Inspection Report
Chief's Order No. 2014-01
Division of Oil and Gas Resources Management (DOGRM)

Date: 2/7/2020

Site Name: 4K Industrial Park Facility

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4K Industrial Park, LLC

Contacts: Emergency & Site – Brian Hunt, 740/359-2799

Weather: approximately 30°F, snowy

Arrival/Departure: 11:30 AM / 1:05 PM

Attendees: 4K – Brian Hunt, Terry Dusz
DOGRM – Tara Lee & Martha D'Anna

Purpose: 1st Quarter Site Inspection 2020

Inspection/Observations:

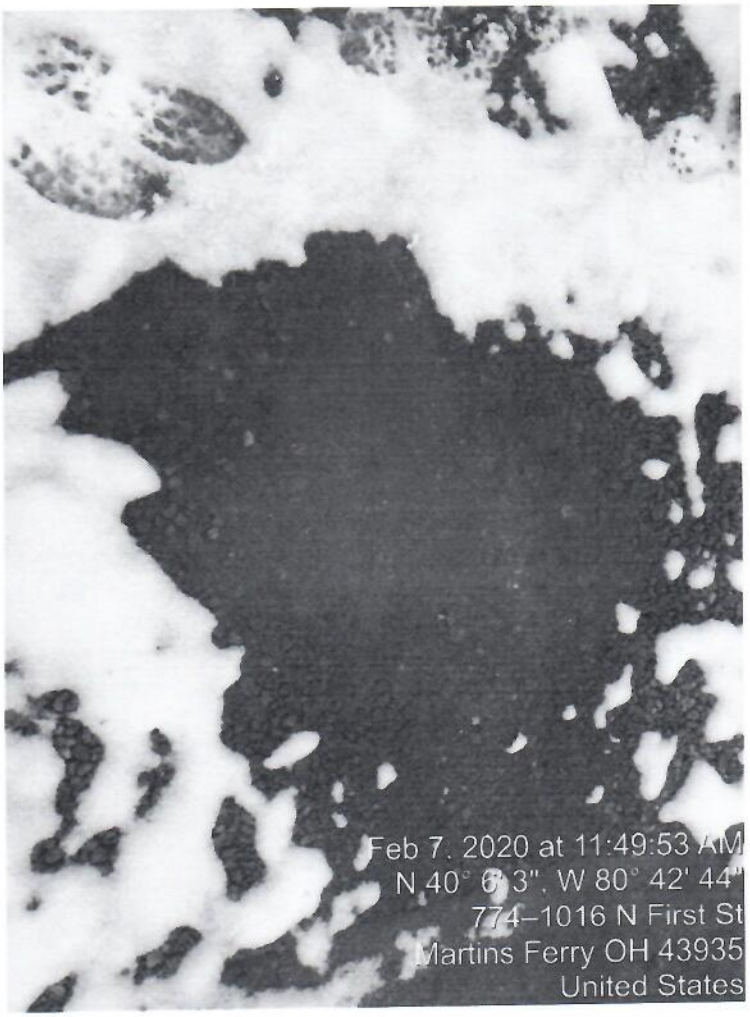
- Mr. Hunt led DOGRM on a tour of the waste facility, and a meeting was held afterwards to discuss future plans of the waste facility. 4K plans to continue to process liquid waste and is proposing to add additional tanks, pipeline, and off loading for barge traffic on the Ohio River. Discussion was held on the permits required from different government agencies as well as DOGRM's expectations.
- DOGRM received an amendment for 2 additional tanks to be added to the rock box containment area on 10/17/19 and DOGRM replied with comments on 10/18/19. No response from 4K had been received and no additional tanks had been installed as of this inspection.
- Chains at the water on/off loading area were installed. The liner had begun to peel from the concrete on the truck offloading and onloading area. A sheen was noted on stormwater to the northeast of the on/offloading area.
- Within the rock box containment area, the western tank appeared to have approximately 12 inches of freeboard and the eastern tank had approximately 24 inches of freeboard.
- Insulation around the piping was deteriorating and pulling off the pipes.
- Stormwater was noted in the rock box secondary containment and the caustic soda secondary containment.
- The 200,000 gal receiving EQ tank had approximately 2 feet of freeboard. The 200,000 gal finished water storage tank had around 6 feet of freeboard.
- The 300,000 gal clarifier had approximately 12 inches of freeboard.

- At the southern access point of the facility, a tarped roll off container with a geomembrane bag for dewatering solids is located.

