## CORRECTION(S) TO WATER WELL RECORD (Form WWC-5)

(to rectify lacking or incorrect information)

LOCATION OF WATER WELL: County: Cherokee		1/4 C 1/4 SE1/4			wnship 32			nge 	ŒΕ	□W
Owner: Chemex 1										
Location was listed as: None Given Location changed to:										
Sec TS F	RF	E □W	Sec26	<u> </u>	32	S	R _	22	E	$\square W$
Fraction:			Fraction:	N/A						
Other changes: Initial statements: No.	o PLSS give	en. No use given.		************************						
Changed to: well is environmental remediation/soil vapor extraction								tion		
Well ID is VEW-1, per attached well log.										
Comments: No WWC5 was received for this well.							-			
Comments:										
Verification method: Address of well given on WWC5 plugging record, KGS water well interactive map,										
and WWC5 database.										
			ir	nitials:	DLS	da	ate:	10/17	/2012	
Submitted by: Kansas Geological Survey, Data Resources Library, 1930 Constant Ave., Lawrence, KS 66047-3726 to: Kansas Dept of Health & Environment, Bureau of Water, 1000 SW Jackson, Suite 420, Topeka, KS 66612-1367.										
to. Kansas Dept of Health & Environment, Bureau of Water, 1000 SW Jackson, Suite 420, 10peka, KS 00012-1307.										

WATER WELL RECORD	Form WWC-5	Division of Water Resources App. No.
1 LOCATION OF WATER WE County: Cherokee	LL: Fraction 1/4 1/4 1/4	Section Number Township No. Range Number T S R E W
	cation; if unknown, distance & direction: If at owner's address, check here umbus, KS 66725	
RR#, Street Address, Box #:	CHEMEX 1 16 South Pennsvlvania DKC, OK 73107	Collection Method:  GPS unit (Make/Model:)  Digital Map/Photo, Topographic Map, Land Survey  Est. Accuracy: <a href="#">S</a> 3 m, 3-5 m, 5-15 m, >15 m
SECTION BOX:  N  WELL'S  WELL'S  WELL'S  EST. YII  Bore Ho  WELL V  Dom  Irrig  Was a cl  If y  Water w	Pump test data: Well water was  Pump test data: Well water was  ELDgpm. Well water was  Ile Diameter 8in. to  WATER TO BE USED AS:   Public Preedlot   Industrial   Domestic Preedlot   Industrial   Domestic Preedlot   Sell disinfected?   Yes   No	ft. (2)
CASING JOINTS:	☐ Clamped ☐ Welded ☐ Three o .7.7	aded   . in. to
	Lateral lines	
FROM TO LIT	HOLOGIC LOG FROM	
see attached lo	gs	
under my jurisdiction and was com Kansas Water Well Contractor's Lunder the business name of Cah	pleted on (mo/day/year) .09/11/12 icense No793 This Water W oy Pump Service, Inc.	water well was   constructed,   reconstructed,   plugged  and this record is true to the best of my knowledge and belief.  lell Record was completed on (mo/day/year) 09/26/12  by (signature)   reconstructed, or   plugged  my knowledge and belief.
(white, blue, pink) to Kansas Depar tment Telephone 785-296-5524. Send one cop http://www.kdheks.gov/waterwell/index.htr	of Health and E nvironment, Bureau of Water, y to WATER WELL OWNER and retain one	Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. for your records. Include fee of \$5.00 for each constructed well. Vi sit us at
KSA 82a-1212		Check: White Copy, Blue Copy, V Pink Copy

## ARCADIS

## Sample/Core Log (Cont.d)

Boring/Well	VEW	- 1	Page of
Prepared by	Larry	Benella	i est. ground level 869'
Sample/Core Depth (feet below land surface)	Core Recovery	Time/Hydraulic Pressure or Blows per 6	
From To	(feet)	Inches	Sample/Core Description
Suy 13'			Clay - yellow brown to guy
13' 20			Weatherd Shale (clay) lean clay grey
20' 29'			Shale light grey to grey
29' 30'			Limestone, hard, dark grey
30' 30.5			Coal, black
30.5 32			Claystone, light grey soft
32 34			Shale grey
24 4 <del>4</del>			Sand stone, med in one, fine silty
44 69			Shale dark grey medin hard
69.5 69.7	7		Coal black, hard vitreous
69.7 84.5			Shale light every seft to medin hard
84,5 85.3			Coal black, some vitreaus, soft dustu
85.3 93.5	-		Shake, medium grey, Irmy, medin hard
93.5 100.			Shale, black, medin hard
·			, , , , , , , , , , , , , , , , , , , ,
			8-in Cable tool borehole surface to 65 bgs
			5-in Steel welled cosing surface to 65' bys
			47/8" Air rotary bovelole 65' to 100.2' bgs
			2-in PVC 0.010-Statted screen set 77-87. bys
			2-in Ne threated riser sent 77- to 3+1 bc.
			Bontonite chips 90-100' bgs 10/20 Sord pade 90-74.5' bgs Bentonite seal 74.5-70' bgs neat cement grout 70'- surface
			10/20 Sord pade 90-74.5 655
			Bentonite seal 74.5-70 bas
			neat cement grout 70'- Jurque
		***************************************	<i>y</i>

Date Start/Finish: 10/16/2010 - 11/7/2010

Drilling Company: Cahoy Drilling, Fredricksburg, IA

Driller's Name: Mark Classen

**Drilling Method:** Cable Tool / Air Rotary **Borehole Size:** 8-in / 5-in

Sampling Method: Cuttings

Borehole Depth: 100.2 ft bgs

Surface Elevation: 869 ft AMSL (est.)

