

ATTACHMENT G: CONSTRUCTION DETAILS

Facility name: Archer Daniels Midland, CCS#2 Well
 IL-115-6A-0001
 4666 Faries Parkway, Decatur, IL

Well location: Decatur, Macon County, IL;
 39° 53' 09.32835", -88° 53' 16.68306"

Open hole diameters and intervals

Name	Depth Interval (feet)	Open Hole Diameter (inches)	Comment
Surface	0 - 347	26	To bedrock
Intermediate	347- 5,234	17 ½	To primary seal
Long	5,234 - 7,190	12 ¼	To Total Depth

Casing Specifications

Name	Depth Interval (feet)	Outside Diameter (inches)	Inside Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (Short or Long Threaded)	Thermal Conductivity @ 77 ° F (BTU/ft.hr.°F)
Surface ¹	0 -347	20	19.124	94	J55	Short	31
Intermediate ²	0 -5,234	13 3/8	12.515	61	J55	Long or Buttress	31
Long ³ (carbon)	0 - 4,818	9 5/8	8.835	40.0	L80-HC	Long or Buttress	31
Long ³ (chrome)	4,818 - 7,190	9 5/8	8.681	47.0	13CR80	Special	16

Note 1: Surface casing is 347 ft of 20 inch casing. After drilling a 26" hole to 347' true vertical depth (TVD), 20", 94 ppf, J55, short thread and coupling (STC) casing was set and cemented to surface. Coupling outside diameter is ~21 inches.

Note 2: Intermediate casing: 5,234 ft of 13 3/8 inch casing. After a shoe test or formation integrity test (FIT) was performed, a 17 1/2" hole was drilled to 5,234' TVD. 13-3/8", 61 ppf, J55, long thread and coupling (LTC) or buttress thread and coupling (BTC) was cemented to surface. Coupling outside diameter is ~14 3/8 inches.

Note 3: Long string casing: 0-4,818 ft of 9 5/8 inch, L80-HC casing; 4,818' – 7,190' of 9 5/8 inch, 13CR80. After a shoe test was performed and the integrity of the casing was tested, a 12 ¼" hole was drilled to 7190' TVD or through the Mt. Simon, where the long string casing was run and specially cemented. Coupling outside diameter is 10 5/8 inches for L80-HC and 10.485 inches for the 13CR80.

Tubing Specifications

Name	Depth Interval (feet)	Outside Diameter (inches)	Inside Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (Short or Long Thread)	Burst strength (psi)	Collapse strength (psi)
Injection tubing ^{1,2,3}	0-6,350	5 ½	3.963	17	13CR80	Special	8,960	7,820

Note 1: Maximum allowable suspended weight based on joint strength of injection tubing. Specified yield strength (weakest point) on tubular and connection is 306,000 lbs.

Note 2: Weight of injection tubing string (axial load) in air (dead weight) is 88,200 lbs.

Note 3: Thermal conductivity of tubing @ 77°F is 16 BTU / ft.hr.°F.

The injection well has approximately 80 feet of cement above the casing shoe to prevent the injection fluid from coming in contact with the Precambrian granite basement. The figure on the following page is the “as built” well construction schematic for CCS#2.

IL-ICCS CCS #2 Well Schematic

Depths are reference to Kelly Bushing = 691.2 ft. above MSL
 KB = 15.5 ft. above ground, site elevation = 675.7 ft. above MSL

