

US EPA ARCHIVE DOCUMENT

ATTACHMENT D: INJECTION WELL PLUGGING PLAN

Facility Name: FutureGen 2.0 Morgan County CO₂ Storage Site
IL-137-6A-0001 (Well #1)

Facility Contacts: Kenneth Humphreys, Chief Executive Officer,
FutureGen Industrial Alliance, Inc., Morgan County Office,
73 Central Park Plaza East, Jacksonville, IL 62650, 217-243-8215

Location of Injection Well: Morgan County, IL; 26–16N–9W; 39.80111°N and 90.07491°W

The FutureGen Alliance shall comply with the reporting and notification provisions in 40 CFR 146.92.

Immediately Prior to Well Plugging:

Per the requirements at 40 CFR 146.92, The FutureGen Alliance must:

1. Flush each injection well with a buffer fluid;
2. Determine the bottomhole reservoir pressure using methods and procedures identified in Attachment C – Testing and Monitoring Plan; and
3. Demonstrate external mechanical integrity using methods and procedures identified in Attachment C – Testing and Monitoring Plan.

Information on Plugs:

Cementing to Plug and Abandon Data	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7
Diameter of Boring in Which Plug Will Be Placed (in)	7	7	7	7	7	7	
Depth to Bottom of Tubing or Drill Pipe (MD) (ft)	6,004 or 7,004 ^(a)	3,900	3,100	1,800	1,500	700	
Sacks of Cement to Be Used (each plug) (sks)	451 or 665 ^(a)	149	0	53	0	124	
Slurry Volume to Be Pumped (ft ³)	505 or 745 ^(a)	167	271	63	167	146	
Slurry Weight (lb/ft ³)	15.8	15.8	8.6	15.6	8.6	15.6	
Top of Plug (MD) (ft)	3,900	3,100	1,800	1,500	700	0	
Bottom of Plug (MD) (ft)	6,004 or 7,004 ^(a)	3,900	3,100	1,800	1,500	700	
Type of Cement or Other Material	EverCrete	EverCrete	6% Gel	Class A	6% Gel	Class A	
Method of Emplacement (e.g., balance method, retainer method, or two-plug method)	Balance	Method					
(a) This value applies to injection wells completed with a 2,500 ft lateral. MD = measured depth.							

