Site Report for Hammonton Armory

Summary of the Hammonton Armory

The Hammonton Armory is located at 550 South Egg Harbor Road, Hammonton. According to drilling permits and records, and spatial data, there are 16 monitoring wells located at this facility. These wells are located in the facility's parking lot, grassy areas, wooded area, and in a vehicle yard owned by Ace Oil Co. adjacent to the property. The Stockton University Environmental Internship Program (SUIEP) conducted a Phase II Assessment of documented wells at the Hammonton Complex on 20 June, 2019. Of the 16 monitoring wells, only 13 were found and surveyed. The other three wells were not included in spatial data, and could not be located. Of the 13 wells surveyed, three were decommissioned. The locations of site wells can be found in Figure HA1.

Historical Information

The Hammonton facility was constructed in 1948. Historically, the facility housed multiple underground storage tanks which contained fuel (diesel/gasoline) for vehicles, heating oil for boilers and water heaters, and fuel oil. These tanks were located around the motor vehicle storage bay (MVSB) and readiness center, as well as the grassy field, which is a helicopter landing area, to the east of the two buildings. The storage tanks were likely for servicing the vehicles stored in MVSB and a small, fenced-in vehicle lot. A septic field was previously located in the grassy area in the front of the readiness center. Monitoring wells at the facility are located around the previous locations of these tanks. All storage tanks at the facility have been removed but multiple wells remain.

As a result of the storage tanks and septic field, concentrations of metals, volatile organic compounds (VOCs), and/or semi-volatile organic compounds (SVOCs) were found above both the standards set by the New Jersey Department of Environmental Protection (NJDEP) Groundwater Quality Standards (GWQS) site-specific GWQS[1] during sampling of 10 of the 13 wells (MW-1, MW-2, MW-3, MW-4R, MW-4RD, MW-6, MW-7, MW-8, MW-S1, MW-S2). There are a total of six areas of concern (AOCs), with AOC-1A, AOC-1B, and AOC-6 being of the most concern. AOC-1A is at the previous location of a 5000-gallon underground gasoline tank, and AOC-1B is at the previous location of a 2000-gallon underground gasoline tank. These tanks showed evidence of content release during their closures in 1994. AOC-6 is the area effected by the septic field. The most recent sampling occurred on June 15, 2012 and can be found in Handex Consulting & Remediation, LLC's January 2013 remedial action progress report under Tables 2-7. Location of the areas of concern, storage tanks, septic field, and monitoring wells can be found in Figures HA3-8.

Previously documented data originates from each well's drilling permits and records. Information regarding well water contaminants originates from June 2012 sampling performed by Handex Consulting & Remediation, LLC.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

Results

Of the 16 wells, 13 were located and surveyed. Wells were found in varying condition. Of the 13 surveyed wells, eight were in good condition, three were in fair condition, and two were damaged. The wells that were damaged typically had missing threaded tabs, which prevented the manhole covers from being properly secured. Additionally, two flush-mount wells showed signs of a compromised skirt, which allowed water to infiltrate the headspace. One stickup well had a cracked lid and casing. The cracked lid allowed water to enter the headspace, but the well's plug maintained a watertight seal and prevented water from entering the well itself. No hazardous compounds were detected by the multi-gas meter in any of the wells. None of the wells had affixed identification tags, which violates N.J.A.C. 7:9D-2.4(a)1. A list of site wells can be found in Table HN1. Pictures of site wells can be found in Appendix F "Photo Logs" under "Hammonton Armory".

Low oxygen levels were detected in seven of the 13 wells, but this is likely due to their plugs maintaining an airtight seal.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

