LEGEND

Gravel — shale & slate
Rhyolite — Sandstone
Andesite — Limestone (dolomitic)
Qtz. Monz. Por. — Dolomite
Granodiorite — chert

Mine: Area "X", Kansas-Missouri, Crawford County
Date Started: August 19, 1948
Date Stopped: August 28, 1948
Lease: Cherokee and Pittsburg Coal & Mng. Co.

Site: Section 33, T. 30 S., R. 24 E.
Bearing:
Inclination: -90° Churn

Coordinates of Collar — Bottom
North
East
Location: 119.5' E. & 42' S. of N.W. Corner, N.E. ¼ of Sec. 33.

Elev. of Collar: 933.26'
Elev. Water Table: 718'
Elev. of Bottom: 380'
Length of Hole: 553'
Driller: C. Shouse & Sons; S. D. Shouse

Drill Hole No. D-4
Sheet 1 of 3
Scale One Inch = 20 Feet

Date Drilled	Elev.	Feet	Log Rec C	Log Rec S	Rock and Alt.	Geology	Condition of Hole
	985.0'						0-120'; 10" Hole Cased
							120-323'; 8¼" Hole Cased.
							323-553'; 6¼" Hole
	933.26'				Collar	0.0' Brown clay soil	
						5' Brown red, sandy lms.	
						15' Limy black shale - thin coal	tr. FeS_2, tar; Fleming Coal
						25' Limy grey shale	
						35' Limy grey & black shale - thin coal	FeS_2 Mineral Coal
						40' Limy, light grey shale	tr. tar
						55' Limy, grey shale	
						60' Limy, light grey shale	
						65' Limy & sandy grey shale	
						70' Sandy, grey shale	tr. tar
						85' Limy dark grey shale & slate	
						90' Sandy, light grey shale	trace tar.
	816'					117' Coal	tr. FeS_2, tar; Weir-Pittsburg Coal
						Grey shale	
						125' Sandy, light grey shale	
						135' Grey shale	
						150' Black shale - thin coal	tar
						155'	

Cherokee formation

W.L.S. 9-8-48

Date Drilled	Elev.	Feet	Log Rec C	Log Rec S	Rock and Alt.	Geology	Condition of Hole
						155' Sandy, grey shale	
						160' Grey sandstone	
						165' Limy & sandy, grey shale	
						180' Limy, grey shale	
						185' Sandy, grey shale	tar
						190' Light grey shale	
						195' Fair coal	Coal
						Sandy grey shale	(tar)
						205' Grey shale - coal	Coal
						210' Sandy, light grey shale	
						235' Grey shale	tr. tar (-)
						255' Dark grey shale - trace coal	tar Coal
						260' Sandy, dk. grey shale - tr. coal	tar (-) Coal
						270' Black shale & slate	
						280' Dark grey shale	
						310' Sandy, dark grey shale - thin coal	tr. tar Coal
						315' Sandy, dark grey sh. & sl.	
	612'					321' Light tan limestone; white & dirty tan "cotton rock" chert, trace light grey chert	Weak FeS_2
						330' Cream-white & tan lms.; white & lt. med. gy. chert.	
						340' Light tan & grey lms.; white & spotty lt. gy. cherts	Tr. FeS_2 Trace ZnS (-)
						350' Tan, slightly dolomitic lms., white, lt. gy. & tan cherts.	
						360' Light tan lms - wh, lt. gy. & tan cherts	
						362'	

Boone formation — Warsaw

W.L.S. 9-8-48

Date Drilled	Elev.	Feet	Log Rec C	Log Rec S	Rock and Alt.	Geology	Condition of Hole
						362' Light tan lms; mixed white & lt. gy, some lt. tan cherts	
						370' Cream-white lms.; white & lt. grey cherts	
						380' Cream-white lms., some yellow stains; wh. & lt. gy. cherts	
						385' Cream-white lms.; greyish-white "cotton rock" chert.	
						390' Greyish-white "cotton rock" chert.	
	528'					401' ± Tan & brown oolitic lms. - wh. cherts.	Short Creek oolite
						405' Light tan lms., white chert, traces lt. grey chert.	
						445' Coarse grained, tan lms. white chert.	
						450' Fine grained, sandy tan lms. white chert.	
						455' Coarse, tan lms., white chert.	
						460' Sandy, tan lms., white chert.	
						465' Dirty, tan lms.; white chert.	
						475' Tan lms.; greyish-white "cotton rock" & tan cherts	
						480'	
	448'					485' Brown dolomite; grey-white "cotton chert", some tan chert.	Tr. FeS_2 ZnS (-)
						500' Grey-white "cotton rock" chert & tr. lt. grey & tan	Water
						505' Brown dolomite; grey-white "cotton rock" chert.	
						515' Grey-white "cotton" & lt. grey cherts	
						520' Grey-white (red spotted) "cotton" & lt. gy. cherts.	
						525' Grey-white & dark tan cherts, tr. grey.	
	403'					530' Sandy, brown dolomite; dark blue grey, tan, & cream-white cherts	
	380'					550' Grey dolomitic lms., blue gray & wh. cherts.	
						553' End	

Boone formation — Burlington-Keokuk; Grand Falls horizon; Reeds Spring formation

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