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James Doyle Sell Mining Collection

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# ASARCO

JDS

Exploration Department  
Southwestern United States Division

January 17, 1984

E. M. Bennett  
General Manager, Exploration  
M.I.M. Holdings Limited  
160 Ann Street  
Brisbane, Queensland 4000  
AUSTRALIA

Dear Tim:

I called Longyear Drilling Co. in Phoenix to see if I could get you the wedging information that you wanted. Unfortunately, Longyear's retrievable wedging operation is an inhouse technique, and they do not have brochures or publications describing the technique.

Russ Beddow, Longyear's representative in Phoenix, said the retrievable wedging operation has been used in Australia. You can find out more about it by contacting Longyear (919-929 Marion Road, Mitchell Park, South Australia, 5043). The retrievable wedging operation is relatively simple, and I can tell you, briefly, what I learned about it.

The retrievable wedge can be set in HQ, NQ, and possibly BQ holes. The wedging operation will cause about 1° deviation in an HQ hole and 1½° deviation in an NQ hole. The wedge can be orientated so that the wedgeout is in a desired direction. A series of, say, 5 wedgeouts can be done in a hundred feet of hole so that a curve is generated.

The retrievable wedging operation goes as follows. First, the hole is advanced until hard rock is encountered since the wedge will not set in soft ground. Once the wedging site is selected, the drill-wedge tool (see attached right hand photograph) is lowered to the bottom of the hole. A survey tool (left tool in left photograph) is then lowered by wireline to orientate the wedge. Once the wedge is orientated, the rods are pushed down, locking the wedge into place. When the wedge is locked (actually wedged) into place a pin shears, and this allows the rods to rotate. There is a bit on the end of the rods and a smaller diameter hole is advanced, off the wedge, for 5' to 8'. The rods are then pulled out of the hole. As the bit is pulled back into the wedge, the bit pulls the wedge free, and both bit and wedge come out of the hole. Then a special reaming bit (center tool in left photograph) is used to enlarge the smaller diameter, wedged-out hole. Once this is completed, routine coring is used to advance the now deviated drill hole.

E. M. Bennett  
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Tim, I trust this information will be of interest. If I can be of any further help, please let me know.

Sincerely,



Henry G. Kreis  
Geologist

HGK/cg

Attachment

cc: JDSell

Longyear's Retrievable Wedging Equipment