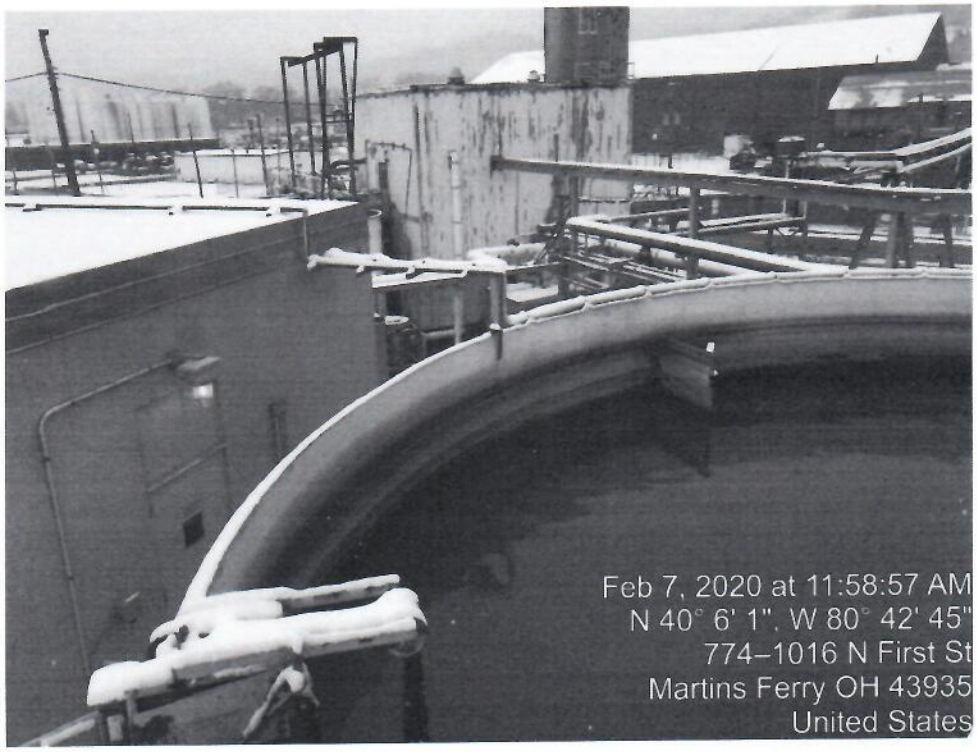
Action Items:

- Provide notification to DOGRM if additional tanks within the rock box area is still proposed. If so, please provide response to 10/18/19 comments.
- Continue to manage stormwater in the secondary containment.

Photographs: (additional photos on file):

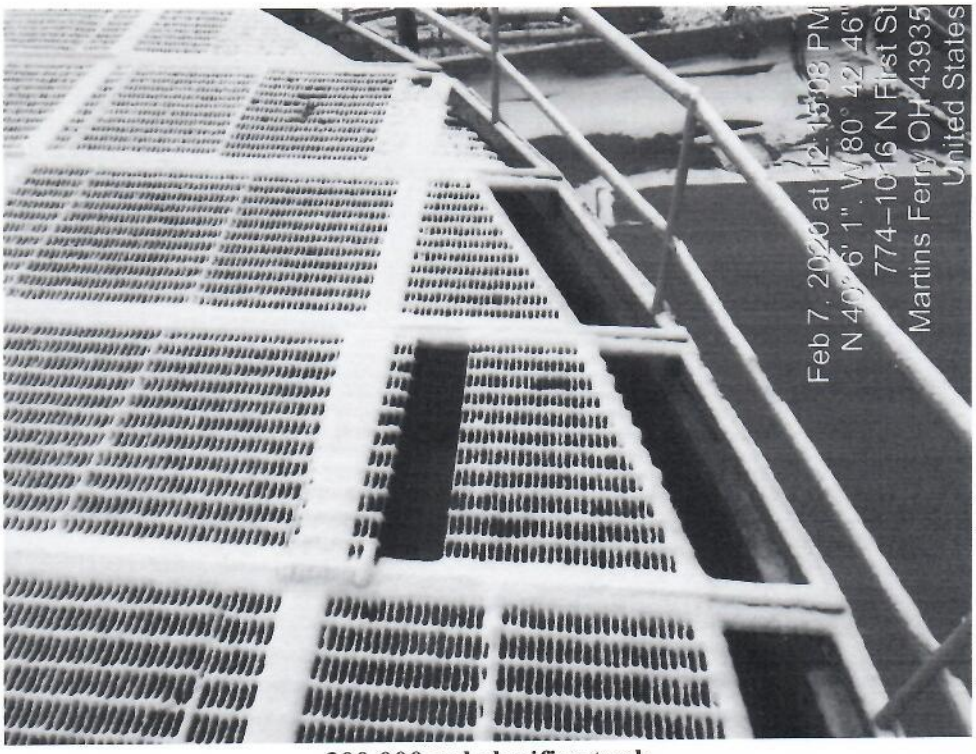


Sheen on stormwater



200,000 gal EQ tank

Proposed location of ASTs



300,000 gal clarifier tank

Inspection Report
Chief's Order No. 2014-01
Division of Oil and Gas Resources Management (DOGRM)

