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1 Introduction

With the implementation of QDEX (Queensland Digital Exploration reports system), submission of reports on exploration activity became much easier. Generally, the Department of Natural Resources, Mines and Energy (DNRME), DNRME, requires all reports to be submitted in digital form. QDEX has been designed to make this a quick and straightforward process.

Reports about exploration activity form a vital part of the exploration database maintained and made publicly available by DNRME. QDEX not only facilitates the submission of reports, but also makes access to them much easier, via the internet. All reports become publicly available (‘open file’) via QDEX once any specified period of confidentiality expires. This varies with the type of report and tenure, and whether or not there are subsequent tenures for the same area, (see section 2, ‘Confidentiality’, below).

Reporting requirements relate to reports that are added to the QDEX system and include all mineral exploration, geothermal exploration, greenhouse gas exploration, petroleum exploration, petroleum well, seismic survey or airborne geophysical survey, mineral development licence, petroleum lease, and petroleum pipeline licence reports and some other exploration related reporting. Aerial geophysical survey data should be submitted separately and sent to a separate area of DNRME.

Reports must meet the standards set out here in terms of both content and file formats. The standards are established to ensure that subsequent explorers can use the reports to assess prospects for mineral or hydrocarbon discovery, and that they are not forced into unnecessary expenditure to repeat investigations because they have been inadequately documented. Adherence to these requirements will contribute to the development of comprehensive national databases of mineral and hydrocarbon prospects. In more practical terms, report assessment will be simplified, and the standards will ensure that data can be stored and maintained for their future availability to the minerals and petroleum industry, coal industry, geothermal industry, and greenhouse gas industry.

Please note all reports lodged and submitted must be in English.

Reports that do not meet these standards will not be accepted.
2 Confidentiality

Reports and data are required in order that DNRME can build up comprehensive databases of exploration data, and make those databases available to the minerals, coal, petroleum, geothermal and greenhouse gas industries. However, reports and data remain confidential under certain circumstances and these are as follows.

2.1 Mineral exploration reports

Reports remain confidential during the currency of the mining tenement for which they are submitted, with the exception of partial relinquishment reports, which become open file immediately. The confidentiality of reports is retained if subsequent tenure is granted (for example a mineral development licence or mining lease from an exploration permit) and these reports remain confidential until this subsequent tenure is surrendered or expires. When sub-blocks are being dropped for granting of an MDL, then there is a requirement to submit a Final Relinquishment Report for area within the MDL and this report will remain confidential while the MDL remains current.

2.2 Petroleum exploration reports

Details of confidentiality periods for various reports and data are contained in schedule 1 of the Petroleum and Gas (General Provisions) Regulation 2017. The provisions in each are essentially the same. In summary, these are as follows:

- Well proposal report: five years from required lodgement date
- Well abandonment report (appraisal/exploration well): two years from required lodgement date
- Well abandonment report (development well): five years from required lodgement date
- Well completion report (appraisal/exploration well): two years from required lodgement date
- Well completion report (development well): five years from required lodgement date
- Seismic survey or other scientific/technical report: two years from required lodgement date
- Infrastructure report: five years from required lodgement date.

There is no confidentiality period for reports other than those mentioned above.

2.3 Geothermal exploration reports

Details of confidentiality period for various reports and data are contained in section 62 of the Geothermal Energy Regulation 2012 (for geothermal tenures administered under the Geothermal Energy Act 2010). In summary, the reports are as follows:

- Daily drilling report (given under section 17) or a well completion report (given under section 20)
  - for an exploration well or appraisal well: two years after the day on which the report is required to be given; or
  - for a development well: five years after the day on which the report is required to be given.
- Well abandonment report (given under section 29)
  - for an exploration well or appraisal well: two years after the day on which the report is required to be given; or
  - for a development well: five years after the day on which the report is required to be given.
- Annual reserves report (given under section 35): six months after the last day of the period to which the report relates.
• Production testing report (given under section 36) or an injection testing report (given under section 39)
• for a geothermal permit: two years after the last day of the period to which the report relates; or
• for a geothermal lease: five years after the last day of the period to which the report relates.
• Production report (given under section 42) or an injection report (given under section 43): six months after the last day of the period to which the report relates
• Hydraulic fracturing activities completion report (given under section 44), including any accompanying hydraulic fracturing fluid activity statement: five years after the day on which the report is required to be given
• Geophysics survey report (given under section 50) or a scientific or technical survey report (given under section 53): two years after the day on which the report is required to be given
• Cutting sample, core sample or fluid sample (given under section 194)
  – for an exploration well or appraisal well: two years after the day on which part of the sample or core is given to the chief executive; or
  – for a development well: five years after the day on which part of the sample or core is given to the chief executive.

2.4 GHG exploration reports
Details of confidentiality period for various reports and data are contained in section 29 of the Greenhouse Gas Storage Regulation 2010 (for GHG authorities administered under the Greenhouse Gas Storage Act 2009). In summary, the reports are as follows:

• Well completion report (given under section 16) or a well abandonment report (given under section 17): two years after the giving of the report
• Seismic survey report (given under section 18): two years after the giving after the report
• Scientific or technical survey report (given under section 19): two years after the giving of the report
• GHG storage injection testing report (given under section 22):
  – For a GHG permit – two years after the injection testing; or
  – For a GHG lease – five years after the injection testing.
• GHG stream storage capacity report (given under section 23): 6 months after the last day of the period to which the report relates
• GHG stream storage injection report (given under section 24 for a GHG lease): 6 months after the last day of the period to which the report relates.

There is no confidentiality period for reports other than those mentioned above.
3 Submission of Reports

Generally, all reports must be submitted via the QDEX system. Report content and sequence should follow those shown in section 7 (mineral and coal related reports), section 8 (petroleum related reports) and section 9 (geothermal related reports), section 10 (greenhouse gas), and section 11 (coal or oil shale mining leases) below.

QDEX allows the submission of reports via the web interface if all the files forming the report components are less than 100mb in size each. Where a whole report is no more than a total of 100mb in size it can be submitted as a single PDF file incorporating embedded tables, plans and images.

If all the files forming the report components are greater than 100mb in size, the report must be broken down into files that are not greater than 100mb and must be submitted, via QDEX, on DVD or CD-ROM.

Exceptions are large volumes of data (for example, seismic and other raw geophysical survey data). If file size precludes the use of CD-ROM, other appropriate media may be used, with preference to DVD or IBM 3590 tapes for seismic data.

Raw geophysical data (for example, wireline logs, seismic, airborne geophysics) is not lodged through QDEX; this is sent to the Geological Survey of Queensland (GSQ) or the Exploration Data Centre (EDC). Addresses for these two centres are available from the DNRME website www.dnrm.qld.gov.au

Metadata describing the content and components of the report are entered via the QDEX web interface. Keywords, which are used to retrieve reports, can be added at this stage. A separate Lodgers’ User Guide is available to registered QDEX users under the ‘Help’ menu in QDEX.

Small companies or individual exploration permit holders may not have ready access to the internet; whether it be because the holder does not own a computer, or because the remoteness of the area of the exploration permit prevents the holder from having internet access while exploring on the permit.

In such circumstances, the holder may apply to the chief executive of DNRME for approval to lodge hard copy reports well BEFORE the due date of the report and definitely before the report is submitted. The holder must state the reasons for not being able to submit the report. Please note that it is still DNRME’ preference that all reports, where possible, be submitted via the QDEX system.
4 Digital Formats

The file formats for submission of reports and associated data are substantially those agreed to by the Government Geoscience Information Policy Advisory Committee (GGIPAC) and adopted by all States and Territories.

Report components (as opposed to associated data) must be submitted in the following formats:

4.1 Report component formats

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<th>Description</th>
<th>Format</th>
<th>Parameter</th>
<th>Suffix</th>
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<tr>
<td>Text</td>
<td>Includes documents, figures etc. normally provided in hardcopy</td>
<td>PDF#</td>
<td>Normal, embedded fonts, no security</td>
<td>.pdf</td>
</tr>
<tr>
<td>Tabular data*</td>
<td>Geochemistry, drill log data and surveying data</td>
<td>Delimited ASCII</td>
<td>Preferably TAB delimited</td>
<td>.txt</td>
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<td>Maps, plans and figures (not included in text)</td>
<td>Geological maps, geochemical sample location maps, figures etc.</td>
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<td>TIFF - Monochrome (1bit) CCITT Group 4 format</td>
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<tr>
<td>Photographs (not included in text)</td>
<td>Core photographs, aerial photographs etc.</td>
<td>JPG</td>
<td>JPEG - True colour 24bit with a quality factor of around 90</td>
<td>.jpg</td>
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#PDF files should be created from the original plot file where possible and a scaling factor included for plots greater than 1143mm in length. See separate Company report creation guide for guidance on creating PDF files (see ‘Help’ tab on QDEX home page).

*Where several related database files cover one theme (e.g. surveying data, drill logs, geochemistry, look-up tables etc.), please contact QdexSupport@dnrme.qld.gov.au for advice.

4.2 Text

The text component of the report should be provided in Adobe Acrobat Portable Document format (PDF). This should include the title page, contents list, summary, introduction, body of text, results, conclusions, references and any embedded figures and tables.

The entire report can be submitted as a single PDF file if file size <100Mb and data types permit.

4.3 Tabular data

Tabular data (essentially point related data) should be submitted as tab delimited (preferred) or comma delimited American Standard Code for Integer Interchange (ASCII) files.
4.4 Maps, plans and images

Maps and plans should be submitted as PDF, Joint Photographic Group (JPEG or JPG) or Tagged Image File (TIFF or TIF) files. Smaller graphics embedded in the text of the report can be included in the text PDF file. The colour and spatial data of the original map or plan should be maintained. Resolution should be 300 dpi or better.

Larger maps and plans should be submitted as JPEG or TIFF files. TIFF is preferred for line work; JPEG for work with subtle gradations of colour or shade.

TIFF files must be Monochrome (1bit) CCITT Group 4 format not striped TIFFS or 2d fax or any other type of TIFF image. If they are scanned they should be scanned at only 300 dpi.

JPEG files are most commonly used for colour images and must be 300 dpi or better. JPEG files must be in the file format ‘JPEG File Interchange Format’ ‘True Colour 24bit’ with a JPEG Quality Factor of around 90.

4.5 Other data types

It is recognised that there are data types that will be associated with reports for which other formats are more appropriate. Data in the formats listed below will be accepted for submission to QDEX in a Zip file format (.zip) and associated with the component type called ‘Geoscience Data’. These other data types must not be used to replace the reporting, map and figure creation requirements. Zip files are not to be used for joining several PDF files (figures) in lieu of submitting them in separate components.
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*PDF files should be created from the original plot file where possible and a scaling factor included for plots greater than 1143 mm in length.

*Where several related GIS files cover one project area, files should be submitted in a zip file containing all relevant files. ArcView project (.apr) and MapInfo project (.wor) files along with all related GIS files should be included in the zip file. Project files (.apr and .wor) should point to data sets on a relative path basis.

4.6 **Naming of files**

Files to be lodged in QDEX must **not** contain full stops, quotes or non-alphabetic characters. For example this is an **invalid** file name:

geochemical.data “big one prospect” and drilling.pdf

The recommended file name would be:

gchem data big one prospect.pdf

It is good practice to keep file names all in lower case and short.

File names are assigned automatically by QDEX during the submission process. Where a report is to be submitted on portable media, via the off-line lodgement process, a list of the file names to be used will be provided as an attachment to an email at the completion of the on-line submission session. This file (named packing_slipxxxxx.txt) **MUST** accompany the report as a separate file on the CD if you are using the off-line lodgement process in QDEX. You must rename all the files to conform to the naming convention defined in this ‘packing_slip’ before creating the CD and sending to the Department. If you choose to follow the on-line lodgement process this file is not necessary and file renaming is not required.
4.7 Sending a CD or hard copy of report

If you are lodging the report via the offline option available in QDEX, you will first need to complete the metadata record in QDEX and then copy the files, plus the ‘packing_slip’ automatically emailed to you by QDEX, onto a CD.

When the CD has been produced mail it to:

QDEX Support
Operations Support
Department of Natural Resources, Mines and Energy
PO Box 15216
City East QLD 4002 Australia

If the chief executive has approved for you to lodge a hard copy of a report, the report must also be mailed to the above address.
5 Copyright Statement

All reports submitted pursuant to the *Mineral Resources Act 1989* must contain the following acknowledgement and warranty statement in the report or as an appendix to the report:

ACKNOWLEDGEMENT AND WARRANTY

1. Subject to 2, the mining tenement holder acknowledges that this report, including the material, information and data incorporated in it, has been made under the direction or control of the State of Queensland (the State) within the meaning of section 176 of the Copyright Act 1968 (Cwlth).

2. To the extent that copyright in any material included in this report is not owned by the State, the mining tenement holder warrants that it has the full legal right and authority to grant, and does hereby grant, to the State, subject to any confidentiality obligation undertaken by the State, the right to do (including to authorise any other person to do) any act in the copyright, including to:

   a. use;
   
   b. reproduce;
   
   c. publish; or
   
   d. communicate in electronic form to the public, such material, including any data and information included in the material.

3. Without limiting the scope of 1 and 2 above, the mining tenement holder warrants that all relevant authorisations and consents have been obtained for all acts referred to in 1 and 2 above, to ensure that the doing of any of the acts is not unauthorised within the meaning of section 29(6) of the *Copyright Act 1968* (Cwlth).
6 Publication of reports and data

DNRME may publish reports and data as follows:

- in a journal published by the department or under the Minister’s authority
- in another publication considered appropriate by the chief executive
- on the DNRME web site on the internet
- in a publicly available database
- on a map that is made available to the public for inspection or purchase
- in digital or electronic form, including, for example, on a disc or tape
- by displaying it on a notice that is available to the public for inspection at:
  - the head office of DNRME; and
  - other places the chief executive considers appropriate.
- by telling it to another person or presenting it to the person in a visual form.
7 Reporting for Exploration Permits Mineral (EPM) and Coal (EPC) and Mineral Development Licences

Section 141(1)(f) of the Mineral Resources Act 1989 states, for an exploration permit, that it is:

"a condition that the holder must give the following reports to the Minister, in the way and containing the information prescribed under a regulation—

(i) an annual report, given each year during the term of the exploration permit, within 1 month after each anniversary of the day the exploration permit takes effect;

(ii) a report about a reduction in the area of the exploration permit, given within 2 months after the reduction takes effect;

(iii) a report summarising the results of exploration for the whole of the term of the exploration permit, given within 2 months after the exploration permit ends".

Section 194(1)(f) of the Mineral Resources Act 1989 imposes a similar condition on a holder of a mineral development licence. This section states, for a mineral development licence, that it is:

"a condition that the holder must give the following reports to the Minister, in the way and containing the information prescribed under a regulation—

(i) a report for each year of the term of the mineral development licence, given within 1 month after each day that is an anniversary of the day the mineral development licence takes effect;

(ii) a report about a reduction in the area of the mineral development licence, given within 2 months after the reduction takes effect;

(iii) a report summarising the results of activities carried out under the mineral development licence during all of its term, given within 2 months after the mineral development licence ends".

The Mineral Resources Regulation 2013 prescribes the way reports are to be submitted and the information required for these reports. The Mineral Resources Regulation 2013 may be viewed at the Office of Queensland Parliamentary Counsel website:


or purchased from LitSupport Pty Ltd. Information can be found here:


In summary, pursuant to sections 13 and 14 of this Regulation, reports are to be lodged electronically using the system for submission of reports made or approved by the chief executive (that is, QDEX). Also, these reports must comply with the following as detailed in this document:

- the type of digital formats each of the various components of the reports must take
- the information requirements for each of these reports
- the confidentiality periods that apply to each of these reports.

Separate requirements apply in relation to the notification and data lodgement for Aerial Geophysical Surveys, below.

Group Reporting:

Applications seeking approval for group reporting, over a series of adjacent mining tenements, will no longer be considered.
However, where previous approvals for group reporting were given and are still valid, all the mining tenement numbers the subject of the group reporting must appear in the title. Also, any current group reporting reports, then the Combined Annual Report, must now contain individual tenure information.

7.1 Type and Frequency of Reports

During the course of the exploration program, the following reports are required for both exploration permits and mineral development licences:

- twelve-monthly (called ‘annual reports’)  
- voluntary reduction, surrender of area, or compulsory relinquishment of area of an exploration permit (called ‘partial relinquishment reports’)  
- voluntary reduction or surrender of part of the area of a mineral development licence (called ‘partial surrender reports’)  
- expiry of tenure, full voluntary surrender or cancellation of tenure (called ‘final reports’).

Full technical reports detailing all of the exploration work carried out during the year, including results must be submitted on an annual basis. All proposed future exploration must be outlined in the full technical reports if appropriate.

