

Supporting Information for RIDA Application

for

Civil & Mining Resources Pty. Ltd.

January 2018

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1 INTRODUCTION

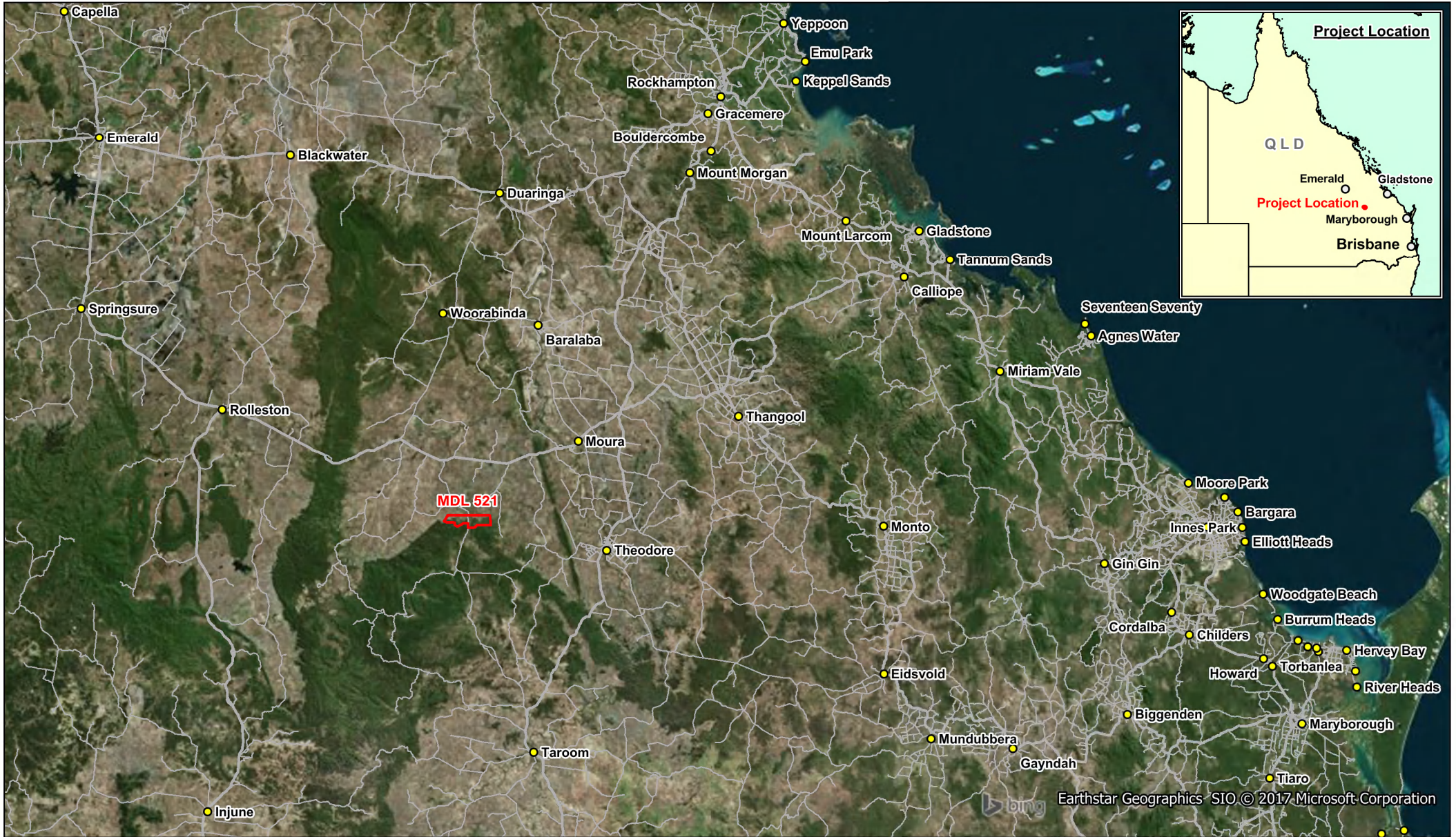
Civil & Mining Resources Pty Ltd (CMR) seeks to extract a bulk sample of coal at its Dawson West Project on Mineral Development Licence (MDL) 521. The Bulk Sampling Project itself will be undertaken in the central northern region of the MDL, located on Lot 5196 Plan PH950. MDL 521 is located approximately 50 km southwest of Moura, at the southern end of the Bowen Basin in Central Queensland. The Project's regional location is presented in **Figure 1**.

Part of the disturbance area of the Project (36.5 ha), is located within land which is mapped as Strategic Cropping Land (SCL) on the SCL Trigger Map and is presented in **Figure 2**. As a result, CMR have undertaken slope analysis to demonstrate that the land does not meet the criteria for SCL.

