PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
August 4, 2021

ROUTINE STATUS REPORTS
ITEM 7

Peace River Basin Report

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MEMORANDUM

TO: Board Members and Mike Coates

FROM: Doug Manson, Laura Donaldson, and Paria Shirzadi Heeter

RE: Peace River Basin Report

DATE: July 15, 2021

Mosaic Fertilizer, LLC- Bartow Facility Leak/Crack (North Gypsum Stack)

On December 9, 2020, Mosaic Fertilizer, LLC ("Mosaic") notified the Department of Environmental Protection ("DEP") of a liner tear at the Bartow Facility on the southeast corner of the North Pond of the North Gypsum Stack ("NGS"). Following further inspection, additional tears were discovered in the same area. On January 22, 2021, DEP received, for its review, a repair plan prepared by Mosaic's third-party engineer, Ardaman & Associates, Inc. ("Ardaman"). The plan included repair of the liner as well as additional improvements for process water management. On February 1, 2021, DEP staff met with Mosaic to discuss details of the plan and requested additional information. On February 15, 2021, Mosaic submitted the requested additional clarifications on the liner repair and water management improvements to be performed under Best Management Practices ("BMP") plan requirements. On March 2, 2021, DEP issued a letter stating that a review of the information submitted in the January 22, 2021 plan and February 12, 2021 letter (referred to collectively as "Liner Repair and BMP improvements plan") indicates that the proposed activities are adequate to address the liner repair needs as well as BMP provisions for improved water

management, and that Mosaic may proceed with implementing the approved Liner Repair and BMP improvements plan.

On April 5, 2021, an Ardaman engineer inspected the area and provided the following comments to DEP: on the east side of the NGS, an approximately 80 foot long thin crack (less than 1 inch) was observed (below the crest of the dike near the area that is being repaired on top of the stack) and, along the alignment of the crack, two 1-foot wide erosion features were located at about below the crest; on the west side of the NGS, a 5-foot long thin crack (less than 1 inch) that was not visible, and is approximately 3 feet deep, was located at about 15 feet below the crest of the dike; both cracks were dry with no indication of process water seepage or fresh water exiting the cracks; and the cracks in the area are attributed to differential settlement of the gypsum and were widened along the two features as a result of rainfall infiltration. The April 5, 2021, comments also stated that the cracks can be repaired using the following general procedure: excavate a 3-feet wide trench along the length of the crack; wash the bottom of the trench; fill any erosion voids with cement grout; place a 3-foot soil cover over the width of the trench; and sod the disturbed area. It was also explained that the area will continue to be inspected daily until the repair is complete. Mosaic has been submitting weekly updates to DEP on the crack repair status. The June 30, 2021 weekly update provided the following update of the crack repair activities:

i. <u>The cracks on the NGS pond bottom.</u> The cracks have been filled and the top gypsum layer excavated, and the following have been completed: the gypsum berm on the west side; berm final grading/compaction; the liner; and the pump pad and ramp. It is expected that pipeline installation will begin in early July and liner protection will be placed around the pipes.
No cracks were observed on the southwest corner north of the sump. Any remnant extension of the cracks west of the liner repair area will be investigated and repaired at a later date. Those remnant cracks do not affect the repair or the lining of the pond. During the course of the project, it was decided to establish a gypsum berm around the sump area to isolate the sump area from the pond.

ii. Repair of Miscellaneous Liner Damage. Liner damage on the exposed slopes was completed and the North Pond was activated.

iii. On the grassed east side of the stack. Excavated trenches were filled with gypsum on top of the cracks, soil cover and sod were placed on top of the repaired area.

iv. On the east perimeter dike of the stack. Repair was completed.

v. On the grassed west side. The 5-foot long thin crack (less than 1 inch) was repaired and grass was installed above the finish grades.

vi. All identified areas with filled cracks do not show any sign of process water seepage.

The Bartow Facility is located at 3200 State Road 60 West in Polk County, at the boundary line of the Peace River watershed and over 50 miles away from the Peace River Regional Water Supply Authority Facility. However, one of the Bartow Facility's outfalls (Outfall D-002) discharges treated process wastewater, non-process wastewater, and stormwater to an unnamed ditch that flows to Six Mile Creek, which ultimately enters the Peace River.

