**Guidelines for Northern Territory
Petroleum Reporting and Data Submission**

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**Glossary of terms**

|  |  |
| --- | --- |
| Terms | Full form |
| AGMS | Airborne Gravity and Magnetic Survey |
| AGS | Airborne Gravity Survey |
| AMS | Airborne Magnetic Survey |
| API | American Petroleum Institute |
| ASCII | American Standard Code for Information Interchange |
| AVI | Audio Video Interleave format |
| CDP | Common Depth Point |
| CRS | Coordinate Reference System |
| CSV | Comma-Separated Values |
| DAT | computer filename extension, typically for a file considered to contain data |
| DME | Department of Mining and Energy |
| DLIS | Digital Log Information Standard |
| DPI | Dots Per Inch |
| EBCDIC | Extended Binary Coded Decimal Interchange Code |
| EOL | End Of Line |
| EP | Exploration Permit |
| ESRI | Environmental Systems Research Institute |
| GeoTIFF | Georeferencing Tag Image File Format |
| GIS | Geographic Information System |
| IOGP | International Association of Oil and Gas Producers |
| JPG/JPEG | Joint Photographic Expert Group |
| LAS | Log ASCII Standard |
| LIS | Log Information Standard |
| LTO | Linear Tape Open |
| LYR | Layer File |
| MB | Megabyte |
| MS | Microsoft |
| NT | Northern Territory |
| NTG | Northern Territory Government |
| NTGS | Northern Territory Geological Survey |
| PDF | Portable Document Format |
| PSDM | Pre-Stack Depth Migration |
| PSTM | Pre-Stack Time Migration |
| SEG-D | Society of Exploration Geophysicists ‘D’ format for seismic field data |
| SEG-Y | Society of Exploration Geophysicists ‘Y’ format for seismic data |
| SHP | Shape File – computer file name extension, contains the geometry data |
| SOL | Start Of Line |
| SP | Shot Point |
| SPS | Shell Processing Support |
| SS | Seismic Survey |
| TAB | Geospatial vector data format developed by MapInfo |
| TIF/TIFF | Tag Image File Format |
| TWT | Two Way Time |
| USB | Universal Serial Bus, also used as short form of USB flash drive or memory stick |
| WCR | Well Completion Report |

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# Introduction

This document should be used in conjunction with the [*Petroleum Regulations 2020*](https://legislation.nt.gov.au/Legislation/PETROLEUM-REGULATIONS-2020)(NT)*[[1]](#footnote-2)* (the Regulations), and the[*Petroleum Act 1984*](https://legislation.nt.gov.au/Legislation/PETROLEUM-ACT-1984)(NT)*[[2]](#footnote-3)* (the Act). The guidelines are issued by the Minister under section 117C of the Act.

The purpose of these guidelines is to assist petroleum titleholders preparing geoscientific reports, data and geological samples for submission to the Department of Mining and Energy (the department) of the Northern Territory Government under the Actand the[*Petroleum (Submerged Lands) Act*](https://legislation.nt.gov.au/Legislation/PETROLEUM-SUBMERGED-LANDS-ACT-1981) *1981* (NT)*[[3]](#footnote-4)*.

The Guidelines provide details about reporting standards and requirements including templates, media and formats required for submission. The following reports, data and samples are covered:

* Drill core and cuttings, including thin sections (section 61L of the Act)
* Fluid and gas samples (section 61L of the Act)
* Well completion reports and data, including well evaluation logs (Schedule 4N and 4P of the Regulations)
* Geophysical and geological survey data (Schedule 4F (4) of the Regulations)
* Geophysical and geological survey acquisition, processing and interpretation reports (Schedule 4F (3) and (5) of the Regulations)
* Geoscientific study and reprocessing of pre-existing data (Schedule 4G of the Regulations)

Reports NOT included in these guidelines are:

* safety and system integrity reports
* well barrier integrity validation reports and notices of well activities
* discovery and resource estimate reports
* daily operations report of well activities
* production operations reports
* weekly geophysical and geological survey reports
* Annual Reports

These Guidelines will be updated as required in accordance with prevailing legislation and changes in technology and industry standards. It is the responsibility of the titleholder to ensure they refer to the latest version when submitting reports or data. In the event of contradiction between the Act and Regulations and these Guidelines, the former will prevail.

Please note that with effect 22 July 2023, late submission of reports and data is subject to a late lodgement fee.

# General Submission Requirements

## Media

The department will accept the following media (non-returnable) for delivery of reports and data:

* E-mail attachments (total file size not to exceed 15MB)
* Portable hard drive
* USB flash drive
* Industry standard tape cartridges – (e.g. IBM 3590, IBM 3592, LTO - for seismic field data)

All media must be individually labelled with the company name; title number(s), report type and date, and drive number, for example 1/5 on both the disk/tape as well as the cover. A list of all files must be included with the report submission (e.g. Appendix 5).

The media used must be appropriate to the volume of the data being submitted.

The titleholder or operator should keep a digital back-up copy of the report and data submitted to the department for at least a year to cover the possibility of physical damage, data loss or corruption.

## Metadata

Metadata should be included in data files, either in a file header at the top of the file of related tabular data (preferred), or as a separate file (e.g. Appendix 4, 6, 08–10).

Metadata should conform to industry standards.

## Operating System

All reports/files and/or data must be compatible with the MS Windows operating system.

## File Compression

Files may be submitted in compressed form (ZIP format). However, they must be self-extracting and should include a full file listing.

## Security

All digital files submitted must not be password protected.

## File Listing

All files submitted must be listed and organised in the hierarchical folder structure where relevant. The list must include the following information:

* Name of the file
* File format (e.g. pdf, xlsx etc.)

For large volume media and a large number of files, the list should be submitted as a separate document in .docx or .xlsx format.

## Naming of Files

Files to be submitted should not contain spaces, full stops, quotes or non-alphanumeric characters in the file names.

Survey file names should conform to the following naming convention:

Name or ‘Area/Location of Survey’\_‘Type of Survey’\_‘Year’\_‘Type of Report’. ‘File Type’

eg McArthur\_Basin\_2D\_SS\_1991\_Interp\_Report.pdf

Area/Location of Survey: Usually basin name.

Type of Survey: 2D or 3D Seismic Survey (SS), Airborne Gravity Survey (AGS), Airborne Magnetic Survey (AMS), Ground Gravity Survey (GGS), Airborne Gravity and Magnetic Survey (AGMS).

Year: Year Survey was completed

Type of Report: Acquisition, Processing, or Interpretation, or others

File Type: .docx or .pdf

Image files submitted separately with the reports must be named in the same manner as above but reflect their number and title as mentioned in the report.

e.g. McArthur\_Basin\_2D\_SS\_Fig2\_DepthtoBasement.jpg

## Submission, Receipt and Quality Control

A transmittal document must accompany all reports and data submissions. Department specified transmittal documents are available on the website:

* [Seismic surveys](https://nt.gov.au/__data/assets/pdf_file/0004/489604/checklist-transmittal-seismic-survey.pdf)[[4]](#footnote-5)
* [Well Completion Reports](https://nt.gov.au/__data/assets/pdf_file/0006/489606/checklist-transmittal-well.pdf)[[5]](#footnote-6)

NTGS will date and sign the transmittal and return it to confirm that we have received the submission.

The Manager, Energy Reporting will follow up confirming compliance and quality control after the submission has been checked. If compliance or quality control issues are identified, re-submission may be required.

## Resubmissions

Reports and data are checked for completeness and compliance with the Regulations and these guidelines. A report is not accepted until all the information and data is provided and it is in a compliant format. If reports and/or data are resubmitted, the resubmissions must be accompanied by a summary of how the new report and/or data differs from the previous submission.

# Geological Sample Offers and Approvals

## Geological Sample Offers

All geological samples must be offered to the department within the required timeframe (section 61L of the Act).

Offers should include details of the samples, including sample ID, hole ID, location, depth interval and reference to relevant data, usually a well completion report and logs, that will assist in evaluating the sample for inclusion in the collection. Criteria for acceptance include whether the samples contain important stratigraphic information, indications of resource potential or show outstanding examples of important geological features.

The Minister will determine what samples or portions of samples are to be submitted and what may be retained by the title holder. The Minister may also determine that the samples be submitted at a later time. No samples may be disposed of without the approval of the Minister (section 61L (6)(b) of the Act).

**Tables 9.1 and 9.2** provide a summary of well report and core/cuttings sample submission dates.

**Drill core and cuttings**

Core and cutting samples should be offered to the department within 6 months after the rig release date of the well from which they are collected. If the offer of samples is accepted, submission must be according to Section 61L of the Act and Schedule 4P of the Regulations. Submission procedures and forms are available on the [website](https://nt.gov.au/industry/energy/petroleum-operations/petroleum-activities-reporting/submit-petroleum-drill-cores-and-cuttings)[[6]](#footnote-7).

