Ground Water Rule Workshop for Regulators

Description of Ground Water Systems

The Apple Valley Water District is a community water system that provides water to 5,000 people. In addition, Apple Valley sells water to two other community water systems: Bear Mountain Village and the Town of Cedar Heights. Each of these consecutive systems serves 1,000 people.

The following individuals are involved with making decisions at Apple Valley Water District, Bear Mountain Village, the Town of Cedar Heights, and at the State.

Apple Valley Water District**:**	Julie Levey, Operator
Bear Mountain Village**:**	Susan Friedman, Director of Public Utilities
Town of Cedar Heights**:**	Joseph (Joe) Johnson, Water Operations Facilities Supervisor
State Health Department, Drinking Water Division**:**	Brian Smith, Director Jeff Lewis, Engineer Jill Lee, Temporary Intern, conducted sanitary surveys in summer/fall 2013 **YOU**, member of the DW Division

Apple Valley's water is obtained from four wells. Water from Well 1 and Well 2 is treated only for corrosion control at Treatment Plant 1 and then feeds the low pressure zone of Apple Valley's distribution system. Cedar Heights receives water from this part of the distribution system. Water from Well 3 and Well 4 is treated only for corrosion control at Treatment Plant 2 and is then pumped to feed the high pressure zone of Apple Valley's distribution system. This water also serves Bear Mountain Village. The interconnection between Apple Valley's two pressure zones remains closed under normal operating conditions. Apple Valley's last sanitary survey was conducted on November 5, 2013, and the system is scheduled to have a sanitary survey again by November 2016.

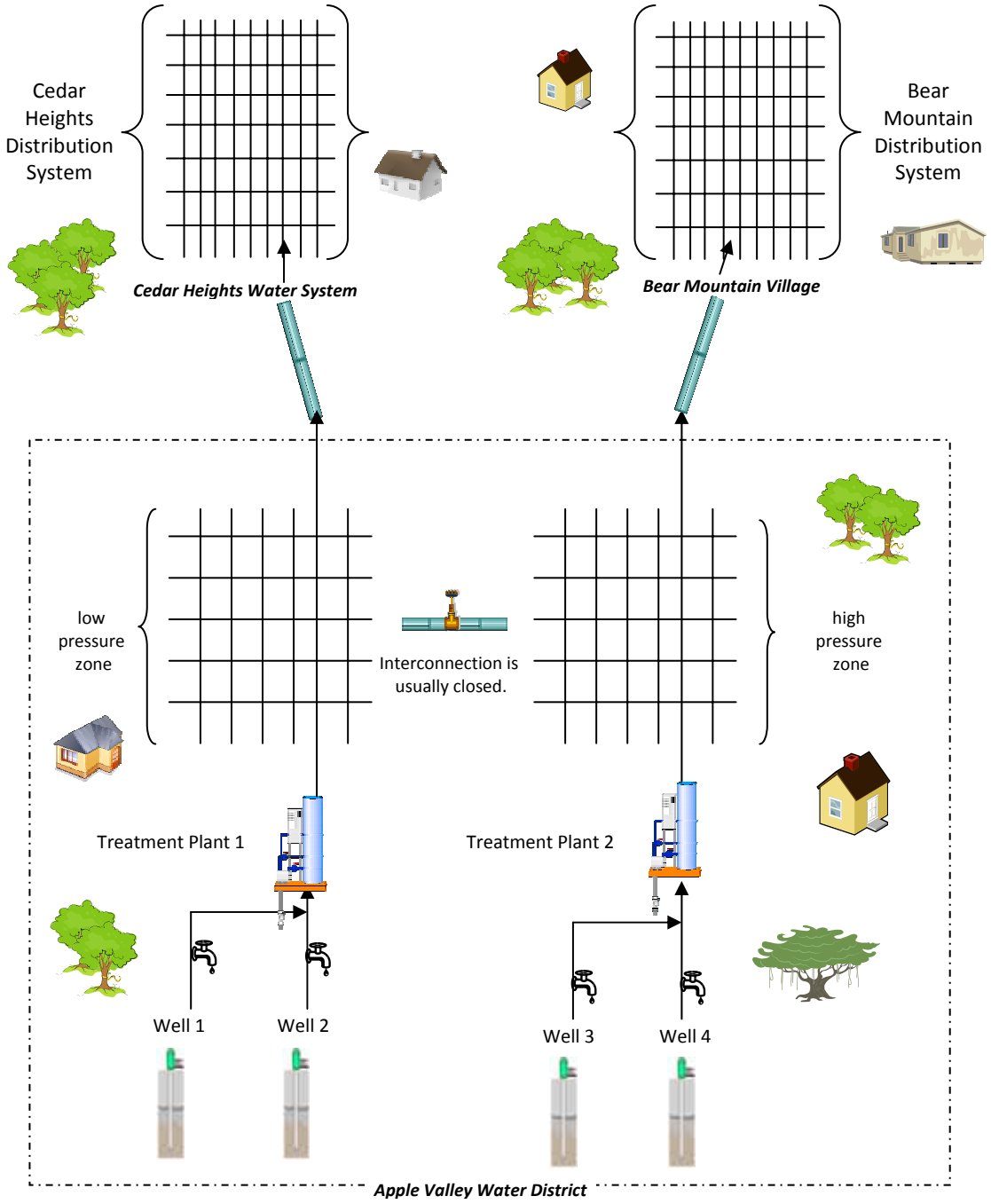
It is now July 2014, and operations at all three water systems have been running smoothly since the last sanitary survey at Apple Valley. You are playing the role of a member of the State Drinking Water Division.