Date: 04/18/2019

Site Name: 4K Industrial Park Facility

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4K Industrial Park, LLC

Contacts: Emergency –
Site –

Weather: about 70°F, sunny

Arrival/Departure: 12:00 PM / 12:15 PM

In attendance: DOGRM – Beth Pratt & Martha D'Anna

Purpose: 2nd Quarter Site Inspection 2019

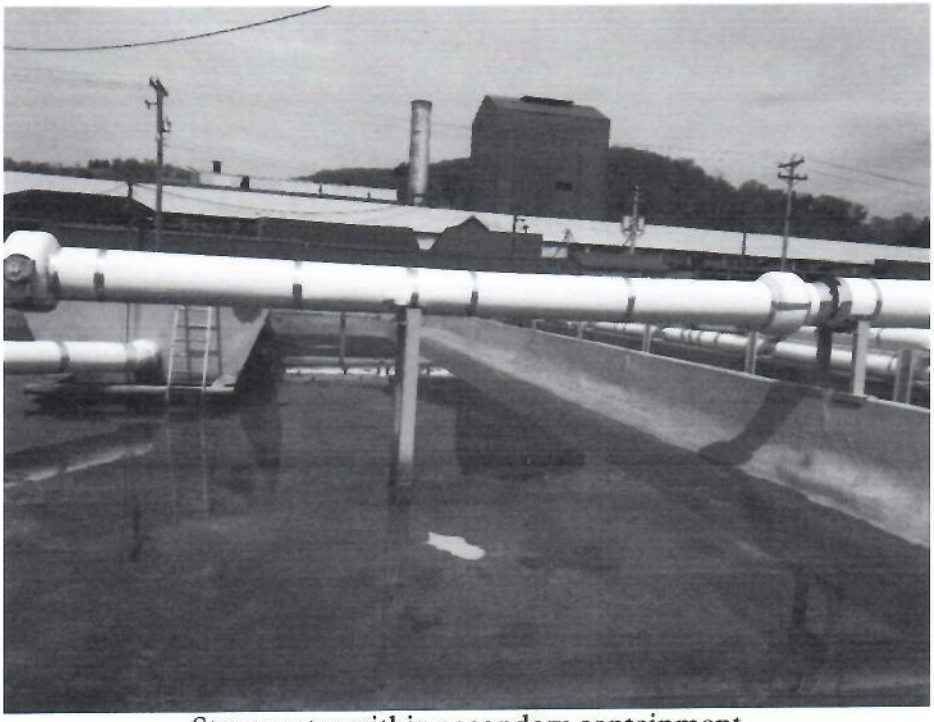
Inspection/Observations:

- A walk through of the facility was performed.
- Chains had been placed at the water on/off loading area and across the roll off pad to restrict access.
- The check-in building and facility was not manned or operating.
- No stormwater was ponded in the secondary containment in the treatment areas. Stormwater had collected in the secondary containment for the rock box. No sheen or odor was noted on the stormwater.
- Rust was noted around the bottom edge of the 300,000 gal. clarifier. It is unclear whether the rust is coming from the inside of the tank or is external surface rust.
- The liner had begun to pull away from the concrete on the truck offloading and onloading area.

Action Items:

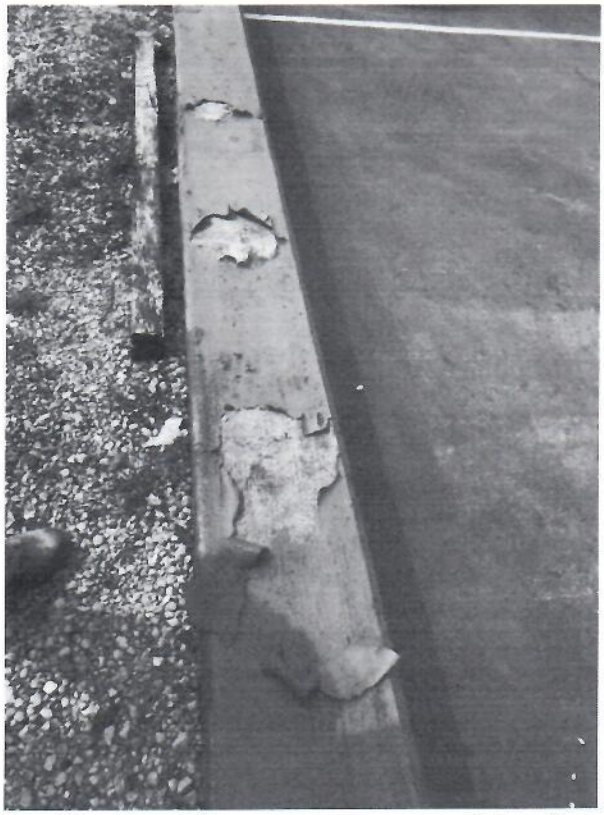
- Manage stormwater in the secondary containment.
- Notify DOGRM if the facility intends to close temporarily or permanently.
- Provide DOGRM an updated emergency contact and phone number and site contact and phone number. These may be the same person.

Photographs: (additional photos on file):



Stormwater within secondary containment

Rusting around bottom edge of clarifier



Liner pulling away from concrete on truck loading area

Inspection Report
Chief's Order No. 2014-01
Division of Oil and Gas Resources Management (DOGRM)

Inspection Date: 02/12/2019

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4Ks Martin Ferry's Industrial Park, LLC

Weather: about 42°F, raining

Arrival/Departure: 12:40 P.M. to 12:50 P.M.