**Fluid and gas samples**

Fluid and, gas samples and any other samples should also be offered to the Department as soon as practicable after they are collected (see section 61L (1)(b) of the Act). Details of fluid and gas sample size and containers are included in Table 9.2.

**Thin sections and other samples**

Thin sections or portions of core or cutting samples should be offered within six months of rig release or as soon as practicable if not generated during the first six months after rig release.

Any other samples should be offered as soon as practicable.

## Sending Samples Overseas

Prior approval is required before sending any samples collected during drilling overseas for analysis (section 61L (6) of the Act). Submit requests for approval to NTGS through the Manager, Energy Reporting by providing details of the samples, such as depth and sampling intervals, type of analysis and the name and address of the overseas laboratory.

Operators must fulfil the conditions under which the approval is granted for sending samples for analysis (section 61L (7) of the Act). The conditions could include a requirement to submit progress reports on any geological samples sent overseas for analysis, in addition to the final report of the analysis itself.

# Format Specifications

All reports and data must be submitted in digital format.

## Reports

Reports must be provided as PDFdocuments. This includes the title page, summary, list of contents (with hyperlinks to the headings in the document), references, and any figures and tables that are interleaved with the text, appendices and plans. The entire report can be submitted as a single PDF file if the file size is less than 100MB and data types permit. PDF files consisting of scanned pages of the report are not acceptable.

## Maps, plans and images

All graphics should be provided in PDF, JPG, TIF or GeoTIFF format. Where possible, georeferenced images of maps must be submitted. They must be readable and of good print quality; the colour and spatial data of the original plan or image should be maintained. Resolution should be 300 dpi or better.

Small to medium size graphics can be accommodated in the main report PDF file. If separate files are submitted, they must conform to the naming convention in section 2.7 and be listed in the report.

## Tables

All tables must be included in the relevant report in PDF format. Wherever applicable, tabular data must also be provided as either ASCII or Excel (xlsx) file formats suitable for import into data processing applications. Further details on this can be found in the following section.

## Tabular data

Tabular data are to be supplied as delimited ASCII (TAB delimited preferred) or Excel spreadsheets (xlsx) for analytical data. Files should include column headings, units and explanations of any abbreviations. Acceptable ASCII formats are: TXT, text based DAT, LAS and CSV.

Well, seismic and other geophysical data must be submitted in the formats specified in **Tables 9.1 and, 9.3 -9.5.**

## Spatial (GIS) data

GIS data formats accepted are ESRI shape files (SHP) and MapInfo tab files (TAB). Where practical, the symbology of the GIS displayed data should be provided, e.g. an ESRI layer file (LYR) or legend file (AVI) or MapInfo workspace file (WOR).

# Report Contents

Reports must not include any material that is protected by copyright or prohibited from release by other laws, for example restricted aerial photos and satellite imagery or data from technology embargoed by US International Traffic in Arms Regulations.

Reports must not include any information, language, names or images that may be culturally sensitive, offensive or in confidence to traditional owners, in particular Aboriginal Area Protection Authority reports, locations or images of sacred sites.

A list of all the abbreviations used in the report and their full forms must be included with the report.

## Annual and Final Reports

With the amendments to the Act and the Regulations with effect from 22 June 2023, annual and final reports for each title are no longer covered by these guidelines.

## Well Completion Reports

Both the initial and final well completion reports should include all the items listed in the relevant sections of the Regulations.

**Initial**

The list of requirements for an initial well completion report is outlined in Schedule 4N of the Regulations*.* The report should summarise the drilling process and status of the well and contain well engineering details, location, downhole survey data, logs, sampling and stratigraphic information.

**Final**

The final well completion report must contain geoscientific information and all interpretation. The list of requirements for a final well completion report is outlined in Schedule 4P of the Regulations*.*

**Tables 9.1** provides a summary of well completion reports and data classification, format, media and submission notes.

The preferred template for the Well Index Sheet (Schedule 4P (4)) is in **Appendix 1.**

## Seismic and other Geophysical Survey Reports

Seismic and all other geophysical acquisition, processing and interpretation reports and data must not be combined; they should be submitted as separate files and in separate folder directories. All the reports should be submitted within 12 months of completion of data acquisition i.e., when the survey is completed.

**Geophysical Data, Acquisition and Processing Reports**

The list of requirements for acquisition and processingreports is outlined in Schedule 4F (3) of the Regulations*.*

The list of requirements for geophysical data is outlined in Schedule 4F (4) of the Regulations.

**Final (interpretation)**

The list of requirements for a final (interpretation) report is outlined in Schedule 4F (5) of the Regulations*.*

**Tables 9.3 and 9.5**provide a summary of seismic and other geophysical survey reports and data classification, format, media and submission notes.

## Geological Survey Reports

Geological surveys require an acquisition and processing report outlining data acquisition, processing, samples, observations or measurements and methods of analysis. A final report containing an interpretation of the survey is also required. All reports must be submitted within 12 months after completion of the acquisition of the data as per section 61J (1) and (2) of the Act.

The list of requirements is outlined in Schedule 4F of the Regulations.

**Table 9.5** provides a summary of geological survey reports and data submission requirements.

**Geological Sample Analysis**

Core and cuttings sampling and analysis carried out during drilling should be reported as part of the final well completion report.

If sampling is carried out after the rig release date, the activity is regarded as a geological survey and submission of the reports will be as per section 61J (1) of the Act. The acquisition and processing reports, including details of samples and results will be submitted separately to the interpretation report. For a geological survey, it is acceptable to combine the acquisition and processing reports.

## Geoscientific Study and Reprocessing Reports

**Geoscientific Study**

Geoscientific studies are office-based studies that usually integrate data from various sources. The report on a geoscientific study must give details of the purpose, source data, methodology and processing undertaken during the study, together with the results and interpretation.

The list of requirements for a geoscientific study is outlined in Schedule 4G (1) of the Regulations.

If a geoscientific study is undertaken, a report must be submitted within 12 months after the study is undertaken as per section 61J (3) and (4) of the Act.

**Table 9.5** provides a summary of geoscientific study reports and data submission requirements.

**Reprocessing of pre-existing data**

The list of requirements in the case of reprocessing of existing data is given in Schedule 4G (2) of the Regulations.

Processing and interpretation reports and data must be submitted within 12 months after reprocessing of the data is completed as per section 61J (4) of the Act. The processing report must be separate from the interpretation report.

**Table 9.4** provides a summary of data classification, format, media and submission notes for reprocessing reports and data.

# Confidentiality and Information Release

The release of reports and data, relating to specific activities, depends on the type of the report and data.

Section 61K (9) of the Act specifies the timing for release of initial and final well completion reports.

Section 61L (9) of the Act and Regulations 66Y specify the timing for release of geological samples collected during drilling and after the drilling is completed and rig is released.

Section 62A of the Act specifies the timing for release of information for basic and interpretative reports and data, including geophysical and geological surveys, geoscientific studies and reprocessing of pre-existing data. Basic and interpretative reports and data are defined as follows:

**Basic**

Basic information is any information or data acquired or observed in the field or a laboratory and includes physical and chemical measurements conducted as part of the analysis of fluid, core or cutting samples. All contractor and/or acquisition contractor derived data and results are defined as basic data. All basic data should be included in the relevant reports on activities (e.g. seismic survey acquisition and processing reports) as per section 61J (2)(c) of the Act.

**Interpretative**

Interpretative information is a conclusion or opinion based wholly or partly on basic information analysis or other documentary information. All interpretative reports and data should be lodged separately to basic data as per section 61J (2)(c) of the Act.

Non-exclusive or speculative geophysical surveys are not specifically addressed in the Act.

The following table summarizes the release dates of reports and data.

| ***REPORT / DATA*** | **RELEASE DATE** | **REMARKS** |
| --- | --- | --- |
| **Well Completion Reports and Data** (Initial and Final) | 2 years from the date of rig release | * As per Section 61K (9) of the Act
 |
| **Geophysical Acquisition and Processing Reports and Data**  | 3 years from the completion of the survey | * Basic
* As per sections of the Act:

Section 61J (2)(c) – Submission 12 months after survey completion. Section 62A (3) - Release 2 years after required submission date |
| **Final (interpretation) Geophysical Reports and Data** |  5 years from the completion of the survey | * Interpretative
* As per sections of the Act:

Section 61J (2)(c) – Submission 12 months after survey completionSection 62A (4) – Release 4 years after required submission date |
| **Geological Samples** (Cores, Cuttings, thin sections, liquid and gas samples) | For samples collected during drilling - 2 years from the date of rig release (same time as release of well completion reports) | * As per section 61L (9) of the Act and Regulations 66Y
* Samples can be released at any time after the written consent of the permittee or licensee or after the permittee or licensee has published the details of the samples
 |
| For samples collected after rig release - any time after the final well completion report is released |
| **Geological Survey Acquisition and Processing Reports and Data**  | 3 years after the completion of the survey | * Basic
* As per sections of the Act:

Section 61J (2)(c) – Submission 12 months after survey completion. Section 62A (3) - Release 2 years after required submission date |
| **Geological Survey Final (interpretation) Reports and Data** | 5 years after the completion of the survey | * Interpretative
* As per sections of the Act:

Section 61J (2)(c) – Submission 12 months after survey completionSection 62A (4) – Release 4 years after required submission date |
| **Geoscientific Studies**  | 5 years after the study is undertaken | * Interpretative
* As per sections of the Act:

Section 61J (3) – Submission 12 months after study is undertaken Section 62A (4) – Release 4 years after required submission date |
| **Reprocessed Data; Processing Report**  | 3 years after the completion of the reprocessing | * Basic
* As per sections of the Act:

Section 61J (3) – Submission 12 months after reprocessing is completed Section 62A (3) – Release 2 years after required submission date |
| **Reprocessed Data: Interpretation Report** | 5 years after the completion of the reprocessing | * Interpretative
* As per sections of the Act:

Section 61J (3) – Submission 12 months after study is undertaken Section 62A (4) – Release 4 years after required submission date |

Rig release is considered “completion” for the purposes of calculating data submission due dates and public release dates in the case of well completion reports.