Upon the reduction of the area of an exploration permit or reduction of part of the area of a mineral development licence, a partial relinquishment report (for an exploration permit) or a partial surrender report (for a mineral development licence), detailing all of the exploration work carried out on the relinquished/surrendered area, must be submitted. If no exploration activity, nor in-house geological or geophysical studies, were conducted on or for the relinquished/surrendered area, a ‘nil’ report is still required to be lodged.

The final report submitted on the expiry, full voluntary surrender or cancellation of the tenure must contain a technical summary of all exploration work conducted throughout the term of the tenure, and details of work undertaken during the last reporting period.
7.1.1 Annual Reports

These must be submitted within one month from the tenures’ anniversary date. The anniversary date is the date the tenure took effect. The annual report for an exploration permit must contain the information detailed in section 13 of the Mineral Resources Regulation 2013 and Sections 7.3 and 7.4 of this document, below.

The annual report for a mineral development licence must contain the information detailed in Sections 7.3 and 7.4 of this document, below.

Annual reports remain confidential during the currency of the tenure or subsequent tenure (for example, mineral development licence or mining lease from an exploration permit) unless ‘open filed’ (that is, allow the reports to become available to the public) in lieu of relinquishment reports at the tenure holder’s request.

A detailed expenditure statement must be submitted separately when an annual report is submitted (see Section 7.2 of this document, below).
7.1.2 Partial Relinquishment Reports/Partial Surrender Reports

As the number of sub-blocks in an exploration permit is progressively reduced, or the area of an exploration permit or mineral development licence is voluntarily surrendered, a report for the areas relinquished or surrendered is required. For an exploration permit, this report is called a ‘partial relinquishment report’, and for a mineral development licence this report is called a ‘partial surrender report’.

This report becomes non-confidential immediately upon acceptance by DNRME. The partial relinquishment report for an exploration permit must contain the information detailed in section 16 of the Mineral Resources Regulation 2013 and Sections 7.3 and 7.4 of this document, below.

The partial surrender report for a mineral development licence must contain the information detailed in section 16 of the Mineral Resources Regulation 2013 and Sections 7.3 and 7.4 of this document, below.

Partial relinquishment reports and partial surrender reports are to be submitted within two months of the date of the relinquishment or surrender. Partial relinquishment reports or partial surrender reports must contain full technical details of exploration carried out on the relinquished or surrendered area. The tenement holder can allow all annual reports, that contain relevant information about the relinquished/surrendered area, to be put on ‘open file’ as long as the Annual Report (AR) contains a technical summary of the work carried out.

As the compulsory relinquishment for an exploration permit is generally at the end of a twelve-month period (after year 2), both a partial relinquishment report, and an annual report will commonly be required. However, tenure holders are encouraged to allow previously submitted annual reports to be placed on ‘open file’ rather than prepare a separate partial relinquishment report, when this is appropriate.

If no exploration activity, nor in-house geological or geophysical studies, were conducted on or for the relinquished or surrendered area, a "nil" partial relinquishment report or partial surrender report, stating this fact, is still required to be lodged.

7.1.3 Final Reports

A final report is required within two months of the date the exploration permit or mineral development licence is relinquished in full (surrendered), expires or is cancelled. The report must contain a summary of the results of exploration during the whole of the period of tenure and an assessment of the results. Data and plans necessary for the understanding of the final report must be included.

The final report for an exploration permit must contain the information detailed in section 13D of the Mineral Resources Regulation 2013 and Sections 7.3 and 7.4 of this document, below.

The final report for a mineral development licence must contain the information detailed in section 17(1) of the Mineral Resources Regulation 2013 and Sections 7.3 and 7.4 of this document, below.

A combined twelve-monthly report and final report can only be submitted if the termination date is at the anniversary date or if the termination, or surrender request lodged, occurs within two months of the anniversary date.

A final report for the area retained is subsequently meant to be titled ‘Final Relinquishment Report’ for area under MDL or ML (to remain confidential); and then the ‘Final Report’ for the remaining area being released.

A detailed expenditure statement must be submitted separately when the final report is submitted, (see Section 7.2 of this document, below).
7.2 Expenditure Statement

A detailed expenditure statement must be submitted separately when annual and final reports are submitted. The statement must itemise expenditure incurred during the period in accordance with the approved work program and expenditure commitments for the exploration permit or mineral development licence. The expenditure statement must not be included as part of the report. This statement will remain confidential and will not be stored in QDEX.

In the case of final reports, the expenditure statement must itemise expenditure for the whole life of the exploration permit, as well as for the last 12 months if combined with the last annual report.

Departures from the proposed work program must be explained. Work for which an expenditure claim is made in this statement must be described in detail in the report.

Among other things, the cost of a capital item is not allowable; however, depreciation on the capital item can be included as part of the operational and administrative expenses. Purchase of multi-client geophysical data is also allowable as exploration expenditure and may be included as a component of the data management or data interpretation expenses.

The expenditure statement may be lodged using the MyMinesOnline system.

7.2.1 Allowable expenditure items

Allowable expenditure items must be related to exploration work, i.e. activities which contribute to discovery and increase the level of knowledge and information of the geology and mineral resources of the land. The expenditure statement for an exploration permit or mineral development licence can contain the information detailed in section 14(2) of the Mineral Resources Regulation 2013 and detailed, below.

The allowable expenditure items for exploration permits and mineral development licences include:

- drilling and completion activities
- trenching, costeanning or pitting
- geophysical and geochemical surveys
- technical evaluation and analysis
- data management or data interpretation
- operational and administrative expenses, limited to 10% of the total expenditure.

In addition, the following are also allowable expenditure items for a mineral development licence:

- metallurgical testing
- mining feasibility, environmental or marketing studies
- engineering and design studies.

It is recognised that other expenses may be incurred in the course of conducting exploration, as the purpose of an expenditure commitment of a permit or licence is to acquire new geoscientific and resource information. These should be clearly identified.

In addition, expenditure for exploration permits and mineral development licences includes allowable costs of compliance with native title conditions and allowable costs under a native title agreement or native title conditions.

Native title conditions are conditions to which an exploration permit or mineral development licence is subject to if:
• a grant of a right to land to which the permit or licence relates is an act that has attracted the expedited procedure under section 32 of the Native Title Act 1993 (Cwlth); or
• the permit or licence is granted under an indigenous land use agreement under the Commonwealth Native Title Act 1993, and the State is a party to the agreement.

A Native Title Agreement means:
• a registered indigenous land use agreement under the Native Title Act 1993 (Cwlth); or
• any of the following under part 2, division 3, subdivision P of the Native Title Act 1993 (Cwlth):
  – an agreement mentioned in section 31(1)(b);
  – a determination of the relevant Minister under section 36A;
  – a determination of the arbitral body under section 38; or
• an access agreement or negotiated agreement under the native title provisions.

Allowable costs under a native title agreement or native title conditions, is expenditure in relation to:
• giving notice to a native title party under the section 29 of the Native Title Act 1993 (Cwlth)
• conducting field inspections
• monitoring the initial ceremonial breaking or disturbance of soil
• making an administrative payment, compensation payment, inspection report payment, exploration liaison committee payment or access fee, stated in the native title agreement or native title conditions
• giving training about aboriginal cultural awareness to the holder of a relevant exploration permit or mineral development licence or the holder’s employees.

The following items are not allowable expenditure:
• costs of obtaining background land tenure searches and assessments
• cultural heritage survey costs
• rent, fees and security paid under the Mineral Resources Act 1989, for the exploration permit or mineral development licence
• costs of obtaining legal advice or legal representation, including disbursements and interest on amounts payable for legal services
• environmental rehabilitation costs
• compensation to owners of land, as defined under the Mineral Resources Act 1989, for damage to improvements or loss of business
• compensation to the Crown or owners of land, including native title holders or claimants, under section 145 or 191 of the Mineral Resources Act 1989
• costs relating to consultation and negotiation with native title parties, other than costs allowable under a native title agreement or native title condition as specified above
• costs of capital items.

While native title costs, other than allowable costs under a native title agreement or native title conditions, are not considered an allowable expenditure, all exploration permit and mineral development licence holders are requested to report this information so that these additional impacts are understood.

The following two pages contain DNRME’ preferred tabulation for an expenditure statement for an exploration permit and a mineral development licence. These tables may be copied and used when lodging expenditure statements.
Note that there is no separate heading for 'wages'. Wages should be included against the allowable expenditure items, listed above and in the tables below, for the particular activity for which the wages were paid.

For any statement of expenditure, or general exploration reporting queries, please email QdexSupport@dnrme.qld.gov.au or telephone 13 QGOV (13 74 68).
Table 4 - EPM expenditure template (Interactive template available on Departments website.)

<table>
<thead>
<tr>
<th>Exploration Permit Number:</th>
<th>[insert number]</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Allowable Expenditure Items (Details may be inserted under each heading)</td>
<td>Yes</td>
<td>No</td>
<td>Expenditure (AUD$)</td>
</tr>
<tr>
<td>1</td>
<td>Drilling and completion activities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Trenching, costeaming or pitting.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Geophysical and geochemical surveys.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Technical evaluation and analysis.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Data management or data interpretation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Complying with native title conditions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Allowable costs under a native title agreement or native title conditions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(AUD$):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Operational and administrative expenses, limited to 10% of the total expenditure.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Expenditure (AUD$):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Are there unallowable costs as per section 14(4) of the Mineral Resources Regulations 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5 - MDL expenditure template *(Interactive template available on Departments [website](#).)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Allowable Expenditure Items (Details may be inserted under each heading)</th>
<th>Yes</th>
<th>No</th>
<th>Expenditure (AUD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Drilling and completion activities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Trenching, costeuning or pitting.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Geophysical and geochemical surveys.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Technical evaluation and analysis.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Data management or data interpretation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Complying with native title conditions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Allowable costs under a native title agreement or native title conditions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Metallurgical testing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Mining feasibility, environmental or marketing studies.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Engineering and design studies.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sub-Total (AUD$):

| 11   | Operational and administrative expenses, limited to 10% of the total expenditure. |     |    |                   |

Total Expenditure (AUD$):

| 12   | Are there unallowable costs as per section 14(4) of the Mineral Resources Regulation 2013 |     |    |                   |
7.3 Presentation of Maps and Plans

All maps, plans and illustrations must:

- use standard scales (1:500, 1:1 000, 1:2 000, 1:10 000, 1:25 000, 1:50 000, 1:100 000)
- give an adequate legend, which must also show a reference including tenure number, tenure holder, and date
- show the Map Grid of Australia (MGA) (datum must be specified) and sufficient base information (i.e. geographic features) to relate the map to standard topographic maps
- large-scale maps must show local topographic and cultural features (homesteads, mine workings, prospects, bores, roads, peaks, names of streams, datum points, drill sites). Prospect or anomaly survey grids on small scale maps must be clearly related to such identifiable features
- show a north point (grid/true/magnetic north)
- show a graphic scale bar in metric units
- use metric measurements throughout
- have all rock units clearly annotated with industry standardised symbols and include a clear and comprehensive legend.

An index map (1:50 000 or 1:100 000) must be included to show the relation of all plans to each other and the tenure boundary, and the location and boundaries of the various exploration activities that are included in the report.

Plans and maps compiled from aerial photographs must state full details (for example, photo, run survey number etc.).

In the event that any multi-client data used is protected by copyright laws that prevent inclusion of contour maps or imaged prints, a detailed interpretation plan must be submitted. Multi-client data are those which:

- are initiated as a non-exploration commercial enterprise
- are owned by a third party who has no exploration tenure; or
- result from a project advertised/marketed before flying as multi-client data.

On termination of tenure, any additional data including navigational data/location data (e.g. photo mosaics with flight lines, aerial photos) may be required.

The results of down hole logging and supporting information are to be included with drilling data (See Section 7.4.5.4 Drilling Data).

If contractor's reports giving the required details are to be submitted, these must be included as appendices to the report.
7.4 Report Contents

7.4.1 Title Page
All reports must include a title page containing the following information:

- report title with reference to:
  - exploration permit or mineral development licence number;
  - project name;
  - report type;
  - reporting period.
- author(s)
- tenure holder
- submitter of report
- date of report (DD MM YYYY) format.

7.4.2 Contents list
A contents list should be included that shows the structure of the report and lists all figures, appendices, loose plans etc.

7.4.3 Summary or abstract
A summary or abstract must be provided, which indicates metals/minerals/deposit type sought, main methods used, areas of interest, results and conclusions.

7.4.4 Introduction
The following information must be provided in an introduction to the report:

- tenure information - including date of grant, term and other important dates, joint venture arrangements and tenure assignments (if any) etc.
- for exploration permits, blocks and sub-blocks included in the tenure
- location map at 1:100 000 or larger scale, showing Map Grid of Australia (MGA) standard map sheet reference and major topographic and geographic features
- a general description of the area and access
- exploration rationale, the program undertaken and the exploration methods used
- results of literature searches.

7.4.5 Body of report

7.4.5.1 Geological Data
Geological information including regional setting and results of geological mapping must be described. Geological maps must be clearly identified as either ‘fact’ maps or ‘interpretative’ maps. Data formats are defined in Section 4.5 above.

All geological maps must be line drawings with graphical or alphabetical symbols for rock units and must show geographic features, local grid lines and the MGA. The datum must be specified.

Where a complicated system of abbreviations is used on geological ‘fact’ maps, an index must be included in the report. All maps must have a legend.
Geological information used on maps and in the text that is not the result of original work must be acknowledged.

Petrological descriptions must be appended to the report and sample locations shown on appropriate plans (or listed in drilling logs) or indicated by local grid co-ordinates and MGA or latitudes and longitudes. The datum must be specified.

7.4.5.2 Geophysical Data

Data formats are defined in Section 4.5 above.

Geophysical data consists of three types:

- airborne surveys
- ground-based surveys; and
- down-hole surveys.

Geophysical data from these three types consists of:

- raw and processed located data (digital data)
- gridded data and images; and
- interpreted results (written report).

Reports of geophysical surveys, including results and interpretations of all geophysical surveys, are to be included as part of the standard reports, and must include:

- reference to the lodgement of the proforma and digital data, including date of submission
- an A4 or A3 plan showing the location of the survey (preferably on the standard 1:250 000 sheet)
- flight lines, traverse lines and stations presented on maps showing:
  - MGA (datum specified) and geographic features (this data must be located and numbered at a reasonable scale, preferably on standard 1:25 000, 1:100 000 or 1:250 000 sheets); and
  - significant cultural features which may affect the results (e.g. power lines).
- specifications of the survey including type and date of survey and survey parameters. Airborne geophysical survey specifications must include contractor, date flown, line orientation, line spacing, tie line spacing, mean height of terrain clearance, parameters recorded, instruments used etc.
- type and specification of all instruments/equipment used during the survey including:
  - type, design, power, unit of measurement, accuracy and mode of recording data (i.e. analogue or digital); and
  - Any data recorded on terrain conditions, nature of ground, quality of electrical contacts, extent of drifts (these are provided so that another operator can extend or reinterpret the survey).
- a data acquisition report detailing the operations carried out and any processing
- text descriptions defining what constitutes an anomaly over background, and relating anomalies to geochemistry, geology and the results of drilling
- plans or sections showing processed data and interpretation at the same scales as the geological and geochemical plans
• for ground geophysical surveys, located (or reduced basic) data, with adequate ties to MGA tabulated in appendices. The datum must be specified. (Located data and field data, which have been processed to the stage where physical parameter values have readily perceived geographical locations)

• gravity data must include the station number, MGA co-ordinates (specify datum), AHD elevation, absolute observed gravity (specify datum), terrain correction, and must specify the methods and parameters used to calculate the Bouguer anomalies.

7.4.5.2.1 **Airborne Geophysical Digital Data**

In addition to the above requirements for written reports, the located digital data for any airborne geophysical survey must be submitted separately to the Department within 1 year of completion of field acquisition (date flown) or on termination of tenure whichever is the sooner. Note that the time of lodgement of the digital data is independent of the fixed reporting periods for the exploration permit or mineral development licence. Data formats are defined in Section 4.5 above.

The data is to be forwarded to:

The Director  
Attention: Geophysical Group  
Geological Survey of Queensland  
Department of Natural Resources, Mines and Energy  
PO Box 15216  
City East QLD 4002 Australia

7.4.5.2.2 **Confidentiality of Airborne Geophysical Digital Data**

The located digital data and the coverage polygon for airborne geophysical surveys will become ‘open file’ five years after the date flown, or on expiry, surrender or cancellation of the tenure, whichever is the sooner.

If data confidentiality is required beyond this period due to tenure renewal or other relevant reason, a request to extend the confidentiality period must be made to the Director, Geological Survey of Queensland.

