Law Offices of Charles M. Tebbutt, P.C.
941 Lawrence Street
Eugene, OR 97401
Ph: 541-344-3505 Fax: 541-344-3516

May 17, 2021

THIS IS AN URGENT LEGAL MATTER REQUIRING YOUR IMMEDIATE ATTENTION

Via Registered Mail, Return Receipt Requested:

Governor Ron DeSantis
Office of Governor Ron DeSantis
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

Noah Valenstein, Secretary
Florida Department of Environmental Protection
3900 Commonwealth Boulevard M.S. 49
Tallahassee, FL 32399

Manatee County Port Authority
300 Tampa Bay Way
Palmetto, FL 34221

HRK Holdings, LLC
Registered Agent: Jeffrey Barath
13500 Scale Ave.
Palmetto, FL 34221

Site Manager
Eastport Development and Piney Point Complex
13300 Highway 41 N
Palmetto, FL 34221

Via Certified Mail, Return Receipt Requested:

Deb Haaland, Secretary of the Interior
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240
doiexecsec@ios.doi.gov

Martha Williams, Acting Director
U.S. Fish and Wildlife Service
1849 C Street, N.W.
Washington, D.C. 20240
Martha_Williams@fws.gov

Gina Raimondo, Secretary
U.S. Department of Commerce
1401 Constitution Ave., N.W.
Washington, D.C. 20230
graimondo@doc.gov

Dr. Paul Doremus, Acting Assistant Administrator
NOAA Fisheries
1315 East-West Highway
Silver Springs, M.D. 20901
Paul.Doremus@noaa.gov

Other recipients identified on signature page

NOTICE OF INTENT TO SUE PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT, 42 U.S.C. § 6972(a)(1)(B); THE FEDERAL WATER POLLUTION CONTROL ACT, 33 U.S.C. § 1365(a)(1); & THE FEDERAL ENDANGERED SPECIES ACT, 16 U.S.C. § 1540(g)(1)(A)

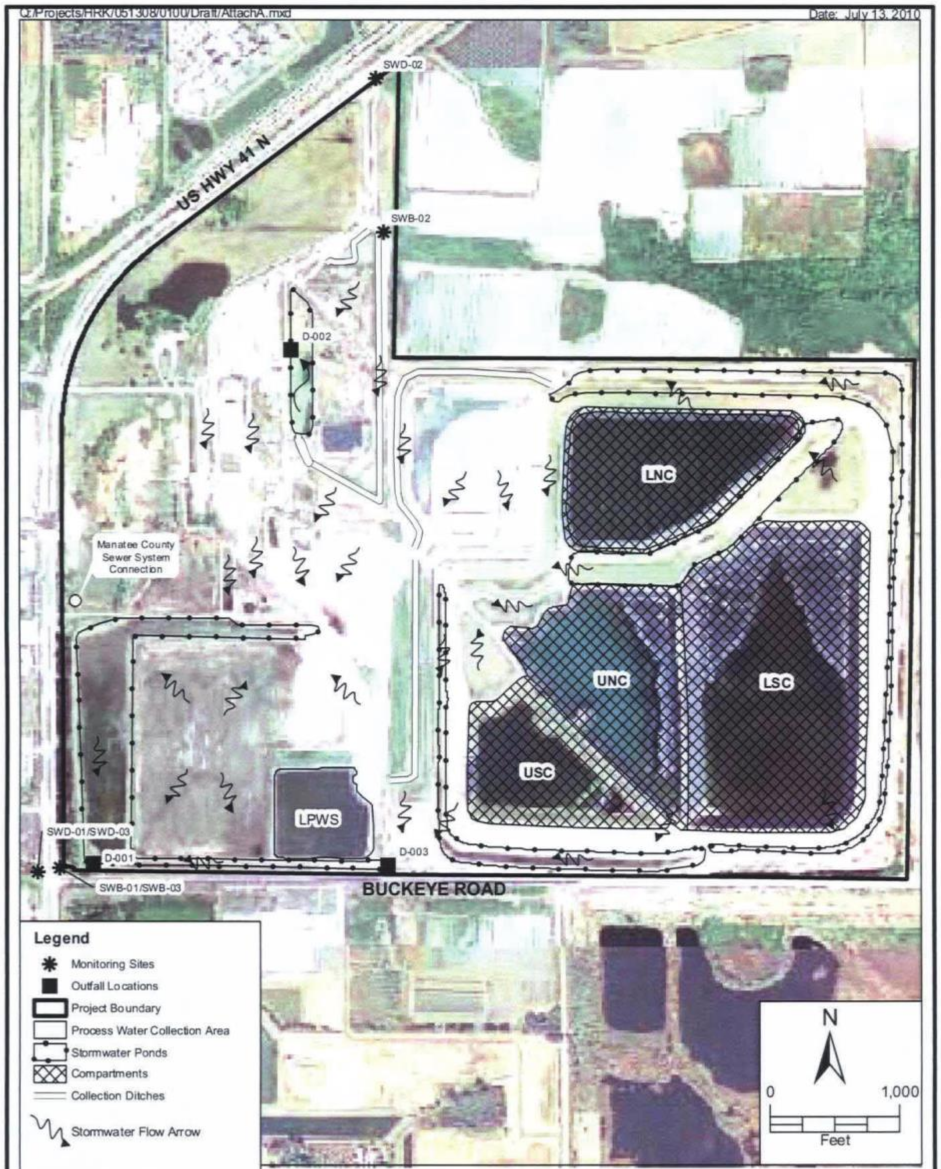
Dear Governor DeSantis, Secretary Valenstein, Manatee County Port Authority, Mr. Barath, Eastport Development and Piney Point Complex Site Manager, Sec. Haaland, Acting Director Williams, Sec. Raimondo, and Acting Assistant Admin. Doremus:

Pursuant to the citizen suit provisions of the 1976 Amendments to the Solid Waste Disposal Act (hereinafter referred to as the "Resource Conservation and Recovery Act" or "RCRA"), 42 U.S.C. § 6972(a)(1)(A) & (B); the citizen suit provision of the Federal Water Pollution Control Act, 33 U.S.C. § 1365(a)(1)(A) (hereinafter the "Clean Water Act" or "CWA"); and the citizen suit provision of the Federal Endangered Species Act, 16 U.S.C. § 1540(g)(1)(A) (hereinafter the "Endangered Species Act" or "ESA"), the Center for Biological Diversity, Tampa Bay Waterkeeper, Suncoast Waterkeeper, ManaSota-88, and Our Children's Earth Foundation (collectively referred to hereinafter as the "Notifying Parties") hereby notify you that on or after the 90th day from the date of your receipt of this notice for the RCRA claims identified herein, on or after the 60th date from the date this notice was mailed for the CWA claims identified herein, and on or after the 60th date from the date this notice was mailed for the ESA claims identified herein, Notifying Parties intend to initiate a citizen suit in the United States District Court for the Middle District of Florida or another court of competent jurisdiction against you concerning the open dumping and imminent and substantial endangerment threat to human health and the environment in violation of RCRA, unlawful discharges of pollutants to navigable waters in violation of the CWA, and the illegal ongoing "take" of threatened and endangered species, all occurring at the former Piney Point Phosphate facility, located at 13300 Highway 41 North, Palmetto, FL 34221 (hereinafter "Piney Point").

Furthermore, Notifying Parties hereby inform you that they will immediately initiate a citizen suit against you pursuant to RCRA, 42 U.S.C. § 6972(a)(1)(B) and 42 U.S.C. § 6972(b)(2)(A), which authorizes such immediate suit "after such notification in the case of an action under this section respecting a violation of subchapter III of this chapter." In particular, and as described below, the comingling and intermixing of dredged material from the Port Manatee Berth 12 expansion and precipitation falling at the site, with the process wastewater and phosphogypsum stacks located beneath the High Density Polyethylene ("HDPE") liners at Piney Point, has created a toxic waste and/or leachate that satisfies all regulatory requirements for being deemed a hazardous waste. The Piney Point impoundments and wastewater infrastructure are not compliant with any of the requirements under RCRA subchapter III (also known as RCRA Subtitle C) for hazardous waste storage, treatment, and disposal facilities. *See generally* 42 U.S.C. § 6924; 40 C.F.R. Part 264 ("Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities."). Consequently, you are subject to an RCRA immediate lawsuit following your receipt of this notice letter.

For reference, Figure 1 below is aerial imagery of the Piney Point Site:

Figure 2 below depicts Piney Point's water management features as they existed in 2010 (excerpted from FDEP File No. FL0000124-003-AA):



ATTACHMENT A.
FACILITY WATER MANAGEMENT FEATURES
NPDES PERMIT RENEWAL FL 0000124
EASTPORT DEVELOPMENT
HRK HOLDINGS, LLC
Sources: Google Earth, 2010; ECT, 2010.

ECT
Environmental Consulting & Technology, Inc.

BACKGROUND

I. Introduction

Piney Point was a phosphate fertilizer plant owned and operated by multiple different corporations from 1966 until operations ceased in 1999. Historically, Piney Point consisted of an acid plant, a phosphoric acid plant, an ammoniated phosphate fertilizer plant with storage for ammonia, phosphoric acid, and other products necessary for the manufacture of fertilizer, and related facilities. All were located within an approximately 670-acre parcel of land.

Phosphoric acid production involves the use of acidic solutions to separate phosphorus from phosphate-containing rock. The resulting waste is phosphogypsum. Phosphogypsum is watery when it is first stored, but over time it dries, and a crust forms over the top, forming "stacks." At Piney Point, this toxic waste was formed into large stacks which rose as high as 70-80 feet and encompassed 457 acres.

Phosphogypsum is radioactive and can contain uranium, thorium, and radium. Over time, uranium and thorium decay into radium, and radium subsequently decays further into radioactive radon, the second-leading cause of lung cancer in the United States. Radium-226, found in phosphogypsum, has a 1,600-year radioactive decay half-life. In addition to high concentrations of radioactive materials, phosphogypsum and associated process wastewater can contain carcinogens and heavy toxic metals like antimony, arsenic, barium, cadmium, chromium, copper, fluoride, lead, mercury, nickel, silver, sulfur, thallium and zinc.

While commercial operations were underway at Piney Point, precipitation falling onto the site was consumed by the phosphate fertilizer operation. That precipitation, in addition to water used directly in the manufacturing process, is called "process wastewater." Process wastewater is highly acidic and can contain heavy metals such as arsenic, cadmium, chromium, and fluoride, in addition to high levels of nutrients, nitrogen, and dissolved solids. Like the phosphogypsum stacks, process wastewater is also radioactive.

II. FDEP Assumes Ownership and Control of Piney Point

Piney Point Phosphates, Inc., a wholly-owned subsidiary of Mulberry Corporation, was the owner and operator of Piney Point in 2001. In February 2001, Mulberry Corporation filed for bankruptcy and provided Florida State officials with 48 hours' notice that it was abandoning the property. The property's ownership and operation then passed to the Florida Department of Environmental Protection ("FDEP") through a court-ordered receivership, also in February 2001. When operations ceased, all precipitation falling onto the site required detention because of its contact with process wastewater. Between February 2001 and February 2004, FDEP discharged approximately 1.1 billion gallons of precipitation and process wastewater from Piney Point into Tampa Bay and Bishop Harbor.

In 2001, FDEP asked the Circuit Court in Manatee County, Florida to appoint a receiver to manage the site for and on behalf of FDEP. FDEP, through its receiver, retained contractors to investigate the site and propose a means of handling the wastewater and dealing with the existing phosphogypsum stacks. As part of that investigation, FDEP determined that closure of the site was required. FDEP decided to institute a closure plan involving the placement of HDPE single liners over the existing phosphogypsum stacks and associated cooling ponds. Importantly, this closure plan was not compliant with any aspect of RCRA Subtitle C, pertaining to hazardous waste treatment, storage, and disposal requirements. *See generally* 42 U.S.C. § 6924; 40 C.F.R. Part 264. This is because phosphogypsum stacks and related process wastewater are exempt from RCRA's hazardous waste regulations pursuant to the "Bevill" amendment. 40 C.F.R. § 261.4(b)(7)(D). This exemption is vitiated, however, when solid wastes comingle, creating a waste and/or leachate that itself satisfies the regulatory definition of hazardous waste.

Between 2001 and 2004, FDEP worked with a series of contractors at Piney Point with the goal of implementing its closure plan at the site. This included converting the existing phosphogypsum stacks into reservoirs capable of storing precipitation that fell onto the site. To achieve this goal, FDEP hired Ardaman & Associates, Inc. ("Ardaman") and Comanco Environmental Corporation ("Comanco") to engineer and install HDPE liners over the phosphogypsum stacks. Through that process, FDEP installed approximately 2,593,000 square feet of HDPE liner at the "New Gypsum Stack-North" or "NGS-N" stack and at the two other stacks existing at the facility at this time – the "Old Gypsum Stack South," and "Old Gypsum Stack North."[1] Additionally in 2001, FDEP discharged approximately 50 million gallons of wastewater into Bishop's Harbor as part of its plan to dewater the stack impoundments.

III. <u>HRK Purchased Piney Point, Subject to FDEP's Authority & Closure Plan</u>

FDEP was the real property owner of the site until August 2006 when HRK Holdings LLC ("HRK") purchased Piney Point in connection with the Mulberry Corporation's bankruptcy proceeding. As part of that purchase, FDEP and HRK entered into an Administrative Agreement, FDEP OGC No. 06-1685. In that Agreement, HRK agreed that FDEP would continue to work with its contractors – Ardaman, Comanco, and CDM Constructors, Inc. ("CDM") – to complete FDEP's closure plans and to address the "imminent hazard related to the Phosphogypsum Stack System[.]" That Agreement states that FDEP's contractors "prepared conceptual closure plans for the entire Phosphogypsum Stack System at the Site and detailed plans and specifications for specific portions of" the site, and makes clear that "HRK had no role in the development of the design, drawings, specifications, and phased Closure construction of the entire Phosphogypsum Stack System" by Ardaman and CDM Constructors, Inc. Indeed, pursuant to that Agreement, "HRK was not an owner or operator of the Phosphogypsum Stack System or any other part or component at or on the Site, nor was HRK a generator of any Solid Waste or Hazardous Substances at or on the Site." HRK was required in the Agreement to allow FDEP and its contractors access to complete FDEP's closure plan at the site, and agreed that FDEP "shall continue to exercise regulatory control" over the closure and "any post-closure activities at the

[1] Notifying Parties presently understand that the phosphogypsum stacks stored at Piney Point are located in the "New North Gypstack" or "NGS-N" and the "New South Gypstack," or "NGS-S." Both "gypstacks" are single-lined with an 80-mil HDPE liner. Piney Point also presently includes a lined process water sump pond, denoted as "LPWS," and two "closed gypstack" areas. Seepage from the NGS-N and NGS-S is intended to be captured by seepage collection systems, which all convene into one well. That well is then pumped into the LPWS. When the storage volume in the LPWS is insufficient, a pumping system pumps collected seepage and wastewater from the LPWS into either the NGS-N or NGS-S. The total volume of contaminated wastewater in the three pond structures – the LPWS, NGS-N, and NGS-S – is approximately 600,000,000 gallons.

Site…such as the final cover, liners, monitoring system and process water management and stormwater controls."

IV. FDEP Approves Use of Piney Point for Dredged Material Storage

In 2005, as part of Phase III of the Manatee Harbor Navigation Project, the Manatee County Port Authority (the "MCPA" or "Port Manatee") began exploring plans to create a deepwater berth suitable for use by large shipping vessels and to reduce vessel congestion within the Port Manatee. The MCPA developed a plan to create an access channel to a new berthing area. The project involved impacts to 11.92 acres of shallow bay bottoms, primarily caused by dredging, and was expected to produce 1,170,000 cubic yards of dredged material. Additional annual maintenance dredging was anticipated to produce 300,000 cubic yards of dredged material. Overall, the MCPA determined it needed a disposal area sufficient to handle 3,220,000 cubic yards of material over a twenty-year maintenance period. The MCPA itself had no suitable locations in which to store this large quantity of dredged material.

The MCPA thereafter developed a plan involving the pumping of dredged materials from the Port expansion into Piney Point's HDPE-lined impoundments, which overlay the preexisting phosphogypsum stacks. FDEP approved the permit necessary for MCPA to begin the dredging process in Environmental Resource Permit No. 0129291-0090-EM, as modified by FDEP. Shortly thereafter MCPA began negotiations with HRK and entered into a "Dredged Materials Containment Agreement" or "DMCA" with HRK on April 19, 2007. The DMCA specifically identified the Administrative Agreement between HRK and FDEP and noted that performance of the obligations under the MCPA "shall be of material benefit to [FDEP], and as a result of said material benefit, the severance fee for dredging material from sovereignty submerged lands should be eliminated or waived by [FDEP]." Within six months of execution of the DMCA, FDEP did indeed waive the aforementioned severance fee.

FDEP and HRK subsequently entered into the First Amendment to the Administrative Agreement (hereinafter "Amended Agreement") on August 20, 2007. The Amended Agreement stated that, since HRK's purchase of Piney Point, FDEP "has continued to conduct [c]losure work and related tasks at the Site[.]" FDEP represented that "storage of dredged materials" to be generated by MCPA would be "compatible with the design and purpose of the lined reservoirs constructed by the Department[,]" and would "be of benefit to the Department." As such, FDEP agreed in the Amended Agreement "to establish a process for [FDEP] review of plans for work under the DMCA[.]" In fact, FDEP specifically agreed that:

> Work to be performed by HRK and MCPA, respectively, under the DMCA in accordance with the conditions specified by this Amendment constitutes a use which is compatible with the design and purpose of the lined reservoirs constructed by [FDEP] and others at the existing Phosphogypsum Stack System and with the ongoing Closure of the Phosphogypsum Stack System at the Site conducted by [FDEP] as well as constituting a beneficial use of the Site which is in the public interest.

FDEP stipulated in the Amended Agreement not to place a protective soil cover over the three impoundments to be initially used for dredged material storage: the OGS-N, OGS-S, and NGS-S (defined as the "lined DMCA Reservoir Compartments"). These impoundments would instead be used for the storage of dredged material from MCPA. FDEP specifically retained the right to "freely utilize" the NGS-N "for storage and management of process water[.]" FDEP further agreed that:

> Placement of dredged materials that does not adversely affect the integrity of the environmental protection measures and that does not interfere with the work to be performed by [FDEP] under Section III of the Agreement shall constitute a use that is compatible with the design and purpose of the lined reservoirs constructed by [FDEP] and others as part of the Closure of the Phosphogypsum Stacks at the Site.

Furthermore, FDEP certified that the Amendment "constitutes [FDEP's] written determination and authorization under the [original Administrative] Agreement that the containment and storage of dredged materials within the lined DMCA Reservoir Compartments along with such transport of dredged materials and resulting decant water upon and across the Site is a compatible use of the Site consistent with [FDEP's] finding" that placement of the dredged materials constitutes "a beneficial use of the Site which is in the public interest." The Amended Agreement also carried forward HRK's requirement to seek review and approval from FDEP for work which could impact the phosphogypsum stacks.

Part of the original agreement and Amended Agreement was the requirement that HRK provides $2.5 million to an account for the long-term operation and maintenance of the wastewater impoundment. Importantly, FDEP has oversight and approves all expenditures from that account.

V. <u>FDEP and MCPA Warned by Army Corps Not To Use Piney Point for Dredge Disposal Containment</u>

In August 2008, the Army Corps of Engineers ("Corps") issued its "Draft Phase IIII General Revaluation Report and Environmental Assessment Addendum" (the "Report"). That Report explicitly warned FDEP and MCPA not to use the Piney Point site for disposal of dredged materials from the Port Manatee expansion. In particular, the Report stated that:

> The Corps of Engineers would need to perform analyses to determine if the disposal facility meets the design and construction criteria established in Corps of Engineers guidance such as EM 1110-2-5027 and others as appropriate. In the case of the Piney Point site, there is a heightened level of concern with regard to the integrity of the gypsum stack which forms the foundation of the dredged material handling facility. The heightened level of concern follows from the following considerations:
>
> • The gypsum stack itself is not an engineered structure. There are no design plans and specifications, nor as built drawings, nor construction

> documentation to support the assertion of structural integrity of the stack for the purpose of supporting a material handling facility to be constructed on top of the stack.
>
> • The gypsum stack itself contains hazardous and toxic material.
>
> • There is documentation of past slope stability and piping issues experienced at the site.
>
> The local sponsor, the site owner, and the State of Florida Department of Environmental Protection (DEP) have supplied data and have asserted that the site is approved for the use intended. However, the Corps of Engineers has found the data to be inconclusive.

The Corps described that "the worst case scenario for Piney Point being used as dredged material disposal facility would be a breach in the liner. Such a breach would allow water to saturate and cause a failure to the gypsum stack, enabling the mixing of large volumes of dredged material with large volumes of phosphogypsum." Not only would this have dire environmental consequences, but it also nullifies the phosphogypsum stacks' legal exemption from the definition of hazardous waste under RCRA and makes the dredged spoils subject to RCRA as both a solid waste and a hazardous waste. As the Corps described:

> Water from rain and the placement of dredged slurry could percolate into [the] phosphogypsum stack releasing a leachate that could be corrosive and toxic. If leachate meets the characteristics according to 40 CFR 261.22 and 40 CFR 261.24, then the leachate would be designated as hazardous waste. Then the mixture of a solid waste, with hazardous waste is considered a hazardous waste. The addition of dredged material to a hazardous waste will increase the probability of contaminating the surrounding surface and groundwater.

Consequently, the Corps could not recommend approval of the plan in 2008. Instead, the Corps required FDEP to certify "Piney Point as a Dredged Material Disposal Site," to provide adequate documentation of the arrangements for use of Piney Point to store the dredged materials, and for extensive testing to ensure "that there is no hazardous material that will enter the site."

VI. FDEP And MCPA Ignore Corps' Warning and FDEP Approves Piney Point for Storage of Dredged Materials, Despite Prior Knowledge that Single HDPE Liners at Similar Phosphogypsum Stacks were Failing

Undeterred by the Corps' warning, FDEP and the MCPA continued to advance their preferred solution of storing dredged material at Piney Point. FDEP, through its contractor Ardaman, prepared a report in response to the Corps' warning, arguing that the Piney Point site was indeed suitable for storing such a vast quantity of material.

The Corps thereafter asked FDEP to prepare a risk assessment of potential failure modes, and for FDEP to evaluate the probability or likelihood of such failure modes. FDEP instructed its contractor, Ardaman, to prepare that risk assessment. In that risk assessment, Ardaman identified that the probability of an existing liner leak as essentially zero, although it acknowledged that a risk existed that the liner could be breached.

The Ardaman risk assessment was prepared in July 2009. Days after its completion, Ardaman investigated a liner leak at another closed phosphogypsum stack in Florida, the Plant City Phosphate Complex. Ardaman and CDM were the engineers that designed and implemented the closure plans for the Plant City complex. Ardaman investigated leaks in the liner, which was also an 80-mil HDPE single liner installed over existing phosphogypsum stacks. The HDPE liner was significantly compromised in numerous ways: there were large fissures and cracks in the phosphogypsum subsurface, which forms the foundation of the liner system; the liner showed numerous large tears and punctures; and the liner evidenced both linear tears and tears associated conventional wind ballast anchor trenches.

Ardaman informed FDEP through formal reports and meetings that a plan of action was necessary at the site to quickly remediate the failing 80-mil HDPE liner.

In fact, in November 2001, Ardaman prepared a Geotechnical Study at FDEP's direction for Piney Point and identified three whirlpools located in the NGS-N. It stated those whirlpools were examples of a well-developed system of interconnected cracks in the subsurface, which can create concentrated flows and/or preferential pathways in the foundational soils. The Study further found that:

> 1. As many as sixteen drilling fluid circulation loss zones were encountered in 10 out of 27 Standard Penetration Test (SPT) borings. The losses typically occurred within foundation sands, gypsum, and at the contact between gypsum and soil. Fluid losses are likely indicative of a network of vertical and horizontal open planes and fissures resulting from desiccation and differential settlement of gypsum, and historic piping of more erodible soils at the gypsum/soil interface.
>
> 2. Our evaluation of the potential mechanisms for piping or internal erosion of foundation soils beneath the stack and pond system based on historic performance, analytical methods, and a review of borehole and piezometric data, lead us to the opinion that the risk of piping failure resulting from concentrated seepage following fissures or cracks within the gypsum fill and along the gypsum fill/soil interface is high.
>
> 3. Three whirlpools observed during the third week of September 2001 in the north compartment of the new gypsum stack are examples supporting the mechanism of a well-developed system of interconnected cracks leading to a concentrated flow into existing natural and man-made outlets in the foundation soil. The trigger for the increased discharge from the north compartment of the new gypsum stack resulted from a sudden rise in pond water level associated with tropical storm Gabrielle. The leakage from the compartment caused its water level to drop by as much as 0.9 feet in three days.

The Study concluded that there were two likely failure modes for the phosphogypsum stack dikes. The first is a "foundation piping failure leading to backward erosion of a tunnel at the interface of gypsum and natural foundation soil, and finally connecting to a vertical crack system that lies in proximity of the intersection of the inner dike and pond…[t]he highest likelihood of a piping failure of the gypsum stack system is along the north and east sides of the NGS." The second mode of failure "is a blowout of the outer face of the lower part of the stack slope due to a buildup of high hydrostatic pressure caused by short circuiting of the pond to a small cavity that has eroded below the outer toe…[t]he most likely place for this type of failure is where strong spring flows are established such as near the southeast corner of the NSGS."

Thus, despite having prior knowledge that the Piney Point gypsum stacks were already at risk of failure due to settling of the gypsum stacks and foundational soils, and despite having prior knowledge that single HDPE liners at similar phosphogypsum stacks were failing – both at the Plant City complex and elsewhere throughout the State – FDEP wrote to the Corps on April 8, 2010, explaining its support of the proposed use of the Piney Point phosphogypsum stacks for storage and disposal of the dredged material from the Port Manatee berth expansion. Two days later, the Corps responded, noting that Engineer Regulation 1165-2-132, "Hazardous Toxic Radioactive Waste for Civil Works Projects," specifically directed that construction in such areas should be avoided where practicable. The Corps therefore reaffirmed its position that the use of Piney Point for disposal carries unnecessary risks to the public and the environment.

FDEP continued to ignore the Corps' warnings, and as a result, the Corps requested, and FDEP provided, a formal covenant not to sue relative to the use of the closed Piney Point phosphogypsum stacks for storage and disposal of dredged material. The Corps also required assurances from FDEP that the Corps would not be considered a potentially responsible party for purposes of environmental clean-up in the event of a leak or discharge at Piney Point.

FDEP thereafter officially approved the beneficial use of Piney Point for storage and disposal of the dredged materials, with full knowledge ahead of time that such approval posed significant environmental and health risks.

VII. <u>FDEP Requires Emergency Measures to Mitigate Damage Resulting from the Compromised Piney Point Phosphogypsum Stacks and HDPE Liner</u>

In February 2011, as the Piney Point site was being prepared for the dredging and disposal operations, a crane collapsed and punctured the HDPE liner in the NGS-S. FDEP's contractor, Ardaman, drained the NGS-S and visually inspected the floor of the liner. Approximately 150 feet from the location where the crane impacted the liner, Ardaman discovered a breach in the liner six inches in length, located along an extruded ballast trench seam. Beneath the liner breach, there was a "solution cavity" four feet in diameter and at least four feet deep. While the liner was repaired at the time, FDEP knew or should have known in the exercise of reasonable care and due diligence that this breach was evidence that the single HDPE liner and gypsum subsurface presented serious integrity concerns (as it was told by Ardaman in November 2001).

FDEP eventually approved all the remaining necessary state permits for MCPA to begin the dredging project, and the dredging of the expansion began on April 22, 2011.

Just weeks later, as the dredging process was continuing and wastes were being disposed of at Piney Point, HRK reported to FDEP increased flows, conductivity, and chloride concentrations in the buried drains based on monitoring that was required specifically for the approved dredge disposal operations at the site. On May 29, 2011, FDEP issued an Emergency Final Order (EFO No. 11-0813) that ordered HRK to take actions to help prevent the collapse of the phosphogypsum stack system and its impoundments, and authorized controlled emergency discharges as needed to protect the integrity of the stack system or its impoundments and protect waters of the state.

On June 4, 2011, dredging operations were directed to be fully suspended by FDEP based on continued changes in site conditions. Specifically, decreasing water levels in the NGS-S indicated a leak of at least 12,000 gallons per minute. On June 6, 2011, a strong vortex was identified near the water's edge in the southwest corner of the NGS-S, similar to what FDEP's contractor, Ardaman, identified and disclosed to FDEP nearly a decade prior in the NGS-N in the 2001 Geotechnical Study. Attempts to repair the liner hole were unsuccessful and, consequently, the flow rate increased to 35,000 gallons per minute. This created another vortex by the toe of the slope of the impoundment, meaning the pressure being exerted on the gypsum walls of the impoundment threatened catastrophic failure.

As such, on June 7, 2011, FDEP required HRK to perform a controlled breach to the NGS-S, specifically an area identified as the "OGS-S stormwater ditch and dike system," to relieve stack pressures onsite, and to prevent an uncontrolled loss of containment from the stack system to offsite property and Buckeye Road, located south of Piney Point. Emergency discharges were performed by HRK as required by FDEP in its Emergency Final Order until June 16, 2011.

All told, FDEP required HRK to discharge 169 million gallons of wastewater, consisting of dredged seawater mixed with process wastewater. Following this event, FDEP and Ardaman inspected the liner at the NGS-S and identified 29 stress cracks in the liner. In October 2011, an additional five stress cracks in the liner of the NGS-S were identified and disclosed to FDEP. Ardaman eventually concluded that a tear at the edge of the extrusion weld in the southwest corner of the NGS-S propagated, and the leakage found its way through preexisting preferential flow paths at the base of the reservoir into the foundation sand and/or earthen starter dike 12-15 feet below, inducing erosion of the sandy soils under the elevated hydraulic head in the reservoir – the exact same situation Ardaman identified and disclosed to FDEP back in November, 2001 in its Geotechnical Study.

