



High Point
Opencast Mining Services

P.O. Box 5681, Middelburg, Mpumalanga, 1050
Tel: 013 246 1164 Fax: 013 246 1166
Vat Reg No 4060216415 Co Reg No 2004/042717/23

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Dear Kevin,

Thank you for introducing us to the use of the Tulip plug. Here is a feedback on the use of the Tulip plugs.

Disadvantages.

- Additional labour needed to insert these plugs.- can be a slightly timeous process due to;
- The geology(soft clay closing the hole diameter) and water in the hole.
- Pressing the tight fit plug down to the bottom of the hole with weight on a rope.

These slight problems can be reduced by using smaller diameter plugs in the holes.

The plugs are well designed and allows for smaller diameter plugs to be fitted in the holes.

Advantages of using Tulip plugs.

1. Relatively easy to place in the bottom of the holes.

2. The plug is always above any mud in the bottom of the hole which;
 - ensures that the booster is always in product.
 - prevents any kind of blow out due to boosters lying in mud below the blasting agents
3. Fragmentation has greatly improved.
4. Casts have increased from +- 26 to 32%.
5. Fly rock is a function of the stemming and has decreased significantly with using the same stemming lengths.
6. The airblast decibels have drastically dropped even though we are mining towards a farm. (126Db down to 117Db)
 - We started off @ 135 Db and increased our stemming which brought it down to 126Db average.
 - Since using the Tulip plugs in the hole bottoms, the average has dropped down to below 120 Db average.(Trigger level).
7. Pre split placing of charges are easy and effective. Water in pre split holes are not an issue anymore.
8. Floor conditions.
When blasting overburden over coal creates shattering of the coal when charges are pumped and placed directly on the coal horizon.

With the Tulip plug in the bottom of the hole, the charge is lifted with ;

- Prevents shatter.
- Creates a smooth coal top horizon.

We (High Point Mining and our Clients (Atlantis mining) and the Management at Blackwattle and Vuna Colliery are very satisfied with the results achieved by using the tulip plugs for overburden blasting.

The mining processes (dozing and loading) have benefitted due to the finer fragmentation and increased cast.

We are in the process of using them in the thicker coal seams. I believe that our results will be as successful as in the overburdens.

The tulips are now being used as a standard on all our overburden blasts and deck charges in presplit holes.

The advantages of using the Tulip plugs outweighs the small effort of placing them in the holes.

I can recommend this product without reservations.

Keep up the good work.

Regards,

Japie Gouws

Operations Manager

High Point Opencast mining Services.

Cell ; 082 334 5545

e-mail ; japie@highpointmining.com