7.4.5.3 **Geochemical Data**

Geochemical surveys must be described in sufficient detail to allow them to be reproduced or reinterpreted. The following information must be provided:

• sample numbers and locations, and types of samples collected (rock chip, soil, stream sediment etc.), on maps showing relevant geographical features, grid coordinates and datum. Small scale plans for soil and rock chip traverses or grids must show topographic contours or the general gradient along traverses, and drainage lines, and must be related to any large scale map

• details of field sampling procedures for each sample type, such as material sampled, sample weight, depths of sampling, and sample type and soil horizon

• description of sample preparation, such as size fraction analysed, any concentration

• of samples (e.g. magnetic fraction, panned concentrate, etc.)
• details of analytical procedures, including:
  − name of the analytical laboratory and unique laboratory job number;
  − elements, oxides analysed;
  − extraction/digestion techniques; and
  − analytical methods with limits of detection and precision.
• methods used to determine anomalies and methods of statistical interpretation
• plans for each of the elements analysed with individual values plotted, showing any
  anomalies encountered, and relationships with geology and geophysical anomalies, where
  appropriate
• assay results, as appendices, in tables ensuring that sample numbers are cross-referenced,
  and with location co-ordinates. The datum must be specified.
• Storage location and the possibility of access to the samples at conclusion of the
  exploration program.

7.4.5.4 Drilling Data

Description of drilling programs must include:

• a tabulation of all holes drilled during the reporting period, showing the hole identification
  number, precise surface location (MGA reference, with datum specified), type and total
  depth and indicating applicable geophysical logs for each drill hole
• drill holes must also be shown on plans with geographical features with adequate ties into any
  local grid and MGA coordinates, with datum specified
• complete drill logs, in appendices containing:
  − drill hole identification number referring to the drilling program;
  − drilling method (diamond, percussion, auger etc.), diameters of the hole, drill rig type, and
    drilling company;
  − commencement and completion dates;
  − length, RL and orientation at collar of the drill hole (declination, direction and results of
    any bore hole surveys);
  − detailed lithological log of the core, cuttings etc. in metric units and in full English text (i.e.
    not coded);
  − name of geologists responsible for the lithological logs;
  − results of any geophysical logging and surveys, which must include:
    ▪ description of the equipment and techniques used;
    ▪ the name of any contractor;
    ▪ a table of all boreholes drilled during the report period indicating particular
      geophysical logs, if any, in each borehole; and
    ▪ logs with progressive depths below ground level clearly marked (every log submitted
      must have clear header information including borehole name, prospect name, exploration
      permit number, date logged, and relevant operations parameter).
• details including depth and lithology of any samples taken and full results of assays and
  testing of the samples (geochemical, petrological, geophysical, metallurgical etc.) in tabulated
  form
where coal or oil shale analyses are reported, the report must include a location plan showing the bore holes sampled for each seam/horizon analysed

- graphical logs, if available, summarising the geological sequence intersected in each hole, including significant lode or seam intersections. These logs may be used to relate analyses to working coal or oil shale seam or lode sections

- graphic cross sections

- location and manner of access to core and cuttings etc.

- additionally, specific information may be required about ground water and aquifers.

### 7.4.5.5 Remote Sensing Data

Interpretation from satellite, airborne or ground-based remote sensing data such as Landsat, airborne multispectral scanner (Geoscan), Hymap, SPOT, radar etc. must be reported in the body of the text.

Any non-copyright data or images must be submitted with a detailed description of each scene and the process used to produce each image. Images must have some means of locating the data on the ground relative to national grids, and specify the datum and projection.

The processed data must be submitted as ER Mapper compatible data files. (See Section 4.5 Other data types).

### 7.4.6 Resource Statements

Statements of any resources and reserves identified must be included. Statements must be in accordance with the Australian Code for Reporting Identified Mineral Resources and Reserves and the Australasian Code for Reporting Identified Coal Resources and Ore Reserves prepared by the Joint Committee of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and Australian Mining Industry Council. A statement should be included indicating that the resources comply with this code.

### 7.4.7 General

All reports should include a bibliography of other work, earlier reports cited etc. and appendices (data) as appropriate.
## 8 Reporting for Authorities to Prospect (ATPs), Petroleum Leases (PLs) and Other Petroleum Authorities and Licences

The type and frequency of statutory requirements for reporting, data submission and operational notification for ATPs, PLs and other petroleum authorities and licences are detailed in Part 3 of the *Petroleum and Gas (General Provisions) Regulation 2017*. The provisions in each are essentially the same. What follows relates primarily to reports that are added to the QDEX database, although other reports may be required by the Regulations.

NOTE that what follows is simplified and abbreviated from the relevant sections of the petroleum legislation and is intended as a guide only. If in any doubt as to meaning, refer to the legislation.

### Table 6 - Petroleum Report types, lodgement requirements and open filing details

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Relevant Provision:</th>
<th>Lodgement Due Date</th>
<th>Open Filing Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relinquishment Reports Authority to Prospect</td>
<td>Section 21 - Regulation Section 545(b)- Act</td>
<td>Within 6 months after relinquishment</td>
<td>Immediately</td>
</tr>
<tr>
<td>Relinquishment Reports Petroleum Lease</td>
<td>Section 22 - Regulation Section 545(b) - Act</td>
<td>Within 6 months after relinquishment</td>
<td>Immediately</td>
</tr>
<tr>
<td>Relinquishment Reports End of Authority report</td>
<td>Section 26 - Regulation Section 546A(2) - Act</td>
<td></td>
<td></td>
</tr>
<tr>
<td>End of Tenure report</td>
<td>Sections 25 - Regulation Section 546 - Act</td>
<td>6 months after the tenure/authority ends</td>
<td>Immediately</td>
</tr>
<tr>
<td>Annual Reports Petroleum Facility Licence</td>
<td>Section 13 - Regulation Section 552(2) - Act</td>
<td>Within 2 months after each of its anniversary days</td>
<td>5 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Annual Reports Pipeline Licence</td>
<td>Section 13 - Regulation Section 552(2) - Act</td>
<td>Within 2 months after each of its anniversary days</td>
<td>5 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Annual Reports Petroleum Lease Infrastructure Report</td>
<td>Section 552A - Act</td>
<td>On or before 1 September each year</td>
<td>5 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Surrender Reports Authority to Prospect</td>
<td>Section 552A - Act Section 21 - Regulation “An authority to prospect cannot be surrendered”</td>
<td>Accompany surrender application for ATP administered under the Petroleum Act 1923</td>
<td>Immediately</td>
</tr>
<tr>
<td>Surrender Reports Petroleum Lease</td>
<td>Section 576(2) - Act</td>
<td>Accompany surrender application</td>
<td>Immediately</td>
</tr>
<tr>
<td>Report Type</td>
<td>Relevant Provision:</td>
<td>Lodgement Due Date</td>
<td>Open Filing Due Date</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>-------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Surrender Reports Pipeline Licence</td>
<td>Section 23 - Regulation Note that a ‘surrender’ report for a petroleum lease, that was administered under the Petroleum Act 1923, is an end of tenure report.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily Drilling Reports</td>
<td>Section 24 - Regulation Section 576(2) - Act Accompany surrender application</td>
<td>A copy of each daily drilling report must be lodged with the petroleum well or bore completion report lodged for the well.</td>
<td>Appraisal and exploration wells – 2 years after the day on which the report is required to be lodged</td>
</tr>
<tr>
<td></td>
<td>Section 35 - Regulation</td>
<td></td>
<td>Development wells – 5 years after the day on which the report is required to be lodged</td>
</tr>
<tr>
<td>Well Completion Reports</td>
<td>Section 36 - Regulation Within 6 months after the rig release day for the well or bore</td>
<td>Appraisal and exploration wells – 2 years after the day on which the report is required to be lodged</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Development wells – 5 years after the day on which the report is required to be lodged</td>
<td></td>
</tr>
<tr>
<td>Well/Bore Abandonment Reports</td>
<td>Section 37 - Regulation Report must be lodged within 2 months after the day the plugging and abandoning of the well or bore is completed</td>
<td>Appraisal and exploration wells – 2 years after the day on which the report is required to be lodged</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Development wells – 5 years after the day on which the report is required to be lodged</td>
<td></td>
</tr>
<tr>
<td>Seismic Survey Reports</td>
<td>Section 38 - Regulation Within 12 months after the completion day for the survey</td>
<td>2 years after the day on which the report is required to be lodged</td>
<td></td>
</tr>
<tr>
<td>Report Type</td>
<td>Relevant Provision:</td>
<td>Lodgement Due Date</td>
<td>Open Filing Due Date</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------</td>
<td>--------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Scientific or Technical Survey Reports</td>
<td>Section 39 - Regulation</td>
<td>Within 6 months after the completion day for the survey</td>
<td>2 years after the day on which the report is required to be lodged</td>
</tr>
<tr>
<td>Petroleum Production Reports – Petroleum Lease</td>
<td>Section 42 - Regulation</td>
<td>Within 40 business days after the 6-month period ends</td>
<td>6 months after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Petroleum Reserves Reports</td>
<td>Section 43 - Regulation</td>
<td>Within 40 business days after the 6-month period ends</td>
<td>6 months after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Production Testing Reports Authority to Prospect</td>
<td>Section 44 - Regulation</td>
<td>Within 40 business days after the relevant testing period ends</td>
<td>2 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Production Testing Reports Petroleum Lease</td>
<td>Section 44 - Regulation</td>
<td>Within 40 business days after the relevant testing period ends</td>
<td>5 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Hydraulic Fracturing Activities Completion Reports</td>
<td>Section 45 – Regulation</td>
<td>Within 2 months after the hydraulic fracturing activities are completed.</td>
<td>5 years after the day on which the report is required to be lodged, or the day on which the report is lodged, whichever is the earlier</td>
</tr>
</tbody>
</table>

*A 6 month period means a following period in a year during which, for all or part of the period, the relevant petroleum tenure or authority is in effect:
(a) 1 January to 30 June;
(b) 1 July to 31 December.

8.1 Report Contents

All reports must contain the following sections within the body of the report, which is the information as defined in section 8.2 of this document, relevant to the type of report.

8.1.1 Title Page

All reports must include a title page containing the following information:

- report title with reference to:
  - authority to prospect, petroleum lease or pipeline licence number;
  - report type.
- reporting period
- author(s)
• tenure or authority holder
• submitter of report
• date of report (DD MM YYYY) format.

8.1.2 Contents list
A contents list should be included that shows the structure of the report and lists all figures, appendices, loose plans etc.

8.1.3 Summary or abstract
A summary or abstract must be provided, which indicates main methods used, areas of interest, results and conclusions.

8.1.4 Introduction
The following information must be provided in an introduction to the report:

• tenure or authority information - including date of grant, term and other important dates, joint venture arrangements and tenure assignments (if any) etc.
• blocks included in the tenure
• location map at 1:100 000 or larger scale, showing major topographic and geographic features
• list Map Grid Australian (MGA) standard map sheet references for 1:100 000 and 1:250 000 maps
• a general description of the area and access
• exploration rationale, the program undertaken and the exploration methods used
• results of literature searches.

8.1.5 Body of report
Report content is defined in section 8.2 of this document. The various report types are listed below and will determine the type of information required to form the body of the report.

Authority to prospect-related reporting:

• Relinquishment report
• Petroleum reserves report
• End of tenure reports
• Surrender report (only for an authority to prospect administered under the Petroleum Act 1923). A ‘surrender’ report for an ATP, that was administered under the Petroleum and Gas (Production and Safety) Act 2004, is an end of tenure report (if all of the area of the ATP is relinquished) or a relinquishment report (if a voluntary or statutory relinquishment of part of the area of the ATP occurs).

Petroleum lease-related reporting:

• Relinquishment reports
• Surrender reports [only for a petroleum lease administered under the Petroleum and Gas (Production and Safety) Act 2004. Note that a ‘surrender’ report for a petroleum lease, that was administered under the Petroleum Act 1923, is an end of tenure report.
• Petroleum production report
• Petroleum reserves report
• End of tenure reports
• Infrastructure reports

Well or bore related-reporting:

• Well completion reports
• Well or bore abandonment reports
• Production testing report
• Hydraulic Fracturing activities completion report
• Water monitoring authorities
• Seismic survey reporting:
  • Seismic survey reports and data
  • Reprocessing seismic survey data report.

Pipeline licence reporting:

• Annual report
• Surrender report.

Other Reporting:

• Data acquisition authority - annual report
• Petroleum facility licences - annual report
• Scientific or technical survey report
• Survey licence (End of authority report, as a survey licence has a maximum term of one year)
• Data acquisition authority (End of authority report, as a data acquisition authority has a maximum term of one year).

8.1.6 Bibliography
All reports should include a bibliography of other work, earlier reports cited etc.

8.1.7 Appendices
Include appendices as appropriate for the report type to provide the raw data or interpretations.

8.2 Report Types
The various report types are listed below:

8.2.1 Authorities to Prospect – Relinquishment Report
If the area of an authority to prospect (ATP) is relinquished its holder must, within 6 months after the relinquishment date, lodge a report containing the following:

• a description of the authorised activities for the tenure carried out in that part, and the results of the activities
• tenure information (for the definition of ‘tenure information’ see below)
• general area information (for the definition of ‘general area information’ see below)
• the geological model of the relinquished part of the area of the authority, and an assessment of the potential for petroleum discovery in the area
• a summary of the results of all authorised activities carried out in the relinquished area since the authority took effect, and the conclusions drawn by the holder based on the results
• an index of all reports lodged, as required under the 2004 Act or 1923 Act, in relation to the authorized activities carried out in the relinquished area or surrendered area
  
  the hazard information for the report
  
  the volume of petroleum or water produced from each petroleum well or bore in the relinquished area for each year since the authority took effect
• if a petroleum well in the relinquished area has produced petroleum from a coal seam since the authority took effect, all data or other information held by the holder that, in the holder’s reasonable opinion, may help a person to identify in the future any remaining areas of potential free gas that may have been created by removing water from the seam and producing gas from it
• the reason the holder has relinquished the area.

General area information means:

• a location map showing the area of the ATP immediately before the relinquishment, and the relinquished part of the area of the ATP
• a map showing the location in the relinquished area of:
  – each petroleum well and bore drilled under the ATP; and
  – each seismic line used for a seismic survey carried out under the ATP.
• a structure contour map showing the seismic horizons (seismic reflectors) in the relinquished area
• a map showing the leads and prospects in the relinquished area
• a general description of the topographical features of the previous ATP area and the relinquished area, including, for example, access to the areas.

Tenure information means:

• the day the ATP was granted
• the day the relinquishment takes effect
• the period of the work program for the ATP
• the blocks or sub-blocks comprising the relinquished part of the area of the ATP.

Hazard information means:

• a summary of all significant hazards to future safe and efficient mining of coal created under the ATP that, under sections 690(1)(g) or 706 of the Petroleum and Gas (Production and Safety) Act 2004 or under its regulation, are required to be reported
• for each hazard mentioned in the summary, a reference to the report that contains details of the hazard
• for any other hazard, or potential hazard, created under the ATP to future safe and efficient mining of coal or oil shale in the area of the ATP:
  – the nature of the hazard or potential hazard
  – the way in which the hazard or potential hazard was created
  – the location of the hazard or potential hazard
8.2.2 Authority to Prospect – Surrender Report

A surrender report for an authority to prospect (ATP) only applies to an ATP that was administered solely under the Petroleum Act 1923 prior to its surrender.

Note that a ‘surrender’ report for an ATP that was administered under the Petroleum and Gas (Production and Safety) Act 2004, is an end of tenure report (if all of the area of the ATP is relinquished) or a relinquishment report (if a voluntary or statutory relinquishment of part of the area of the ATP occurs).

A surrender report for an ATP that was administered under the Petroleum Act 1923, must accompany the approved surrender form and contain the following:

- a description of the authorised activities for the tenure carried out in that part, and the results of the activities
- tenure information (for the definition of ‘tenure information’ see below)
- general area information (for the definition of ‘general area information’ see below)
- the geological model of the surrendered area of the ATP and an assessment of the potential for petroleum discovery in the area
- a summary of the results of all authorised activities for the ATP carried out in the surrendered area since the ATP took effect and the conclusions drawn by the holder based on the results
- an index of all reports lodged in relation to the authorised activities carried out in the surrendered area
- hazard information (for the definition of ‘hazard information’ see below)
- information about the volume and location of all petroleum and water produced under the authority from natural underground reservoirs in the surrendered area since the ATP took effect
- if a well in the surrendered area has produced petroleum from a coal seam since the ATP took effect, all data or other information held by the holder that, in the holder’s reasonable opinion, may help a person to identify in the future any remaining areas of potential free gas that may have been created by removing water from the seam and producing gas from it
- the reason the holder has applied to surrender the ATP.

