

SIXTH SCHEDULE

REPUBLIC OF SOUTH SUDAN

MINISTRY OF PETROLEUM, MINING

THE MINING ACT, 2012

THE MINING (MINERAL TITLE) REGULATIONS 2015

Guidelines should be prepared by the Directorate of Mineral Development for the preparation of all reports required to be prepared by Titleholders. An example is provided below:

157. Guideline for Exploration Licence Annual Report Organisation and Content

- (1) An Exploration Licence Annual Report shall,
 - (a) be written on a good grade of bond paper, with each page of text numbered;
 - (b) consist of (A4) size pages, except for drill logs, graphs, maps or other illustrations, which will be presented at a size and on a scale sufficient to show clearly all material information which the map, log, graph or illustration purports to show (a “Sufficient Size and Scale”);
 - (c) where these Regulations require inclusion of a map, log, graph or other illustration, such map, log, graph or other illustration shall be presented at a size and on a scale sufficient to show clearly all material information which the map, log, graph or illustration is required to show (a “Sufficient Size and Scale”)
 - (d) include digital copies of all data, maps, logs, graphs and illustrations in formats which can be easily imported into commonly used GIS or graphics software as appropriate
 - (e) express all measurements and map scales in metric units;
 - (f) be bound in durable binders that permit easy removal of the text; and
 - (g) be attested by a eligible geologist, geoscientist or a mining engineer (with experience in exploration and holding a bachelor’s degree or equivalent from a reputable university or school of mines) at the end of the report with the following words - "I certify that the work has been carried out under my supervision and this is an accurate report of the results obtained".
- (2) Exploration Licence annual reports on separate Exploration Licences or groups of contiguous Exploration Licences shall be bound in separate binders.

(3) An Exploration Annual Report shall contain the following information in the following order:

(a) on the front cover of the binder:

- (i) title of report giving the name of the Exploration Licence Titleholder for whom the work was performed, the Exploration Licence registration code number, the State(s) in which the Exploration Area is located, the name(s) and qualifications of the primary author(s) of the report and the Licence Year covered.

Example

Exploration Licence Annual Report
of Work Carried Out From January 2011 to December 2011
For Exploration Licence No. xxxxx

State of xxxx

by

John Smith, B.Sc. (Hons) (Geology)

for

Ace Exploration Corporation

February 2012

- (b) on the first page of the text:
- (i) the information required in Regulation (3) of this Regulation;
 - (ii) the signature of the author(s) and date of the report;
- (c) table of contents which shall include:
- (i) a list of each principle subdivision of the text with the corresponding page number;
and
 - (ii) a list of each appendix, plan, map, diagram, figure or other illustration by title and number indicating the corresponding number or location in the report;
- (d) executive summary;
- (e) an introduction that shall include:
- (i) property index map clearly showing the boundaries of the Exploration Area in relation to recognisable topographic features;
 - (ii) a work index showing the location of the work performed, including the grid area or the area mapped, in relation to recognisable topographic features; and

- (iii) a brief description of the geographic and geologic setting of the Exploration Area, present land use, and the means of access to it;
- (iv) a brief description of previous work; and
- (v) the purpose and scope of present work;
- (f) summary of the results of the present work that should include detailed:
 - (i) technical data;
 - (ii) interpretations;
 - (iii) conclusions; and
 - (iv) Recommendations drawn from the results.
- (4) The detailed technical data required for all areas where such work is performed are as follows:
 - (a) for grid establishment, a map or maps showing the location of each established line;
 - (b) for photo geological or remote imagery interpretation:
 - (i) a review of the procedures, year and scale of air photographs/remote sensing data used, name of company that undertook the flying or source of air photographs/remote sensing data; the results and the interpretation of the results; and
 - (ii) maps, photographs or diagrams illustrating results and interpretations;
 - (c) for geological survey:
 - (i) a comprehensive review of all geological and mineralisation aspects observed (surface and subsurface) and results of sampling and assaying, relating these aspects to previous work where applicable;
 - (ii) a map or showing the outline of each outcrop/float boulders examined, rock types, attitudes of bedding and structures, mineralisation, sample locations and assay results and a table of formation; and
 - (iii) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;
 - (d) for general prospecting of ground:
 - (i) a typed or hand-written description of observations; and
 - (ii) a map or maps showing:
 1. the location of each traverse line;
 2. the location and result of each instrument reading made;
 3. the location and analysis or assay result of each sample taken; and
 - (iii) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;

- (e) for geophysical survey:
 - (i) a description of the method of procedure followed, including components measured, units of measurement, units in which the results are presented, array, transmitter location, correction for diurnal variation, flight line interval, ground speed and terrain clearance, where applicable;
 - (ii) the make, model and specifications of each instrument used;
 - (iii) where the method used is new and not described in readily available literature, a summary of the underlying theory and a full description of the type of instrument used, the methods of measurement and data reduction and the results from test areas;
 - (iv) an interpretation and evaluation of the results, relating them to the geology and topography of the test area and to previous work;
 - (v) raw electronic data; and
 - (vi) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;
- (f) for an airborne geophysical survey:
 - (i) the data required in Regulation (4)(e) of this Regulation; and
 - (ii) maps or profiles showing the flight lines and either the actual numerical values obtained or the results in contoured form, whichever is more appropriate; and
 - (iii) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;
- (g) for a ground geophysical survey:
 - (i) the data required in Regulation (4)(e) of this Regulation;
 - (ii) maps or profiles showing the numerical values obtained and the source locations and providing basic data where filtered or smoothed data are used; and
 - (iii) such other tabulated data, maps, graphs, profiles or sections, showing the data in contoured form or otherwise, as may be useful in presenting the results of the work;
- (h) for an airborne geochemical survey:
 - (i) the flight line interval, ground speed and terrain clearance;
 - (ii) the meteorological conditions;
 - (iii) the results of control surveys over known ore and barren ground; and
 - (iv) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;
- (i) for a ground geochemical survey:

- (i) a description of the land, vegetation and soil, including type of topography, maximum and minimum elevations, drainage, types of vegetation and types and depths of soil;
- (ii) a description of the sampling procedure, including details of the material or horizon sampled and of the sample depth;
- (iii) where bedrock has been sampled, a detailed description of the rock type, alteration, structures, mineralisation etc.;
- (iv) where “float” has been encountered, a detailed description as in (iii);
- (v) for analyses:
 1. the name of the laboratory or chemist who performed the analyses;
 2. the mesh size fraction of the sample;
 3. the name and concentration of the reagents used for extraction of each element analysed;
 4. a description of the chemical procedure for analysing the samples, describing new methods in detail; and
 5. where testing has been done in the field, a description of the procedure;
- (vi) an interpretation and evaluation of the results, relating them to the geology, mineralisation, topography and soil types etc. of the test area and to previous work;
- (vii) where fewer than six elements have been analysed, maps or profiles showing the source location of each sample with the corresponding element, the unit of measurement and the numerical value obtained;
- (viii) where six or more elements have been analysed:
 1. a complete tabulated list or computer printout of all analytical data with the corresponding sample coordinates and technical information collected on site;
 2. a map showing the source location of each sample referred to in clause (A); and
 3. where significant variations have been found in the analytical data, a map or maps showing the analytical data in raw or contoured form; and
- (ix) maps, graphs, sections or other illustrations showing data in contoured form or otherwise as may be useful in presenting the results of the work;
- (j) for trenching, stripping or excavation of pits:
 - (i) description of how the work was performed;
 - (ii) the dimensions of each trench, area of stripping or pit, including the overburden and depth of bedrock where exposed; and
 - (iii) map or maps showing:

1. the outline of each trench, area of stripping or pit;
 2. a brief geological description of the bedrock and overburden; and
 3. the source location and assay results of each sample assayed;
- (k) for drilling:
- (i) for each drill hole, the grid coordinates, dip and azimuth, core or hole diameter, date and name of the company that performed the drilling;
 - (ii) for all drill holes, the relative collar elevations;
 - (iii) results of dip tests and down hole surveys, where available;
 - (iv) complete and clearly legible logs of all core or cuttings, listing all observed mineralisation and signed by the logger;
 - (v) where assays were performed, the complete results clearly correlated with the logs;
 - (vi) where geophysical logging was performed, the logs;
 - (vii) for diamond drilling, the location of the core storage; and
 - (viii) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;
- (l) for shaft sinking, tunnelling and other underground work:
- (i) a description of how the work was performed and results obtained;
 - (ii) maps and sections at a scale of 1:500 or more detailed, showing the location of the work performed, detailed geology and mineralisation; and
 - (iii) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;
- (m) for sampling and assaying, metallurgical or beneficiation studies, and petrographic, petrologic or mineralographic studies:
- (i) a description of the procedure for sample collection and preparation;
 - (ii) a review of test or study procedures, and the test results and the interpretation of the test results;
 - (iii) a map or maps distinctly showing the source location of each sample and the corresponding analysis or assay where applicable;
 - (iv) for metallurgical beneficiation studies, charts or diagrams illustrating procedures and results; and
 - (v) such other tabulated data, maps, graphs, profiles or sections as may be useful in presenting the results of work;

- (n) computation of reserves, if applicable, should include the grade and tonnage, method of reserve computation and any such data that may be useful in presenting the results of work;
- (o) for a control survey or topographic mapping:
 - (i) a description of the survey procedure; and
 - (ii) an accurate traverse map showing the location of the survey in relation to the boundaries of the Exploration Area;
- (p) for road construction:
 - (i) a description of how the work was performed;
 - (ii) the length and width of the road; and
 - (iii) the work index map required in Regulation (5)(a) of this Regulation; and
- (q) for all ground surveys, a program for protection, reclamation and rehabilitation of any disturbed areas caused as a result of Exploration Operations.

(5) Maps

- (a) Maps and other illustrations submitted with an Exploration Annual Report shall:
 - (i) not exceed a size of an A0 size sheet;
 - (ii) be so uncluttered and have such large and clear printing or symbols that they remain readily decipherable upon being reduced twofold;
 - (iii) have a light background
 - (iv) use black pattern or black number coding, that may be combined with light colour coding;
 - (v) indicate orientation with respect to geographic north on every plan map and index map;
 - (vi) indicate scales of coordinates on sections, profiles or similar diagrams; and
 - (vii) where appropriate, indicate in their lower right corner their identifying title, and appropriate bar scale and a legend.
 - (r) All illustrations shall be consecutively numbered.
 - (s) Page size illustrations shall be bound securely in the binder and larger illustrations shall be folded and inserted in an envelope that is fastened securely to the bound text or contained with the bound text in an expanding file with cover flap.
- (6) The final Exploration Licence Annual Report (covering the final Licence Year of the Exploration Licence) should contain the following information:--
- (a) Executive summary.
 - (b) Introduction.
 - (c) Summary of previous work.

- (d) Geology and mineralisation.
- (e) Summary of Exploration Operations work undertaken.
- (f) Summary of res
- (g) Computation of ore reserves for each deposit.
- (h) List of Exploration and Mine Development expenditure.
- (i) Conclusions and rec