REVIEW ITEM #1 (SANITARY SURVEY FROM APPLE VALLEY WD), ALONG WITH THE SCHEMATIC ON PAGE 2

These items will give you a full picture of the water systems that will help you complete the exercise.

SCHEMATIC: The following schematic depicts the connections between the ground water sources and the three water systems.

REVIEW THE SCHEMATIC ALONG WITH THE SANITARY SURVEY (ITEM #1)



INSTRUCTIONS: *Work together in small groups or on your own to answer the following questions. When you reach a point where you are instructed to open a numbered item, remove that item from the accompanying file and read the item before proceeding with the questions.*

1. Under what circumstances would monitoring be required under the GWR?

_____

_____

_____

2. Which system(s) may need to monitor under the Ground Water Rule (circle all that apply)?

Cedar Heights Water System	Apple Valley Water District	Bear Mountain Village

3. Will you allow representative site sampling for these systems and require a triggered source water monitoring plan to be prepared?

☐ YES ☐ NO

If a plan is required, which system should prepare the plan? What would you recommend the plan propose in order to gain approval by the state?

_____

_____

_____

REVIEW ITEM #2 IN FILE

4. Based on Item #2, what is Cedar Heights required to do and when?

_____

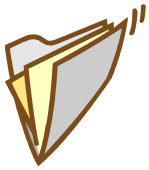
_____

_____

5. Based on Item #2, is Cedar Heights required to provide public notification for the Ground Water Rule at this point?

☐ YES ☐ NO

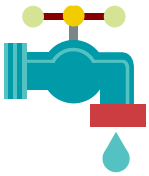
By when: _____



REVIEW ITEM #3 IN FILE

↓

REVIEW ITEM #4 IN FILE



6. Did you allow the system to monitor at representative sample sites (review your answer to question 3)?

If YES:

↓

REVIEW ITEM #5 IN FILE

If NO:

↓

REVIEW ITEM #6 IN FILE

7. As the regulator, how would you respond to the lab results you saw in item #5 or item #6? Is the system in violation?

_____

_____

_____

_____

_____

8. At this point, what are the notification, PN, Special Notice, and CCR requirements for each of the three systems? (Circle all that apply).

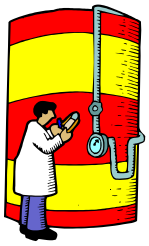
Cedar Heights	***Bear Mountain***	***Apple Valley***
Tier 1 PN	Tier 1 PN	Tier 1 PN
Tier 2 PN	Tier 2 PN	Tier 2 PN
Tier 3 PN	Tier 3 PN	Tier 3 PN
Special Notice in CCR	Special Notice in CCR	Special Notice in CCR
CCR including water quality data table	CCR including water quality data table	CCR including water quality data table
CCR Standard Health Effects Language	CCR Standard Health Effects Language	CCR Standard Health Effects Language
State DW Division	State DW Division	Cedar Heights & Bear Mountain
		State DW Division

9. Would you require additional sampling before requiring corrective action?

If YES:

↓

REVIEW ITEM #7 IN THE ENVELOPE



If NO:

↓

GO TO QUESTION 10

10. Identify the next step that must be taken by the system and the state.

Would you go to the system and do a visual inspection of conditions and potential problems before developing a corrective action plan?