In attendance: Beth Pratt, DOGRM

Purpose of Inspection: 1st Quarterly inspection 2019

Inspection findings:

- A walk through of the facility was performed.
- Chains had been placed at the water on/off loading area and across the roll off pad to restrict access.
- The check-in building and facility was not manned or operating.
- Stormwater was ponded in the secondary containment in the treatment areas. Stormwater had also collected in the secondary containment for the rock box. No sheen or odor was noted on the stormwater.

Action Items:

- Manage stormwater in the secondary containment.
- Notify DOGRM if the facility intends to close temporarily or permanently.

Photographs were not taken during the site visit.

Inspection Report
Division of Oil and Gas Resources Management

Chief's Order No. 2014-01

Inspection Date: 05/08/2018

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4Ks Martin Ferry's Industrial Park, LLC

Weather: Sunny, 80 F

Arrival/Departure: 12:45 P.M. to 2:05 P.M.

In attendance:

- Luke Saunders, Eric Kletrovetz– ODNR
- Brian Hunt – 4Ks

Purpose of Inspection: Quarterly inspection

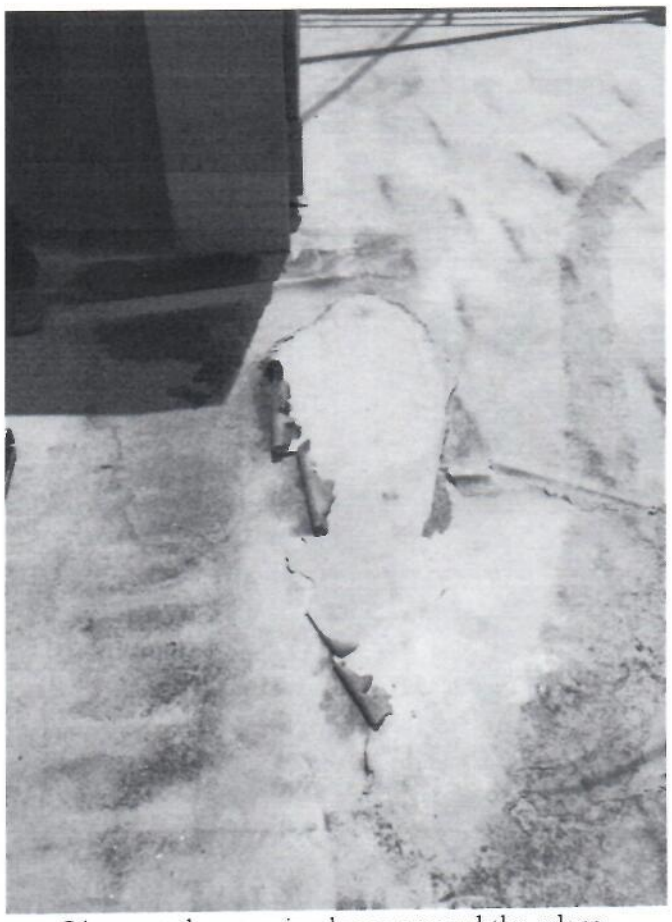
Inspection findings:

- A walk through of the facility was performed with Brian Hunt. The facility was not operating during the inspection.
- A visual inspection of the secondary containment was performedThe secondary containment is showing signs of wear in areas that were sprayed over after initial liner installation. The patches were coming loose and pulling away at the edges. The secondary liner was not lying flat around the walls (trampoline effect) and could fail upon loading of water.
- Two half-rounds, containing oilfield sludge, were being stored on the western platform. A dark liquid was leaching from underneath the platform storing the two half-rounds. Brian Hunt stated that stormwater had infiltrated the concrete slab's fill material, causing the stormwater to appear dark in color.
- A slow drip was observed near the flow meter located underneath the walkway from the office on the east side of the building. It was determined there is a leak in the pipe near the flow meter.
- The southern fiberglass tank manway was showing signs of distress and mineralization. Rust colored staining may be an indicator of leakage.
- The liner appeared to have a hole in it near the large northwestern (clarifier) tank. Alarge weed was growing out of the joint.
- Stormwater was ponded on the secondary containment in the rock box area and in the secondary containment area adjacent to the load out area.