HRK completed grouting and repair operations to the phosphogypsum stack system and its impoundments by July 19, 2011, and the dredging project was allowed to resume in July. The dredging project was completed on October 21, 2011. HRK filed for bankruptcy on June 27, 2012, after the Port Manatee expansion and dredging project was complete. Beginning in August 2012, HRK transferred 72-107 MG of process water from NGS-N to NGS-S, followed by subsequent smaller transfers. HRK emerged from bankruptcy March 20, 2017.

On or about March 13, 2020, an engineering firm hired by HRK again warned FDEP of serious problems with the integrity of the site and its HDPE liner. Glen Anderson, an engineer with Wood Environmental & Infrastructure Solutions ("Wood"), explained that the risk of an uncontrolled release or breach from the site was elevated due to the deteriorating liner conditions above the water line, compromised conditions below the water line, and voids in the dikes that hold the water at the NGS-S impoundment. This letter and warning were provided to FDEP in direct response to FDEP's request for an annual inspection of the system. FDEP later claimed this report showed the system to "is generally in good condition" despite the dire warnings from the engineer.

VIII. <u>The Liners at Piney Point Continue to Deteriorate and Threaten Human Health and the Environment</u>

On or about March 25, 2021, HRK reported to FDEP increased flow and conductivity measurements in the drains that surround the phosphogypsum impoundments. HRK's report indicated that over a 24-hour period, flow in the buried seepage interceptor drains increased over 30 gpm without any associated rainfall. Additionally, HRK reported that conductivity measurements from the drain system had gone up from previous readings of up to 6,800 umhos/cm to readings of up to 9,960 on March 25.

FDEP conducted a site visit that same day. Based on the reported readings and the site visit on March 25, FDEP concluded that the NGS-S compartment has a leak below the water level in the impoundment. HRK thereafter began transferring water from the 10-acre lined process water sump (the LPWS) overnight in order to accommodate the increased drains flows that are routinely pumped from the NGS-S drains to the LPWS. At that time, FDEP estimated the volume of wastewater in the NGS-S compartment to be approximately 480 million gallons.

On March 26, FDEP determined that the increased flow in the drains shows that leakage emanating from the NGS-S lined compartment was being intercepted by the buried silca-gravel drain system that surrounds the system to protect against outward migration of seepage that would otherwise impact site groundwater. The drain conductivity on March 26 was 10,520 umhos/cm, and the drain flow had increased to 215 gpm. At this time, discharges from Piney Point into Piney Point Creek began.

On March 27, drain conductivity increased to 11,440 umhos/cm, and the drain flow increased to 216 gpm.

On March 28, drain flow increased to approximately 236 gpm, and conductivity increased to 13,480 cmhos/cm. This conductivity was now approaching the elevated conductivity of the wastewater in the NGS-S impoundment. FDEP later reported that a "boil," or an upwelling of water, had been observed along the east wall of the NGS-S, and HRK placed an earthen berm to provide initial containment within the stormwater ditch, through which contamination was seeping.

On March 29, FDEP reported that there was continuous pumping from the drains around the NGS-S and that the presence of “boils/openings and associated releases” from the drain system into the east and north stormwater ditches mean there was an increase in total drain rates. At the location of the drain cleanouts at the northwest corner of the phosphogypsum stack system, the water was “pressurized” and discharging at a rate of 50-100 gpm. That polluted water was discharging directly into Piney Point Creek, meaning that the system had lost containment of its impounded pollution. Piney Point Creek discharges directly into Tampa Bay.

On March 30, FDEP indicated that the “pressurized” discharge point had increased to 100 gpm and continued to discharge into Piney Point Creek. Along the northern wall of the NGS-N, HRK’s engineer reported that pressure on the wall continued to build despite the drilling of relief holes. Consequently, FDEP required additional relief holes to be drilled into the impoundment. Later, on March 30, FDEP required HRK to begin emergency discharges through the “east siphon” of untreated waste from the impoundment.

On March 31, the east siphon continued to discharge untreated waste. The seepage collection system remained pressurized with underground water flow causing heaving of the surface water collection ditch and liner system along the east side of the NGS-S *and* the north side of the NGS-N, causing the continued discharge of untreated wastewater into Piney Point Creek. The water chemistry of the pollution being discharged showed a conductivity of 19,240 umhos/cm and a pH of 5.11; the discharge rate continued to be 100 gpm. Of greatest concern was the liner along the “eastern stormwater ditch,” which was bulging from the pressure building in the seepage collection system. Later, on March 31, three new boils were identified, one on the east face and two that were deliberately created in the northeast quadrant to relieve pressure on the toe of the impoundment. At this time, the “east siphon” was discharging 11,000 gpm, or approximately 14 million gallons per day, into Tampa Bay. The water quality of the water being discharged was 15,330 umhos/cm conductivity and a pH of 4.44. By the end of the day, the three “boils” were all “bubbling,” and FDEP stated that the water flow appeared to be static.

On April 1, FDEP required HRK to complete additional relief punctures along the east lined stormwater drain to relief pressure from the seepage collection system and the toe of the impoundment; the original boil was still active. By the end of the day, FDEP reported that both the east and west siphons would be used to discharge wastewater from the site to relieve pressure. FDEP also required five more additional punctures to be made to the east face of the phosphogypsum stack, while pressured flow was observed flowing along the east storm water ditch liner penetrations.

By April 2, FDEP reported four boils along the Eastern stormwater ditch form the stack. Boils number 6, 7, 9 and the original boil were are still bubbling. There were now five boils along the North-Eastern corridor. Boils 4 and 5 were actively running. Process wastewater continued to discharge into Piney Point Creek at a rate of 40-50 gpm. Concentrated seepage was identified at the southern third of the NGS-S impoundment’s eastern wall discharging at a rate of 200 gpm, and Boils 4, 5, 6, 8, and 9 were actively bubbling. By the end of the day, a voluntary evacuation order, that was put in place for properties immediately adjacent to Piney Point, became mandatory due to worsening conditions at the site.

On April 3, FDEP reported that the seepage outbreak about a third way up the slope continued, and the southern portion of the NGS-S dam (where the seepage was occurring) shifted by approximately 10 ft horizontally. Consequently, FDEP evacuated the facility and began requesting pumps and hoses to continue discharging the impounded wastewater. Due to the worsening conditions and threat of catastrophic collapse, the boils could no longer be evaluated. The siphons continued to discharge 24-hours/day.

By April 5, FDEP had taken emergency efforts to address the uncontrolled flooding from the northern toe of the NGS-N. Both siphons were discharging 24,000 gallons/minute from the NGS-N directly into Port Manatee. These discharges would continue unabated for days, releasing over 215 million gallons of untreated wastewater into Tampa Bay.

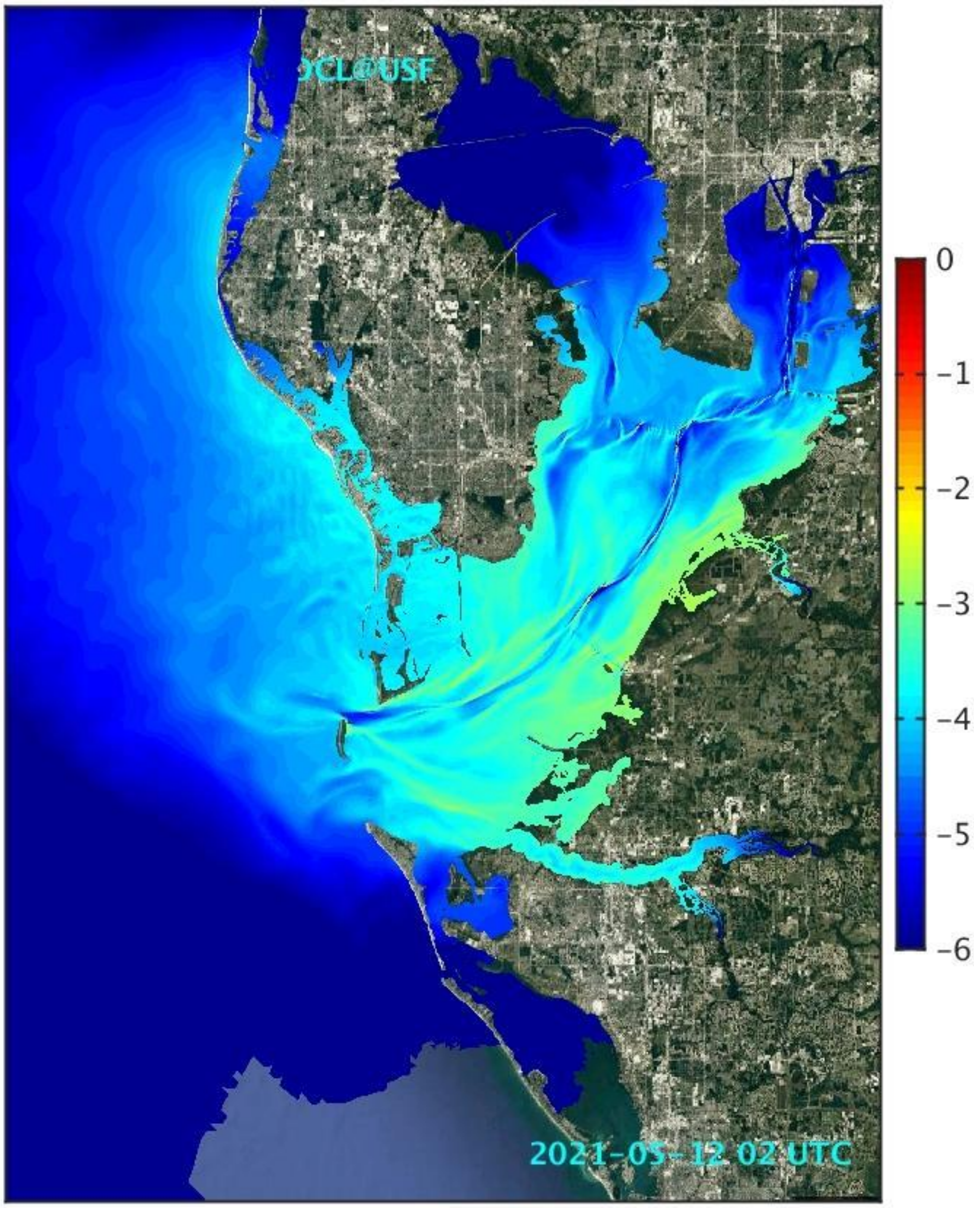
On April 12, FDEP reported that the flow coming from the concentrated seepage located on the eastern portion of the impoundment had ceased, and the discharge of wastewater into Port Manatee was terminated. FDEP believed that the placement of a 10x10 steel plate on the source of the leak on April 10 within the NGS-S caused the boils and pressure release areas to cease flowing. FDEP stated that the cause of the leak was Seam 271 in the NGS-S, which was confirmed by use of ROV. Observations on April 14, however, showed upwelling in the location where relief boils were drilled along the east side of the seepage collection system.

On April 15, FDEP reported that upwelling continued on the east side of the seepage collection system, and that flow velocities remained constant from April 13 onward, demonstrating that the steel plate was not a permanent solution.

By April 20, FDEP reported that the upwelling continued on the east side of the seepage system, and that flow velocities continued to remain constant.

The resulting discharges of nutrient-laden wastewater from Piney Point threatens to contribute to Harmful Algae Blooms or “HABs,” in and near Tampa Bay. HABs occur when too many nutrients exist within a marine environment, causing the rapid growth of algae, such as cyanobacterial “blue-green algae blooms” and *Karenia brevis* blooms, or “Red Tides.” As the algae blooms, it depletes the oxygen in the marine environment, threatening other marine species. The algae can also release harmful toxins that cause illness in humans and animals. According to the Centers for Disease Control and Prevention, cyanotoxin exposure can cause conjunctivitis, rhinitis, earache, sore throat, and swollen lips. Respiratory effects can include atypical pneumonia and a hay fever-like syndrome. Exposure can also cause electrolyte imbalances, headache, malaise, and muscle weakness/ pain in joints and limbs. Similarly, Red Tide produces a neurotoxin called brevetoxin, which can cause respiratory irritation, coughing, and more serious illness for people with severe or chronic respiratory conditions such as emphysema or asthma. It can also cause neurotoxic shellfish poisoning if consumed in oysters and clams. In 2017-2019, a major Red Tide event occurred in Southwest Florida. The 5-county region of Sarasota Bay and Tampa Bay experienced devastating effects including the killing of thousands of fish, injured dolphins and manatees, and resulting in a major economic downturn for an economy partially fueled by tourism dollars.

The blend of acidic and nutrient-laden pollution discharged from Piney Point makes it very likely that HABs will result. Sampling already conducted by FDEP in the areas receiving the discharge from the March-April event show algae blooms. And algae was detected in 12 water samples taken in Tampa Bay from April 8-14 in response to the wastewater discharge, according to an FDEP blue-green algae report. Some samples have also contained trace levels of cyanotoxins. The image below depicts the estimated dispersal of the pollution from Piney Point as of May 12, 2021



This concern is especially acute because the 2021 discharge event contained significant amounts of nutrients. The introduction of approximately 100,000 bags of fertilizer into Tampa Bay will lead to seagrass losses as algae blooms cloud the water column, starving seagrass meadows of the sunlight necessary for photosynthesis. Such seagrasses are the main indicator of a healthy marine ecosystem and provide habitat and food for many marine organisms.

RCRA LEGAL BACKGROUND

Enacted in 1976, RCRA is intended to "eliminate[] the last remaining loophole in environmental law, that of unregulated land disposal of discharged materials and hazardous wastes." *Ecological Rights Found. v. Pac. Gas & Elec. Co.*, 874 F.3d 1083, 1089 (9th Cir. 2017) (quoting H.R. Rep. No. 94-1491, at 4 (1976)) (alterations in original). Like other environmental statutes, RCRA contains a citizen suit provision authorizing private citizens to enforce the law, including:

> against any person, including the United States and any other governmental instrumentality or agency, to the extent permitted by the eleventh amendment to the Constitution, and including any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility, who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment[.]

42 U.S.C. § 6972(a)(1)(B). In light of "RCRA's broad language and remedial purpose," courts have given this "endangerment provision" an expansive construction. *Fresh Air for the Eastside, Inc. v. Waste Mgmt. of N.Y., LLC*, 405 F. Supp. 3d 408, 439 (W.D.N.Y. 2019); *see also Simsbury-Avon Pres. Club, Inc. v. Metacon Gun Club, Inc.*, 575 F.3d 199, 210 (2d Cir. 2009); *Davis v. Sun Oil Co.*, 148 F.3d 606, 609 (6th Cir. 1998). Therefore, "if an error is to be made in applying the endangerment standard, the error must be made *in favor of protecting public health, welfare and the environment*." *Interfaith Cmty. Org. v. Honeywell Int'l, Inc.*, 399 F.3d 248, 259 (3d Cir. 2005) (emphasis added) (citation omitted).

Under RCRA's citizen suit provision, a notifying party must typically wait 90 days after providing pre-suit notice before filing a complaint alleging an imminent and substantial endangerment to health and the environment. 42 U.S.C. § 6972(b)(2)(A). However, "such action may be brought immediately after such notification in the case of an action under this section respecting a violation of subchapter III of this chapter." *Id*.

Additionally, RCRA prohibits "open dumping." 42 U.S.C. § 6945(a) prohibits the operation of "any solid waste management practice or disposal of solid waste which constitutes the open dumping of solid waste." "Disposal" means "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste . . . into or on any land or water[.]" 42 U.S.C. § 6903(3). Enforcement of this prohibition is available through RCRA's citizen suit provision. 42 U.S.C. § 6972(a)(1)(A). As required by statute, EPA has promulgated criteria under RCRA § 6907(a)(3) defining solid waste management practices that constitute open dumping. *See* 42 U.S.C. § 6944(a); 40 C.F.R. Parts 257 and 258. These regulations prohibit the contamination of any underground drinking water source beyond the solid waste boundary of a disposal site. 40 C.F.R. § 257.3-4(a).

The definition of "underground drinking water source" includes an aquifer supplying drinking water for human consumption or any aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids. 40 C.F.R. § 257.3-4(c)(4). "Contaminate" means to introduce a substance that would cause: (i) the concentration of that substance in the groundwater to exceed the maximum contaminant level specified in Appendix I, or (ii) an increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the MCLs specified in Appendix I. 40 C.F.R. § 257.3-4(c)(2).

I. FDEP, HRK, and Port Manatee Are Liable for Contributing to an Imminent and Substantial Endangerment to Health and the Environment

FDEP, HRK, and Port Manatee have violated and remain in violation of RCRA by contributing to an imminent and substantial endangerment to health or the environment at the Piney Point site. Specifically, Notifying Parties will allege that FDEP and HRK are both a "person" that is a "past or present owner or operator of a treatment, storage, or disposal facility," namely Piney Point. 42 U.S.C. § 6972(a)(1)(B). RCRA defines "person" as including a "State" and a "political subdivision of a State[.]" 42 U.S.C. § 6903(15). FDEP, through its Director, qualifies as both a "State" and a "political subdivision of a State," and is therefore subject to a RCRA citizen suit brought pursuant to 42 U.S.C. § 6972(a)(1)(B). Furthermore, federal law authorizes suit against state officials that violate federal law, notwithstanding the eleventh amendment. *See, e.g., Ex Parte Young*, 209 U.S. 123 (1908).

Notifying Parties will allege that HRK is a past and present owner of a treatment, storage, and disposal facility, and will further allege that FDEP, by and through its Director, is also a past and present owner and operator of a treatment, storage, or disposal facility. RCRA defines "disposal" as used within 42 U.S.C. § 6972(a)(1)(B) as "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters." 42 U.S.C. § 6903(3). Specifically, Notifying Parties will allege that FDEP, through its Director, was the past owner of the Piney Point site between 2001 and 2006. During that time, FDEP and its agents investigated the site and made decisions on its "closure plan," despite possessing prior knowledge that aspects of the closure plan were destined for failure, such as the utilization of single HDPE liners. HRK is also a past and present owner of the site.

Notifying Parties will further allege that FDEP, by and through its Director, is a past and present operator of Piney Point. FDEP's status as an operator from 2001-2004 is self-evident, as no other entity besides FDEP had control and ownership of Piney Point. After 2004, FDEP's status as an operator is evidenced by, *inter alia*: (1) the original and Amended Agreement between FDEP and HRK, wherein FDEP was expressly allowed to continue its work on its flawed closure plans for Piney Point; (2) the fact that the original Agreement between FDEP and HRK stated that "HRK was not an owner or operator of the Phosphogypsum Stack System or any other part or component at or on the Site, nor was HRK a generator of any Solid Waste or Hazardous Substances at or on the Site[;]" (3) FDEP maintained direct control, oversight, and had prior approval over all expenditures of the money HRK deposited into an account for certain activities related to Piney Point, as well as prior approval of any of HRK's plans at the site; (4) FDEP's permitting approvals for the Port Manatee expansion project, express representations[2] made in the Amended Agreement with HRK, and representations to the Corps that the site was suitable for storage of dredged materials from the expansion project; (5) FDEP's control of actions by HRK and others concerning the liner leak, impoundment breach, and massive discharge event in 2011; and (6) FDEP's control of actions by HRK and others concerning the liner leak and massive discharge event in 2021.

Notifying Parties will further allege in the lawsuit that HRK and FDEP, by and through its Director, "has contributed and…is contributing to the past or present handling, storage, treatment, transportation, or disposal" of solid and hazardous waste. 42 U.S.C. § 6972(a)(1)(B). The term "contribution" is a term of art encompassing a measure of control, and has been construed to mean "lend assistance or aid to a common purpose," "have a share in any act or effect," "be an important factor in," or "help to cause." Here, Notifying Parties will demonstrate that FDEP contributed and continues to contribute to the past and present handling, storage, treatment, and disposal of solid and hazardous waste. In particular, FDEP shares in a measure of control over the handling, storage, treatment, transportation, and disposal of the waste at Piney Point as evidenced by, *inter alia*: (1) the original and Amended Agreement between FDEP and HRK, wherein FDEP was expressly allowed to continue its work on its flawed closure plans for Piney Point; (2) the fact that the original Agreement between FDEP and HRK stated that "HRK was not an owner or operator of the Phosphogypsum Stack System or any other part or component at or on the Site, nor was HRK a generator of any Solid Waste or Hazardous Substances at or on the Site[;]" (3) FDEP maintained direct control, oversight, and had prior approval over all expenditures of the money HRK deposited into an account for certain activities related to Piney Point, as well as prior approval of any of HRK's plans at the site; (4) FDEP's permitting approvals for the Port Manatee expansion project, express representations made in the Amended Agreement with HRK, and representations to the Corps that the site was suitable for storage of dredged materials from the expansion project; (5) FDEP's control of actions by HRK and others concerning the liner leak, impoundment breach, and massive discharge event in 2011; (6) FDEP's control of actions by HRK and others concerning the liner leak and massive discharge event in 2021; and (7) FDEP agreed to limit HRK's mortgage payments and delayed the maturity on the mortgage note numerous times.

Finally, Notifying Parties will allege that the MCPA "has contributed and…is contributing to the past or present handling, storage, treatment, transportation, or disposal" of solid waste and hazardous waste. 42 U.S.C. § 6972(a)(1)(B). In particular, Port Manatee was a

---

[2] *See, e.g.,* Amended Agreement WHEREAS clauses (unnumbered) ("WHEREAS, the storage of dredged materials to be generated by MCPA in a fashion consistent with the Operation and Management Plan to be developed and approved under Paragraph 9 below will be compatible with the design and purpose of the lined reservoirs constructed by the Department and others as part of the Closure of Phosphogypsum Stacks at the Site and will be of benefit to the Department") & Para. 4 ("the Department hereby agrees to modify the Closure plan by eliminating the planned future placement of soil cover on the interior lined slopes and bottom areas of the Piney Point Phosphogypsum Stack System reservoir compartments as referenced in paragraph 3 of this Amendment and by revising reservoir drainage and outlet structure designs for such Phosphogypsum Stack System compartments, as part of the work to be performed by the Department under Section III of the Agreement.").

generator of solid waste, in that it created through its dredging process significant volumes of dredged material from the Berth 12 expansion that were ultimately deposited by the MCPA at Piney Point. Through that process, the MCPA both handled and transported the solid waste that is now at issue. The MCPA completed the Berth 12 dredging process despite possessing prior knowledge that there were significant environmental and human health risks threatened by using Piney Point to store the dredged material.

Notifying Parties will further allege in the lawsuit that the process wastewater, phosphogypsum stacks, dredged material from the Port Manatee expansion project, and precipitation that intermixes with these materials constitute "solid waste" under RCRA. "Solid waste" is defined as:

> any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 1342 of title 33, or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923) [42 U.S.C. 2011 *et seq*.]

The phosphogypsum stacks at Piney Point are a "discarded material…resulting from industrial, commercial, [and] mining" operations. The process wastewater stored at Piney Point is a "discarded material…resulting from industrial, commercial, [and] mining" operations. The dredged materials from the Port Manatee expansion, when deposited at Piney Point, is also a "discarded material." When detained at Piney Point, these discarded solid wastes are not "industrial discharges which are point sources subject to permits under section 1342 of title 33." *See also* 40 C.F.R. § 261.4(a)(2) (*Comment:* This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.). Upon information and belief, none of these materials are subject to the Atomic Energy Act of 1954.

Notifying Parties will further allege that the comingling of all these wastes render them "hazardous waste" as that term is used in RCRA, and therefore subject to the immediate suit provision of 42 U.S.C. § 6972(b)(2)(A). By themselves, phosphogypsum stacks and associated process wastewater are exempt from regulation under RCRA as hazardous wastes by operation of the "Bevill Amendment," but *not* from regulation as solid wastes. *See, e.g.,* 40 C.F.R. § 261.4(b)(7) (preceding title: "Solid wastes which are not hazardous wastes.") & § 261.4(b)(7)(ii)(D). However, as FDEP was warned by the Corps over a decade ago, the use of Piney Point for the storage of dredged materials will likely cause those materials to intermix with the process wastewater and phosphogypsum stacks. In particular, the Corps warned that:

> Water from rain and the placement of dredged slurry could percolate into the phosphogypsum stack releasing leachate that could be corrosive and toxic. If

> leachate meets the characteristics according to 40 CFR 261.22 and 40 CFR 261.24, then the leachate would be designated as hazardous waste. Then the mixture of a solid waste, with hazardous waste is considered a hazardous waste. The addition of dredged material to a hazardous waste will increase the probability of contaminating the surrounding surface and groundwater.

The Corps' fear has become reality. FDEP knew, or should have known through the exercise of reasonable care and due diligence, that single HDPE liners were not appropriate to be used at Piney Point. FDEP's contractors informed FDEP that similar liners and similar facilities had failed prior to FDEP's approval of storing the dredged materials at Piney Point. FDEP was aware as early as 2001 that the phosphogypsum stacks provide an inadequate foundation, due to its movement and settling, and the multiple cracks discovered. Upon information and belief, the liner breach in 2011 that necessitated discharging millions of gallons of contaminated water caused dredged material to leach through the liner and mix with the existing solid waste, creating a new waste material that satisfies the regulatory requirements for categorization as hazardous waste. Upon information and belief, the liner breach in 2021 that necessitated discharging millions of gallons of contaminated water further caused dredged material to leach through the liner and mix with the existing solid waste, creating a new waste material that satisfies the regulatory requirements for categorization as hazardous waste. Upon information and belief, the HDPE liners at Piney Point have been leaking since at least 2011, if not earlier.

Finally, Notifying Parties will allege in the lawsuit that FDEP, HRK, and MCPA's contributions to the past and present handling, storage, treatment, transportation, and disposal of solid and/or hazardous waste "may present an imminent and substantial endangerment to health or the environment." 42 U.S.C. § 6972(a)(1)(B). Courts have "emphasized the preeminence of the word 'may' in defining the degree of risk needed" to maintain an endangerment claim. *Me. People's All. v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006). The word "may," combined with the word "endangerment," contemplates only "a threatened or potential harm, and does not require proof of actual harm." *Parker v. Scrap Metal Processors, Inc.*, 386 F.3d 993, 1015 (11th Cir. 2004); *see also Mallinckrodt*, 471 F.3d at 296. The words "imminent" and "substantial" have similarly broad meanings. "Imminence generally has been read to require only that the harm is of a kind that poses a near-term threat; there is no corollary requirement that the harm necessarily will occur or that the actual damage will manifest itself immediately." *Mallinckrodt*, 471 F.3d at 288 (citing *Cox v. City of Dallas*, 256 F.3d 281, 299-300 (5th Cir. 2001)). Finally, an endangerment is "substantial" when "there is reasonable cause for concern that someone or something may be exposed to risk of harm" absent remedial action. *Burlington N. & Santa Fe Ry. Co. v. Grant*, 505 F.3d 1013, 1021 (10th Cir. 2007). Where all elements are present, courts have "broad authority. . . to grant all relief necessary to ensure complete protection of the public health and the environment." *Little Hocking Water Ass'n, Inc. v. E.I. du Pont Nemours & Co.*, 91 F. Supp. 3d 940, 952 (S.D. Ohio 2015) (internal quotations and citation omitted); *see also Meghrig v. KFC W., Inc.*, 516 U.S. 479, 479 (1996).

In connection with the most recent liner breach, FDEP publicly acknowledged that the Piney Point storage facilities present an imminent and substantial endangerment to health and the environment:

> The conditions being reported as of March 29, 2021, appear to indicate an imminent threat of a potential loss of containment and a catastrophic release of from portions of the stack systems and its impoundments… Failure of the NGS-S lined compartment, containing ~ 480 MGal of a mixture of seawater and process water, along with phosphogypsum embankment materials would likely result in flooding. Flooding may occur, either to the south across Buckeye Road, and would require evacuation of residential areas further south of Buckeye Road, or if a failure were to occur along the eastern wall of the NGS-S, it would likely impact property east of the site including a Williams Gas Company natural gas compressor station. An uncontrolled failure and release impacting the integrity of the NGS-S compartment would release the nutrients into freshwater systems leading from the Site prior to the drainage entering Bishop Harbor, an OFW that south and east of the Piney Point Site… The ongoing leak at the Site and the resulting pressures that are impacting the drains surrounding the Site's phosphogypsum stack system could also threaten the integrity of the Stack System along the northern wall at the toe of the NGS-N lined pond that contains an additional 240 MGal of process water. While the conductivity of that water is less than the conductivity of the leaking NGS-S compartment, the water quality in the NGS-N is generally closer to aged process water in its other water quality parameters and presents potentially a greater acute water quality impact to Bishop Harbor and Tampa Bay, if discharged in an uncontrolled fashion due to failure of the Site's stack system.

Notifying Parties will allege in the lawsuit that a catastrophic failure of stack system at Piney Point may present an imminent and substantial endangerment. Such failure would cause the uncontrolled release of toxic and radioactive pollution, along with significant devastation to public and private property caused by millions of gallons of wastewater being suddenly released from the site.