If YES:

↓

REVIEW ITEM #8 IN FILE

↓

THEN GO TO ITEM #9

If NO:

↓

COMPLETE ITEM #9 IN FILE TO DEVELOP A CORRECTIVE ACTION PLAN FOR THE SYSTEM

11. At this point, what are the additional PN, Special Notice and CCR requirements for each of the three systems? Circle all that apply.

Cedar Heights	***Bear Mountain***	***Apple Valley***
Tier 1 PN	Tier 1 PN	Tier 1 PN
Tier 2 PN	Tier 2 PN	Tier 2 PN
Tier 3 PN	Tier 3 PN	Tier 3 PN
Special Notice in CCR	Special Notice in CCR	Special Notice in CCR
CCR including water quality data table	CCR including water quality data table	CCR including water quality data table
CCR Standard Health Effects Language	CCR Standard Health Effects Language	CCR Standard Health Effects Language
State DW Division	State DW Division	Cedar Heights & Bear Mountain
None	None	State DW Division
		None

Congratulations! You have completed this exercise!

ITEM #1

SANITARY SURVEY FORM – WELLS & WELL PUMPS

PWSID XX1234567 | SYSTEM NAME Apple Valley WD

(Please copy this sheet for additional wells & pumps)

Source information

WSF ID GW0001 *Entry Point ID* WTP01
These are State assigned identification numbers

Source Name Well 1
Name of Source – Example: Well 1 or South well, etc.

Location of Water Source (TRS or street address):
6 Main St., Apple Valley

Entry Point Name Treatment Plant 1
Name of EP – Example: Entry point for North Well 1 & South Well 2

Location of Entry Point 6 Main St.

Source Status: ☒ Perm ☐ (I)Inactive ☐ (B)Backup ☐ Emerg ☐ Interim ☐ (A)Abandoned properly ☐ Other

If interim: _____ to _____

WELL LOG AND TEST DATA

Log Available? ☐ Yes ☒ No

Average Production 130 gpm (indicate units)

Maximum Production ___ (indicate units)

Date Drilled 1975 (if well.. date drilled)

Casing Size 8" (size of casing installed in well)

Case Depth unknown (depth of casing installed in well)

Well Depth unknown (depth of well expressed in feet)

Grout Depth unknown (depth of grout used to seal well walls)

Log SWL N/A (static) expressed in feet below ground elevation

Log PWL N/A (pumping) expressed in feet below ground elevation

Test

Pump Rate N/A

Intake Type N/A (type of intake mechanism)

Screened Interval N/A (expressed in feet below ground elevation)

Well Yield No pump test (pump tested in gallons per minute)

REMOVED LAT/LONG INFO

WELLS

	Yes	No	Unk	N/A
Is well site protected from flooding?	☒	☐	☐	☐
Is well protected from potential sources of pollution (includes: surface water, known chemical spills, agricultural use, etc.)?	☒	☐	☐	☐
If no . . explain _____				
Does casing extend at least ☒ 18 inches above outside ground level; ☐ 12 inches above finished floor inside well house; and ☐ 3 feet above 100 year flood elevation? (Check for appropriate distance)	☐	☐	☐	☐
Is top of the well casing properly sealed? (sanitary seal)	☒	☐	☐	☐
Is well vented?	☒	☐	☐	☐
Is well vent properly screened and terminated in a downward position?	☒	☐	☐	☐
Does well have suitable sampling tap? Raw Water	☒	☐	☐	☐
Treated	☐	☐	☐	☐
Are check valves, blow-off valves and water meters maintained and operating properly?	☒	☐	☐	☐
Is upper termination of well protected (housed or fenced)?	☒	☐	☐	☐
Is intake located below the maximum drawdown?	☒	☐	☐	☐
Is there a concrete pad around well head?	☒	☐	☐	☐

PRODUCTION WELL DATA

Type Submersible (example: 30 hp line shaft turbine)