Mosaic Fertilizer, LLC- Bartow Facility Gypsum Slurry Release

On July 10, 2020, Mosaic discovered and reported a release of phosphogypsum slurry at the Bartow Facility due to a ruptured phosphogypsum slurry pipeline crossing under SR 60. The release was discovered in the vicinity of SR 60 West, approximately 1.25 miles east of Bonnie Mine Road. On July 16, 2020, pond water was found to be flowing from a location just east of the substation on the north side of Hwy 60 (inside of Mosaic's fence) into the excavated area to the east and was believed to be associated with the original event that occurred on July 10, 2020. On July 15, 2020, Mosaic submitted a report providing additional information regarding the specific pipeline that was the source of the release and: outlining the progress of ongoing recovery and cleanup actions; clarifying that the release did not migrate off Mosaic's property; and stating that containment berms were placed as a proactive measure to ensure containment of the release onsite. DEP performed follow up site visits on July 16 and 31, 2020, to observe the status of clean-up operations and found that over 90 percent of the gypsum slurry in impacted areas on the North and South of SR 60 had

been removed and the underlying soil was being treated by lime prior to placement of clean soil. On July 24, 2020, DEP issued Warning Letter #WL 20-001PM53WRM advising Mosaic that the release may have resulted in possible violations of Florida statutes and DEP rules and that a conductivity system (for detecting potential leaks of the inner phosphogypsum slurry line) appears to not have been properly operated or maintained in accordance with permit conditions. On December 23, 2020, following Mosaic's submittal of an initial groundwater assessment and notice that the slurry line repairs were completed, DEP approved Mosaic's request to terminate the weekly reporting.

On January 20, 2021, Mosaic submitted a summary report ("Gypsum Line Release Summary Report") that reported on key aspects of Mosaic's investigation of the gypsum line failure incident findings and identifying corrective actions. On February 25, 2021, DEP published notice of agency action of entering into a Consent Order (OGC File No. 21-0104) with Mosaic addressing the violations resulting from the slurry line release. The Consent Order requires Mosaic to complete all remaining corrective actions as listed in the Gypsum Line Release Summary Report within 180 days of the Consent Order's effective date (February 17, 2021), and to provide a final report documenting the results of the investigation and the completion of all corrective actions within 240 days of the Consent Order's effective date (February 17, 2021). The Consent Order also requires Mosaic to: submit a groundwater quality monitoring plan to document and evaluate groundwater quality in the affected areas north and south of where the gypsum pipelines pass beneath SR 60; submit monthly progress reports; pay $13,000 in civil penalties and for DEP costs/expenses; and pay stipulated penalties of $1,000/day for violations of the Consent Order's requirements.

In accordance with the requirements of the Consent Order, on March 2, 2021, Mosaic submitted a check for $13,000 to DEP and, on March 17, 2021, submitted a SR 60 Groundwater

Quality Monitoring Plan to DEP for review and approval. This plan was developed to evaluate the groundwater quality in the vicinity of the phosphogypsum stack, and associated stack system elements maintained as part of the Bartow Facility's operations, and to determine if the phosphogypsum slurry release affected the groundwater quality. The report explains that, in accordance with the Consent Order, a SR 60 Groundwater Protection Recommendations Report will also be prepared and submitted to DEP documenting the results of the groundwater quality monitoring and associated findings and including any recommendations of additional assessment, monitoring, or active groundwater treatment, based on the monitoring results. It also explains that if results of the groundwater quality monitoring indicate the phosphogypsum slurry release did not adversely affect the existing groundwater chemistry in the area of the release, Mosaic will request approval of a "no further action" status for the July 10, 2020, discharge.

The latest monthly progress report submitted by Mosaic on June 14, 2021, stated that all corrective actions in the Consent Order have either been completed or are currently in progress. However, the Gypsum Line Release Final Report (required by the Consent Order) has not yet been started as it requires that all corrective actions be completed first.

The Bartow Facility is located at 3200 State Road 60 West in Polk County, at the boundary line of the Peace River watershed, but over 50 miles from the Peace River Manasota Regional Water Supply Authority's Facility. The receiving waters for some of the Bartow Facility project's outfalls are located within the Peace River watershed.