Hammonton Armory
Table HN2
NJARNG Facility Well Inventory

General Data										Multi-Gas Monitor Data				
Well Permit Number	Well Name	Well Type	Permit Affixed? (Yes/No)	Manhole Diameter (Inches)	Well Diameter (Inches)	Depth to Water Table (Feet)	Well Depth (Feet)	Well Condition	Damage Description (If Applicable)	VOC (ppm)	LEL (%)	H2S (ppm)	CO (ppm)	Oxygen (%)
310005870	MW-1	Monitoring	No	3.5	2	8.8	15.9	Good	Lock broken	0	0	0	0	20.9
E20102824	MW-S1	Monitoring	No	8	2	3.2	10.9	Good	Has gasket, some moisture inside, lock broken	0	0	0	0	20.4
3100053871	MW-2	Monitoring	No	8	3.5	3.1	13.6	Good	No gasket	0	0	0	0	20.9
E201012825	MW-S2	Monitoring	No	8	2	3.4	11.4	Good	No gasket	0	0	0	0	20
3100058487	MW-3	Monitoring	No	8	3.5	2.25	11	Good	Has gasket, some moisture inside	0	0	0	0	20.9
E201111885	MW-S3	Monitoring	No	4	2	4.4	11.3	Fair	Two of two bolts missing, no gasket, lock broken	0	0	0	0	19.2
3100074827	MW-4R	Monitoring	No	8	3.5	1.4	12.25	Fair	Filled with water, no gasket, casing damaged	0	0	0	0	19.5
E201012830	MW-4RD	Monitoring	No	8	2	1.39	31.55	Good	Has gasket, some moisture inside	0	0	0	0	10.3
3100058489	MW-5	Monitoring	No	8	3.5	2.75	12.8	Fair	One of two bolts missing, filled with a lot of dirt, no gasket, lock broken	0	0	0	0	20.5
3100058490	MW-6	Monitoring	No	8	3.5	4.7	11.7	Damaged	Casing compromised, no gasket	0	0	0	0	19.2
3100058491	MW-7	Monitoring	No	3.5	8	2.8	11.6	Good	Concrete cracked, lock broken	0	0	0	0	13.1
E201012822	MW-8	Monitoring	No	4	2	3.2	13.5	Damaged	Filled with water, damaged cap, casing cracked	0	0	0	0	8.5
E201012823	MW-9	Monitoring	No	4	2	3.9	12.65	Good	N/A	0	0	0	0	19.5

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

Individual Well Reports

MW-1

Phase I

MW-1 (permit ID: 3100053870) was installed on June 29, 1998. The well was decommissioned in April 14, 2016, but has not be removed. It is a stickup monitoring well, located just off the parking lot in the location of a now removed underground gasoline tank. The well itself is two inches in diameter, and is documented as being 15 feet deep. The lid of this well is 3.5 inches in diameter. The most recent sampling of the well's water revealed concentrations of aluminum, arsenic, and iron were above the NJDEP GWQS. Concentrations of zinc were found to be above the site-proposed GWQS. Additionally, acetone, methyl ethyl ketone (MEK), and methylcyclohexane were found in detectable amounts, but below the site-proposed GWQS.

Phase II

The survey recorded the depth to the water table is 8.8 feet, and the depth to the bottom of the well is 15.9 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was at the ambient concentration (20.9%).

The well was in good condition, showing no signs of damage and having a new coat of blue paint added recently. The key to remove the padlock from the well's lid did not work, so bolt cutters were required to remove the padlock and access the well. No ID tag was affixed to the well.

MW-S1

Phase I

MW-S1 (permit ID: E201012824) was installed on October 12, 2010. It is a flush mount monitoring well, located in the grass behind the vehicle storage building along the facility boundary, which is marked by a chain link fence. The well itself is two inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter, and uses three 9/16'' bolts. The most recent sampling of the well revealed concentrations of iron above the NJDEP GWQS. Concentrations of magnesium, and nickel were found above site-specific GWQS. Multiple other metals, including antimony, arsenic, lead, and mercury, were found in detectable quantities, but were below site-specific GWQS.

Phase II

The survey recorded the depth to the water table is 3.2 feet, and the depth to the bottom of the well is 10.9 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was slightly below ambient concentration, at 20.0%.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

The well was in good condition. All of its bolts and threaded tabs were present. The manhole cover's gasket was missing, allowing for some moisture to infiltrate the headspace. Additionally, the padlock for the well's plug had corroded broken off. No ID tag was affixed to the well.

MW-2

Phase I

MW-2 (permit ID: 3100053871) was installed on June 29, 1998. It is a flush mount monitoring well, located in the rear parking lot, approximately 20 feet from the readiness center. It is in close proximity to the location of two removed underground heating oil tanks. The well itself is 3.5 inches in diameter, and is documented as being 13 feet deep. The manhole cover of this well is eight inches in diameter, and uses two 9/16'' bolts. The most recent sampling of the well revealed concentrations of benzo(a)anthracene (BaA), benzo(a)pyrene (BaP), benzo(b)fluoranthene (BbF), and indeno(1,2,3-cd)pyrene, aluminum, and iron above the NJDEP GWQS. Concentrations of pyrene were to be found above the site-specific GWQS. In addition, acenaphthylene, anthracene, benzo(g,h,i)perylene, chrysene, dibenzo(a,h)anthracene, fluoranthene, naphthalene, phenanthrene, 2-methylnaphthalene and multiple metals, including arsenic, lead, and mercury, were found in detectable quantities. These were below the site-specific GWQS.