General area information means:

- a location map showing the area of the ATP immediately before the surrender, and the surrendered part of the area of the ATP
- a map showing the location in the surrendered area of:
  - each petroleum well and bore drilled under the ATP; and
  - each seismic line used for a seismic survey carried out under the ATP.
- a structure contour map showing the seismic horizons (seismic reflectors) in the surrendered area
- a map showing the leads and prospects in the surrendered area
- a general description of the topographical features of the previous ATP area and the surrendered area, including, for example, access to the areas.

Tenure information means:

- the last day of the current term of the ATP
• the period of the work program for the ATP
• the blocks or sub-blocks comprising the surrendered part of the ATP.

Hazard information means:

• a summary of all significant hazards to future safe and efficient mining of coal created under the ATP that, under sections 690(1)(g) or 706 of the Petroleum and Gas (Production and Safety) Act 2004 or under its regulation, are required to be reported
• for each hazard mentioned in the summary, a reference to the report that contains details of the hazard
• for any other hazard, or potential hazard, created under the ATP to future safe and efficient mining of coal or oil shale in the area of the ATP:
  − the nature of the hazard or potential hazard;
  − the way in which the hazard or potential hazard was created;
  − the location of the hazard or potential hazard; and
  − measures taken to prevent or reduce the hazard or potential hazard to mitigate its effects.

8.2.3 Petroleum Lease – Relinquishment Report

If part of the area of a petroleum lease is relinquished its holder must, within 6 months after the date of the relinquishment, lodge a report containing the following:

• tenure information (for the definition of ‘tenure information’ see below)
• general area information (for the definition of ‘general area information’ see below)
• if petroleum or a prescribed storage gas has been stored in a natural underground reservoir in the relinquished part of the area of the lease since the lease took effect, the methods used to store petroleum or gas in, or produce it from, the reservoir
• the volume and type of prescribed storage gases stored in each natural underground reservoir in the relinquished area when the relinquishment takes effect
• the volume of petroleum or gas stored in natural underground reservoirs in the relinquished area since the lease took effect
• the geological model of the natural underground reservoirs in the relinquished area
• the extraction methods used to produce petroleum or gas in the relinquished area under the lease
• the volume of petroleum or water produced under the lease from each petroleum well in the relinquished area for each year since the lease took effect
• a summary of the results of all authorised activities carried out in the relinquished area and the conclusions drawn by the holder based on the results
• an index of all reports lodged, as required under the Act, in relation to the authorized activities carried out in the relinquished area
• hazard information (for the definition of ‘hazard information’ see below)
• if a petroleum well in the relinquished area has produced petroleum from a coal seam since the lease took effect, all data or other information held by the holder that, in the holder’s reasonable opinion, may help a person to identify in the future any remaining areas of potential free gas that may have been created by removing water from the seam and producing gas from it
• the reason the holder has relinquished the area.

General area information means:
- a location map showing the area of the PL immediately before the relinquishment, and the relinquished part of the area of the PL
- a map showing the location in the relinquished area of:
  - each petroleum well and bore drilled under the PL;
  - each seismic line used for a seismic survey carried out under the PL.
- a structure contour map showing the seismic horizons (seismic reflectors) in the relinquished area
- a map showing the leads and prospects in the relinquished area
- a general description of the topographical features of the previous PL area and the relinquished area, including, for example, access to the areas.

Tenure information means:
- the day the lease was granted
- the day the relinquishment or partial relinquishment was effected
- the period of the development program for the lease
- the blocks or sub-blocks comprising the relinquished part of the area of the lease.

Hazard information means:
- a summary of all significant hazards to future safe and efficient mining of coal created under the PL that, under sections 690(1)(g) or 706 of the *Petroleum and Gas (Production and Safety) Act 2004* or under its regulation, are required to be reported
- for each hazard mentioned in the summary, a reference to the report that contains details of the hazard
- for any other hazard, or potential hazard, created under the PL to future safe and efficient mining of coal or oil shale in the area of the PL:
  - the nature of the hazard or potential hazard;
  - the way in which the hazard or potential hazard was created;
  - the location of the hazard or potential hazard;
  - measures taken to prevent or reduce the hazard or potential hazard to mitigate its effects.

### 8.2.4 Petroleum Lease – Surrender Report

A surrender report for a petroleum lease (PL) only applies to a PL that was administered under the *Petroleum and Gas (Production and Safety) Act 2004* prior to its surrender.

Note that a ‘surrender’ report for a PL, that was administered under the *Petroleum Act 1923*, is an end of tenure report (if all of the area of the PL is surrendered) or a relinquishment report (if part of the area of the PL is surrendered).

A surrender report for a PL that was administered pursuant to the *Petroleum and Gas (Production and Safety) Act 2004* prior to its surrender must accompany the approved surrender form and contain the following:

- the date the lease was granted
- a description of, and map showing, the area proposed to be surrendered area under the lease, including access to the area
• a description of the methods used to produce or recover petroleum or a prescribed storage gas from, or store petroleum or gas in, natural underground reservoirs in the surrendered area

• the volume of petroleum produced, and the volume of prescribed storage gases recovered, from each natural underground reservoir in the surrendered area for each year since the lease took effect

• the volume of petroleum or gas stored in natural underground reservoirs in the surrendered area when the surrender takes effect

• a description of the geological features of the natural underground reservoirs in the surrendered area from which petroleum was produced, or a prescribed storage gas recovered under the lease; or in which petroleum or gas was stored under the lease

• an index of all reports lodged, as required under the Act, in relation to the authorised activities carried out in the surrendered area

• hazard information (for the definition of ‘hazard information’ see below)

• if a petroleum well in the surrendered area has produced petroleum from a coal seam since the lease took effect, all data or other information held by the holder that, in the holder’s reasonable opinion, may help a person to identify in the future any remaining areas of potential free gas that may have been created by removing water from the seam and producing gas from it

• a map showing the location in the surrendered area of each petroleum well and bore drilled under the lease, and each seismic line used for a seismic survey carried out under the lease

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

• a map showing the leads and prospects in the surrendered area

• the reason the holder has applied to surrender the part of the area of the lease.

Hazard information means:

• a summary of all significant hazards to future safe and efficient mining of coal created under the PL that, under sections 690(1)(g) or 706 of the Petroleum and Gas (Production and Safety) Act 2004 or under its regulation, are required to be reported

• for each hazard mentioned in the summary, a reference to the report that contains details of the hazard

• for any other hazard, or potential hazard, created under the PL to future safe and efficient mining of coal or oil shale in the area of the PL:
  – the nature of the hazard or potential hazard;
  – the way in which the hazard or potential hazard was created;
  – the location of the hazard or potential hazard;
  – measures taken to prevent or reduce the hazard or potential hazard to mitigate its effects.

8.2.5 Petroleum Production and Petroleum Reserves Report

8.2.5.1 Petroleum Lease – Petroleum Production Report

A petroleum lease holder must, within 40 business days after the last day of a 6 month period for the lease (1 January – 30 June; 1 July – 31 December), lodge a petroleum production report for the period. The report must contain the following:

• the number of the lease

• an identification of each natural underground reservoir and the reservoir formation (or geological unit) from which petroleum was produced under the lease during the period
• each of the following for the 6 month period:
  − the volume of each petroleum product derived from petroleum produced from each
    natural underground reservoir within the area of the lease;
  − the volume of petroleum produced under the lease that was flared or vented in a gaseous
    state;
  − the volume of petroleum produced under the lease that was used to produce petroleum;
  − the volume, or an estimate of the volume, of associated water taken under the lease from
    each natural underground reservoir.
• the volumes of petroleum mentioned above for the period starting on the day petroleum was
  first produced under the lease and ending on the last day of the 6 month period
• the volume or estimate of water mentioned above for the period starting on the day
  associated water was first taken under the lease and ending on the last day of the 6 month
  period
• for each natural underground reservoir from which petroleum is produced under the lease, the
  number of petroleum wells producing petroleum under the lease from the reservoir
• for each tenure, it is desirable that cumulative production figures for the field(s) be provided
• for each petroleum well drilled for the purpose of producing coal seam gas within the area of
  the lease, each of the following for associated water taken from the well under the lease
  during the 6 month period:
  − the volume, or an estimate of the volume, of water taken;
  − the pH of the water on each day during the period on which it was measured;
  − the measurements taken of total dissolved solids (mg/l) in, and the electrical conductivity
    of, the water during the period.

NOTE: The volumes required, above, must be stated in megalitres for water, LPG, condensate, crude
oil and any other liquid, or millions of cubic metres for gas.

Templates to assist provision of the production data are available on the DNRME web site here. The
templates are in excel format; please complete and supply each of the worksheets (via QDEX) as
separate tab delimited text files.

8.2.5.2 Petroleum Reserves Report

If there are proved and probable reserves of petroleum within the area of an ATP or PL, the tenure
holder must, within 40 business days after the last day of a 6 month period for the tenure, lodge a
petroleum reserves report for the tenure for the period.

The report must contain the following:

• the type and number of the petroleum tenure
• an identification of each natural underground reservoir in which there were proved and
  probable reserves of petroleum during the period
• the volume of the proved and probable reserves of petroleum in each natural underground
  reservoir within the area of the tenure worked out on the first day and last day of the period.

Templates to assist provision of the reserves data are available on the DNRME web site here. The
templates are in excel format; please complete and supply each of the worksheets (via QDEX) as
separate tab delimited text files.

"Nil" reports are still required to be submitted for petroleum leases that are not currently producing,
where the reserves are still being appraised, or that have depleted reserves.
“Nil” reports are required for authorities to prospect where reserves have been identified, but are still being assessed.

8.2.6 End of Authority Report

If a petroleum tenure (that is, an authority to prospect or a petroleum lease) or water monitoring authority ends, the person who held the tenure immediately before it ended must, within 6 months, lodge a report which includes the following:

- a summary of all authorised activities for the tenure that have been carried out since it took effect
- a summary of the results of the activities
- an index of all reports lodged, as required under the Petroleum and Gas (Production and Safety) Act 2004 and the Petroleum Act 1923 and their regulations, in relation to the activities
- a summary of all significant hazards created to future safe and efficient mining that are required to be reported under these Acts or their Regulations
- for each hazard mentioned in the summary a reference to the report that contains details of the hazard
- information about the amount and location of all petroleum and water produced from the area of the tenure
- any information related to information that may help the understanding of the amount and location of any remaining petroleum (including areas of ‘free gas’) and water from reservoirs produced
- any information required to be reported under the Petroleum and Gas (Production and Safety) Act 2004 and the Petroleum Act 1923 and their regulations that has not been previously reported
- any other information prescribed under a regulation that has not already been included in a relinquishment report or surrender report lodged for the tenure.
8.2.7 Well Completion Report

Note: For detailed information go to the Well Completion Report guidelines.

A Well Completion Report must be submitted not later than 6 months after the rig release date for the well.

It is a requirement to keep a record of the daily drilling reports for each day during the drilling of a well. (e.g. Regulation 36, P&G). It is no longer a requirement to lodge the daily drilling reports on a daily basis, but they must be made available to the administering authority upon request; for example in the event of an incident, or during an inspection. The daily drilling reports for each well must be included in the relevant WCR as an appendix.

The Well Completion report must contain the following:

Table 7 – Key component vs legislative requirement

<table>
<thead>
<tr>
<th>Key component</th>
<th>Regulation addressed or potentially addressed by this key component (note referenced to P&amp;G Act only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location map</td>
<td>37 (3) The report must contain each of the following—</td>
</tr>
<tr>
<td></td>
<td>(e) a map showing the location of the well or bore</td>
</tr>
<tr>
<td>Well Card</td>
<td>37 (3) The report must contain each of the following—</td>
</tr>
<tr>
<td></td>
<td>(a) the type and number of the petroleum tenure;</td>
</tr>
<tr>
<td></td>
<td>(b) the name, and postal address, of the operator of the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(c) the identifying name of the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(d) a well or bore card for the well or bore (a summary of the information about the well or bore in the report);</td>
</tr>
<tr>
<td></td>
<td>(g) the ground level and kelly bushing level in metres for the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(h) the total depth in metres of the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(i) the following days—</td>
</tr>
<tr>
<td></td>
<td>(i) the day the drilling of the well or bore started;</td>
</tr>
<tr>
<td></td>
<td>(ii) the day the total depth of the well or bore was reached;</td>
</tr>
<tr>
<td></td>
<td>(iii) the rig release day for the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(j) details of the drilling rig, the number and type of drill bits, and the drilling fluids, used to drill the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(k) the status of the well or bore on the rig release day;</td>
</tr>
<tr>
<td></td>
<td>(p) a description of all tests or surveys carried out for the purpose of drilling the well or bore</td>
</tr>
<tr>
<td>Well Schematic</td>
<td>37 (3) The report must contain each of the following—</td>
</tr>
<tr>
<td></td>
<td>(m) details of the casing and equipment installed in the well or bore, with a diagram showing their location in the well or bore;</td>
</tr>
<tr>
<td></td>
<td>(n) the type of any perforations in the well or bore and the depth in metres of the top and bottom of the perforated intervals;</td>
</tr>
<tr>
<td></td>
<td>(o) details of the cementing in the well or bore, including its location, the type of cement used and the depth in metres of the top and bottom of each cemented interval</td>
</tr>
<tr>
<td>Survey path of well</td>
<td>37 (3) The report must contain each of the following—</td>
</tr>
<tr>
<td></td>
<td>(l) the surveyed path of the well or bore;</td>
</tr>
<tr>
<td>Time-Depth Curve</td>
<td>Not a regulatory requirement</td>
</tr>
<tr>
<td>Daily Drilling Reports</td>
<td>36 Daily drilling report</td>
</tr>
<tr>
<td>Key component</td>
<td>Regulation addressed or potentially addressed by this key component (note referenced to P&amp;G Act only)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Lithological descriptions    | 37 (3) The report must contain each of the following—  
  (t) a description of each geological sample taken during the drilling of the well or bore, including the depth in metres at which the sample was taken;  
  Examples of geological samples—cuttings, sidewall cores and conventional cores                                                                                                                                                                                                                                                                                                                                                           |
| Composite log                 | 37 (3) The report must contain each of the following—  
  (q) a geological interpretation of the well or bore, including the stratigraphy of the rock units it intersects;  
  (r) an identification of the intervals in the well that have the potential to produce petroleum;  
  (u) an interpretation of the data obtained from the geophysical (or wireline) logs that have been run in the well or bore                                                                                                                                                                                                                                                                                                                |
| Wireline logs                 | 37 (6) The report must be accompanied by each of the following—  
  (b) the raw data, in digital form, of each geophysical (or wireline) log that has been run in the well or bore;  
  (c) a digital image of the graphic representations of the raw data mentioned in paragraph (b).                                                                                                                                                                                                                                                                                                                                                          |
| Contractor reports           | 37 (3) The report must contain each of the following—  
  (m) details of the casing and equipment installed in the well or bore, with a diagram showing their location in the well or bore;  
  (o) details of the cementing in the well or bore, including its location, the type of cement used and the depth in metres of the top and bottom of each cemented interval                                                                                                                                                                                                                                                                                      |
| Stratigraphy intersected      | 37 (3) The report must contain each of the following—  
  (q) a geological interpretation of the well or bore, including the stratigraphy of the rock units it intersects                                                                                                                                                                                                                                                                                                                                                     |
| Analytical results            | 37 (3) The report must contain each of the following—  
  (p) a description of all tests or surveys carried out for the purpose of drilling the well or bore                                                                                                                                                                                                                                                                                                                                                     |
| Remaining items               | 37 (3) The report must contain each of the following—  
  (f) a geological summary of the area of the tenure;  
  (s) an assessment of—  
  (i) the relevance of the well to the hydrocarbon potential within the vicinity of the well; and  
  (ii) the implications of the well for the future  
  (u) an interpretation of the data obtained from the geophysical (or wireline) logs that have been run in the well or bore;  
  (v) the tenure holder’s reasons for choosing the location of the well or bore.  
  37 (6) The report must be accompanied by each of the following—  
  a digital image of the cores taken during the drilling of the well or bore  
  37 (4) For a directional well, the report must also state the position of each of the following—  
  (a) the stratigraphic units intersected by the well;  
  (b) the bottom of the well;  
  (c) any intersection of the well with another petroleum well. |
Where a well is plugged and abandoned at rig release for the initial drilling, then the requirements of the Well Abandonment report are met by the WCR –[s38(2)] The report should be titled Well Completion and Abandonment Report for clarity.

8.2.8 Well or Bore Abandonment Reports

If a petroleum well or water bore is plugged and abandoned, the petroleum authority holder must lodge a well or bore abandonment report, not later than two months after the abandonment date.

The report must contain the following:

- on the first page, the following details:
  - the type and number of the relevant petroleum authority;
  - the identifying name of the well or bore;
  - the name of the author of the report;
  - the name of the authority holder;
  - the name of the operator of the well or bore;
  - the name of the person submitting the report;
  - the date of the report, in day-month-year format.

