaving land in the area of the permit; or

(b) carrying out an activity under the permit.

(2) However, subsection (1) does not apply if the dispersal is authorised under the *Land Protection (Pest and Stock Route Management) Act 2002*.

7 Queensland Rail is a GOC established under the *Government Owned Corporations Act 1993*.

(3) In this section—

declared pest means any of the following—

(a) a declared pest animal or declared pest plant under the *Land Protection (Pest and Stock Route Management) Act 2002*;

(b) an animal or plant declared under a relevant local law to be—

(i) a declared pest animal or declared pest plant; or

(ii) the equivalent (however called) of a declared pest animal or declared pest plant for the local law.

relevant local law means a local law of a local government, the area of which includes the place at which the dispersal takes place.

reproductive material, of an animal or plant, means any part of the animal or plant that is capable of asexual or sexual reproduction.

Examples of reproductive material of an animal—

egg or part of an egg, semen

Examples of reproductive material of a plant—

1 seed or part of a seed

2 bulb or part of a bulb, rhizome, stolon or tuber

3 stem or leaf cutting

24 Unrestrained animals

A permit holder or an authorised person for the permit must take reasonable steps to ensure an animal in the custody of the holder, person or anyone else acting for the holder or person is not allowed on land in the area of the permit unless—

(a) the land is fenced in a way to prevent the animal from leaving the land; or

(b) the animal is restrained.

25 Discharging firearms and lighting open fires

(1) This section applies to land in the area of the permit if the land is occupied land.

(2) A permit holder or authorised person for the permit must take reasonable steps to ensure the holder, the person or anyone else acting for the holder or person does not discharge a firearm or light an open fire on the land in the area of the permit.

(3) However, subsection (2) does not apply if the holder or authorised person—

(a) has written consent from the landholder of the land; and

(b) gives the chief executive a copy of the consent.

(4) In this section—

occupied land has the meaning given by the *Mineral Resources Act 1989*.[8]

Part 8 Geothermal register

26 Documents and information included in register

A copy of each call for tenders is prescribed for section 122(2)(c)[9] of the Act.

8 *Mineral Resources Act 1989*, schedule (Dictionary)

occupied land means land (other than land occupied under a permit under the *Land Act 1994*) of which there is an owner, and includes a reserve.

9 Section 122 (Chief executive must keep register) of the Act

Part 9 Safety

27 Application of pt 9

The safety requirements mentioned in this part apply in addition to the safety requirements mentioned in section 132A[10] of the Act.

28 Application of petroleum safety regulation provisions to geothermal exploration

(1) The petroleum safety regulation provisions apply to a facility or plant used for geothermal exploration—

(a) as if—

(i) the facility or plant were an operating plant under the provisions; and

(ii) a reference in the provisions to petroleum or fuel gas were a reference to geothermal energy; and

(iii) a reference in the provisions to a petroleum authority were a reference to a geothermal exploration permit; and

(iv) a reference in the provisions to the *Petroleum and Gas (Production and Safety) Act 2004* were a reference to the Act; and

(b) with other necessary changes.

(2) In this section—

petroleum safety regulation provisions means the following provisions of the *Petroleum and Gas (Production and Safety) Regulation 2004*—

(a) sections 60 and 61;

(b) schedule 3;

10 Section 132A (Application of petroleum safety provisions to geothermal exploration) of the Act. See also the safety requirements in the *Petroleum and Gas (Production and Safety) Regulation 2004* applying under section 132A of the Act.