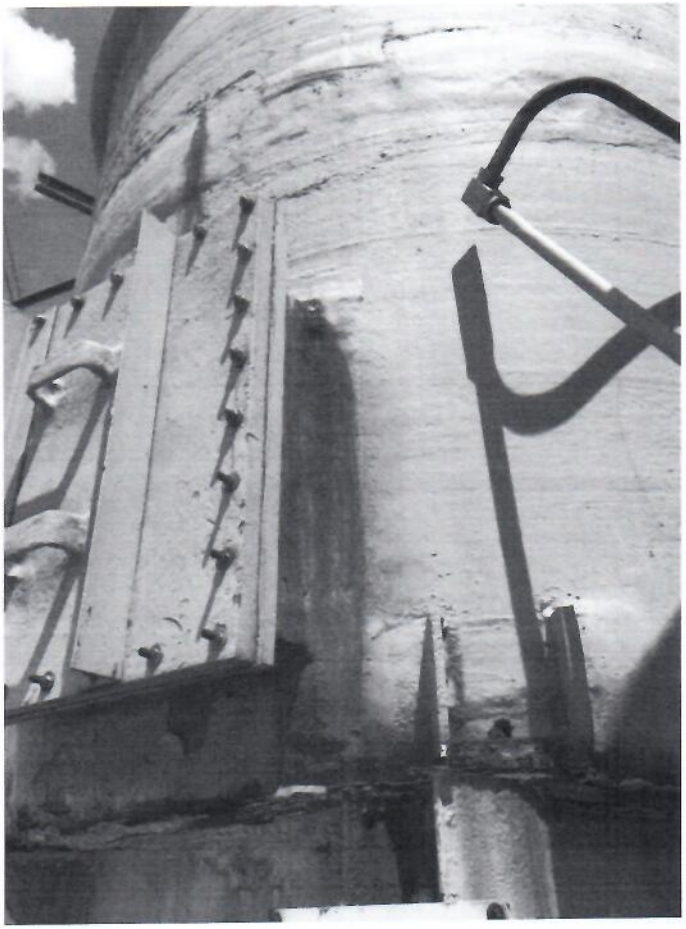
Action Items:

- Remove stormwater and other debris from the secondary containment.
- Repair liner hole near clarifier tank and all liner patches showing deterioration and potential failure.
- Repair leaking pipe at flow meter, remove material spilled on the liner.
- Verify that the dark liquid leaching from the concrete platform is stormwater. Consider using a quantab to screen for chlorides, an indicator for brine. Temporary containment could also be placed beneath the half-rounds to determine if there is leaching from the half-rounds.
- Investigate the fiberglass tank manway deterioration and repair as necessary.

Photographs:



Liner patches coming loose around the edges.



Southern fiberglass tank manway showing signs of deterioration and potential leakage.

Additional photographs were taken and are on file @ M:\Engineering\Projects\Facilities\Belmont County\4Ks Industrial Park Facility\Working Documents\Photos

Trip Report
Division of Oil and Gas Resources Management

Chief's Order No. 2014-01

Date: 01/03/2018

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4K Martins Industrial Park LLC

Weather: Sunny, chilly, about 15°F

Arrival/Departure: 1:00 P.M. to 1:30 P.M.

In attendance:

- Luke Saunders, Eric Kletrovetz– ODNR
- Brian Hunt – 4K

Purpose of Meeting: Quarterly inspection

Inspection findings:

- A walk through of the facility was performed with Brian Hunt. The facility was not operating during the inspection.
- Secondary containments were covered with snow and frozen stormwater, including the offloading pad. Brian stated a pump kicked off due to tripping a breaker before removing stormwater from the large secondary containment.
- Two half-rounds containing oilfield sludge were being stored at the western platform.
- Multiple areas on the secondary containment appear to have been patched and/or repaired. This was observed due to the lighter color of the patches compared to the older, dirtier liner.
- Brian Hunt stated 4K's had recently accepted flowback water for processing.
- An E & P operator was withdrawing water from the Ohio River adjacent to the 4K's facility.

Recommendations:

- Remove stormwater and other debris from secondary containment when the weather allows. Secondary containment should be maintained clean to allow for visual inspections.
- Maintain pre-operational ground water analytical data from the monitoring wells on site. Provide DOGRM the ground water analytical data upon request and/or at the time the facility ceases to operate.

Photographs were taken and are on file @ M:\Engineering\Projects\Facilities\Belmont County\4Ks Industrial Park Facility\Working Documents\Photos

Trip Report
Division of Oil and Gas Resources Management

Chief's Order No. 2014-01

Date: 4-12-2017

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4K Martins Ferry Facility

Weather: Sunny, about 60°F

Arrival/Departure: 12:20 P.M. to 12:45 P.M.

In attendance: Luke Saunders - ODNR
Al Schell – 4K

Purpose of Meeting: General inspection

Inspection findings:

- Facility has yet to operate or receive any brine waters from exploration and production operations. Al Schell expects to receive brine waters from exploration and production operations soon.
- Al Schell stated 4K's has received and processed industrial water, and that a clarifier shaft broke and needs repaired.
- Multiple frac tanks and vac boxes were located south of the containment area with no secondary containment. When questioned about the contents in the frac tanks, Al stated they contained industrial waters. Waters were being pumped off the top from the frac tanks during the site visit.

Recommendations:

- Provide secondary containment for storage of all oil and gas waste substances, including vessels that contain residual wastes.
- Obtain a pre-operational ground water sample from the monitoring wells on site. Provide DOGRM the ground water analytical data once obtained.
- Notify DOGRM when the Martins Ferry Facility accepts brine or other wastes substances.
- Provide record drawings to accurately reflect the construction at the facility. At a minimum, address the items below that are inconsistent with the March 2015 schematics provided by Vaugh, Coast, & Vaughn, Inc.:
    - The sump in the truck loading area is shown in the wrong location;
    - Show piping schematic for the facility. Currently the piping is only shown for a portion of the facility (off/on loading, rock box, etc.)
    - Show solids storage area and construction;
    - Accurately show access to fenced treatment area;
    - Revise sludge dewatering location and process;
    - Review and revise as necessary traffic flow pattern shown; and
    - Review and revise as necessary the river water pick up station.
- Ensure facility construction is in compliance with Ohio Basic Building Code. The electrical rework is extensive and should be inspected for compliance. DOGRM has a memorandum of understanding with Department of Commerce for inspections of oil & gas waste facilities.