Rated Capacity 150 gpm

	Yes	No	Unk	N/A
Are pumps operable?	☒	☐	☐	☐
When was pump installed? 1999			☐	☐
Does the system have appropriate redundancy?	☐	☒	☐	☐
Is there an appropriate spare parts inventory?	☐	☒	☐	☐
Are controls functioning properly and adequately protected?	☒	☐	☐	☐
Do underground compartments have a drain?	☐	☐	☐	☒
Is facility properly protected against trespassing and vandalism?	☒	☐	☐	☐
Are pump records maintained? Note below if appropriate.	☐	☒	☐	☐
Is the plumbing adequately painted to prevent excessive corrosion?	☒	☐	☐	☐
Are adequate heating, lighting, and ventilation provided?	☐	☐	☐	☒
Is a preventive maintenance program in operation?	☐	☒	☐	☐
No cross connections observed?	☒	☐	☐	☐

Yes, there are no apparent x-connections.

Comments: (Such as, detailed information on any items with identified deficiencies)

— Good sanitary seal on well. Well's fenced, w/concrete pad sloping away from it. No potential sources of contamination apparent (well is in fallow field)

Explain Controls: _____

Comments: (Such as, detailed information on any items with identified deficiencies)

— No well log available. No pump test information.

11/5/2013 | Jill Lee, Inspector

SANITARY SURVEY FORM – WELLS & WELL PUMPS

PWSID XX1234567 | SYSTEM NAME Apple Valley WD

(Please copy this sheet for additional wells & pumps)

Source information

WSF ID GW0002 *Entry Point ID* WTP01
These are State assigned identification numbers

Source Name Well 2
Name of Source – Example: Well 1 or South well, etc.

Location of Water Source (TRS or street address):
Adjacent to WTP01

Entry Point Name Treatment Plant 1
Name of EP – Example: Entry point for North Well 1 & South Well 2

Location of Entry Point 6 Main St.

Source Status: ☒ Perm ☐ (I)Inactive ☐ (B)Backup ☐ Emerg ☐ Interim ☐ (A)Abandoned property ☐ Other

If interim: _____ to _____

WELL LOG AND TEST DATA

Log Available? ☐ Yes ☒ No

Average Production 200 gpm (indicate units)

Maximum Production 240 gpm (indicate units)

Date Drilled 2002 (if well, date drilled)

Casing Size 10" diam (size of casing installed in well)

Case Depth 150' (depth of casing installed in well)

Well Depth 180' (depth of well expressed in feet)

Grout Depth 150' (depth of grout used to seal well walls)

Log SWL 100' (static) expressed in feet below ground elevation

Log PWL 103' (pumping) expressed in feet below ground elevation

Test Pump Rate 250 gpm

Intake Type Screened casing (type of intake mechanism)

Screened Interval — (expressed in feet below ground elevation)

Well Yield 250 gpm (pump tested in gallons per minute)

REMOVED LAT/LONG INFO

WELLS

	Yes	No	Unk	N/A
Is well site protected from flooding?	☒	☐	☐	☐
Is well protected from potential sources of pollution (includes: surface water, known chemical spills, agricultural use, etc.)?	☒	☐	☐	☐
If no . . explain _____				
Does casing extend at least ☒ 18 inches above outside ground level; ☐ 12 inches above finished floor inside well house; and ☐ 3 feet above 100 year flood elevation? (Check for appropriate distance)	☐	☐	☐	☐
Is top of the well casing properly sealed? (sanitary seal)	☒	☐	☐	☐
Is well vented?	☒	☐	☐	☐
Is well vent properly screened and terminated in a downward position?	☒	☐	☐	☐
Does well have suitable sampling tap? Raw Water	☒	☐	☐	☐
N/A Treated	☐	☐	☐	☐
Are check valves, blow-off valves and water meters maintained and operating properly?	☒	☐	☐	☐
Is upper termination of well protected (housed or fenced)?	☒	☐	☐	☐
Is intake located below the maximum drawdown?	☒	☐	☐	☐
Is there a concrete pad around well head?	☒	☐	☐	☐

PRODUCTION WELL DATA

Type Submersible (example: 30 hp line shaft turbine)

Rated Capacity 250 gpm

	Yes	No	Unk	N/A
Are pumps operable?	☒	☐	☐	☐
When was pump installed? 2002			☐	☐
Does the system have appropriate redundancy?	☐	☒	☐	☐
Is there an appropriate spare parts inventory?	☒	☐	☐	☐
Are controls functioning properly and adequately protected?	☒	☐	☐	☐
Do underground compartments have a drain?	☐	☐	☐	☒
Is facility properly protected against trespassing and vandalism?	☒	☐	☐	☐
Are pump records maintained? Note below if appropriate.	☐	☒	☐	☐
Is the plumbing adequately painted to prevent excessive corrosion?	☒	☐	☐	☐
Are adequate heating, lighting, and ventilation provided?	☐	☐	☐	☒
Is a preventive maintenance program in operation?	☐	☒	☐	☐
No cross connections observed?	☒	☐	☐	☐

No X-connections.

