

LocationWestinghouseDepth of Water @N/A1. Time of installationN/A2. At least 24 hours laterSee Table 1Drilling MethodWash Boring

OBSERVATION WELL RECORD

Page 1 of 1 Piezometer No. W-13 Date Installed 5-14-80

LAW ENGINEERING TESTING COMPANY

DHEC RONOTE PROTECT PROSPER	Water Well Record Bureau of Water 2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300			
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: Site ID# 00456		
Name: Westinghouse Electric C				
(lest)	(first)	8. USE:		
Address: Drawer R		Residential Public Supply Process		
City: Columbia State: S	C ZIP: 29250-0000	Irrigation     IAir Conditioning     Emergency     Test Weil     Amonitor Weil     Replacement		
Telephone: Work:	Home:	9. WELL DEPTH (completed) Data Started: 10/8/10		
2. LOCATION OF WELL:	COUNTY: Richland	18.5 ft. Date Completed: 10/8/10		
Name: Westinghouse	· ·	10. CASING: D Threaded D Welded		
Street Address: 5801 Bluff Roa	d	Dlam.: Height: Above Below 🗹		
City: Columbia	Zip: 29209-0000	Type: D PVC D Galvanized Surface ft.		
		Steel O Other Weight Ib./ft.		
Latitude: Longitus	Je:	0 in. to ft. depth Drive Shoe? □ Yes [2] No in. to ft. depth		
3. PUBLIC SYSTEM NAME:	PUBLIC SYSTEM NUMBER:			
		Type: Diam.:		
4. ABANDONMENT: Z Yes	] No	Slot/Gauge: Langth: Langth: Set Between: ft. and ft. NOTE: MULTIPLE SCREENS		
		f. andt. USE SECOND SHEET		
Grouted Depth: from 0		Slave Analysis 🔲 Yes (please enclose) 🛛 No		
	*Thickness Depth to	12. STATIC WATER LEVEL fl. below land surface after 24 hours		
Formation Description	of Bottom of Stratum Stratum	13. PUMPING LEVEL Below Land Surface.		
	Suatum Suatum	fit. after hrs. Pumping G.P.M.		
4		Pumping Test:  Yes (please enclose)		
		Yleid:		
Į		14. WATER QUALITY		
		Chemical Analysis 🛛 Yes 💋 No 🛛 Bacterial Analysis 🗋 Yes 🖾 No		
		Please enclose lab results.		
		15. ARTIFICIAL FILTER (filter pack) 🔲 Yes 🗋 No		
		Installed fromfl. tofl.		
		Effective size Uniformity Coefficient		
		16. WELL GROUTED? TYes I No		
		🔲 Naat Cemant 🔲 Bentonite 🗌 Bentonite/Cemant 🔲 Other		
		Depth: From ft. to ft.		
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction		
		Туре		
		Well Disinfected D Yes D No Type: Amount:		
		18. PUMP: Date installed: Not installed 2		
		Mfr. Name: Model No.:		
	- <del>}}</del>	H.P Volts Length of drop pipeft. Capacity gpm		
		TYPE: Submersible I Jet (shallow) I Turbine Jet (deep) I Reciprocating I Centrifugal		
		Address: (Print) Level: A B C D (circle one)		
		171 Lott Ct, W.Columbia, 29169		
*Indicate Water Bearing Zones		Telephone No.: 803-429-3001 Fax No.:		
		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under		
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.		
5. REMARKS:				
MW-13				
		Signed: Date: 10/20/10		
		Weil Driller		
6. TYPE: D Mud Rotary Dette	ed 🔲 Bored	If D Level Driller, provide supervising driller's name:		
🖬 Dug 🔲 Air F	Cotary Driven			
Cable tool 🛛 Othe	r			
Lugarente de la composition de				