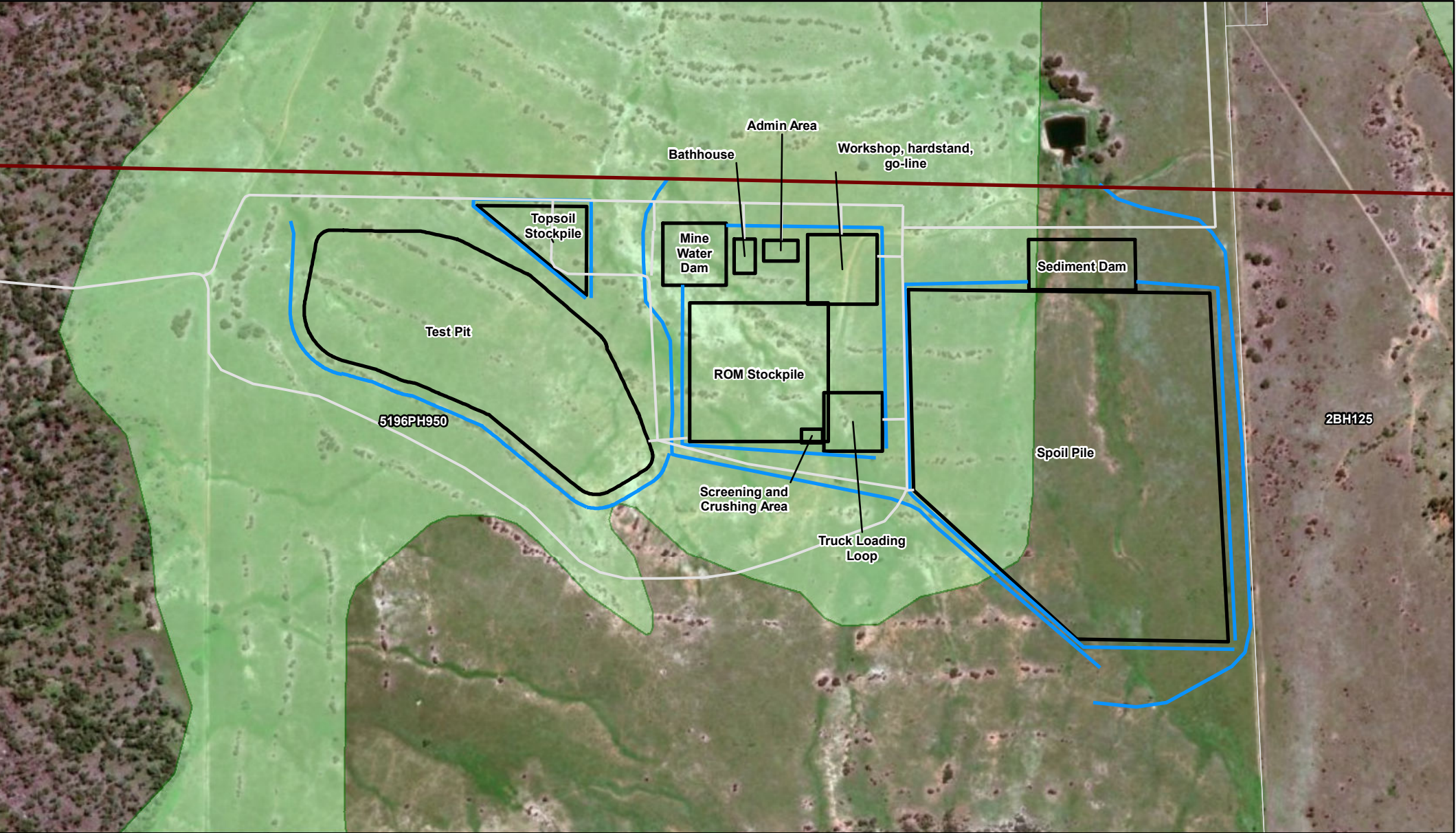
The land within MDL 521 has been heavily modified by cattle grazing and farming activities. In an effort to promote pasture improvement, vegetation within flat and undulating areas has been extensively cleared. From Queensland Government data sets, the mapped land-use for the Project area and surrounds (1 km) is predominantly Grazing Native Vegetation with a small amount of Production Native Forests to the south (**Figure 3**).