(c) schedule 12, to the extent it defines words mentioned in a provision mentioned in paragraph (a).[11]

11 *Petroleum and Gas (Production and Safety) Regulation 2004*, sections 60 (Plugging and abandoning a petroleum well or bore) and 61 (Requirement to plug shot holes) and schedules 3 (Requirements for plugging and abandoning petroleum wells and bores) and 12 (Dictionary)

Schedule 1 Fees

section 5

		$
1	Tender for permit (Act, s 21(1)(i))	1 000.00
2	Change of address for service (Act, s 48(3))	50.00
3	Application by permit holder under section 57(1) of the Act (Act, s 57(2)(c))	400.00
4	Application for waiver of requirement to give notice of entry (Act, s 92(2)(c)(ii))	50.00
5	Copy of notice, document or information held on geothermal register (Act, s 124(1))	20.00 plus the applicable amount
6	Application for transfer of exploration bore to permit holder (Act, s 126(3)(c))	150.00
7	Application for transfer of exploration bore to landholder or mining interest holder (Act, s 127(4)(c))	150.00
8	Application for transfer of exploration bore to the State (Act, s 128(5)(b))	150.00

Schedule 2 Reporting

section 9

Part 1 Annual report

1 When report required

(1) A permit holder must prepare an annual report for the permit for each reporting year the permit is in force.

(2) The report must be given within 2 months after the anniversary day for the permit.

2 Contents of report

The annual report for a reporting year must include the following information or documents—

(a) the name of the author of the report;

(b) the permit number;

(c) a statement giving details of all activities carried out during the reporting year under the permit;

(d) results of all geothermal exploration carried out in the reporting year, including relevant maps, sections, test results and other charts;

(e) the status at the end of the reporting year of all exploration bores for the permit;

(f) a statement about the permit holder's compliance with the agreed specific objectives for the reporting year, including any reasons for any non-compliance with the objectives;

(g) a list of other reports given to the chief executive during the reporting year;

(h) the amount of geothermal energy used or released through geothermal exploration in the reporting year;

Schedule 2 (continued)

(i) the volume of water taken during the reporting year for activities authorised under the permit;

(j) a statement of proposed activities for the following reporting year.

3 Additional requirement

The report must be accompanied by an expenditure report for the reporting year.

Part 2 Bore abandonment report

4 When report required

(1) A permit holder must prepare a bore abandonment report if an exploration bore is plugged and abandoned.

(2) The report must be given—

(a) for a bore that is plugged or abandoned before the rig release day for the bore—with the bore completion report for the bore required under part 3 of this schedule; or

(b) otherwise—within 2 months after the completion day.

(3) In this section—

completion day means the day on which plugging and abandoning of the bore is completed as required to comply with the requirements under the Petroleum and Gas (Production and Safety) Regulation 2004, schedule 3.[12]

5 Contents of report

(1) The bore abandonment report must state the following—

12 *Petroleum and Gas (Production and Safety) Regulation 2004*, schedule 3 (Requirements for plugging and abandoning petroleum wells and bores)

Schedule 2 (continued)

(a) on the first page, the following details—

(i) the permit number;

(ii) the bore's identifying name and location;

(iii) the name of the author of the report;

(iv) the name of the permit holder;

(v) the name of the operator of the bore;

(vi) the name of the person submitting the report;

(vii) the date of the report, in day-month-year format;

(b) a summary and history of the bore, including a location map and the date on which a bore completion report for the bore was given;

(c) the following details about the bore—

(i) its total depth in metres;

(ii) the position at the top and bottom, expressed as required under subsection (2), and the thickness, of any of the following intersected by the bore—

(A) a coal seam;

(B) a natural underground reservoir;

(C) an aquifer;

(iii) the depth in metres of any perforations in the casing of the bore;

(iv) the type of drilling rig used to drill the bore;

(d) all surveys and measurements made in the bore, including any detailed interpretation of a survey or measurement;

(e) in relation to the completion or abandonment of the bore, each of the following—

(i) details of the casing and equipment installed in the bore, with diagrams showing the major dimensions and features of the casing and equipment;

Schedule 2 (continued)

(ii) a full description of all equipment, including prescribed equipment, retained in the bore, including the size and nature of the equipment and any features of the equipment that may cause a hazard to coal mining operations;