Mosaic Fertilizer, LLC- Bonnie Mine Facility

On February 4, 2019, Mosaic submitted a NPDES permit renewal application to DEP for the Bonnie Mine Facility (FL0000523) ("Bonnie Facility"). On February 2, 2021, Mosaic submitted

supplemental information seeking authorization to transport (accept) first-stage lime treated water from the Bartow Facility, for further treatment and discharge at the Bonnie Facility. The February 2021 submission states that it supplements the information in the 2019 application, and requests that it be incorporated into that application. On March 1, 2021, Mosaic submitted a metals analysis for the single-lime treated water that has been stored in the Bartow Facility's ponds (which will be transferred to the Bonnie Facility for additional lime treatment during 2021), and explained that the additional stage of lime treatment at the Bonnie Facility will further reduce metal concentrations in the water.

On March 25, 2021, Mosaic submitted a "Second Additional Response Supportive of February 2, 2021 Supplemental Information," ("Second Response") which includes additional water quality analysis, and discusses the water transfer scenario, the treatment of the Bonnie Facility discharges, and compliance with conductivity limits. The Second Response states that Mosaic is anticipating the transfer of water from the New Wales Facility to the Green Bay Facility under existing authorizations, whereby the water will be further transferred to the Bartow Facility (as authorized by existing NPDES permits FL0000752 and FL0001589). It also states that the transfer of water between the New Wales, Green Bay and, ultimately, Bartow Facilities began during March 2021 and, at this time, Mosaic anticipates a total of approximately 145 million gallons of first-stage lime treated water to be transferred from the Bartow Facility to the Bonnie Facility during 2021. Mosaic's March 25, 2021 correspondence stated that the submittal (of the Second Response) completes the additional information that Mosaic has prepared in support of the proposed project to transfer water from the Bartow Facility to the Bonnie Facility.

On June 16, 2021, Mosaic submitted a letter to DEP requesting that the "Wastewater Treatment" description in the draft permit be updated to also identify an additional spray system for ammonia removal (in addition to the existing spray systems for ammonia removal authorized in the existing Bonnie Facility NPDES permit). Although this June 16, 2021 correspondence mentions that a draft NPDES renewal permit has been prepared by DEP, as of the date of this Report no draft permit was available in the online file.

The Bonnie Facility is located at 2501 Bonnie Mine Rd in Bartow, Florida, near the western boundary of the Peace River watershed.

Mosaic Fertilizer, LLC- New Wales Phase III Gypsum Stack Extension

The New Wales Facility manufactures solid ammoniated phosphate fertilizers and animal feed ingredients. In October 2019, Mosaic submitted an application to DEP for a substantial revision to its NPDES permit (No. FL0036421-022) for its New Wales Phase III Gypsum Stack Extension ("Phase III extension"). The Phase III extension adds 231 acres (205 acres of which were previously mined lands) to the existing New Wales South Gypsum Stack. The Phase III extension is comprised of: 1) a lined area of 167 acres; 2) 24 acres of perimeter earthen dikes; and 3) 40 acres of stormwater drainage ditches and access roads.

DEP issued two RAIs to Mosaic (one in December 2019 and one in January 2020), which required Mosaic to provide additional information regarding: hydrogeological, geophysical, or geotechnical investigations evaluating the subsurface beneath the site; hydraulic modeling; protocol for reporting to DEP monitoring results for the foundation drainage system; features discovered during initial subsurface investigations; additional approaches to characterize the subsurface to identify potentially unstable areas; construction sequencing plans; and a seepage and

stability analyses. Mosaic submitted RAI responses in January, May, June, and September of 2020. Additionally, in November 2020, Mosaic submitted a report titled "Addendum to Ardaman's Response to the FDEP Second Request for Additional Information – Supporting Data for Remaining DT Features," as well as a stabilization plan to DEP. The stabilization plan recommends engineering measures to address the paleosink feature that was identified in the area of a former topographic depression within the proposed Phase III extension. On December 22, 2020, Mosaic submitted to DEP a report to address additional questions/concerns communicated by DEP regarding the seismic features and stabilization plan for the Phase III extension area.[1] On March 17, 2021, DEP deemed the application for the major modification complete and, on March 22, 2021, published a notice of the application. On April 5, 2021, Mosaic submitted a report entitled "Area 4 Stabilization Plan" that recommends engineering measures to address the paleosink feature that was identified in the area of a former topographic depression located in the Phase III extension area.