Notifying Parties will further allege that Piney Point may also present an imminent and substantial endangerment due to, *inter alia*:

1. FDEP's decision(s) in its closure plan to use single HDPE liners at Piney Point, when FDEP knew or should have known through the exercise of reasonable care and due diligence that such liners had failed at other similar phosphogypsum stacks being monitored by FDEP's own contractor, Ardaman;
2. FDEP's decision(s) in its closure plan to use single HDPE liners at Piney Point, when FDEP knew or should have known through the exercise of reasonable care and due diligence that the phosphogypsum stack is not an engineered structure, meaning that it was an inadequate and dangerous foundational material upon which HDPE liners could be placed;
3. FDEP's decision(s) in its closure plan to use single HDPE liners at Piney Point, when FDEP knew or should have known through the exercise of reasonable care and due diligence that the existing erosional features, vertical cracks, existence of whirlpools, and other information identified in its 2001 Geotechnical Study meant the site was

compromised and could not be returned to beneficial use even if HDPE liners were installed;

4. FDEP's and MCPA's decision(s), permitting, regulatory approval, and representations that the Piney Point site's impoundments, including the NGS-N and NGS-S, were appropriately designed and engineered to store dredged material from the Port Manatee expansion project, especially in light of the Corps' stated concerns;
5. Liner breaches occurring in 2011 and 2021 caused precipitation, dredged materials, and process wastewater to comingle and intermix with phosphogypsum stack material, creating a toxic leachate that satisfies the regulatory requirements for classification as a hazardous waste;
6. FDEP's decision(s) to continue to approve the use of Piney Point for the storage of dredged materials when FDEP knew, or should have known through the exercise of reasonable care and due diligence, that the site presented unacceptable risks of failure; and
7. FDEP and HRK's knowledge that the monitoring wells at Piney Point have shown consistent violations of the regulatory groundwater quality standards and demonstrate that dangerous levels of pollution have migrated into the underlying aquifer, putting the environment and human health at grave risk.

Notifying Parties will also allege that Piney Point presents an imminent and substantial endangerment by releasing, leaking, leaching, or otherwise causing solid and hazardous waste to enter groundwaters, where it is then transported off-site into nearby groundwaters and the underlying aquifer. FDEP requires routine groundwater sampling from wells located around the perimeter of the Piney Point site. The past and present groundwater sampling results from the monitoring wells indicates significant levels of pollution – in excess of regulatory groundwater quality standards – are being released from Piney Point into the underlying aquifer, where it impacts both the environment and human health, for there are hundreds of homes in the surrounding area that make use of the underlying aquifer for domestic water use.

Finally, Notifying Parties will allege that FDEP's transportation and disposal of solid waste through discharging millions of gallons of untreated wastewater presents an imminent and substantial endangerment by threatening to cause widespread algae blooms and red tide. The nutrient-laden water discharged on FDEP's authority into Tampa Bay and elsewhere creates an environment in which harmful algae will thrive. The harmful toxins produced as a result of this algae bloom threatens severe human health consequences, as well as harm to the environment, as evidenced by the large quantity of marine wildlife that is killed during red tide events – wildlife such as fish, manatees, and dolphins. *See* 40 C.F.R. § 257.1 (defining "which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment"); 40 C.F.R. § 257.3-2 (prohibiting solid waste disposal practices which cause or contribute to a taking of a threatened or endangered species or resulting in destruction or adverse modification of critical habitat). The loss of seagrass further exacerbates this issue, depriving the ecosystem of needed habitat and food.

42 U.S.C. § 6972(a) states that the District Courts of the United States shall have jurisdiction to order any person who "has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste"

that presents an imminent and substantial endangerment to health or the environment to take such action as may be necessary to cease and correct the pollution. Notifying Parties intend to seek legal and equitable relief in their lawsuit, including but not limited to temporary and/or permanent injunctive relief, as well as attorneys' and expert witnesses' fees, and costs, associated with the suit.

Notifying Parties will also seek to impose remedial injunctive relief that fully abates the imminent and substantial endangerment posed by Piney Point to human health and the environment. Upon information and belief, FDEP was previously informed that reverse-osmosis treatment would effectively treat all wastewater impounded at the site. Notifying Parties will seek an order requiring FDEP to institute this technology at the site, as FDEP's prior "closure plan" has been demonstrably inadequate, resulting in liner breaches and massive discharges of untreated wastewater.

II. FDEP and HRK Are Liable for Violating RCRA's "Open Dumping" Prohibition

As described above, 42 U.S.C. § 6945(a) prohibits the operation of "any solid waste management practice or disposal of solid waste which constitutes the open dumping of solid waste." "Disposal" means "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste . . . into or on any land or water[.]" 42 U.S.C. § 6903(3). Enforcement of this prohibition is available through RCRA's citizen suit provision. 42 U.S.C. § 6972(a)(1)(A) As required by statute, EPA has promulgated criteria under RCRA § 6907(a)(3) defining solid waste management practices that constitute open dumping. *See* 42 U.S.C. § 6944(a); 40 C.F.R. Parts 257 and 258. These regulations prohibit the contamination of any underground drinking water source beyond the solid waste boundary of a disposal site. 40 C.F.R. § 257.3-4(a). The regulations prohibit the discharge of pollutants into waters of the United States in violation of CWA Sections 402 or 404. 40 C.F.R. § 257.3-3. Finally, the regulations prohibit facilities or practices from causing or contributing to the "taking of any endangered or threatened species of plants, fish, or wildlife," and "shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species." 40 C.F.R. § 257.3-2.

The definition of "underground drinking water source" includes an aquifer supplying drinking water for human consumption or any aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids. 40 C.F.R. § 257.3-4(c)(4). "Contaminate" means to introduce a substance that would cause: (i) the concentration of that substance in the groundwater to exceed the maximum contaminant level specified in Appendix I, or (ii) an increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the MCLs specified in Appendix I. 40 C.F.R. § 257.3-4(c)(2).

Notifying Parties will allege that FDEP and HRK knew, or should know through the exercise of reasonable care and due diligence, that routine groundwater monitoring data from the monitoring wells surrounding Piney Point show dangerous levels of pollution have released, leaked, or otherwise escaped from the phosphogypsum stacks and into the surrounding groundwater. A tabulation of groundwater data obtained from FDEP is attached hereto as Exhibit 1. That data shows that leakage from Piney Point's impoundments have violated both the maximum pollution limitations contained within the Administrative Agreement between FDEP and HRK, and exceeded the groundwater quality standards identified in 40 C.F.R. Part 257 Appendix I (Maximum Contaminant Levels).

As this pollution enters the underlying groundwater, it migrates away and off the Piney Point disposal site. Upon information and belief, the predominant groundwater flow at Piney Point is from the southeast and toward the northwest, generally flowing to Bishop Harbor and Tampa Bay. Historical data from Piney Point evidenced a contamination plume in the surficial aquifer that extends beyond the property line of the property downgradient from the phosphogypsum stacks along an approximately 3,600-foot section of alignment at the northeastern corner of the facility. This contamination plume was found to have elevated sodium, sulfate, nutrient, TDS, and radionuclide concentrations.

Pursuant to 40 C.F.R. § 257.3-4, Notifying Parties will allege in the lawsuit that the leakage, seepage, and releases from the Piney Point impoundments have caused dangerous levels of pollution to enter the underlying aquifer, where it has and will continue to move off-site and "contaminate" underground drinking water sources in violation of RCRA's open dumping prohibition.

Pursuant to 40 C.F.R. § 257.3-3, Notifying Parties will allege in the lawsuit that FDEP and HRK's decision to discharge millions of gallons of pollution into nearby surface waters violates RCRA, because these discharges were not authorized pursuant to a valid and properly promulgated National Pollution Discharge Elimination System Permit. Had FDEP and HRK implemented proper hazardous waste storage requirements at Piney Point, these discharges would not have been required, for the Site would be properly designed and engineered under RCRA Subtitle C to make the discharge of solid and hazardous waste unnecessary. This action constitutes prohibited open dumping in violation of RCRA.

Pursuant to 40 C.F.R. § 257.3-2, Notifying Parties will allege in the lawsuit that FDEP and HRK's discharge of millions of gallons of pollution into nearby surface waters violates RCRA, because these discharges cause and/or contribute to the taking of endangered and/or threatened species of plants, fish, or wildlife, including but not limited to sea turtles and Florida manatees, and that these discharges resulted in the destruction and/or adverse modification of the critical habitat of endangered or threatened species. This action constitutes prohibited open dumping in violation of RCRA.

42 U.S.C. § 6972(a) states that the District Courts of the United States shall have jurisdiction to order any person who "has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste" that presents an imminent and substantial endangerment to health or the environment to take such action as may be necessary to cease and correct the pollution. Notifying Parties intend to seek legal and equitable relief in their lawsuit, including but not limited to temporary and/or permanent injunctive relief, as well as attorneys' and expert witnesses' fees, and costs, associated with the suit.

CWA LEGAL BACKGROUND

Congress enacted the CWA in 1972 in order to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251. The CWA prohibits "the discharge of any pollutant by any person" from a point source into navigable waters unless allowed by permit. 33 U.S.C. § 1311(a). The Act defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation … from which pollutants are conveyed." 33 U.S.C. § 1362(14). "Pollutant" is defined to include any "industrial, municipal, and agricultural wastes" discharged into water. 33 U.S.C. § 1362(6). CWA jurisdiction extends to "navigable waters," a phrase defined as "the waters of the United States," *id*. § 1362(7).

The CWA is administered through the National Pollutant Discharge Elimination System (NPDES) permit program. 33 U.S.C. § 1342. The Environmental Protection Agency ("EPA") may delegate this permitting system to the states. *See id*. § 1342(b); 40 C.F.R. § 123.61. In 1995, EPA delegated the permitting program to Florida. Florida Statutes §403.0885. FDEP NPDES permits are issued for a period of five years. *See* 33 U.S.C. § 1342(b)(1)(B).

Ongoing violations of the CWA and NPDES permits are enforceable through the CWA's citizen suit provision. 33 U.S.C. § 1365(a); *id*. § 1365(f) (defining "effluent standard or limitation" to include an unpermitted discharge in violation of 33 U.S.C. § 1311(a)). This provision requires citizens to send a notice letter to the owners/operators of a violating facility, EPA and the Chief Administrative Office of the state water pollution control agency before bringing suit. *Id*. § 1365(b); *see also* 40 C.F.R. § 135.2. A citizen suit may proceed sixty days after the notice letter, unless either EPA or the relevant state has commenced and is diligently prosecuting a civil action in federal or state court. 33 U.S.C. § 1365(b)(1)(B).

I. FDEP and/or HRK Discharged Pollutants Into Navigable Waters Without A Lawful NPDES Permit

As required by the CWA, this notice letter provides notice of the violations that have occurred and continue to occur at Piney Point. At the outset, there is no current, lawful NPDES permit for any discharges from the Piney Point site. On October 9, 1999, FDEP issued Wastewater Permit No. FL0000124-001 to Piney Point Phosphates, Inc. for "the operation of a phosphate fertilizer manufacturing facility including a phosphogypsum stack system and the discharge of treated wastewater through two outfalls, 002 and 003. Outfall 002 discharges into Piney Point Creek, which empties into Tampa Bay. Outfall 003 discharges into Buckeye Road ditch, which flows into Bishops Harbor and then to Tampa Bay." FDEP File No. FL0000124-003-AA, p. 1. That permit had an expiration date of March 25, 2001. Piney Point Phosphates, Inc. submitted an application for a renewal of that permit on September 22, 2000. On December 4, FDEP denied the permit's renewal. Piney Point Phosphates, Inc. subsequently filed for two extensions for its deadline to file an administrative appeal from FDEP's decision. Piney Point Phosphates, Inc. declared bankruptcy on February 8, 2001.

By its terms, FL0000124-001 expired on March 25, 2001. There has been no new NPDES permit issued in connection with Piney Point since that date. Under FDEP rules, no permit "shall be issued for a term of more than five (5) years unless specified by statute, rule, or order of the Department." Florida Rule 62-4.00(4); Florida Rule 62-620.320(8); Florida Statute §403.0885(3) (application for NPDES permit must be granted or denied "in compliance with 40 C.F.R. part 124, subpart A"). At no point has FDEP administratively extended FL0000124-001. Most importantly, FDEP *denied* Piney Point Phosphate's renewal application. Pursuant to Florida Rule 62-4.090, "Renewals," if a renewal application is timely, the permit shall remain in effect until it has been acted upon by FDEP. *See also* Florida Statute §403.0885(3) ("upon timely application for renewal, a permit issued under this section shall not expire until the application has been finally acted upon or until the last day for seeking judicial review of the agency order or a later date fixed by order of the reviewing court."). Here, FDEP did act upon the permit – *it denied its renewal* – and at no point did Piney Point Phosphates, Inc. timely challenge that denial in an administrative appeal. *See also* Florida Rule 62-620.335(3). Because the NPDES Permit expired over 20 years ago, all discharges from the Piney Point facility to waters of the United States thereafter were unpermitted.

Four years later, CDM Constructors entered into a contract with FDEP concerning closure of the phosphogypsum stacks. On March 30, 2005, FDEP entered into an "Administrative Agreement" with CDM, and as part of that agreement, FDEP purportedly "transferred" the now-expired FL0000124-001 to CDM. FDEP made clear that the NPDES Permit was separate and distinct from the Administrative Agreement with CDM, which "was to remain in effect until [FDEP] took final agency action on the issuance of the NPDES permit." FDEP File No. FL0000124-002-AA, p. 2. This "transfer" also violated Florida Rules for the transfer of permits. Florida Rule 62-4.120 (requiring permit transfer applications to be made within 30 days "after the sale or legal transfer of a permitted facility"); Florida Rule 62-620.340(2)(a) (same); 40 C.F.R. § 122.61. Here, there was never a timely or lawful transfer of the NPDES permit from Piney Point Phosphates, Inc. to FDEP. Nor could there be, given that FDEP denied the permit renewal application. In sum, FDEP purported to transfer a NPDES permit that was long-since expired and had no legal force or effect.[3]

Then, on September 8, 2009 – more than eight years after FDEP denied reissuance of the NPDES permit – FDEP purportedly transferred the still-expired NPDES permit from CDM to HRK. FDEP File No. FL0000124-003-AA. This transfer of an expired permit was unlawful for the same reasons described above with respect to the CDM transfer. According to public records, on September 28, 2009, HRK submitted a permit renewal application. Thereafter FDEP made four Requests for Additional Information and ultimately deemed the permit renewal application to be complete on July 9, 2010, with an expected final issuance date of November 18, 2010. Importantly, FDEP took no further action on HRK's NPDES permit application. And at no point was the public notified about this transfer and later renewal application, thwarting the CWA's goal of encouraging public participation in permitting discharges to navigable waters.

[3] Indeed, the Administrative Agreement with CDM was amended in July 2006 by mutual consent of the parties. Lawfully promulgated NPDES Permits may not be amended in such a fashion.

Instead, on January 28, 2011, FDEP entered into an Administrative Agreement with HRK FL0000124-003-AA, similar to the Administrative Agreement it previously had with CDM (FL0000124-002-AA). As with the CDM Administrative Agreement, FDEP identified the NPDES permit as separate and distinct from the Administrative Agreement, which permit "will continue in-force until [FDEP] takes Final Agency Action on re-issuance of the NPDES Wastewater Permit No. FL0000124." This Agreement, like the prior Agreement with CDM, ignored that FDEP already had taken final agency action on the permit – it denied its renewal ten years prior.

Upon information and belief, FL0000124-003-AA has remained in effect between FDEP and HRK for approximately a decade, without amendments. While the CDM and HRK Administrative Agreements appear to contain provisions that mimic an NPDES permit, by their own terms the Administrative Agreements are not NPDES Permits.[4] Indeed, at no point since FDEP denied the permit reissuance application 20 years ago has FDEP reevaluated any provisions of the Administrative Agreements for compliance with the CWA's technology-forcing requirements or water-quality based effluent limitations, nor has it required any new best management practices. *See* 40 C.F.R. § 122.43(b)(2) ("New or reissued permits, and to the extent allowed under § 122.62 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in §§ 122.44 and 122.45."); 40 C.F.R. § 122.44 (establishing limitations and standards for permit conditions); 40 C.F.R. § 123.25(a) (authorizing states to impose more stringent requirements on NPDES permits, but not lesser than the requirements created by EPA in the Code of Federal Regulations); *id*. § 123.25(a)(15)-(16) (requiring NPDES permits to include conditions for technology-based effluent limitations and/or water-quality based effluent limitations). FDEP also has never followed the required process for NPDES permit issuance set forth in the November 30, 2007 Memorandum of Understanding between EPA and FDEP, and the HRK Administrative Agreement has existed for a decade, well beyond the five-year period required under NPDES regulations and Florida Statute §403.0885.

Finally, the "Administrative Agreements" specifically authorized amendments to the terms of the Agreement upon "mutual consent of the parties." Such a provision further demonstrates that the Administrative Agreements are not lawfully promulgated NPDES permits, which require that "the terms, conditions, requirements, limitations and restrictions set forth" in a NPDES permit "are binding and enforceable[.]" Florida Rule 62-4.160; *see also* Florida Statute § 403.088(c) (specifying permit terms, nowhere allowing modification of terms when regulator and regulated party agree); Florida Rule 62-620.610(1) (terms are "binding and enforceable"). The record is quite clear that the HRK Administrative Agreements with CDM and HRK (FL0000124-002-AA and FL0000124-003-AA) are not lawful NPDES permits. NPDES Permit FL0000124 expired on March 25, 2001.

In sum, Notifying Parties will allege that there is no current, lawful NPDES permit authorizing discharges from Piney Point, either by HRK or by FDEP. As such, FDEP's

---

[4] Florida Statute §403.0885 makes clear that "the state NPDES permit shall be the sole permit issued by the state under this chapter regulating the discharge of pollutants or wastes into surface waters within the state for discharges covered by the United States Environmental Protection Agency approved state NPDES program. This legislative authority is intended to be sufficient to enable the department to qualify for delegation of the federal NPDES program to the state and operate such program in accordance with federal law."

authorization and order to require HRK to discharge millions of gallons of process wastewater into Tampa Bay and Piney Point Creek between March 26, 2021 and April 9, 2021[5] is an unpermitted discharge in violation of Section 301 of the CWA, 33 U.S.C. § 1311(a), subjecting HRK to civil penalties of up to $56,460 per day, per violation, and subjecting FDEP and HRK to injunctive relief to immediately abate the cause(s) of the discharge. Under the CWA, the outfalls to which discharges occurred are "point sources," because they are discernible, confined, and discrete conveyances of pollution to surface waters. 33 U.S.C. § 1362(14). The receiving waters are "navigable waters" under the CWA. *Id*. § 1362(7) ("navigable waters" means the Waters of the United States, including the territorial seas); *id*. § 1362(8), (9). The wastewater plainly qualifies as a pollutant. *Id*. § 1362(6) ("pollutant" means "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water"). The intentional release of the wastewater to the outfalls and, later, Tampa Bay, constitutes an actionable "discharge of a pollutant" *Id*. § 1362(12). And without question, HRK and FDEP qualify as "persons" subject to CWA strict liability. *Id*. § 1362(5) ("The term 'person' means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body.").

FDEP is liable under the CWA for the discharge of millions of gallons of dangerous pollution because it took actions at the site preceding the discharge that it knew, or should have known through the exercise of reasonable care and due diligence, would create an extremely high likelihood that unlawful discharges would be required at Piney Point. FDEP was well aware of the historic pattern of "decanting" or "controlled releases" from the ponds at this site in 1998, 2001, 2003 and 2011, which made it entirely foreseeable that controlled releases would continue. Indeed, FDEP knew a full year prior to the April 2021 release that the ponds were approaching capacity, thus imminently requiring yet more controlled releases. *See, e.g.*, HRK presentation to MCPA & Wood letter discussed *infra*. FDEP is also liable because it had prior knowledge that the unlawful discharge was going to occur, and maintained control of the situation, both before, during, and after the discharge took place. HRK is liable under the CWA as the owner of the point source and the party that physically discharged pollutants into navigable waters.

Finally, the present conditions at Piney Point – conditions that were created by FDEP's actions as both a prior owner of the site and its decision to approve the use of the site for disposal of dredged materials – make it extremely likely that future discharges will be required. The impoundments at Piney Point are in a hazardous state, with multiple boils and upwelling near the toe of the NGS-S. HRK has publicly stated that the site is presently incapable of detaining all the precipitation that will fall on it without making unlawful discharges. Thus, under the Supreme Court's decision in *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found*., 484 U.S. 49 (1987), the likelihood of recurring discharges is present, and suit may be properly brought against FDEP and HRK.

[5] Upon information and belief, unlawful discharges occurred every day between March 26 and April 9, 2021. Notifying Parties suspect other discharges occurred in the days following April 9 as well, and that other discharges from different point sources may have occurred between March 26 and April 9, 2021. Notifying Parties will update and supplement this Notice Letter as is appropriate.

II. <u>In The Alternative, HRK Discharged Pollutants In Violation Of Its NPDES Permit And Violated the Permit's Operation & Maintenance Requirements</u>

As an alternative claim, Notifying Parties will allege that HRK's discharge of millions of gallons of wastewater violated the terms of its NPDES permit. Notifying Parties will further allege that HRK violated the Operation & Maintenance Requirement of its NPDES permit. While Notifying Parties contend that the "Administrative Agreement" between HRK and FDEP is not a lawful NPDES permit for the reasons articulated above, in the event a court of competent jurisdiction disagrees, then Notifying Parties will file suit against HRK for violating its permit.

The Administrative Agreement only authorizes discharges from specific outfalls, and only so long as the discharge satisfies the effluent limitations contained in the Administrative Agreement. Here, on March 29, 2021, FDEP issued Emergency Final Order No. 21-0323, which required HRK to discharge into Port Manatee via the NGS-S "decant structure." *Id*. ¶ 19. The purpose of the alleged bypass was to avoid the risk of catastrophic release from the phosphogypsum stacks.

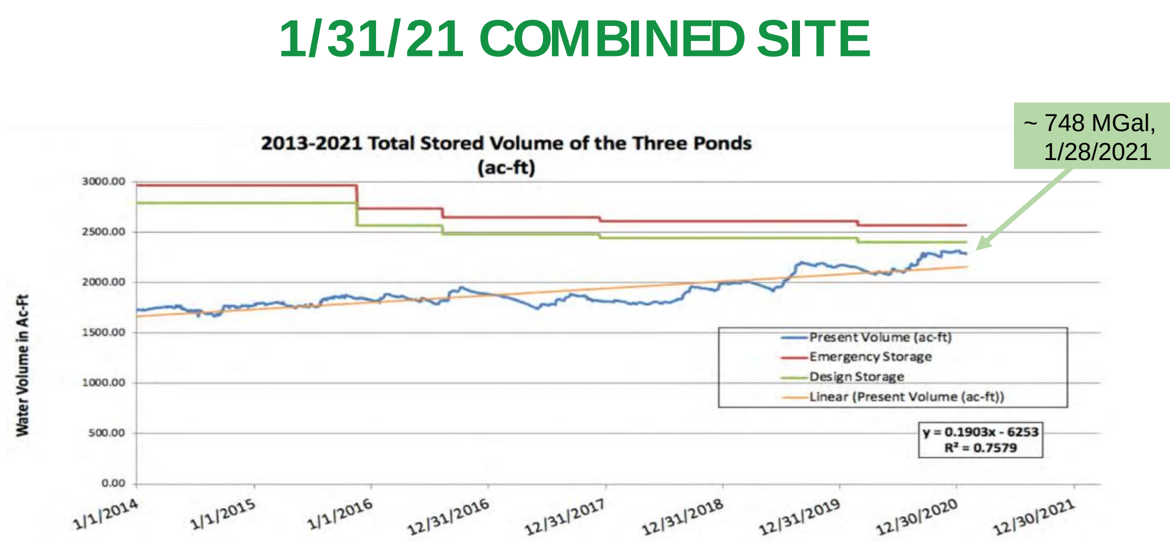
State and federal law both define "bypass" as "prohibited." Florida Rules 62-620.610(22)(a); 40 C.F.R. § 122.41(m)(4); 40 C.F.R. § 123.25(a)(12). For a bypass to avoid an enforcement action, the permittee must provide prior notice and demonstrate that "[t]here were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime." *Id*. (a)(1).

Notifying Parties will allege in the lawsuit that there were feasible alternatives to the bypass discharge, chiefly that HRK and FDEP knew, or should have known through the exercise of reasonable care and due diligence, that Piney Point was incapable of detaining the amount of precipitation falling at the site.

HRK's environmental engineer, Wood, provided a letter to FDEP dated March 13, 2020. In that letter, Wood explained that the only method of process wastewater disposal was utilization of a spray evaporation system, capable of evaporating 0.2 MGD (million gallons per day). The letter further explained that "[r]ecent annual process wastewater balance calculations have demonstrated that higher annual discharge rates provided through alternative process wastewater treatment and disposal methods will need to be implemented to maintain a net zero water balance or to meet site closure target dates[.]" As to the NGS-N, the Wood letter stated that HRK notified FDEP in February 2020 that the freeboard elevations of the impoundment must be reduced, for a 0.44-inch rainfall event on February 26, 2020 exceeded the temporary freeboard level by a tenths of a foot. On a second subsequent inspection by another Wood employee, the NGS-N pond was observed operating above the maximum allowable level. Consequently, "[g]iven the proximity of the upcoming tropical hurricane season, the current pond levels and the potential high risk of an uncontrolled release," Wood recommended a series of alternatives to draw down the impoundment, which should be pursued "immediately and simultaneously."

Because the capacity limitations at the ponds had caused previous discharges in 1998, 2001, 2003 and 2011, and in light of the Wood letter, FDEP and HRK knew, or should have known, that the same capacity problems would recur and likely continue the pattern of controlled releases. Indeed, this is exactly what happened when FDEP and HRK discharged 215 million gallons of pollution in 2021.

In fact, HRK explicitly warned about this problem in a February 2, 2021 presentation to the Manatee County Board of County Commissioners. In that presentation, the representative of HRK presented a slide showing that the Piney Point HDPE lined impoundments were at serious risk of losing containment, due to the continued precipitation falling on the site and the amount of storage used up by the Port Manatee Bert 12 expansion project. The graph below shows the condition of the site as of January 31, 2021, and demonstrates that the impoundments were losing their ability to detain precipitation since as early as January 1, 2014.



Of the three impoundments HRK utilized for retaining precipitation, the "LPWS" had only 6.7% remaining capacity; the NGS-S had 4.9% remaining compacity; and the NGS-N had only 3.2% remaining capacity. The presentation concluded that, "Based on current water volumes, action is needed ASAP."

Upon information and belief, HRK and FDEP possessed other material information showing that there were feasible alternatives to the bypass, yet decided not to pursue them. Accordingly, while FDEP purported to authorize the "bypass," the discharge did not comply with either Florida statutes or federal regulations for bypass, and is therefore an unlawful discharge subject to the CWA's strict liability scheme under 33 U.S.C. § 1311(a). Notifying Parties will therefore seek civil penalties against HRK for each day of discharge from each point source between March 26 and April 9, 2021 and for each and every violation of the effluent limitations contained in the Administrative Agreement, along with all appropriate legal and injunctive relief, as well as attorneys' fees and costs. Upon information and belief, the discharges between March 26 and April 9, 2021 violated each and every effluent limitation contained within the Administrative agreement.

Furthermore, Notifying Parties will allege that HRK violated its NPDES permit by failing to properly operate and maintain the treatment and disposal facilities at Piney Point. Para. 8(a)(1) of the NPDES permit requires HRK to "ensure that the operation and maintenance of the phosphogypsum stack system during closure and long-term care of this facility is in accordance with Rule 62-673, F.A.C." Para. 8(a)(3) requires HRK to "ensure that all aboveground impoundments are operated, maintained and inspected in accordance with Rule 62-672, F.A.C." Florida Rule 62-673.340 states that phosphogypsum stacks "shall be…operated, maintained, closed, and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that ground water and surface water quality standards and criteria of Chapters 62-302 and 62-520, F.A.C., will not be violated beyond the applicable zone of discharged specified for the system." Rule 62-673 also identifies numerous other requirements for safe and lawful operation of Piney Point, as does Rule 62-672.

Upon information and belief, HRK violated and remains in violation of Para. 8(a) of its NPDES Permit by failing to adequately ensure that the operation and maintenance of Piney Point is compliant with the applicable requirements of Florida Rules 62-672 and 62-673. Ground and surface water quality standards have been violated by HRK's discharge of pollutants far in excess of the effluent limitations contained in the NPDES Permit. HRK's public presentation to Manatee County evidencing the lack of available water storage at Piney Point further establishes HRK's violations of this aspect of its Permit. HRK has known about this problem for at least the past five years, and yet failed to take any corrective action. Upon information and belief, HRK has violated this provision of its NPDES Permit each and every day for the past five years. HRK is liable for civil penalties of up to $56,460 for each and every day it violated this provision of the NPDES Permit. Furthermore, Notifying Parties will allege these violations are ongoing and reasonably likely to continue in the future, as HRK has demonstrated it is incapable of operating and maintaining the wastewater infrastructure at Piney Point in a manner that is consistent with the aforementioned regulations.

ESA LEGAL BACKGROUND

Congress enacted the ESA in 1973 to provide "a program for the conservation of … endangered species and threatened species" and "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b). As the first step in the protection of these species, Section 4 of the ESA requires the Secretary to list species as "endangered" or "threatened" when they meet the statutory listing criteria. *Id.* § 1533. An "endangered" species is one "in danger of extinction throughout all or a significant portion of its range," and a "threatened" species is "likely to become endangered in the near future throughout all or a significant portion of its range." *Id*. § 1532(6) & (20).

Once a species is listed, the ESA provides a variety of procedural and substantive protections to ensure not only the species' continued survival, but also its ultimate recovery. "Congress has spoken in the plainest words, making it clear that endangered species are to be accorded the highest priorities." *TVA v. Hill*, 437 U.S. 153, 155 (1978).

Section 9 of the ESA prohibits any "person" from "taking" or causing take of any member of an ESA-listed sea turtle species. 16 U.S.C. § 1538; 16 U.S.C. § 1533(d); 50 C.F.R. § 17.42(b). The term "take" means to "harass, harm, pursue, shoot, wound, kill, trap, capture, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19).