If there is more than one rig release date because multiple rigs were used or a well is re-entered or suspended then dates depend on the original approved drilling proposal.

If multiple drilling phases are required to meet the objective in the approved drilling proposal then rig release date is the end of the last phase.

If the well is finalised as per the original drilling proposal but subsequently the objective is changed and the well is re-entered, then reports, data and samples should be submitted for both activities. Public release of the reports and data related to the first activity will be based on the first rig release date. Public release of additional information from the second activity will be based on the date of the second rig release.

When a title ceases, all reports and data related to that title are released on the day of cessation as per section 62A (6) of the Act.

#  Delivery Address

The following table provides the contact details and addresses for the submission of reports, data and samples. In case of questions or concerns, contact the appropriate person before the submission of reports, data and samples.

| ***REPORT/ DATA*** | **ATTENTION** | **ADDRESS** | **EMAIL & PHONE** |
| --- | --- | --- | --- |
| Core, cuttings and fluid/gas samples offer | Manager, Energy Reporting | Contact via email or phone | * geoscience.info@nt.gov.au
* Ph: +61 8 8999 5149
 |
| Delivery of accepted core and cuttings | Core Facility Manager | Darwin Core FacilityDepartment of Mining and Energy38 Farrell Crescent Winnellie NT 0820 | * core.facility@nt.gov.au
* Ph: +61 8 8984 3036
 |
| Core Facility Manager | Alice Springs Core FacilityDepartment of Mining and Energy 16 Power StreetAlice Springs NT 0870 | * core.facility@nt.gov.au
* Ph: +61 8 8951 8652
 |
| Well Completion Reports and dataGeophysical Survey, Geological Survey, Geoscientific Study and Reprocessing reports and data | Manager, Energy Reporting | **Via courier or hand delivery:** Minerals & Energy InfoCentreNorthern Territory Geological SurveyDepartment of Mining and EnergyLevel 3 Paspalis Centrepoint Building 48-50 Smith Street MallDARWIN NT 0800**Via post** Minerals & Energy InfoCentreNorthern Territory Geological SurveyDepartment of Mining and EnergyGPO Box 4550 DARWIN NT 0801 | * geoscience.info@nt.gov.au

(for files under 15MB)* Ph: +61 8 8999 5149
 |

# Disclaimer

Whilst these Guidelines have been provided to assist titleholders in their compliance with the Actand *Petroleum (Submerged Lands) Act 1981*, it is incumbent on the titleholder to acquaint themselves with the provisions of these Acts. In the event of contradiction between the Act and Regulations and these Guidelines, the former will prevail.

# Reports and Data Submission Tables

## Table 9.1. Well Reports and Data

This table defines the approved well reporting and data formats as stated in the *Schedule 4N and 4P of the Petroleum Regulations* as per Section 61K(3) of the Act*, 22 June 2023*.

| **REPORT / DATA** | **DATA****CLASSIFICATION** | **APPROVED****DATA FORMAT** | **MEDIA** | **SUBMISSION****DUE DATE** | **PETROLEUM ACT 1984**  | **PETROLEUM REGULATIONS 2020** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| WELL COMPLETION REPORTS |
| **Initial**Well Completion Report | Initial | PDF | E-mail, USB Flash Drive or portable hard drive | 3 months after rig release | Due Date61K (2)(a) | Contents Schedule 4N  | * Include daily drilling reports in separate folder.
* Submit Image files and logs in separate folders and list in reports.
 |
| **Final**Well Completion Report | Final | PDF | E-mail, USB Flash Drive or portable hard drive | 12 months after rig release | Due Date61K (2)(b) | ContentsSchedule 4P | * Submit Image files and logs in separate folders and list in reports.
 |
| WELL DATA |
| Raw, edited field data and processed data for all wireline logs, MWD or LWD tools. Includes well test raw data. | Initial | LIS, DLIS, or LAS | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K (2)(a) | ContentsSchedule 4N | * Format supplied as originally recorded with verification listing of the data supplied.
* Include full header information.
* Include raw well data for all tests conducted.
 |
| Log displays | Initial | PDF or TIF | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K (2)(a) | ContentsSchedule 4N | * Continuous page at a readable scale (1:500 and 1:200).
* Minimum resolution 200 dpi.
 |
| Raw, edited field and processed data for borehole deviation surveys. | Initial | LIS, DLIS, ASCII, LAS, or XLSX | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K(2)(a) | Contents Schedule 4N | * Format supplied as originally recorded with verification listing of the data supplied.
* Include full header information.
* For borehole deviation surveys, azimuth reference must state whether it is true, magnetic or grid north.
 |
| Mudlogging data | Initial | ASCII or LAS | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K(2)(a) | Contents Schedule 4N | * With a header giving field names, curve names and units of measure.
 |
| Mudlog display | Initial | TIF or PDF | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K(2)(a) | Contents Schedule 4N | * Continuous page at a readable scale.
* Minimum resolution 200 dpi.
 |
| Velocity surveysa. rawb. processedc. checkshotd. time/depth analysis (If generated) | Initial | DLIS, SEG-Y or ASCII  | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K(2)(a) | Contents Schedule 4N | * Include verification header file.
* SEG-Y Standard
* Version of SEG-Y must be stated (e.g. revision 1.0 or revision 2.0)
 |
| Velocity survey displays | Initial | TIF, JPEG or PDF | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K(2)(a) | Contents Schedule 4N | * Minimum resolution 200 dpi.
 |
| Core, side wall core in natural and UV light photography | Initial | JPEG, PNG or TIF | USB Flash Drive or portable hard drive | 3 months after rig release | Due Date 61K(2)(a) | Contents Schedule 4N | * UV light to be in fluorescent sections
* High-resolution images able to be magnified without pixelation.
* Provide minimum 300dpi image in 64K colours.
* Provide as separate files to allow preservation of original image quality.
 |
| Interpretative log analysis | Final | LIS, DLIS, ASCII, LAS, XLSX | USB Flash Drive or portable hard drive | 12 months after rig release | Due Date 61K (2)(b) | ContentsSchedule 4P | * Include full header information.
 |
| Composite well log | Final | TIF, JPEG or PDF | USB Flash Drive or portable hard drive | 12 months after rig release | Due Date 61K (2)(b) | ContentsSchedule 4P | * Include full header information as per the Australian Requirements for Submission of Digital Exploration Data.
* As part of the Interpretative Well Completion Report (WCR).
* Minimum resolution 200 dpi.
 |
| Petrophysical, geochemical and other sample analyses results | Final | ASCII (Tab delimited), or XLSX | USB Flash Drive or portable hard drive | 12 months after rig release | Due Date 61K (2)(b) | ContentsSchedule 4P | * Include metadata about logs and samples.
* Include methodology followed, equipment and software used.
 |