Comments: (Such as, detailed information on any items with identified deficiencies)

— No potential sources of contamination near well. Concrete pad slants away & is in good condition. Good sanitary seal & screened vent.

Explain Controls: _____

Comments: (Such as, detailed information on any items with identified deficiencies)

— Well log available.

11/5/2013

Jill Lee, Inspector

SANITARY SURVEY FORM – WELLS & WELL PUMPS

PWSID XX1234567 | SYSTEM NAME Apple Valley WD

(Please copy this sheet for additional wells & pumps)

Source information

WSF ID 6W0003 (These are State assigned identification numbers) *Entry Point ID* WTP02

Source Name Well 3 (Name of Source – Example: Well 1 or South well, etc.)

Location of Water Source (TRS or street address): 17 Spruce Dr.

Entry Point Name Treatment Plant 2 (Name of EP – Example: Entry point for North Well 1 & South Well 2)

Location of Entry Point 17 Spruce Dr.

Source Status: ☒ Perm ☐ (I)Inactive ☐ (B)Backup ☐ Emerg ☐ Interim ☐ (A)Abandoned properly ☐ Other

If interim: _____ to _____

WELL LOG AND TEST DATA

Log Available? ☐ Yes ☒ No

Average Production 300 gpm (indicate units)

Maximum Production ____ (indicate units)

Date Drilled 1980 (if well, date drilled)

Casing Size 10" (size of casing installed in well)

Case Depth ____ (depth of casing installed in well)

Well Depth ____ (depth of well expressed in feet)

Grout Depth ____ (depth of grout used to seal well walls)

Log SWL N/A (static) expressed in feet below ground elevation

Log PWL N/A (pumping) expressed in feet below ground elevation Test

Pump Rate N/A

Intake Type Screened (type of intake mechanism)

Screened Interval N/A (expressed in feet below ground elevation)

Well Yield N/A (pump tested in gallons per minute)

REMOVED LAT/LONG INFO

WELLS

	Yes	No	Unk	N/A
Is well site protected from flooding?	☒	☐	☐	☐
Is well protected from potential sources of pollution (includes: surface water, known chemical spills, agricultural use, etc.)?	☒	☐	☐	☐
If no . . explain ____				
Does casing extend at least ☐18 inches above outside ground level; ☒12 inches above finished floor inside well house; and ☐3 feet above 100 year flood elevation? (Check for appropriate distance)	☐	☐	☐	☐
Is top of the well casing properly sealed? (sanitary seal)	☒	☐	☐	☐
Is well vented?	☒	☐	☐	☐
Is well vent properly screened and terminated in a downward position?	☒	☐	☐	☐
Does well have suitable sampling tap? Raw Water	☒	☐	☐	☐
Treated	☐	☐	☐	☐
Are check valves, blow-off valves and water meters maintained and operating properly?	☒	☐	☐	☐
Is upper termination of well protected (housed or fenced)? Pump house	☒	☐	☐	☐
Is intake located below the maximum drawdown?	☒	☐	☐	☐
Is there a concrete pad around well head? concrete floor	☐	☐	☐	☒

PRODUCTION WELL DATA

Type Lineshaft turbine (example: 30 hp line shaft turbine)

Rated Capacity 350 gpm

	Yes	No	Unk	N/A
Are pumps operable?	☒	☐	☐	☐
When was pump installed? 1980			☐	☐
Does the system have appropriate redundancy?	☐	☒	☐	☐
Is there an appropriate spare parts inventory?	☒	☐	☐	☐
Are controls functioning properly and adequately protected?	☒	☐	☐	☐
Do underground compartments have a drain? pump house is drained	☒	☐	☐	☒
Is facility properly protected against trespassing and vandalism? Pump house needs lock.	☐	☒	☐	☐
Are pump records maintained? Note below if appropriate.	☐	☒	☐	☐
Is the plumbing adequately painted to prevent excessive corrosion?	☒	☐	☐	☐
Are adequate heating, lighting, and ventilation provided?	☒	☐	☐	☐
Is a preventive maintenance program in operation?	☐	☒	☐	☐
No cross connections observed?	☒	☐	☐	☐

Comments: (Such as, detailed information on any items with identified deficiencies)

Protected well. Pump house in good condition but needs lock.

