LEGEND

Gravel		Shale/slate	
Rhyolite		Sandstone	
Andesite		Limestone	- Dolomitized
Qtz. Monz. Por.		Dolomite	
Granodiorite		Chert	

Mine: Area "X", Kansas-Missouri
Date Started: May 15, 1948
Date Stopped: June 5, 1948
Lease: Clemens Coal Company

Site: N.W.¼, Sec. 27, T29S, R25E
Bearing:
Inclination: Vertical

Co-ordinates of Collar — Bottom
North
East
Location: 4942'E. & 1036.0'S of N.W. Corner Sec. 27.

Elev. of Collar: 955.09'
Elev. Water Table: 755'
Elev. of Bottom: 383'
Length of Hole: 572'

Drill Hole No.: A-1
Sheet 1 of 3
Scale One Inch = 20' Feet

Driller: C. Shouse & Sons; Geo. Wilson

Date Drilled	Elev.	Feet	Log Rec C	Log Rec S	Rock and Alt.	Geology	Condition of Hole	Int.	Core Recovery Ft.	Core Recovery Lbs.	Core Recovery %	Core Assay Sample No.	Core Assay Copper Total	Core Assay Copper Oxide	Sludge Recovery Fac.	Sludge Recovery Lbs.	Sludge Recovery Tot. Lbs.	Sludge Recovery Lbs. Req.	Sludge Recovery %	Sludge Assay Sample No.	Sludge Assay Copper Total	Sludge Assay Copper Oxide	Comb. Ratio	Accepted Assay Copper Total	Accepted Assay Copper Product	Accepted Assay Copper Oxide	Accepted Assay Copper Product	Interval	Grouped Averages Copper Total	Grouped Averages Copper Product	Grouped Averages Copper Oxide	Grouped Averages Copper Product	Grouped Averages	Composite Assay	Remarks
	955.09'				Collar	0.0'																													
						Brown Clay Soil - Thin S.S. beds	Surface Water to 25'±																												
						15' Black Shale - Thin S.S. beds																													
						24'± Coal-Crowsburg 1'±	(Water)																												
						Limy black shale, some grey sandstone	10" Hole, Cased to 32'																												
						34'± Thin Coal-Fleming FeS_2																													
						Greyshale with s.s.																													
						44'± Coal-Mineral Vein																													
						Limy, sandy grey shale																													
						55'±																													
						Grey sandstone, some slate and shale.																													
						85'																													
						Grey SandsTone																													
						95'																													
						- Trace Tar																													
						Nat. Coal? (Water) Grey & Black Shales with some sandstone (Water)																													
						- Trace Tar																													
						135'																													
						Sandy shale & slates																													
	810'					143' 145' Weir-Pittsburg Coal (water) - tar	8" Hole Cased to 147'																												
						Grey & brown S.S. - Trace Tar																													

Cherokee formation

W.L.S. 7/29/48

Date Drilled	Elev.	Feet	Log Rec C	Log Rec S	Rock and Alt.	Geology	Condition of Hole	Int.	Core Recovery Ft.	Core Recovery Lbs.	Core Recovery %	Core Assay Sample No.	Core Assay Copper Total	Core Assay Copper Oxide	Sludge Recovery Fac.	Sludge Recovery Lbs.	Sludge Recovery Tot. Lbs.	Sludge Recovery Lbs. Req.	Sludge Recovery %	Sludge Assay Sample No.	Sludge Assay Copper Total	Sludge Assay Copper Oxide	Comb. Ratio	Accepted Assay Copper Total	Accepted Assay Copper Product	Accepted Assay Copper Oxide	Accepted Assay Copper Product	Interval	Grouped Averages Copper Total	Grouped Averages Copper Product	Grouped Averages Copper Oxide	Grouped Averages Copper Product	Grouped Averages	Composite Assay	Remarks
						175' - Heavy tar																													
						- Trace gas. Grey & Brown Sandstone - Trace Tar																													
						240' Grey-brown s.s. with black shale - Trace Tar.																													
						250' Grey & brown sandstone - Trace Tar																													
						275' Black shale. - Traces Tar.																													
						295' Limy shale																													
						300 Grey shale																													
						310 Black shale - Trace coal (Little Cabin?)																													
	636'					319' Unconformity.																													
						Dark grey and white Limestone - Traces Coarse FeS_2																													
	605'					350 Tr FeS_2 Grey and brown (light) Limestone with light and dark blue, grey cherts.																													
						390																													

Boone formation — Chester? — Warsaw

W.L.S. 7/29/48

Date Drilled	Elev.	Feet	Log Rec C	Log Rec S	Rock and Alt.	Geology	Condition of Hole	Int.	Core Recovery Ft.	Core Recovery Lbs.	Core Recovery %	Core Assay Sample No.	Core Assay Copper Total	Core Assay Copper Oxide	Sludge Recovery Fac.	Sludge Recovery Lbs.	Sludge Recovery Tot. Lbs.	Sludge Recovery Lbs. Req.	Sludge Recovery %	Sludge Assay Sample No.	Sludge Assay Copper Total	Sludge Assay Copper Oxide	Comb. Ratio	Accepted Assay Copper Total	Accepted Assay Copper Product	Accepted Assay Copper Oxide	Accepted Assay Copper Product	Interval	Grouped Averages Copper Total	Grouped Averages Copper Product	Grouped Averages Copper Oxide	Grouped Averages Copper Product	Grouped Averages	Composite Assay	Remarks
						Tan & greyish white limestones with light grey cherts.																													
						415' Short Creek oolitic lms.																													
	535'					420' Tan & grey Limestone, white chert Trace gas.																													
						Tr FeS_2																													
						Tr FeS_2 500 Grand Falls horizon. Tan Limestones and dolomites with white, spotted dirty cherts. Traces FeS_2																													
						Tr ZnS "																													
	420'					535 FeS_2 ZnS " Tan limestones and dolomites with white & light blue-grey cherts. Traces FeS_2, ZnS.	6" Hole, Cased to 537' 4 7/8" Hole to Bottom.																												
						Tr ZnS FeS_2 "																													
	383'					572 End.																													

Boone formation — Reeds Spring Form. — Burlington-Keokuk

W.L.S. 7/29/48