Example of features that may cause a hazard to coal mining operations—

aluminium, electronics or batteries

(iii) the surveyed location of any prescribed equipment;

(iv) the method of the cementing operations carried out in or on the bore, including the location and type of plugs, the intervals covered, the volume and type of cement used, any losses of cement due to voids or permeable strata, and the methods used to overcome losses of cement;

(v) the method, materials and volume of cement used to cement voids;

(vi) a description of any other abandonment procedures used for the bore;

(vii) any other details of the activities carried out in drilling, completing and plugging and abandoning the bore, including an assessment of their possible impacts, that would assist a person in making an assessment of potential risks to safe and efficient mining of coal.

(2) For subsection (1)(c)(ii), the position at the top and bottom of the coal seam, natural underground reservoir or aquifer must be identified in relation to—

(a) for a directional bore—

(i) total vertical depth in metres; and

(ii) the horizontal plane; or

(b) otherwise—the depth in metres.

(3) In this section—

Schedule 2 (continued)

coal mining operations see the *Coal Mining Safety and Health Act 1999*, schedule 3.

directional bore means a part of an exploration bore that is intentionally not drilled vertically.

prescribed equipment means—

(a) metal equipment, other than casing;[13] and

(b) any other equipment that may create a hazard to coal mining operations.

Part 3 Bore completion report

6 When report required

(1) A permit holder must prepare a bore completion report for each exploration bore in the area of the permit.

(2) The report must be given within 2 months after the rig release day for the bore.

7 Contents of report

(1) The bore completion report must include the following—

(a) the name of the author of the report;

(b) the permit number;

(c) the identifying name for the bore;

(d) survey information for the bore, including—

(i) the location and elevation of the bore collar in AMG coordinates; and

(ii) a location map at an appropriate scale;

13 For requirements about removing casing from a petroleum well, see the *Petroleum and Gas (Production and Safety) Regulation 2004*, schedule 3 (Requirements for plugging and abandoning petroleum wells and bores).

Schedule 2 (continued)

(e) an interpretation of the data obtained from the geophysical (or wireline) logs that have been run in the bore;

(f) the bore's total depth and diameter;

(g) information about samples taken, lost circulation zones found or blowouts reported during the drilling of the bore;

(h) a lithological log of the bore from the surface of the land to the bore's total depth;

(i) information about all tests and surveys performed in the bore;

(j) details of stimulation carried out in the bore;

(k) the significance of the bore in relation to the geothermal potential of the area;

(l) the surveyed path of the bore;

(m) the identification of potential production intervals intersected by the bore;

(n) a statement about whether the bore has been—

(i) discontinued; or

(ii) suspended; or

(iii) converted to another use; or

(iv) plugged and abandoned;

(o) details of casing and equipment installed in the bore, including relevant schematics for the bore;

(p) the bore's history, including information about the following for the bore—

(i) the day drilling of the bore started;

(ii) depth of various marker horizons;

(iii) drilling rig details;

(iv) cementing operations;

(v) bit records;

Schedule 2 (continued)

(vi) drilling fluids used;

(vii) the rig release day.

(2) The report must be accompanied by the following—

(a) a digital image of the cores taken during the drilling of the bore;

(b) the raw data, in digital form, of each geophysical (or wireline) log that has been run in the bore;

(c) a digital image of the graphic representations of the raw data mentioned in paragraph (b).

Part 4 Daily activity report

8 When report required

(1) A permit holder must prepare a daily activity report for an exploration bore in the area of the permit for each day the permit holder drills or otherwise works on the bore.

(2) The daily activity reports for a calendar week must be given within 1 week after the calendar week for which the report is made.

9 Contents of report

(1) The daily activity report must contain the following information—

(a) the name of the author of the report;

(b) the permit number;

(c) the bore's identifying name and location;

(d) drilling rig details;

(e) details of all activities carried out on the bore on the day.

