Section 3 – The Challenge

sclaimer: This is a mock-up assignment used exclusively for analytics training purposes. All Data used for this analysis is fake. There is no affiliation with DBCT.

You have been hired by a Coal Terminal to assess which of their Coal Reclaimer machines require maintenance in the upcoming month.

These machines run literally round the clock 24/7 for 365 days a year. Every minute of downtime equates to **millions of dollars** lost revenue, that is why it is crucial to identify exactly when these machines require maintenance (neither less or more frequently is acceptable).

Currently the Coal Terminal follows the following criterion: a reclaimer-type machine requires maintenance when within the previous month there was at least one 8-hour period when the average idle capacity was over 10%.

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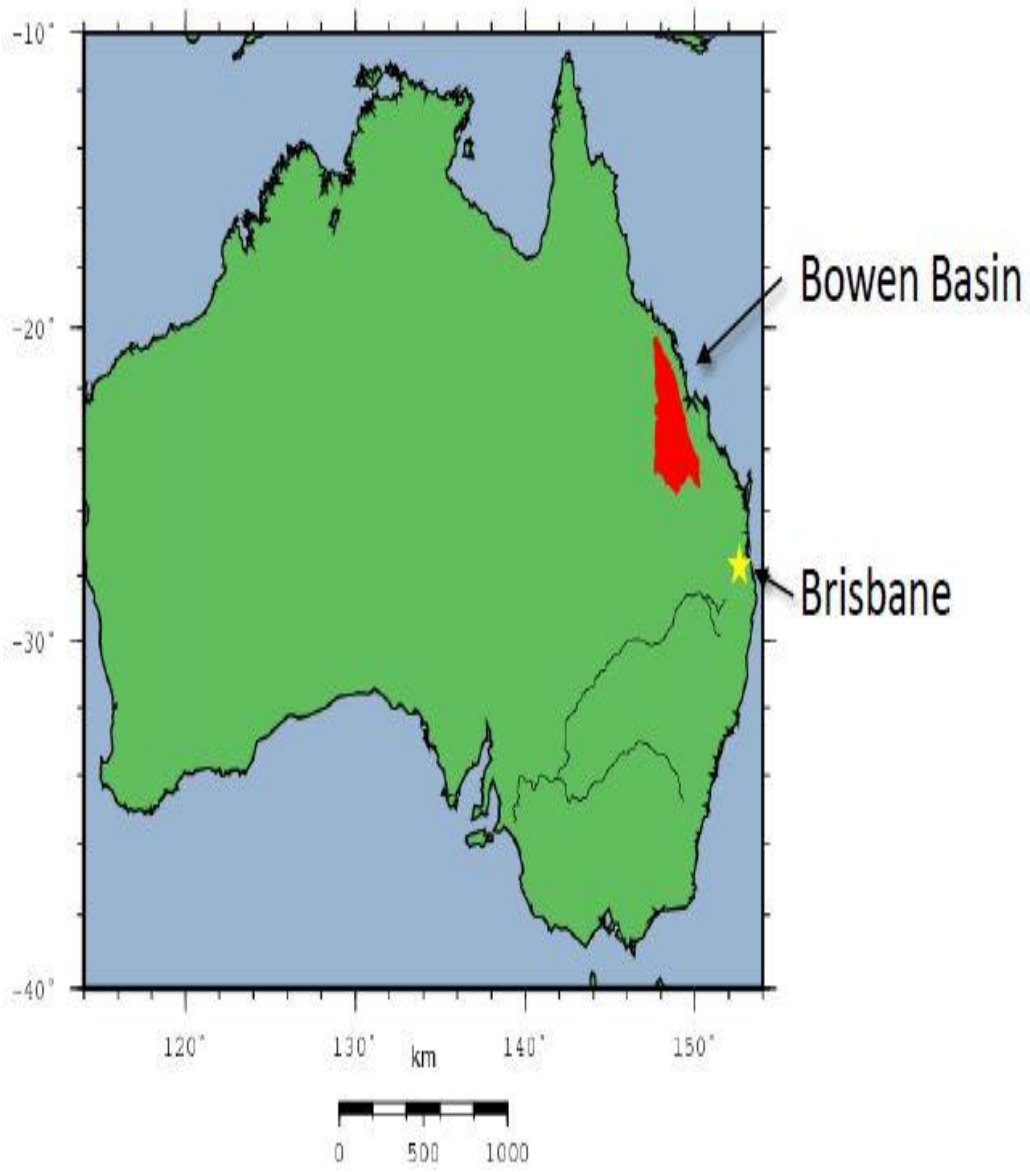
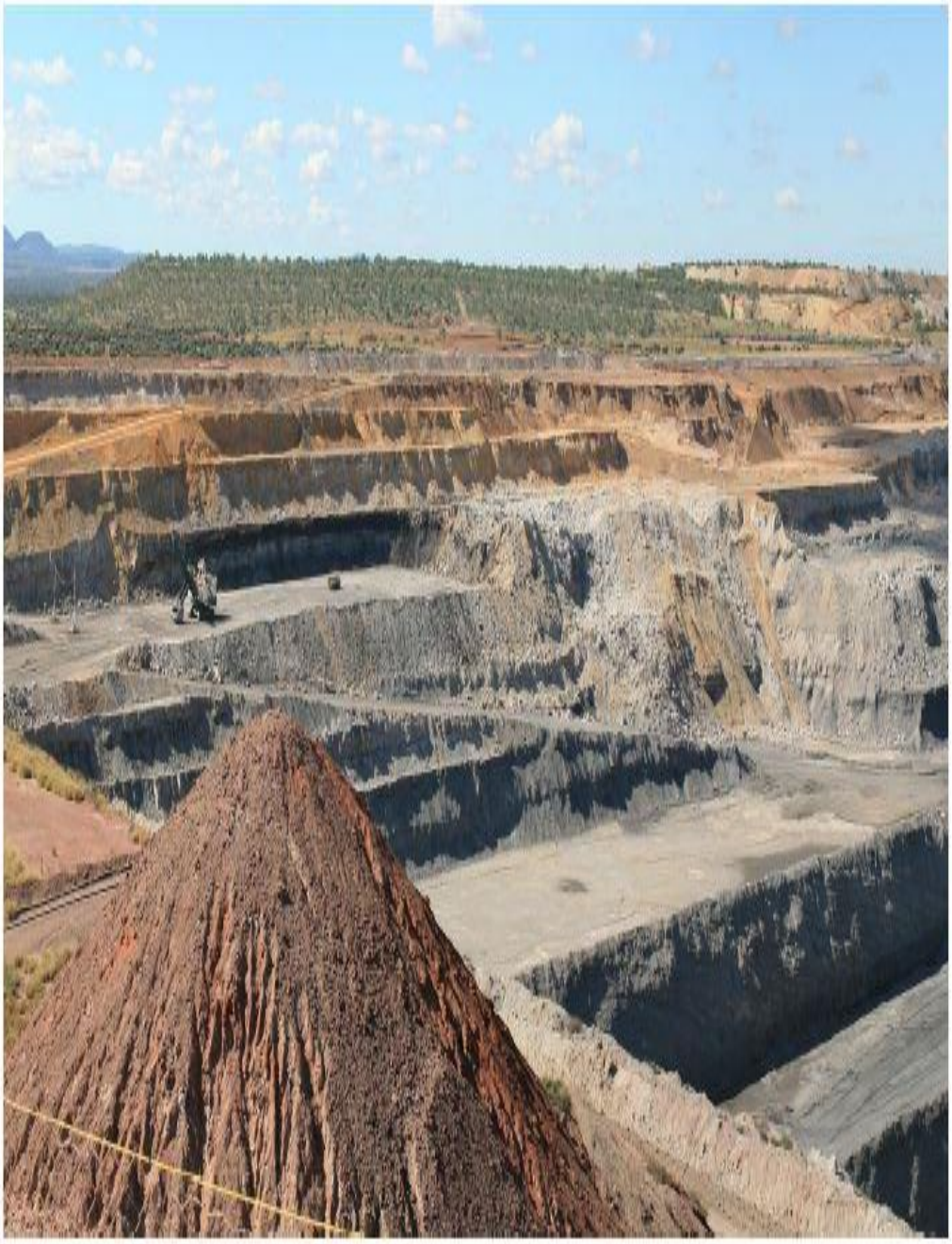
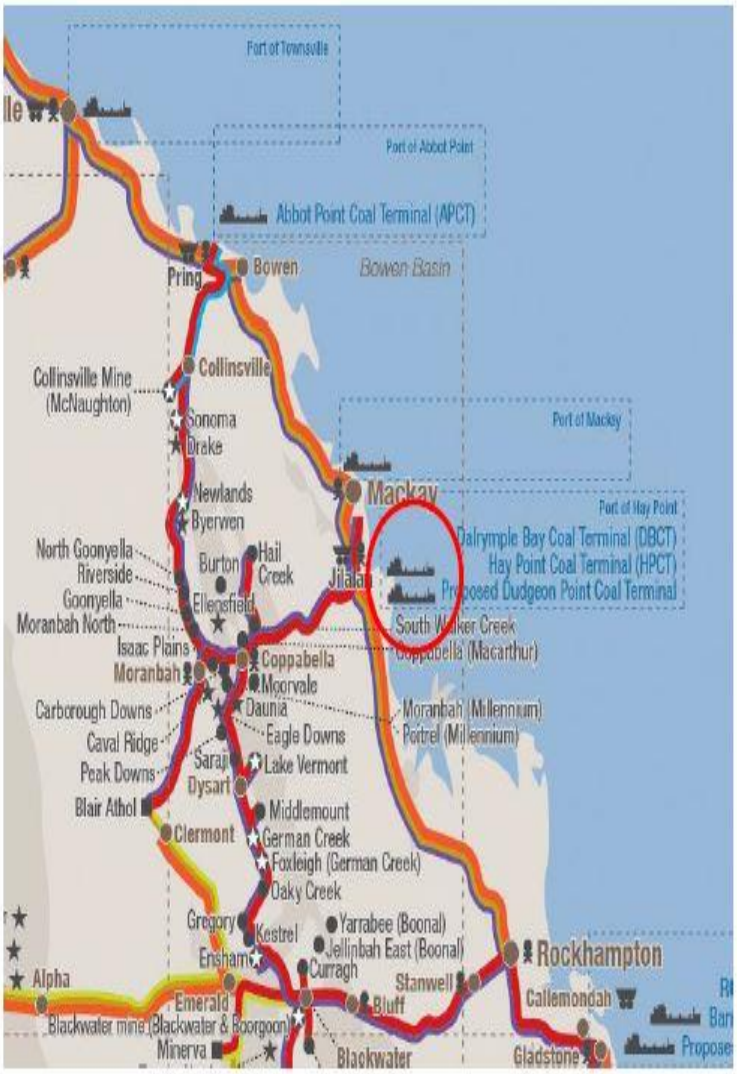
Idle Capacity is a utilization metric which, for the purposes of this project, is defined as:

$$\text{Idle Capacity} = \frac{(\text{Actual Tonnage} - \text{Nominal Capacity})}{\text{Nominal Capacity}}$$

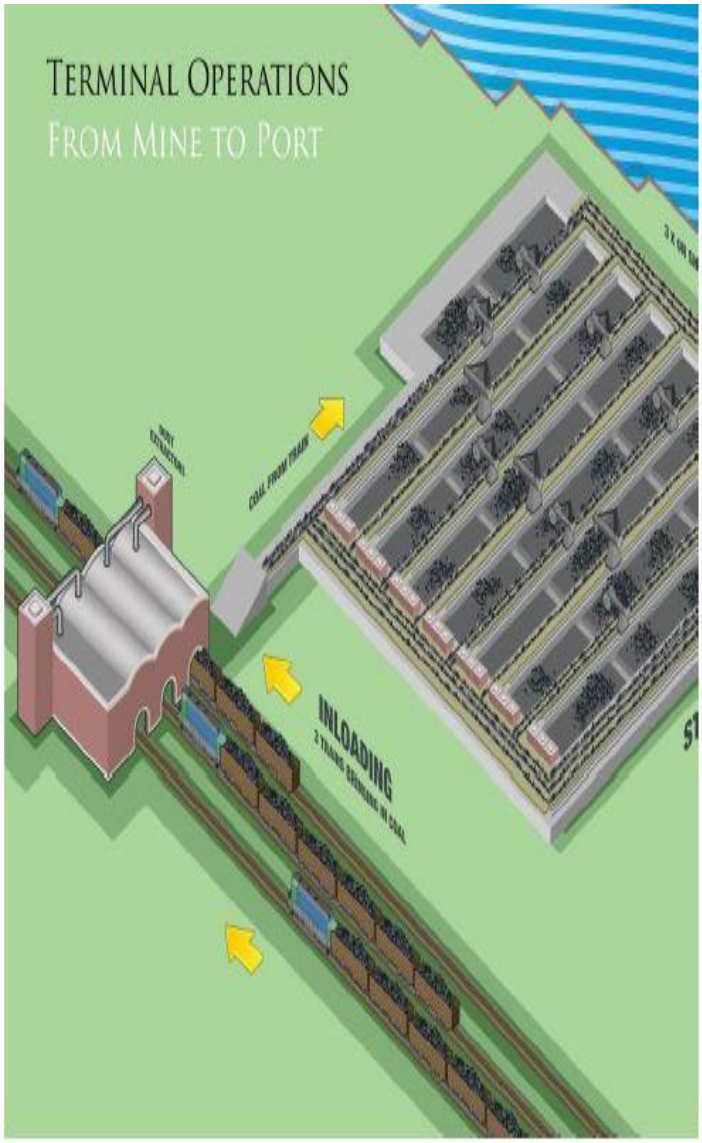
Your task is to find out which of the 5 machines have exceeded this level and create a report for the executive stakeholders with your recommendations.


-10°
-20°
-30°
-40°
120°
130°
140°
150°
km
0
500
1000
Bowen Basin
Brisbane





Source: www.aurizon.com.au



Source: www.dbct.com.au

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2. DBCT Stockyard
Dalrymple Bay Coal Terminal
Hay Point Coal Terminal
RL1
ST1
ST2
ST3
ST4
ST5
SR4A
SR3A
SR1
SR6
SR2
RL2


Rows
1
2
3
4
5
6
7
8
RL1
ST3
ST1
SR6
ST4
ST2
SR4A
SR3A
SR1
SR5
SR2
RL2