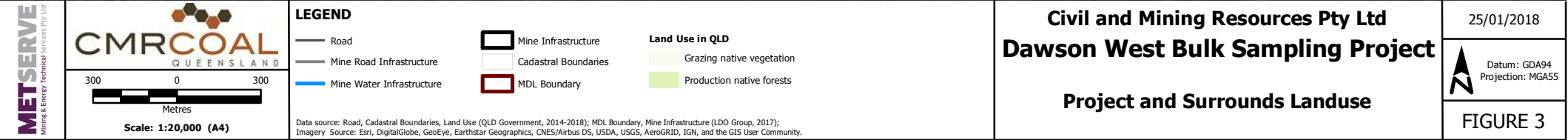
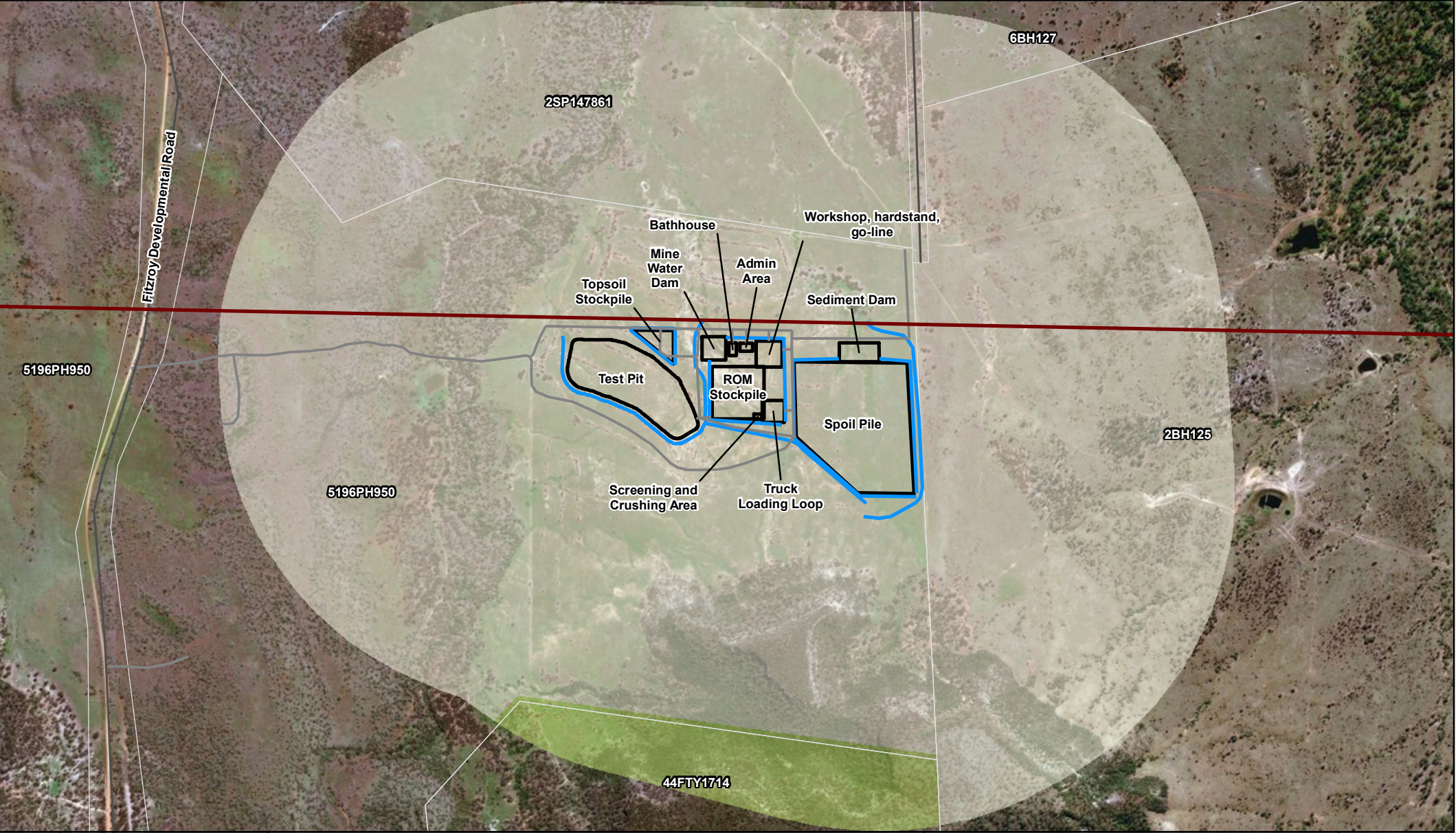
Section 34(2) of the Regional Planning Interests Act 2014 and Section 13 of the Regional Planning Interests Regulation 2014 outline the legislative requirements for a notifiable assessment application. As the activities are not proposed to be carried out in an area of regional interest that is a priority living area then the assessment application is deemed not to be notifiable.

A copy of the application will be provided to the landowner within 5 business days after the application is made.



<p>METSERVE Mining & Energy Technical Services Pty Ltd</p>	<p>CMR COAL QUEENSLAND</p> <p>20 Km 0 20 Km</p> <p>Scale: 1:2,000,000 (A4)</p>	<p>LEGEND</p> <ul style="list-style-type: none"> Locality Highway Road <p>Dawson West (MDL 521)</p> <p>Data Source: Populated Place, Highway, Road (Geoscience Australia, 2012); MDL Boundary (QLD Government, 2017)</p>	<p>Civil and Mining Resources Pty Ltd Dawson West Bulk Sampling Project</p> <p>Regional Location</p>	<p>14/12/2017</p> <p>Datum: GDA94 Projection: MGA55</p> <p>FIGURE 1</p>
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2 ADDRESSING THE SCA ASSESSMENT CRITERIA

The applicable required outcome and prescribed solution is outlined below-

Required Outcome 1-

The activity will not result in any impact on strategic cropping land in the strategic cropping area.

Prescribed Solution-

To demonstrate compliance, an applicant must be able to provide evidence to support that all or part of the impacted land the subject of the application is not SCL.

Evidence may include:

- field survey results
- soil profile analysis
- slope analysis
- laboratory analysis
- mapping
- imagery (satellite and aerial).

The RPI Act Statutory Guideline 08/14: How to demonstrate that land in the strategic cropping area does not meet the criteria for strategic cropping land was used for reference whilst undertaking the slope analysis. Additionally, guidance has also been provided by the Department of Natural Resources and Mines to assist with slope analysis mapping.

The guideline also outlines SCL criteria which need to be met for each cropping zone. The Project lies within the Western Cropping zone with slope requiring equal to or less than 3% to classify as SCL.

Slope analysis for the Project has been undertaken to provide evidence that the land is not SCL. The slope analysis is described in more detail in **Section 3**.

3 SLOPE ANALYSIS

3.1 PURPOSE

The following describes the process used for slope analysis of the Project, in assessing the Project disturbance areas against criteria for Strategic Cropping Land.

