WEEKLY MONITORING SUMMARY
MILE POINT 197.4, RIVERS SUBDIVISION DERAILMENT
SOUTHEAST OF ST. LAZARE, MANITOBA

MONITORING DATES: April 8 to 14, 2019

Inspections were completed by Matrix Solutions on April 8, KGS Group on April 10 and Tervita on April 8 and 12, 2019. Additional inspections and subsequent work were conducted on April 13 and 14, 2019 by Matrix Solutions and Tervita, respectively.

Directions referenced are in relation to standard railroad practice, which is consistent with nomenclature that has been in place at the Site during the response to date. Site directions herein are based on the convention that the rail line runs east-west and that Site north corresponds approximately to true east.

Attached Documents: Select photographs collected from April 8 to 14, 2019 are provided at the end of this summary.

Summary of Activities and Site Observations:

Monitoring checklists with project tasks identified for every regularly scheduled Site visit were completed by field crews. Project tasks included: checking equipment, documenting wildlife sightings, inspecting the CN ROW and berms, observing surface water in the oxbow inside and beyond the berms and inspecting erosion controls.

Drone imagery was collected at the Site on April 8 and 10, 2019.

Observations during the week included reports of residual product observed on the ground surface on the north and south remediation areas. All observed product was immediately removed using a shovel, placed in a proctor bag and transported to the staging area where it was placed in the large hazmat bag for off-Site disposal. The product observed has no ongoing source and was exposed during melting.

A slight hydrocarbon sheen was observed in the small area of pooling water north of the tracks previously identified in past visits at 14 U 342138 / 5581158. Absorbent pads (4) were placed in the water to remove the sheen and then and transferred to a hazmat bag for later off-Site disposal; this area has improved since last visit but a slight sheen was still documented and address.

The remediation area south of tracks was inspected. Observations during the week included assessment of:

- Surface water beyond berms assessed for hydrocarbon and/or sheen: no hydrocarbon sheen was observed at the time of the Site visits. A small amount of organic sheen consisting of plant matter and sediment was observed beyond the south berm within the rocks. Water from the oxbow monitoring area was flowing gently beneath the rocks of the south berm into the background water.

- Surface in proximity to the east berm assessed for hydrocarbon and/or sheen: no hydrocarbon/organic sheen were observed at the time of the Site visits.
- Surface water inside the berms assessed for hydrocarbon and or/sheen: an organic sheen was observed along the north embankment water's edge. A hydrocarbon sheen was observed in a small area (0.3 m by 0.15 m) located at the bottom of the northwest embankment, directly west of the middle containment boom, with trace amounts of product (3 mm by 3 mm). An absorbent pad used to recover the sheen and product. Two absorbent spill booms were deployed adjacent to the puddle as a precautionary measure.
- Erosion was assessed and noted near the middle spill boom; this location has been previously identified and is being monitored for surface run-off.
- Surface water run-off through the culverts were assessed. A small volume of water was trickling through both the east and west culverts (95% of opening of culverts exposed). No product or hydrocarbon sheen observed. A small amount of water was observed pooling within the cow culvert.
- Sediment/erosion controls were assessed and the south remediation area was inspected for residual product. Silt fence fabric appeared loose in a few locations but is still keyed in at the bottom and effective as-is. Erosion occurring along the west embankment at the top of the hill, running towards the west culvert (currently no water running through at time of visit). Erosion occurring near middle orange spill boom from beneath coconut matting; absorbent white boom is still in place (currently no water running through at time of visit). An area of subsidence was observed on the south side of the berm. Within the sunken area the water / ice surface was discolored and consisted of organics and surface debris. No water could be heard flowing through the berm.
- Oxbow assessed for the presence of aquatic life; no aquatic life observed.
- Water levels within the oxbow were assessed:
    - South berm: water level inside the berm approximately 0.1 m from top of berm
    - South berm: water level outside the berm approximately 0.2 m from top of berm
    - East berm: water level inside the berm approximately 1.5 m from top of berm
    - East berm: water level outside the berm approximately 0.8 m from top of berm
- Surface water monitoring was conducted for in-situ water quality parameters and surface water samples were collected for laboratory analysis of benzene, toluene, ethylbenzene, xylenes and petroleum hydrocarbon fractions F1 through F4. In-situ water quality parameters were within acceptable ranges and analytical results were below the reportable detection limit and applicable guidelines.