"Harm" includes significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. 50 C.F.R. § 17.3; *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995). "Harass" is an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. 50 C.F.R. § 17.3. Courts have recognized that, in addition to past and current threats of harm, the "likely" threat of future harm also constitutes "take" under the ESA. *Marbled Murrelet v. Babbitt*, 83 F.3d 1060, 1066 (9th Cir.1996); *Loggerhead Turtle v. Cnty. Council of Volusia Cnty., Florida*, 92 F. Supp. 2d 1296, 1302 (M.D. Fla. 2000).

The ESA's legislative history supports "the broadest possible" reading of the prohibition against take. *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. at 704-05. "Take" includes direct as well as indirect harm and need not be purposeful. *Id.* at 704; *see also National Wildlife Federation v. Burlington Northern Railroad*, 23 F.3d 1508, 1512 (9th Cir. 1994). The take prohibition applies to any "person," 16 U.S.C. § 1538(a)(1), including state, county, or municipal agencies and/or officials in their official capacity. *Id.* § 1532(13). The ESA further makes it unlawful for any person, including agencies and/or officials, to "cause to be committed" the take of a species. *Id.* § 1538(g).

The ESA authorizes private enforcement of the take prohibition through a broad citizen suit provision. "[A]ny person may commence a civil suit on his own behalf to enjoin any person, including . . . any . . . governmental instrumentality or agency . . . who is alleged to be in violation of any provision of [the ESA] . . . ." *Id.* § 1540(g). A plaintiff may seek to enjoin both present activities that constitute an ongoing take and future activities that are reasonably likely to result in take. *National Wildlife Fed'n v. Burlington Northern Railroad,* 23 F.3d 1508, 1511 (9th Cir. 1994). The ESA's citizen suit provision also provides for the award of costs of litigation, including reasonable attorney and expert witness fees. 16 U.S.C. § 1540(g)(4).

The take prohibition applies to any "person," defined as "an individual, corporation, partnership, trust, association, or any other private entity." 16 U.S.C. §§ 1538(a)(1), 1532(13). It applies even if there is no intent to harm or harass and regardless of whether the impact is direct or indirect. *Babbitt v. Sweet Home Chapter of Communities for a Great Or.*, 515 U.S. 687, 704-05 (1995). An individual who harms a listed species by modifying or degrading its habitat commits a "take" in violation of Section 9 of the ESA. *Id.* at 708.

Section 10 of the ESA provides a means for ensuring compliance with the prohibitions in Section 9 of the Act. Section 10 is applicable to the activities of non-federal entities such as the DEP. The primary mechanism for avoiding liability under Section 9 is to apply for and receive an incidental take permit ("ITP"). *Id.* § 1539(a)(1)(B). In exchange for permission to "take" a listed species pursuant to an ITP, the permit applicant must commit to implement a plan that "conserv[es]" – *i.e.*, facilitates the recovery of – the species. *Id.* §§ 1539(a)(1)(B), (a)(2)(A); *see* *also Sierra Club v. U.S. Fish and Wildlife Serv.*, 245 F.3d 434, 441-42 (5th Cir. 2001) ("'[c]onservation' is a much broader concept than mere survival" because the "ESA's definition of 'conservation' *speaks to the recovery of a threatened or endangered species*" (emphasis added)). This plan is called a Habitat Conservation Plan ("HCP") and it must delineate "the impact which will likely result from such taking" and the "steps the applicant will take to minimize and mitigate such impacts . . . ." 16 U.S.C. § 1539(a)(2)(A).

I. FDEP Authorized the Discharge of Water Harmful to Listed Species into Tampa Bay

Pursuant to the EO, FDEP authorized HRK to discharge up to 480 MG of water from NGS-S to Tampa Bay. This water contained process wastewater and water from the 2011 dredge project. Prior to discharge, the water tested 160 mg/L of total phosphorous, 230 mg/L of total nitrogen, and a pH of 4.7-5.3 s.u. The applicable lower pH standard for marine waters is 6.5. The total ammonia nitrogen of the discharged water also exceeded marine water quality standards. A discharge from Piney Point in 2004 triggered a macro algae bloom in Bishop Harbor.[6] It has been projected that the 2021 Piney Point discharge will trigger HABs, including red tides or blue-green algae blooms. Such HABs can directly kill and injure listed species as well as diminish or eliminate seagrass and other important food for listed species.

A. Blue-Green Algae, Cyanobacteria Harm Listed Species

Cyanobacteria, particularly *microcystis aeruginosa* has been correlated with nitrogen and phosphorous, and toxic strains may have higher nitrogen and phosphorous requirements.[7] Exposure of *Microcystis aeruginosa* to saltwater may increase its toxicity.[8]

These cyanobacteria, or blue-green algae as they are commonly known, are hepatoxins and have been linked to poisoning and cancer.[9] According to one leading expert, "[c]yanotoxins are among the most potent toxins known, far more potent than industrial chemicals."[10] The non-protein amino acid, beta-N-methylamino-L-alanine (BMAA), is a cyanobacteria-derived toxin that has been linked to neurodegenerative diseases like ALS (Amyotropihc Lateral Sclerosis) and

---

[6] Balut, D. 2004. Piney Point dumping causes algae bloom in Bishop Harbor. WTSP. Feb. 12, 2004. https://www.wtsp.com/article/news/local/piney-point-dumping-causes-algae-bloom-in-bishop-harbor/67-396514258.

[7] Cessa, M. (ed). 2014. Beaches: Erosion, Management Practices and Environmental Implications. Environmental Health-Physical, Chemical and Biological Factors.

[8] Rosen, B.H. et al. 2018. Understanding the effect of salinity tolerance on cyanobacteria associated with a harmful algal bloom in Lake Okeechobee, Florida: U.S. Geological Survey Scientific Investigations Report 2018-5092, 32 p. https://doi.org/10.3133/sir20189082.

[9] A hepatoxin is a toxic chemical that damages the liver. Zanchett, G. and Oliveira-Filho, E.C. 2013. Cyanobacteria and Cyanotoxins: From Impacts on Aquatic Ecosystems and Human Health to Anticarcinogenic Effects. Toxins 2013, 5.

[10] Hudnell, K. 2009. Congressional Testimony.

Parkinsonism Dementia Complex (ALS/PDC).[11] Most cyantobacteria produce BMAA.[12] People near blue-green algae blooms likely inhale the toxins deep into their lungs.[13] BMAA can biomagnify up some food chains and may pose an increasing human health risk.[14] BMAA biomagnification has been recorded in cyanobacteria to cycads to fruit bats, feral pigs, and flying squirrels.[15] The Chamorro of Guam, who consumed the bats, pigs and squirrels had a 100-fold increase in ALS/PDC.[16] The Chamorro who died of these neurodegenerative diseases as well as Canadian patents with Alzheimer's disease had high concentrations of BMAA.[17] There is concern that people exposed to waterborne BMAA may have an increased risk of neurodegenerative disease.[18]

BMAA concentrations of animals exposed to cyanobacteria have been observed in Florida.[19] Bottlenose dolphins can eat similar diets to humans (fish and crustaceans), and those that have died in the Indian River Lagoon have similar concentrations of BMAA in their brains as humans that have died of neurodegenerative diseases.[20] Impacted wildlife in Florida have been found to have similar concentrations of BMAA as in impacted wildlife in Guam.[21] Even coral in Florida are being overgrown by cyanobacteria and cyanobacterial diseases.[22]

As of April 21, 2021, FDEP had detected up to 0.38 ppb of cyanotoxins,[23] and it was reported that FDEP detected cyanotoxins in water samples in Tampa Bay "increasing chances that the discharge at Piney Point will trigger a blue-green algae bloom."[24]

---

[11] Banack, S.A. et al. 2010. The Cyanobacteria Derived Toxin Beta-N-Methylamino-L-Alanine and Amyotrophic Lateral Sclerosis Toxins 2010, 2, 2837-2850; doi: 10.3390/toxins2122837; Bienfang, P.K. et al. 2011. Prominent Human Health Impacts from Several Marine Microbes: History, Ecology, and Public Health Implications. International Journal of Microbiology. Vol. 2011. Article ID 152815; doi:10.1155/2011/152815.

[12] Brand, L. et al. 2010. Cyanobacteria Blooms and the Occurrence of the neurotoxin beta-N-methylamino-L-alanine (BMAA) in South Florida Aquatic Food Webs. Harmful Algae. 2010 Sept. 1; 9(6): 620-635; doi:10.1016/j.hal.2010.05.002 (Brand 2010).

[13] Williams, A. 2018. Algae toxins are airborne and can reach deep into human lungs, FGCU research shows. Fort Myers News-Press. Nov. 27, 2018.

[14] Brand, L. 2009. Human exposure to cyanobacteria and BMAA. Amyotrophic Lateral Sclerosis, 2009, (Supplement 2): 85-95 (Brand 2009).

[15] Cox, P.A. and O.W. Sacks. 2002. Cycad neurotoxins, consumption of flying foxes, and ALS-PDC disease in Guam. Neurology. 2002 Mar. 26; 5896): 956-9; Holtcamp, W. 2012. The Emerging Science of BMAA. Environmental Health Perspectives. Vol. 120, No. 3.

[16] Murch, S.J. et al. 2004. Occurrence of B-methylamino-L-alanine (BMAA) in ALS/PDC patients from Guam. Acta Neurol Scand. 2004; 110: 267-9.

[17] Pablo, J. et al. 2009. Cyanobacterial neurotoxin BMAA in ALS and Alzheimer's disease. Acta Neurol Scand. Published online 26 Feb, 2009.

[18] Metclaf, J. and G. Codd. 2009. Cyanobacteria, neurotoxins and water resources: Are there implications for human neurodegenerative disease? Amyotrophic Lateral Sclerosis, 2009; (Supplement 2): 74-78.

[19] Brand 2010.

[20] Brand 2009; Brand 2010.

[21] Brand 2009.

[22] Paul, V.J. et al. 2005. Benthic cyanobacterial bloom impacts the reefs of southern Florida (Broward County, USA), Coral Reefs. 2005; 24:693-7; Richardson, L.L. et al. 2003. Ecological physiology of the black band disease cyanobacterium Phormidium corallyticum. FEMS Microbiol Ecol. 2003; 43:287-98.

[23] https://protectingfloridatogether.gov/PineyPointUpdate.

[24] Shedden, M. 2021. Heightened Blue-Green Algae Levels Found in Waters Near Piney point. WUSF. https://wusfnews.wusf.usf.edu/environment/2021-04-17/heightened-blue-green-algae-levels-found-in-waters-near-piney-point.

B. Red Tide, Brevetoxin Harm Listed Species

Red tide has been called "one of the most common chemical stressors impacting South Florida coastal and marine ecosystems,"[25] and studies suggests that nutrients including phosphorous and nitrogen from discharges as well as biomass killed by cyanobacteria can energize or reawaken red tide.[26] Red tide is caused by the dinoflagellate *Karenia brevis* which produces brevetoxins which kill fish,[27] make filter-feeding fish extremely toxic to other animals, and cause respiratory and intestinal distress in humans.[28] Red tide has also been linked to land mammal and bird mortality,[29] and can bioaccumulate.[30] Exposed fish and seagrasses can

---

[25] Pierce, R.H. 2008. Harmful algal toxins of the Florida red tide (Karenia brevis): natural chemical stressors in South Florida coastal ecosystems. Ecotoxicology. 2008 Oct. 17(7): 623-631. Doi:10.1007/s10646-008-0241-x.

[26] Olascoaga, M.J. 2010. Isolation on the West Florida Shelf with implications for red tides and pollutant dispersal in the Gulf of Mexico. Nonlinear Process Geophys. 2010 Jan. 1; 17(6): 685-696. Doi:10.5194/npg-17-685-2010; Olascoaga, M.J. et al. 2008. Tracing the Early Development of Harmful Algal Blooms on the West Florida Shelf with the Aid of Lagrangian Coherent Structure. J. Geophys. Res. 2008; 113(c12): c12014-doi: 10.1029/2007JC004533; Poulson-Ellestad, K. et al. 2014. Metabolics and proteomics reveal impacts of chemically mediated competition on marine plankton. PNAS. June 17, 2014. Vol. 11. No. 24. 9009-9014; Morey, J. et al. 2011. Transcriptomic response of the red tide dinoflagellate, Karenia brevis, to nitrogen and phosphorus depletion and addition. Genomics 2011, 12.346; Garrett, M. 2011. Harmful algal bloom species and phosphate-processing effluent: Field and laboratory studies. Marine Pollution Bulletin 62 (2011) 596-601; Heil, C.A. et al. 2014. Blooms of Karenia brevis (Davis) G. Hansen & O. Moestrup on the West Florida Shelf: Nutrient sources and potential management strategies based on a multi-year regional study. Harmful Algae 38 (2014) 127-43; Killberg-Thoreson, L. et al. 2014. Nutrients released from decaying fish support microbial growth in the eastern Gulf of Mexico. Harmful Algae 38 (2014) 40-49; Mulholland, M.R. et al. 2014. Contribution of diazotrpohy to nitrogen inputs supporting Karenia brevis blooms in the Gulf of Mexico. Harmful Algae 38 (2014) 20-29; Redalje, D.G. et al. 2008. The growth dynamics of Karenia brevis within discrete blooms on the West Florida Shelf. Continental Shelf Research 28 (2008) 24-44; Munoz, C. 2018. Scientists: Lake Okeechobee runoff may enhance red tide. Daily Commercial. Oct. 11, 2018.

[27] Rolton, A. et al. 2014. Effects of the red tide dinoflagellate, Karenia brevis, on early development of the eastern oyster Crassostrea virginica and northern quahog Mercenaria mercenaria. Aquatic Toxicology 155 (2014) 199-206; Rolton, A. et al. 2015. Susceptibility of gametes and embryos of the eastern oyster, Crassostrea virginica, to Karenia brevis and its toxins. Toxicon 99 (2015) 6-15; Rolton, A. et al. 2016. Effects of field and laboratory exposure to the toxic dinoflagellate Karenia brevis on the reproduction of the eastern oyster, Crassostrea virginia, and subsequent development of offspring. Harmful Algae 57 (20016) 13-26; Walsh, J.J. et al. 2009. Isotopic evidence for dead fish maintenance of Florida red tides, with implications for coastal fisheries over both source regions of the west Florida shelf and within downstream waters of the South Atlantic Bight. Progress in Oceanography 80 (2009) 51-73.

[28] Backer, L. et al. 2005. Occupational Exposure to Aerosolized Brevetoxins during Florida Red Tide Events: Effects on a Healthy Worker Population. Environmental Health Perspectives. Vol. 113. Iss. 5. May 2005; Bienfang, P.K. et al. 2011. Prominent Human Health Impacts from Several Marine Microbes: History, Ecology, and Public Health Implications. International Journal of Microbiology Vol. 2011. Art. ID 152815; CDC. 2008. Illness Associated with Red Tide – Nassau County, Florida, 2007; Fleming, L. 2005. Initial Evaluation of the Effects of Aerosolized Florida Red Tide Toxins (Brevetoxins) in Persons with Asthma. Environmental Health Perspectives. Vol. 113. Iss. 5. May 2005; Naar, J. 2002. Brevetoxin Depuration in Shellfish via Production of Non-toxic Metabolites: Consequences for Seafood Safety and the Environmental Fate of Biotoxins. Harmful Algae 2002 (2002). 2004; 10: 488-490; Steensma, D. 2007. Exacerbation of Asthma by Florida "Red Tide" During an Ocean Sailing Trip. Mayo Clin Proc. Sept. 2007; 82(9): 1128-1130.

[29] Castle, K. et al. 2013. Coyote (Canis latrans) and domestic dog (Canis familiaris) mortality and morbidity due to a Karenia brevis red tide in the Gulf of Mexico. Journal of Wildlife Diseases, 49(4), 2013, pp. 955-64; Kreuder, C. 2012 Clinicopathologic features of suspected brevetoxicosis in double-crested cormorants (phalacrocorax auritus) along the Florida Gulf coast. Journal of Zoo and Wildlife Medicine, 33(1):8-15.

[30] Echevarria, M. 2012. Effects of Karenia brevis on clearance rates and bioaccumulation on brevetoxins in benthic suspension feeding invertebrates. Aquatic Toxicology 106-107 (2012) 85-94.

accumulate high concentrations of brevetoxins and act as toxin vectors to dolphins and manatees.[31] People generally do not become aware of its presence until it reaches above 100,000 cells/l, which is when it leads to fish kills,[32] shellfish toxicity, and respiratory distress.[33]

There has been an increase in red tide in southwest Florida since 1954, in abundance and frequency.[34] Other red tide impacts include paralytic shellfish poisoning,[35] neurotoxic shellfish poisoning, ciguatera fish poisoning, fish kills, loss of submerged vegetation, shellfish mortalities, and marine mammal mortalities.[36] Brevetoxins are large, lipid soluble molecules that bioaccumulate in fatty tissue and are not easily shed or excreted.[37] As a result, sublethal concentrations can have lethal consequences.[38] Because *k.brevis* is a particularly delicate dinoflagellate, turbulence can break apart the cells and aerosolize the brevetoxins, which are then inhaled and can cause respiratory distress.[39]

Eerera et al. (2011) determined that by rapidly changing salinity to simulate the shift from oceanic to coastal conditions, brevetoxin was triggered, showing that brevetoxin production can increase dramatically in response to osmotic stress regardless of the initial source of the red tide.[40] Sources contributing to red tide include nutrients in runoff, iron-rich atmospheric dust, dead marine life, and nutrient rich groundwater.[41]

At concentrations of >100,000 cells/l, the 12 brevetoxins produced by red tide can and have killed marine animals, including fish, sea turtles, manatee, sea birds, and dolphins.[42] Brevetoxins

---

[31] Flewwelling, L. et al. 2005. Red tides and marine mammal mortalities.: Unexpected brevetoxin vectors may account for deaths long after or remote from an algal bloom. Nature. 2005. June 9; 435(7043).
[32] Gravinese, P. et al. 2018. The effects of red tide (Karenia brevis) on reflex impairment and mortality of sublegal Florida stone crabs, Menippe mercenaria. Marine Environmental Research 137 (2018) 145-148.
[33] Bienfang 2011; Pierce, R. 2011. Compositional changes in neurotoxins and their oxidative derivatives from the dinoflagellate, Karenia brevis, in seawater and marine aerosol. Journal of Plankton Research. Vol. 30. No. 2.
[34] Brand, L and A. Compton. 2007. Long-term increase in Karenia brevis abundance along the Southwest Florida Coast. Harmful Algae. 2007. 6(2): 232-252. doi:10.1016/j/hal.2006.08.005.
[35] Watkins, S. 2008. Neurotoxic Shellfish Poisoning. Mar. Drugs 2008, 6, 431-455; DOI: 10.3390/md20080021.
[36] Anderson, D. et al. 2008. Harmful algal blooms and eutrophication: Examining linkages from selected coastal regions of the United States. Harmful Algae. 2008. Dec. 1; 8(1): 39-53. Doi:10.1016/j.hal.2008.08.017.
[37] Bienfang 2011.
[38] *Id*..
[39] *Id*.; Fleming, L. 2007. Aerosolized Red-Tide Toxins (Brevetoxins) and Asthma. Chest. 2007. Jan; 131(1): 187-194. Doi:10.1378/chest.06-1830; Kirkpatrick, B. et al. 2010. Inland Transport of Aerosolized Florida Red Tide Toxins. Harmful Algae. 2010. Feb. 1; 9(2): 186-189. Doi:10.1016/j.hal.2009.09.003; Kirkpatrick, B. et al. 2011. Aerosolized Red Tide Toxins (Brevetoxins) and Asthma: Continued health effects after 1 hour beach exposure. Harmful Algae 2011. Jan. 1: 10(2): 138-143. Doi:10.1016/j.hal.2010.08.005.
[40] Errera R. and L. Campbell. 2011. Osmotic stress triggers toxin production by the dinoflagellate Karenia brevis. PNAS. June 28,2011. Vol. 108. No. 26.
[41] Bienfang 2011; Walsh, J.J. et al. 2006. Red tides in the Gulf of Mexico: Where, when, and why? J. Geophys Res. 2006. Nov. 7; 111(C11003): 1-46. Doi:10.1029/2004JC002813.
[42] Bienfang 2011; Twiner, M. et al. 2012. Comparative Analysis of Three Brevetoxin-Associated Bottlenose Dolphin (*Tursiops truncatus*) Mortality Events in the Florida Panhandle Region (USA). PLoS ONE 7(8):e42974. Doi:10.1371/journal.pone.0042974; Twiner, M. et al. 2011. Concurrent Exposure of Bottlenose Dolphins (*Tursiops truncatus*) to Multiple Algal Toxins in Sarasota Bay, Florida, USA. PLoS ONE 6(3): e17394. Doi:10.1371/journal.pone.0017394.

from red tide have long been known to cause manatee mortality.[43] One study found markedly less shrimp and fish activity during red tide.[44] Meanwhile, almost nothing is known about the longterm chronic exposure.[45]

As of April 21, 2021, FDEP is reporting background to medium levels of red tide in Sarasota (100,000-1,000,000 cells/l) and background levels in Hillsborough County.[46]

C. Harmful Algal Blooms Harm Listed Species

Red tide and blue-green algae blooms can individually, collectively, and synergistically kill marine wildlife, including ESA-listed species like sea turtles and Florida manatees.[47] The National Oceanic Atmospheric Administration has collected data on unusual mortality events finding that 41 percent of marine mammal deaths 1991-2013 were due to HAB toxin exposure.[48]

There have been numerous descriptions of mammal and bird mortalities associated with exposure to cyanobacteria.[49] HABs may have both direct and indirect impacts to fish and wildlife from the bottom of the food chain up.[50] Cyanotoxins can influence the structure of zooplankton communities and reduce the filtration capacity and survival of offspring.[51] Ingestion of microcystins can result in lethal poisoning.[52] Cyanotoxins can also inhibit the growth of underwater plants, and adversely affect aquatic invertebrates such as mollusks by reducing food intake, filtration, absorption and fecal loss, and the scope for growth.[53]

Fish can be exposed to microcystins while feeding or through the gills during breathing.[54] Fish in the early life stages are generally more sensitive.[55] HABs can result in damage to the liver, hearth, kidney, skin, gills, and the spleen.[56] Microcystins can induce disruption of the cytoskeletal network of the liver, leading to massive pool of blood, followed by sinusoid

---

[43] Kirkpatrick, B. et al. 2002. Florida Red Tides, Manatee Brevetoxicosis, and Lung Models Harmful Algae 2002 (2002). 2004; 10:491-493.
[44] Indeck, K.L. 2015. A severe red tide (Tampa Bay, 2005) cause an anomalous decrease in biological sound. R. Soc. Open sci. 2:150337.
[45] Erdner, D. et al. 2008. Centers for Oceans and Human Health: a unified approach to the challenge of harmful algal blooms. From Centers for Oceans and Human Health Investigators Meeting. Woods hole, MA. USA. 24-27. Apr. 2007.
[46] https://myfwc.com/research/redtide/statewide/.
[47] The Florida manatee is also protected under the Marine Mammal Protection Act.
48 Schaefer, A. et al. 2019. Integrated observing systems: An approach to studying harmful algal blooms in south Florida. Journal of Operational Oceanography, DOI: 10.1080/1755876X.2019.160687; National Oceanic and Atmospheric Administration.
2013. Marine mammal unusual mortality events 1991–2013. www.nmfs.noaa.gov/pr/health/immume/.
[49] EPA 2016 at 75.
[50] Hillborn, E.D. and V.R. Beasley. 2015. One health and cyanobacteria in freshwater systems: animal illnesses and deaths are sentinel events for human health risks, Toxins, 1374-1395, doi: 10.3390/toxins7041374.
[51] Zanchett, G. and E.C. Oliveira-Filho. 2013. Cyanobacteria and cyanotoxins: from impacts on aquatic ecosystems and human health to anticarcinogenic effects, Toxins 5(10): 1896-1917, doi: 10:3390/toxins5101896.
[52] *Id.*
[53] *Id.*
[54] *Id.*
[55] *Id.*
[56] *Id.*

destruction and ultimately death as a result of hepatic hemorrhaging.[57] HABs can induce high pH and ammonia from the decomposition of cyanobacteria, causing damage to fish gills.[58] This gill damage may enhance microcystin uptake, leading to liver necrosis.[59] Aquatic animals may die as a result of toxins from cells or a reduction in the amount of dissolved oxygen from the bloom decay process.[60]

Cyanotoxins can bioaccumulate in aquatic invertebrates and aquatic vertebrates and cyanotoxins may be transported through the food web.[61] Cyanotoxins can accumulate in zooplankton and aquatic invertebrates, thereby affecting fish that feed on plankton.[62] Piscivorous birds in turn consume cyanotoxins in the contaminated fish.[63] There has been increasing concern about HABs in wildlife refuges and other areas where animals, especially birds, congregate in large numbers.[64] Meanwhile, from July 2018 - December 6, 2018, 126 bottlenose dolphins have been stranded due to exposure to red tide.[65] Certain cyanotoxins, like *Microcystis aeruginosa*, release cellular microcystin into the environment when they reach the marine environment.[66]

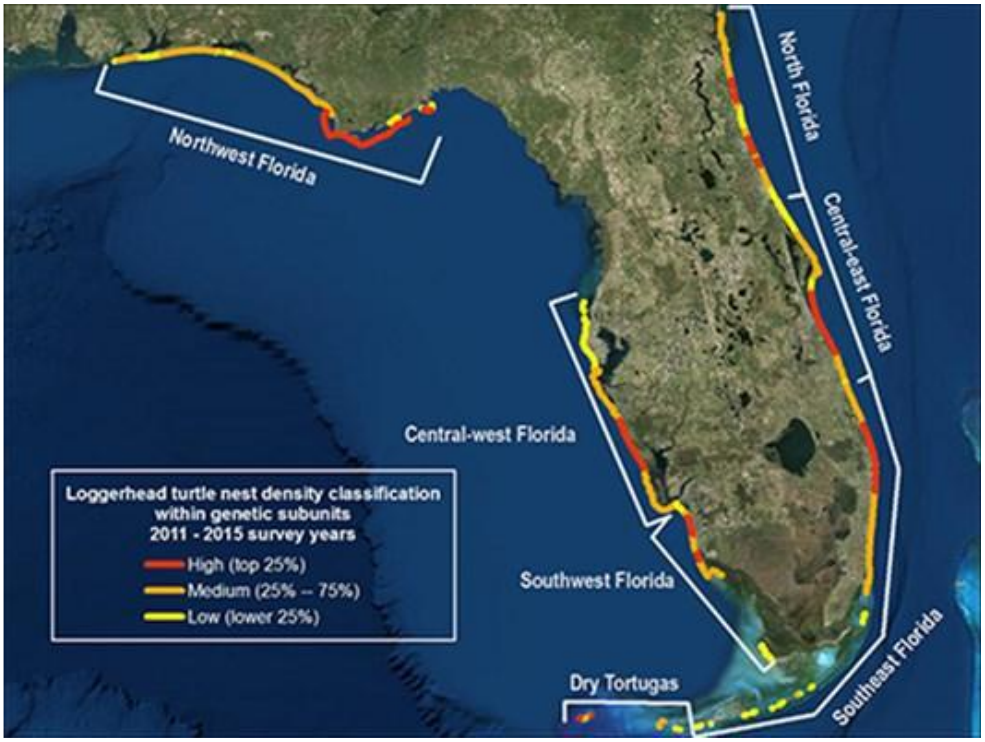
Sea turtles

FWS and NMFS have designated the Northwest Atlantic Ocean Distinct Population Segments of loggerhead and green sea turtles as threatened under the ESA. Juveniles and adult loggerheads in coastal waters eat mostly bottom dwelling invertebrates such as whelks, other mollusks, horseshoe crabs, and other crabs. Green sea turtles eat seagrass and algae.