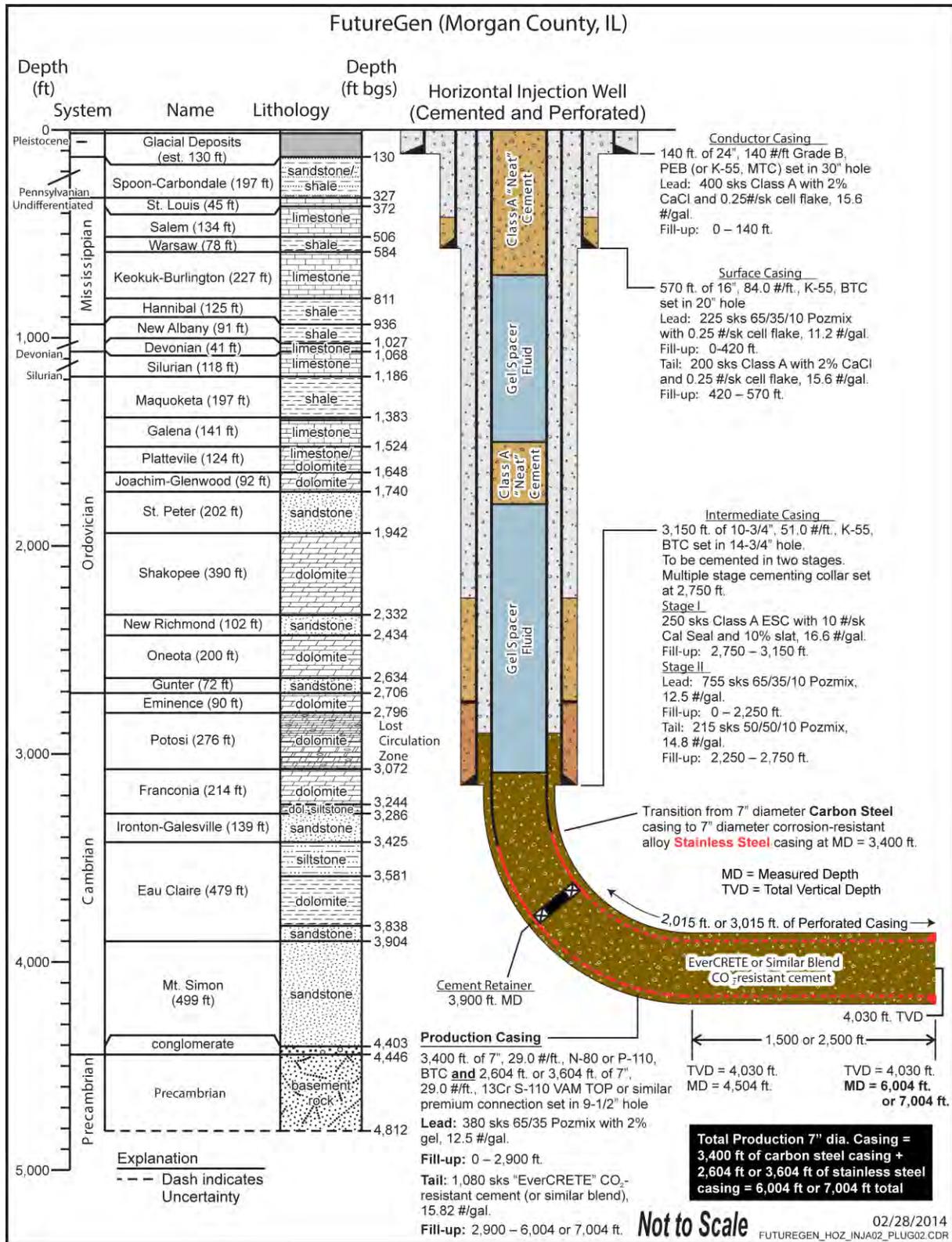


Figure 1. Diagram of Injection Well after Plugging and Abandonment (geology and depths shown in this diagram are based on site-specific characterization data obtained from the FutureGen 2.0 Stratigraphic Well).



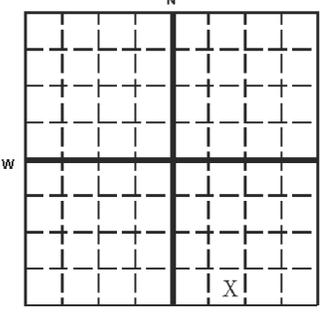
United States Environmental Protection Agency
Washington, DC 20460

PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility
Morgan County Class VI UIC Well #1
(cased well completion, 1,500 ft lateral) [address not yet available]

Name and Address of Owner/Operator
FutureGen Alliance, Inc.
73 Central Park Plaza East, Jacksonville, IL 62650

Locate Well and Outline Unit on Section Plat - 640 Acres



State Illinois **County** Morgan **Permit Number** not yet issued

Surface Location Descriptor
SE 1/4 of SE 1/4 of SW 1/4 of SE 1/4 of Section 26 Township 16N Range 9W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location _____ ft. frm (N/S) _____ Line of quarter section
and _____ ft. from (E/W) _____ Line of quarter section.

TYPE OF AUTHORIZATION

Individual Permit
 Area Permit
 Rule

Number of Wells 1

Lease Name _____

WELL ACTIVITY

CLASS I
 CLASS II
 Brine Disposal
 Enhanced Recovery
 Hydrocarbon Storage
 CLASS III

Well Number _____

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
24"	140.0	140'	140'	30"
16"	84.0	570'	570'	20"
10 3/4"	51.0	3,150'	3,150'	14 3/4"
7"	29.0	6,004'	6,004'	9 1/2"

METHOD OF EMPLACEMENT OF CEMENT PLUGS

The Balance Method
 The Dump Bailer Method
 The Two-Plug Method
 Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	7"	7"	7"	7"	7"	7"	
Depth to Bottom of Tubing or Drill Pipe (ft)	6,004	3,900	3,100	1,800	1,500	700	
Sacks of Cement To Be Used (each plug)	451	149	0	53	0	124	
Slurry Volume To Be Pumped (cu. ft.)	505	167	271	63	167	146	
Calculated Top of Plug (ft.)	3,900	3,100	1,800	1,500	700	0 (GL)	
Measured Top of Plug (if tagged ft.)	3,900	3,100	1,800	1,500	700	0 (GL)	
Slurry Wt. (Lb./Gal.)	15.82	15.82	8.6	15.6	8.6	15.6	
Type Cement or Other Material (Class III)	EverCrete	EverCrete	6% Gel	Class A	6% Gel	Class A	

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
(7" perforated casing) 3,950 ft MD	6,004 ft MD		

Estimated Cost to Plug Wells

Plug #1 Set through a cement retainer set at 3,900 ft MD
\$600,000.00

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)
Kenneth K. Humphreys, Chief Executive Officer

Signature
Kenneth K. Humphreys

Date Signed
03/03/2014

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