Schedule 2 (continued)

(2) Without limiting subsection (1)(e), the following information must be included—

(a) the bore's true vertical depth and actual depth at the beginning of, and at the end of, each shift for the day;

(b) the bit size and bit type used to drill the bore;

(c) casing data for the bore, including—

(i) the size, type, grade, weight, depth and type of the perforations; and

(ii) whether the casing is new or used; and

(iii) the depth at which the casing is set;

(d) details of the following for the bore—

(i) cementing carried out;

(ii) mud used in the bore, including a mud log;

(iii) water, brine, petroleum or other fluid found in the bore;

(iv) stimulation carried out in the bore;

(v) any occasions when the blowout preventers for the bore are closed and the reason for the closure;

(vi) loss of drilling fluid from the bore;

(vii) samples taken from the bore;

(viii) volume of water taken from the bore;

(e) the results of any test made in the bore;

(f) allocation of time spent on each operation in the bore;

(g) the day drilling of the bore started;

(h) the rig release day.

(3) In this section—

mud means a drilling fluid, commonly used in the geothermal industry, consisting of any suitable mixture of water, oil, clay or other material, or any mixture of these materials, that will—

Schedule 2 (continued)

(a) remove the drill cuttings from an exploration bore; and

(b) control rock and reservoir pressures; and

(c) stabilise disturbed formation conditions; and

(d) seal formations into which fluid from the bore is escaping.

10 Additional requirement

The permit holder must, unless the holder has a reasonable excuse, keep a copy of each daily activity report for an exploration bore for 1 year after giving the chief executive the bore completion report for the bore.

Part 5 Expenditure report

11 When report required

(1) A permit holder must prepare an expenditure report for each year the permit is in force.

(2) The report must be given when the annual report for the year is given.[14]

12 Contents of report

(1) The expenditure report for a year must state the following—

(a) the name of the author of the report;

(b) the permit number;

(c) details of expenditure directly incurred in relation to the permit for the year.

14 See schedule 2 (Reporting), part 1 (Annual report), section 3 (Additional requirement).

Schedule 2 (continued)

(2) For subsection (1)(c), the report must separately itemise expenditure in relation to the following, as appropriate—

(a) drilling an exploration bore;

(b) seismic surveying;

(c) scientific or technical surveying;

(d) technical evaluation and analysis;

(e) cultural heritage survey costs;

(f) operational and administrative expenses.

(3) However, the report must not include expenditure relating to any of the following—

(a) costs of obtaining background land tenure searches and assessments;

(b) rent, fees and security paid under the Act for the permit;

(c) legal costs;

(d) expenditure on capital items.

Part 6 Supplementary bore completion report

13 When report required

(1) A permit holder must prepare a supplementary bore completion report for an exploration bore in the area of the permit if the bore is reopened for geothermal exploration under the permit.

(2) The report must be given within 2 months after completing the exploration.

14 Contents of report

(1) The supplementary bore completion report—

Schedule 2 (continued)

(a) must contain information for the bore as if the report were a bore completion report; but

(b) is not required to contain information that has already been given in a bore completion report for the bore.

(2) If more than 1 supplementary bore completion report for an exploration bore is given, the reports must be consecutively numbered.

Part 7 Surrender report

15 When report required

(1) A permit holder must prepare a surrender report if the holder of the permit applies to the Minister to surrender all or part of the permit.

(2) The report must be given when the application for surrender is made.