## Table 9.2. Geological Samples and Overseas Analysis Progress Reports

| **REPORT / SAMPLES** | **DATA****CLASSIFICATION** | **APPROVED DATA FORMAT / QUANTITY** | **SUBMISSION****DUE DATE** | **PETROLEUM ACT 1984** | **PETROLEUM REGULATIONS 2020** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| REPORTS  |
| Progress report of the analysis on cores and cutting sent overseas |  | PDF | Monthly from authorisation date (or as otherwise requested) | A condition of the approval to send overseas 61L (7) |  | * Report of progress of analysis and status of samples until return to Australia.
* Progress reports are not released to the public.
 |
| SAMPLES |
| Core and cuttings from any drilling activities including sidewall core material | Initial | Selected core and cuttings must be lodged in standard modular core boxes/chip trays. | 6 months after rig release  | Offer Due Date 61L (1) (a)Submission Procedure 61L (2) & (3) |  | * Submit core and cutting samples only after the department accepts the offer of the same and according to the instructions by the department.
* Core submission instructions and submission forms are on the [website](https://nt.gov.au/industry/mining-and-petroleum/petroleum-activities/petroleum-activities-reporting/submit-petroleum-drill-cores-and-cuttings)[[7]](#footnote-8)
* Full conventional cores, if cut – fresh core slabbed vertically
* Shall be placed in suitable labelled core tray
* Full diameter core samples may be retained with an approval as per section 61L (4) of the Act
* Core and Cuttings should not be sent out of Australia unless otherwise approved by the department.
 |
| Liquid hydrocarbon samples | Initial | 1 litre | If collected, offer as soon as practicable after completion of the test during which the sample is collected. | Offer Due Date 61L (1) (b)Submission Procedure 61L (2) & (3) |  | * Consultation with the Department (1ltr if available).
* Submit in an API approved safety container.
 |
| Gaseous hydrocarbon samples  | Initial | 300 cm3 | Offer as soon as practicable after completion of the test during which the sample is collected. | Offer Due Date 61L (1) (b)Submission Procedure 61L (2) & (3) |  | * Consultation with the Department (1ltr if available).
* Submit in an API approved safety container.
 |
| Palynological slides and residues, Palaeontological material andPetrological slides  | Final | All material collected | 6 months after rig release or as soon as practicable if not generated during the six months after rig release | Offer Due Date61L (1)(a)Submission Procedure 61L (2) & (3) |  | * If prepared.
 |

##

## Table 9.3. 2D/3D Seismic Survey Reports and Data

This table defines the approved seismic reporting and data formats as stated in the *Petroleum Regulations* (***Schedule 4F***). If data in the latest standard is not available, previous standards will be accepted, provided they are correctly formatted and version is clearly stated.

| **REPORT / DATA** | **SURVEYTYPE** | **DATA CLASSIFICATION** | **APPROVED DATA FORMAT** | **MEDIA** | **SUBMISSION DUE DATE** | **PETROLEUM ACT 1984** | **PETROLEUM REGULATIONS 2020** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SEISMIC SURVEY REPORTS |
| **Acquisition**Report | 2D / 3D | Basic | PDF | E-mail, USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (3) | * Include weekly survey reports as an appendix in separate folder.
* Clearly identify the seismic line prefix and line numbers.
 |
| **Processing**Report | 2D / 3D | Basic | PDF | E-mail, USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J(2)(c)  | Schedule 4F (3) | * Include sample print out of SEGY/EBCDIC header.
* Must define 3D grid definitions for loading into interpretation workstations.
 |
| **Interpretation**Report | 2D / 3D | Interpretative | PDF | E-mail, USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J(2)(c) | Schedule 4F (5) | * Not required for non-exclusive surveys.
 |
| ACQUISITION DATA |
| Raw navigation data | 2D / 3D | Basic | IOGP (P2/11 or later) SPS or ASCII | USB Flash Drive, portable hard drive  | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * IOGP, SPS or ASCII format with all associated data sufficient to reprocess seismic data.
* Examples of SPS (SPS- s, r, x) for 3D surveys are in Appendix 02, 03 and 04.
 |
| Seismic field data | 2D / 3D | Basic | SEG Standard  |  Portable hard drive or 3592 cartridges | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * Include version and revision number of SEG format.
 |
| Seismic support data | 2D / 3D | Basic | PDF/XLSX | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * See Appendix 6 for an example of observer logs.
 |
| Uphole data | 2D / 3D | Basic | ASCII | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * Include line name, shot point numbers, date, elevation, total drill depth and coordinate details plus time depth pairs for each uphole.
* See Appendix 7 for an example of uphole data.
 |
| Itemised field media listing including : a. Tape/Disk ID b. Survey name  c. Line number  d. Shot point range  e. Data type | 2D / 3D | Basic | ASCII/XLSX  | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (3) | * See Appendix 5 for an example of field tape data listing.
* If field data submitted on hard disk also include folder/directory structure.
 |
| PROCESSED DATA  |
| Raw and final stacked data including near/mid and far stacks if generated. | 2D / 3D | Basic | SEG-Y Standard | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * Provide sample print of SEG-Y header with survey processing report (PDF) and include 3D grid definition details used for loading SEG-Y into interpretation workstations, including the CRS.
* Include fully annotated EBCDIC header.
* See Appendix 8 for an example of a SEGY EBCDIC header.
* Version of SEG-Y must be stated (eg. revision 1.0 or revision 2.0).
 |
| Raw and final migrated data including: a. Pre-stack time migration (PSTM) b. Pre-stack depth migration (PSDM) c. Near/mid/far sub-stacks | 2D / 3D | Basic | SEG-Y Standard | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c)  | Schedule 4F (4) | * Include fully annotated EBCDIC header with information on CDP Easting and Northing and CRS.
* See Appendix 8 for an example of a SEGY EBCDIC header.
* Version of SEG-Y must be stated (e.g. revision 1.0 or revision 2.0).
 |
| 2D data subset  | 3D | Basic | SEG-Y Standard | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * Final migrated data.
* At least 5km x 5km grid for validation of data.
* Version of SEG-Y must be stated (e.g. revision 1.0 or revision 2.0).
 |
| Final processed navigation, elevation and bathymetry data | 2D / 3D | Basic | ASCII / IOGP (P1/11 or later) | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * 2D header information of navigation /shot point location data including elevations or bathymetry (if applicable). Header data must include geodetic datum, spheroid, projection and transformation parameters.
* For 3D: Include all data sufficient to re-process seismic data including shot and receiver coordinates.
 |
| Final navigation data in the form of  a. Final processed (grid) bin coordinates b. Polygonal position data (outline of the full fold area) | 3D | Basic | ASCII / IOGP (P6/11 or later) | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * IOGP 3D binning grids
* Listing major inflection points of a polygon describing the location of the survey providing survey name, polygon point, inline/crossline nomenclature, latitude and longitude.
* In (a), ‘grid” coordinates refer to bin centre coordinates.
 |
| Shot point to common depth point (CDP) relationship | 2D | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * Provide sufficient SP/CDP and navigation data for input into workstation interpretation.
* At least SOL and EOL relationships for each line and a listing of equivalent CDP/SP pairs of each line.
 |
| Data for stacking and migration velocities including: a. Line number b. Shot point c. Time versus RMS pairs  | 2D | Basic | ASCII(tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * RMS = Root Mean Square
* See Appendix 09 and 10 for examples of interval and RMS velocities.
 |
| Data for stacking and migration velocities including: a. Bin number b. Time versus RMS pairs | 3D | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (4) | * In (a), inline/x-line or bin/track and x/y navigation values are required.
* In (b), PSTM and PSDM should include INT, Epsilon or DELTA values where appropriate.
 |
| Itemised media listing submitted data | 2D / 3D | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (3) | * Include the following:

Disk ID, Survey name, Line number /In-line and x-lines number, Shot point Range, Common Depth Points (CDPs), Data type.* Also include folder/directory structure
 |
| INTERPRETED DATA |
| Digital images of interpretation maps | 2D / 3D | Interpretative | Geo-referenced TIF or PDF | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (5) | * These include TWT and depth structure maps at key horizons and representative sections showing seismic horizon picks as georeferenced TIF or PDF images.
 |
| Interpreted horizons and faults | 2D / 3D | Interpretative | ASCII | USB Flash Drive or portable hard drive | 12 months after completion of data acquisition | 61J (2)(c) | Schedule 4F (5) | * Provide x, y, z values along with information on CRS
 |

For further details on SEG-Y standard, visit <http://seg.org/Publications/SEG-Technical-Standards> and for IOGP standard, visit <http://www.iogp.org/blog/2015/05/20/iogp-releases-version-1-1-of-geophysical-position-data-exchange-formats/>