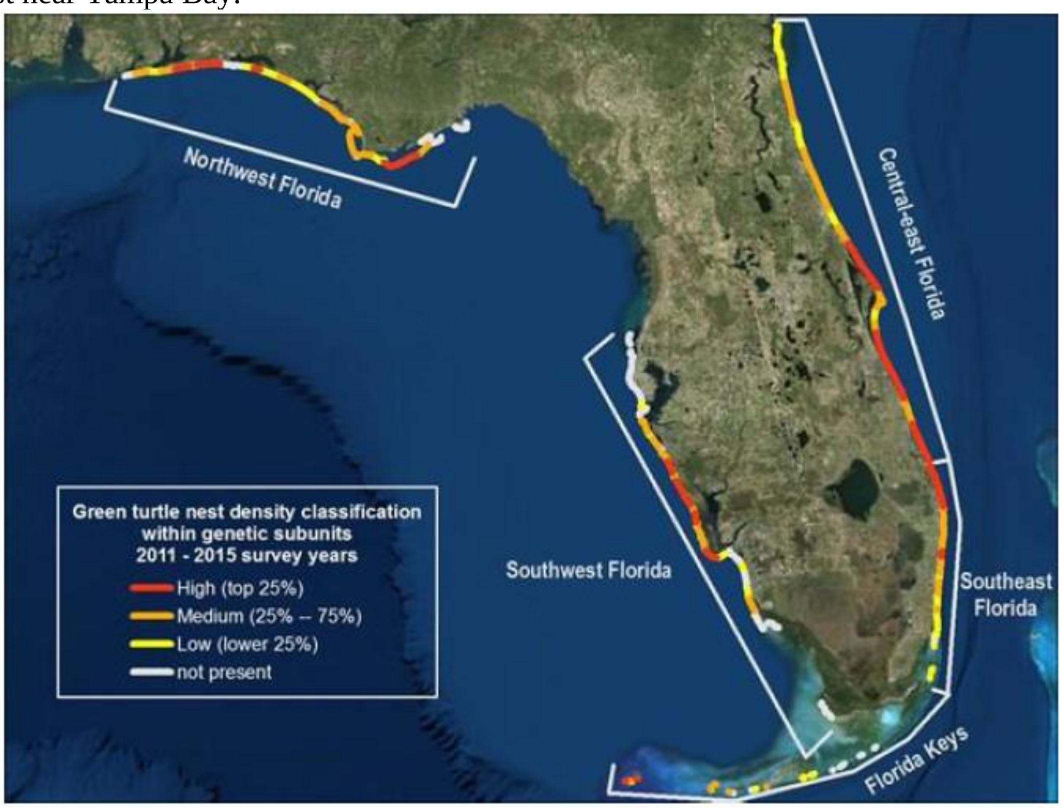
The southeastern United States has the world's largest number of loggerhead nests, with 90% of nesting in Florida.[67] Loggerhead sea turtles nest on and use waters in and near Tampa Bay.[68]

---

[57] Masango, M.G., J.G. Myburgh, L. Labuschagne, D. Govender, R.G. Bengis, and D. Naicker. 2010. Assessment of *microcystis* bloom toxicity associated with wildlife mortality in the Kruger National Park, South Africa. Journal of Wildlife Diseases, 46(1): 95-102.
[58] Zanchett, G. and Oliveira-Filho, E.C. 2013. Cyanobacteria and cyanotoxins: from impacts on aquatic ecosystems and human health to anticarcinogenic effects, Toxins 5(10): 1896-1917, doi: 10:3390/toxins5101896.
[59] *Id*.
[60] J. S. Metcalf, S.A. Banack, J.T. Powell, F.J.M. Tymm, S.J. Murch, L.E. Brand, and P.A. Cox. 2018. Public health responses to toxic cyanobacterial blooms: perspectives from the 2016 Florida event, Water Policy 20 (5): 919-932.
[61] Williams, C.D., J. Burns, A. Chapman, M. Pawlowicz, and W. Carmichael. 2006. Assessment of Cyanotoxins in Florida's Surface Waters and Associated Drinking Water Resources, Final Report, 29, April 11, 2006.
[62] Lopez-Rodas, E. Maneior, M.P. Lanzarot, N. Perdigones, and E. Costas. 2008. Mass wildlife mortality due to cyanobacteria in the Donana National Park, Spain, Veterinary Record 162: 317-318, doi:10.1136/vr.162.10.317.
[63] *Id*.
[64] *Id*.
[65] NOAA 2018.
[66] Rosen, B.H. 2018. Understanding the effect of salinity tolerance on cyanobacteria associated with a harmful algal bloom in Lake Okeechobee, Florida: U.S. Geological Survey Scientific Investigations Report 2018-5092, 32 p., http://doi.org/10.3133/sir20185092.
[67] Casale, P. and A.D. Tucker. 2017. Caretta caretta, Loggerhead Turtle. The IUCN Red List of Threatened Species; Ceriani, S.A. and A.B. Melyan. 2017. Caretta caretta (North West Atlantic subpopulation) loggerhead turtle. The IUCN Red List of Threatened Species.
[68] FWC. 2018. Loggerhead Nesting in Florida. (FWC 2018b).

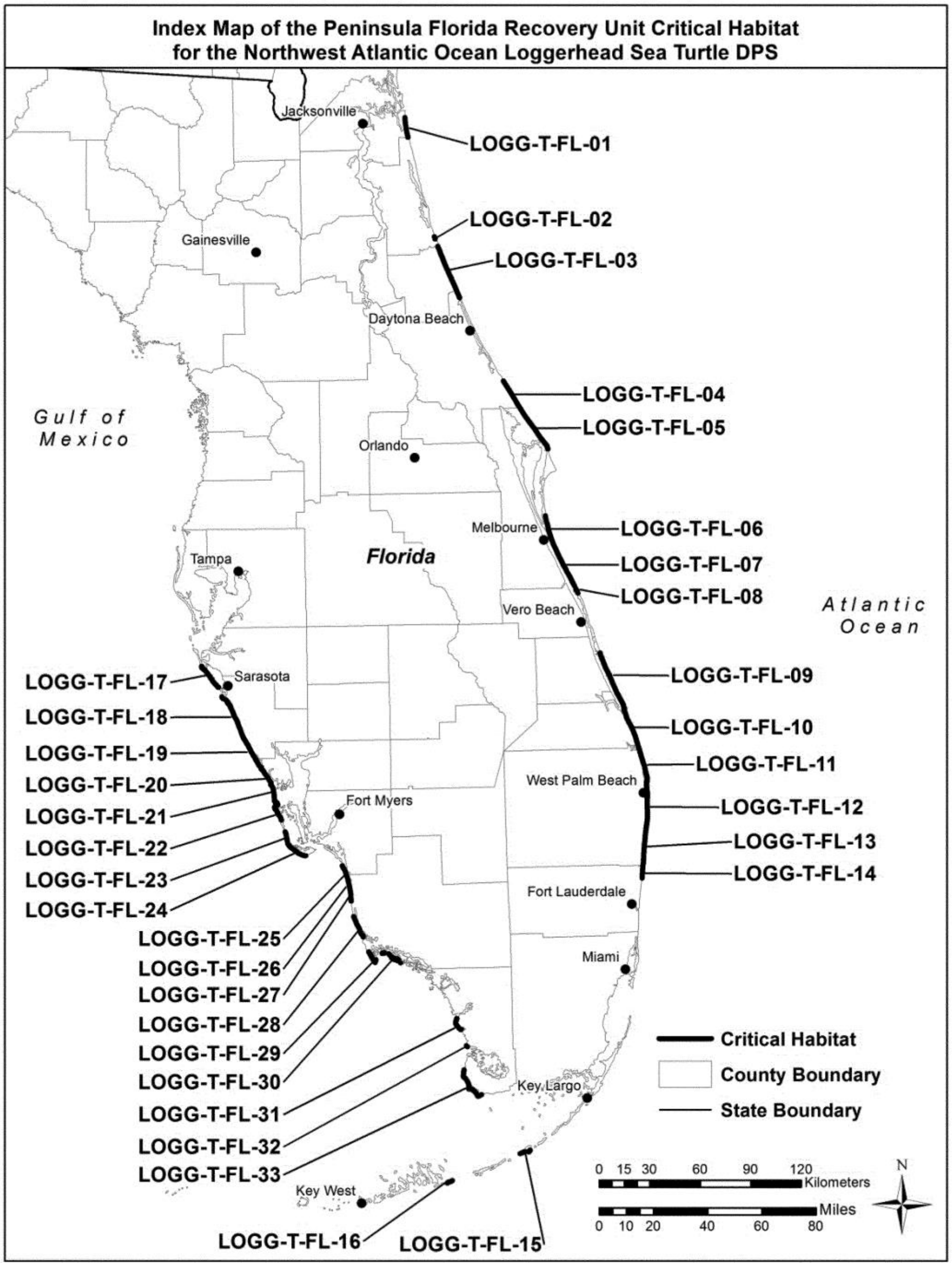


The second largest aggregation of green sea turtle nesting is in Florida,[69] and they use waters in and nest near Tampa Bay.



[69] FWC. 2018. Green Turtle Nesting in Florida. (FWC 2018c).

On July 10, 2104, FWS and NMFS designated critical habitat for the Northwest Atlantic Ocean Distinct Population Segment of the loggerhead sea turtle (*Caretta caretta*).[70]



[70] 79 Fed. Reg. 39756, *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Northwest Atlantic Ocean Distinct Population Segment of the Loggerhead Sea Turtle*, (July 10, 2014); 79 Fed. Reg. 39356, *Endangered and Threatened Species: Critical Habitat for the Northwest Atlantic Ocean Loggerhead Sea Turtle Distinct Population Segment (DPS) and Determination Regarding Critical Habitat for the North Pacific Ocean Loggerhead DPS*, (July 10, 2014).

Red tide with concentrations of *karenia brevis* of at least 100,000 cells/l is the concentration at which the Florida Fish and Wildlife Conservation Commission (FWC) believes sea turtle mortality due to brevetoxicosis typically begins to occur. It is believed that red tide exposure may pose significant implications for immune function in loggerhead sea turtles.[71]

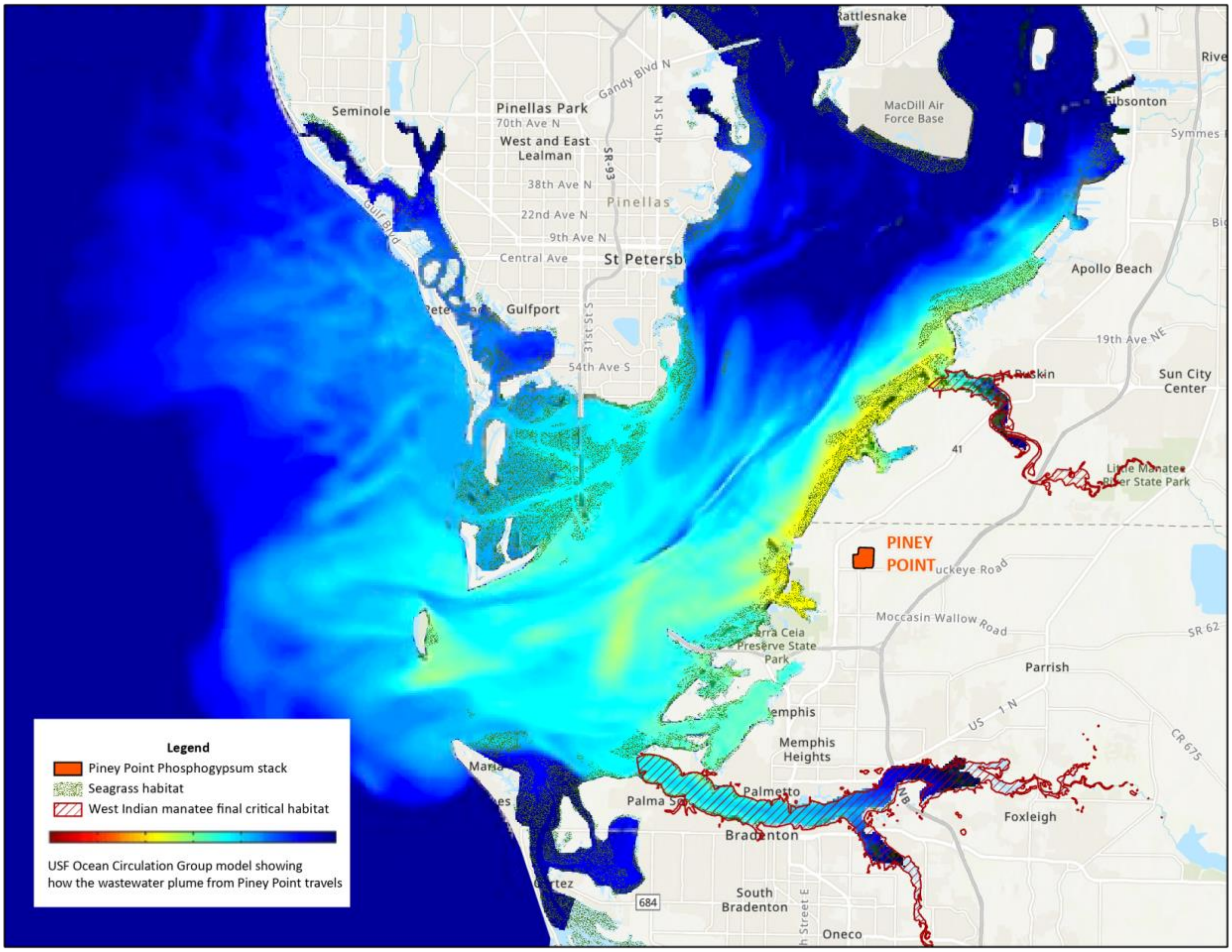
Florida manatee

The Florida manatee, listed as an endangered species in 1967,[72] has continued to suffer from habitat loss and unnatural mortalities since the time of its listing. FWS designated critical habitat for the Florida manatee in 1976,[73] including in Tampa Bay in Hillsborough, Manatee, and Sarasota counties.[74]

Manatees rely on seagrass as their primary food source. HABs and poor water quality can diminish or eliminate seagrass. Water quality was a primary area of concern for NMFS in designating critical habitat. Decreased water transparency caused by suspended sediments, water color, and chlorophylls could have significant detrimental effects on the distribution and abundance of seagrass. Nutrient over-enrichment can stimulate increased algal growth that may smother seagrass, shade rooted vegetation, and diminish the oxygen content of the water. Low oxygen conditions have a demonstrated negative impact on seagrasses and associated communities.[75]

Red tide can cause direct mortality of manatees, but can also cause sublethal impacts.[76] FWC reported that red tide has contributed to the deaths of 207 Florida manatees January-December 12, 2018.[77] The brevetoxin binds to manatees' brains, leading to edema and hemorrhaging,[78] and ultimately leads to their death.[79]

[71] Walsh, C. 2009. Effects of brevetoxin exposure on the immune system of loggerhead sea turtles. Aquatic Toxicology 97 (2010) 293-303.
[72] The manatee was originally listed under the Endangered Species Prevention Act of 1966 in 1967. It was later listed as endangered species in 1973 under the Endangered Species Act. 12-month Finding on a Petition to Revise Critical Habitat for Florida manatee (*Trichechus manatus latirostris*), 75 Fed. Reg. 1574 (Jan. 12, 2010).
[73] *Id*. at 1574.
[74] 41 Fed. Reg. 41916 (September 24, 1976).
[75] 65 Fed. Reg. 17788.
[76] Walsh, C. 2015. Sublethal red tide exposure in free-ranging manatees (Trichechus manatus) affects the immune system through reduced lymphocyte proliferation responses, inflammation, and oxidative stress. Aquatic Toxicology 161 (2015) 73-84.
[77] Hagan, A. 2018. Red tide has contributed to the deaths of nearly 190 Florida manatees, FWC says. Abcactionnews.com. Oct. 29, 2018; FWC. 2018 Preliminary Red Tide Manatee Mortalities, Jan. 01-Nov. 9. Manatees Carcasses Collected Within the Known Red Tide Bloom Boundary.
[78] Bossart, G. et al. 1998. Brevetoxicosis in Manatees (*Trichechus manatus latirostris*) from the 1996 Epizootic: Gross, Histologic, and Immunohistochemical Features. Toxicologic Pathology.
[79] Landsberg, J.E. et at. 2009. *Karenia brevis* red tides, brevetoxins in the food web, and impacts on natural resources: Decadal advancements. Harmful Algae. Vol. 8, Iss. 4; Trainer, V. and D. Baden. 1999. High affinity binding of red tide neurotoxins to marine mammal brain. Aquatic Toxicology Vol. 46, Iss. 2. July 1999.



II. FDEP, HRK, and MCPA Are Liable for Take of Listed Species

In view of these myriad ways in which the actions undertaken by FDEP, HRK, and MCPA, including but not limited to its authorization for the release of highly hazardous materials into the marine environment, pose grave and ongoing threats to manatees and sea turtles, FDEP, HRK, and MCPA are in violation of section 9 of the ESA. The actions taken by FDEP, HRK, and MCPA are not only likely, but reasonably certain, to foreseeably result in the "take" of individual manatees and sea turtles, i.e., by killing them as well as through "harm" and "harassment" as defined by the ESA implementing regulations.

Indeed, authorizing the discharge of nutrient-laden wastewater into areas occupied by manatees and sea turtles constitutes a textbook example of harming through "significant habitat modification or degradation [that] actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering." 50 C.F.R. § 17.3. Likewise, FDEP, HRK, and MCPA's authorization(s), as well as its long history of intentional and intentional actions culminating in the current deplorable state of affairs, plainly constitute "intentional or negligent act[s] or omission[s] which create[] the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns," including the use of seagrasses for "breeding, feeding, or sheltering." *Id.*

FDEP, HRK, and MCPA have never applied for, let alone received, an Incidental Take Permit under Section 10 of the ESA. Consequently, the take by FDEP, HRK, and MCPA of listed species is unauthorized and these parties are in violation of the ESA.

PARTIES PROVIDING THIS NOTICE OF INTENT TO SUE

The names, addresses, and phone numbers of the people giving this Notice of Intent to Sue are:

Center for Biological Diversity
P.O. Box 710
Tucson, AZ 85702
Tel: (520) 623-5252

Our Children's Earth Foundation, Inc.
1625 Trancas St., #2218
Napa, CA 94558
Tel: (510) 910-4535

Suncoast Waterkeeper, Inc.
3008 Bay Shore Rd.
Sarasota, FL 34234
Tel: (941) 202-3182

ManaSota-88, Inc.
419 Rubens Drive
Nokomis, FL 34275
Tel: (941) 966-6256

Tampa Bay Waterkeeper, Inc.
260 1st Ave S
Box 226
Saint Petersburg, FL 33701
Tel: (813) 563-9882

The names, addresses, and phone numbers of Counsel for the parties giving this Notice of Intent to Sue are:

Charles M. Tebbutt
Daniel C. Snyder
B. Parker Jones
Law Offices of Charles M. Tebbutt, P.C.
941 Lawrence St.
Eugene, OR 97401
Tel: (541) 344-3505
Fax: (541) 344-3516
charlie@tebbuttlaw.com
dan@tebbuttlaw.com

Jaclyn Lopez
Center for Biological Diversity
POB 2155
St. Petersburg, FL 33731
Tel: (727) 490-9190
jlopez@biologicaldiversity.org

Justin Bloom
PO Box 1028
Sarasota, FL 34230
Tel: (941) 275-2922
bloomesq1@gmail.com

CONCLUSION

We will be available to discuss effective remedies and actions that will assure FDEP, MCPA, and HRK's future compliance with RCRA, CWA, ESA, and all other applicable state and federal environmental laws. If you wish to avail yourself to this opportunity and avoid the need for adversarial litigation, or if you have any questions regarding this letter, please contact the undersigned. If you are or will be represented by an attorney, please also have that attorney contact the undersigned.

/s/ Charles M. Tebbutt
Charles M. Tebbutt
Attorney for Notifying Parties

Other Recipients Receiving This Notice Via Certified Mail, Return Receipt Requested:

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Mail Code: 1101A
Washington, D.C. 20460

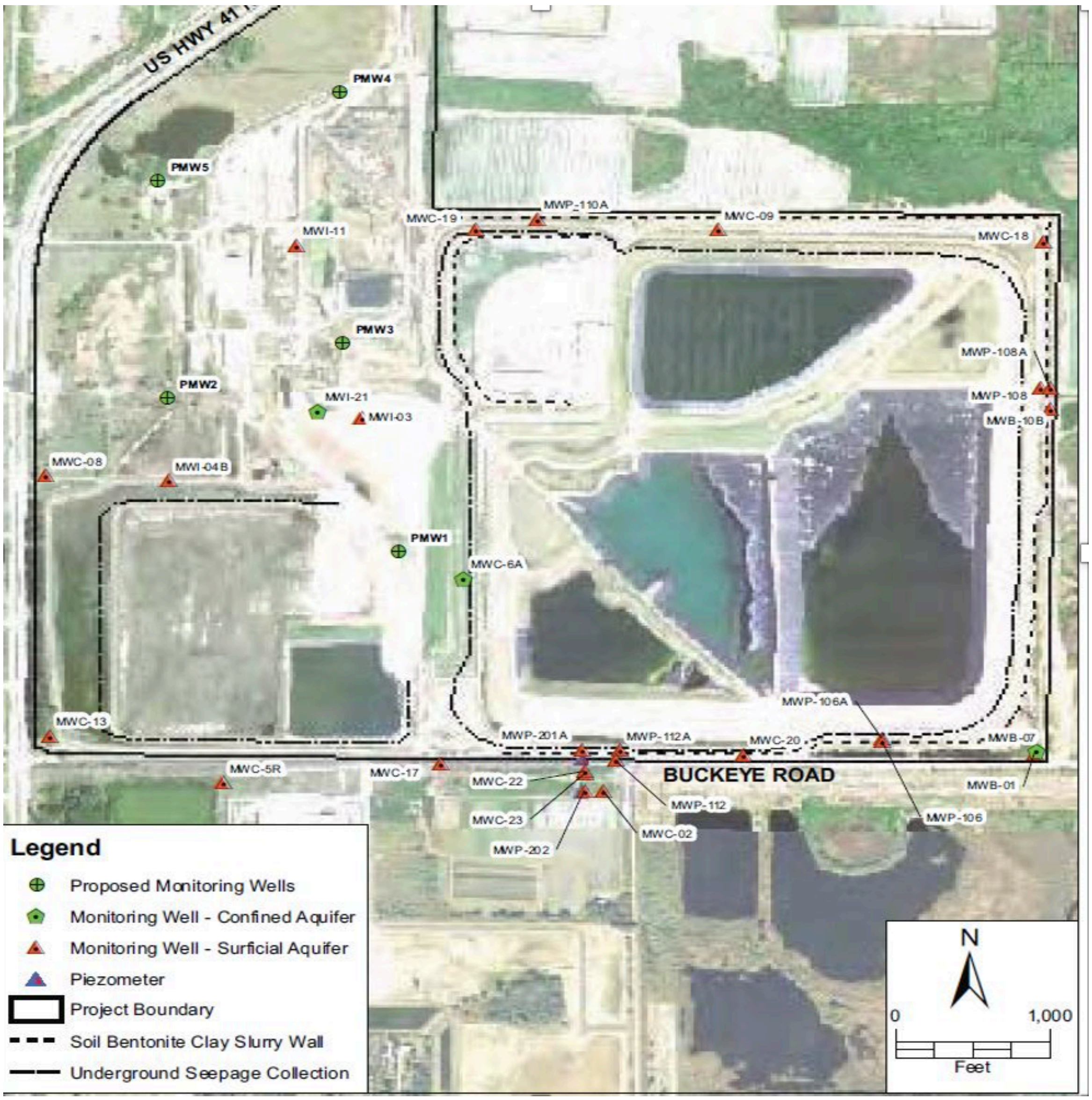
John Blevins
Acting Regional Administrator
U.S. Environmental Protection Agency, Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Timothy Bahr
Director, Waste Management Division
Florida Department of Environmental Protection
2600 Blair Stone Road
MS #4500
Tallahassee, FL 32399

Merrick Garland, Attorney General
United States Department of Justice
950 Pennsylvania Avenue, N.W.
Washington, DC 20530

Ashley Moody, Attorney General
Office of the Attorney General
State of Florida
PL-01 The Capitol
Tallahassee, FL 32399-1050

Exhibit 1- Monitoring Well Data



Sample Date				6/3/11	6/1/11	6/8/11	6/1/11	6/8/11	6/1/11	6/3/11	6/1/11	6/1/11	6/3/11	6/1/11	6/1/11	6/1/11	6/3/11	6/3/11	6/8/11	6/1/11	6/8/11	6/8/11
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWC-9	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWC-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		22.72	12.97	11.75	7.99	5.03	19.24	15.39	4.81	19.24	22.25	3.19	3.58	9.12	18.01	11.17	25.14	N/A	12.71	12.4
Temp	Deg. C	REPORT		22.4	22.6	24.1	24.4	24	24.6	23	22.9	24.6	24.1	25.3	22.1	24.5	22.1	25	26.5	26.5	21.7	22
Turbidity	NTU	REPORT		2	0.9	4.5	1.3	10.2	1	3.9	7.5	1	5.7	6.7	1.3	3.4	19.4	3.3	5.5	3.5	2.1	4.8
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		2	2.8	6.3	4.2	2	2	2	2	2	6.2	11	5.8	2	19	2	2	2	2	2
Sodium	MG/L	160		86.1	44.7	806	426	11.2	61.1	76.2	31.7	61.1	22.6	672	586	2460	642	22.5	78.2	37.4	68.7	29.7
Fluoride	MG/L	4		0.47	0.858	0.677	0.685	0.457	0.22	0.726	0.663	0.22	0.868	1.2	0.878	0.921	0.137	0.28	2.17	1.03	1.55	0.88
Sulfate	MG/L	250		600	302	3011	2032	97.1	820	232	254	820	876	2951	2506	1007	2606	203	1738	388	183	167
Nitrate+Nitrite	MG/L	10		0.08	0.073	0.036	0.127	0.084	0.145	0.102	0.117	0.145	0.075	0.901	0.122	0.151	0.103	0.12	0.605	0.014	0.101	0.101
Ortho Phosphorous	MG/L	5		2.57	0.029	19.6	0.303	0.077	0.043	0.079	0.041	0.043	0.028	58.7	4.73	0.072	354	0.052	0.043	0.066	18	0.03
Gross Alpha	PCI/L	15		18.7	2.3	47.6	23.9	3.9	17.4	6.1	4.8	17.4	13.2	11.6	30.8	57.9	9.9	2.8	33.4	6.8	1.8	1.7
Gross Alpha (with +/-)	PCI/L	N/A		18.7+/-3.9	2.3+/-1.6	47.6+/-8.5	23.9+/-7.2	3.9+/-1.2	17.4+/-2.9	6.1+/-2.2	4.8+/-2.2	17.4+/-2.9	13.2+/-2.5	11.6+/-7.9	30.8+/-11.5	57.9+/-14.7	9.9+/-6.2	2.8+/-1.9	33.4+/-5.7	6.8+/-2.0	1.8+/-1.3	1.7+/-1.0
Specific Conductance	UMHOS/CM	1275		1580	1060	5500	4480	586	1530	1100	1160	1530	1680	6360	5510	15700	5860	834	2920	1180	1280	837
Total Dissolved Solids	MG/L	500		1204	636	4588	3852	388	1168	720	776	1168	1384	4324	3920	9772	4944	568	2740	796	444	472
Arsenic	UG/L	10		6.73	0.993	52.6	4.27	3.63	3.01	0.689	5.15	3.01	3.47	2.5	8.79	10.2	0.689	0.808	4.61	0.689	14.7	5.27
Lead	UG/L	15		0.903	0.67	0.67	0.835	0.67	0.67	0.801	1.04	0.67	1.36	1.44	1.68	1.82	1.95	0.67	0.67	1.19	0.67	0.67
Dissolved Oxygen	MG/L	N/A			0.5	0.38	0.64	0.32	0.3		0.26	0.3		0.35	0.38	1.01			0.4	3.21	0.21	0.23
pH	Units	8.5	6.5	6.6	5.9	6.6	6.2	7.1	4.9	7.3	6.8	4.9	6.2	6.3	6.4	6.8	5.8	7	6.1	7.4	6.9	6.5
Ammonia Nitrogen	MG/L	5																				
Radium-226	PCI/L	See Below		0.4		9.5	10.5		4.3			4.3			5.6	17.8			9.7			
Radium-226 (with +/-)	PCI/L	See Below		0.4+/-0.2		9.5+/-0.9	10.5+/-0.5		4.3+/-0.4			4.3+/-0.4			5.6+/-0.4	17.8+/-0.7			9.7+/-0.5			
Radium-228	PCI/L	See Below		0.8		1.2	2.1		1			1			0.8	2.7			0.9			
Radium-228 (with +/-)	PCI/L	See Below		0.8+/-0.5		1.2+/-0.6	2.1+/-0.7		1.0+/-0.7			1.0+/-0.7			0.8+/-0.6	2.7+/-0.8			0.9+/-0.6			
Combined Radium 226 + 228	PCI/L	5		1.2		10.7	12.6		5.3			5.3			6.4	20.5			10.6			

Sample Date				9/29/11	9/30/11	9/22/11	9/29/11	9/29/11	9/30/11	9/29/11	9/22/11	9/22/11	9/29/11	9/29/11	9/29/11	9/22/11	9/30/11	9/30/11	9/22/11	9/30/11	9/30/11
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MW-4B	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MW-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		26.27	14.05	13.38	10.08	5.54	18.23	6.05	21.61	24.49	9.17	3.32	8.01	21.26	13.02	19.62	N/A	12.41	12.53
Temp	Deg. C	REPORT		25.3	25.4	25.9	26.6	26	24	25.7	26.1	25.2	28	24.8	26.6	24.6	26.7	27.8	26.7	23.6	23.9
Turbidity	NTU	REPORT		2.6	5.3	13.2	3.6	4.4	1.4	3.9	2.5	6.3	15.8	3.9	2.8	7.2	9.8	0.8	4.2	1.4	4.7
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.3	0.9	0.9	0.9	0.9	28.2	0.9	0.9	0.9
Chromium	UG/L	100		2	3.6	3.3	2	2	2	2	2.4	6.3	6.9	2	2	10.7	2	2	3.2	2	2
Sodium	MG/L	160		108	61	872	430	484	80	25.8	79.1	8.77	691	616	106	653	28.8	2940	36.3	85.4	30.5
Fluoride	MG/L	4		0.281	0.686	0.629	0.365	0.255	0.585	0.996	0.255	0.771	1.06	0.489	0.273	0.104	0.224	6.94	0.861	1.36	0.704
Sulfate	MG/L	250		608	388	2928	2061	265	215	189	843	401	2715	2657	336	2528	239	2695	392	218	153
Nitrate+Nitrite	MG/L	10		0.011	0.029	0.05	0.041	0.523	0.012	0.042	0.04	0.035	0.997	0.017	0.013	0.08	0.094	1.02	0.051	0.04	0.025
Ortho Phosphorous	MG/L	5		2.52	1.44	19	0.361	0.077	0.21	0.083	0.032	0.188	59.1	5.54	0.054	237	0.056	0.09	0.11	19.5	0.05
Gross Alpha	PCI/L	15		6	3.6	53	38.8	18.5	6	6.1	29.2	8.3	9.6	21.5	12.9	8.9	3.5	61.3	9	1.5	2.5
Gross Alpha (with +/-)	PCI/L	N/A		6.0+/-4.0	3.6+/-1.6	53.0+/-6.9	38.8+/-5.9	18.5+/-5.8	6.0+/-2.1	6.1+/-2.2	29.2+/-2.4	8.3+/-1.3	9.6+/-5.9	21.5+/-7.6	12.9+/-3.1	8.9+/-3.7	3.5+/-1.8	61.3+/-6.7	9.0+/-1.2	1.5+/-1.1	2.5+/-1.1
Specific Conductance	UMHOS/CM	1275		1450	1190	6240	4480	3350	1090	1086	1620	884	6450	5260	1880	5130	1003	19100	1170	1510	873
Total Dissolved Solids	MG/L	500		1260	784	4828	3900	2540	692	724	1320	708	4360	3872	1236	4304	636	14160	840	584	512
Arsenic	UG/L	10		4.62	1.06	43.1	0.946	3.18	1.27	0.689	1.44	6.72	1.27	4.46	5.55	0.689	1.15	0.689	0.689	15.4	3.9
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.42	0.43	0.67	0.35	0.96	0.6	0.2	0.26	0.24	0.44	0.21	0.41	0.24	0.53	0.12	2.86	0.42	0.19
pH	Units	8.5	6.5	6.6	6	6.3	6.4	7.2	7.3	7.2	4.7	5.8	6.3	6.6	7.2	5.8	6.5	5.6	7	6.6	6.5
Ammonia Nitrogen	MG/L	5																			
Radium-226	PCI/L	See Below				19.3	18.1	8.7			5.7			9.8				63.5			
Radium-226 (with +/-)	PCI/L	See Below				19.3+/-0.7	18.1+/-1.2	8.7+/-0.8			5.7+/-0.4			9.8+/-0.9				63.5+/-1.5			
Radium-228	PCI/L	See Below				1	1.8	1.2			1.1			1.3				6.7			
Radium-228 (with +/-)	PCI/L	See Below				1.0+/-0.7	1.8+/-0.7	1.2+/-0.6			1.1+/-0.7			1.3+/-0.6				6.7+/-1.0			
Combined Radium 226 + 228	PCI/L	5				20.3	19.9	9.9			6.8			11.1				70.2			

