

ANNEX "B"

DATA TO BE SUBMITTED BY LICENSEE/CONTRACTOR

1. Monthly, quarterly and annual progress reports.
2. Reports on magnetic and gravity surveys and any other geological or geophysical surveys performed, including where applicable but not limited to:
 - (a) Flight path maps in 1:50,000 and 1:100,000 scales.
 - (b) Magnetic recording tapes of field data on a medium to be specified by the Minister.
 - (c) Daily records of the earth's magnetic fields.
 - (d) Specifications of equipment used in magnetic and gravity surveys and any other geological or geophysical survey performed.
 - (e) Reports on the interpretation of items (a), (b) and (c) together with maps showing the intensity of magnetic and gravity readings, depth of basement and structural maps in 1:50,000 and 1:100,000 scales, in transparencies, paper prints and in digital form.
 - (f) Magnetic tapes of the processed and navigation data on a medium and format specified by the Minister.

Reports on items (a), (b), (c) and (d) shall be submitted within thirty (30) days after completion of the magnetic and gravity surveys, and reports on item (e) shall be submitted within ninety (90) days following preparation.

3. Reports on geological surveys conducted both within and outside the Licensed Area in respect of Petroleum Operations under the Licence, to be submitted within ninety (90) days after completion of such surveys, including but not limited to:

- (a) Geological maps in 1:10,000 and 1:100,000 scales and maps showing the location of the collection of samples in 1:25,000 scale in transparencies, paper prints and digital form.
 - (b) Analysis of Petroleum reservoirs specifying all reservoir parameters including but not limited to the rock types, petrology, permeability and porosity.
 - (c) Petroleum source rock analyses.
 - (d) Paleontology analysis, stratigraphy and environment of deposition.
4. Reports on seismic data and interpretations thereof, including **where applicable** the following in relation to seismic surveys:
- (a) Source and receiver pattern diagrams.
 - (b) Specifications of equipment used in seismic surveys.
 - (c) Maps showing permanent markers used in the survey in 1:50,000 scale.
 - (d) Seismic shot point maps in 1:50,000 and 1:250,000 scales, transparencies, paper prints and in digital form.
 - (e) Source wave form characteristic analysis.
 - (f) Field and processed navigation tapes and seismic final processed tapes; and reprocessed tapes if they have been used for reinterpretation and/or location of well(s). These data are to be supplied on a medium and in a format specified by the Minister on approval of these surveys.
 - (g) 2D Seismic sections of all seismic data processing displays of every seismic line, in

one (1) second per ten (10) centimetre scale, including transparencies and one paper print. The same requirement applies to any reprocessed lines.

- (h) Root mean square velocity and interval velocity analysis of shot points carried out on each line.
- (i) Seismic interpretation of every horizon that Licensee has interpreted as well as any thickness, facies, environment, maturity and any other interpretive maps prepared by the Licensee.
- (j) Structural contour maps based on the interpretations in (h) and (i) at the scale utilized by Licensee or a scale specified by the Minister.
- (k) For 3D seismic surveys the Minister retains the right to be supplied with a copy of the field tapes including navigation tapes and observer reports at any time in the life of the Licence at Licensee's cost.
- (l) 3D seismic final processed data including navigation to be supplied on a tape medium and format specified by the Minister on approval of the survey.
- (m) 3D seismic sections at a spacing to be specified by the Minister and at a scale to be specified by the Minister. One (1) paper and one (1) film of each specified seismic line.

Reports on items (a), (b), (c), (e) (f), (g) and (h) shall be submitted within sixty (60) days after completion of the processing of each seismic line.

Reports on items (i) and (j) shall be submitted upon completion of each seismic interpretation.