- Revise the radiation protection plan as required in separate correspondence from Chuck McCracken, DOGRM, dated February 21, 2017. A representative of 4Ks has verbally proposed language to modify the RPP, but no written language has been provided to the division.

Photos @ M:\Engineering\Projects\Facilities\Belmont County\4Ks Industrial Park Facility\Working Documents\Photos\4-12-2017 LS

Photographs:

Vac boxes south of containment area.

Frac tanks south of containment area.

Trip Report
Division of Oil and Gas Resources Management

Chief's Order No. 2014-01

Date: 1-27-2017

Location: 1001 Main Street, Martins Ferry, Belmont County

Owner: 4K Martins Ferry Facility

Weather: Overcast, snow, cold, 35°F

Arrival/Departure: 10:00 a.m. to 12:30 p.m.

In attendance: for ODNR, DOGRM: Anthony Carson, Paul Carder, Rob Leidy, Chuck McCracken, Beth Pratt
For 4Ks: Al Shell, Terry Dusz, Brian Hunt, Pat Gill

Purpose of Meeting: General inspection

Inspection findings:

- Facility has yet to operate or receive any brine waters. 4K personnel expect to commence operations soon.
- 4Ks staff gave DOGRM staff a tour of the treatment plant. According to 4ks, they only intend to accept liquids with a maximum of 10% solids. They will centrifuge a sample of the load prior to acceptance.
- The treated water containment area has been constructed and lined, but no tanks have been placed in the area. The area is constructed to hold six tanks. Approximately 10 inches of rainwater had accumulated in the containment area.
- The truck off/on loading area was constructed. The sump was located in the opposite corner of where the plans showed it.
- The containment around the "rock box" also contained about 10 inches of rainfall.
- A bladder plug installed to prevent stormwater discharge to the river was observed from above. The plug is monitored to ensure pressure is maintained.
- According to 4ks staff, all solids will be sent to Austin Masters Services (AMS). All vehicles will be screened for elevated radiation. If over 100 microR/hr, they also will be sent to AMS for handling.
- A solids storage area had been installed on the north side of the treatment plant. This was not on the submitted schematics.
- According to 4Ks staff the liner system in the treatment area had been repaired in a few areas. The manufacturer is local and was responsive to maintenance needs of the facility.
- Piping runs not over containment were sleeved.

Recommendations:

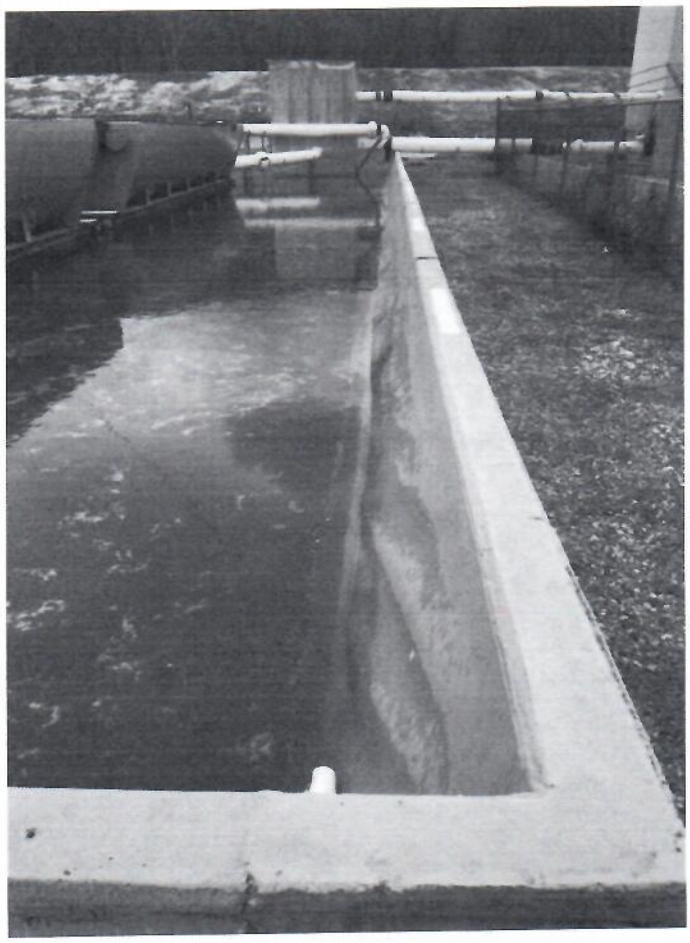
- Manage stormwater accumulations in containment areas. According to 4ks staff this will be pumped into the treatment system.
- Obtain a pre-operational ground water sample from the monitoring wells on site. Provide DOGRM the ground water analytical data once obtained.
- Notify DOGRM when the Martins Ferry Facility accepts brine or other wastes substances.

