

## Drilling with Varel's CaseBit

### Features

- CaseBit is cast using traditional matrix PDC bit technology. This allows for flexibility of design, flexibility of molding and rapid evolution of a product design for a specific application.
- CaseBit designs can utilize traditional gauge designs with diamond, thermally stable polycrystalline (TSP), or tungsten carbide depending on the application requirements.
- The CaseBit face is a machineable matrix which is highly erosion resistant. (patent pending)
- Dedicated hydraulic ports are placed in the face of the bit based on the application need. Face ports are augmented with a burst disc that is provided in the side of the CaseBit design based on the requirements of the customer.
- The CaseBit is designed with internal and external disconformities designed to provide for easier breakup of the matrix face material. This design feature helps during the drill out process providing for small pieces of CaseBit material easily handled by the drill out bit and hydraulics.
- All casing connections can be accommodated with the design of the CaseBit. Your Varel representative will require the casing thread information so that the CaseBit can be provided with the correct thread for the project.



### Make Up of the CaseBit to Casing

- The CaseBit should be made up to the lead casing joint similar to the way a pup joint of casing would be made up. Care should be taken to not damage the cutting structure of the bit. A rubber pad can be used to support the CaseBit cutting structure on the rig floor prior to make up.
- Torque required for make up of the CaseBit would be the same torque required for the make up of casing joints used for the project.
- Use care as you lower the CaseBit into the hole to reach bottom. Normal trip in procedures for pip exist while using a CaseBit.

## Drilling with a CaseBit

- Conventional well control practices must be maintained when using a CaseBit.
- Normal operating procedures should be used similar to a PDC bit when drilling with a CaseBit.
- Operating parameters, WOB, and RPM should be adjusted for casing drilling as required.
- Rates of penetration for a CaseBit should not be much different than a conventional PDC bit used in the same application

## Drill Out of the CaseBit

- Drill out of the CaseBit can be done with a roller cone or PDC bit depending on the formation to be drilled after drill out.
- The drill out process can be enhanced using any PDC bit with CuttPro® attached to the cutters. CuttPro can be retrofitted to any PDC bit and provides for easy drill out of the CaseBit while eliminating cutting structure damage to the PDC bit. Once the PDC bit is in the formation, the CuttPro feature is worn away and the PDC cutting structure drills the formation.
- Caution should be taken during initial contact of the matrix CaseBit. Take time to develop a bottom hole pattern established at a maximum 60 RPM and 6 Klbs WOB. Once the bit is fully engaged, more normal operating parameters can be used to drill out.
- Other parameters such as torque and differential pressure should be observed to ensure these values are within normal operating parameters.
- Once drill out is complete and the bit is in formation, proceed with normal operating parameters.