## Table 9.4. Reprocessing Reports and Data

| **REPORT / DATA** | **SURVEYTYPE** | **DATA CLASSIFICATION** | **APPROVED DATA FORMAT** | **MEDIA** | **SUBMISSION DUE DATE** | **PETROLEUM ACT 1984** | **PETROLEUM REGULATIONS 2020** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REPROCESSING REPORTS |
| **Reprocessing**Report | Reprocessed | Basic | PDF | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2)  | * Report contents consistent with Schedule 4F (3) of Regulations (acquisition and processing reports).
* Original survey names and lines are to be clearly defined.
* Cleary identify the reprocessing project name, using the same project name for all submissions.
 |
| **Reprocessing Interpretation** Report | Reprocessed | Interpretative | PDF | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Report contents consistent with Schedule 4F (5) of Regulations.
* Provide separate digital images of maps used in the report
 |
| REPROCESSED SEISMIC DATA  |
| Raw and final stacked data including near/mid/far stacks, if generated. (2D and 3D) | Reprocessed 2D / 3D | Basic | SEG-Y Standard | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2)  | * EBCDIC header to be fully annotated.
* Clearly identify original survey name and line prefixes.
* Clearly identify the reprocessing project name and use the same project name for all submissions.
* Version of SEG-Y must be stated (eg. revision 1.0 or revision 2.0).
 |
| Raw and final migrated data including: a. Pre-stack time migration (PSTM) b. Pre-stack depth migration (PSDM) c. Near/mid/far sub-stacks | Reprocessed 2D / 3D | Basic | SEG-Y Standard | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Includes fully annotated EBCDIC header.
* Version of SEG-Y must be stated (e.g. revision 1.0 or revision 2.0).
 |
| 2D data subset  | Reprocessed 3D | Basic | SEG-Y Standard | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Related to non-exclusive surveys.
* Final migrated data.
* At least 5km x 5km grid for validation of data.
 |
| Shot point to CDP relationship (for 2D) | Reprocessed2D | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Provide sufficient SP/CDP and navigation data for workstation loading and interpretation.
 |
| Final processed (grid) bin coordinates for 3D seismic survey | Reprocessed3D | Basic | IOGP(P6/11 or later) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * IOGP 3D binning grids
 |
| Polygonal position data (outline of the full fold area) | Reprocessed 3D | Basic | IOGP(P6/11 or later) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Listing major inflection points of a polygon describing the location of the survey providing survey name, polygon point, inline/crossline nomenclature, latitude and longitude.
 |
| Velocity Data | Reprocessed2D / 3D | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Including bin number and time versus RMS velocity pair for both stacked and migrated velocities.
* Reprocessed PSTM and PSDM should include INT, Epsilon or DELTA values where appropriate.
 |
| Itemised media listing submitted data | Reprocessed 2D / 3D | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * List consistent with Schedule 4F (3) Processing Report (9) of Regulations.
* Include, Disk ID, survey name, line number, shot point range and data type.
* Also include folder/directory structure.
 |
| REPROCESSED NON-SEISMIC DATA  |
| Location data | Reprocessed geophysical or geological data | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Consistent with Schedule 4F (4) of Regulations
 |
| Gridded geophysical data  | Reprocessed geophysical data | Basic | ASEG-GDF2, Gridded data in ASEG GXF or ER Mapper gridded format | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2)  | * Consistent with Schedule 4F (4) of Regulations
 |
| Final processed images | Reprocessed geophysical or geological data | Basic | GEOTIFF, JPEG, PDF, PNG | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Consistent with Schedule 4F (4) of Regulations
 |
| Itemised media listing submitted data | Reprocessed geophysical or geological data | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * List consistent with Schedule 4F (3) Processing Report (9) of Regulations.
* Include Disk ID, survey name, line number, shot point range and data type.
* Also include folder/directory structure.
 |
| Geological data | Reprocessed geological data | Basic | ASCII (tab delimited) or ER Mapper gridded format if relevant | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Consistent with Schedule 4F (4) of Regulations.
 |
| INTERPRETED SEISMIC DATA |
| Digital images of interpretation maps | Reprocessed 2D / 3D | Interpretative | GEOTIFF or Geo-referenced PDF | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2)  | * These include TWT and depth structure maps at key horizons and representative sections showing seismic horizon picks as georeferenced TIF or PDF images.
 |
| INTERPRETED NON-SEISMIC DATA |
| Digital images of interpretation maps and sections | Reprocessed geophysical and other surveys | Interpretative | GEOTIFF, JPEG, PDF | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2)  | * Consistent with Schedule 4F (5) of Regulations
 |
| Models and mapping/spatial datasets | Reprocessed geological data  | Interpretative | ESRI ArcGIS/Shp, MapInfo  | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Consistent with Schedule 4F (5) of Regulations
 |
| Interpreted geological/ analytical results | Reprocessed geological data | Interpretative | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Consistent with Schedule 4F (5) of Regulations
 |

## Table 9.5. Survey (other than seismic) and Geoscientific Study Reports and Data

This table defines the approved survey reporting and data formats as stated in the *Petroleum Regulations 2020 (****Schedule 4F and 4G***).

| **REPORT / DATA** | **DATA CLASSIFICATION** | **APPROVED DATA FORMAT** | **MEDIA** | **SUBMISSION DUE DATE** | **PETROLEUM ACT 1984** | **PETROLEUM REGULATIONS 2020** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Acquisition and Processing Reports | Basic | PDF | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (3)  | * Acquisition and processing reports may be combined together or can be submitted as separate reports.
* Includes report on petrophysical, geochemical and other surveys on core, cuttings and other well samples.
* Refer to table 9.1 for reporting analysis of well samples collected before rig release and included in well completion reports.
 |
| Interpretation Report | Interpretative | PDF | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (5)  | * Conclusions drawn from the interpretation and a detailed list of final products must be given.
* Includes interpretation reports for petrophysical, geochemical and other surveys on core, cuttings and other well surveys.
* Provide georeferenced TIF or PDF of maps and images produced.
 |
| Field/raw geological data and analytical results | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (4) | * Also accept HyLogger data in TSG format
 |
| Final processed geological data | Basic | ASCII (tab delimited) or ER Mapper gridded format if relevant | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | Schedule 4G (2) | * Also accept HyLogger data in TSG format
 |
| Field support and location data (geological and geophysical) | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (4)  | * Provide ASCII files of location data if not already included in the field data.
 |
| Field geophysical data | Basic | ASCII (tab delimited) | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (4)  | * For details and examples of acceptable geophysical survey data submission refer to:

 [Approved Guideline 7 under the NT Mineral Titles Act](https://nt.gov.au/__data/assets/pdf_file/0003/203493/guideline-7-reporting-on-mineral-titles.pdf) [[8]](#footnote-9)and the [Australian Requirements for Submission of Digital Exploration Data](https://www.australiaminerals.gov.au/legislation-regulations-and-guidelines)[[9]](#footnote-10)  |
| Final processed geophysical (gridded) data  | Basic | ASEG-GDF2, Gridded data in ASEG GXF or ER Mapper gridded format  | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (4)  | * For details and examples of acceptable geophysical survey data submission refer to:

 [Approved Guideline 7 under the NT Mineral Titles Act](https://nt.gov.au/__data/assets/pdf_file/0003/203493/guideline-7-reporting-on-mineral-titles.pdf) 8 and the [Australian Requirements for Submission of Digital Exploration Data](https://www.australiaminerals.gov.au/legislation-regulations-and-guidelines) 9 |
| Final processed images | Basic | GEOTIFF, JPEG, PDF, PNG | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (4)  | * Provide separate georeferenced TIF / JPEG or PDF files of maps and images produced.
 |
| Images of interpretation maps and sections | Interpretative | GEOTIFF, JPEG, PDF | USB Flash Drive or portable hard drive | 12 months of completion of data acquisition | 61J (1)(c) | Schedule 4F (4)  | * Provide separate georeferenced TIF / JPEG or PDF files of maps and images produced.
 |
| Models and mapping/ interpreted spatial datasets | Interpretative  | ESRI ArcGIS/Shp, MapInfo | USB Flash Drive or portable hard drive | 12 months after completion of reprocessing of data | 61J (3) | 61J (3) | * Provide GIS files in approved formats
 |
| Geoscientific Study Reports | Interpretative | PDF | Portable hard drive | 12 months after the study is undertaken | 61J (3) | Schedule 4G | * Also provide georeferenced TIF or PDF files of maps and images produced.
 |

# Appendix 1. Well Data Card Template

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Well Name |  | Petroleum Title |  | Basin |  |
| Well Purpose |  | Status |  | Parent WellName, if any |  |
| Spud Date |  | TD Date |  | Rig ReleaseDate |  |
| Primary Objective |  | Rig(s) Name |  |
| Secondary Objective |  | 100K Map Sheet |  |
| Total Depth |  | MD | TVD | Side-Track Kick-offDepth, if applicable |  |
| Driller |  |  |
| Logger |  |  | Drill Datum DF RT KB | Elevation Datum: GL Elevation:Drill Datum Elevation: |
| Location*(GDA94 Datum with GRS80 Ellipsoid using MGA94 Grid)* | Coordinates | Surface | Bottom Hole |
| Latitude Longitude EastingNorthing |  |  |
| Seismic Station, if applicable | Survey | Inline | Xline |
| Zone |
|  |  |  |
|  |
| Shot point |  |  |
| Well Summary |
|  |
| Hole and Casing Design (Drillers Depths) | Drilling Fluid |
| Type | HoleSize | Depth(mMD) | CasingSize | Shoe mMD | Shoe mTVD | Hole Size | Type |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Stratigraphy – Formation Tops (LoggersDepths) | Formation Evaluation |
| Formation | Depth | Run | Measurement | Depth Interval |
| mMD | mTVD | mTVDGL | From (mMD) | To (mMD) |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Mud Logging | Formation Testing (DST) | DFIT |  Yes No |
|  |  |
| HF | Yes No |
| Coring | Hydrocarbon Shows |
|  |  |
| Completion |
|  |



