

Practice: 351 - Water Well Decommissioning

Scenario: #1 - Wells less than or equal to 15 feet deep, 3 to 36 inch diameters.

Scenario Description:

For inactive, abandoned, or unusable wells less than or equal to 15' in depth, 3" to 36" diameter openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole.

Before Situation:

The typical scenario assumes a 15' deep well with a 15" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes both earth materials and cement grout would be used to backfill.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 15

Scenario Cost: \$1,052.66

Scenario Cost/Unit: \$70.18

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	2	\$95.30
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	1	\$25.07
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	2	\$47.22
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	1	\$18.11
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1	\$2.79
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	0.7	\$414.25
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #2 - Wells greater than 15 feet deep to 25 feet deep, 3 to 36 inch diameters.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 15' and less than or equal to 25' in depth, 3" to 36" diameter openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole.

Before Situation:

The typical scenario assumes a 25' deep well with a 12" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes both earth materials and cement grout would be used to backfill.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 25

Scenario Cost: \$1,210.28

Scenario Cost/Unit: \$48.41

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	3	\$142.95
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	3	\$75.21
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	3	\$70.83
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	3	\$54.33
Materials						
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	0.7	\$414.25
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1	\$2.79
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #3 - Wells greater than 25 feet deep to 40 feet deep, 3 to 36 inch diameters.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 25' and less than or equal to 40' in depth, 3" to 36" diameter openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole.

Before Situation:

The typical scenario assumes a 40' deep well with a 10" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes both earth materials and cement grout would be used to backfill.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 40

Scenario Cost: \$1,269.46

Scenario Cost/Unit: \$31.74

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	3	\$142.95
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	3	\$75.21
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	3	\$54.33
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	3	\$70.83
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1	\$2.79
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite grout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	0.8	\$473.43
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #4 - Wells greater than 40 feet deep to 75 feet deep, 3 to 36 inch diameters.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 40' and less than or equal to 75' in depth, 3" to 36" diameter openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole.

Before Situation:

The typical scenario assumes a 75' deep well with a 10" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes both earth materials and cement grout would be used to backfill.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 75

Scenario Cost: \$1,658.65

Scenario Cost/Unit: \$22.12

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	3	\$142.95
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	2	\$50.14
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	3	\$54.33
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	3	\$70.83
Materials						
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	1.5	\$887.69
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1	\$2.79
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #5 - Wells greater than 75 feet deep to 300 feet deep, 10 inch diameter or less.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 75' and less than or equal to 300' in depth, 0 to 10" diameter openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole. A licensed well driller is responsible for wells drilled and abandoned prior to the drilling equipment being removed.

Before Situation:

The typical scenario assumes a 175' deep well with a 6" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes cement grouting the entire well column under the typical situation, though other suitable materials as prescribed in the standard criteria may be used.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 175

Scenario Cost: \$1,848.85

Scenario Cost/Unit: \$10.56

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	6	\$285.90
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	6	\$150.42
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	5	\$118.05
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	4	\$72.44
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1	\$2.79
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	1.3	\$769.33
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #6 - Wells greater than 300 feet deep, 10 inch diameter or less.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 300' in depth, 0 to 10" diameter openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole. A licensed well driller is responsible for wells drilled and abandoned prior to the drilling equipment being removed.

Before Situation:

The typical scenario assumes a 400' deep well with a 6" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes cement grouting the entire well column under the typical situation, though other suitable materials as prescribed in the standard criteria may be used.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 400

Scenario Cost: \$2,872.04

Scenario Cost/Unit: \$7.18

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	5	\$238.25
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	8	\$200.56
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	8	\$144.88
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	5	\$118.05
Materials						
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	2.9	\$1,716.19
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1.5	\$4.19
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #7 - Wells greater than 75 feet deep to 300 feet deep, exceeds 10 inch diameter.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 75' and less than or equal to 300' in depth, 10" diameter or greater openings, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole. A licensed well driller is responsible for wells drilled and abandoned prior to the drilling equipment being removed.