Phase II

The survey recorded the depth to the water table is 3.1 feet, and the depth to the bottom of the well is 13.6 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was at the ambient concentration (20.9%).

MW-S2

Phase I

MW-S2 (permit ID: E201012825) was installed on October 12, 2010 as "MW-11". It was designated "MW-S2" in the drilling record approved on January 3, 2011. It is a flush mount monitoring well, located in between the readiness center and vehicle storage building. It is in close proximity to the location of two removed underground heating oil tanks. The well itself is two inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter, and uses two 9/16'' bolts. The most recent sampling of the well revealed concentrations of aluminum, arsenic, and iron were above the NJDEP GWQS. Multiple other metals, including antimony, lead, and mercury, were found in detectable quantities, but below the NJDEP GWQS.

Phase II

The survey recorded the depth to the water table is 3.4 feet, and the depth to the bottom of the well is 11.4 feet. Screening with a multi-gas monitor showed no signs of

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

volatilized contaminants at the top of the well. The oxygen level in the well was slightly below the ambient level, at 20.0%.

The well was in good condition, having all of its bolts and threaded tabs present. The manhole cover's gasket was missing, but the headspace was dry. No ID tag was affixed to the well.

MW-3

Phase I

MW-3 (permit ID: 3100058487) was installed on June 26, 2000. It I a flush mount monitoring well, located in the grassy field directly to the east of the parking lot. The well itself is 3.5 inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter, and uses two 9/16'' bolts. The most recent sampling of the well revealed concentrations of aluminum, and iron above the NJDEP GWQS. Concentrations of naphthalene, and multiple other metals, including antimony, arsenic, lead, and mercury, were found in detectable quantities, but below the NJDEP GWQS.

Phase II

The survey recorded that the depth to the water table is 2.25 feet, and the depth to the bottom of the well is 11.6 feet. Screening with the multi-gas monitor showed no signs volatilized contaminants at the top of the well. The oxygen well in the well was at the ambient concentration (20.9%).

The well was in good condition. Though the manhole cover had a gasket, there was still some moisture within the headspace of the well. No ID tag was affixed to the well.

MW-S3

Phase I

MW-S3 (permit ID: E201111885) was installed on July 20, 2011 as "MW-OS1". It was designated "MW-S3" in the drilling record approved on January 3, 2011. It is a flush mount monitoring well, located on the property now owned by Ace Oil Co., which is perpendicular to the Hammonton Armory. The well itself is two inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is four inches in diameter, and uses two 9/16'' bolts. This well is being used as a "control" for other wells at the site. This is because it is located upgradient, which causes water that flows through it to not be effected by potential contaminants at the site. The most recent sampling revealed no detection of VOCs or SVOCs, and concentrations of multiple metals were found in detectable quantities, but below the NJDEP GWQS. However, high concentrations of calcium, magnesium, and sodium were found.

Phase II

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

The survey recorded the depth to the water table is 4.4 feet, and the depth to the bottom of the well is 11.3 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was low, at 19.2%.

The well was in fair condition. Both of the bolts for the manhole cover were missing, but the threaded tabs were still intact. The manhole cover had no gasket, but the headspace was dry. The padlock for the well's lock was broken. No ID tag was affixed to the well.

MW-4R

Phase I

MW-4R (permit ID: 3100074627) was installed on July 5, 2007. The well was decommissioned on July 16, 2007, but has not been removed. It is a flush mount monitoring well, located in the grassy field directly east of the facility's parking lot and directly next to MW-4RD. It is in the proximity of the previous location of multiple underground storage tanks containing fuels and heating oil. The well itself is two inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter and uses two 9/16'' bolts. The most recent sampling of this well, which occurred in September of 2012 prior to its decommissioning, revealed no detectable quantities of VOCs or SVOCs.

Phase II

The survey recorded the depth to the water table is 1.4 feet, and the depth to the bottom of the well is 12.25 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was low, at 19.5%.

The well was in fair condition. The casing of the well was damaged, but not to the point where water was able to enter the well itself. All of the bolts and threaded tabs were present. The manhole cover had no gasket. The headspace was completely filled with water, but the well's plug maintained a water tight seal and prevented water from entering the well. The water inside the well could also be from a cracked skirt, but no visual evidence of this was found. No ID tag was affixed to the well.