- a summary and history of the well or bore, including a location map and, for a petroleum well, the date on which a well completion report for the well was lodged

- the following details about the well or bore:
  - its total depth in metres;
  - the position at the top and bottom, and the thickness, of a coal seam, natural underground reservoir or an aquifer intersected by the well. For a directional well, this should be in relation to the total vertical depth in metres, and the horizontal plane. Otherwise, the depth in metres is required;
  - the depth in metres of any perforations in the casing of the well or bore;
  - the type of drilling rig used to drill the well or bore.

- if stimulation of a coal seam was carried out in the well or bore under the relevant petroleum authority, the following information is required:
  - the depth in metres of the top and bottom of the interval over which the stimulation was carried out;
  - a description of the equipment used to carry out the stimulation;
  - for the interval stimulated, a graphic representation of each of the following:
    - casing pressure with time;
    - calculated bottom hole pressure with time;
- slurry rate with time;
- proppant concentration with time;
- calculated bottom hole concentration with time.
- any record made about the stimulation by the person who carried it out;
- any other details about the stimulation that would assist a person in making a future assessment of its impact on the coal seam and any increased risk to safe and efficient mining of coal.

- all surveys and measurements made in the well or bore, including any detailed interpretation of a survey or measurement
- in relation to the completion or abandonment of the well or bore, the following:
  - details of the casing and equipment installed in the well, with diagrams showing the major dimensions and features of the casing and equipment;
  - a full description of all equipment, including prescribed equipment, that is retained in the well, including the size and nature of the equipment and any features of the equipment that may cause a hazard to coal mining operations, e.g. aluminium, electronics or batteries;
  - the surveyed location of any prescribed equipment;
  - the method of the cementing operations carried out in or on the well or 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;
  - the method, materials and volume of cement used to cement voids;
  - a description of any other abandonment procedures used for the well;
  - any other details of the activities undertaken in drilling, completing and plugging and abandoning the well, 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.

### 8.2.9 Production testing report

If production testing for a petroleum well is carried out under an authority to prospect or petroleum lease, the tenure or authority holder must, within 40 business days after the last day of a relevant testing period, lodge a production testing report for the period.

The relevant testing period is the period starting on the day production testing starts, and ending on the earlier of 30 days from the day testing first started; or the day testing ends. If the production testing is carried out for more than 30 days with the Minister’s approval, the period starting on the 31st day of testing and ending on the day the testing ends.

The report must contain the following:

- the type and number of the tenure or authority
- the identifying name of the petroleum well
- an identification of each natural underground reservoir and the reservoir formation (or geological unit) from which petroleum was produced as part of the production testing
- the duration of the production testing carried out during the period
- the type of any perforations in the well and the depth in metres of the top and bottom of the perforated intervals
• the volumes, or estimates of the volumes, of gas, oil and water produced from the testing during the period
• the choke size used for the well
• the density of any oil produced from the testing during the period, measured using the American Petroleum Institute’s scale of measuring the specific gravity of oil, commonly known as the ‘API gravity’ of the oil
• the pressure in the well, measured during the period, at which petroleum cannot escape from the wellhead for the well, commonly known as the ‘shut-in pressure’ of the well.

8.2.10 Water Monitoring Authority
A holder of a water monitoring authority must, within two months of each of the water monitoring authority’s anniversary dates (that is, the anniversary of the day the authority took effect), lodge an annual report for the previous 12 months. An annual report for a water monitoring authority must contain the following:

• the authorised activities for the authority carried out during the reporting period
• a statement of the authorised activities proposed to be carried out under the authority for the next 12 month period
• an index of all reports, lodged under the Petroleum and Gas (Production and Safety Act 2004 and the Petroleum Act 1923 and their regulations, by the holder during the reporting period in relation to the authority.

8.2.11 Seismic Survey Reports and Data
A report is required if a holder of a petroleum tenure or data acquisition authority:

1. carries out a seismic survey of the area of the tenure or authority; or
2. reprocesses raw data obtained from a previous survey they have carried out.

The tenure or authority holder must, not later than 12 months after the completion date for the survey, lodge a report for the survey. The report must contain the following:

• the name of the seismic survey being reported on
• a description of the location of the area surveyed
• a geological summary of the area surveyed
• an index of previous seismic surveys carried out under the tenure within the area and a summary of the results of the surveys
• the objectives of the survey
• the activities carried out for the survey, including, for example, details of the seismic lines acquired and the days on which the activities were carried out
• a description of each method used to acquire raw data, including:
  − the equipment used for positioning, surveying, navigation or other purposes; and
  − the techniques and equipment used for recording and testing the data.
• a description of how the raw data was processed or reprocessed
• 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
• a map showing the location of the seismic lines used for the survey
• if the report is not accompanied by *grid files* (see definition, below) for the area surveyed in
digital form:
  − structure contour maps of seismic horizons (seismic reflectors) in the area surveyed; and
  − maps of the area showing variations in the thickness of stratigraphic units (isopach
  maps).

The report must be accompanied by each of the following in digital form:

• 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’)
• a list of the seismic lines acquired and the range of the numbered stations on each line
• the surveyed location, including the elevation, of each seismic source and receiver point
• the processed or reprocessed data derived from each seismic line used for the survey
• a graphical representation of these data
• if an activity for the survey was carried out by a contractor of the tenure holder, a copy of any
  report given to the holder by the contractor in relation to the activity.

*Note:* Grid files, for the area, means a representation, on a close-spaced, regular grid, of an
interpretation of time and depth to seismic horizons (seismic reflectors).

Data formats for seismic survey digital data are given in the table in section 4.5 above. If file
size precludes the use of CD-ROM, other appropriate media may be used, (prefer DVD or IBM 3590
tapes for seismic data).

### 8.2.12 Petroleum Facility Licence or Pipeline Licence – Annual Report

A holder of one of these licences must, within two months of the anniversary date of the licence (that
is, the anniversary of the day the licence took effect), lodge an annual report for the previous 12
months. An annual report for a petroleum facility licence or pipeline licence must contain the following:

• the authorised activities for the licence carried out during the reporting period
• a statement of the authorised activities proposed to be carried out under the licence for the
  next 12 month period.

### 8.2.13 Pipeline Licence – Surrender Report

A report to accompany a surrender application for all or part of the area of a pipeline licence **must**
contain the following:

• a summary of the methods used to decommission the pipeline
• the date the licence was granted, its term, a description of the area (the surrendered area)
  that is the subject of the application; and
• a description of, and map showing, the location of the pipeline in the surrendered area,
  including access to the pipeline.
8.2.14 Data Acquisition Authority or Survey Licence Report

The person who held the data acquisition authority or survey licence, immediately before it ended, within six months of the end of the authority or licence, lodge an end of authority or licence report. This report must contain the following:

- the authorised activities for the authority or licence carried out during the reporting period
- an index of all reports lodged under the Petroleum and Gas (Production and Safety) Act 2004 by the holder during the reporting period in relation to the authority or licence.

8.2.15 Other Scientific and Technical Survey Report

A report is required if the holder of a petroleum tenure:

- carries out a scientific or technical survey of the area of the tenure or data acquisition authority to which the tenure relates
- reprocessors raw data obtained from a survey they have previously carried out.

The tenure holder must, not later than 6 months after the completion day for the survey, lodge a report containing each of the following:

- a description of the location of the area surveyed
- a geological summary of the area surveyed
- the type of survey carried out
- an index of previous surveys of the same type carried out under the tenure or authority within the area
- the objectives of the survey
- the activities carried out for the survey, including, for example, the days on which the activities were carried out
- the methods and equipment used for acquiring and processing, or reprocessing, data
- an interpretation of the processed or reprocessed data derived from the survey
- a map showing the location of:
  - the area surveyed; and
  - where any measurements were made or samples were taken in connection with the survey.

The report must be accompanied by each of the following in digital form:

- the raw data obtained in relation to the survey
- the processed or reprocessed data derived from the survey.

Data formats for scientific and technical survey digital data are given in the table in section 4.5 above.

8.2.16 Hydraulic Fracturing Activities Completion Report

If a petroleum tenure holder has finished hydraulic fracturing activities in the prescribed area for the tenure after the commencement of this section, the holder must, within two months after finishing the hydraulic fracturing activities, lodge a report (a hydraulic fracturing activities completion report). The hydraulic fracturing activities completion report must include the following information on its first page:

- the type and number of the tenure
- the name and postal address of the contractor who carried out the hydraulic fracturing activities on behalf of the operator of the drilling project
- the identifying name of each treatment well or observation well for which the hydraulic fracturing activities were carried out
- the day the hydraulic fracturing activities for each petroleum well started
- the day the hydraulic fracturing activities for each petroleum well ended.

The hydraulic fracturing activities completion report must include the following information about the hydraulic fracturing activities:

- an identification of each method of hydraulic fracturing activities carried out
- the depth in metres of the top and bottom of:
  - each stage over which the hydraulic fracturing activities were carried out; and
  - each geological interval over which the hydraulic fracture activities were carried out and the name of each geological interval.
- a summary of the operations performed at each stage in carrying out the hydraulic fracturing activities, including the volume and type of chemicals used at each stage
- an assessment of the implications of the hydraulic fracture activities for each petroleum well for the future management of the natural underground reservoir involved, including for each stage of the hydraulic fracture activities, over the geological interval:
  - for each stage of the activities – a graphic representation of the following:
    - casing pressure with time;
    - calculated bottom hole pressure with time;
    - calculated bottom hole concentration with time;
    - the rate at which hydraulic fracturing fluid was pumped into the well used for the hydraulic fracturing activities with time;
    - the concentration of proppant in the hydraulic fracturing fluid with time;
    - the maximum surface treatment pressure reached during each stage of the hydraulic fracture activities; and
    - the estimated targeted fracture pressure over the geological interval during each stage of the hydraulic fracturing activities.

The hydraulic fracturing activities completion report must include details of each of the following:

- the equipment used to carry out and monitor the hydraulic fracturing activities
- the diagnostic techniques used to monitor the hydraulic fracturing activities
- if known:
  - all geological connections between a geological interval over which the hydraulic fracturing activities were carried out and an aquifer; and
  - the distance separating a geological interval over which hydraulic fracturing activities were carried out from an aquifer;
  - if hydraulic fracturing activities were carried out on a coal seam – any other details about the hydraulic fracturing activities that would assist a person in making a future assessment of the impact of the hydraulic fracturing activities on the coal seam and any increased risk to safe and efficient mining of coal;
– if a known event relating to the hydraulic fracturing activities has caused material environmental harm, or serious environmental harm.

The hydraulic fracturing activities completion report must be accompanied by a statement (a hydraulic fracturing fluid statement) stating, for the hydraulic fracturing fluid used to carrying out the hydraulic fracturing activities:

- the composition of the hydraulic fracturing fluid
- the quantity of each component of the hydraulic fracturing fluid in kilograms, litres or kilolitres, (as appropriate)
- the concentration of each component in the hydraulic fracturing fluid; and
- the name of all chemical compounds in the hydraulic fracturing fluid.

8.2.17 Infrastructure Report for Petroleum Lease

A petroleum lease holder must by 1 September each year lodge an infrastructure report for the preceding financial year (1 July to 30 June).

The report must contain:

- A description of the authorised activities for the lease carried out in the area of the petroleum lease in the financial year
- Details of infrastructure and work constructed in the area of the petroleum lease in the financial year, including the location of the infrastructure and works
9 Reporting for Geothermal Exploration Permits (EPGs) and Geothermal Leases (GLs)

The type and frequency of statutory requirements for reporting, data submission and operational notification for EPGs and GLs are detailed in Chapter 5, Part 1 of the Geothermal Energy Regulation 2012 (for authorities administered under Geothermal Energy Act 2010). What follows relates primarily to reports that are added to the QDEX database, although other reports may be required by the Regulations.

NOTE that what follows is simplified and abbreviated from the relevant sections of the geothermal legislation and is intended as a guide only. If in any doubt as to meaning, refer to the legislation.

Report types, lodgement requirements and open-filing details

Table 8 - Geothermal Report types, lodgement requirements and open filing details

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Relevant Provision:</th>
<th>Lodgement Due Date</th>
<th>Open Filing Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relinquishment Reports</td>
<td>Section 15 - Regulation Section 190 - Act</td>
<td>6 months after relinquishment</td>
<td>Immediately</td>
</tr>
<tr>
<td>End of Tenure Reports</td>
<td>Section 16 - Regulation Section 191 - Act</td>
<td>6 months after the tenure/authority ends</td>
<td>Immediately</td>
</tr>
<tr>
<td>Daily Drilling Reports</td>
<td>Section 17 - Regulation</td>
<td>5pm following working day</td>
<td>Appraisal and exploration wells – 2 years from lodgement due date Development wells – 5 years from lodgement due date</td>
</tr>
<tr>
<td>Well Completion Reports</td>
<td>Section 20 - Regulation</td>
<td>Within 6 months after the rig release day</td>
<td>Appraisal and exploration wells – 2 years from lodgement due date Development wells – 5 years from lodgement due date</td>
</tr>
<tr>
<td>Well Abandonment Reports</td>
<td>Section 29 - Regulation</td>
<td>For a well that is plugged and abandoned before the rig release day for the well - with the well completion report for the well (within 6 months after the rig release day); or otherwise - within 2 months after the completion day.</td>
<td>Appraisal and exploration wells – 2 years from lodgement due date Development wells – 5 years from lodgement due date (except where on coal or oil shale mining tenement)</td>
</tr>
<tr>
<td>Annual Geothermal Reserves Reports</td>
<td>Section 35 - Regulation</td>
<td>Within 40 business days after the last day of each year for the tenure</td>
<td>6 months after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Production Testing Reports</td>
<td>Section 36 - Regulation</td>
<td>Within 40 business days after the testing period ends</td>
<td>2 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Geothermal Permit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production Testing Reports</td>
<td>Section 36 - Regulation</td>
<td>Within 40 business days after the testing period ends</td>
<td>5 years after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Geothermal Lease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report Type</td>
<td>Relevant Provision:</td>
<td>Lodgement Due Date</td>
<td>Open Filing Due Date</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
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<td>----------------------------------------------------------</td>
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</tr>
<tr>
<td>Injection Testing Reports</td>
<td>Section 39 - Regulation</td>
<td>Within 40 business days after the injection testing period ends</td>
<td></td>
</tr>
<tr>
<td>Production Reports</td>
<td>Section 42 - Regulation</td>
<td>Within 40 business days after the end of each 1 year period for the tenure</td>
<td>6 months after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Injection Reports</td>
<td>Section 43 - Regulation</td>
<td>Within 40 business days after the end of each 1 year period for the tenure</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Fracturing Activities Completion Reports</td>
<td>Section 44 - Regulation</td>
<td>Within 2 months after completion of the activities</td>
<td>5 years after lodgement due date</td>
</tr>
<tr>
<td>Surrender Report for Geothermal Tenures</td>
<td>Section 49 - Regulation, Section 302(2) - Act</td>
<td>Accompany surrender application for a geothermal tenure administered under the Geothermal Energy Act 2010</td>
<td>Immediately</td>
</tr>
<tr>
<td>Geophysical Survey Reports</td>
<td>Section 50 - Regulation</td>
<td>Within 6 months after the completion day for the survey</td>
<td>2 years after lodgement due date</td>
</tr>
<tr>
<td>Scientific or Technical Survey Reports</td>
<td>Section 53 - Regulation</td>
<td>Within 6 months after the completion day for the survey</td>
<td>2 years after lodgement due date</td>
</tr>
</tbody>
</table>

* A 6 month period means a following period in a year during which, for all or part of the period, the relevant geothermal tenure or authority is in effect:
  (a) 1 January to 30 June;
  (b) 1 July to 31 December.

### 9.1 Report Contents

All reports must contain the following sections within the body of the report, which is the information as defined in section 9.2 of this document, relevant to the type of report.

### 9.1.1 Title Page

All reports must include a title page containing the following information:

- report title with reference to:
  - geothermal exploration permit or geothermal lease;
  - report type.
- reporting period
- author(s)
- geothermal tenure holder
- submitter of report
- date of report (DD MM YYYY) format.
9.1.2 Contents list
A contents list should be included that shows the structure of the report and lists all figures, appendices, loose plans etc.

9.1.3 Summary or abstract
A summary or abstract must be provided, which indicates main methods used, areas of interest, results and conclusions.

9.1.4 Introduction
The following information must be provided in an introduction to the report:

- Geothermal tenure information - including date of grant, term and other important dates, joint venture arrangements and tenure assignments (if any) etc.
- blocks included in the tenure
- location map at 1:100 000 or larger scale, showing major topographic and geographic features
- list Map Grid Australian (MGA) standard map sheet references for 1:100 000 and 1:250 000 maps
- a general description of the area and access
- exploration rationale, the program undertaken and the exploration methods used
- results of literature searches.