16 Contents of report

(1) The surrender report must include the following information or documents—

(a) the name of the author of the report;

(b) the permit number;

(c) information about the permit, including the following—

(i) the day the permit was granted;

(ii) a description of, and map showing, the area (the ***surrendered area***) the subject of the application, including access to the area;

(iii) any transfers of, or transfers of a holder's interest in, the permit;

(d) the main methods of geothermal exploration used;

Schedule 2 (continued)

(e) a description of the geological features of underground reservoirs in the surrendered area;

(f) the results of all geothermal exploration carried out in the surrendered area during the term of the permit;

(g) any conclusions from the results mentioned in paragraph (f);

(h) an index of all reports given, as required under this schedule, about the authorised activities carried out in the surrendered area;

(i) the hazard information for the report;

(j) a map showing the location in the surrendered area of—

(i) each bore drilled under the permit; and

(ii) each seismic line used for a seismic survey carried out under the permit;

(k) structure contour maps of the seismic horizons (seismic reflectors) in the surrendered area;

(l) the reason the permit holder is applying to surrender all or part of the permit.

(2) The information required under subsection (1)(e) may be given as—

(a) a list of previous reports, given under section 49 of the Act, that contain the results of the geothermal exploration; or

(b) a combination of the reports and results.

(3) In this section—

hazard information, for a surrender report, means each of the following—

(a) a summary of all significant hazards to future safe and efficient mining of coal, created under the permit, that are, under section 132A of the Act or this regulation, required to be reported;

Schedule 2 (continued)

(b) for each hazard mentioned in the summary under paragraph (a)—a reference to the report that contains details of the hazard;

(c) for any other hazard, or potential hazard, to future safe and efficient mining of coal or oil shale in the area of the permit, created under the permit—

(i) the nature of the hazard or potential hazard; and

(ii) the way in which the hazard or potential hazard was created; and

(iii) the location of the hazard or potential hazard; and

(iv) measures taken to prevent or reduce the hazard or potential hazard, or to mitigate its effects.

17 Combined report

The surrender report and annual report for the year in which the surrender happens may be given as 1 document.

Part 8 Survey report

Division 1 Scientific or technical survey report

18 When report required

(1) This section applies if a permit holder or authorised person for the permit—

(a) carries out a scientific or technical survey of the area of the permit; or

(b) reprocesses raw data obtained from a survey mentioned in paragraph (a).

(2) The permit holder must prepare a scientific or technical survey report for the survey.

Schedule 2 (continued)

(3) The report must be given within 6 months after the completion day for the survey.

19 Contents of report

(1) The scientific or technical survey report must contain the following—

(a) the name of the author of the report;

(b) the permit number;

(c) a description of the location of the area surveyed;

(d) a geological summary of the area surveyed;

(e) the type of survey carried out;

(f) an index of previous scientific or technical surveys, of the same type as the survey for which the report is given, carried out under the permit within the area;

(g) the objectives of the survey;

(h) the activities carried out for the survey, including, for example, the days on which the activities were carried out;

(i) the methods and equipment used for acquiring and processing, or reprocessing, data;

(j) an interpretation of the processed or reprocessed data derived from the survey;

(k) a map showing the location of—

(i) the area surveyed; and

(ii) where any measurements were made or samples were taken in relation to the survey.

(2) The report must be accompanied by the following in digital form—

(a) the raw data obtained in relation to the survey;

(b) the processed or reprocessed data derived from the survey.

Schedule 2 (continued)

Division 2 Seismic survey report

20 When report required

(1) This section applies if a permit holder or authorised person for the permit—

(a) carries out a seismic survey of the area of the tenure; or

(b) reprocesses raw data obtained from a survey mentioned in paragraph (a).

(2) The permit holder must prepare a seismic survey report for the survey.

(3) The report must be given within 1 year after the completion day for the survey.