# Appendix 2. Example of SPS (S) data format file

H00 SPS format version number SPS 2.1

H26

H26 Point Record Specification

H26

H26 Item Definition of field Cols Format Min to Max Default Units

H26 ---- ------------------- ---- ------ ---------- ------- -----

H26 1 Record identification 1-1 A1 'R' or 'S' None -

H26 2 Line name 2-11 F10.2 -999999.99 to None -

H26 9999999.99 None -

H26 3 Point number 12-21 F10.2 -999999.99 to None -

H26 9999999.99 None -

H26 + 22-23 Blank Blank

H26 4 Point index 24-24 I1 1-9 1 -

H26 5 Point code (l adj) 25-26 A2 see below None -

H26 6 Static correction 27-30 I4 -999 to 999 Blank Msec

H26 7 Point depth 31-34 F4.1 0-99.9 0 Header

H26 defined

H26 8 Seismic datum 35-38 I4 -999 to 9999 0 Header

H26 defined

H26 9 Uphole time 39-40 I2 0-99 Blank Msec

H26 10 Water depth 41-46 F6.1 0 to 9999.9 Blank Header

H26 defined

H26 11 Map grid easting 47-55 F9.1 None None -

H26 12 Map grid northing 56-65 F10.1 None None -

H26 13 Surface elevation 66-71 F6.1 -999.9 9999.9 None Header

H26 defined

H26 14 Day of year 72-74 I3 1-999 None -

H26 15 Time hhmmss 75-80 3I2 000000-235959 None -

H26

H26 Samples of Point code :

H26 'PM' permanent marker

H26 'KL' kill or omit point

H26 'G1'..'G9' 'H1'..'H9' 'R1'..'R9' receiver codes

H26 'V1'..'V9' 'E1'..'E9' 'A1'..'A9' 'W1'..'W9'

H26 'G1'..'G9' source codes

H26

H26 Note:

H26 Alphanumeric (A) fields are to be left justified and

H26 Numeric (I and F) fields are to be right justified unless specified

H26 otherwise.

H26

H26

H26 1 2 3 4 5 6 7 8

H26 5678901234567890123456789012345678901234567890123456789012345678901234567890

H26

S 221.00 3031.00 1 0 410675.3 8132965.4 266.1278 85603

S 221.00 3031.00 2 0 410675.6 8132965.7 265.4278 85717

S 221.00 3055.00 3 0 410560.6 8133307.6 265.5278 91838

S 221.00 3054.00 3 0 410565.6 8133293.0 266.2278 91944

S 221.00 3053.00 2 0 410570.4 8133279.1 267.2278 92038

S 221.00 3052.00 2 0 410575.8 8133264.2 267.6278 92141

S 221.00 3051.00 2 0 410581.0 8133250.2 267.5278 92213

S 221.00 3050.00 2 0 410585.3 8133236.2 268.5278 92248

S 221.00 3049.00 2 0 410589.5 8133222.3 267.7278 92319

S 221.00 3048.00 2 0 410594.6 8133207.7 268.3278 92352

S 221.00 3047.00 2 0 410598.4 8133193.0 266.6278 92423

S 221.00 3046.00 2 0 410603.6 8133178.9 266.8278 92456

S 221.00 3045.00 2 0 410608.1 8133165.0 267.5278 92528

S 221.00 3044.00 2 0 410613.4 8133151.3 266.3278 92610

# Appendix 3. Example of SPS (R) data format file

H00 SPS format version number SPS 2.1

H26

H26 Point Record Specification

H26

H26 Item Definition of field Cols Format Min to Max Default Units

H26 ---- ------------------- ---- ------ ---------- ------- -----

H26 1 Record identification 1-1 A1 'R' or 'S' None -

H26 2 Line name 2-11 F10.2 -999999.99 to None -

H26 9999999.99 None -

H26 3 Point number 12-21 F10.2 -999999.99 to None -

H26 9999999.99 None -

H26 + 22-23 Blank Blank

H26 4 Point index 24-24 I1 1-9 1 -

H26 5 Point code (l adj) 25-26 A2 see below None -

H26 6 Static correction 27-30 I4 -999 to 999 Blank Msec

H26 7 Point depth 31-34 F4.1 0-99.9 0 Header

H26 defined

H26 8 Seismic datum 35-38 I4 -999 to 9999 0 Header

H26 defined

H26 9 Uphole time 39-40 I2 0-99 Blank Msec

H26 10 Water depth 41-46 F6.1 0 to 9999.9 Blank Header

H26 defined

H26 11 Map grid easting 47-55 F9.1 None None -

H26 12 Map grid northing 56-65 F10.1 None None -

H26 13 Surface elevation 66-71 F6.1 -999.9 9999.9 None Header

H26 defined

H26 14 Day of year 72-74 I3 1-999 None -

H26 15 Time hhmmss 75-80 3I2 000000-235959 None -

H26

H26 Samples of Point code :

H26 'PM' permanent marker

H26 'KL' kill or omit point

H26 'G1'..'G9' 'H1'..'H9' 'R1'..'R9' receiver codes

H26 'V1'..'V9' 'E1'..'E9' 'A1'..'A9' 'W1'..'W9'

H26 'G1'..'G9' source codes

H26

H26 Note:

H26 Alphanumeric (A) fields are to be left justified and

H26 Numeric (I and F) fields are to be right justified unless specified

H26 otherwise.

H26

H26

H26 1 2 3 4 5 6 7 8

H26 5678901234567890123456789012345678901234567890123456789012345678901234567890

H26

R 221.00 2231.00 1p1 414479.5 8121577.2 235.5278141928

R 221.00 2232.00 1p1 414474.7 8121591.5 235.5278141900

R 221.00 2233.00 1p1 414470.1 8121606.1 235.6278141833

R 221.00 2234.00 1p1 414465.4 8121620.3 235.7278141804

R 221.00 2235.00 1p1 414461.1 8121634.3 235.7278141736

R 221.00 2236.00 1p1 414456.4 8121648.7 235.8278141704

R 221.00 2237.00 1p1 414451.5 8121662.9 235.8278141631

R 221.00 2238.00 1p1 414446.4 8121677.1 235.9278141559

R 221.00 2239.00 1p1 414441.1 8121691.4 235.9278141531

R 221.00 2240.00 1p1 414435.9 8121705.3 236.0278141459

R 221.00 2241.00 1p1 414430.8 8121719.5 235.9278141426

R 221.00 2242.00 1p1 414425.7 8121733.5 236.0278141353

R 221.00 2243.00 1p1 414421.8 8121748.3 236.1278141321

# Appendix 4. Example of SPS (X) data format file

H00 SPS format version number SPS 2.1

H26

H26 Relation Record Specification

H26

H26 Item Definition of field Cols Format Min to Max Default Units

H26 ---- ------------------- ---- ------ ---------- ------- -----

H26 1 Record identification 1-1 A1 'X' None -

H26 2 Field tape number (r adj) 2-7 3A2 Free None -

H26 3 Field record number 8-15 I8 0-16777216 None -

H26 4 Field record increment 16-16 I1 1-9 1 -

H26 5 Instrument code 17-17 A1 1-9 1 -

H26 6 Line name (l adj) 18-27 F10.2 -999999.99 to None -

H26 6 9999999.99

H26 7 Point number (r adj) 28-37 F10.2 -999999.99 to None -

H26 7 9999999.99

H26 8 Point index 38-38 I1 1-9 1 -

H26 9 From channel 39-43 I5 1-99999 None -

H26 10 To channel 44-48 I5 1-99999 None -

H26 11 Channel increment 49-49 I1 1-9 None -

H26 12 Line name (r adj) 50-59 F10.2 -999999.99 to None -

H26 12 9999999.99

H26 13 From receiver (r adj) 60-69 F10.2 -999999.99 to None -

H26 13 9999999.99

H26 14 To receiver (r adj) 70-79 F10.2 no default None -

H26 15 Receiver Index 80-80 I1 1-9 1 -

H26

H26 Note :

H26 Alphanumeric (A) fields are to be left justified and

H26 Numeric (I and F) field are to be right justified unless

H26 specified otherwise.

