Memorandum

Date: January 11, 2016

Subject: Reported sheen on water in road ditch at southwest corner of Magellan Des Moines Terminal and site visit by Bill Gibbons with IDNR FO#5 on 1/8/2016

On Thursday, January 7, 2016 at 4:10 PM Tristan Grover with Magellan Midstream Partners, LLC left a message on my phone mail to call him. I called Tristan the following morning (Friday, January 8, 2016) at 7:00 AM. Tristan explained they had a situation at the southwest corner of the terminal he was hoping I could come out and look at. There is a fiber optic company that rents buildings at the southwest corner of the terminal (intersection of SE 43rd Street & Carlisle Road) and they reported a sheen on the water in the road ditch on the north side of Carlisle Road just east of SE 43rd Street. Tristan said they looked at the sheen and it looked like an organic sheen such as iron bacteria. They took two water samples one for forensic analysis and the other to be analyzed for BTEX using method Iowa OA-1. The forensic analysis did not show anything however the sample they sent to Keystone Labs for BTEX showed Benzene at 750 ppb. Tristan said they looked at monitoring well information from the Southern Area Remediation Project (now closed) and the last sample obtained from the nearest monitoring well (very close to the road ditch) showed Benzene at 715 ppb. I agreed to meet Tristan at the terminal and look at the situation.

On Friday, January 8, 2016 at 8:45 AM I met Tristan Grover and Cody Annis the new Area Supervisor at the site. We went down to road ditch. The ditch runs west to east and drains to the swamp on the south end of the terminal. Tristan showed me the portion of the ditch where there was a fire hydrant (first hydrant east of SE 43rd Street) next to a culvert that goes under a drive leading into the terminal. Tristan said the people who reported the sheen said the city (not sure if it was Pleasant Hill or Des Moines Water Works) had been out earlier in the week flushing the hydrant. It was after the flushing that they saw the sheen on the water. We could see orange/brown colored material in the road ditch attached to the vegetation on the sides and there was some sheen (on the water in the ditch) in the area of the orange/brown material. When the sheen was disturbed it broke into fragments which indicated it was a result of iron bacteria. I told Tristan the orange/brown material that came out of the hydrant when it was flushed was not unusual since this type of material built up on the inside of cast iron or ductile iron pipes. The fire hydrant was on the north side of the ditch and there was a valve directly across from the hydrant on the south side of the road ditch. Tristan said they called the City of Pleasant Hill about the valve because water was welling up to the ground surface around the valve. The water appeared to have stopped and Tristan said he thought they came out and closed the valve. Near the valve but going toward the hydrant we could see bubbles coming up in the water from the bottom of the ditch. I had some concerns that the valve might be leaking or possibly the pipe (under the ditch) going from the valve to the hydrant. We looked at the water on the other side of the culvert and it was dark colored like the orange/brown material we saw that had come out of the hydrant. Beyond that segment of the ditch and going east to the swamp the color of the water looked normal and near the swamp the water was mostly frozen.

Regarding the elevated Benzene level in the water we determined the bottom of the road ditch was approximately 4' to 5' below the ground surface. Tristan said when this incident was reported they had APEX Companies come out and check the nearby monitoring wells for any sign of free product. They also measured the static water levels in the wells. Tristan checked with Dave Hruby with Apex (while we were looking at the ditch) to see what the static water level was in MW-9. Dave reported the well casing extended approximately 2' above the ground surface and static water level was measured as 8' from the top of the casing. We thought it might be possible with all of the recent rain that the bottom of the road ditch was at or near the water table which might explain the level of Benzene found in the water in the ditch. We talked about pumping the contaminated water from the ditch and they would dispose of it with other contact water that goes to Kansas City to be processed and disposed of. It was decided they would pump out the segment of the ditch where the sheen had been reported. They promised to continue to visually monitor the ditch looking for any type of petroleum sheen. I told Tristan and Cody I would contact Des Moines Water Works and/or Pleasant Hill about the valve and seeing bubbling coming up from the bottom of the ditch.

On Friday, January 8, 2016 at 2:30 PM I contacted Mike McCurnin with the Des Moines Water Works. Mike said Des Moines Water Works was responsible for maintaining the Pleasant Hill Distribution System. I reported the situation about the hydrant, valve and line to Mike and told him if there was a leaking valve or line they needed to be concerned since the ground water in that area was had documented petroleum contamination. I told Mike I was concerned about back siphonage through a leak in the pipe of valve. Mike said he would report this to Ted Corrigan who was in charge of distribution.