21 Contents of report

(1) The seismic survey report must contain each of the following—

(a) the name of the author of the report;

(b) the permit number;

(c) a description of the location of the area surveyed;

(d) a geological summary of the area surveyed;

(e) an index of previous seismic surveys carried out under the permit within the area and a summary of the results of the surveys;

(f) the objectives of the survey;

(g) the activities carried out for the survey, including, for example, details of the seismic lines used and the days on which the activities were carried out;

(h) a description of each method used to acquire raw data, including—

(i) the equipment used for positioning, surveying, navigation or other purposes; and

Schedule 2 (continued)

(ii) the techniques and equipment used for recording and testing the data;

(i) a description of how the raw data was processed or reprocessed;

(j) an evaluation of the processed or reprocessed data, including an interpretation of the seismic horizons (seismic reflectors) and any leads or prospects identified from the data;

(k) a map showing the location of the seismic lines used for the survey;

(l) if the report is not accompanied by grid files for the area surveyed in digital form—

(i) structure contour maps of seismic horizons (seismic reflectors) in the area surveyed; and

(ii) maps of the area showing variations in the thickness of stratigraphic units (isopach maps).

(2) The report must be accompanied by—

(a) the following in digital form—

(i) the raw data obtained in relation to the survey and the record made as the data was recorded (commonly known as the 'observer's logs');

(ii) a list of the seismic lines used and the range of the numbered stations on each line;

(iii) the surveyed location, including the elevation, of each seismic source and receiver point;

(iv) the processed or reprocessed data derived from each seismic line used for the survey;

(v) a graphical representation of the data mentioned in subparagraph (iv); and

(b) if an activity for the survey was carried out by a contractor of the permit holder, a copy of any report given to the holder by the contractor in relation to the activity.

Schedule 2 (continued)

(3) In this section—

grid file, for an area, means a representation, on a close-spaced, regular grid, of an interpretation of time and depth to seismic horizons (seismic reflectors).

Schedule 3 Dictionary

section 3

AMG means the Australian Map Grid reference specified in the Australian Geodetic Datum Technical Manual of the Australian Survey and Land Information Group.

anniversary day, for a permit—

(a) means each anniversary of the day the permit is granted; and

(b) does not change merely because the permit is amended or transferred.

annual report see schedule 2, part 1.

applicable amount, for a copy of a notice, document or information held on the geothermal register, means—

(a) for a black and white copy in A4 size of a notice, document or information—$0.20 for each page; or

(b) otherwise—an amount that is not more than the actual cost of providing a copy of the notice, document or information.

bore abandonment report see schedule 2, part 2.

bore completion report see schedule 2, part 3.

completion day, for a survey, means—

(a) if the survey involves reprocessing of raw data recorded or recovered for a previous survey—the day on which reprocessing of the data is completed; or

(b) otherwise—the last day on which raw data is recorded or recovered for the survey.

daily activity report see schedule 2, part 4.

drilling rig details includes the following details for the drilling rig—

(a) the drilling contractor's or service company's name;

(b) the drilling rig's number.

Schedule 3 (continued)

expenditure report see schedule 2, part 5.

identifying name, for an exploration bore, means the unique identifying name for the bore recorded in the geothermal register.

permit number, for a permit, means the unique identifying number for the permit recorded in the geothermal register.

reporting year, for an annual report or an expenditure report for a permit, means each period of 1 year starting on the day, or the anniversary of the day, the permit takes effect.

rig release day, for an exploration bore, means the day the drilling rig last used to drill the bore is moved so it is no longer above the bore, if the permit holder for the bore intends no further drilling of the bore to happen.

scientific or technical survey means a geochemical, geophysical or geotechnical survey or another survey for a similar purpose, other than a seismic survey.

scientific or technical survey report see schedule 2, part 8, division 1.

seismic survey means a survey carried out to decide the subsurface features by transmitting sound waves into the ground and measuring the time they take to return to the surface.

seismic survey report see schedule 2, part 8, division 2.

stimulation means a technique used to increase the permeability of an underground reservoir, including, for example, hydraulic fracturing, cavitations, fracture acidising, and the use of proppant treatments.

supplementary bore completion report see schedule 2, part 6.

surrender report see schedule 2, part 7.

ENDNOTES

1 Made by the Governor in Council on 24 March 2005.

2 Notified in the gazette on 24 March 2005.

3 Laid before the Legislative Assembly on . . .

4 The administering agency is the Department of Natural Resources and Mines.