H26

H26 1 2 3 4 5 6 7 8

H26 5678901234567890123456789012345678901234567890123456789012345678901234567890

H26

X 18 1443610 221.00 3031.001 1 5601 221.00 2752.00 3311.001

X 18 1443810 221.00 3031.002 1 5601 221.00 2752.00 3311.001

X 18 1444010 221.00 3055.003 1 5601 221.00 2776.00 3335.001

X 18 1444210 221.00 3054.003 1 5601 221.00 2775.00 3334.001

X 18 1444410 221.00 3053.002 1 5601 221.00 2774.00 3333.001

X 18 1444610 221.00 3052.002 1 5601 221.00 2773.00 3332.001

X 18 1444810 221.00 3051.002 1 5601 221.00 2772.00 3331.001

X 18 1445010 221.00 3050.002 1 5601 221.00 2771.00 3330.001

X 18 1445210 221.00 3049.002 1 5601 221.00 2770.00 3329.001

X 18 1445410 221.00 3048.002 1 5601 221.00 2769.00 3328.001

X 18 1445610 221.00 3047.002 1 5601 221.00 2768.00 3327.001

X 18 1445810 221.00 3046.002 1 5601 221.00 2767.00 3326.001

X 18 1446010 221.00 3045.002 1 5601 221.00 2766.00 3325.001

X 18 1446210 221.00 3044.002 1 5601 221.00 2765.00 3324.001

X 18 1446410 221.00 3043.002 1 5601 221.00 2764.00 3323.001

X 18 1446610 221.00 3042.002 1 5601 221.00 2763.00 3322.001

X 18 1446810 221.00 3041.002 1 5601 221.00 2762.00 3321.001

X 18 1447010 221.00 3040.002 1 5601 221.00 2761.00 3320.001

X 18 1447210 221.00 3039.002 1 5601 221.00 2760.00 3319.001

X 18 1447410 221.00 3038.001 1 5601 221.00 2759.00 3318.001

X 18 1447610 221.00 3037.001 1 5601 221.00 2758.00 3317.001

X 18 1447810 221.00 3036.001 1 5601 221.00 2757.00 3316.001

X 18 1448010 221.00 3035.001 1 5601 221.00 2756.00 3315.001

X 18 1448210 221.00 3034.001 1 5601 221.00 2755.00 3314.001

# Appendix 5. Example of Seismic Data Listings

**Survey Data Field and Processed Tape Listing**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Box Number** | **Field Tape Number** | **Sequence****(Optional)** | **Line Number** | **First****SP** | **Last****SP** | **FF** | **LF** | **Date Recorded** | **Format** | **Media** | **Comments** |
|  |  |  |  |  |  |  |  |  |  |  |  |

**Survey Support Data Listing**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Box Number** | **Report** | **Item** | **Description** | **Data****Type** | **Format** | **Media** | **Comments** |
|  |  |  |  |  |  |  |  |

# Appendix 6. Example of Observer Logs

Observer\_Report\_Results : [

----------------------------- TERREX SEISMIC CREW 403-------------------------

CLIENT:CENTRAL PETROLEUM LTD

PROSPECT:2008 BLAMORE TRACK 2D SEISMIC SURVEY - EP-93 - PEDIRKA BASIN N.T.

FIELD FILTER:0.8 NQ LIN PHASE SAMPLE RATE:2ms. RECORD LENGTH:6 SECONDS

PRE-AMP GAIN:24db. SWEEP FREQUENCY: 5-70Hz SWEEP LENGTH:12 SECONDS

VIB ARRAY: 3 VIBES IN LINE , 1 SWEEPS PER VP,12.5 MTR PAD TO PAD.

PHONE ARRAY: 12 PHONES OVER 25.0m CENTERED ON PEG. GEOPHONE FREQUENCY:10Hz.

STATION INTERVAL:25.0m. SOURCE INTERVAL:25.0m

DATE: Apr 6 2008 PAGE 1

------------------------------------------------------------------------------

TIME FILE TAPE LINE SHOT POINT LIVE CHANNELS

08:58:10 9000 6 CB08-01 0.0 1=1922-2349 (1-428)

08:58:38 9001 6 CB08-01 0.0 1=1922-2349 (1-428)

08:58:58 9002 6 CB08-01 0.0 1=1922-2349 (1-428)

08:59:11 9003 6 CB08-01 0.0 1=1922-2349 (1-428)

08:59:23 9004 6 CB08-01 0.0 1=1922-2349 (1-428)

08:59:58 9005 6 CB08-01 0.0 1=1922-2349 (1-428)

09:00:29 9006 6 CB08-01 0.0 1=1922-2349 (1-428)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Instrument and Spread tests.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Field Noise. FILE 9000

Field Impulse. FILE 9001

Field Leakage FILE 9002

Internal Impulse. FILE 9003

Distortion. FILE 9004

RMS. FILE 9005

Crosstalk. FILE 9006

TIME FILE TAPE LINE SHOT POINT SPREAD

09:03:12 712 6 CB08-01 2199.5 1=2050-2349 (1-300)

09:03:50 713 6 CB08-01 2198.5 1=2049-2348 (1-300)

09:04:27 714 6 CB08-01 2197.5 1=2048-2347 (1-300)

09:05:01 715 6 CB08-01 2196.5 1=2047-2346 (1-300)

09:05:35 716 6 CB08-01 2195.5 1=2046-2345 (1-300)

09:06:09 717 6 CB08-01 2194.5 1=2045-2344 (1-300)

09:06:44 718 6 CB08-01 2193.5 1=2044-2343 (1-300)

09:07:20 719 6 CB08-01 2192.5 1=2043-2342 (1-300)

09:07:52 720 6 CB08-01 2191.5 1=2042-2341 (1-300)

09:08:27 721 6 CB08-01 2190.5 1=2041-2340 (1-300)

09:09:01 722 6 CB08-01 2189.5 1=2040-2339 (1-300)

09:09:35 723 6 CB08-01 2188.5 1=2039-2338 (1-300)

09:10:10 724 6 CB08-01 2187.5 1=2038-2337 (1-300)

09:10:44 725 6 CB08-01 2186.5 1=2037-2336 (1-300)

09:11:17 726 6 CB08-01 2185.5 1=2036-2335 (1-300)

09:11:52 727 6 CB08-01 2184.5 1=2035-2334 (1-300)

09:12:26 728 6 CB08-01 2183.5 1=2034-2333 (1-300)

09:13:00 729 6 CB08-01 2182.5 1=2033-2332 (1-300)

09:13:35 730 6 CB08-01 2181.5 1=2032-2331 (1-300)

09:14:10 731 6 CB08-01 2180.5 1=2031-2330 (1-300)

09:14:50 732 6 CB08-01 2179.5 1=2030-2329 (1-300)

09:15:24 733 6 CB08-01 2178.5 1=2029-2328 (1-300)

09:15:58 734 6 CB08-01 2177.5 1=2028-2327 (1-300)

09:16:33 735 6 CB08-01 2176.5 1=2027-2326 (1-300)

# Appendix 7. Example of data listing for uphole data

|  |  |
| --- | --- |
| **UPHOLES DATA BASE** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | **LAYER 1** | **LAYER 2** |
| **UPHOLE** | **DATE** | **LINE** | **STATION** | **EAST** | **SOUTH** | **ELEV** | **INTERSECTION** | **STATION** | **DEPTH LOGGED (m)** | **Bot Layer Depth (m)** | **Layer Thick (m)** | **Layer Veloc (m/sec)** | **Bot Layer Depth (m)** | **Layer Thick (m)** | **Layer Veloc (m/sec)** |
|  |  | **Seismic Survey Name** |  |  |  |  |  |  |  |
| 96 | 22-Oct-11 | HAL-2011-202 | 3702 | 428821.00 | 8186996.0 | 266.0 | HAL-2011-211 | 2698 | 80.0 | 2.0 | 2.0 | 409.0 | 60.0 | 58.0 | 1431.0 |
| 101 | 20-Oct-11 | HAL-2011-204 | 3978 | 434117.00 | 8180681.0 | 297.0 |   |   | 132.0 | 2.0 | 2.0 | 364.0 | 15.0 | 13.0 | 929.0 |
| 104 | 19-Oct-11 | HAL-2011-204 | 2545 | 412705.00 | 8182658.0 | 303.0 | HAL-2011-205 |   | 124.0 | 32.0 | 32.0 | 800.0 | 96.0 | 64.0 | 1760.0 |
| 120 | 15-Oct-11 | HAL-2011-211 | 2005 | 427876.00 | 8176885.0 | 312.0 |   |   | 107.0 | 2.0 | 2.0 | 426.0 | 14.0 | 12.0 | 2045.0 |
| 121 | 21-Oct-11 | HAL-2011-204 | 3559 | 427863.00 | 8181249.0 | 279.0 | HAL-2011-211 | 2300 | 100.0 | 2.0 | 2.0 | 239.0 | 12.0 | 10.0 | 2582.0 |
| 132 | 30-Oct-11 | HAL-2011-108E | 2285 | 379619.00 | 8201710.0 | 227.0 |   |   | 59.0 | 6.0 | 6.0 | 751.0 | 42.0 | 36.0 | 1416.0 |
| 133 | 27-Oct-11 | HAL-2011-108E | 1618 | 369856.00 | 8203853.0 | 232.0 |   |   | 59.0 | 2.0 | 2.0 | 510.0 | 12.0 | 10.0 | 1232.0 |

# Appendix 8. Presentation of data in SEGY EBCDIC header for processed seismic data

C 1 CLIENT: CENTRAL PETROLEUM 2008 BALMORE TRACK 2D SEISMIC SURVEY

C 2 LINE CB08-01 FINAL STACK

C 3 RECORDED BY TERREX SEISMIC CREW 402 FEB 2008

C 4 SOURCE: 3 VIB IN LINE 1 SWEEP PER VP 12.5M PAD-PAD

C 5 VP INT : 25M GROUP INT : 25M

C 6 RECORD LENGTH : 6S SWEEP LENGTH 12S

C 7 GEOPHONE ARRAY: 12 PHONES OVER 25M CENTRED ON STATION

C 8 SPLIT SPREAD 300 CHANNELS TAPE FORMAT: SEGD

C 9 2MS SAMPLE RATE 150 NOMINAL FOLD COVERAGE

C10 PROJECTION : MGA94 Zone 53

C11 SURVEY DATUM : GEOCENTRIC DATUM OF AUSTRALIA 1994 (GDA94)

C12 \*\*\*\* PROCESSING SEQUENCE \*\*\*\*

C13 TRANSCRIPTION FROM SEGD TO FUGRO INTERNAL FORMAT.