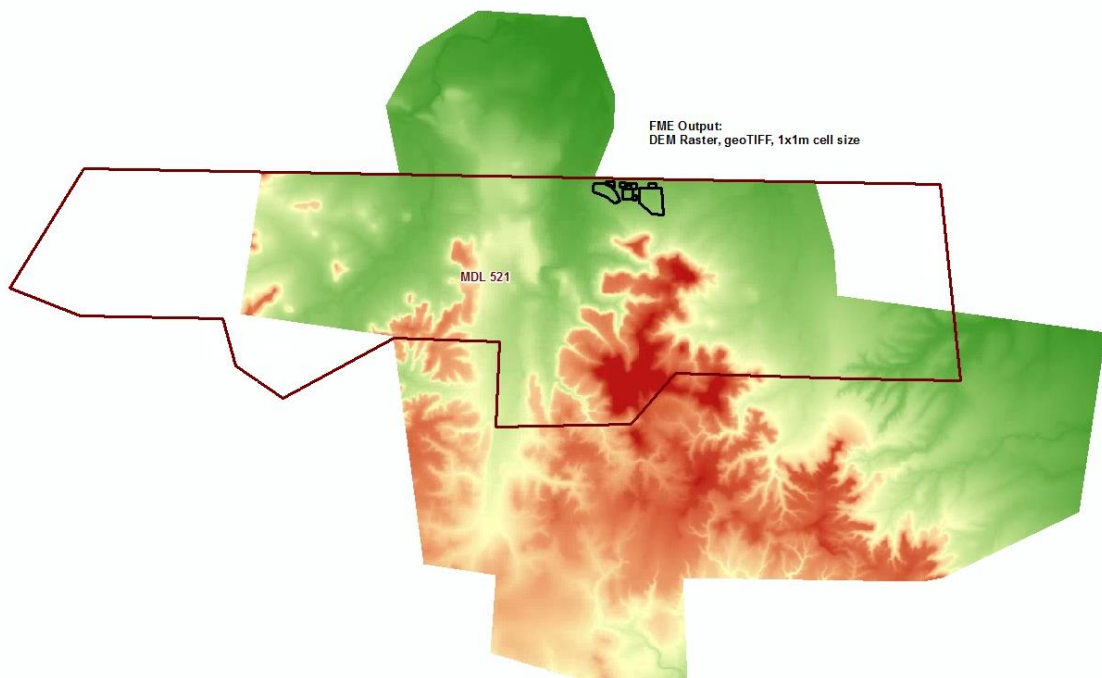
3.2 DATA

LiDAR data was provided in the form of a ground-thinned XYZ point file (1.1Gb file size), an AutoCAD drawing file containing a tile index and the area of interest for the LiDAR capture, and a hillshade raster.

3.3 PROCESS

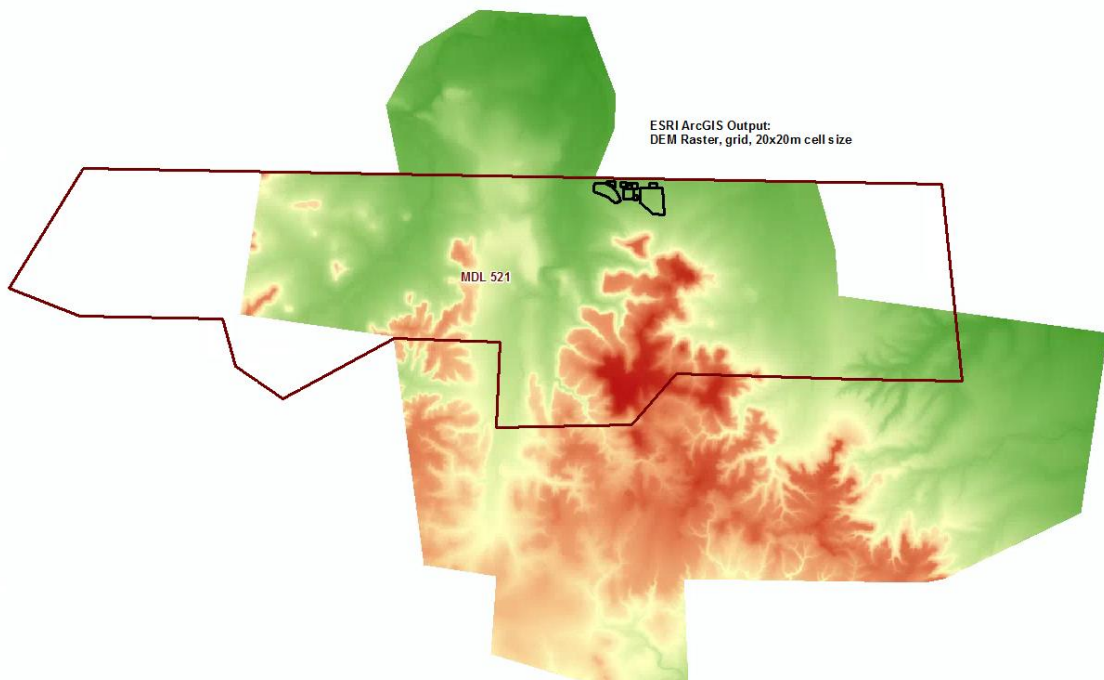
3.3.1 Create DEM from XYZ Data

Using the Raster DEM Generator tool in FME, a DEM raster was created from the XYZ LiDAR data. Output was a 1.5GB geotiff raster image with 1x1m cell size, projected to MGA94 Zone 55 coordinates.