Explain Controls: ____

Comments: (Such as, detailed information on any items with identified deficiencies)

____

11/5/2013

Jill Lee, inspector

SANITARY SURVEY FORM – WELLS & WELL PUMPS

PWSID XX1234567 | SYSTEM NAME Apple Valley WD

(Please copy this sheet for additional wells & pumps)

Source information

WSF ID 6W0004 *Entry Point ID* WTP02
These are State assigned identification numbers

Source Name Well 4
Name of Source – Example: Well 1 or South well, etc.

Location of Water Source (TRS or street address):
17 Spruce Dr.

Entry Point Name Treatment Plant 2
Name of EP – Example: Entry point for North Well 1 & South Well 2

Location of Entry Point 17 Spruce Dr.

Source Status: ☒ Perm ☐ (I)Inactive ☐ (B)Backup ☐ Emerg ☐ Interim ☐ (A)Abandoned property ☐ Other

If interim: _____ to _____

WELL LOG AND TEST DATA

Log Available? ☐ Yes ☒ No

Average Production 200 gpm (indicate units)

Maximum Production — (indicate units)

Date Drilled ~1975 (if well – date drilled)

Casing Size 8" (size of casing installed in well)

Case Depth — (depth of casing installed in well)

Well Depth — (depth of well expressed in feet)

Grout Depth — (depth of grout used to seal well walls)

Log SWL Not available (static) expressed in feet below ground elevation

Log PWL _____ (pumping) expressed in feet below ground elevation

Test

Pump Rate _____

Intake Type _____ (type of intake mechanism)

Screened Interval _____ (expressed in feet below ground elevation)

Well Yield _____ (pump tested in gallons per minute)

REMOVED LAT/LONG INFO

WELLS

	Yes	No	Unk	N/A
Is well site protected from flooding?	☐	☒	☐	☐
Is well protected from potential sources of pollution (includes: surface water, known chemical spills, agricultural use, etc.)?	☐	☒	☐	☐
If no . . explain Well is in pit and <100ft. from a residence's septic leach field.				
Does casing extend at least ☐18 inches above outside ground level; ☐12 inches above finished floor inside well house; and ☐3 feet above 100 year flood elevation? (Check for appropriate distance)	☐	☒	☐	☐
Is top of the well casing properly sealed? (sanitary seal)	☐	☐	☒	☐
Is well vented?	☐	☐	☒	☐
Is well vent properly screened and terminated in a downward position?	☐	☐	☒	☐
Does well have suitable sampling tap? Raw Water	☐	☒	☐	☐
Treated	☐	☐	☐	☐
Are check valves, blow-off valves and water meters maintained and operating properly?	☐	☐	☒	☐
Is upper termination of well protected (housed or fenced)?	☐	☒	☐	☐
Is intake located below the maximum drawdown?	☒	☐	☐	☐
Is there a concrete pad around well head?	☐	☒	☐	☐

PRODUCTION WELL DATA

Type Submersible (example: 30 hp line shaft turbine)

Rated Capacity 220 gpm

	Yes	No	Unk	N/A
Are pumps operable?	☒	☐	☐	☐
When was pump installed? 1999			☐	☐
Does the system have appropriate redundancy?	☐	☒	☐	☐
Is there an appropriate spare parts inventory?	☒	☐	☐	☐
Are controls functioning properly and adequately protected?	☐	☒	☐	☐
Do underground compartments have a drain?	☐	☒	☐	☐
Is facility properly protected against trespassing and vandalism?	☐	☒	☐	☐
Are pump records maintained? Note below if appropriate.	☐	☒	☐	☐
Is the plumbing adequately painted to prevent excessive corrosion?	☐	☒	☐	☐
Are adequate heating, lighting, and ventilation provided?	☐	☒	☐	☐
Is a preventive maintenance program in operation?	☐	☒	☐	☐
No cross connections observed?	☐	☐	☒	☐

Comments: (Such as, detailed information on any items with identified deficiencies)

— Well in pit. Confined space. Casing appeared rusty; poor ventilation. Pit is a retrofitted sewer drain.