On May 14, 2021, DEP issued its Notice of Draft Permit for the substantial revision to NPDES permit (No. FL0036421-022), which explains that this permit revision authorizes an expansion of the facility's lined South Gypsum Stack following extensive subsurface exploration work that was reviewed by DEP, including the State Geologist and other DEP engineering and geology professionals, and will not affect the quality or quantity of surface water discharge from the facility's only active NPDES outfall. The permit revision also includes provisions for: Mosaic to submit and, following DEP approval, implement stabilization plans, for four subsurface anomalies that have been investigated but not yet stabilized (DEP has already approved two of the four stabilization

[1] Additionally, on January 22, 2021, DEP received an inquiry from Gurr Professional Services, Inc. stating that they were in the process of conducting a third-party review for Polk County regarding Mosaic's proposed Phase III extension.

plans); enhanced groundwater monitoring; and enhanced subsurface investigation, monitoring, and reporting for the potential formation of subsurface anomalies (such as sinkholes).

On June 11, 2021, Mosaic submitted its comments on the draft permit to DEP. Mosaic's comments requested a modification to: the draft permit requirement of daily pH monitoring of treated and untreated process water transferred from other facilities (the Nichols, Green Bay, and Plant City facilities) to the New Wales facility to instead a weekly or monthly frequency; the facility description language to provide clarity and operational flexibility in sequencing the construction and operation of specified phases; eliminate the authorization to install and operate mechanical evaporators (as they are no longer in operation at the facility); change a well monitoring frequency from daily to weekly; and remove the requirement that the engineer of record's final plans and specifications for specified phases be submitted as a pre-requisite for placing these gypstack sections into operation (instead if approved, the submittal of the final plans, as-builts and other documentation would be submitted within six months of completion of construction for each section). Additionally, in the comments, Mosaic explained that it will investigate the feasibility of conducting liner inspections under the water level, but due to the typical water chemistry and physical characteristics of process water in these systems, subsurface inspections may not be technically feasible.

The New Wales Facility is located on CR 640 West, southwest of Mulberry, in Polk County near the Hillsborough County line. A sinkhole developed in the Phase II West Area of the South Gypsum Stack in August 2016. A consent order was issued by DEP in 2016, and remediation of the sinkhole and groundwater recovery was undertaken in accordance with the consent order.

U.S. Agri-Chemicals Corporation—Bartow Complex

On April 16, 2021, DEP received an application and supporting information for renewal of U.S. Agri-Chemicals Corporation's ("USAC") wastewater permit for discharges associated with continued closure and maintenance activities at the existing USAC Bartow Complex (FL0001961-009-IW1S/NR). The USAC Bartow Complex, which includes a 125 acre phosphogypsum stack that was closed in 1998, was permanently closed in November 2005 and all manufacturing operations at the facility were discontinued. The wastewater discharged from this facility consists of process and scrubber pond water from former operations and stormwater from closed areas. Wastewater, comprised of leachate seepage from the closed phosphogypsum stack system, is treated on-site. The site is configured with a North Pond for stormwater and a South Pond for treated process water from the leachate ponds. Stormwater collected in the North Pond is routed to a detention pond where it comingles with stormwater runoff from the side slopes of the stack. The stormwater collected in this pond is discharged from Outfall D-003 by pipeline and ditch into Bear Branch, a tributary of the Peace River. Stormwater from the west stormwater area of the Bartow Complex is discharged through an internal outfall and then flows to Outfall D-001, which also discharges to Bear Branch.

On May 13, 2021, DEP issued a RAI to USAC requesting additional information regarding: ammonia data for Outfall D-001; the groundwater monitoring plan and historic groundwater monitoring well exceedances; explanation for the low pH documented at Outfall D-003; and management of seepage water that is collected on-site. As of the date of this Report, no response has been received to the RAI.

