

Table B -1 Geological Formations Underlying the Injection Well Site

Formation	Approximate Depth (top)	Approximate Thickness (In WDW-1)	Remarks
Hennessee	Surface (Quaternary Alluvium is not present at the WDW-1 location)	856 feet	Regional massive shale aquitard with local, limited water zones
Garber – Wellington	1,300 feet	510 feet	Regional aquifer contains salt water at the proposed DEMC site
Post Oak	1,810 feet	2,135 feet	Mixed sand and shale formation was tried as a disposal zone in 1976 but was never used
Lower Post Oak (Upper Confining Zone)	3,945 feet	375 feet	Massive shale
Pawhuska (Primary Injection Zone)	4,320 feet	2,590 feet	Mixed sand and shale, no oil or gas production
Oread Formation (Lower Confining Zone)	6,810 feet	500 feet (not fully penetrated)	Massive shale – widespread correlation marker
Checkerboard	7,300 feet not drilled		No oil or gas production, but widespread correlation marker
Oswego	7,900 feet not drilled		No oil or gas production
Lower Pennsylvanian sands	8,200 feet not drilled		Minor oil and gas production
Hunton	8,400 feet not drilled		Major oil production
Viola	8,800 feet not drilled		Minor oil and gas production
First Wilcox	9,200 feet not drilled		Oil and gas production
Oil Creek	10,000 feet not drilled		Minor oil and gas, salt water disposal

Table B -2 Permeabilities Measured in the UCZ Core

Log Depth (ft)	Lithology	Air Permeability (md)	Klinkenberg Permeability (md)
3,922.30	Sandy shale	0.164	0.103
3,928.30	Shaley sand	166	150
3,938.10	Sandy shale	1.19	0.905
3,946.35	Sandy shale	*	*
3,958.20	Shaley, limey sand	0.055	0.029
3,966.30	Sandy shale	0.454	0.326

- Fractured sample

Log depth from Omni Core Report June 12, 2000

Log Depth (feet)	Air Permeability (md)	Klinkenberg Permeability (md)	Porosity (%)
Upper Sand Unit			
4,563	363	337	18.6
4,571	998	949	22.3
4,585	676	637	21.2
4,580	8.48	6.74	12.0
4,793	104	92.5	18.3
4,808	56.4	48.8	19.8
4,818	161	146	20.2
4,819	493	461	23.0
4,827	351	325	22.8
Lower Sand Unit			
6,153	120	107	14.7
6,156	129	116	14.8
6,171	152	137	18.9
6,178	546	512	16.3
6,436	22.5	18.7	11.3
6,443	63.2	55.0	15.1
6,447	111	99.0	15.5
6,460	215	196	16.5
6,469	112	100	15.0
6,481	60.1	52.2	14.2

Table B -3 TDS from Fluid Sample

Depth (ft)	Sample #	TDS
6,795.05	#1 (3750 ml)	96,300 ppm
6,795.05	#2 (10,300 ml)	47,938 ppm
4,920.04	#1 (10,300 ml)	106,147 ppm
4,920.04	#2 (3750 ml)	130,222 ppm

Table B -4 Chemical Characteristics of Pawhuska Formation Fluid

Chemical Constituent	Chemical Concentration (mg/l)	
	4,910 feet	6,795 feet
Barium	4.10	1.90
Calcium	2,610	2,410
Magnesium	830	650
Sodium	34,700	24,000
Chloride	112,450	63,750
Sulfate	375	366
Bicarbonate (as CaCO ₃)	64	180
Specific Gravity	1.0746	1.0473
Total Dissolved Solids	130,222	96,300
Total Suspended Solids	1,612	1,084

Table B -5 Water Wells

See Table B-5 PDF

Table B - 6 Analytical Results of Pumped Groundwater Samples from the Vicinity of the WDW #1 Injection Well, McClain County, Oklahoma.

Well Bore (Sample Number)	Depth Interval Perforated (Feet bgs)	Produced Water TDS (mg/L)	Deep Resistivity of Perforated Interval in the WDW #1 Bore-hole (Ohm-meters)
Sampling Well No. 1 (SW#1 Tank-6)	891 to 944	3,980 to 4,000	12
Sampling Well No. 2 (SW#2 1125 Feet)	1,097 to 1,115	8,410 to 8,530	7
Sampling Well No. 2 (SW#2 1150 Feet)	1,129 to 1,160	19,600 to 19,800	2.9
Sampling Well No. 2 (SW#2 1200 Feet)	1,187 to 1,259	39,400 to 41,200	1.5
Sampling Well No. 2 (SW#2 01 and SW#2 1380 Feet)	1,358 to 1,393	89,700 to 103,000	0.8