- Provide record drawings to accurately reflect the construction at the facility. At a minimum, address the items below that are inconsistent with the March 2015 schematics provided by Vaugh, Coast, & Vaughn, Inc.:
    - The sump in the truck loading area is shown in the wrong location;
    - Show piping schematic for the facility. Currently the piping is only shown for a portion of the facility (off/on loading, rock box, etc.)
    - Show solids storage area and construction;
    - Accurately show access to fenced treatment area;
    - Revise sludge dewatering location and process;
    - Review and revise as necessary traffic flow pattern shown; and
    - Review and revise as necessary the river water pick up station.
- Ensure facility construction is in compliance with Ohio Basic Building Code. The electrical rework is extensive and should be inspected for compliance. DOGRM has a memorandum of understanding with Department of Commerce for inspections of oil & gas waste facilities.
- Revise the radiation protection plan as required in separate correspondence from Chuck McCracken, DOGRM, dated February 21, 2017.

Photographs:

Secondary containment for treated water tanks, yet to be placed.

Truck on/off loading area. Sump located in right corner of pavement.



Rock box and secondary containment.

Solids storage pad and piping for sludge removal. Note liner has not been run up the concrete pad.

Additional photographs are on file.

Trip Report
Division of Oil and Gas Resources Management

Trip Date: 09/16/2015

Location: Belmont County

Owner: 4K Industrial Facility

Weather: Sunny, 73° F

Arrival/Departure: 12:16 PM – 12:45 PM

Attendees: Jake Glascock, DOGRM

Purpose of meeting: Facility inspection

Inspection Findings:

- The facility is not in operation yet and no one was on location. Facility Manager, Jack Bement, of Austin Masters stated that the facility is no in operation due to lack of business.
- Two of the containment areas had standing water. Field test indicated fresh water most likely rain water.
- Holding tank on opposite side of facility from loading pad appears to be full of water. A suction manifold was located nearby for loading trucks from the holding tank and the ground was wet at base of the tank and at a spot on the lot. Field test on water dripping from tank indicated fresh water.
- Construction of the loading dock at the lime tower appears to be complete.

Recommendations:

Photos were taken and are on file.

Trip Report
Division of Oil and Gas Resources Management

Trip Date: 03/26/2015

Location: Belmont County

Owner: 4Ks Industrial Facility

Weather: Cloudy, 35° F

Arrival/Departure: 10:00 AM – 12:30 PM

Attendees: Ron Trivisonno, DOGRM
Beth Pratt, DOGRM
Jeff Vaughn, P.E., Vaughn, Coast & Vaughn, Inc.
Brian Hunt, 4Ks
Terry Dusz, 4Ks
Steve Grueber, Odyssey Environmental Services (tank integrity and lining)
Others present, but did not get names

Purpose of meeting: Site visit to review design concepts and progress with tank lining. Chief's order #2014-01 to operate was issued on 01/03/2014. The following items were discussed and noted.

Discussion: Items discussed pertained to updates and progress to date, and items that will be requested from 4Ks prior to start of operation.

- The liner system will contribute to the integrity of the tanks, but it will not be considered a secondary containment system. In lieu of full secondary containment, could the tanks be emptied and analyzed for steel thickness and integrity on a routine (annual?) basis. Not all of the tanks are on a concrete foundation pad, some of the foundations are ring foundations. Exterior coating applied to the tanks was discussed. The coating might mask detection of small leaks along the base. The entire area inside the berm will be lined and coated. The berm will consist of jersey barriers, which are on site, but not yet installed.
- The design of the loading/unloading area and first settling tank (rock box) was discussed. Construction has yet to commence.
- The site is in the 100 yr flood plain. The plan to address this has not been written but has been discussed. In concept, 4Ks believes there is adequate notice of rising flood waters to allow for removal of wastes, relocation of all equipment such as pumps, generators, etc. The site has functioned in this manner when operated as a waste water plant for the mill. DOGRM will not prohibit operation in the flood plain, if there are adequate controls in place to prevent release of contaminants into the environment.

- Jeff Vaughn, Vaughn, Coast and Vaughn, Inc., will develop construction plans and record drawings for the 4Ks facility.
- Tank bottoms, filter media, filter socks, are all considered TENORM. Since these types of materials will be managed on site, an appropriate radiological materials handling and protection plan needs to be developed and for this site.

Observations: The site is currently not in operation. Three tanks, finished water storage tank (200,000g), EQ receiving tank (200,000g) and the clarifier (300,000g) have been coated with a polymer-type liner. The clarifier tank had a new exterior coating. Corrosion was noted at the base of some of the tanks. A new lime and polymer tank had been installed. Existing controls were in the process of being modified for use in this application.