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D H E C		2600 Bi	Water Well Record Bureau of Water Il Street, Columbia, SC 29201-1708; (803) 898-4300
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: Site ID# 00456
Name: Westinghouse Electric Co	).		Site 1D# 00456
(lest) Addrese: Drawer R	(fir	51)	8. USE:
City: Columbia State: SC	te: SC Z1p: 29250-0000		Irrigation     Air Conditioning     Emergency       Test Well     MonitorWeli     Replacement
Telephone: Work:	Homa:		9. WELL DEPTH (completed) Date Started: 10/8/10
2. LOCATION OF WELL: C	OUNTY: Rich	land	20 ft. Data Completed: 10/8/10
Name: Westinghouse			10. CASING: 12 Threaded Q Welded
Street Address: 5801 Bluff Road			Diam.: 2" Height: Above Below 2
City: Columbia Zip: 29209-0000			Type: 12 PVC C Galvanized Surfacef. Steel C Other Weightb/ft.
Latitude: Longitude:			0 in. to fl. depth Drive Shoe? ☐ Yes ☑ No
A DUDU IC OVOTEN NAME. DI		M NUMBER:	
3. PUBLIC SYSTEM NAME: PL	/BLIC 87818	m number:	11. SCREEN:         2"           Type:         PVC         Diam.: 2"           Stot/Gauge:         0.010         Length: 5'           Set Between:         15         ft. and 20         ft.         NOTE: MULTIPLE SCREENS
4. ABANDONMENT: Ves 2	No		Stot/Gauge: 0,010 Length: 5'
			Set Between:         13         fl. and 20         fl.         NOTE: MULTIPLE SCREENS
Grouted Depth: from	ft. to	ft.	Sieve Analysis Sieve
	*Thickness	Depth to	12. STATIC WATER LEVEL 12 fl. below land surface after 24 hours
Formation Description	of	Bottom of Stratum	13. FUMPING LEVEL Below Land Surface.
			ft. after hrs. Pumping G.P.M.
Claycy sand	5	5	Pumping Test: 🔲 Yes (please enclose) 🖬 No
Sand	15	20	Yisid:
			14. WATER QUALITY
			Chemical Analysis 🔲 Yes 🗹 No 🛛 Bacterial Analysis 🔲 Yes 🗹 No Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) 2 Yes D No
······			Installed from 13 ft. to 20 ft. Effective size Uniformity Coefficient
			16. WELL GROUTED?       [2] Yes       10 No         [2] Neat Cement       [] Bentonite       [] Bentonite/Cement       [] Other         Depth:       From       0       ft. to       11
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction
	<b>{</b>		Type Well Disinfected Type: Amount:
	L		18. PUMP: Date Installed: Not installed 2
· · · · · · · · · · · · · · · · · · ·	1		Mfr. Name: Model No.:
	<b> </b>	<b> </b>	H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
		h	Jet (deep) I Reciprocating Centrifugat
1			19. WELL DRILLER: Jason Chiorazzi CERT. NO.: 1790
· · · · · · · · · · · · · · · · · · ·			Address: (Print) Level: A B C D (dircle one) 171 Lott Ct, W.Columbia, 29169
*Indicate Water Bearing Zones	1	<u> </u>	Telephone No.; 803-429-3001 Fax No.:
-		( İ	20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)	<u> </u>	Į	my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
Replacement Well - MW-13R	}		Signed: Date: 10/20/10
		Bornd	Wellor
6. TYPE: C Mud Rotary C Jetted Dug Air Ro Cable tool 2 Other	=	Bored Driven	If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