E.R. Jahna Industries, Inc./Nola Land Company, Inc.—Haines City Sand Mine

On June 14, 2021, DEP issued a notice of intent to issue an environmental resource permit ("ERP") modification (MMR_225815-004) to E.R. Jahna Industries, Inc. and Nola Land Company, Inc. ("Permittees") for the existing Haines City Sand Mine located at 4910 E. State Road 544 in Haines City, Florida (on property is owned by Nola Land Company, Inc. and leased to E.R. Jahna Industries, Inc. for mining purposes). The Haines City Sand Mine extracts sand via an electric hydraulic dredge to depths of approximately 35 to 60 feet below land surface. Mining operations at this site began in 1974. This ERP modification expands the existing 693.5-acre mine by 577.3 acres, for a total area of 1270.8 acres, and extends the ERP's expiration date by 20 years. The application states that adjacent wetlands and other surface waters will be avoided and offset by a buffer to eliminate any impacts to these systems and that there will be no groundwater impacts. There are no stormwater discharges proposed in the ERP modification (as the extraction project creates storage where the mining operation takes place).

On March 5, 2021, DEP issued a RAI to the Permittees, to which Permittees responded on April 15, 2021. The RAI response included a revised application package which includes: a figure showing the 100 feet minimum buffer distance between mine disturbance and avoided wetlands; a figure showing the general conceptual sequence of mining for the remaining permitted sand reserves and the proposed mine expansion areas; a figure depicting the locations of private supply wells for neighbors within 1000 feet of the extraction boundary; classification of the groundwater in the project area; a revised Post-Reclamation plan and post-mining topography; clarifies that Nola Land Company, Inc. is the landowner that will control the property post-reclamation; and provides the information required for the State 404 Waters of the U.S. determination.

The project site lies approximately 0.6 miles west of Lake Marion and 2 miles east of Haines City. Portions of Haines City Sand Mine are within the northern boundary of the Peace River watershed.

CEMEX Construction Materials Florida, LLC—Lake Wales South Mine

On May 20, 2021, CEMEX Construction Materials Florida, LLC submitted a draft application to DEP to modify its ERP (MMR_237608) for its existing Lake Wales South Mine, and, on June 17, 2021, DEP issued a RAI in response to the draft application (there is no deadline to respond to the RAI as the application was submitted in draft form). The draft application requests to modify the mining depth for the South Extension of the Lake Wales Sand Mine. More specifically, it proposed a modification to increase the mining depth from 45 feet NGVD to 25 feet NGVD or the depth of the confining unit underlying the surficial aquifer. The application states that the modification will not result in any expansion of the mining footprint, wetland impacts, or changes in the stormwater management system.

The existing sand mine has been in operation for many years and is currently operating under ERP MMR 0237608-016. Sand is mined by using a hydraulic dredge within upland sandy areas to produce sand products for business and industry throughout the region. Unmarketable sand is redeposited in the mined lakes and is used in the subsequent reclamation process.

The Lake Wales Sand Mine is located on the north and south sides of State Road 60 near the City of Lake Wales in Polk County, Florida. The project appears to be located in or near the Lake Wales Ridge area, which is the easternmost extension of the upper Peace River basin.

R&D Cattle Ranch, L.L.C.- Bermont Mine

On June 25, 2021, R&D Cattle Ranch, L.L.C. ("R&D Cattle") submitted an application to DEP for a minor modification to its management of surface water ("MSSW") permit No. 407091.00 for its Bermont Mine in Punta Gorda. Bermont Mine excavates fill dirt, sand, and shell resources and washes and screens sand and shell products under its existing ERP (MMR_0342229-002). The surface water management system contains all stormwater and operations process water for washing and screening the mine material. The minor modification request includes: extending existing triple culverts; installing a FDOT gravity wall and end wall; widening an existing road by 8 feet; and relocating a guardrail with the goal of allowing two-way traffic for heavy construction vehicles. All proposed work is to be done within the limits of the 84-foot wide permitted wetland crossing under MSSW permit No. 407091.00. DEP staff notes from a May 19, 2021 site inspection explain that there are wetlands and other surface waters within the corridor where the proposed road expansion is located and that the acreage of proposed impacts will need to be determined.

The Bermont Mine is located at 37390 Bermont Road (a.k.a. County Road 74) in Charlotte County and consists of approximately 580.21 acres within the 1,248.53 acres of R&D Cattle Excavation, LLC owned property. Shell Creek, a tributary to the Peace River, borders the Bermont Mine. The Bermont Mine is located entirely south of Shell Creek and consists of a south mining area and north mining area that are separated by an unnamed tributary to Shell Creek.