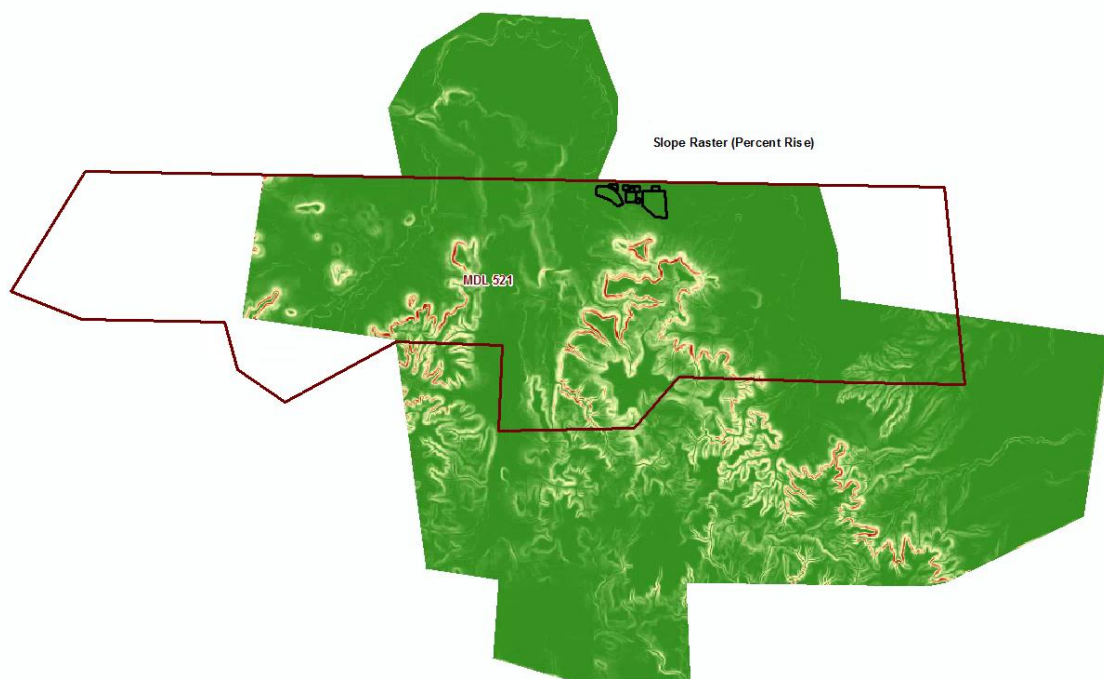
3.3.2 Resample DEM

Due to the high resolution of the LiDAR point data, the generated DEM needed to be resampled to achieve a lower density of data points required for SCL analysis (as stated in the RPI guideline 08/14). The guidelines also state that slope should be measured over a distance of 20m or greater, so for this reason the DEM was then resampled to a grid raster of cell size 20x20m in ESRI ArcGIS.

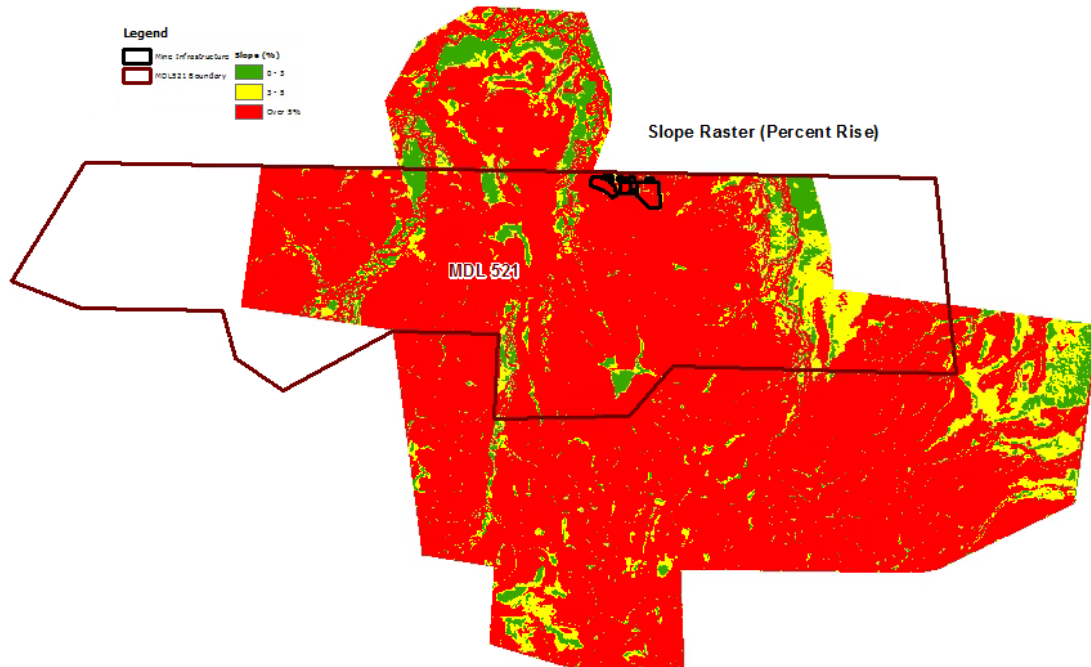


3.3.3 Slope Raster (percentage rise)

A slope raster was then generated from the resampled DEM, with output units in percentage rise:

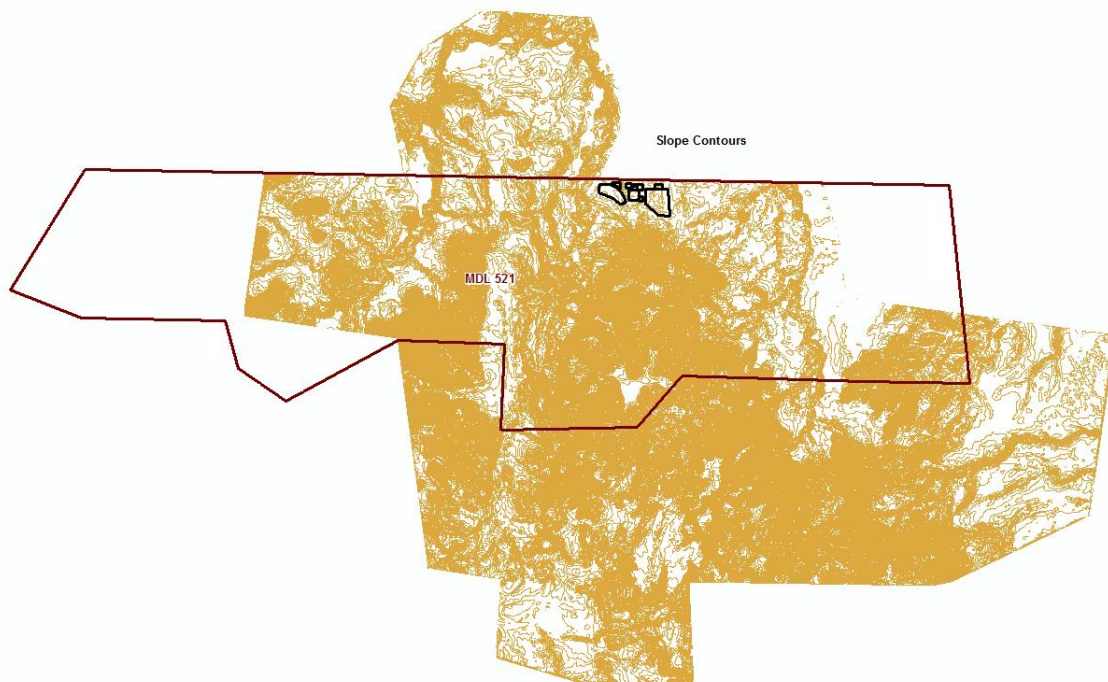


RPI Guideline 08/14 state that Slope thresholds for Strategic Cropping Land criteria in the Western Cropping Zone are equal to or less than 3%, and equal or less than 5% elsewhere. To better display this, the symbology of the slope raster was changed show 3 classes: 0-3%, 3-5% and over 5% slope:



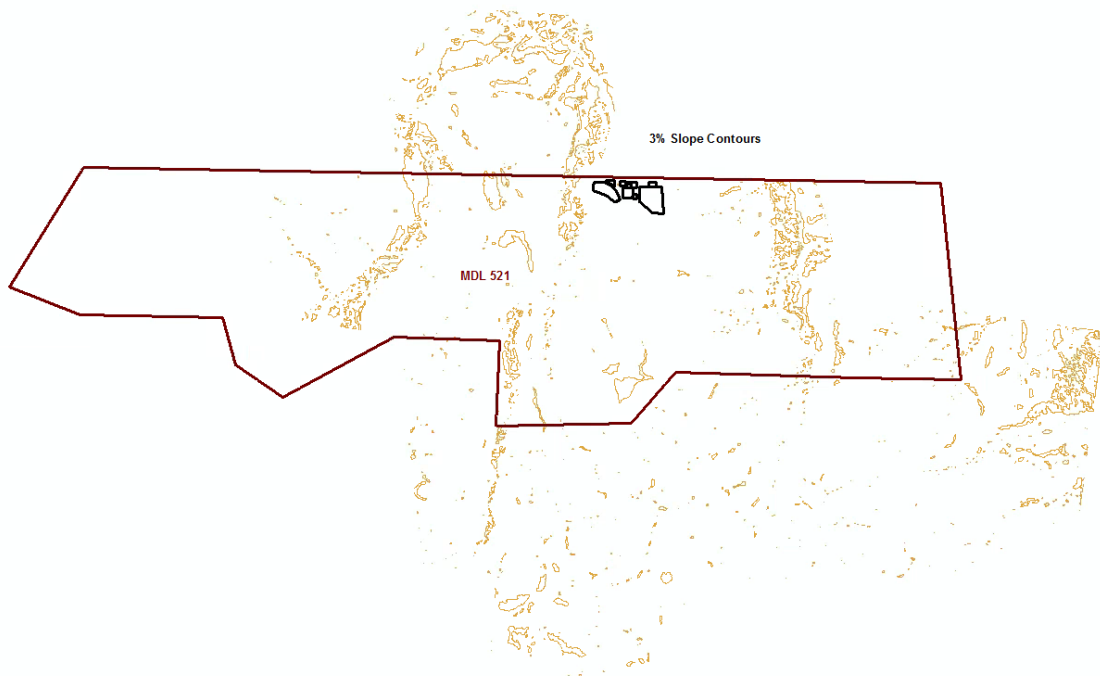
3.3.4 Generate Slope Contours

Contours were generated from the slope raster, using the contour tool in ArcGIS Spatial Analyst toolbox:



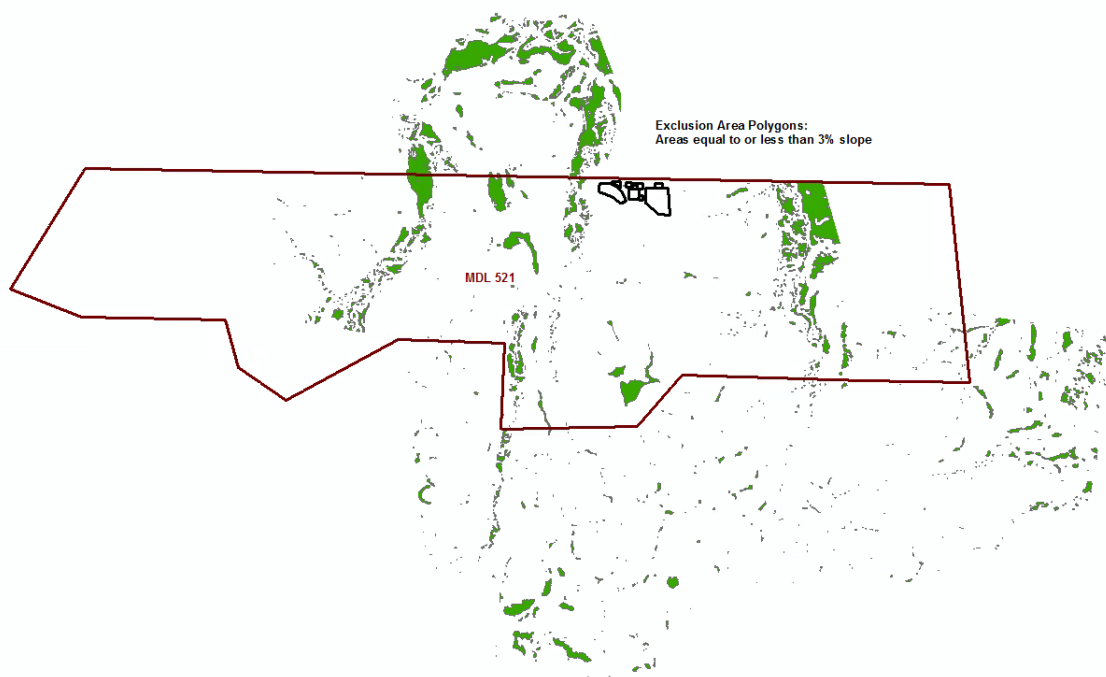
3.3.5 Extract 3% Slope Contours

The 3% slope contours were then extracted to a new dataset, to show areas of slope equal to or less than 3%:

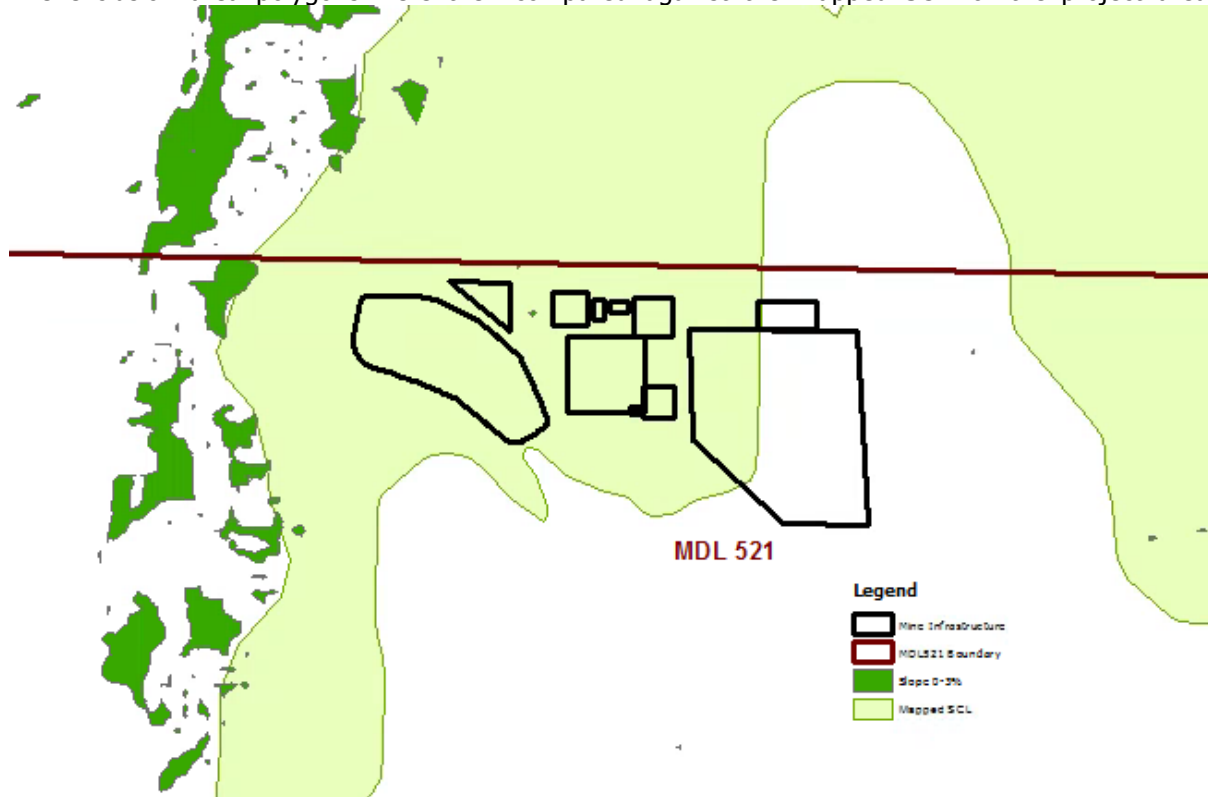


3.3.6 Create Exclusion Area Polygons from Slope Contours

Exclusion area polygons were then created using the Area Builder tool in FME to represent areas of slope equal to or less than 3%:

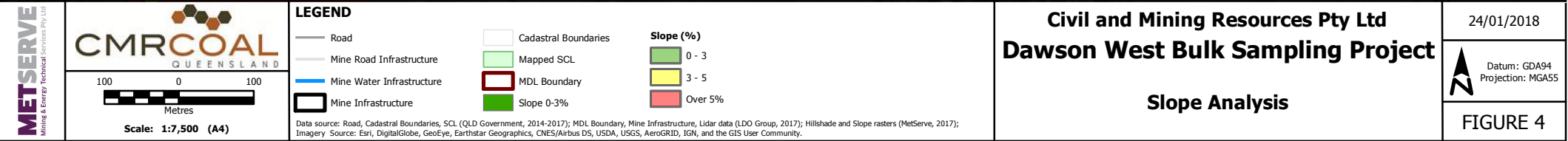
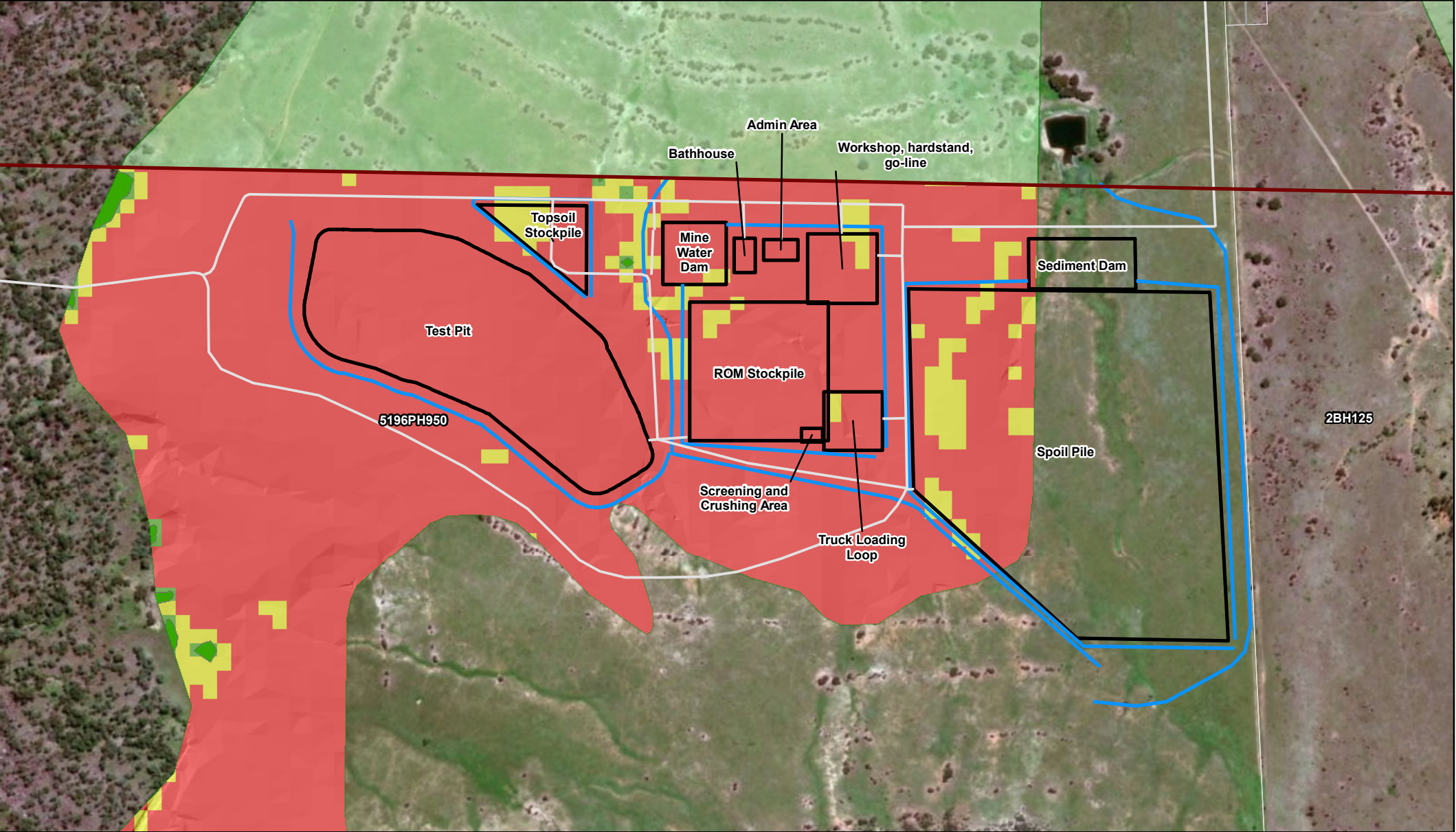


The exclusion area polygons were then compared against the mapped SCL for the project area:



3.4 SLOPE ANALYSIS MAPPING

From the above slope analysis exercise, a slope analysis figure has been generated to outline slope ranges across the Project disturbance area against SCL criteria for the Western Cropping area (**Figure 4**). As can be seen from the mapping, the Project disturbance areas avoid all slope areas under 3% apart from the haul road on the western side which narrowly intercepts. However, as there is a minimum map unit (mappable polygons) size of 10 ha within the Western Cropping Zone, this area cannot be classified as SCL.



4 CONCLUSION

As the slope analysis demonstrates that disturbance areas are outside the thresholds for SCL criteria in the Western Cropping area, and required outcome 1 and associated prescribed solutions will be achieved, CMR will not be impacting any SCA as a result of the proposed Project.

The mapping of SCL in the Project area is thought to be incorrect so CMR seek to have the land reclassified and removed from the SCL trigger map.