Before Situation:

The typical scenario assumes a 200' deep well with a 16" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes cement grouting the entire well column under the typical situation, though other suitable materials as prescribed in the standard criteria may be used.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 200

Scenario Cost: \$7,050.48

Scenario Cost/Unit: \$35.25

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	4	\$190.60
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	1	\$14.78
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	5	\$125.35
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	5	\$90.55
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	4	\$94.44
Materials						
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	10.3	\$6,095.44
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1.5	\$4.19
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #8 - Wells greater than 300 feet deep, exceeds 10 inch diameter.

Scenario Description:

For inactive, abandoned, or unusable wells greater than 300' in depth, and for casings exceeding 10 inch diameter, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole. A licensed well driller is responsible for wells drilled and abandoned prior to the drilling equipment being removed.

Before Situation:

The typical scenario assumes a 500' deep well with a 16" diameter well casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes cement grouting the entire well column based on rate shown, though other suitable materials as prescribed in the standard criteria may actually be used.

Scenario Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 500

Scenario Cost: \$16,499.38

Scenario Cost/Unit: \$33.00

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	5	\$238.25
Grout pump	1334	Grout pump with tremie pipe. Equipment and power unit costs. Labor not included.	Hour	\$14.78	2	\$29.56
Labor						
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$25.07	8	\$200.56
Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$23.61	5	\$118.05
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	8	\$144.88
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	2	\$5.58
Grout, cement	1333	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite gout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$591.79	25.9	\$15,327.36
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	2	\$435.14

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Scenario: #9 - Hand dug, greater than 3 feet to 5 feet diameter, all depths.

Scenario Description:

For inactive, abandoned, or unusable hand dug wells greater than 3' and less than or equal to 5' in diameter, all depths, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole. Backfill shall be placed and compacted in a manner that minimizes segregation and bulking to prevent surface subsidence.

Before Situation:

The typical scenario assumes a 4' diameter well, 25' deep, with or without mortar casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes filling the well with suitable fill materials as prescribed in the standard criteria.

Scenario Feature Measure: Depth of well

Scenario Unit: Foot

Scenario Typical Size: 25

Scenario Cost: \$645.17

Scenario Cost/Unit: \$25.81

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Earthfill, Manually Compacted	50	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$4.90	13	\$63.70
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	4	\$190.60
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$20.15	3	\$60.45
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	6	\$108.66
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	1.5	\$4.19
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	1	\$217.57

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Scenario: #10 - Hand dug, greater than 5 feet in diameter, all depths.

Scenario Description:

For inactive, abandoned, or unusable hand dug wells greater than 5 feet in diameter, all depths, the landowner is responsible for plugging the well in order to prevent entry of vermin, debris, contaminated surface waters, or other foreign substances from entering the groundwater, and to eliminate potential physical hazards associated to an open hole. Backfill shall be placed and compacted in a manner that minimizes segregation and bulking to prevent surface subsidence.

Before Situation:

The typical scenario assumes a 6' diameter well, 25' deep, with or without mortar casing.

After Situation:

Plugging shall conform to the criteria of the standard, and take into consideration other associated practices such as 342, Critical Area Seeding. It assumes filling the well with suitable fill materials as prescribed in the standard criteria.

Scenario Feature Measure: Depth of well

Scenario Unit: Foot

Scenario Typical Size: 25

Scenario Cost: \$778.06

Scenario Cost/Unit: \$31.12

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$47.65	5	\$238.25
Earthfill, Manually Compacted	50	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$4.90	26	\$127.40
Labor						
Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$20.15	4	\$80.60
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.11	6	\$108.66
Materials						
Chlorine	1335	Liquid chlorine bleach. Includes materials only.	Gallon	\$2.79	2	\$5.58
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$217.57	1	\$217.57