

# Customer Testimonial



## Duolec® Vari-Purpose Gear Lubricant (1605)

*Ransom Drilling Services – Point Marion, Pa.*

*Texoma Drill Rig Gearboxes*

- Reduced oil changes from 24 times per year to once per year
- Saves \$11,153 per year in oil and labor costs
- Prevented oil and water emulsification by keeping water separated for easy drain-off

### *Customer Profile*

Ransom Drilling Services provides conductor, rat and mouse hole services for the oil, gas and construction industries. The company services primarily the oil patch regions of Texas, Louisiana, Oklahoma and Arkansas. With the recent activity of Marcellus Shale drilling in Pennsylvania, West Virginia and Ohio, Ransom opened a service depot in Point Marion, Pa. in 2009.

### *Application*

Ransom's carrier rigs consist of Mack trucks equipped with Reedrill drill units. These units drive right onto the drill site and establish the initial thumbprint of the well site.

The two rigs are made by Texoma. One unit is a model 700 and the other is a model 800.

The carrier rigs set the 8-foot diameter and 5-foot deep cellars, which are corrugated pipes that stabilize the soil around the top of the well. Once the cellars are set, Ransom drills the initial 40 to 80 feet into which the well conductor casing will be driven. The casing dimensions can range from 14 to 36 inches in diameter. The remaining well casing and drill bits pass through this casing to reach the natural gas or oil.

Depending on the type of rock strata they encounter, a hole may be drilled in an afternoon, or it may take a week to drill the standard 40 to 80 feet.

### *Challenge*

Water was entering the main gearbox of the carrier rig that drills the casing hole. The design of the gearbox has a square gasket located around the round shaft on the top. When the drill shaft is vertical and operating in rainy weather, water runs down the drill shaft (also known as the Kelly) and into the gearbox.



*Drill pad cellars and well conductor casings*



*Texoma 700 drilling rig*



*Texoma 700 drilling rig main gearbox*



Greg Ransom, owner, was growing tired of constantly changing the emulsified oil in the gearbox. Greg had to change the oil every one to two weeks.

**LE Solution**

Larry Boyle, LE lubrication consultant, showed Greg how LE gear oil separates from water and recommended he try Duolec® Vari-Purpose Gear Lubricant (1605) in the Texoma 700 unit, which holds 3 gallons of gear oil. Duolec 1605 is a high-performance gear oil acceptable for use in any industrial gear or bearing application that requires a high thermal stability, EP lubricant. It is fortified with a shear stable tackifier to provide adhesion to metal during use.

**Results**

The unit was drained of water weekly. After a year of use, the oil still readily separated from the water. After a full year in service, the Duolec 1605 was changed however, because the oil started to take on a lot of dust and had thickened.

Commercial Grade Gear Oil	
Cost of oil per change	\$190
Cost of oil changed every 2 weeks for a year	\$4,560
Labor rate per hour, \$16 x 24 hours	\$384
Annual oil and labor costs	\$4,944
Duolec Vari-Purpose Gear Lubricant	
Cost of oil per change	\$393
Cost of one oil change per year	\$393
Labor rate per hour, \$16 x 1 hour	\$16
Annual oil and labor costs	\$409
<b>Duolec 1605 saves \$4,535 per year in oil and labor costs.</b>	

Duolec 1605 saved Ransom Drilling \$4,535 in oil and labor costs in one year on the main gearbox of the Texoma 700. Using the same formula, savings of \$6,618 are realized when comparing the supposedly cheaper commercial grade oil in the Texoma 800 rig to LE Duolec 1605. The 800 rig holds 15 gallons of gear oil in the gearbox.

Tommy Chapman, operations superintendent said, "We love the LE stuff!"

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Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.



*Texoma 800 drilling rig*



*Rock drill auger bits for drilling tough rock strata. Using bits like this, Ransom can drill holes from 12 to 36 inches in diameter.*

**Other LE Products Used**

Ransom uses Almagard® Vari-Purpose Lubricant (3751) to grease rig sheaves, U-joints and driveshafts. Bearings are regreased after drilling every third hole. When relubricating machine components, very little Almagard 3751 is needed.

While using commercial grade greases, Ransom had to regrease after drilling every hole, and it took a lot more grease to replenish the bearings.

Almagard 3751 is also used as the chassis grease on all of the company's rolling stock.

*Thank you to Greg Ransom, owner, Tommy Chapman, operations superintendent, and to Larry Boyle, LE lubrication consultant, for providing the information used in this report.*



*Larry Boyle*