	Water Well Record Bureau of Water 2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300			
1. WELL OWNER INFORMATION:	<b>.</b>		7. PERMIT NUMBER: Site ID No. 00456	
Name: Westinghouse Cola Fuel Fabrication Facility			Site ID No. 00456	
(last) (first) Address: PO Drawer R			8. USE:	
	SC Zip: 292	250-0000	Residential     Public Supply     Process       Irrigation     Air Conditioning     Emergency       Test Well     Ø Monitor Well     Replacement	
Telephone: Work;	Home:		9. WELL DEPTH (completed) Date Started:	
2. LOCATION OF WELL:		nd	ft. Date Completed:	
Name: Westinghouse Cola Fuel			10. CASING: Threaded Welded	
Street Address: 5801 Bluff Roa			Diam.: Height: Above /Below	
City: Columbia	Zip:		Type: PVC Galvanized Surface ft.	
			□ Steel □ Other Weight Ib./ft. in. to ft. depth □ Drive Shoe? □ Yes ☑ No	
Latitude: Longitu	ide:		in. to ft. depth	
3. PUBLIC SYSTEM NAME:	PUBLIC SYSTEM	NUMBER:	11. SCREEN:	
W-23			Type: Diam.:	
4. ABANDONMENT: I Yes	🗆 No		Stot/Gauge:         Length:           Set Between:         ft. andft.         NOTE: MULTIPLE SCREENS	
			ft. andft. USE SECOND SHEET	
Grouted Depth: from 0		ft.	Sieve Analysis 🔲 Yes (please enclose) 🗌 No	
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL ft, below land surface after 24 hours	
Tormatori Description	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.	
			ft. after hrs. Pumping G.P.M.	
			Pumping Test: [] Yes (please enclose) [] No Yield:	
			14. WATER QUALITY Chemical Analysis I Yes INo Bacterial Analysis I Yes I No	
			Please enclose tab results.	
			15. ARTIFICIAL FILTER (filter pack)  Yes No	
			Installed from ft. to ft.	
			Effective size Uniformity Coefficient	
			16. WELL GROUTED?      Yes      No     Neat Cement      Bentonite      Bentonite/Cement      Other	
			Depth; From ft. to ft.	
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction	
			Type Amount: Amount:	
······································			18. PUMP: Date installed: Not installed [	
			Mfr. Name: Model No.:	
			H.P Volts Length of drop pipe ft. Capacity gpm TYPE: Submersible Jet (shallow) Turbine	
L			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal	
			19. WELL DRILLER: Jason Chiorazzi CERT. NO.: 1790	
			Address: (Print) Level: A B C D (circle one)	
			2047 Industrial Blvd. Lexington, SC 29072	
*Indicate Water Bearing Zones			Telephone No.: 803-429-5001 Fax No.:	
			20. WATER WECK DRILLER'S CERTIFICATION: This well was drilled under	
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.	
5. REMARKS: MW-23 abandoned on 06/22/11 by				
grouting through tremie pipe with nea	t	]		
cement from 0 - 20 ft. See attached			Signed: Date: 7/1/11	
			Well Driller	
6. TYPE:  Mud Rotary  Jetted  Bored  Dug  Air Rotary  Driven			If D Level Driller, provide supervising driller's name:	
Cable tool	•			