Sample Date				12/12/11	12/12/11	12/12/11	12/12/11	12/12/11	12/12/11	12/12/11
	Units	Limit (MAX)	Limit (Min)	MWI-3	MW-9	MWC-10B	MWI-11	MWC-18	MWC-19	MWC-21
Water Level (ft NGVD)	Feet	REPORT		11.09	20.61	23.69	6.41	19.44	12.74	N/A
Temp	Deg. C	REPORT		24.4	24	22.3	25.2	22.4	23.9	26.4
Turbidity	NTU	REPORT		2.3	3.8	18.8	17.2	4.5	19.2	7.5
Cadmium	UG/L	5		0.9	3.1	9.1	2.8	3.5	1.1	0.9
Chromium	UG/L	100		2	2	5.5	8.1	7.9	2	2
Sodium	MG/L	160		27.9	71.7	17.1	667	687	22.6	36.9
Fluoride	MG/L	4		5.96	0.414	0.627	0.571	0.062	0.223	0.771
Sulfate	MG/L	250		361	903	676	2731	2556	216	354
Nitrate+Nitrite	MG/L	10		0.315	0.028	0.027	3.37	0.04	0.005	0.03
Ortho Phosphorous	MG/L	5		0.664	0.059	0.02	55.5	176	0.04	0.054
Gross Alpha	PCI/L	15		3.1	33.1	9.3	13.8	8.1	5.9	6.2
Gross Alpha (with +/-)	PCI/L	N/A		3.1+/-1.3	33.1+/-4.5	9.3+/-1.9	13.8+/-5.1	8.1+/-4.6	5.9+/-1.8	6.2+/-2.0
Specific Conductance	UMHOS/CM	1275		942	2010	1600	6400	5120	880	1280
Total Dissolved Solids	MG/L	500		588	1600	1208	4260	4076	576	836
Arsenic	UG/L	10		1.01	2.1	4.13	0.689	1.35	1.09	0.977
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		5.98	0.62	0.28	0.67	0.31	0.65	2.1
pH	Units	8.5	6.5	7.5	4.6	6	6.6	5.9	7	7.8
Ammonia Nitrogen	MG/L	5								
Radium-226	PCI/L	See Below			6.5					
Radium-226 (with +/-)	PCI/L	See Below			6.5+/-0.4					
Radium-228	PCI/L	See Below			1.7					
Radium-228 (with +/-)	PCI/L	See Below			1.7+/-0.7					
Combined Radium 226 + 228	PCI/L	5			8.2					

A	B	C	D	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT
Sample Date				3/19/12	3/16/12	3/20/12	3/16/12	3/16/12	3/19/12	3/16/12	3/15/12	3/15/12	3/16/12	3/19/12	3/16/12	3/15/12	3/15/12	3/19/12	3/20/12	3/20/12	3/20/12
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4A	MWC-5R	MWB-7	MWC-8	MW-9	MWC-10B	MWI-11	MWC-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		22.09	12.55	10.38	7.24	3.7	13.71	3.87	19.81	22.74	8.11	2.57	5.8	18.48	13.03	16.31	N/A	11.21	11.09
Temp	Deg. C	REPORT		21.3	21.3	23.9	24.2	22.8	22.5	23.1	22.3	21	25.2	21.4	21.7	21.1	22.5	24.7	26	20.3	20.8
Turbidity	NTU	REPORT		3	11.1	16.8	14.5	2.9	1.7	5.6	1.7	14.9	6.9	5.7	5.3	7	1	7.5	5.3	1.3	13.1
Cadmium	UG/L	5		0.9	2.7	3.1	1	1.3	0.9	0.9	2.4	12.6	0.9	1	0.9	3.4	1	3.8	0.9	0.9	4.6
Chromium	UG/L	100		2	2.3	2	2	2	2	2	2	6.3	5.6	2	2	4.6	2	2	2	2	2
Sodium	MG/L	160		75.4	51.4	780	473	475	79.1	26.2	90.3	20.5	691	838	171	543	23.6	2440	39.5	167	26.9
Fluoride	MG/L	4		0.286	0.499	0.255	0.68	0.251	0.499	0.383	0.283	0.536	0.861	0.6	0.211	0.082	0.195	3.28	0.74	1.23	0.581
Sulfate	MG/L	250		467	318	3187	2155	351	232	226	1150	870	2713	2499	340	2040	204	2851	357	252	144
Nitrate+Nitrite	MG/L	10		0.764	0.023	0.032	0.031	0.024	0.004	0.022	0.019	0.067	0.109	0.107	0.021	0.031	0.027	0.315	0.017	0.083	0.024
Ortho Phosphorous	MG/L	5		1.08	0.715	18.3	0.249	0.051	0.196	0.058	0.01	0.034	75.5	6.5	0.03	55.6	0.05	0.043	0.058	42.2	0.058
Gross Alpha	PCI/L	15		3	6.7	43.4	34	33.7	7.2	5.4	25.4	10.3	7.2	57	16.1	6.4	2.3	92	4.2	5.3	2.6
Gross Alpha (with +/-)	PCI/L	N/A		3.0+/-1.5	6.7+/-1.7	43.4+/-7.7	34.0+/-6.7	33.7+/-5.5	7.2+/-1.9	5.4+/-1.8	25.4+/-3.3	10.3+/-2.6	7.2+/-4.6	57.0+/-7.5	16.1+/-3.9	6.4+/-4.3	2.3+/-1.3	92.0+/-8.8	4.2+/-2.1	5.3+/-1.7	2.6+/-1.9
Specific Conductance	UMHOS/CM	1275		1383	744	6130	4460	4920	1111	941	1970	1068	6520	7470	2480	4360	863	17500	842	1840	765
Total Dissolved Solids	MG/L	500		1032	732	5008	4020	3792	796	708	1760	1576	4620	5140	2024	3560	612	13524	864	856	476
Arsenic	UG/L	10		1.29	0.689	25.6	0.689	4.34	0.689	2.43	2.13	1.6	0.689	0.689	3.88	0.689	2.27	0.689	0.689	8.93	3.14
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		1.66	0.46	1.28	0.59	0.4	0.94	0.29	0.54	0.39	0.27	0.49	0.36	0.53	0.35	1.19	2.64	0.89	0.37
pH	Units	8.5	6.5	7	5.7	6.4	6.2	6.7	7.4	6.8	4.6	5.9	6.3	6.7	6.7	6.1	6.8	5.9	7.4	7.1	6.4
Ammonia Nitrogen	MG/L	5																			
Radium-226	PCI/L	See Below				14.9	17.2	23.8			9.6			16.5	13.4			86.7			
Radium-226 (with +/-)	PCI/L	See Below				14.9+/-0.9	17.2+/-0.7	23.8+/-0.8			9.6+/-0.5			16.5+/-0.7	13.4+/-0.6			86.7+/-1.6			
Radium-228	PCI/L	See Below				1.8	1.2	1			1.1			1.6	0.9			9.7			
Radium-228 (with +/-)	PCI/L	See Below				1.8+/-0.6	1.2+/-0.6	1.0+/-0.7			1.1+/-0.7			1.6+/-0.7	0.9+/-0.6			9.7+/-1.1			
Combined Radium 226 + 228	PCI/L	5				16.7	18.4	24.8			10.7			18.1	14.3			96.4			

Sample Date				6/26/12	6/18/12	6/6/12	6/6/12	6/8/12	6/26/12	6/6/12	6/5/12	6/6/12	6/5/12	6/6/12	6/8/12	6/5/12	6/5/12	6/6/12	6/26/12	6/26/12
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4A	MWC-5R	MWB-7	MWC-8	MW-9	MWC-10B	MWI-11	MWC-13	MWC-17	MWC-18	MW-19	MWC-20	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		26.84	13.07	11.84	8.45	4.84	13.21	5.08	9.55	22.62	9.18	3.4	7.48	11.65	5.59	16.24	12.4	12.97
Temp	Deg. C	REPORT		24	23.9	25	24.9	23.8	22.6	24	23.9	22.8	28.5	22.4	24.8	23.3	24.6	25	23.1	22.5
Turbidity	NTU	REPORT		2.7	6.1	2.2	5.9	3.4	1.3	2.4	4	5.8	7.8	3.8	10.1	6.1	9.2	3.9	2.8	16.9
Cadmium	UG/L	5		0.9	5.4	1.8	2	3.4	0.9	0.9	1.9	7.5	2.4	1.2	1.6	4	0.9	1.1	0.9	1.3
Chromium	UG/L	100		2	2.2	2.1	2	2	2	2	2	5.5	7.9	2	2	19	2	3.8	5.4	3.7
Sodium	MG/L	160		78.4	53.2	837	495	502	81.5	26.4	96.9	16.6	643	904	269	788	23.3	1830	116	30.1
Fluoride	MG/L	4		0.49	0.546	0.945	0.673	0.233	0.496	0.272	0.2	0.58	0.579	0.675	0.253	0.054	0.165	3.35	1.2	0.665
Sulfate	MG/L	250		418	313	3212	2101	356	239	218	1283	678	2821	2615	395	3095	219	2689	259	197
Nitrate+Nitrite	MG/L	10		0.005	0.043	0.027	0.141	0.028	0.033	0.076	0.045	0.057	0.589	0.034	0.026	0.086	0.022	0.086	0.035	0.052
Ortho Phosphorous	MG/L	5		0.785	0.019	12.9	0.247	0.031	0.145	0.035	0.052	0.03	55.6	5.17	0.021	551	0.027	0.048	32.5	0.035
Gross Alpha	PCI/L	15		14.3	2.6	54.2	18.7	17.9	7.5	5.4	32.7	7.7	12.5	43.5	18	7	5.4	89.3	10.2	3.7
Gross Alpha (with +/-)	PCI/L	N/A		14.3+/-2.9	2.6+/-1.6	54.2+/-7.5	18.7+/-5.3	17.9+/-5.5	7.5+/-2.4	5.4+/-1.6	32.7+/-4.3	7.7+/-2.2	12.5+/-5.6	43.5+/-7.8	18.0+/-4.4	7.0+/-4.1	5.4+/-0.9	89.3+/-7.4	10.2+/-1.9	3.7+/-1.9
Specific Conductance	UMHOS/CM	1275		1282	1160	5760	4480	4250	1103	1024	1910	1443	6490	7350	2580	6600	877	11121	1620	808
Total Dissolved Solids	MG/L	500		960	788	4688	4404	4192	784	732	1856	1216	4560	5220	2284	6080	620	8152	752	564
Arsenic	UG/L	10		4.35	0.689	27.7	0.689	2.26	0.689	3.34	0.689	1.84	0.689	0.689	3.71	0.689	0.94	0.689	14.1	3.68
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.51	0.69	0.31	0.65	0.98	0.87	0.34	0.39	1.35	0.28	0.21	0.57	0.59	0.57	1.14	1.15	0.61
pH	Units	8.5	6.5	6.7	5.8	6.3	6.1	6.7	7.4	6.9	4.7	6	6.2	6.6	6.8	5.5	6.8	5.8	7	6.4
Ammonia Nitrogen	MG/L	5																		
Radium-226	PCI/L	See Below			1.1	20.3	11.1	12.4			7.3			10.1	11.2					
Radium-226 (with +/-)	PCI/L	See Below			1.1+/-0.2	20.3+/-0.6	11.1+/-0.4	12.4+/-1.0			7.3+/-0.5			10.1+/-0.5	11.2+/-0.9					
Radium-228	PCI/L	See Below			0.9	1.2	1.5	0.8			0.9			1.3	0.9					
Radium-228 (with +/-)	PCI/L	See Below			0.9+/-0.6	1.2+/-0.6	1.5+/-0.6	0.8+/-0.6			0.9+/-0.6			1.3+/-0.5	0.9+/-0.6					
Combined Radium 226 + 228	PCI/L	5			2	21.5	12.6	13.2			8.2			11.4	12.1					

Sample Date				4/24/14	5/9/14	4/18/14	4/18/14	5/9/14	5/1/14	4/18/14	4/17/14	4/24/14	4/18/14	4/18/14	4/24/14	5/9/14	5/9/14
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MWI-03	MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MWC-08	MWC-09	MW-10B MWC-10B	MWI-13	MWC-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		24.32	13.6	12.13	8.22	5.29	3.91	5.76	20.22	24.38	2.9	19.78	12.13	11.79	11.76
Temp	Deg. C	REPORT		20.5	22.5	24.4	22.7	22.4	23.5	21.8	22.5	21.3	21.1	20.2	22.5	21	21.3
Turbidity	NTU	REPORT		0.6	3.2	15.3	8.2	6.3	0.9	9.7	3.3	11.7	50	3.7	8.3	2.8	114
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		3.8	2	2	2	2.1	2	2	3.1	4.7	4.6	4.7	2	2.1	2
Sodium	MG/L	160		550	47.1	519	475	478	77.8	23.7	480	53.5	597	443	24.1	100	28
Fluoride	MG/L	4		0.637	0.83	0.773	0.359	0.434	0.721	0.657	0.5	0.573	0.348	0.082	0.261	1.58	0.956
Sulfate	MG/L	250		321	268	2621	2077	308	239	154	2864	653	1764	1846	207	159	162
Nitrate+Nitrite	MG/L	10		1.09	0.387	1.1	0.664	0.33	8.93	0.274	1.22	0.428	0.227	0.023	0.257	2.18	0.0172
Ortho Phosphorous	MG/L	5		2.26	0.02	5.23	0.192	0.448	0.103	0.319	0.075	0.049	4.52	41.8	0.051	27.3	0.01
Gross Alpha	PCI/L	15		10.6	2.5	33.3	36	20.3	6.4	7.1	77.3	13.6	42.5	9.1	3.4	5.5	2.5
Gross Alpha (with +/-)	PCI/L	N/A		10.6+/-3.5	2.5+/-1.6	33.3+/-6.6	36+/-4.7	20.3+/-4.8	6.4+/-1.9	7.1+/-1.9	77.3+/-8.6	13.6+/-2.9	42.5+/-5.6	9.1+/-3.1	3.4+/-1.6	5.5+/-1.5	2.5+/-1.1
Specific Conductance	UMHOS/CM	1275		4534	961	5135	4989	3920	1105	1001	4396	1572	6547	4446	901	1389	799
Total Dissolved Solids	MG/L	500		2816	588	4072	4344	2368	752	664	4064	1308	4448	3492	588	612	416
Arsenic	UG/L	10		0.689	0.713	72.3	0.689	3.2	0.689	5.85	0.689	1.01	7.05	0.689	0.689	18.9	6.08
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		1.02	0.25	1.14	0.91	0.32	0.67	0.83	0.65	0.85	0.61	1.64	0.85	0.63	0.39
pH	Units	8.5	6.5	6.2	6.1	6.4	6.1	6.8	7.4	6.8	4.5	5.4	6.3	6	6.6	7	6.4
Ammonia Nitrogen	MG/L	5														47	0.369
Radium-226	PCI/L	See Below				11.8		6.8			14.6		12.4				
Radium-226 (with +/-)	PCI/L	See Below				11.8+/-0.6		6.8+/-0.5			14.6+/-0.6		12.4+/-0.6				
Radium-228	PCI/L	See Below				0.9		1			2		1.3				
Radium-228 (with +/-)	PCI/L	See Below				0.9+/-0.6		1.0+/-0.7			2.0+/-0.7		1.3+/-0.7				
Combined Radium 226 + 228	PCI/L	5				12.7		7.8			16.6		13.7				

Sample Date				8/24/15	8/24/15	8/20/15	8/20/15	8/20/15	8/24/15	8/20/15	8/20/15	8/20/15	8/202015	8/20/15	8/20/15	8/24/15	8/24/15
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW-10B MWCC-10B	MW-13 MWI-13	MW-18 MWC-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		26.12	14.34	13.73	9.59	5.73	18.64	6.45	21.33	24.84	3.6	21.16	13.47	12.46	12.55
Temp	Deg. C	REPORT		24.7	23.4	25	25.1	23.6	23.5	24.7	25.3	25.7	25.5	24.7	25	23.3	23.2
Turbidity	NTU	REPORT		2.5	2.9	3.2	3.6	5.8	0.7	2.3	0.6	19.1	119	0.9	0.7	0.5	9
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		6.4	2.3	3.1	4.1	3.5	2.1	3.2	4.2	5.3	4.2	11	2	2	2
Sodium	MG/L	160		303	39.3	544	940	131	84.2	35.1	1010	15.1	596	766	44.2	63.8	28.3
Fluoride	MG/L	4		0.925	0.736	0.354	0.635	0.4	0.604	0.748	0.081	0.729	0.364	0.032	0.284	1.07	0.851
Sulfate	MG/L	250		564	173	2349	2617	235	230	159	3195	75.9	1644	2987	401	128	145
Nitrate+Nitrite	MG/L	10		0.079	0.018	0.095	0.029	0.041	0.018	0.048	0.016	0.071	0.004	0.022	0.017	0.114	0.019
Ortho Phosphorous	MG/L	5		4.99	2.06	8.15	0.52	0.812	0.061	0.343	0.054	2.14	10.4	210	0.715	16.3	2.11
Gross Alpha	PCI/L	15		10.7	1.8	32.7	43.1	15	3.5	6.5	40.5	3.6	33.4	9.3	3.5	2	2.1
Gross Alpha (with +/-)	PCI/L	N/A		10.7+/-4.2	1.8+/-1.1	32.7+/-7.5	43.1+/-9.7	15.0+/-2.4	3.5+/-1.8	6.5+/-2.1	40.5+/-7.3	3.6+/-1.9	33.4+/-7.9	9.3+/-5.2	3.5+/-2.3	2.0+/-1.3	2.1+/-1.4
Specific Conductance	UMHOS/CM	1275		3120	828	4650	5660	1402	1146	1018	5410	393	5750	6580	1395	1162	792
Total Dissolved Solids	MG/L	500		2188	532	3568	4900	856	748	588	4624	368	3704	5304	900	572	404
Arsenic	UG/L	10		1.46	0.689	37.8	0.689	4.45	0.689	4.09	0.689	1.54	9.91	0.689	1.59	13	2.64
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.17	0.08	0.07	0.1	0.11	0.16	0.1	0.1	0.09	0.15	0.09	0.07	0.09	0.08
pH	Units	8.5	6.5	6.2	6	6.4	6.1	7.1	7.4	6.9	4.9	6.1	6.4	5.6	6.3	6.9	6.4
Ammonia Nitrogen	MG/L	5														31.9	0.391
Radium-226	PCI/L	See Below				10.2	11.3	3.5			9.1		14				
Radium-226 (with +/-)	PCI/L	See Below				10.2+/-0.9	11.3+/-0.9	3.5+/-0.5			9.1+/-0.8		14.0+/-1.0				
Radium-228	PCI/L	See Below				1	1.4	0.8			1.2		1.8				
Radium-228 (with +/-)	PCI/L	See Below				1.0+/-0.6	1.4+/-0.7	0.8+/-0.5			1.2+/-0.6		1.8+/-0.7				
Combined Radium 226 + 228	PCI/L	5				11.2	12.7	4.3			10.3		15.8				

Sample Date				12/22/15	12/23/15	12/21/15	12/21/15	12/23/15	12/22/15	12/21/15	12/21/15	12/21/15	12/21/15	12/21/15	12/21/15	12/23/15	12/23/15
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW-10B MWC-10B	MW-13 MWI-13	MW-18 MWC-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		23.58	13.48	10.85	10.57	4.63	18.82	9.31	24.51	25.74	7.54	19.17	11.77	11.9	11.95
Temp	Deg. C	REPORT		23.1	23.4	25.6	25.5	23.7	23.6	24.5	24.3	23.5	24.3	23.7	24.4	22.8	23.2
Turbidity	NTU	REPORT		1.2	1.4	5.5	0.5	1.4	0.5	1	0.7	4.1	0.6	2.9	3.4	0.8	11.4
Cadmium	UG/L	5		1.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		3.5	2	2.9	2.5	2	2	2	2	5.5	2.8	5.5	2	2	2
Sodium	MG/L	160		273	40.3	586	807	81	81.8	30.2	884	74.6	577	599	29.4	93.7	31.3
Fluoride	MG/L	4		1.21	0.54	0.872	0.146	0.339	0.592	0.498	0.03	0.431	0.4	0.03	0.185	0.655	1.28
Sulfate	MG/L	250		455	143	2172	4244	210	225	183	4015	584	1541	2883	276	144	77.7
Nitrate+Nitrite	MG/L	10		0.42	0.029	0.046	0.004	0.031	0.004	0.011	0.004	0.048	0.004	0.136	0.004	0.412	0.074
Ortho Phosphorous	MG/L	5		4.94	2.96	18.9	1.99	0.664	0.07	0.29	0.038	14.5	15	89.3	1.15	23.9	2.36
Gross Alpha	PCI/L	15		11	1.3	41.9	55	5.4	3	5.2	44.6	7.2	24.6	9.2	5.1	4.9	2.5
Gross Alpha (with +/-)	PCI/L	N/A		11.0+/-2.1	1.3+/-0.8	41.9+/-4.7	55.0+/-5.1	5.4+/-1.6	3.0+/-1.1	5.2+/-1.3	44.6+/-4.4	7.2+/-1.2	24.6+/-4.1	9.2+/-3.1	5.1+/-0.9	4.9+/-1.6	2.5+/-1.6
Specific Conductance	UMHOS/CM	1275		2470	783	4320	5940	1127	1109	980	5610	1440	5210	5130	1024	1273	765
Total Dissolved Solids	MG/L	500		1844	456	3432	5344	736	808	724	5008	1084	3660	4060	708	568	492
Arsenic	UG/L	10		0.689	0.689	31.4	0.689	3.37	0.689	3.29	0.689	1.21	6.67	1.15	0.689	14.1	3.07
Lead	UG/L	15		0.67	0.67	1.1	1.56	0.67	0.67	0.67	1.66	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.97	0.18	0.09	0.2	0.24	0.23	0.14	0.25	0.16	0.2	0.2	0.17	0.32	0.15
pH	Units	8.5	6.5	6.7	6.3	6.4	6.2	7	7.3	6.9	5.2	5.8	6.4	5.9	6.5	6.9	6.3
Ammonia Nitrogen	MG/L	5															
Radium-226	PCI/L	See Below				16.1	12.2				7.2		4.2				
Radium-226 (with +/-)	PCI/L	See Below				16.1+/-0.7	12.2+/-0.6				7.2+/-0.4		4.2+/-0.4				
Radium-228	PCI/L	See Below				1.6	1.3				1.6		1.2				
Radium-228 (with +/-)	PCI/L	See Below				1.6+/-0.8	1.3+/-0.7				1.6+/-0.7		1.2+/-0.6				
Combined Radium 226 + 228	PCI/L	5				17.7	13.5				8.8		5.4				

Sample Date				3/28/16	3/22/16	3/22/16	3/21/16	3/28/16	3/28/16	3/21/16	3/21/16	3/22/16	3/22/16	3/21/16	3/21/16	3/22/16	3/22/16
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		24.08	13.44	11.36	8.1	4.62	18.87	5.55	20.54	23.82	2.78	19.74	11.72	11.69	11.86
Temp	Deg. C	REPORT		21.1	21.6	23.3	23.4	22	23.3	21.7	21.4	19.8	21.4	20.8	21.8	20.2	20.8
Turbidity	NTU	REPORT		2.9	1.9	9.4	0.4	4.3	1	6.8	0.8	13	8.7	1.4	0.9	3.2	49.3
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.09	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.99
Chromium	UG/L	100		4.9	2	2.2	2.9	2.4	2	2.2	3	4	4	7.7	2	2	2
Sodium	MG/L	160		264	38.4	426	657	64.9	78.1	33.9	709	32.6	494	583	30.5	92.5	27.6
Fluoride	MG/L	4		0.926	0.888	0.64	0.279	0.43	0.554	0.819	0.3	0.82	0.275	0.065	0.365	1.38	1.07
Sulfate	MG/L	250		594	165	2142	2570	212	187	159	3782	200	1502	2985	258	79.7	145
Nitrate+Nitrite	MG/L	10		2.26	0.004	0.004	0.025	0.031	0.004	0.007	0.005	0.004	0.007	0.024	0.044	0.534	0.004
Ortho Phosphorous	MG/L	5		3	1.9	6.61	1.65	0.414	0.139	0.224	0.013	5.23	13.3	133	1.23	21.1	1.91
Gross Alpha	PCI/L	15		8.5	1.8	27	28.6	5.3	5.4	2	47.3	5.3	14.3	5.4	4.2	4.6	2.3
Gross Alpha (with +/-)	PCI/L	N/A		2.1	1.2	3.6	4.5	1.1	1.2	1.1	5.4	1.7	2.4	3.2	1.1	1.3	1.6
Specific Conductance	UMHOS/CM	1275		2900	817	4030	5710	1095	1135	1096	5620	724	5360	5770	1045	1381	785
Total Dissolved Solids	MG/L	500		1960	464	3192	4828	708	728	696	4732	528	3420	4236	692	624	420
Arsenic	UG/L	10		2.18	0.965	34	0.689	3.77	0.774	4.11	1.96	1.73	6.46	0.689	1.18	13.5	2.99
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.51	0.06	0.24	0.14	0.27	0.19	0.25	0.15	1.2	0.2	0.24	0.15	1.3	0.14
pH	Units	8.5	6.5	6.7	6	6.4	6.3	6.6	7.4	6.9	5.1	6.2	6.4	5.9	6.5	6.9	6.3
Ammonia Nitrogen	MG/L	5														52.6	0.502
Radium-226	PCI/L	See Below				12.6	11.4				7						
Radium-226 (with +/-)	PCI/L	See Below				0.5	0.6				0.4						
Radium-228	PCI/L	See Below				1	1.6				0.9						
Radium-228 (with +/-)	PCI/L	See Below				0.6	0.7				0.6						
Combined Radium 226 + 228	PCI/L	5				13.6	13				7.9						

Sample Date				7/22/16	7/22/16	7/21/16	7/21/16	7/22/16	7/22/16	7/21/16	7/21/16	7/22/16	7/21/16	7/21/16	7/21/16	7/22/16	7/22/16
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		22.82	12.31	11	8.02	3.68	18.07	5.32	19.11	22.51	2.9	18.12	10.9	10.84	10.82
Temp	Deg. C	REPORT		24.5	23.4	25.1	25.5	23.3	23.6	24.5	24.7	24.3	24.6	25.1	24.8	23.3	22.7
Turbidity	NTU	REPORT		1.4	1.6	1.2	1.1	8.3	1.9	6.6	2.7	20.1	4.9	0.9	0.5	1.1	9.3
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		2.9	2	2.3	2	2	2	2	2	6.1	2	10.4	2	2	2
Sodium	MG/L	160		247	38	489	655	64.6	71.4	25.6	697	115	485	778	26.5	47	26.1
Fluoride	MG/L	4		1.32	0.77	0.484	0.336	0.446	0.668	0.634	0.03	0.594	0.362	0.03	0.28	1.06	0.882
Sulfate	MG/L	250		528	163	2263	2408	214	233	179	3178	683	1556	4005	249	130	131
Nitrate+Nitrite	MG/L	10		0.004	0.011	0.014	0.004	0.004	0.004	0.004	0.004	0.018	0.026	0.005	0.004	0.15	0.004
Ortho Phosphorous	MG/L	5		0.267	1.52	0.941	2.05	0.596	0.132	0.081	0.034	2.47	0.907	214	0.498	1.17	0.274
Gross Alpha	PCI/L	15		23.4	3.2	52.4	49.1	6.4	5.9	6.4	51.9	8.3	25.1	6.1	6.9	7.5	1.7
Gross Alpha (with +/-)	PCI/L	N/A		5.4	1.1	4.3	4.7	1.7	1.8	1.5	5.5	2.2	3.4	3.8	1.5	2	1.2
Specific Conductance	UMHOS/CM	1275		2680	835	4400	5550	1079	1144	993	5450	1640	4910	6790	1026	1042	783
Total Dissolved Solids	MG/L	500		1804	452	3404	4688	676	776	644	4624	1236	3108	5580	668	520	412
Arsenic	UG/L	10		0.689	0.689	61.5	0.689	3.94	0.689	4.13	0.689	0.689	6.03	0.689	0.689	12.5	3.45
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.27	0.2	0.17	0.18	0.13	0.08	0.19	0.22	0.22	0.23	0.2	0.18	0.24	0.15
pH	Units	8.5	6.5	7	4.9	6.9	6.6	5.8	7.8	7.7	6	6.5	7.1	6.3	7.3	7.6	5.5
Ammonia Nitrogen	MG/L	5					18.2	1.2		0.92			91.8			31.9	0.368
Radium-226	PCI/L	See Below		1.9		14.9	10.7				5.3		7.2				
Radium-226 (with +/-)	PCI/L	See Below		0.2		0.7	0.6				0.4		0.4				
Radium-228	PCI/L	See Below		0.7		2.2	0.8				1.5		1				
Radium-228 (with +/-)	PCI/L	See Below		0.4		0.7	0.5				0.6		0.5				
Combined Radium 226 + 228	PCI/L	5		2.6		17.1	11.5				6.8		8.2				
Unionized Ammonia	MG/L	0.02					0.052	0.001		0.03			0.768			0.76	0.001