Explain Controls: _____

Comments: (Such as, detailed information on any items with identified deficiencies)

— Well is in confined space. Could not access to inspect condition of casing, seal, vent, valves, etc.

11/5/2013 | Jill Lee, Inspector

ITEM #2

PHONE MEMO

CALL FOR: Brian, State Drinking Water Div.

FROM:	COMPANY:	DATE:
Joseph Johnson	Cedar Heights Water System	7/3/2014

TAKEN BY:	TIME:	PHONE #:
Sally S.	10 : 21 ☑AM ☐PM	(555) 123-4567 EXT. 12

MESSAGE:

Joe operates Cedar Heights W.S. One of his routine coliform samples has tested positive for total coliform. He plans on collecting repeat samples and wanted to alert us. Any additional action needed? Please return his call and tell him what steps he needs to take.

ACTION:

Phoned ☐ Returned your call ☐

Please call back ☑ Will call again ☐

ITEM #3

State Department of Health
123 Main Street • City, XX 00000
Tel: (555) 012-3456
Fax: (555) 789-0123

DATE
7/3/2014

NAME
Brian Smith, State Drinking Water Div.

OUTGOING CALLS

TIME	NAME	CORRESPONDENCE
11:30 AM	Joe Johnson, Cedar Heights Water System	I returned Joe's call to tell him that he should go ahead with the repeat TCR samples. I also told him that he needs to alert his wholesale system, Apple Valley Water District, of the situation.

ITEM #4

State Department of Health
123 Main Street • City, XX 00000
Tel: (555) 012-3456
Fax: (555) 789-0123

DATE
7/5/2014

NAME
Brian Smith, State Drinking Water Div.

OUTGOING CALLS

TIME	NAME	CORRESPONDENCE
10:40AM	Julie Levey, Apple Valley Water District	Called Julie to follow up on whether or not Joe Johnson from Cedar Heights called her about the positive TCR samples. Julie told me that they took their source water samples yesterday and they asked the lab to test for E. Coli.

ITEM #5

Evergreen Laboratories

987 Spring Street • Yellow City, XX 00001
Phone: (555) 851-6854 • Fax: (555) 851-6855

Analysis Report

Name: Apple Valley Water District
6 Main Street
Apple Valley, XX 00002
PWSID: XX1234567

Sample Date: July 4, 2014 11:19 AM
Receipt Date: July 4, 2014 1:12 PM
Sample Type: Drinking Water
Sampler: AVWD

Sample ID	Sample Site	Location ID	Parameter	Methods	Results	Units
0641392-1	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	1	CFU/100mL
0641393-1	Well 2	GW0002	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL

Lab Certification ID: 1234567

Report Approved by: Jane Doe

Note: Analytical results are only valid as per our official terms and conditions. We do not accept any liability for use of these results.

ITEM #6

Evergreen Laboratories

987 Spring Street • Yellow City, XX 00001
Phone: (555) 851-6854 • Fax: (555) 851-6855

Analysis Report

Name: Apple Valley Water District
6 Main Street
Apple Valley, XX 00002
PWSID: XX1234567

Sample Date: July 4, 2014 11:19 PM
Receipt Date: July 4, 2014 1:12 PM
Sample Type: Drinking Water
Sampler: AVWD

Sample ID	Sample Site	Location ID	Parameter	Methods	Results	Units
0641392-1	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	1	CFU/100mL
0641393-1	Well 2	GW0002	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641394-1	Well 3	GW0003	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641395-1	Well 4	GW0004	*E. coli* enumeration	m-coliblue 24	1	CFU/100mL

Lab Certification ID: 1234567

Report Approved by: Jane Doe

Note: Analytical results are only valid as per our official terms and conditions. We do not accept any liability for use of these results.