MW-4RD

Phase I

MW-4RD (permit ID: E201012830) was installed on October 19, 2010 as "MW-4D". It was designated as "MW-4RD" in the drilling record approved on January 4, 2011. The well was decommissioned as "MW-4D" on April 14, 2016, but has not been filled in. It is a flush mount monitoring well, located in the grassy field directly east of the facility's parking lot and directly next to MW-4R. It is in the proximity of the previous location of

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

multiple underground storage tanks containing fuels and heating oil. The well itself is two inches in diameter, and is documented as being 35 feet deep. The manhole cover is eight inches in diameter, and uses two 9/16'' bolts. The most recent sampling of this well revealed no detectable quantities of VOCs or SVOCs. However, the concentrations of cadmium, iron and manganese were found to be above the NJDEP GWQS. In addition, several other metals (including arsenic, lead, and mercury) were found in detectable quantities, but below the NJDEP GWQS.

Phase II

The survey recorded the depth to the water table is 1.39 feet, and the depth to the bottom of the well is 31.55 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was very low, at 10.3%.

The well was in good condition. The well had all of its bolts and threaded tabs. The manhole cover had a gasket, but there was still some moisture in the headspace. No ID tag was affixed to the well.

MW-5

Phase I

MW-5 (permit ID: 3100058489) was installed on June 26, 2000. It is a flush mount monitoring well, located approximately 10 feet into the wooded area south of the parking lot. The well itself is 3.5 inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter, and uses two 9/16'' bolts. No sampling data was received from this well during the last series of sampling. The most recent sampling occurred in August of 2007, in which revealed no detectable quantities of VOCs.

Phase II

The survey recorded the depth to the water table is 2.75 feet, and the depth to the bottom of the well is 12.8 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was slightly below the ambient concentration, at 20.5%.

The well was in fair condition. One of the two bolts for the manhole cover were missing, but its threaded tabs were intact. The padlock for the plug was broken, and the manhole cover had no gasket. The headspace was filled with a lot of dirt, but not enough to obstruct the head of the well. Additionally, the well was located below a tree that had a large branch directly above it, making well surveying difficult. No ID tag was affixed to the well.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

MW-6

Phase I

MW-6 (permit ID: 3100058490) was installed on June 26, 2000. It is a flush mount monitoring well, located in the grass forward of the readiness center. The well itself is 3.5 inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter, and uses two 9/16'' bolts. The most recent sampling of the well revealed no detectable concentrations of VOCs or SVOCs. However, concentrations of aluminum, arsenic, iron, manganese, mercury, and zinc were found above the NJDEP GWQS. In addition, several other metals (including antimony, cadmium, and lead) were found in detectable concentrations, but not above the NJDEP GWQS.

Phase II

The survey recorded the depth to the water table is 4.7 feet, and the depth to the bottom of the well is 11.7 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was below the ambient concentration, at 19.2%.

The well showed signs of damage. Though all bolts were presents and all threaded tabs intact, the casing was compromised. Soil had begun to infiltrate the headspace, and some moisture was present. This is likely due to both the compromised casing and the manhole cover missing a gasket. No ID tag was affixed to the well.

MW-7

Phase I

MW-7 (permit ID: 3100058491) was installed on June 26, 2000. It is a flush mount monitoring well, located in the rear parking lot approximately 40 feet west of the vehicle storage building. The well itself is 3.5 inches in diameter, and is documented as being 12 feet deep. The manhole cover of this well is eight inches in diameter, and uses two 9/16'' bolts. The most recent sampling of the well revealed concentrations of aluminum, and iron above the NJDEP GWQS. The concentration of pyrene was found to be above the site-specific GWQS. In addition, the concentrations of fluoroethene, and several metal (including arsenic, lead, and mercury) were at detectable levels, but below the NJDEP GWQS.

Phase II

The survey recorded the depth to the water table is 2.8 feet, and the depth to the bottom of the well is 11.6 feet. Screening with a multi-gas monitor showed no signs of volatilized contaminants at the top of the well. The oxygen level in the well was very low, at 13.1%.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

The well was in good condition. All manhole cover bolts were present and threaded tabs intact. The manhole cover had a gasket, and the headspace of the well was dry. The padlock for the well's plug was broken. The only noticeable damage was the cracking of the concrete pad. No ID tag was affixed to the well.

MW-8

Phase I

MW-8 (permit ID: E201012822) was installed on October 12, 2010. It is a stickup monitoring well, located approximately 10 feet into the woods east of the parking lot and in close proximity to MW-4R, MW-4RD, and MW-9. The well itself is two inches in diameter, and is documented as being 12 feet deep. The lid of this well is four inches in diameter. No SVOC and metal data was published for this well. However, the most recent survey revealed concentrations of isopropylbenzene exceeded the NJDEP GWQS. In addition, concentrations of ethylbenzene, methylcyclohexane, and methyl tert butyl ether (MTBE) were found to be detectable, but not above the NJDEP GWQS.