Sample Date				9/30/16	9/30/16	9/26/16	9/26/16	9/26/16	9/30/16	9/30/16	9/30/16	9/30/16	9/30/16	9/30/16	9/30/16	9/30/16	9/30/16
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		25.51	13.98	11.32	9.54	5.52	20.3	6.23	20.6	24.44	3.26	20.16	12.72	12.47	12.37
Temp	Deg. C	REPORT		25.1	24.2	25.6	25.5	24.1	23.7	25.1	25.3	25.4	24.8	25.4	25.7	23.9	23.7
Turbidity	NTU	REPORT		3.1	2.2	0.7	0.6	0.6	1	0.6	1.3	3.9	7.8	2.6	0.6	1.6	12
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		2.7	2	2.2	2	2.4	2	2	2	5.6	2	8.3	2	2	2
Sodium	MG/L	160		117	36.3	368	755	74.3	74.9	26.9	860	57.3	510	803	29.7	66.4	64.1
Fluoride	MG/L	4		1.45	0.701	0.433	0.283	0.406	0.615	0.694	0.03	0.633	0.399	0.03	0.286	1.17	0.851
Sulfate	MG/L	250		327	168	2594	2297	226	232	168	3372	355	1446	3087	268	114	134
Nitrate+Nitrite	MG/L	10		0.007	0.045	0.047	0.005	0.006	0.067	0.029	0.067	0.009	0.037	0.156	0.026	0.063	0.05
Ortho Phosphorous	MG/L	5		5.88	1.99	9.1	0.145	0.212	0.143	0.358	0.052	14.9	11.7	316	1.22	16.6	2.42
Gross Alpha	PCI/L	15		7.1	3.5	6.8	57.4	2.6	7.6	6.5	69.2	8	26.6	11	3.6	4	2.2
Gross Alpha (with +/-)	PCI/L	N/A		2.1	1.7	3.4	6.1	1.8	2.5	2.4	6.6	2	4.9	6.7	1.8	1.8	1.5
Specific Conductance	UMHOS/CM	1275		1670	831	4470	5690	1051	1118	1035	5480	922	4910	6500	1047	1153	764
Total Dissolved Solids	MG/L	500		1084	460	3544	4888	672	688	660	4680	768	3180	5232	684	532	432
Arsenic	UG/L	10		1.61	1.13	42.8	0.679	5.49	0.86	3.58	0.689	2.71	6.31	1.25	1.94	13.5	12.9
Lead	UG/L	15		0.67	0.67	2.02	3.04	0.67	0.67	0.67	1.5	0.67	0.67	0.733	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.21	0.6	0.14	0.18	0.12	0.08	0.13	0.33	0.1	0.12	0.17	0.14	0.11	0.13
pH	Units	8.5	6.5	6.9	7.4	6.7	6.7	6.9	7.8	6.9	5.9	6.5	6.5	6.1	6.9	7.3	6.8
Ammonia Nitrogen	MG/L	5					25.6	1.17		1.39			86.7				0.306
Radium-226	PCI/L	See Below					16.4				7		6.4				
Radium-226 (with +/-)	PCI/L	See Below					0.7				0.4		0.4				
Radium-228	PCI/L	See Below					1				0.8		1.2				
Radium-228 (with +/-)	PCI/L	See Below					0.6				0.5		0.6				
Combined Radium 226 + 228	PCI/L	5					17.4				7.8		7.6				
Unionized Ammonia	MG/L	0.02					0.091	0.006		0.008			0.186				

Sample Date				12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16	12/29/16
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MW-22 MWC-22
Water Level (ft NGVD)	Feet	REPORT		22.91	12.78	10.36	7.73	4.69	16.62	5	18.29	23.77	2.78	19.01	10.71	11.45
Temp	Deg. C	REPORT		22.5	24.5	25.2	25.1	23.5	23.1	24	23.7	22.5	23.3	23.1	24.1	22.4
Turbidity	NTU	REPORT		2.6	5.1	10	0.5	10.5	1.4	0.9	3.1	5	12.1	6.7	2.1	1.3
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		3.4	2	2.3	3	2	2	2	2.6	8.5	3.4	7.8	2	2
Sodium	MG/L	160		183	40.9	475	788	61.3	83.1	27.9	888	133	509	679	29.6	77.8
Fluoride	MG/L	4		1.18	0.789	0.623	0.285	0.486	0.741	0.704	0.045	0.759	0.464	0.03	0.398	1.36
Sulfate	MG/L	250		351	167	1968	2465	201	220	181	3089	713	1451	2610	255	118
Nitrate+Nitrite	MG/L	10		1.23	0.238	0.009	0.004	0.01	0.119	0.018	0.048	0.095	0.027	0.184	0.004	0.072
Ortho Phosphorous	MG/L	5		2.64	2.15	7.74	2.3	0.499	0.017	0.24	0.015	35	13	200	2.32	16.8
Gross Alpha	PCI/L	15		5.5	4.4	50.6	60.2	20.5	6.5	7.5	97	26.8	28.3	5.3	4.4	8
Gross Alpha (with +/-)	PCI/L	N/A		5.5+/-1.4	4.4+/-1.3	50.6+/-4.6	60.2+/-5.7	20.5+/-1.6	6.5+/-0.9	7.5+/-1.1	97.0+/-6.2	26.8+/-3.6	28.3+/-3.8	5.3+/-3.3	4.4+/-1.5	8.0+/-1.6
Specific Conductance	UMHOS/CM	1275		2150	821	4200	5840	1028	1111	990	5360	1790	5060	5890	1007	1276
Total Dissolved Solids	MG/L	500		1376	392	3252	4860	656	764	604	4716	1248	3296	4416	628	488
Arsenic	UG/L	10		1.02	1.08	54	0.869	5.96	0.689	4.41	0.731	1.32	4.75	0.689	1.7	15.7
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		1.36	0.29	0.29	0.23	0.22	5.13	0.2	0.2	0.21	0.3	0.2	0.17	0.27
pH	Units	8.5	6.5	6.8	5.9	6.5	6.2	7	7.8	6.9	5.5	5.8	6.5	5.9	6.7	7
Ammonia Nitrogen	MG/L	5					30.6	1.07		0.985			87.3			43
Radium-226	PCI/L	See Below				11.2	14.4	4.1			6.9	2.4	13.6			
Radium-226 (with +/-)	PCI/L	See Below				11.2+/-0.5	14.4+/-.05	4.1+/-0.4			6.9+/-0.4	2.4+/-0.2	13.6+/-0.6			
Radium-228	PCI/L	See Below				1.4	0.9	0.9			0.9	0.9	1.3			
Radium-228 (with +/-)	PCI/L	See Below				1.4+/-0.7	0.9+/-0.6	0.9+/-0.6			0.9+/-0.6	0.9+/-0.6	1.3+/-0.6			
Combined Radium 226 + 228	PCI/L	5					15.3				7.8		14.9			
Unionized Ammonia	MG/L	0.02					0.034	0.007		0.005			0.168			

Sample Date				3/31/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17	3/30/17
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		22.27	12.59	9.83	7.59	4.05	15.32	4.86	17.45	22.73	2.77	18.79	10.69	10.93	10.94
Temp	Deg. C	REPORT		22.5	22.6	24.1	24.2	22.7	23.6	23.1	22.7	21.3	22.4	22	23.3	21.3	21.5
Turbidity	NTU	REPORT		0.3	8.8	4.3	0.47	8.6	1.7	2.3	1.8	1.5	14.4	2.1	0.7	0.4	10.4
Cadmium	UG/L	5		0.9	0.9	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		4	2.2	3	5.7	2.7	2.4	2.5	3	9.5	4.2	7.4	2.3	2	2
Sodium	MG/L	160		184	38.2	426	746	51.6	74.9	23.8	726	198	476	586	27.2	51.8	24.8
Fluoride	MG/L	4		0.664	0.697	0.51	0.38	0.446	0.635	0.548	0.054	0.501	0.377	0.03	0.294	0.934	0.83
Sulfate	MG/L	250		415	164	2010	2616	212	230	191	3251	1158	1632	2699	277	127	126
Nitrate+Nitrite	MG/L	10		1.45	0.039	0.801	0.023	0.033	0.017	0.013	0.076	0.178	0.107	0.007	0.004	0.035	0.04
Ortho Phosphorous	MG/L	5		1.25	0.02	2.24	1.66	0.55	0.075	0.242	0.03	62.5	12.8	182	1.14	11.3	2.75
Gross Alpha	PCI/L	15		2.7	3.4	25.8	69.3	7.8	8.5	4.3	88.3	6.8	30.5	5.8	4.5	9.7	2.2
Gross Alpha (with +/-)	PCI/L	N/A		2.7+/-1.7	3.4+/-1.2	25.8+/-3.2	69.3+/-6.3	7.8+/-1.3	8.5+/-1.5	4.3+/-1.2	88.3+/-6.7	6.8+/-1.5	30.5+/-3.6	5.8+/-3.5	4.5+/-1.4	9.7+/-1.6	2.2+/0.9
Specific Conductance	UMHOS/CM	1275		2620	845	4120	5890	1013	1151	1005	5320	2620	5140	5890	1041	1030	756
Total Dissolved Solids	MG/L	500		1532	408	3092	4840	592	700	628	4564	1848	3372	4468	680	476	376
Arsenic	UG/L	10		0.689	0.689	14.7	0.689	4.09	0.689	3.51	0.689	0.689	0.689	0.689	0.689	11.4	3.06
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.862	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		2.99	0.47	0.48	0.57	0.51	0.31	0.43	0.41	0.36	0.27	0.26	0.48	0.43	0.22
pH	Units	8.5	6.5	6.9	5.9	6.4	6.1	7	7.4	6.9	5.5	5.7	6.5	5.9	6.7	6.7	6.3
Ammonia Nitrogen	MG/L	5					29.7	0.924		0.927			80.4			29.1	0.304
Radium-226	PCI/L	See Below				4.6	11.9				7.2		6.2				
Radium-226 (with +/-)	PCI/L	See Below				4.6+/-0.6	11.9+/-1.0				7.2+/-0.7		6.2+/-0.7				
Radium-228	PCI/L	See Below				0.8	1.2				0.9		1.1				
Radium-228 (with +/-)	PCI/L	See Below				0.8+/-0.5	1.2+/-0.6				0.9+/-0.6		1.1+/-0.6				
Combined Radium 226 + 228	PCI/L	5					13.1				8.1		7.9				
Unionized Ammonia	MG/L	0.02					0.024	0.005		0.004			0.145				

Sample Date				6/30/17	6/28/17	6.28/2017	6/28/17	6/27/17	6/30/17	6/27/17	6/27/17	6/27/17	6/27/17	6/27/17	6/27/17	6/27/17	6/27/17
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		23.37	13.89	11.93	8.89	4.39	14.24	6.1	19.07	23.77	3.26	19.66	12.21	12.09	11.98
Temp	Deg. C	REPORT		24	23.1	25	24.9	23.3	23.6	24.1	24.2	23.7	24.1	24.3	24.7	22.9	22.6
Turbidity	NTU	REPORT		0.7	2.2	6.2	0.8	2.1	1.2	2.2	1.2	1.3	9	1.2	2.1	1.2	6.5
Cadmium	UG/L	5		0.9	0.9	1.1	0.9	0.9	0.9	1.5	1.1	1.5	2.3	1.6	1.3	2.7	0.9
Chromium	UG/L	100		6.5	2.1	3.7	3.2	2.1	4.7	2.4	3.1	8.8	5.3	14.5	3.4	2	2
Sodium	MG/L	160		203	37.2	459	698	73.6	79.8	24.2	600	146	455	711	28.8	39.7	25.7
Fluoride	MG/L	4		0.81	0.646	0.325	0.282	0.397	0.618	0.513	0.036	0.51	0.321	0.102	0.235	0.937	0.769
Sulfate	MG/L	250		398	182	2112	2441	205	239	184	2999	926	1565	2936	294	102	42.9
Nitrate+Nitrite	MG/L	10		0.039	0.004	0.008	0.004	0.017	0.009	0.005	0.012	0.004	0.034	0.032	0.027	0.076	0.131
Ortho Phosphorous	MG/L	5		2.77	1.65	8.24	2.24	0.884	0.237	0.337	0.063	49.4	12.2	313	1.12	9.75	2.57
Gross Alpha	PCI/L	15		11.8	2	60.5	51.2	6.7	6.2	7	61.1	13.7	15.3	8.6	8.7	1.8	1.5
Gross Alpha (with +/-)	PCI/L	N/A		11.8+/-2.2	2.0+/-1.3	60.5+/-6.5	51.2+/-7.4	6.7+/-1.4	6.2+/-1.3	7.0+/-18.0	61.1+/-8.9	13.7+/-2.6	15.3+/-5.2	8.6+/-5.6	8.7+/-1.8	1.8+/-1.2	1.5+/-0.9
Specific Conductance	UMHOS/CM	1275		2120	868	4390	5760	1059	1149	1010	5250	2000	5080	6620	1097	926	744
Total Dissolved Solids	MG/L	500		1524	552	3528	5036	736	784	752	4744	1644	728	5776	844	548	644
Arsenic	UG/L	10		0.689	0.783	31.9	0.689	3.38	0.689	3.54	0.689	1.88	4.79	0.689	0.689	9.05	2.48
Lead	UG/L	15		0.67	0.67	0.775	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		1.31	0.39	0.27	0.24	0.25	0.62	0.22	0.22	0.17	0.23	0.22	0.22	0.26	0.22
pH	Units	8.5	6.5	6.5	5.8	6.2	6.2	6.8	7.4	6.9	5.4	5.6	6.5	5.8	6.6	6.8	6.4
Ammonia Nitrogen	MG/L	5					28.8	1.13		1.01			82.4			23.8	
Radium-226	PCI/L	See Below				14.1	8				8.6		7.6				
Radium-226 (with +/-)	PCI/L	See Below				14.1+/-0.7	8.0+/-0.5				8.6+/-0.5		7.6+/-0.5				
Radium-228	PCI/L	See Below				2	1.8				2		1.1				
Radium-228 (with +/-)	PCI/L	See Below				2.0+/-0.7	1.8+/-0.7				2.0+/-0.6		1.1+/-0.6				
Combined Radium 226 + 228	PCI/L	5				16.1	9.8				10.6		8.7				
Unionized Ammonia	MG/L	0.02					0.031	0.004		0.005			0.168				

Sample Date				9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17	9/26/17
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW-10B MWB-10B	MW-13 MWI-13	MW-18 MWC-18	MW-19 MWC-19	MW-22 MWC-22
Water Level (ft NGVD)	Feet	REPORT		25.57	13.51	13.48	9.33	5.57	18.96	6.2	20.05	24.38	3.11	19.85	12.33	12.33
Temp	Deg. C	REPORT		21.2	20.8	21.8	21.9	20.6	19.9	21.2	21.2	21.3	21.2	21.3	21.6	20
Turbidity	NTU	REPORT		1.4	0.8	2.9	1.4	1	0.8	1	0.9	3.2	4.9	2	3.6	0.9
Cadmium	UG/L	5		4.1	2.3	3.4	1.7	4.5	4	3.9	2.5	3.8	2.8	2.9	4.5	1.6
Chromium	UG/L	100		3.5	2.2	3.6	5.6	3.4	2.5	3.1	6.1	9.1	8.2	12.1	3.8	4.7
Sodium	MG/L	160		75.6	36.9	468	697	73.3	75.6	26.1	442	135	511	743	29.8	48.1
Fluoride	MG/L	4		0.979	0.453	0.285	0.354	0.32	0.345	0.501	0.03	0.384	0.489	0.03	0.185	0.662
Sulfate	MG/L	250		256	146	1965	2367	190	233	153	2443	669	1495	2837	292	148
Nitrate+Nitrite	MG/L	10		0.095	0.004	0.004	0.004	0.004	0.004	0.004	0.007	0.005	0.004	0.333	0.012	0.069
Ortho Phosphorous	MG/L	5		2.99	0.711	9.38	1.38	1.13	0.114	0.326	0.013	42.5	10.3	184	0.877	11
Gross Alpha	PCI/L	15		6.8	2.2	62.3	22	9	3.7	5.1	52.5	8.1	13.8	5.7	10.1	2.7
Gross Alpha (with +/-)	PCI/L	N/A		6.8+/-1.9	2.2+/-1.1	62.3+/-5.4	22.0+/-5.9	9.0+/-1.4	3.7+/-1.1	5.1+/-1.3	52.5+/-5.0	8.1+/-1.4	13.8+/-3.4	5.7+/-3.7	10.1+/-1.9	2.7+/-2.1
Specific Conductance	UMHOS/CM	1275		1245	837	4760	6370	1022	1214	1114	4580	1730	5540	7210	1157	1134
Total Dissolved Solids	MG/L	500		788	440	3536	5040	632	736	668	3632	1268	3444	5572	724	532
Arsenic	UG/L	10		0.828	0.689	31.5	0.689	3.55	0.689	3.21	0.689	1.24	3.59	0.689	0.689	10
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.3	0.46	0.22	0.16	0.25	0.28	0.17	0.31	0.16	0.15	0.16	0.34	0.12
pH	Units	8.5	6.5	6.6	5.9	6.5	6.2	7.1	7.4	6.9	5.2	5.7	6.5	5.7	6.7	6.7
Ammonia Nitrogen	MG/L	5					35.9	0.958		0.812			67.6			24
Radium-226	PCI/L	See Below				23.1	10				5.1					
Radium-226 (with +/-)	PCI/L	See Below				23.1+/-0.9	10.0+/-0.5				5.1+/-0.5					
Radium-228	PCI/L	See Below				2.2	1.7				1.7					
Radium-228 (with +/-)	PCI/L	See Below				2.2+/-0.7	1.7+/-0.7				1.7+/-0.6					
Combined Radium 226 + 228	PCI/L	5				25.3	11.7				6.8					
Unionized Ammonia	MG/L	0.02					0.031	0.006		0.003			0.112			

Sample Date				12/22/17	12/22/17	12/21/17	12/21/17	12/21/17	12/22/17	12/21/17	12/21/17	12/21/17	12/21/17	12/21/17	122/21/2017	12/21/17
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW-10B MWB-10B	MW-13 MWI-13	MW-18 MWC-18	MW-19 MWC-19	MW-22 MWC-22
Water Level (ft NGVD)	Feet	REPORT		23.32	12.63	10.62	8.05	4.63	16.97	5.31	18.04	23.75	2.71	18.99	10.75	11.67
Temp	Deg. C	REPORT		21.9	23.5	25.8	25.8	23.8	23.5	24.5	24	22.6	24	23.4	24.7	22.6
Turbidity	NTU	REPORT		1	2.2	5.4	0.6	3	10.6	1.1	1	5.6	12.5	4.5	3	1.3
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Chromium	UG/L	100		4.6	3.1	4.8	6.5	3.4	3.8	3.3	4.6	12.4	6.8	10.1	2.7	3
Sodium	MG/L	160		111	41.5	506	788	51.6	84.1	27.3	519	238	519	786	29.4	68.7
Fluoride	MG/L	4		1.23	0.868	0.554	0.695	0.509	0.781	0.743	0.045	0.667	0.378	0.03	0.208	0.872
Sulfate	MG/L	250		309	159	2090	2415	205	251	200	2600	1185	1611	3066	331	211
Nitrate+Nitrite	MG/L	10		0.745	0.004	0.004	0.004	0.028	0.013	0.012	0.022	0.004	0.022	0.007	0.014	0.056
Ortho Phosphorous	MG/L	5		1.73	0.45	1.6	0.125	0.684	0.043	0.225	0.017	70.5	5.51	86.3	0.008	12.1
Gross Alpha	PCI/L	15		2.2	1.4	58	33.6	4.2	6.3	5	39.6	3.9	15.7	7.3	4.2	2.5
Gross Alpha (with +/-)	PCI/L	N/A		2.2+/-1.4	1.4+/-0.9	58.0+/-4.8	33.6+/-6.1	4.2+/-1.1	6.3+/-1.2	5.0+/-1.0	39.6+/-5.5	3.9+/-2.4	15.7+/-3.2	7.3+/-4.5	4.2+/-1.1	2.5+/-1.3
Specific Conductance	UMHOS/CM	1275		1690	829	4500	6030	940	1158	1015	4450	2700	5210	6590	1104	1329
Total Dissolved Solids	MG/L	500		1084	428	3548	5008	608	732	668	3608	2076	3480	5292	708	608
Arsenic	UG/L	10		0.689	0.689	24.8	0.689	2.44	0.689	2.53	0.689	0.689	3.06	0.689	0.689	8.65
Lead	UG/L	15		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		3.27	0.29	0.24	0.15	0.17	0.23	0.2	0.27	0.2	0.16	0.19	0.22	0.2
pH	Units	8.5	6.5	6.9	6.1	6.4	6.4	7.3	7.3	7	5.6	5.9	6.5	6.2	6.7	6.8
Ammonia Nitrogen	MG/L	5					35.4	1.07		1.19			77			33.2
Radium-226	PCI/L	See Below				8.1	6.2				4.2		4			
Radium-226 (with +/-)	PCI/L	See Below				8.1+/-0.5	6.2+/-0.4				4.2+/-0.4		4.0+/-0.3			
Radium-228	PCI/L	See Below				1.6	0.9				1		0.8			
Radium-228 (with +/-)	PCI/L	See Below				1.6+/-0.6	0.9+/-0.6				1.0+/-0.5		0.8+/-0.5			
Combined Radium 226 + 228	PCI/L	5				9.7	7.1				5.2		4.8			
Unionized Ammonia	MG/L	0.02					0.065	0.013		0.008			0.156			

Sample Date				3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18	3/29/18
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MW010B MWC-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		23.48	12.73	10.82	8.19	4.39	16.33	5.49	17.92	23.84	2.83	19.64	11.4	11.55	11.58
Temp	Deg. C	REPORT		21	22	24.2	24	22.4	23.6	22.8	22.4	20.7	22.8	21.8	23	20.8	21
Turbidity	NTU	REPORT		0.5	1.7	14.6	4.8	7.2	2.4	2.6	0.7	3.6	19.5	1.6	5.8	6.6	4.7
Cadmium	UG/L	5		0.9	0.9	0.9	0.9	1	0.9	0.9	0.9	0.9	1.3	0.9	0.9	0.9	0.9
Chromium	UG/L	100		2	2	2	2	2	2	2	2	5	2	2	2	2	2
Sodium	MG/L	160		146	39.4	533	738	59.8	80.9	28.2		282	491	776	30.3	74.7	28.5
Fluoride	MG/L	4		0.971	0.775	0.481	0.442	0.394	0.682	0.66	0.034	0.503	0.411	0.054	0.214	0.916	0.871
Sulfate	MG/L	250		377	142	2063	2587	191	248	194	2487	1410	1920	3279	306	243	97.3
Nitrate+Nitrite	MG/L	10		0.295	0.012	0.014	0.011	0.082	0.019	0.018	0.101	0.012	0.01	0.016	11	0.025	0.01
Ortho Phosphorous	MG/L	5		1.66	0.017	6.45	0.142	0.644	0.043	0.268	0.014	94.3	12.5	134	1.02	11.2	0.016
Gross Alpha	PCI/L	15		6.4	2	45.4	70.5	6.7	5.5	17.9	52	5.4	15.9	6.2	9.9	2.6	1.7
Gross Alpha (with +/-)	PCI/L	N/A		6.4+/-2.3	2.0+/-1.3	45.4+/-4.4	70.5+/-6.0	6.7+/-2.0	5.5+/-2.3	17.9+/-3.0	52.0+/-4.5	5.4+/-3.4	15.9+/-4.2	6.2+/-3.9	9.9+/-2.1	2.6+/-1.3	1.7+/-1.0
Specific Conductance	UMHOS/CM	1275		2050	818	4440	5800	957	1163	1033	4440	3040	5040	6480	1103	1466	747
Total Dissolved Solids	MG/L	500		1324	504	3544	4876	632	784	704	3624	2480	3340	5304	756	700	392
Arsenic	UG/L	10		0.689	0.689	27.1	0.689	2.84	0.689	2.41	0.689	0.689	6.02	0.689	0.689	7.79	1.93
Lead	UG/L	15		0.696	0.67	0.714	1.6	0.67	0.67	0.67	0.67	0.687	1.38	1.54	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		1.19	0.37	0.2	0.29	0.25	0.36	0.24	0.29	0.28	0.3	0.29	0.25	0.22	0.19
pH	Units	8.5	6.5	6.9	6.3	6.5	6.3	7.2	7.2	7	6	6.3	6.6	6.4	7	7	6.7
Ammonia Nitrogen	MG/L	5					39.4	0.949		1.01			94.4			43.4	0.467
Radium-226	PCI/L	See Below				13.5	5.5			3.6	6		4				
Radium-226 (with +/-)	PCI/L	See Below				13.5+/-1.1	5.5+/-0.7			3.6+/-0.6	6.0+/-0.7		4.0+/-0.6				
Radium-228	PCI/L	See Below				1.6	0.8			0.8	0.8		0.8				
Radium-228 (with +/-)	PCI/L	See Below				1.6+/-0.6	0.8+/-0.5			0.8+/-0.5	0.8+/-0.5		0.8+/-0.5				
Combined Radium 226 + 228	PCI/L	5				15.1	6.3			4.4	6.8		4.8				
Unionized Ammonia	MG/L	0.02					0.05	0.009		0.006			0.221				

Sample Date				6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18	6/23/18
	Units	Limit (MAX)	Limit (Min)	MW-1 MWB-01	MW-2 MWC-02	MW-3 MWI-03	MW-4B MWI-04B	MW-5R MWC-5R	MW-7 MWB-07	MW-8 MWC-08	MW-9 MWC-09	MWB-10B	MW-13 MWI-13	MW-18 MWV-18	MW-19 MWC-19	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		23.54	Unable to Access	12.14	8.49	4.42	16.29	5.68	18.47	22.4	2.79	18.6	11.27	11.3	11.04
Temp	Deg. C	REPORT		23.3		24.8	25.1	23	23.3	23.8	24.4	23.1	23.8	23.9	24.2	22.6	22.4
Turbidity	NTU	REPORT		1.2		12.3	0.7	2.8	1.2	1.8	1.3	1.6	9.7	2.6	2.2	2	7.2
Cadmium	UG/L	5		1.2		1	0.9	1.2	1.5	1.1	1.5	0.9	1.1	0.9	1.4	1	0.9
Chromium	UG/L	100		4.2		4.7	6.4	4.9	3.7	3.2	6.6	11.9	6.6	12.9	3.6	3.2	2.1
Sodium	MG/L	160		113		503	734	55.5	79.7	28.6	479	253	497	850	46.6	71.7	29.2
Fluoride	MG/L	4		1.32		0.407	0.304	0.421	0.684	0.633	0.03	0.5	0.367	0.03	0.268	0.903	0.871
Sulfate	MG/L	250		320		1969	2394	177	360	203	2202	1302	1516	3360	380	284	111
Nitrate+Nitrite	MG/L	10		0.342		0.016	0.011	0.017	0.016	0.014	0.028	0.018	0.016	0.077	0.021	0.046	0.015
Ortho Phosphorous	MG/L	5		2.51		0.094	5.2	0.429	0.06	0.372	0.011	126	13.2	373	0.805	12.5	2.67
Gross Alpha	PCI/L	15		14.8		62.6	20.8	7.4	8.1	8.4	28.1	6.2	28.8	8.2	5.6	2.4	1.7
Gross Alpha (with +/-)	PCI/L	N/A		14.8+/-1.6		62.6+/-6.2	20.8+/-5.5	7.4+/-1.9	8.1+/-1.6	8.4+/-1.4	28.1+/-4.2	6.2+/-2.8	28.8+/-4.8	8.2+/-4.8	5.6+/-1.3	2.4+/-1.5	1.7+/-1.1
Specific Conductance	UMHOS/CM	1275		1302		4780	6260	853	1069	1042	4180	3080	5370	7520	1250	1402	677
Total Dissolved Solids	MG/L	500		928		3584	4836	592	768	704	3248	2300	3380	6028	912	740	436
Arsenic	UG/L	10		2.67		5.9	0.689	4.15	0.689	3.77	0.689	0.689	0.689	0.689	0.689	3.35	3.4
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.4		0.3	0.31	0.33	0.42	0.26	0.24	0.22	0.16	0.27	0.22	0.2	0.21
pH	Units	8.5	6.5	6.4		6.4	6.1	6.8	7.2	6.8	5.2	5.5	6.3	5.6	6.5	6.6	6.3
Ammonia Nitrogen	MG/L	5					42.6	1.11		1.27			86.5			41.3	
Radium-226	PCI/L	See Below				18.3	5				6.3		5.6				
Radium-226 (with +/-)	PCI/L	See Below				18.3+/-0.8	5.0+/-0.4				6.3+/-0.5		5.6+/-0.5				
Radium-228	PCI/L	See Below				1.8	0.7				1.2		1.7				
Radium-228 (with +/-)	PCI/L	See Below				1.8+/-0.6	0.7+/-0.4				1.2+/-0.6		1.7+/-0.6				
Combined Radium 226 + 228	PCI/L	5				20.1	5.7				7.5		7.3				
Unionized Ammonia	MG/L	0.02					0.037	0.004		0.005			0.109			0.095	