9.1.5 Body of report
Report content is defined in section 9.2 of this document. The various report types are listed below and will determine the type of information required to form the body of the report.

Geothermal exploration permit-related reporting:

- Relinquishment report
- End of tenure report
- Well completion report
- Well abandonment report
- Daily drilling report
- Surrender report.
Geothermal lease-related reporting:

- Relinquishment report
- End of tenure report
- Daily drilling report
- Well completion report
- Surrender report
- Annual geothermal reserves report.
- Well or bore related-reporting:
  - Daily drilling report
  - Well completion report
  - Well abandonment report
  - Production testing report
  - Injection testing report
  - Production report
  - Injection report
  - Hydraulic fracturing activities completion report.

Seismic survey reporting:

- Geophysical survey report
- Scientific or technical survey report.

9.1.6 Bibliography
All reports should include a bibliography of other work, earlier reports cited etc.

9.1.7 Appendices
Include appendices as appropriate for the report type to provide the raw data or interpretations.

9.2 Report Types
The various report types are listed below.

9.2.1 Relinquishment Report
If the area of a geothermal tenure is relinquished its holder must, within 6 months after the relinquishment date, lodge a report containing the following:

- a description of the authorised activities for the tenure carried out in that part, and the results of the activities
- tenure information (for the definition of ‘tenure information’ see below)
- general area information (for the definition of ‘general area information’ see below).
- the geological model of the relinquished part of the area of the tenure, and an assessment of the potential for geothermal discovery in the area
• a summary of the results of all authorised activities carried out in the relinquished area since the tenure took effect, and the conclusions drawn by the holder based on the results
• an index of all reports lodged, as required under the Act, in relation to the authorised activities carried out in the relinquished area
• hazard information (for the definition of ‘hazard information’ see below)
• the volume of geothermal energy water produced from each geothermal well or bore in the relinquished area for each year since the tenure took effect
• the reason the holder has relinquished the area.

General area information means:
• a location map showing the area of the geothermal tenure immediately before the relinquishment, and the relinquished part of the area of the geothermal tenure
• a map showing the location in the relinquished area of:
  • each geothermal well drilled under the tenure; and
  • each seismic line used for a seismic survey carried out under the tenure.
• a structure contour map showing the seismic horizons (seismic reflectors) in the relinquished area
• a map showing the leads and prospects in the relinquished area
• a general description of the topographical features of the previous tenure area and the relinquished area, including, for example, access to the areas.

Tenure information means:
• the day the geothermal tenure was granted
• the day the relinquishment takes effect
• the period of the work program for the tenure
• the blocks or sub-blocks comprising the relinquished part of the area of the tenure.

Hazard information means:
• a summary of all significant hazards to future safe and efficient exploration and production of geothermal energy under the tenure that, under section 706 of the Petroleum and Gas (Production and Safety) Act 2004 or under its regulation, are required to be reported
• for each hazard mentioned in the summary, a reference to the report that contains details of the hazard.

9.2.2 End of Tenure Report
Within six months after a geothermal tenure ends, the person who held the tenure immediately before it ended, must give the chief executive a report that includes all of the following for the geothermal tenure:
• the tenure information
• the general area information
• a description of the geological model for the geothermal reservoirs in the area of the tenure
• a summary of all authorized activities for the tenure carried out for the tenure since it took effect
• a summary of the results of the activities
• an analysis of the conclusions drawn from the results of the authorized activities carried out in the area since the tenure took effect
• an index of all reports given as required under the Geothermal Energy Act 2010 for the activities
• a summary of all significant hazards created to future safe and efficient mining that under the P&G Act safety provisions, are required to be reported by the person
• for each hazard mentioned in the summary, a reference to the report containing details of the hazard
• any information required to be reported under the Geothermal Energy Act 2010 that has not been previously reported
• an estimate of the total mass flow of geothermal fluid produced from each geothermal well in the area for each year since the tenure took effect; and
• other information prescribed under a regulation.

The general area information, for an end of tenure report for a geothermal tenure, means each of the following:

• a map showing:
  – the location of the area of the tenure; and
  – the location in the area of the tenure of all:
    ▪ geothermal wells drilled under the tenure;
    ▪ seismic lines used to carry out seismic surveys of the area of the tenure and the range of the numbered stations on each line; and
    ▪ sites used to carry out geophysical surveys, other than seismic surveys.
• a structure contour map of:
  – the seismic horizons (seismic reflectors) in the area of the tenure; and
  – values measured during geophysical surveys, other than seismic surveys, in the area of the tenure;
  – a general description of the topographical features of the area of the tenure, including, for example, access to the areas.

Tenure information, for an end of tenure report for a geothermal tenure, means each of the following:

• the day the tenure was granted
• the period of the work program or development plan for the tenure.

9.2.3 Daily Drilling Report

A geothermal tenure holder must, for each day on which drilling of a geothermal well is carried out in the area of the geothermal tenure, give the chief executive a report about the drilling of the well not later than 5:00pm on the next business day after the day’s drilling.

The daily drilling report must include the following information on its first page:

• the type and number of the geothermal tenure
• the name and postal address of the operator of the geothermal well
• the identifying name of the well
• the name of the geothermal tenure holder
The daily drilling report must include the following details about the drilling of the geothermal well:

- the well's depth in metres at the end of the day
- the type of drilling rig used to drill the well
- the bit record for the well
- the drilling fluids and additives used during the day's drilling
- a summary of the drilling operations carried out during the day's drilling
- diagrams showing the hole sizes of the well at the end of the day's drilling
- the depth in metres of the top and bottom of any geothermal feature intervals identified in the well during the day's drilling
- a description of:
  - all surveys, test and measurements carried out during the day's drilling including the results of the surveys, tests or maintenance;
  - all cores or cutting samples taken during the day's drilling;
  - all casing and cementing activities carried out during the day's drilling; and
  - all surface observations made about the geothermal feature intervals identified in the well during the day's drilling.

### 9.2.4 Well Completion Report

A geothermal tenure holder, must, within 6 months after the rig release day for a geothermal well, give the chief executive, a report about the completion of the well.

The well completion report must include the following information on its first page:

- the type and number of the geothermal tenure
- the name and postal address of the operator of the geothermal well
- the identifying name of the well
- the name of the geothermal tenure holder
- a map showing the location of the well
- the name of the author of the report
- the name of the person submitting the report
- the date of the report, in day-month-year format.

The well completion report must include the following details about the drilling of the geothermal well:

- the well's total depth in metres
- the type of drilling rig used to drill the well
- the bit record for the well
- the drilling fluids and additives used to drill the well
• the ground level in metres for the well
• the kelly bushing level in metres for the well
• diagrams showing the hole sizes of the well
• information about the path of the well
• the day drilling of the well started
• the day the total depth of the well was reached
• the rig release day for the well
• a description of:
  − the alteration type of the rock surrounding the well;
  − the stratigraphy of the rock layers that the well intersects;
  − each geological sample taken during the drilling of the well; and
  − all surveys, tests and measurements carried out during the drilling of the well including
    the results of the surveys, tests and measurements.
• the depth in metres of the location of each sample taken from the well.

The well completion report must include the following details about the casing and other equipment,
including prescribed equipment, inserted into the geothermal well:

• the features of the casing and equipment, including, for example:
  − the size and type of casing and equipment;
  − the characteristics of the casing and equipment that may cause a hazard;
  − diagrams showing the location of the casing and equipment;
  − the location of all perforations made to the casing of the well; and
  − the depth in metres of the top and bottom of each perforation interval made to the well.

The well completion report must include the following details about all squeeze cementing or cement
plugging carried out in the geothermal well:

• the type of cement and additives used in the well
• the depth in metres of the top and bottom of each cemented interval in the well
• any losses of cement caused by seepage in voids or permeable strata in the well
• the method, materials and volume of cement used to cement the voids
• the method used to overcome losses of cement.

If stimulation of the geothermal well was carried out during the drilling of the well, the well completion
report must include the following details:

• the depth in metres of the top and bottom of the geothermal feature intervals in the well over
  which stimulation was carried out
• a description of the equipment used to carry out the stimulation
• the rig release day for the well
• a description of:
  − the alteration type of the rock surrounding the well; and
  − the stratigraphy of the rock layers that the well intersects; and
− each geological sample taken during the drilling of the well; and
− all surveys, tests and measurements carried out during the drilling of the well including the results of the surveys, tests and measurements; and
− the depth in metres of the location of each sample taken from the well.

The well completion report must include the following details about the casing and other equipment, including prescribed equipment, inserted into the geothermal well:

- the features of the casing and equipment, including, for example:
  - the size and type of casing and equipment;
  - the characteristics of the casing and equipment that may cause a hazard;
  - for the chemicals and other additives used in the fracturing fluid used to carry out the stimulation, the concentration of the chemicals and additives with time;
  - a copy of all records made about the stimulation by the person who carried it out;
  - any other details about the stimulation that are reasonably necessary to make a future assessment of the impact of the stimulation on the safety of the well.

The well completion report must also include the following information about the geothermal well:

- an assessment of:
  - the geothermal production potential of the well;
  - the impacts the well may have on the future management of the geothermal reservoirs in the area of the geothermal tenure;
  - the data obtained from geophysical (or wireline) logs run in the well;
  - the status of the well on the rig release day for the well;
  - identification of the geothermal feature intervals in the well that have the potential to produce geothermal energy;
  - a description of the geological model for the well; and
  - the geothermal tenure holder’s reasons for choosing the location of the well.

The well completion report must be accompanied by the following:

- a digital image of all core or cutting samples taken from the geothermal well
- a copy of:
  - the well card for the well;
  - the well’s drilling program;
  - a schematic diagram of the wellhead installed in the well after its completion;
  - a description of the geological model for the area of the geothermal tenure;
  - a pie chart showing the time distribution of all drilling operations carried out for the well;
  - a graph of the actual drilling time compared to the initial drilling program for the well;
  - the raw data from each geophysical (or wireline) logs run in the well; and
  - a digital image of the graphic representations of the raw data.

If the geothermal well is a directional well, the well completion report must also state the position of:

- the stratigraphic units that the well intersects
• the bottom of the well
• any other geothermal wells that intersect the directional well.

The position must be express in relation to:

• the total vertical depth in metres of the well
• the horizontal plane of the well.

Also, if the well is plugged and abandoned before the rig release day for the well, the report must be accompanied by a well abandonment report for the well.

9.2.5 Well Abandonment Report

If a geothermal well is plugged and abandoned, the geothermal tenure holder for the well must give the chief executive a report about the abandonment of the well:

• for a well that is plugged and abandoned before the rig release day for the well, with the well completion report for the well or, otherwise, within two months after the completion day.

The well abandonment report must include the following information on its first page:

• the type and number of the geothermal tenure
• the name and postal address of the operator of the geothermal well
• the identifying name of the well
• the name of the geothermal tenure holder
• the name of the author of the report
• the name of the person submitting the report
• the date of the report, in day-month-year format.

• The well abandonment report must include the following details about the drilling of the geothermal well:
  • the well’s depth in metres
  • the type of drilling rig used to drill the well
  • the bit record for the well
  • the drilling fluids and additives used to drill the well
  • the position at the top and bottom, and the thickness of any of the following intersected by the well:
    − an alteration zone;
    − a geothermal reservoir;
    − an aquifer;
    − diagrams showing the hole sizes of the well.

The position at the top and bottom must be identified in relation to:

• for a directional well:
  − the total vertical depth in metres of the well; and
  − the horizontal plane of the well; or
  − otherwise – the depth in metres.
The well abandonment report must include the following details about the casing and other equipment, including prescribed equipment, inserted into the geothermal well:

- the features of the casing and equipment, including, for example:
  - the size and type of casing and equipment; and
  - the characteristics of the casing and equipment that may cause a hazard.
- diagrams showing the location of the casing and equipment
- the location of all perforations made to the casing of the well
- the depth in metres of the top and bottom of each perforation interval made to the casings.

The well abandonment report must include the following details about all squeeze cementing or cement plugging carried out in the geothermal well:

- type and cement and additives used in the well
- the depth in metres of the top and bottom of each cemented interval in the well
- any losses of cement caused by seepage in voids or permeable state in the well
- the method, materials and volume of cement used to cement the voids
- the method used to overcome losses of cement.

The well abandonment report must include the following information about the geothermal well:

- a description of:
  - all surveys, tests and measurements carried out during the drilling of the well including the results of the surveys, test and measurements; and
  - any other procedures used to abandon the well.
- If stimulation of the well was carried out before it was plugged and abandoned:
  - the depth in metres of the top and bottom of the intervals in the well over which the stimulation was carried out; and
  - a description of the equipment used to carry out the stimulation; and
  - a copy of any record made about the stimulation by the person who carried it out; and
  - any other details about the stimulation that would help a person to make a future assessment of the impact of the stimulation on the safety of the well.
- any other details of the activities undertaken in relation to drilling, plugging and abandoning the well that would help a person in making an assessment of the potential risks to the safe and efficient operation of the well in the future
- a summary and history of the well
- a map showing the location of the well
- the day the completion report for the well was given to the chief executive.

9.2.6 Annual Geothermal Reserves Report

A geothermal tenure holder must, within 40 business days after the last day of each year for the tenure, give the chief executive a report about geothermal reserves for the tenure. The annual reserves report must include the following information in a form the chief executive considers appropriate:

- the type and number of the geothermal tenure
- for each geothermal reservoir in the area of the geothermal tenure:
the location, and estimated amount, of all proven and probable geothermal reserves identified on the first day and the last day of the year; and

details of all material changes to the proven and probable geothermal reserves for the year.

9.2.7 Production Testing Report

If production testing of a geothermal well is carried out under a geothermal tenure, the geothermal tenure holder must, within 40 business days after the production testing period ends, give the chief executive a report about the testing for the period. The production testing report must include each of the following on its first page:

- the type and number of the geothermal tenure
- the identifying name of the geothermal well
- identification of:
  - each geothermal reservoir in the area of the geothermal tenure identified by the production testing during the production testing period;
  - the geological units that produced geothermal fluid in the area of the tenure during the production testing period; and
  - the geological units in the area of the tenure that were injected with disposal during the production testing period.
- details of the wellhead pressure of the geothermal well measured during the production testing period.

The production testing report must include the following information about the production testing:

- the duration of the testing
- the type of testing methods used during the testing
- the specifications of the equipment used during the testing
- for any geothermal fluid produced during the testing:
  - the value of the specific enthalpy of the fluid;
  - details of all changes to the specific enthalpy of the fluid; and
  - details of the chemistry of the fluid.
- details of:
  - the air-lifting program, if any, used to stimulate the well during the testing;
  - all downhole surveys (pressure, temperature and spinner) undertaken during the testing;
  - the calculations made of the well’s productivity index, including the methods used to calculate the productivity index during testing;
  - the location of any major and secondary feed zones made in the geothermal well during the testing;
  - the wellhead pressure of the well’s throttled discharges during the testing;
  - the output characteristics of the geothermal well expressed as a function of the wellhead pressure of the well during the testing; and
  - any wellbore simulation modeling carried out during the testing.
- an estimate of the total mass flow of any geothermal fluid produced during the testing
- an estimate of the mass flow rate of all brine and steam separated during the testing.
• changes in the steam separation pressure values during the testing.

9.2.8 Injection Testing Report

If injection testing of a geothermal well is carried out under a geothermal tenure, the geothermal tenure holder must, within 40 business days after the injection testing period ends, give the chief executive a report about the testing for the period. The injection testing report must include each of the following on its first page:

• the type and number of the geothermal tenure
• the identifying name of the geothermal well
• identification of the geological units that were injected with water or disposal during the injection testing period
• the wellhead pressure of the geothermal well measured during the injection testing period.

The injection testing report must include the following information about the injection testing:

• the duration of the testing
• the types of testing methods used during the testing
• the specifications of the equipment used during the testing
• for water or disposal injected during the testing:
  − the temperature of the water or disposal; and
  − the chemistry of the water or disposal.
• details of:
  − all downhole surveys (pressure, temperature and spinner) undertaken during the testing;
  − the calculations made of the geothermal well’s injectivity index, including the methods used to calculate the injectivity index, during the testing;
  − any changes in the wellhead pressure of the well measured during the testing;
  − any wellbore simulation modeling carried out during the testing.

