

1. PRODUCT / SCOPE OF WORK / WORKS INFORMATION KNOWLEDGE

Penetrometer; Moisture; CV; Ash content and Density tests on Strategic and Seasonal stockpiles.

Penetrometer tests,

For the Coal Stock Surveys, the penetrometer test must be done on the top surface and through the top 900mm at least, before the density sample is augured. This is to determine the compaction of the top layer compared to the underlying layers, which are usually at a higher and more consistent level.

For a Seasonal or Strategic stockpiling operation, the top surface may be either:

- compacted with haul/dump equipment only,
- just laid down and not compacted yet,
- partially compacted,
- compacted to specification (and ready for the next layer),
- over compacted as with additional maintenance rolling, after the stockpiling has finished.

The penetrometer shall show the depth at which the pile compaction becomes (relatively) consistent. The aim is to obtain a sample which is probably more representative of the bulk of the stockpile. Any such variance in compaction is addressed by removal of the top layer with shovel or mobile equipment and setting the auger onto the new surface. Note must be made of the depth of any coal removed before auguring.

Positioning of the guide plate

After choosing a sample point, the penetrometer must be used to determine the compaction of the top layer and, if different to lower layer compaction, the top layer must be removed to give a flat base for the auger guide plate.

Position the guide plate with its opening over the first sample point and tap the collar down into the coal. Pin the plate down with the four pegs.

Sample auguring

Place the sampling tube through the guide plate hole and carefully rotate, keeping the tube as near vertical as possible. Drill down into the coal for the full useable length of the sampling tube. If penetration becomes too slow or difficult, then remove loose coal and store in the plastic collection bag.

Collection of sample

Scoop out all loose coal in the sampling tube and place in a suitable heavy-duty plastic bag and seal to make airtight. Label the bag and number according to the number given to the sample point and keep for laboratory checks. The sample is now weighed with an assize and certificated portable scale where the net mass of each sample is determined and recorded. A portable tripod must be used for this weighing, to give stability during readings. A certified check weight must be used before every sample is weighed, the sample must be transported as soon as possible to the consultants laboratory to determine the moisture

Volume of coal removed

Insert a new thin plastic sheet or bag into the sample tube and fill with water to just short of the coal surface. While holding the plastic sheet / bag carefully, remove the sampling tube without disturbing the hole and leaving the plastic and water in the hole.

Now top up the lined hole with water to the level of the coal surface as seen through the holes in the guide plate. The total volume of water (in cc.) used to completely fill the hole is recorded against the sample point number. Repeat the above steps at each sample point. An accepted alternative method is to weigh the total volume of water assize and certified portable electronic scale.

All sample holes on the stockpile must be filled and tamped down well in layers

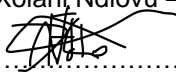
All operating sites must be sampled and results reported within one week of collecting the sample.

An estimate of distance from each site to the laboratory is required.

Table 1 gives an indication of the estimated number of samples for the Duration of the contract with a similar number expected for each of the remaining surveys.

MONTHS	YEARS	QUANTIT Y	MONTHS	YEARS	QUANTIT Y	MONTHS	YEARS	QUANTIT Y
Nov	2024	600	Nov	2026	600	Nov	2028	600
Dec	2024	600	Dec	2026	600	Dec	2028	600
January	2025	600	January	2027	600	January	2029	600
Feb	2025	600	Feb	2027	600	Feb	2029	600
March	2025	600	March	2027	600	March	2029	600
April	2025	600	April	2027	600	April	2029	600
May	2025	600	May	2027	600	May	2029	600
June	2025	600	June	2027	600	June	2029	600
July	2025	600	July	2027	600	July	2029	600
August	2025	600	August	2027	600	August	2029	600
September	2025	600	September	2027	600	September	2029	600
October	2025	600	October	2027	600	October	2029	600
Nov	2025	600	Nov	2027	600			
Dec	2025	600	Dec	2027	600			
January	2026	600	January	2028	600			
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April	2026	600	April	2028	600			
May	2026	600	May	2028	600			
June	2026	600	June	2028	600			
July	2026	600	July	2028	600			
August	2026	600	August	2028	600			
September	2026	600	September	2028	600			
October	2026	600	October	2028	600			

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