ITEM #7

Evergreen Laboratories

987 Spring Street • Yellow City, XX 00001
Phone: (555) 851-6854 • Fax: (555) 851-6855

ITEM #7

Analysis Report

Name: Apple Valley Water District
6 Main Street
Apple Valley, XX 00002
PWSID: XX1234567

Sample Date: July 6, 2014 10:09 AM
Receipt Date: July 6, 2014 1:17 PM
Sample Type: Drinking Water
Sampler: AVWD

Sample ID	Sample Site	Location ID	Parameter	Methods	Results	Units
0641396-1	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641396-2	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641396-3	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	1	CFU/100mL
0641396-4	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641396-5	Well 1	GW0001	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL

Lab Certification ID: 1234567

**** If you DID NOT allow representative site sampling in question 3, please turn over for additional results. If you DID allow representative site sampling in question 3, GO TO QUESTION 10.**

Report Approved by: Jane Doe

Note: Analytical results are only valid as per our official terms and conditions. We do not accept any liability for use of these results.

Evergreen Laboratories

987 Spring Street • Yellow City, XX 00001
Phone: (555) 851-6854 • Fax: (555) 851-6855

ITEM #7

Analysis Report

Name: Apple Valley Water District
6 Main Street
Apple Valley, XX 00002
PWSID: XX1234567

Sample Date: July 6, 2014 10:27 AM
Receipt Date: July 6, 2014 1:17 PM
Sample Type: Drinking Water
Sampler: AVWD

Sample ID	Sample Site	Location ID	Parameter	Methods	Results	Units
0641397-1	Well 4	GW0004	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641397-2	Well 4	GW0004	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641397-3	Well 4	GW0004	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641397-4	Well 4	GW0004	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL
0641397-5	Well 4	GW0004	*E. coli* enumeration	m-coliblue 24	0	CFU/100mL

Lab Certification ID: 1234567

GO TO QUESTION 10.

Report Approved by: Jane Doe

Note: Analytical results are only valid as per our official terms and conditions. We do not accept any liability for use of these results.

ITEM #8

State Department of Health
123 Main Street
City, XX 00000
Tel: (555) 012-3456
Fax: (555) 789-0123

Memo

Date: 7/8/2014

To: File

From: Jeff Lewis, Engineer, Drinking Water Division

RE: Apple Valley Water District Visual Inspection
PWS: XX1234567

On July 7th, Apple Valley Water District called the State Health Department to inform us of their fecal-indicator positive results. In response, on July 8, 2014, I visited Apple Valley Water District to assess the condition of this water system. This site visit was prompted by recent analytical results showing source water contamination following the reports from its consecutive system (Cedar Heights) about a positive TCR sample.

The following are my observations about the four wells at this system from the site visit:

1) Well 1 appeared to be in good condition despite the *E. coli* positive results. The field around the well now has livestock, but seems to be very well protected from all possible sources of contamination. Perhaps additional investigation of this source should be conducted to determine the reason for the original *E. coli* positive results.

2) Well 2 appeared to be in perfect condition. There were no possible sources of contamination near the well.

3) Well 3 appeared to be in perfect condition. There were no possible sources of contamination near the well. The pump house is in good condition and has a secure lock.

4) Well 4 is in a pit, the casing looks rusty, and it's not being maintained. It is also located in very close proximity to a resident's septic leach field. I would advise the system to raise the casing and fill the pit.

The system needs to address:

- The *E. coli* positive results at Well 1.
- The condition of Well 4 (along with a schedule for addressing the issue).

I will call the system on July 9th to alert them that they need to take corrective action.

After reviewing Jeff's results, consider the items that the system needs to address. Provide an example of a corrective action plan and timeline, if appropriate.

OPEN ITEM #9 IN THE FOLDER
(In the back pocket, behind ITEM #7)

ITEM #9

CORRECTIVE ACTION PLAN AND SCHEDULE

REMEMBER
The 4 corrective action options are:
- correct all significant deficiencies;
- provide an alternate source of water;
- eliminate the source of contamination; or
- provide treatment that reliably achieves at least 4-log treatment of viruses.

FOR:_____

DATE OF NOTICE:_____

TIMELINE

STEPS:

GO TO QUESTION 11 ON THE WORKSHEET

Use the additional page if necessary.

CORRECTIVE ACTION PLAN AND SCHEDULE

REMEMBER
The 4 corrective action options are:
- correct all significant deficiencies;
- provide an alternate source of water;
- eliminate the source of contamination; or
- provide treatment that reliably achieves at least 4-log treatment of viruses.

FOR:_____

DATE OF NOTICE:_____

TIMELINE

STEPS:

GO TO QUESTION 11 ON THE WORKSHEET