9.2.9 Production Report

A geothermal tenure holder must, within 40 business days after the end of each 1 year period for the geothermal tenure, give the chief executive a production report for the period for each geothermal well under the tenure. The production report must include all of the following information:

• the type and number of the geothermal tenure
• the identifying name of each geothermal well in the area of the tenure
• identification of:
  − each geothermal reservoir in the area of the tenure; and
  − each geological unit in the area of the tenure that produced geothermal fluid during the period.
• the total number of geothermal wells in the area of the tenure that produced geothermal fluid during the period
• the total mass flow of any geothermal fluid produced from a geothermal well in the area of the tenure during the period
• for any electrical and thermal energy produced in the area of the tenure during the period:
  − the total amount of electrical and thermal energy; and
the total amount of the electrical and thermal energy that was used for internal consumption during the period.

- the total amount of the geothermal fluid released into the environment during the production of electrical and thermal energy in the period and the reasons for its release
- for each geothermal well that produced geothermal fluid during the period, the following details about the well:
  - Any changes in the wellhead pressure of the well during the period;
  - Any scaling and corrosion problems met with during the period and the preventative measures taken to reduce the scaling and corrosion;
  - The following details about any geothermal fluid taken from the well:
    - changes in the chemistry or chemical composition of the fluid during the period; and
    - changes to the fluid specific enthalpy of the fluid during the period.

9.2.10 Injection Report
A geothermal tenure holder, must, within 40 business days after the end of each 1 year period for the geothermal tenure, give the chief executive an injection report for the period for each geothermal well under the tenures. The injection report must include all of the following information:

- the type and number of the geothermal tenure
- the identifying name of each geothermal well in the area of the tenure
- identification of:
  - each geothermal reservoir in the area of the geothermal tenure; and
  - each geological unit in the area of the tenure that was injected with water or disposal during the period.
- the total mass flow of:
  - all water or disposal injected into each geothermal well in the area of the tenure during the period; and
  - disposal reinjected into each geothermal well in the area of the tenure during the period.
- the following details about each geothermal well in the area of the tenure that was injected with water or disposal during the period:
  - any changes in the wellhead pressure of the well during the period; and
  - any scaling and corrosion problems met with in the well during the period and the preventative measure taken to reduce the scaling and corrosion.

9.2.11 Hydraulic Fracturing Activities Completion Report
If a geothermal tenure holder completes hydraulic fracturing activities in the area of the geothermal tenure after the tenure takes effect, the holder must, within two months after completion of the activities, give the chief executive a report about the activities. The hydraulic fracturing activities completion report must include the following information on its first page:

- the type and number of the geothermal tenure
- the name and postal address of the person who carried out the hydraulic fracturing activities
- the identifying name of each geothermal well subject to the activities
- the day the activities for each well started
- the day the activities for each well ended
The hydraulic fracturing activities completion report must include the following information about the hydraulic fracturing activities:

- an identification of each method of hydraulic fracturing activity carried out
- the depth in metres of the top and bottom of:
  - each interval of the geothermal well over which the activities were carried out; and
  - each geological interval in the well over which the activities were carried out and the name of each geological interval.
- a summary of the operations carried out at each stage of the activities, including the volume and type of chemicals used at each stage
- an assessment of the impact of the activities on the future management of each geothermal reservoir in the area of the geothermal tenure
- for each stage of the activities – a graphic representation of the following:
  - the casing pressure with time;
  - the calculated bottom hole pressure with time;
  - the calculated bottom hole concentration with time;
  - the rate at which hydraulic fracturing fluid was pumped into the geothermal well with time;
  - the concentration of liquid chemicals and other additives used in the hydraulic fracturing fluid with time;
  - the maximum surface treatment pressure reached during each stage of the activities; and
  - the estimated targeted fracture pressure for the activities carried out over each geological interval in the well.

The hydraulic fracturing activities completion report must include details of each of the following:

- the equipment used to perform and monitor the hydraulic fracturing activities
- the diagnostic techniques used to monitor the activities
- if known:
  - all geological connections between a geological interval in a geothermal well over which the activities were carried out and an aquifer;
  - the distance between a geological interval in a geothermal well over which the activities were carried out and an aquifer;
  - the total mass flow of hydraulic fracturing fluid, in tonnes, used in each geothermal well during each stage of the activities; and
  - if a known event relating to the hydraulic fracturing activities has caused material environmental harm, or serious environmental harm.

The hydraulic fracturing activities completion report must be accompanied by a document stating the following about the hydraulic fracturing fluid used to carry out the activities:

- the composition of the hydraulic fracturing fluid
- the quantity of each component of the fluid in kilograms, litres or tonnes (as appropriate)
• the concentration of each component in the fluid
• the name of all chemical compounds in the fluid.

9.2.12 Surrender Report
A surrender report for a geothermal tenure, must accompany the approved surrender form and contain the following:

• the day the geothermal tenure was granted
• a description of, and a map showing, the area that is being surrendered, a description or map of access points to the area
• a description of the methods used to produce geothermal energy in the surrendered area;
• an estimate of:
  – the amount of geothermal energy produced from each geothermal well in the surrendered area for each year since the geothermal tenure took effect; and
  – the volume of water or disposal injected into each injection well in the surrendered area.
• a description of the geological features of the proven and probable geothermal reserves in the surrendered area from which geothermal energy was produced
• an index of all reports given to the chief executive under the Geothermal Energy Act 2010, about all authorized activities carried out in the surrendered area
• a hazard information report for the surrendered area
• an annual reserves report for the surrendered area for the period starting on the day after the period covered by the last annual reserve report was given for the geothermal tenure and ending on the day the surrender report is given to the Minister
• the reason the geothermal tenure holder has applied to surrender all or part of the tenure’s area
• a map showing the location, in the surrendered area, of:
  – the geothermal wells drilled under the geothermal tenure;
  – the seismic lines used to carry out seismic surveys of the area of the geothermal tenure and the range of the numbered sites on each line;
  – the sites used for carrying out geophysical surveys, other than seismic surveys;
  – a structure contour map prepared for the surrendered area showing:
    • the seismic horizons (seismic reflectors) in the surrendered area; and
    • values as measured during geophysical surveys carried out for the surrendered area.

9.2.13 Geophysical Survey Report
If a geothermal tenure holder carries out a geophysical survey of the area of the tenure or reprocesses raw data obtained from a survey, the holder must, within 6 months after the day the survey is completed, give the chief executive a report about the survey. The geophysical survey must include the following information about the geophysical survey:

• a description of:
  – the location of the area surveyed;
  – the type of survey carried out;
  – how the raw data obtained from the survey was processed;
- each method used to acquire the raw data from the survey, including the equipment used to acquire the data and the techniques and equipment used to record and test the data;
- a map showing the location of the sites used to carry out the geophysics survey;
- if the report is not accompanied by files for the area surveyed in digital form, details of:
  - the interpreted data for the area surveyed; and
  - the isopach map and depth to basement map obtained from the survey.
- a summary of the geology of the area surveyed;
- a summary of the objectives of the survey;
- details about the activities carried out for the survey, including the days the activities were carried out;
- an interpretation of the reprocessed data obtained from the survey; and
- an index of all previous geophysical surveys, of the same type as the survey for which the report was given, carried out under the tenure, and a summary of the survey results.

The geophysical survey report must be accompanied by each of the following in digital form:

- the raw data obtained from the survey
- the records made as the raw data was recorded (commonly known as the observer’s logs)
- the location of the area surveyed, including the coordinates and evaluation of each site used to carry out the geophysical survey
- the processed and reprocessed data obtained from the survey
- a graphical representation of the processed or reprocessed data
- if an activity for the survey was carried out by a contractor of the geothermal tenure holder, a copy of all reports given to the tenure holder by the contractor about the activity.

### 9.2.14 Scientific or Technical Survey Report

If a geothermal tenure holder:

- carries out a scientific or technical survey of the area of the tenure or reprocesses raw data obtained from a survey, the tenure holder must, within six months after the day the survey is completed, give the chief executive a report about the survey. The scientific or technical survey must include the following information:
  - a description of:
    - the location of the area surveyed;
    - the type of survey carried out;
    - how the raw data obtained from the survey was processed; and
    - each method used to acquire the raw data from the survey, including the equipment used to acquire the data and the techniques and equipment used to record and test the data.
  - a summary of the geology of the area surveyed;
  - a summary of the objectives of the survey;
  - details of the activities, carried out for the survey, including the days the activities were carried out;
- an interpretation of the processed or reprocessed data obtained from the survey;
- details of all measurements made or samples taken during the survey;
- an index of all previous scientific or technical surveys, of the same type as the survey for which the report is given, carried out under the tenure, and a summary of the survey results; and
- each of the following in digital form:
  - the raw data obtained from the survey; and
  - the processed or reprocessed data obtained from the survey.
Reporting for Greenhouse Gas Exploration Permits (GHG Permits) and Greenhouse Gas Leases (GHG Leases)

The type and frequency of statutory requirements for reporting, data submission and operational notification for GHG Permits and GHG Leases are detailed in Part 4 of the Greenhouse Gas Storage Regulation 2010 (for authorities administered under Greenhouse Gas Storage Act 2009). What follows relates primarily to reports that are added to the QDEX database, although other reports may be required by the Regulations.

NOTE: That what follows is simplified and abbreviated from the relevant sections of the greenhouse gas legislation and is intended as a guide only. If in any doubt as to meaning, refer to the legislation.
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<td>survey</td>
<td></td>
</tr>
<tr>
<td>GHG Storage Injection</td>
<td>Section 22 - Regulation</td>
<td>Within 40 business days after the GHG storage</td>
<td>The second anniversary of the injection testing</td>
</tr>
<tr>
<td>Injection Testing Reports</td>
<td>Section 253(2) - Act</td>
<td>injection testing ends</td>
<td></td>
</tr>
</tbody>
</table>

<p>| GHG Permit                  |                                                                                   |                                                         |                      |</p>
<table>
<thead>
<tr>
<th>Report Type</th>
<th>Relevant Provision:</th>
<th>Lodgement Due Date</th>
<th>Open Filing Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG Storage Injection Testing Reports GHG Lease</td>
<td>Section 22 - Regulation Section 253(2) - Act</td>
<td>Within 40 business days after the GHG storage injection testing ends</td>
<td>The fifth anniversary of the injection testing</td>
</tr>
<tr>
<td>GHG Stream Storage Capacity Reports</td>
<td>Section 23 - Regulation</td>
<td>*Within 40 business days after the last day of a 6 month period for the tenure</td>
<td>6 months after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>GHG Stream Storage Injection Reports</td>
<td>Section 24 - Regulation</td>
<td>*Within 40 business days after the last day of a 6 month period for the lease</td>
<td>6 months after the last day of the period to which the report relates</td>
</tr>
<tr>
<td>Monitoring Reports</td>
<td>Section 254 - Act</td>
<td>#Within 2 months after each of its anniversary days</td>
<td></td>
</tr>
</tbody>
</table>

*A 6 month period means a following period in a year during which, for all or part of the period, the relevant geothermal tenure or authority is in effect:

#Anniversary day, for a GHG lease, means each day that is the anniversary of the day on which it took effect.
(a) 1 January to 30 June;
(b) 1 July to 31 December.

10.1 Report Contents

All reports must contain the following sections within the body of the report, which is the information as defined in section 10.2 of this document, relevant to the type of report.

10.1.1 Title Page

All reports must include a title page containing the following information:

- report title with reference to:
  - GHG permit or GHG lease; and
  - report type.
- reporting period
- author(s)
- GHG tenure holder
- submitter of report
- date of report (DD MM YYYY) format.

10.1.2 Contents list

A contents list should be included that shows the structure of the report and lists all figures, appendices, loose plans etc.
10.1.3 Summary or abstract
A summary or abstract must be provided, which indicates main methods used, areas of interest, results and conclusions.

10.1.4 Introduction
The following information must be provided in an introduction to the report:

- GHG tenure information - including date of grant, term and other important dates, joint venture arrangements and tenure assignments (if any) etc.
- blocks included in the tenure
- location map at 1:100 000 or larger scale, showing major topographic and geographic features
- list Map Grid Australian (MGA) standard map sheet references for 1:100 000 and 1:250 000 maps
- a general description of the area and access
- exploration rationale, the program undertaken and the exploration methods used
- results of literature searches.

10.1.5 Body of report
Report content is defined in section 10.2 of this document. The various report types are listed below and will determine the type of information required to form the body of the report.

GHG permit-related reporting:

- Relinquishment report
- End of tenure report
- Well completion report
- Well abandonment report
- Daily drilling report
- Surrender report
- Monitoring
- GHG lease-related reporting:
- Relinquishment report
- End of tenure report
- Daily drilling report
- Well completion report
- Surrender report.
- Well or bore related-reporting:
- Daily drilling report
- Well completion report
- Well abandonment report
- GHG storage injection testing report
• GHG stream storage capacity report
• GHG stream storage injection report.

Seismic survey reporting:
• Seismic survey report
• Scientific or technical survey report.

10.1.6 Bibliography
All reports should include a bibliography of other work, earlier reports cited etc.

10.1.7 Appendices
Include appendices as appropriate for the report type to provide the raw data or interpretations.

10.2 Report Types
The various report types are listed below.

10.2.1 Relinquishment Report
If the area of a GHG tenure is relinquished its holder must, within 6 months after the relinquishment date, lodge a report containing the following:

• a description of the authorised activities for the tenure carried out in that part, and the results of the activities
• *tenure information* (for the definition of ‘tenure information’ see below)
• *general area information* (for the definition of ‘general area information’ see below)
• the geological model of the relinquished part of the area of the tenure, and an assessment of the potential for GHG discovery in the area
• a summary of the results of all authorised activities carried out in the relinquished area since the tenure took effect, and the conclusions drawn by the holder based on the results
• an index of all reports lodged, as required under the Act, in relation to the authorised activities carried out in the relinquished area
• *hazard information* (for the definition of ‘hazard information’ see below)
• the volume of GHG water produced from each geothermal well or bore in the relinquished area for each year since the tenure took effect
• the reason the holder has relinquished the area.

General area information means:

• a location map showing the area of the GHG tenure immediately before the relinquishment, and the relinquished part of the area of the GHG tenure
• a map showing the location in the relinquished area of:
  – each g GHG well drilled under the tenure; and
  – each seismic line used for a seismic survey carried out under the tenure.
• a structure contour map showing the seismic horizons (seismic reflectors) in the relinquished area
• a map showing the leads and prospects in the relinquished area
• a general description of the topographical features of the previous tenure area and the relinquished area, including, for example, access to the areas.

Tenure information means:

• the day the GHG tenure was granted
• the day the relinquishment takes effect
• the period of the work program for the tenure
• the blocks or sub-blocks comprising the relinquished part of the area of the tenure

Hazard information means:

• a summary of all significant hazards to future safe and efficient exploration and production of GHG under the tenure that, under section 706 of the Petroleum and Gas (Production and Safety) Act 2004 or under its regulation, are required to be reported
• for each hazard mentioned in the summary, a reference to the report that contains details of the hazard.

10.2.2 End of Tenure Report
Within six months after a GHG tenure ends, the person who held the tenure immediately before it ended, must give the chief executive a report that includes all of the following for the GHG tenure:

• the tenure information
• the general area information
• a description of the geological model for the GHG reservoirs in the area of the tenure
• a summary of all authorized activities for the tenure carried out for the tenure since it took effect
• a summary of the results of the activities
• an analysis of the conclusions drawn from the results of the authorized activities carried out in the area since the tenure took effect
• an index of all reports given as required under the Greenhouse Gas Storage Act 2009 for the activities
• a summary of all significant hazards created to future safe and efficient mining that under the P&G Act safety provisions, are required to be reported by the person
• for each hazard mentioned in the summary, a reference to the report containing details of the hazard
• any information required to be reported under the Greenhouse Gas Storage Act 2009 that has not been previously reported
• an estimate of the total mass flow of geothermal fluid produced from each GHG well in the area for each year since the tenure took effect
• other information prescribed under a regulation.

The general area information, for an end of tenure report for a GHG tenure, means each of the following:

• a map showing:
  − the location of the area of the tenure; and
  ▪ the location in the area of the tenure of all:
GHG wells drilled under the tenure;
seismic lines used to carry out seismic surveys of the area of the tenure and the range of the numbered stations on each line; and
sites used to carry out geophysical surveys, other than seismic surveys.

- a structure contour map of:
  - the seismic horizons (seismic reflectors) in the area of the tenure; and
  - values measured during geophysical surveys, other than seismic surveys, in the area of the tenure.
- a general description of the topographical features of the area of the tenure, including, for example, access to the areas.

Tenure information, for an end of tenure report for a GHG tenure, means each of the following:

- the day the tenure was granted
- the period of the work program or development plan for the tenure.

