

7530 POWER TRANSMISSION FLUID

Large Water Conservation & Irrigation District in California's San Joaquin Valley

Caterpillar Bulldozer • SIC 4911 Electric Services

CUSTOMER TESTIMONIAL

- ⇒ Lowered operating temperatures from over 240°F to between 160-170°F
- ⇒ Extended oil drain intervals from 1,000 hours to 3,000 hours
- ⇒ Received 30-40% more uptime using LE 7530

CUSTOMER PROFILE

This Large Water Conservation and Irrigation District is a 350,000 acre area in California's San Joaquin Valley. Here the three branches of the Kaweah River convene and form Lake Kaweah behind the Terminus Dam built in 1961. The dam was built as a flood control and irrigation project and holds back over 183,000 acre feet of precious water. Today it also provides hydro generated power and recreation benefits. The Water Conservation District maintains a vast complex of 200 miles of irrigation canals, pending and recharge basins using a variety of heavy equipment to deliver over 100,000 acre feet of water to their members. They have been an LE customer since 2001.

APPLICATION

The District uses a Caterpillar D4H bulldozer. It is equipped with five ripper shanks and a dozer blade. When canals and basins are dry, there is limited time to maintain and shape these water delivery and storage systems. The



dozer is in continuous heavy use during this short window of opportunity to perform maintenance work on the 200 miles of canals in the system.

AREA OF INTEREST

The District purchased the CAT D4H new in 1992. Since the first day on the job, the transmission ran hot, pegging the temperature gauge during dozing work. They knew the D4H would be marginally undersized for the dozing work on ponds and basins, but it was the largest Cat tracked dozer that would fit in the canal bottoms. The maintenance personnel would change the major branded oil every 1,000 hours in an effort to save the transmission. The overheating required frequent shut down to allow the

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transmission to cool down. Often, they would only get 4-6 hour of use in an 8 hour day. With a vast water delivery and storage system to maintain, and a limited time when canals were not in use, this loss of use due to overheating created major scheduling issues for R&R of the system.

They were interested in lowering transmission temperatures, extending oil service intervals to increase productivity of the D4H.

LE SOLUTION

LE Lubrication Consultant Mark Nickel introduced LE lubricants to the District in 2000. After positive results using LE's engine oil, transmission fluid and gear lubricant in their fleet of trucks, they decided to try 7530 Power Transmission Fluid in the demanding CAT D4H transmission application. LE 7530 is a heavy-duty, high performance power transmission fluid formulated for use in transmissions, final drives and wet brakes of equipment requiring a fluid that meets the Caterpillar TO-4 or Allison C-4 specifications as well as certain manual transmissions. It is manufactured from high quality 100% paraffinic base oils and carefully selected additives. It provides excellent friction properties, gear protection and resistance to oxidation.

CUSTOMER COST SAVINGS

The transmission was drained hot, filters were changed and the transmission refilled with LE 7530 Power Transmission Fluid. The

transmission temperature went from over 240°F (116°C) to about 160-170°F (71°-77°C). It has never gotten any hotter, even on the longest, hottest summer days. The D4H now runs from 6:30 am until dark with no overheating. Oil is changed every 3,000 hours, once a year.

Using the major brand oil, 3,000 hours cost \$1070 in oil, labor and filter costs. Using LE 7530 only costs \$538. That is a savings of \$532 without taking into account the increased uptime they now experience.

The Maintenance Foreman for the District stated, ***"We have had excellent results with several LE lubricants but 7530 has really saved us a ton of money. We have gained 30-40% more uptime and can really stay on top, if not ahead of schedule on vital canal and pond maintenance."***

OTHER PRODUCTS USED

8800 MONOLEC ULTRA® Engine Oil is used in all fleet pick-up trucks and automobiles with oil drain intervals set at 8-10,000 miles.

1150 TRANS-ALL EHP Automatic Transmission Fluid is used for all automatic transmissions.

1605 DUOLEC® Vari-Purpose Gear Lubricant is used for all differential applications.

The Maintenance Foreman said, ***"This winter our new CAT 330D Excavator will get a complete change over to LE's 7530."***

Lubrication Engineers Inc. would like to thank the Maintenance Manager, the Maintenance Foreman and LE Lubrication Consultant Mark Nickel for providing the information used to prepare this report.



Mark Nickel