Descriptions By:

Larry Benolkin / Alex Walter

Well/Boring ID: VEW -1

Client: CHEMEX I

Location: Hallowell, Kansas

Project Number: KC001512.2010

L	-		-		
DEPTH	ELEVATION	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
[			1		
t	j				Locking J-Plug Steel Protective
-					Oteel Plotective Oceaning
		CL	Control Statement Control Stat	CLAY Some Silt; Roots and root traces; trace plasticity. Yellow-brown, 10YR 5/8	Concrete Pad (0- 0.5' bgs)
-5	-5 	CL		CLAY Mottled Colors, dry, stiff to hard, trace plasticity, occasional iron concretions (<1 mm). Yellow- brown, gray, 10YR 5/8 & 10 YR 6/1	
t	-			CLAY Root traces, trace plasticity, damp to dry. Black.	
10	-10 -	CL		CLAY Weathered shale features, moist, sticky, soft, root traces. Yellow-brown and red, 10 YR 5/8 & 10 YR 4/6.	
F	-	CL		CLAY Weathered Shale, dry, non-cohesive, stiff.	
15	-15	ŞH		CLAY Weathered shale, dry, thinly bedded, non-cohesive. Gray	
<u> </u>	- -	SH		SHALE Weathered shale with occasional gravel-sized iron concretions that are gray on the outside and reddish orange on the inside. Gray.	
-20	-20 -	SH		SHALE Fissie, dry, non-cohesive. Reddish Gray, 5 Y 5/1.	
- 25	-25	SH		SHALE Hard. Light gray to gray.	
30	-30	LM		LIMESTONE "Scammon Cap Limestone" Hard, very slow drilling, fine crystalline, no visible fossils, finely lamainated, hard, small, pieces float on water. Medium, dark gray (N4, black).	
-	-	cs		CLAYSTONE Silty, intermixed with coal. Light gray to white, gray.	5" Stainless Steel welded
t	-	SH	<u> </u>	COAL Coal (at 30.5 ft bgs, 2" thick)	casing (3' ags -
35	-35 <b>-</b> -			CLAYSTONE Silty, intermixed with coal. Light gray to white, gray.	65' bgs) 8" borehole diameter
ŀ	_			SHALE Gray.	Neat Cement
40	-40 <del>-</del>	SS		SANDSTONE "Lower Chelsea Sandstone." Fine grained, well sorted, predominately quartz, trace mica, laminated, silty. Medium Dark Gray (N4).	Grout (0-70' bgs) 2" Sch 40 PVC riser (3' egs-77' bgs)
-	-			SHALE Finely laminated, aphanitic occasional siderite. Medium dark, gray (N4).	
- 45	-45 -				
-	-	- CU			
+	-	SH			
50	-50 -	]			
F	-	1	H		i raka taka 1



Remarks: ags = above ground surface; bgs = below ground surface; NA = Not Applicable/Available; AMSL = Above Mean Sea Level.

CL = Clay SH = Shale

CS = Claystone

LM = Limestone

SS = Sandstone

Date Start/Finish: 10/16/2010 - 11/7/2010

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Well/Boring ID: VEW -1

Client: CHEMEX I

Location: Hallowell, Kansas

Project Number: KC001512.2010

State of the last					
DEРТН	ELEVATION	USCS Code	Seologic Column	Stratigraphic Description	Well/Boring Construction
L					4 PRA PAPI
-	-	SH		SHALE Finely laminated, aphanitic occasional siderite. Medium dark, gray (N4). Possible HC odor	
55	-55	<u> </u>		SHALE Medium to hard, finely laminated aphanitic, fissile, no indication of fractures or secondary	
- 60	-60		ACCOUNTS OF THE PROPERTY AND THE PROPERTY OF T	crystallization. N4 to black	
		SH			
-					
65 	-65 <del>-</del>	SH		SHALE Medium hard, aphanitic, fissie, dry. Very dark gray (N4)	Neat Cement
t	-	911		SHALE soft, light gray; hard.	Grout (surface -
70	-70 -	SH		COAL Vitreous coal (69.5-69.7 ft bgs)	70' bgs)
+	4			SHALE soft, light gray; hard.	Bentonite Chips
75	-75 <b>-</b>	SH		SHALE Silty, medium hard, fine grained, non-clacareous.	(70-74.5' bgs)
80	-80	SH		SHALE medium hard, phanitic, trace pyrite, massive bedded. medium gray.	10/20 Sand Pack
					(74.5-90' bgs)
-	1	SH		SHALE hard, aphanitic to fine grained fissle, non-calcareous. medium gray.	2" PVC 0.010" Slot Screen (77- 87' bgs)
85	-85 -	Coal		COAL (84.5 - 85.3 ft) "Tebo Coal" Soft, some vitreous, some non-reflective, dusty, trace pyrite	
F	-	SH SH		SHALE medium hard, non-calcareous, gray.	10/20 Sand Pack
+	-			SHALE hard, calcareous, fissle	(87-90' bgs)
90	-90 <del></del>	SH		SHALE soft, non-calcareous, medium gray.	N.N.N.
+	-			SHALE medium hard, fissle, non-calcareous, very dark gray to black	INININI INININI
<b>h</b>	-	1			N.K.
95	-95 <b>-</b>				Bentonite Chips (90-100.2' bgs)
-	_	SH			N:N:N:
<b>†</b>		1			
100	-100 -	J		<u></u>	



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