D H E C	Water Well Record Bureau of Water			
PROMOTE PROTECT PROSPER	<del></del>	2600 Bi	ull Street, Columbia, SC 29201-1708; (803) 898-4300	
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: Site ID No. 00456	
Name: Westinghouse Cola Fuel Fabrication Facility (last) (first)			······	
Address: PO Drawer R			8. USE:	
			Irrigation     Air Conditioning     Emergency	
City: Columbia State: SC Zip: 29250-0000			Test Well  Monitor Well Replacement	
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 06/22/11	
2. LOCATION OF WELL: C			20.5 ft. Date Completed: 06/22/11	
Name: Westinghouse Cola Fuel I	Fabrication F	acility	10. CASING: 2 Threaded Welded Diam.: 2.0 in Height: Above /Below	
Street Address: 5801 Bluff Road City: Columbia Zip:			Diam.: 2.0 In     Height: Above /Below       Type: I PVC     Galvanized       Surface     3.3 / ADOVC       ft.	
City: Columbia Zip:			Steel O Other Weight  b./(t.	
Latitude: Longitud	e:		2.0         in. to         15.5         ft. depth         Drive Shoe?         I Yes         I No	
3. PUBLIC SYSTEM NAME: P	UBLIC SYSTE	M NUMBER:	11. SCREEN: Type: <u>PVC</u> Diam.: 2.0 in	
W-23R	Na		Slot/Gauge: 0.010 in Length: 5 II	
4. ABANDONMENT: □ Yes ☑ No Grouted Depth: from ft. to ft.		4	Set Between: 15.5 ft. and 20.5 ft. NOTE: MULTIPLE SCREENS ft. andft. USE SECOND SHEET	
Grouted Depth: from	Thickness		Sieve Analysis  Yes (please enclose) No	
Formation Description	of	Bottom of	12. STATIC WATER LEVEL 16.08	
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.	
Sandy Silt	4.5'	4.5'	Pumping Test: Ves (please enclose) (2) No Yield:	
Sand	15.5'	20'	14. WATER QUALITY	
Clay	1' .	20'	Chemical Analysis 🗋 Yes 🛛 No 🛛 Bacterial Analysis 🔲 Yes 🖾 No Please enclose lab results.	
1			15. ARTIFICIAL FILTER (lilter pack) 2 Yes D No	
		<u>                                     </u>	Installed from 13.0 ft. to 20.5 ft. Effective size No. 2 Uniformity Coefficient	
			16. WELL GROUTED? [7] Yes [] No	
	**		Vector ED P [] les	
			Depth: From 0 ft. to 13.0 ft.	
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: 500 ft. NW direction Type	
			Well Disinfected 🗆 Yes 🗹 No Type: Amount:	
			18. PUMP: Date installed: Not installed [2]	
			Mfr. Name: Model No.: H.P Volts Length of drop pipe ft. Capacity gpm	
			TYPE:  Submersible  Jet (shallow)  Turbine	
			🗍 Jet (deep) 📄 Reciprocating 📄 Centrifugal	
			19. WELL DRILLER: Jason Chiorazzi CERT. NO.: 1790	
· · · · · · · · · · · · · · · · · · ·	+		Address: (Print) Level: A B C D (circle one) 2047 Industrial Blvd.	
			Lexington, SC 29072 Telephone No.: 803-429-5001 Fax No.:	
*Indicate Water Bearing Zones				
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.	
5. REMARKS:				
			Signed;Date:	
			Well-Driller	
6. TYPE:  Mud Rotary Jettee	_	Bored	If D Level Driller, provide supervising driller's name:	
Dug Air Ru		Driven		
Cable tool Other				

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COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)





## Ryder, Christopher

From: Sent: To: Subiect: Couture, Gerard F. [CouturGF@westinghouse.com] Friday, July 06, 2012 2:37 PM Ryder, Christopher Re: Reminder

## Yes only a few feet apart

From: Ryder, Christopher [mailto:Christopher.Ryder@nrc.gov] Sent: Friday, July 06, 2012 02:35 PM To: Couture, Gerard F. Subject: Reminder

The response to RAI 10 states, "The coordinates of the old W-23 are N 33 52 47.7 latitude W 80 55 05.2 longitude verses the replacement well coordinates N 33 52 47.7 latitude W 80 55 05.2 longitude."

The coordinates of the old and new wells of W-23 are the same.

Please verify.

Thanks.

From: Couture, Gerard F. [mailto:CouturGF@westinghouse.com] Sent: Friday, July 06, 2012 2:05 PM To: Ryder, Christopher; Adams, Mary Cc: Logsdon, Cynthia J.; <u>charles.suddeth@aecom.com</u> Subject: Westinghouse well documentation

Mr. Ryder,

Attached please find supplemental information to our official RAI responses. The attached well records indicate that the new wells are in the same aquifer. However, it may be difficult for someone to confirm if they are not used to looking at well records. Following is the contact information for our contract firm expert who has graciously offered to address any additional follow-up questions you may have pertaining to well placement.

Also attached to next two emails are pictures showing where W-13R is in relation to the Google Earth estimation of the GPS coordinates given by our handheld equipment (which pinpoints the middle of the road). According to Google Earth, the well (which shows up looking like a white square next to the Brigade Building) is actually better estimated N 33 52 47.97, W 80 55 12.00.

Chuck Suddeth, P.G. Senior Hydrogeologist Ph: (803) 798-1073 x3956 Cell: (803) 522-3017 charles.suddeth@aecom.com

AECOM 810 Dutch Square Blvd., Suite 202 Columbia, SC 29210 Gerard Couture Manager, Licensing & Regulatory Programs Columbia Fuel Fabrication Facility

Westinghouse Electric Company LLC 5801 Bluff Road Hopkins, SC 29061-9121, USA Phone: (803) 647-2045 Cell: (803) 727-2127 Email: <u>couturgf@westinghouse.com</u>

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