Phase II

The survey recorded that the depth to the water table is 3.2 feet, and the depth to the bottom of the well is 13.5 feet. Screening with a multi-gas monitor showed no signs volatilized contaminants at the top of the well. The oxygen level in the well was very low, at 8.5%.

The well showed signs of damage. The well's lid had a crack on its top, which allowed water to enter the well's headspace and fill it. This crack was surrounded by a large dent. The damage could have occurred from a fallen tree in the past due to it being located within the woods. Additionally, the well casing had a piece broken off at the head, but the well's plug maintained a watertight seal and prevented surface water from entering the well itself. No ID tag was affixed to the well.

MW-9

Phase I

MW-9 (permit ID: E201012823) was installed on October 12, 2010. It is a stickup monitoring well, located approximately 10 feet into the woods east of the parking lot, and approximately 30 feet north of MW-8. The well is two inches in diameter, and is documented as being 12 feet deep. The lid of this well is four inches in diameter. No SVOC or metal data was published for this well. The most recent sampling revealed no detectable concentrations of VOCs.

Phase II

The survey recorded that the depth to the water table is 3.2 feet, and the depth to the bottom of the well is 13.5 feet. Screening with the multi-gas monitor showed no signs

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

volatilized contaminants at the top of the well. The oxygen level in the well was below the ambient concentration, at 19.5%.

The well was in good condition. The stickup portion and casing of the well were not damaged, and the lid was intact. The inside of the well was dry. No ID tag was affixed to the well.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

Recommended Action Plan

MW-1

Though this well is decommissioned, it has not been filled in. However, I do not recommend decommissioning due to the history of contaminated samples originating from water within it. If it is still desired that the well be decommissioned, it should be filled in accordance with *N.J.A.C. 7:9D-3* as soon as possible to prevent future degradation that could allow for surface water to enter the well and reach the groundwater.

If the well continues to be operated, an ID tag displaying the well's 10-digit permit ID should be affixed.

MW-S1

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new skirt should be installed to fit the new cover. A new lock should also be affixed to secure the well's plug in place.

MW-2

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new skirt should be installed to fit the new cover.

MW-S2

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new skirt should be installed to fit the new cover.

MW-3

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new lock should be affixed to secure the well's plug in place. A new skirt should be installed to fit the new cover.

MW-S3

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new lock should be affixed to secure the well's plug in place. A new skirt should be installed to fit the new cover.

MW-4R

Though this well is decommissioned, it has not been filled in. It is recommended that the well be filled in accordance *with N.J.A.C. 7:9D-3* as soon as possible, especially with water currently entering the headspace. If the well is allowed to degrade for any longer, surface water could begin to infiltrate the well and the groundwater within.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.

MW-4RD

Though this well is decommissioned, it has not been filled in. However, I recommend that the well remain in operation due to the history of contamination of groundwater within. If it is desired that the well remain inoperable, it is recommended that the well be filled in accordance with *N.J.A.C. 7:9D-3* as soon as possible to prevent future degradation that could allow for surface water to enter the well and reach the groundwater.

MW-5

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new lock should be affixed to secure the well's plug in place. A new skirt should be installed to fit the new cover. The branch obstructing the well should be removed to allow for easy locating and surveying.

MW-6

It is recommended that the well's manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new skirt should be installed to replace the compromised one and fit the new cover. It is also recommended that the well be converted to a stickup design for ease of locating.

MW-7

It is recommended that the manhole cover be replaced with a new cover that has a gasket, and adequate space for an ID tag. A new lock should be affixed to secure the well's plug in place. A new skirt should be installed to fit the new cover. Additionally, the cracks in the concrete should be filled to prevent further degradation.

MW-8

It is recommended that the well's lid be replaced with a new one. An ID tag should be affixed to the well to remain compliant with N.J.A.C. 7:9D-2.4(a)1. Due to the well's cracked casing not allowing water to enter the well itself, no further action is needed.

MW-9

It is recommended that an ID tag be affixed to the well to be compliant with N.J.A.C. 7:9D-2.4(a)1.

1. Site-specific GWQS determined by water sampled from well MW-S3, which is located upgradient from other wells at the site. The site-specific GWQS can be above or below the NJDEP GWQS.