Recommendations:

- Upon completion of the design and construction, provide DOGRM a copy of the record drawings.
- Provide DOGRM notice of all chemicals on sites and the MSDS for them.
- Develop and provide DOGRM a plan addressing potential flooding issues at the site. Ensure this has been shared with the local flood plain administrator.
- Develop and provide DOGRM a radiological materials handling and safety plan for the TENORM to be managed on site.
- Notify DOGRM a minimum of two weeks prior to commencement of operations to allow DOGRM the opportunity to visit the site prior to operation.

Photos were taken and are on file.

Trip Report
Division of Oil and Gas Resources Management

Trip Date: 07/21/2015

Location: Belmont County

Owner: 4K Industrial Facility

Weather: Sunny, dry 80° F

Arrival/Departure: 10:30 AM – 11:15 AM

Attendees: Terry Dusz, 4K
Jason Simmerman, DOGRM
Paul Logan, DOGRM

Purpose of meeting: Responding to a complaint forwarded from the OEPA about the site. Reportedly they are transporting fracking waste to the plant for sorting and storing prior to transporting to a landfill. Chief's order #2014-01 to operate was issued on 01/03/2014. The following items were discussed and noted.

Inspection Findings:

- The facility is not in operation yet. The tentative start date is August 1, 2015. They will inform Beth Pratt, DOGRM, prior to beginning operations.
- There was no evidence of fracking waste being transported to the site.
- There was evidence that water had been pumped from the Ohio River to a holding tank. A suction manifold was located nearby for loading trucks from the holding tank. Based on the vegetation (weeds), this hadn't been used recently.
- The liner system for the treatment plan's secondary containment has been completed and reportedly has a 75 year product life.
- The operator indicated that check valves are located on the treated and untreated water pipes at the truck transfer location to prevent water from being sucked or discharged in the wrong directions.
- Loading dock at the lime tower is currently under construction. Rock boxes and truck transfer station are complete.
- Three monitoring wells are located around the facility. One is across the road to the northwest, one is located to the east, and one is located to the southeast near the Ohio River.
- The operator indicated that materials with elevated TENORM will be sent to Austin Masters located just north of this facility.

Recommendations:

- Notify DOGRM prior to commencement of operations.

  Photos were taken and are on file.

Trip Report
Division of Oil and Gas Resources Management

Trip Date: 03/26/2015

Location: Belmont County

Owner: 4Ks Industrial Facility

Weather: Cloudy, 35° F

Arrival/Departure: 10:00 AM – 12:30 PM

Attendees: Ron Trivisonno, DOGRM
Beth Pratt, DOGRM
Jeff Vaughn, P.E., Vaughn, Coast & Vaughn, Inc.
Brian Hunt, 4Ks
Terry Dusz, 4Ks
Steve Grueber, Odyssey Environmental Services (tank integrity and lining)
Others present, but did not get names

Purpose of meeting: Site visit to review design concepts and progress with tank lining. Chief's order #2014-01 to operate was issued on 01/03/2014. The following items were discussed and noted.

Discussion: Items discussed pertained to updates and progress to date, and items that will be requested from 4Ks prior to start of operation.

- The liner system will contribute to the integrity of the tanks, but it will not be considered a secondary containment system. In lieu of full secondary containment, could the tanks be emptied and analyzed for steel thickness and integrity on a routine (annual?) basis. Not all of the tanks are on a concrete foundation pad, some of the foundations are ring foundations. Exterior coating applied to the tanks was discussed. The coating might mask detection of small leaks along the base. The entire area inside the berm will be lined and coated. The berm will consist of jersey barriers, which are on site, but not yet installed.
- The design of the loading/unloading area and first settling tank (rock box) was discussed. Construction has yet to commence.
- The site is in the 100 yr flood plain. The plan to address this has not been written but has been discussed. In concept, 4Ks believes there is adequate notice of rising flood waters to allow for removal of wastes, relocation of all equipment such as pumps, generators, etc. The site has functioned in this manner when operated as a waste water plant for the mill. DOGRM will not prohibit operation in the flood plain, if there are adequate controls in place to prevent release of contaminants into the environment.

- Jeff Vaughn, Vaughn, Coast and Vaughn, Inc., will develop construction plans and record drawings for the 4Ks facility.
- Tank bottoms, filter media, filter socks, are all considered TENORM. Since these types of materials will be managed on site, an appropriate radiological materials handling and protection plan needs to be developed and for this site.

Observations: The site is currently not in operation. Three tanks, finished water storage tank (200,000g), EQ receiving tank (200,000g) and the clarifier (300,000g) have been coated with a polymer-type liner. The clarifier tank had a new exterior coating. Corrosion was noted at the base of some of the tanks. A new lime and polymer tank had been installed. Existing controls were in the process of being modified for use in this application.

Recommendations:

- Upon completion of the design and construction, provide DOGRM a copy of the record drawings.
- Provide DOGRM notice of all chemicals on sites and the MSDS for them.
- Develop and provide DOGRM a plan addressing potential flooding issues at the site. Ensure this has been shared with the local flood plain administrator.
- Develop and provide DOGRM a radiological materials handling and safety plan for the TENORM to be managed on site.
- Notify DOGRM a minimum of two weeks prior to commencement of operations to allow DOGRM the opportunity to visit the site prior to operation.

Photos were taken and are on file.