

ABSTRACT

Well Cost Investigation and Analysis 1987-1990

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The cost of drilling wells over a four-year period 1987-1990 was analysed. The project was restricted to these years as this was the only reliable and complete data available. In carrying out this analysis, the entire cost of a well was divided into several components. These component costs and what they encompass are as follows:

Location: Laying/Repairs to Roadway. Matting/Dematting, Drilling Phase (Before and while Drilling Rig on location), Production Phase (After Drilling Rig moves off until well brought onto production).

Rig Cost/Move: Rig Move (Contractor Cost, for mobilisation and setup), Tractor (If site in poor condition tractor needed to move equipment on and off location) and Rig Cost (Daily Rate).

Cementation: Cementation 13-3/8", 9-5/8", 7" and Lay Cement Plug.

Logging: Logging Suites prior to running casing.

Directional:	Engineering and Mud Motor.
Mud Cost:	Engineering Services and Mud-base material and Chemicals.
Casing Services:	Running Casing.
General Labour:	Labour, cleaning while drilling (light surface work like keeping drains clear).
Transport:	Water, Mud and Equipment
Field Services:	Water Lines, Production Lines and Electrical.
Rental/Equipment:	Geolograph, Temp. Recorder, Solids Control, Centrifuge, Survey, Instrument, Monel, Stabilizer, Silo, Jar, Generator and Pump.
Materials:	Bits - 12-1/4" and 8-1/2", Casing and Accessories - 13-3/8", 9-5/8" and 7", Wellhead and Accessories, Tubing and Packer.
Completion:	Completion Services, Workover Rig and Gamma Ray/CCL Log and Perforation.

Wells drilled during a particular year were separated into three groups: thermal, non-thermal and exploratory. Very few exploratory wells were drilled however and these costs were not used in the analysis. For the thermal and non-thermal groups the above-listed component costs were summed and annual values of the component costs were used in the analysis.

The results of the analysis include for each group:

- (i) Footage drilled;
- (ii) Component cost; (As listed above)
- (iii) Component cost per foot drilled;
- (iv) Component cost as a percentage of total cost;
- (v) Component cost/foot increase and component cost/foot percentage increase;
- (vi) Total drilling cost/foot for various depth intervals; percentage increase over 1987; percentage increase from year to year.

In analysing the data it was found that to drill non-thermal wells the cost per foot increased from \$217.61 in 1987 to \$290.00 in 1990 while for thermal wells over the same period the cost per foot increased from \$171.20 to \$301.60. In the depth cost comparison over 1987 the largest increase was 80.28% in the 1000 - 2000 ft range while in the 6000 - 7000 ft range the increase was only 6.34%.