C14 ZERO TO MINIMUM PHASE CONVERSION

C15 AMPLITUDE RECOVERY : SPHERICAL DIVERGENCE CORRECTION

C16 FK VELOCITY FILTER 1800 M/S

C17 STATICS : FLOATING DATUM CORRECTION. GMG REFRACTION STATICS

C18 CDP SORT + SURFACE CONSISTENT DECONVOLUTION 12MS GAP

C19 1ST PASS VELOCITY ANALYSIS : 2 KM INTERVAL

C20 1ST PASS RESIDUAL STATICS

C21 2ND PASS VELOCITY ANALYSIS : 1 KM INTERVAL

C22 2ND PASS RESIDUAL STATICS

C23

C24

C25 NMO - MUTE - SCALING

C26 FLOATING DATUM CORRECTION : NEW TIME ORIGIN OF -200MS

C27 CDP TRIM STATIC

C28 STACK SHELL WEIGHTED

C29 BANDPASS FILTER + SCALING

C30

C31

C32 BYTE DESCRIPTION BYTE DESCRIPTION

C33 ----------------------------------------------------------------------

C34 17-20 (32-BIT) SP NUMBER 91-92 (16-BIT) WEATHERING VEL

C35 21-24 (32-BIT) CDP NUMBER 93-94 (16-BIT) REFRACTOR VEL

C36 41-44 (32-BIT) ELEVATION 101-102 (16-BIT) RECEIVER STATIC

C37 193-196 (32-BIT) CDP EASTING 103-104 (16-BIT) DATUM STATIC

C38 197-200 (32-BIT) CDP NORTHING 109-110 (16-BIT) TIME OF FIRST SAMPLE

C39 TAPE POLARITY: NORMAL

C40 CDP - SP RELATIONSHIP CONV,3,2909,-2

C41 CDPS 3 TO 5425 VPS 176 TO 2910

# Appendix 9. Example of INT Velocity File (Interval Velocity in Time)

Client: Central Petroleum

Project: supegyPr\_002

Contractor: DownUnder GeoSolutions

Date: October 2012

Velocity type: Interval Velocity in Time

Datum: GDA94, UTM Zone: UTM53, Central Meridian : 135

Statics: Two way time corrected to mean sea level: No

 Gun and Cable statics applied: No

 Tidal statics applied: No

3D Grid details:

inline crossline X Y

1000 5000 599413.78 7382223.37

1000 5309 595633.30 7375486.63

1448 5000 609180.96 7376742.28

1448 5309 605400.48 7370005.55

Internal X bin size (m)= 25.0

Internal Y bin size (m)= 25.0

Azimuth (internal Y East of North) degrees = 209.09 degrees

Velocity Format Column details:

LINE=INLINE

 cols 11-22 line number (left justified, before first SPNT of each and every new line only)

SPNT=XLINE

 cols 11-25 3D cross line number (right justified)

 cols 30-38 bin centre x coordinates (right justified)

 cols 42-51 bin centre y coordinates (right justified)

 cols 54-65 3D inline number (right justified)

VELF

 cols 21-25 time in msec (right justified)

 cols 26-31 velocity m/sec (right justified)

 cols 32-37 time in msec (right justified)

 cols 38-43 velocity m/sec (right justified)

 cols 44-49 time in msec (right justified)

 cols 50-55 velocity m/sec (right justified)

 cols 56-61 time in msec (right justified)

 cols 62-67 velocity m/sec (right justified)

 cols 68-73 time in msec (right justified)

 cols 74-79 velocity m/sec (right justified)

 1 2 3 4 5 6 7 8

12345678901234567890123456789012345678901234567890123456789012345678901234567890

LINE 1000

SPNT 5080 598435.01 7380479.23 1000

VELF 0 3223 295 4165 598 5253 738 4975 1152 4912

VELF 1920 6604 6000 7999

SPNT 5120 597945.63 7379607.16 1000

VELF 0 3224 315 4151 472 4901 680 5067 980 4351

VELF 1086 4664 1276 5221 1966 6519 6000 8170

SPNT 5160 597456.25 7378735.09 1000

VELF 0 3221 370 4285 514 4826 758 5221 952 4352

VELF 1126 4622 1188 4764 1380 5523 1736 6224 2046 6430

VELF 6000 7960

# Appendix 10. Example of RMS Velocity File (Root Mean Square in Time)

Client: Central Petroleum

Project: supegyPr\_002

Contractor: DownUnder GeoSolutions

Date: October 2012

Velocity type: RMS Velocity in Time

Datum: GDA94, UTM Zone: UTM53, Central Meridian : 135

Statics: Two way time corrected to mean sea level: No

 Gun and Cable statics applied: No

 Tidal statics applied: No

3D Grid details:

inline crossline X Y

1000 5000 599413.78 7382223.37

1000 5309 595633.30 7375486.63

1448 5000 609180.96 7376742.28

1448 5309 605400.48 7370005.55

Internal X bin size (m)= 25.0

Internal Y bin size (m)= 25.0

Azimuth (internal Y East of North) degrees = 209.09 degrees

Velocity Format Column details:

LINE=INLINE

 cols 11-22 line number (left justified, before first SPNT of each and every new line only)

SPNT=XLINE

 cols 11-25 3D cross line number (right justified)

 cols 30-38 bin centre x coordinates (right justified)

 cols 42-51 bin centre y coordinates (right justified)

 cols 54-65 3D inline number (right justified)

VELF

 cols 21-25 time in msec (right justified)

 cols 26-31 velocity m/sec (right justified)

 cols 32-37 time in msec (right justified)

 cols 38-43 velocity m/sec (right justified)

 cols 44-49 time in msec (right justified)

 cols 50-55 velocity m/sec (right justified)

 cols 56-61 time in msec (right justified)

 cols 62-67 velocity m/sec (right justified)

 cols 68-73 time in msec (right justified)

 cols 74-79 velocity m/sec (right justified)

 1 2 3 4 5 6 7 8

12345678901234567890123456789012345678901234567890123456789012345678901234567890

VELF 0 0

LINE 1000

SPNT 5080 598435.00 7380479.00 1000

VELF 0 3200 295 3300 598 4137 738 4537 1152 4500

VELF 1920 5200 6000 7000

SPNT 5120 597945.00 7379607.00 1000

VELF 0 3200 315 3300 472 3725 680 4350 980 4425

VELF 1086 4425 1276 4575 1966 5062 6000 7000

SPNT 5160 597456.00 7378735.00 1000

VELF 0 3200 370 3175 514 3512 758 4362 952 4512

VELF 1126 4575 1188 4425 1380 4625 1736 4900 2046 5175

1. https://legislation.nt.gov.au/Legislation/PETROLEUM-REGULATIONS-2020 [↑](#footnote-ref-2)
2. https://legislation.nt.gov.au/Legislation/PETROLEUM-ACT-1984 [↑](#footnote-ref-3)
3. https://legislation.nt.gov.au/Legislation/PETROLEUM-SUBMERGED-LANDS-ACT-1981 [↑](#footnote-ref-4)
4. https://nt.gov.au/\_\_data/assets/pdf\_file/0004/489604/checklist-transmittal-seismic-survey.pdf [↑](#footnote-ref-5)
5. https://nt.gov.au/\_\_data/assets/pdf\_file/0006/489606/checklist-transmittal-well.pdf [↑](#footnote-ref-6)
6. https://nt.gov.au/industry/energy/petroleum-operations/petroleum-activities-reporting/submit-petroleum-drill-cores-and-cuttings [↑](#footnote-ref-7)
7. https://nt.gov.au/industry/mining-and-petroleum/petroleum-activities/petroleum-activities-reporting/submit-petroleum-drill-cores-and-cuttings [↑](#footnote-ref-8)
8. https://nt.gov.au/\_\_data/assets/pdf\_file/0003/203493/guideline-7-reporting-on-mineral-titles.pdf [↑](#footnote-ref-9)
9. https://www.australiaminerals.gov.au/legislation-regulations-and-guidelines [↑](#footnote-ref-10)