Sample Date				9/28/18		9/19/18	9/19/18	9/28/18	9/28/18	9/19/18	9/19/18	9/28/18		9/19/18		9/28/18	9/19/18			9/28/18	9/28/18
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		26.51		14.02	9.89	6.29	19.97	6.48	20.61	25.11		3.59		21.13	12.69			13.33	13.18
Temp	Deg. C	REPORT		26		26.2	25.8	24.5	25.4	25.4	25.5	26.6		25.4		25.2	25.4			24.2	24.8
Turbidity	NTU	REPORT		1.7		6.9	7.2	0.9	0.4	0.5	0.8	2.5		11.8		1.2	1.1			1.3	7.4
Cadmium	UG/L	5		0.9		0.9	0.9	0.9	0.9	0.9	0.9	0.9		0.9		0.9	0.9			0.9	0.9
Chromium	UG/L	100		4		3.5	5.1	2.6	2.2	2.5	3.7	6.9		4.9		7.5	2.6			2	2
Sodium	MG/L	160		51.8		489	741	40.7	64.5	29.4	367	116		516		593	65			33.7	23.4
Fluoride	MG/L	4		1.14		0.512	0.463	0.42	0.683	0.729	0.03	1.02		0.665		0.03	0.266			0.882	0.681
Sulfate	MG/L	250		249		1925	2421	158	235	194	2136	549		1509		2795	455			117	121
Nitrate+Nitrite	MG/L	10		0.299		0.061	0.006	0.014	0.006	0.006	0.021	0..010		0.009		0.151	0.006			0.04	0.012
Ortho Phosphorous	MG/L	5		1.92		8.24	0.256	0.95	0.065	0.337	0.004	56.7		5.78		23.8	0.016			10.4	0.067
Gross Alpha	PCI/L	15		10.1		66.7	41.4	5.8	5.9	7.7	45.8	7.7		25.3		7.9	4.2			2.7	2.5
Gross Alpha (with +/-)	PCI/L	N/A		10.1+/-1.3		66.7+/-6.4	41.4+/-4.5	5.8+/-1.1	5.9+/-2.1	7.7+/-2.2	45.8+/-4.7	7.7+/-1.7		25.3+/-3.6		7.9+/-3.1	4.2+/-2.7			2.7+/-1.8	2.5+/-1.8
Specific Conductance	UMHOS/CM	1275		1089		4390	6120	876	1145	1106	3680	1570		5070		6250	1550			889	746
Total Dissolved Solids	MG/L	500		844		3508	4780	608	788	704	2892	1176		3360		4952	1008			448	376
Arsenic	UG/L	10		1.57		38.5	0.689	4.55	0.689	5.03	0.907	1.14		12.7		0.689	3.4			11.4	3.84
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.14		0.43	0.27	0.22	0.18	0.29	0.13	0.15		0.23		0.35	0.2			0.18	0.11
pH	Units	8.5	6.5	6.4		6.6	6.3	6.8	7.3	6.9	5.4	5.8		6.6		6	6.6			6.6	6.4
Ammonia Nitrogen	MG/L	5												71.4							
Radium-226	PCI/L	See Below												3.8							
Radium-226 (with +/-)	PCI/L	See Below												3.8+/-0.3							
Radium-228	PCI/L	See Below												1.3							
Radium-228 (with +/-)	PCI/L	See Below												1.3+/-0.5							
Combined Radium 226 + 228	PCI/L	5												5.1							
Unionized Ammonia	MG/L	0.02												0.201							

Sample Date				12/17/18		12/12/18	12/12/18	12/17/18	12/17/18	12/12/18		12/17/18		12/12/18		12/17/18	12/12/18			12/17/18	12/17/18
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		30.32		17.32	13.87	11.4	27.62	11.74	26.82	27.63		9.33		24.16	17.15			15.83	15.86
Temp	Deg. C	REPORT		21.2		25.8	25.3	23.5	22.9	24.3	23.7	22.7		23.9		23.3	24.3			23.2	23.2
Turbidity	NTU	REPORT		0.8		3.2	0.7	1.2	6.2	6.6	0.7	1.5		4.9		6.3	4			1.9	13.9
Cadmium	UG/L	5		0.9		0.9	0.9	0.9	0.9	0.9	0.9	0.9		0.9		1.2	0.9			1.1	0.9
Chromium	UG/L	100		2.9		3.1	4.3	2.2	2	2.1	2.3	7.6		3.8		7.5	2.9			2.9	2
Sodium	MG/L	160		73		498	799	33.2	70.7	30.2	358	155		472		673	34.2			77.8	30.4
Fluoride	MG/L	4		1.04		0.591	0.51	0.497	0.71	0.602	0.078	0.749		0.475		0.188	0.298			1	0.897
Sulfate	MG/L	250		303		1762	2313	168	247	216	2251	777		1537		2642	318			301	108
Nitrate+Nitrite	MG/L	10		0.658		0.006	0.011	0.026	0.006	0.024	0.123	0.006		0.025		0.006	0.006			0.041	0.006
Ortho Phosphorous	MG/L	5		0.936		1.41	0.195	0.017	0.061	0.296	0.002	59.7		5.82		132	0.011			8.48	0.018
Gross Alpha	PCI/L	15		6.5		56.2	28.3	4.5	9.3	15.5	37.7	5.6		23.8		6.4	8.8			1.9	1.9
Gross Alpha (with +/-)	PCI/L	N/A		6.5+/-1.6		56.2+/-4.8	28.3+/-6.4	4.5+/-1.5	9.3+/-1.9	15.5+/-2.9	37.7+/-4.1	5.6+/-2.5		23.8+/-4.0		6.4+/-4.1	8.8+/-2.0			1.9+/-1.4	1.9+/-1.2
Specific Conductance	UMHOS/CM	1275		1351		4500	6600	859	1160	1181	4010	1970		5080		5850	1149			1474	743
Total Dissolved Solids	MG/L	500		864		3464	5052	536	752	796	3048	1364		3288		4508	764			676	412
Arsenic	UG/L	10					0.763			4.66	0.746	0.689		5.56		0.689	2.14			12.6	3.9
Lead	UG/L	15					0.67			0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A					0.5			0.3	0.51	0.27		0.38		0.38	0.24			0.26	0.17
pH	Units	8.5	6.5				6.3			6.9	5.5	5.7		6.5		6	6.6			6.6	6.2
Ammonia Nitrogen	MG/L	5					69.7			1.29				97.3						45.6	0.182
Radium-226	PCI/L	See Below					4.4			4.5	7.5			6.4							
Radium-226 (with +/-)	PCI/L	See Below					4.4+/-0.6			4.5+/-0.6	7.5+/-0.5			6.4+/-0.7							
Radium-228	PCI/L	See Below					0.8			0.9	2			1.1							
Radium-228 (with +/-)	PCI/L	See Below					0.8+/-0.5			0.9+/-0.5	2.0+/-0.7			1.1+/-0.5							
Combined Radium 226 + 228	PCI/L	5					5.2			5.4	9.5			7.5							
Unionized Ammonia	MG/L	0.02					0.098			0.007				0.196						0.11	0.001

Sample Date				3/28/19		3/25/19	3/25/19	3/28/19	3/28/19	3/25/18	3/25/19	3/25/19		3/25/19		3/25/19	3/25/19			3/28/19	3/28/19
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		24.02		12.34	8.73	5.44	18.76	6.7	19.19	24.05		2.9		18.17	11.91			11.92	11.63
Temp	Deg. C	REPORT		20.6		24.2	24.1	22.2	23.2	21.8	22.4	21.4		22.3		22.7	22.6			21.8	22.2
Turbidity	NTU	REPORT		0.6		16.4	1.9	1.3	0.5	1.9	2.1	3.6		18.5		1.8	9.2			0.7	3.6
Cadmium	UG/L	5		0.9		2.1	1.3	0.9	0.9	0.9	0.9	0.9		0.9		0.9	1			0.9	0.9
Chromium	UG/L	100		3.7		2	3.3	2	2	6.6	2	6.3		2.5		2	2			2	2
Sodium	MG/L	160		84.4		502	879	38.7	78.2	754	292	89.3		475		34.7	33.7			58.7	26.8
Fluoride	MG/L	4		0.934		0.56	0.495	0.358	0.619	0.047	0.056	0.789		0.448		0.639	0.227			0.786	0.769
Sulfate	MG/L	250		467		2261	2712	172	268	2901	1913	408		1551		262	310			304	101
Nitrate+Nitrite	MG/L	10		0.157		0.554	0.006	0.024	0.006	0.006	0.09	0.006		0.006		0.006	0.006			0.02	0.006
Ortho Phosphorous	MG/L	5		2.29		4.63	0.499	0.572	0.043	643	0.008	35.3		6.14		0.322	0.01			10.3	0.021
Gross Alpha	PCI/L	15		7.1		36.3	14.2	6.1	3.4	12.2	21.9	6.8		15.4		8.4	13.3			2	1.6
Gross Alpha (with +/-)	PCI/L	N/A		7.1+/-2.4		36.3+/-6.3	14.2+/-7.1	6.1+/-1.4	3.4+/-1.9	12.2+/-5.7	21.9+/-3.9	6.8+/-1.5		15.4+/-4.1		8.4+/-1.7	13.3+/-2.2			2.0+/-1.3	1.6+/-1.1
Specific Conductance	UMHOS/CM	1275		1820		4330	6870	888	1171	6330	3380	1197		4950		1201	1097			1440	759
Total Dissolved Solids	MG/L	500		1104		3460	5308	508	704	4936	2732	812		3264		812	744			640	328
Arsenic	UG/L	10		2.43		28.4	2.14	5.16	0.689	1.87	1.21	1.96		9.24		6.31	4.88			12.1	4.44
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A		1.57		0.22	0.14	0.23	0.51	0.17	0.2	0.18		0.11		0.17	0.12			0.41	0.33
pH	Units	8.5	6.5	6.3		6.4	6	6.9	7.5	5.7	5.2	5.6		6.3		6.7	6.3			6.6	6.3
Ammonia Nitrogen	MG/L	5					73.3	0.742		153				83.8		58.7				30.1	0.286
Radium-226	PCI/L	See Below				8.6					6.9			4.8							
Radium-226 (with +/-)	PCI/L	See Below				8.6+/-0.9					6.9+/-0.8			4.8+/-0.7							
Radium-228	PCI/L	See Below				0.8					0.8			0.9							
Radium-228 (with +/-)	PCI/L	See Below				0.8+/-0.5					0.8+/-0.6			0.9+/-0.6							
Combined Radium 226 + 228	PCI/L	5				9.4					7.7			5.7							
Unionized Ammonia	MG/L	0.02					0.047	0.003		0.042				0.095							

Sample Date				6/30/19		6/30/19	6/30/19	6/30/19	6/30/19	6/30/19	6/30/19	6/30/19		6/30/19		6/30/19	6/30/19			6/30/19	6/30/19
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		25.07		13.03	9.99	5.4	17.02	6.67	18.87	24.45		3.73		20.21	12.87			12.95	13.02
Temp	Deg. C	REPORT		24.6		24.9	24.8	23.5	23.5	24	24.4	24.5		24.3		24.5	24.4			23.2	23.7
Turbidity	NTU	REPORT		5.7		5.9	1.4	6.6	2.7	5.1	1.6	3.3		4.1		1.8	6			3.1	5.4
Cadmium	UG/L	5		2.49		3.3	2.1	2.1	1.6	2	1.8	2.1		2.1		3.3	2			1.4	1.5
Chromium	UG/L	100		4.63		4.6	5.2	3.6	2.2	3.2	4	8.2		5.6		10.6	2.7			2.4	2
Sodium	MG/L	160		93.1		472	815	41	73.1	33.2	260	110		421		703	36.6			62.8	27.1
Fluoride	MG/L	4		0.912		0.572	0.366	0.622	0.921	0.691	0.03	0.899		0.523		0.03	0.333			0.896	1.12
Sulfate	MG/L	250		427		1990	2592	166	253	292	1945	609		1466		3026	357			233	102
Nitrate+Nitrite	MG/L	10		0.006		0.906	0.006	0.006	0.006	0.006	0.015	0.014		0.006		0.006	0.006			0.006	0.006
Ortho Phosphorous	MG/L	5		1.14		0.946	1.16	0.026	0.11	0.454	0.008	54.2		6.73		369	0.025			5.44	0.02
Gross Alpha	PCI/L	15		15.4		43	17.3	9.9	6.7	6.7	29.8	4.5		16.3		6.3	13.8			2.2	1.9
Gross Alpha (with +/-)	PCI/L	N/A		15.4+/-2.9		43+/-4.1	17.3+/-4.6	9.9+/-2.1	6.7+/-1.8	6.7+/-2.2	29.8+/-5.7	4.5+/-2.0		16.3+/-3.2		6.3+/-4.1	13.8+/-2.2			2.2+/-1.4	1.9+/-1.4
Specific Conductance	UMHOS/CM	1275		1520		4360	6940	852	1134	1292	3310	1600		4640		6370	1187			1233	733
Total Dissolved Solids	MG/L	500		1056		3472	5468	532	736	848	2616	1096		3116		4864	816			676	436
Arsenic	UG/L	10		2.02		32.7	0.689	6.33	1.88	5.05	1.01	2.15		5.59		0.689	0.689			0.689	1.89
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.64		0.25	0.19	0.19	0.15	0.17	0.19	0.14		0.14		0.14	0.15				0.14
pH	Units	8.5	6.5	6.7		6.8	5.6	7.1	7.3	7	6.1	6.3		6.7		6.3	6.9			6.8	6.7
Ammonia Nitrogen	MG/L	5					73.4	1		1.18				79.5						22.2	0.396
Radium-226	PCI/L	See Below		0.8		10.7	3.8				7.9			3.8							
Radium-226 (with +/-)	PCI/L	See Below		0.8+/-03		10.7+/-1.0	3.8+/-0.6				7.9+/-0.8			3.8+/-0.6							
Radium-228	PCI/L	See Below		0.7		1	0.7				0.9			0.7							
Radium-228 (with +/-)	PCI/L	See Below		0.7+/-0.4		1+/-0.5	0.7+/-0.5				0.9+/-0.5			0.7+/-0.5							
Combined Radium 226 + 228	PCI/L	5		1.5		11.7	4.5				8.8			4.5							
Unionized Ammonia	MG/L	0.02					0.198	0.008		0.008				0.26							

Sample Date				9/28/19		9/24/19	9/24/19	9/28/19	9/28/29	9/30/19	9/30/19	9/30/19		9/30/19		9/30/19	9/30/19			9/28/19	9/28/19
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		24.51		13.18	9.36	5.96	19.52	5.7	19.42	23.78		2.91		18.96	11.36			11.96	11.71
Temp	Deg. C	REPORT		25.4		25.9	25.8	24.4	24	25.3	25.6	25.2		26.1		24.9	25.5			24.2	24.7
Turbidity	NTU	REPORT		4.7		3.1	1.8	1.5	1	0.9	1.2	15		4.2		2.2	2			1.3	12.2
Cadmium	UG/L	5		0.9		0.9	0.9	0.9	0.9	0.9	0.9	0.9		0.9		0.9	0.9			0.9	0.9
Chromium	UG/L	100		2.6		2	3	2	2	2	2	5.5		3.7		8.4	2.3			2	2
Sodium	MG/L	160		41.9		268	535	22.1	45.5	39.3	138	68.3		483		801	39.6			0.034	16.1
Fluoride	MG/L	4		0.995		0.374	0.03	0.543	0.728	0.529	0.03	0.831		0.432		0.078	0.239			0.762	0.788
Sulfate	MG/L	250		421		1848	2784	153	238	292	1543	276		1552		3408	312			138	107
Nitrate+Nitrite	MG/L	10		0.047		0.006	0.006	0.006	0.006	0.006	0.006	0.006		0.006		0.016	0.025			0.141	0.01
Ortho Phosphorous	MG/L	5		0.845		0.922	0.969	0.022		0.372	0.003	28.7		4.49		236	0.024			4.71	0.021
Gross Alpha	PCI/L	15		7.3		10.2	41.2	9		11.8	29.9	3.4		12.4		12.4	6.9			3.4	3
Gross Alpha (with +/-)	PCI/L	N/A		7.3+/-1.4		10.2+/-3.1	41.2+/-6.5	9+/-1.5		11.8+/-1.6	29.9+/-2.6	3.4+/-1.2		12.4+/-3.2		12.4+/-4	6.9+/-1.2			3.4+/-1.3	3+/-0.9
Specific Conductance	UMHOS/CM	1275		1452		4350	8000	852		1315	2680	943		4890		7040	1145			968	733
Total Dissolved Solids	MG/L	500		1064		3512	6188	552		920	2148	668		3252		5260	760			564	404
Arsenic	UG/L	10		1.36		34.5	0.689	5.36		3.36	0.689	0.689		1.27		0.689	0.899			12.7	6.09
Lead	UG/L	15		0.67		0.67	0.67	0.67		0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.4		0.28	0.12	0.2		0.21	0.14	0.17		0.12		0.22	0.29			0.19	0.15
pH	Units	8.5	6.5	6.3		6.5	6.2	7		6.9	5.4	6		6.5		5.8	6.7			6.7	6.5
Ammonia Nitrogen	MG/L	5					108	1.08		1.09				83.1						19.8	0.407
Radium-226	PCI/L	See Below					4.6				5.8										
Radium-226 (with +/-)	PCI/L	See Below					4.6+/-0.5				5.8+/-0.6										
Radium-228	PCI/L	See Below					1				1.1										
Radium-228 (with +/-)	PCI/L	See Below					1+/-0.6				1.1+/-0.5										
Combined Radium 226 + 228	PCI/L	5					5.6				6.9										
Unionized Ammonia	MG/L	0.02					0.125	0.007		0.006											

Sample Date				12/30/19		12/30/19	12/30/19	12/30/19	12/30/19	12/30/19	12/31/19	12/31/19		12/30/19		12/31/19	12/30/19			12/30/19	12/30/19
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		24.96		13.56	9.65	5.65	17.64	6.28	19.11	24.6		3.1		20.16	13.02			12.64	12.66
Temp	Deg. C	REPORT		22.3		25.4	25.3	23.6	23.5	24.1	23.3	22.1		24		22.7	23.6			22.8	23.3
Turbidity	NTU	REPORT		2.9		1.5	1.1	2.4	4.4	6.5	1.8	2.9		3.8		6.6	6.3			5.2	8.8
Cadmium	UG/L	5		0.9		0.9	0.9	0.9	0.9	0.9	0.9	0.9		0.9		0.9	0.9			0.9	0.9
Chromium	UG/L	100		3.3		2	3.3	2	2	2	2	4.8		2.9		5.4	2			2	2
Sodium	MG/L	160		70.9		430	927	45.4	80.4	47.3	184	77.3		426		434	37.8			43.3	27.5
Fluoride	MG/L	4		1.18		0.263	0.627	0.366	0.493	0.798	0.03	0.77		0.228		0.363	0.175			0.77	0.828
Sulfate	MG/L	250		434		1971	3271	157	255	349	1809	437		1503		2058	309			104	92.4
Nitrate+Nitrite	MG/L	10		1.02		0.016	0.006	0.012	0.397	0.006	0.131	0.006		0.013		0.006	0.006			0.014	0.006
Ortho Phosphorous	MG/L	5		0.648		1.32	2.46	0.03	0.104	0.03	0.002	34.6		5.01		122	0.017			6.02	0.015
Gross Alpha	PCI/L	15		2.4		62.8	17.2	4.4	2.9	8.5	24.3	3.7		13		4.2	4.5			4.5	1.9
Gross Alpha (with +/-)	PCI/L	N/A		2.4+/-1.6		62.8+/-5.3	17.2+/-5.0	4.4+/-1.3	2.9+/-1.2	8.5+/-2.1	24.3+/-2.9	3.7+/-1.4		13.0+/-3.3		4.2+/-2.7	4.5+/-1.4			4.5+/-1.2	1.9+/-1.3
Specific Conductance	UMHOS/CM	1275		1424		4280	7900	841	1146	1455	3030	1262		4690		4600	1129			920	724
Total Dissolved Solids	MG/L	500		1096		3400	6024	560	772	1056	2456	796		3084		3416	764			528	436
Arsenic	UG/L	10		1.04		24.7	0.689	5.3	0.689	4.24	0.689	0.689		3.02		0.689	1.77			10.9	4.45
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A		0.2		0.17	0.13	0.16	0.24	0.2	0.15	0.2		0.09		0.12	0.1			0.14	0.15
pH	Units	8.5	6.5	6.6		6.4	6.1	6.9	7.4	6.8	5.3	5.7		6.2		5.9	6.5			6.6	6.4
Ammonia Nitrogen	MG/L	5					101	0.954		0.963				86.3						15.3	0.3
Radium-226	PCI/L	See Below					4.4				8.5										
Radium-226 (with +/-)	PCI/L	See Below					4.4+/-0.6				8.5+/-0.8										
Radium-228	PCI/L	See Below					1				1										
Radium-228 (with +/-)	PCI/L	See Below					1.0+/-0.6				1+/-0.7										
Combined Radium 226 + 228	PCI/L	5					5.4				9.6										
Unionized Ammonia	MG/L	0.02					0.089	0.005		0.004				0.088							

Sample Date				3/30/20		3/23/20	3/23/20	3/27/20	3/30/20	3/23/20	3/23/20	3/23/20		3/27/20		3/23/20	3/23/20			3/30/20	3/30/20
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23
Water Level (ft NGVD)	Feet	REPORT		22.34		9.39	8.22	4.95	17.22	5.13	17.82	22.84		2.57		18.29	10.82			10.42	10.24
Temp	Deg. C	REPORT		21.76		24.45	24.33	22.84	23.41	23.02	22.84	21.65		23.93		22.14	22.72			21.96	22.44
Turbidity	NTU	REPORT		1.3		9.7	1.5	3.2	1	5.6	1.1	2.3		10.8		1.8	5.8			2.5	5.4
Cadmium	UG/L	5		1.9		1.4	0.9	1.5	1.1	1.1	1.6	0.9		2.1		1.3	0.9			1.4	0.9
Chromium	UG/L	100		4		4.2	5.4	3.2	2.4	3.4	3.7	6.4		6.1		9.7	2.4			2	2
Sodium	MG/L	160		72.7		483	946	43.5	75.1	54.9	135	115		451		740	33.5			29.2	25
Fluoride	MG/L	4		0.582		0.641	0.03	0.481	0.617	0.333	0.03	0.519		0.344		0.087	0.211			0.743	0.822
Sulfate	MG/L	250		407		1976	3127	151	235	423	1782	583		1377		3313	310			81.6	88.5
Nitrate+Nitrite	MG/L	10		0.896		0.01	0.006	0.007	0.011	0.006	0.168	0.006		0.015		0.006	0.006			0.006	0.006
Ortho Phosphorous	MG/L	5		0.605		1.19	0.804	0.475	0.06	0.377	0.035	80.7		0.87		111	0.182			4.09	0.016
Gross Alpha	PCI/L	15		3.7		38.9	23.5	3.3	5.5	10.3	24.8	1.7		13.2		5.8	4.4			1.2	1
Gross Alpha (with +/-)	PCI/L	N/A		3.7+/-1.0		38.9+/-4.3	23.5+/-7.4	3.3+/-1.4	5.5+/-1.2	10.3+/-1.4	24.8+/-2.8	1.7+/-1.1		13.2+/-3.5		5.8+/-3.7	4.4+/-0.8			1.2+/-0.7	1+/-0.7
Specific Conductance	UMHOS/CM	1275		1480		4120	8090	850	1126	1590	2770	1730		4280		6200	1101			785	718
Total Dissolved Solids	MG/L	500		1092		3304	6132	588	752	1204	2372	1172		2968		4840	776			460	424
Arsenic	UG/L	10		1.45		7.75	0.689	5.07	0.689	3.4	0.689	0.689		0.991		0.689	1.22			9.58	3.33
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67
Dissolved Oxygen	MG/L	N/A		2.21		0.17	0.16	0.32	0.31	0.14	0.14	0.14		0.22		0.17	0.16			0.15	0.1
pH	Units	8.5	6.5	7.11		6.54	6.07	7.1	7.73	6.78	5.42	5.89		6.52		5.97	6.62			7.01	6.82
Ammonia Nitrogen	MG/L	5					106	0.896		1.25				108						7.78	0.049
Radium-226	PCI/L	See Below					8.2				6.5										
Radium-226 (with +/-)	PCI/L	See Below					8.2+/-0.9				6.5+/-0.8										
Radium-228	PCI/L	See Below					0.7				0.8										
Radium-228 (with +/-)	PCI/L	See Below					0.7+/-0.5				0.8+/-0.5										
Combined Radium 226 + 228	PCI/L	5					8.9				7.3										
Unionized Ammonia	MG/L	0.02					0.082			0.005				0.228							

Sample Date				6/24/20		6/23/20	6/23/20	6/24/20	6/24/20	6/23/20	6/23/20	6/23/20		6/23/20		6/23/20	6/23/20			6/23/20	6/23/20	
	Units	Limit (MAX)	Limit (Min)	MWB-1	MWC-2	MWI-3	MWI-4B/4A	MWC-5R	MWB-7	MWC-8	MWC-9	MWC-10B	MWI-11	MWI-13	MWC-17	MWC-18	MWC-19	MWC-20	MWC-21	MWC-22	MWC-23	Standard
Water Level (ft NGVD)	Feet	REPORT		24.98		11.53	9.37	5.46	16.75	6.09	19.5	23.65		3.09		19.8	12.5			12.05	11.82	
Temp	Deg. C	REPORT		25.97		24.99	25.25	25.31	25.9	24.29	24.41	24.31		25.11		23.97	24.99			23.16	23.53	
Turbidity	NTU	REPORT		8.61		1.49	0.81	2.5	2.46	1.58	0.75	2.89		13.9		3.09	0.7			4.04	7.3	
Cadmium	UG/L	5		2		1.4	1.2	0.9	1.1	1.2	0.9	0.9		1.3		1	0.9			0.9	0.9	
Chromium	UG/L	100		3.7		2.3	4.6	3	2.3	2	2.1	5.5		3.5		6.3	2			2	2	
Sodium	MG/L	160		55.2		452	1010	37	75.6	48.3	83.5	102		333		510	29.9			32.2	25.2	
Fluoride	MG/L	4		0.803		0.298	0.03	0.339	0.554	0.654	0.03	0.566		0.396		0.03	0.248			0.667	0.03	
Sulfate	MG/L	250		149		1883	1953	149	224	329	1631	505		1320		2190	265			73.5	89.6	
Nitrate+Nitrite	MG/L	10		0.006		0.006	0.006	0.006	0.006	0.006	0.012	0.006		0.006		0.006	0.006			0.006	0.006	
Ortho Phosphorous	MG/L	5		0.639		1.05	1.01	0.261	0.233	0.103	0.018	76.8		7.38		122	0.277			4.39	0.086	
Gross Alpha	PCI/L	15		8.2		40.5	11.7	2.5	9.6	12.8	23.3	3.5		17.8		6.9	5.9			1.8	1.1	
Gross Alpha (with +/-)	PCI/L	N/A		8.2+/-1.4		40.5+/-5.0	11.7+/-7.1	2.5+/-0.9	9.6+/-2.4	12.8+/-1.4	23.3+/--2.4	3.5+/-1.1		17.8+/-2.9		6.9+/-4.5	5.9+/-1.2			1.8+/-0.6	1.1+/-0.7	
Specific Conductance	UMHOS/CM	1275		1320		4140	8330	807	1130	1388	2520	1520		4270		5090	1102			793	722	
Total Dissolved Solids	MG/L	500		992		3308	6220	532	776	1090	2172	1044		2876		3796	732			436	352	
Arsenic	UG/L	10		2.63		36.6	0.689	6.06	0.689	7.49	4.17	2.62		12.9		0.689	3.96			17.7	7.67	
Lead	UG/L	15		0.67		0.67	0.67	0.67	0.67	0.67	0.67	0.67		0.67		0.67	0.67			0.67	0.67	
Dissolved Oxygen	MG/L	N/A		0.68		0.28	0.29	0.19	0.19	0.23	0.33	0.19		0.32		0.19	0.18			0.21	0.17	
pH	Units	8.5	6.5	6.3		6.48	6.16	7	7.41	6.76	5.24	5.77		6.4		5.95	6.63			6.51	6.37	
Ammonia Nitrogen	MG/L	5					112	1.06		1.45				81.6						8.64	0.343	
Radium-226	PCI/L	See Below				24.3					10.4			6.2								
Radium-226 (with +/-)	PCI/L	See Below				24.3+/-1.5					10.4+/-0.9			6.2+/-0.8								
Radium-228	PCI/L	See Below				1.3					1.1			0.9								
Radium-228 (with +/-)	PCI/L	See Below				1.3+/-0.7					1.1+/-0.6			0.9+/-0.6								
Combined Radium 226 + 228	PCI/L	5				25.6					11.5			7.1								
Unionized Ammonia	MG/L	0.02					0.116	0.007		0.006				0.142								