5. Reports on drilling operations including the following:

- (a) a daily report by 13:00 hours of the following day, which must contain the following details where applicable:
- (i) Name of well and of Licensee.
 - (ii) Date and time of operation.
 - (iii) Name of drilling rig.
 - (iv) Days of previous operation on the particular well.
 - (v) Depth of well at time of report.
 - (vi) Diameter of well.
 - (vii) Type and size of drill bit.
 - (viii) Deviation of well.
 - (ix) Type, weight, and specification of drilling mud.
 - (x) Operations and problems during previous twenty-four (24) hours.
 - (xi) Lithology within previous twenty-four (24) hours.
 - (xii) Petroleum found.
 - (xiii) Type, size, weight and depth of casing.
 - (xiv) Cementing.
 - (xv) Pressure test of petroleum blow-out preventer, casing, and other related equipment.
 - (xvi) Well-logging, including type and depth of logging.
 - (xvii) Core sampling.
 - (xviii) Flow tests and the depth thereof.
 - (xix) Well abandonment.
 - (xx) Drilling rig released.
 - (xxi) Conditions of weather.

- (b) Two (2) complete sets of well logs at 1:500 and 1:200 scales spliced into continuous logs, both paper print and digital form, to be submitted within twenty (20) days after the completion of well logging operations (in addition to well logs which the Licensee supplies while drilling).
- (c) Well completion reports to be submitted within sixty (60) days after completion of drilling. These reports shall contain a well completion log, a complete description of the results of the well, the results of tests and the details of geology and lithology. The well completion log will be at 1:1000 scale and should include at least the following:
 - (i) log curves;
 - (ii) lithologic plot and description;
 - (iii) formation tops;
 - (iv) velocity information;
 - (v) shows and tests;
 - (vi) casing and plugs;
 - (vii) cores;
 - (viii) paleontologic and palynologic markers;
 - (ix) environment of deposition;
 - (x) any other information which Licensee has plotted on its own 1:1000 scale logs which contributes to an interpretation of the results of the well.

The well completion report shall also include where applicable:

- (i) reports on analysis of any samples taken;
- (ii) reports on any well tests conducted;
- (iii) analysis of Petroleum and water;
- (iv) pressure analysis.

6. Reports on production of Petroleum, including the following:

- (a) A daily report by 13:00 hours of the following day, with the following details:

- (i) Quantity of Petroleum produced.
 - (ii) Quantity of Petroleum used in Petroleum Operations.
 - (iii) Quantity of Petroleum measured at measurement point(s).
 - (v) Quantity of Petroleum flared.
 - (vi) Tubing and casing pressure.
 - (vii) Choke size.
 - (viii) Well test.
 - (ix) Operations during the previous twenty-four (24) hours.
- (b) Reports detailing the results obtained with respect to the following shall be submitted immediately they become available after the relevant analyses are carried out:
- (i) Gravity and viscosity.
 - (ii) Vapour pressure.
 - (iii) Pour point.
 - (iv) Dew-point and composition of Natural Gas.
 - (v) Impurities.
 - (vi) Water produced and results of the analysis.
- (c) Workover report, giving reasons, length and details of workover within thirty (30) days after the completion of the workover.
- (d) Stimulation report, stating methods and details of materials used for the purpose within thirty (30) days after the completion of operations.
- (e) Bottom hole pressure test within fifteen (15) days after the completion of the test.
- (f) Production test report including details of calculation within thirty (30) days after completion of the test.
- (g) Structural contour maps for all producing horizons together with well location, reserve assessment, and detailed calculation and reservoir simulation report, if, and when prepared within thirty (30) days prior to production, and every six (6) months during production in the event of change.

7. Reports on investigation of Petroleum reserves, Field limits and related economic evaluations as required under the Licence and the Regulations.
8. Safety programmes and reports on accidents.
9. Representative samples of all cores and fluids extracted from wells drilled in the Licence Area.
10. Such other samples, data, reports, plans, designs, interpretations or information as the Minister may request including anything for which the cost was recorded by the Licensee in its books as a cost of Petroleum Operations.
11. Revisions of reports, data, analyses or processing shall be submitted to the Minister within thirty (30) days of completion.
12. **All reports, maps and log data are required to be submitted in digital format along with any of the hard copies requested herein.**