

LRC-IV-19
SIX-INCH DIAMETER FRACTIONATION SYSTEM
FOR PRODUCTION OF TRADE SAMPLES
DERIVED FROM LIGNITE VIA COAL GASIFICATION

CONTRACTOR: Dakota Gasification Company

PRINCIPAL INVESTIGATOR: Don Pollock
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PARTICIPANTS

<u>Sponsor</u>	<u>Cost Share</u>
Dakota Gasification Company	\$1,393,000
ND Industrial Commission	<u>75,000</u>
Total	\$1,468,000

Project Schedule – 3 Months

Contract Date – 2/6/90
Start Date – 10/10/89
Completion Date – 9/6/90

Project Deliverables

Final Reports – 9/6/90 ✓

OBJECTIVE / STATEMENT OF WORK

This proposal was originally submitted and approved as LRC-II-10 by ANG Coal Gasification Company and then withdrawn when Great Plains was acquired by Dakota Gasification Company. An objective of this study was to install a high efficiency six-inch diameter fractionation column to prepare cresylic acid distillate trade samples from lignite gasification byproducts. The physical and chemical properties of the distillation fractions were to be characterized. An immediate objective was to prepare phenolic trade samples. Long-range objectives include further scaleup.

STATUS

Construction of the fractionator was completed August 10, 1990, and the unit was turned over to the Process Development Department start up team for commissioning. The unit started shakedown operation August 18, 1990, and the column was producing specification products within 24 hours. Between August 26 and September 3, 1990, the 6" fractionator produced approximately 1,140 pounds of on-spec phenol and 1,206 pounds of on-spec cresylic acid.