### 10.2.3 Surrender Report

A surrender report for a GHG tenure, must accompany the approved surrender form and contain the following:

- the day the GHG tenure was granted
- a description of, and a map showing, the area that is being surrendered, a description or map of access points to the area
- a description of the methods used to produce GHG in the surrendered area
- an estimate of:
  - the amount of GHG produced from each GHG well in the surrendered area for each year since the GHG tenure took effect; and
  - the volume of water or disposal injected into each injection well in the surrendered area.
- a description of the geological features of the proven and probable GHG reserves in the surrendered area from which GHG was produced
- an index of all reports given to the chief executive under the Greenhouse Gas Storage Act 2009, about all authorized activities carried out in the surrendered area
- a hazard information report for the surrendered area
- the reason the GHG tenure holder has applied to surrender all or part of the tenure's area
- a map showing the location, in the surrendered area, of:
  - the GHG wells drilled under the geothermal tenure;
  - the seismic lines used to carry out seismic surveys of the area of the GHG tenure and the range of the numbered sites on each line; and
  - a structure contour map prepared for the surrendered area showing:
    - the seismic horizons (seismic reflectors) in the surrendered area; and
    - values as measured during geophysical surveys carried out for the surrendered area.
10.2.4 Daily Drilling Report

A GHG tenure holder must, for each day on which drilling of a geothermal well is carried out in the area of the GHG tenure, give the chief executive a report about the drilling of the well not later than 5:00pm on the next business day after the day’s drilling.

The daily drilling report must contain each of the following for the drilling carried out during the day:

- the identifying name of the well
- the tenure holder’s name and the tenure under which the well was drilled
- the type of drilling rig used
- a summary of the drilling operations carried out
- the depth in metres of the well at the end of the day’s drilling
- the size and type of drill bit used
- the drilling fluids and additives used
- the size and depth in metres of any casing inserted in the well
- the depth in metres of the top and bottom of each cemented interval in the well
- the results of any deviation surveys carried out in the well
- a description of any drill stem tests or other tests carried out in the well
- the type of any perforations in the well and the depth in metres of the top and bottom of the perforated intervals
- details of any squeeze cementing or cement plugging carried out
- a description of any cores or cutting samples taken.

10.2.5 Well Completion Report

A GHG tenure holder, must, within 6 months after the rig release day for a GHG well, give the chief executive, a report about the completion of the well.

The well completion report must contain each of the following:

- the type and number of the GHG tenure
- the name and postal address of the operator of the GHG well
- the identifying name of the well
- a well card for the well (a summary of the information about the well in the report); a map showing the location of the well
- a geological summary of the area of the tenure
- the reasons for the location of the well with reference to the geological structure of the surrounding area
- a copy of each daily drilling report for the well
- the ground level and kelly bushing level in metres for the well
- the total depth in metres of the well
- the following days
- the day the drilling of the well started
- the day the total depth of the well was reached
• the rig release day for the well
• details of the drilling rig, the number and type of drill bits, and the drilling fluids, used to drill the well
• the status of the well on the rig release day
• the surveyed path of the well
• details of the casing and equipment installed in the well, with a diagram showing their location, the type of cement used and the depth in metres at the top and bottom of each cemented interval
• a description of all tests or surveys carried out for drilling the well
• a geological interpretation of the well, including the stratigraphy of the rock units it intersects
• an identification of the intervals intersected by the well that have the potential for GHG stream storage
• an assessment of:
  − the relevance of the well to the GHG stream storage potential within the vicinity of the well;
  − the implications of the well for the future management of any GHG storage reservoir to which the well relates;
  − a description of each geological sample taken during the drilling of the well, including the depth in metres at which the sample was taken and the results of any analysis carried out for the sample; and
  − an interpretation of the data obtained from the geophysical (or wireline) logs that have been run in the well.

For a directional well, the report must also state the position of each of the following:

• the stratigraphic units intersected by the well
• the bottom of the well
• any intersection of the well with the following:
  − another GHG well;
  − a petroleum well; and
  − an exploration bore under the Geothermal Energy Act 2010.

The position must be expressed using:

• The total vertical depth in metres
• The horizontal plane.

The report must be accompanied by each of the following:

• A digital image of the cores taken during the drilling of the well
• The raw data, in digital form, of each geophysical (or wireline) log that has been run in the well
• A digital image of the graphic representations of the raw data.

If the well is plugged and abandoned before the rig release day for the well, the report must be accompanied by a well abandonment report for the well.
10.2.6 Well Abandonment Report

If a GHG well is plugged and abandoned, the GHG tenure holder for the well must give the chief executive a report about the abandonment of the well:

- for a well that is plugged and abandoned before the rig release day for the well, with the well completion report for the well or, otherwise, within two months after the completion day.

The well abandonment report must include each of the following details:

- the type and number of the GHG tenure
- the name and postal address of the operator of the GHG well
- the identifying name of the well
- the name of the GHG tenure holder
- the name of the author of the report
- the name of the person submitting the report
- the date of the report, in day-month-year format
- a summary and history of the well, including a location map and the date on which a well completion report for the well was given to the chief executive.

The well abandonment report must include the following details about the drilling of the GHG well:

- the total depth in metres
- the position at the top and bottom, and the thickness, of any of the following intersected by the well:
  - a coal seam;
  - a natural underground reservoir under the P&G Act; and
  - an aquifer.
- the depth in metres of any perforations in the casing of the well
- the type of drilling rig used to drill the well
- all surveys and measurements made in the well, including any detailed interpretation of a survey or measurement
- for the completion or abandonment of the well, each of the following:
  - details of the casing and equipment installed in the well, with diagrams showing their major dimensions and features of the casing and equipment;
  - a full description of all equipment, including prescribed equipment, retained in the well, including, for example, the size and nature of the equipment and any features of the equipment that may cause a hazard to underground mining operations;
  - the surveyed location of any prescribed equipment;
  - the method of the cementing operations carried out in or on the well, including, for example, 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;
  - the method, materials and volume of cement used to cement voids;
  - a description of any other abandonment procedures used for the well; and
any other details of the activities carried out in the drilling, completing or plugging and abandoning the well, and an assessment of their possible impacts, that would assist a person in making an assessment of potential risks to safe and efficient underground mining.

The position at the top and bottom of the coal seam, natural underground reservoir or aquifer must be expressed using:

- for a directional well:
  - the total vertical depth in metres; and
  - the horizontal plane; or
  - otherwise – the depth in metres.

The position at the top and bottom must be identified in relation to:

- for a directional well:
  - the total vertical depth in metres of the well; and
  - the horizontal plane of the well; or
  - otherwise – the depth in metres.

The well abandonment report must include the following details about the casing and other equipment, including prescribed equipment, inserted into the geothermal well:

- the features of the casing and equipment, including, for example:
  - the size and type of casing and equipment; and
  - the characteristics of the casing and equipment that may cause a hazard.
- diagrams showing the location of the casing and equipment
- the location of all perforations made to the casing of the well
- the depth in metres of the top and bottom of each perforation interval made to the casings.

The well abandonment report must include the following details about all squeeze cementing or cement plugging carried out in the geothermal well:

- the type and cement and additives used in the well
- the depth in metres of the top and bottom of each cemented interval in the well
- any losses of cement caused by seepage in voids or permeable state in the well
- the method, materials and volume of cement used to cement the voids
- the method used to overcome losses of cement.

The well abandonment report must include the following information about the geothermal well:

- a description of:
  - all surveys, tests and measurements carried out during the drilling of the well including the results of the surveys, test and measurements; and
  - any other procedures used to abandon the well.
- If stimulation of the well was carried out before it was plugged and abandoned:
  - the depth in metres of the top and bottom of the intervals in the well over which the stimulation was carried out; and
  - a description of the equipment used to carry out the stimulation; and
• a copy of any record made about the stimulation by the person who carried it out; and
• any other details about the stimulation that would help a person to make a future assessment of the impact of the stimulation on the safety of the well.

• any other details of the activities undertaken in relation to drilling, plugging and abandoning the well that would help a person in making an assessment of the potential risks to the safe and efficient operation of the well in the future

• a summary and history of the well
• a map showing the location of the well
• the day the completion report for the well was given to the chief executive.

10.2.7 Seismic Survey Report
If a GHG tenure holder carries out a seismic survey of the area of the tenure or reprocesses raw data obtained from a survey, the holder must, within 12 months after the day the survey is completed, give the chief executive a report about the survey. The seismic survey must include the following information about the geophysical survey:

• a description of:
  • a description of the location of the area surveyed; and
  • a geological summary of the area surveyed;
  • an index of previous seismic surveys carried out under the authority within the area and a summary of the results of the surveys;
  • the objectives of the survey;
  • 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;
  • a description of each method used to acquire raw data, including:
    ▪ the equipment used for positioning, surveying, navigation or other purposes; and
    ▪ the techniques and equipment used for recording and testing the data;
    ▪ a description of how the raw data was processed or reprocessed;
    ▪ 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;
    ▪ a map showing the location of the seismic lines used for the survey;
• if the report is not accompanied by grid files for the area surveyed in digital form:
  • structure contour maps of seismic horizons (seismic reflectors) in the area surveyed; and
  • maps of the area showing variations in the thickness of stratigraphic units (isopach maps).

The report must be accompanied, in digital form, by each of the following:

• the raw data obtained from the survey and the record made as the data was recorded (commonly known as the ‘observer’s logs’)
• a list of the seismic lines used and the range of the numbered stations on each line
• the surveyed location, including the elevation, of each seismic source and receiver point
• the processed or reprocessed data derived from each seismic line used for the survey
• a graphical representation of the date
• if an activity for the survey was carried out by a contractor of the authority holder, a copy of any report given to the holder by the contractor for the activity.

10.2.8 Scientific or Technical Survey Report

If a GHG tenure holder:
• carries out a scientific or technical survey of the area of the tenure or reprocesses raw data obtained from a survey, the tenure holder must, within six months after the day the survey is completed, give the chief executive a report about the survey. The scientific or technical survey must include the following information:
  − a description of:
    ▪ the location of the area surveyed; and
    ▪ the type of survey carried out; and
    ▪ how the raw data obtained from the survey was processed; and
    ▪ each method used to acquire the raw data from the survey, including the equipment used to acquire the data and the techniques and equipment used to record and test the data;
  − a summary of the geology of the area surveyed;
  − a summary of the objectives of the survey;
  − details of the activities, carried out for the survey, including the days the activities were carried out;
  − an interpretation of the processed or reprocessed data obtained from the survey;
  − details of all measurements made or samples taken during the survey;
  − an index of all previous scientific or technical surveys, of the same type as the survey for which the report is given, carried out under the tenure, and a summary of the survey results;
  − each of the following in digital form:
    ▪ the raw data obtained from the survey;
    ▪ the processed or reprocessed data obtained from the survey.

10.2.9 GHG Storage Injection Testing Report

If GHG storage injection testing for an underground geological formation or structure is carried out under a GHG tenure, the GHG tenure holder must, within 40 business days after the GHG storage injection testing period ends, give the chief executive a report about the testing for the period. The report must contain each of the following:
• the type and number of the tenure
• the identifying name of the GHG well used for the testing and the type of perforations in the GHG well and the depth in metres of the top and bottom of the perforated intervals; and the choke size used for the well
• an identification of each geological formation or structure into which a GHG stream or water was injected as part of the testing
• the duration of the testing;
• details of the substance injected, including:
  − whether the substance is composed of GHG stream or water; and
  − if a GHG stream was injected – information about the composition of the GHG stream;
    and
  − the volume of the substance injected; and
  − the rate at which the substance was injected; and
• the observation migration pathway of the substance following injection;
• the operations and techniques being used to monitor and verify the behaviour of the substance injected;
• an assessment of risks to public health or the environment associated with the testing;
• how the risks are being mitigated.

10.2.10 GHG Stream Storage Capacity Report
A GHG tenure holder must, within 40 business days after the last day of a 6 month period for the tenure, give the chief executive a GHG Stream Storage Capacity Report for the tenure for the period. The report must contain each of the following:

• the type and number of the GHG tenure
• the identifying name of each GHG storage reservoir in which there is available capacity to store a GHG stream
• the estimated volume of storage capacity in each GHG storage reservoir within the area of the tenure worked out on the first day and last day of the period.

10.2.11 GHG Stream Storage Injection Report
A GHG lease holder must, within 40 business days after the last day of a 6 month period for the lease, give the chief executive a GHG stream storage injection report for the period. The report must contain each of the following:

• the number of the lease
• an identification of each GHG stream storage site into which a GHG stream or water was injected under the lease for the 6 month period
• the volume of GHG stream injected into each GHG storage site within the area of the lease for the 6 month period
• for each GHG storage reservoir into which a GHG stream is injected under the lease—the number of GHG wells injecting a GHG storage stream into the reservoir
• the operations and techniques being used to monitor and verify the behaviour of the GHG streams injected into each GHG storage reservoir
• an assessment of whether there is a risk of a serious situation arising for any GHG stream storage site under the lease
• an assessment of any risks to public health or the environment associated with GHG stream storage under the lease
• how any risks are being mitigated.
10.2.12 Monitoring report

- A GHG lease holder must within 2 months after each of its anniversary days give each relevant chief executive a monitoring report for the 12 months that ended on the last anniversary day. A monitoring report means:

- A report about the expected migration pathway or pathways of GHG streams during and after injection into GHG storage reservoirs under the GHG lease.
### 11 Obligation to Lodge Annual, Relinquishment and Surrender Reports for Coal or Oil Shale Mining Leases (ML)

**Table 10 - Coal or Oil shale Mining leases Report types, lodgement requirements.**

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Relevant Provision: Mineral Resources Act 1989</th>
<th>Lodgement Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Reports</td>
<td>Section 318CV - Act</td>
<td>Within 2 months after each of its *anniversary days</td>
</tr>
<tr>
<td>Relinquishment Reports</td>
<td>Section 318CX - Act</td>
<td>Accompany notice making the relinquishment for an oil shale mining lease tenure administered under the Mineral Resources Act 1989.</td>
</tr>
<tr>
<td>Surrender Reports</td>
<td>Section 318CY - Act</td>
<td>Accompany surrender application for an oil shale mining lease tenure administered under the Mineral Resources Act 1989.</td>
</tr>
</tbody>
</table>

*anniversary day, for a mining lease, means each day that is the anniversary of the day on which the term of the mining lease started.

#### 11.1 Obligation to lodge annual reports

The following are extracts of relevant provisions of the Mineral Resources Act 1989. This Act may be amended from time to time, so for accuracy, you should always reference the latest reprint of this Act.

(1) It is a condition of each coal or oil shale mining lease that its holder must, within 2 months after each of its anniversary days, lodge a report that—

(a) states details of each of the following for the 12 months that ended on its last anniversary day—

(i) the amount and location of coal seam gas mined;

(ii) the amount of each designated CSG product mined;

(iii) the percentage of methane in each designated CSG product mined;

(iv) the amount and location of each other mineral mined;

(v) for each mineral mentioned in subparagraphs (i) and (ii)—

(A) the amount sold; and

(B) the amount disposed of other than by sale; and

(C) each method of disposal other than sale; and

(D) the amount disposed of under each other method; and

(vi) whether there was any subsidence and, if there was any, its nature; and

(b) if the report states there was subsidence, includes a plan showing its extent; and

(c) includes a plan of the mine working envelope for the mining lease; and

(d) details the coal seam gas mined or proposed to be mined within the mine working envelope; and

(e) includes other information prescribed under a regulation.
(2) If the mining lease ends, its former holder must lodge a report for the period from the last anniversary day for the lease to when it ended that gives the information mentioned in subsection (1).

Maximum penalty—150 penalty units.

(3) In this section—

anniversary day, for a mining lease, means each day that is the anniversary of the day on which the term of the mining lease started.

mine working envelope means land that covers any of the following or is needed for post-production activities—

(a) past mine workings;
(b) current mine workings;
(c) mine workings scheduled to be mined within the next 5 years;
(d) authorised activities for the mining lease associated with the processing, transportation, storage and use of the coal seam gas produced.

11.2 Relinquishment report

Section 18CX of the Mineral Resources Act 1989 states:

(1) This section applies if under a relinquishment condition, a coal mining lease holder or an oil shale mining lease holder relinquishes part of the area of the lease.

(2) The notice making the relinquishment must be accompanied by a report—

(a) describing—

(i) the authorised activities for the mining lease carried out in the part; and
(ii) the results of the activities; and

(b) giving other information prescribed under a regulation.

Maximum penalty—150 penalty units.

(3) The mining lease holder must give a copy of the report to—

(a) the relevant authority to prospect holder; and
(b) anyone who has a current application for a petroleum lease for the part.

Maximum penalty—150 penalty units.

11.3 Surrender report

Section 318CY of the Mineral Resources Act 1989 provides that:

If a coal mining lease holder or an oil shale mining lease holder makes a surrender application it is a condition of the mining lease that the application is accompanied by a report—

(a) describing—

(i) the authorised activities for the lease carried out on the land to which the notice relates; and
(ii) the results of the activities; and
(b) giving other information prescribed under a regulation.

Maximum penalty—150 penalty units.