



**ADDENDUM TO LANDFILL DRILLING METHOD STATEMENT
FOR DRILLING CLOSE TO BASAL LINERS**

In order to maximise the drilling depth - but control the risk of penetrating the basal liner, the following safe system of work will be adhered to:

1. The Foreman Driller will establish the composition of the basal liner from the client and/or the CQA Engineer.
2. The method of drilling will be rotary barrel auger. This enables the accurate measurement of the drilling depth via the drilling rods and barrel auger.
3. All drilling tools, subs, drilling rods and casings will be accurately measured and rounded up or down to the nearest centimetre.
4. The well reference and target drill depth will be re-confirmed with the client's representative prior to the commencement of drilling at each well position.
5. As the casings or rods are coupled together, the overall length of the drilling-string will be calculated.
6. When measuring the drilling-string, the length of the male (pin) thread shall be disregarded – as this is taken up during the coupling process.
7. When using temporary steel casing, the measurement of the drive head and cutting shoe shall also be included when calculating the drilling-string's overall length.
8. The length of drilling string left above ground level shall be deducted from the overall drilling string length to give the drilling depth to within +/- 5mm per unit of measured length, i.e. approximately 99.8% degree of accuracy.
9. Once within 5 metres of the target drill depth, the composition of the drilling arisings will be closely monitored for the presence of any basal liner materials – such as gravel, shredded tyres, clay etc. The Foreman Driller will also check for any vibration from the drill string which normally indicates that gravel is being drilled.
10. Upon reaching 3 metres of the target depth, incremental drilling will be adopted. The barrel auger will be advanced in increments as specified by the client – during this time the presence of vibration or basal liner materials within the drilling arisings will be very closely monitored to ensure that the basal liner is not breached.

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