On Saturday, April 13, 2019, following CN's communication with MSD of potential product within the east culvert, Matrix Solutions mobilized to the Site. Due to the culvert being a confined space, a full assessment could not be completed, but observations were made from either end of the culvert. Hydrocarbon staining was observed around the joint connecting the 4-piece culvert where surface water is able to enter. Standing water was observed at the mid-point of the culvert where a bow in the culvert was observed. At the time of inspection, there was no outflow of water from the culvert. As a precautionary measure, an absorbent boom and pads were placed at the south end of the culvert.

On Sunday, April 14, 2019, Tervita along with GFL attended the Site. Tervita entered east culvert and cleaned the seepage that had adhered to the inside of the east culvert. As required by provincial Worksafe regulations, all personnel reviewed confined space entry procedures, confined space rescue plans and roles/responsibilities required to complete the entry into the culvert. Trace amounts of intermittent hydrocarbon seepage was observed over a length of about 11.6 m at the interior, horizontal joint connections within the east culvert. Standing water was present within the culvert. The hydrocarbon seepage, at the lowest at point of entry, was observed to be approximately 6 inches above any standing water. No product or hydrocarbon sheen was observed in the standing water.

Site Photographs:

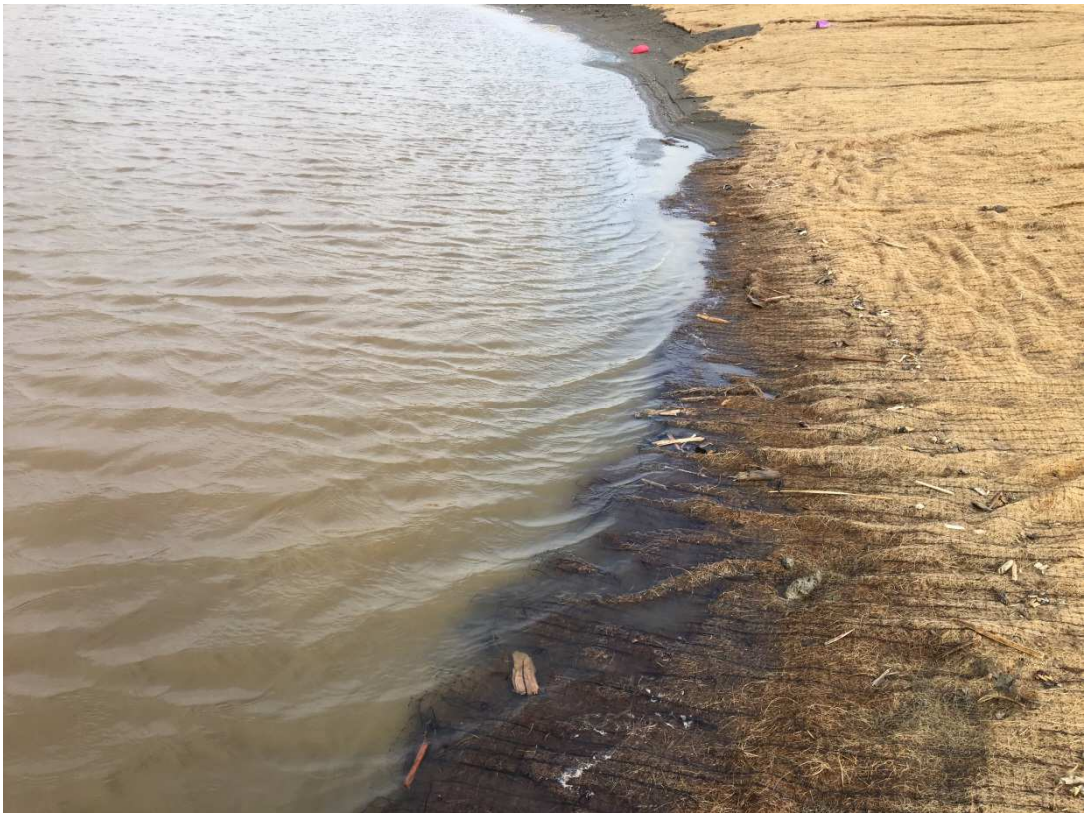

Photo 1: View of small organic sheen along north embankment.

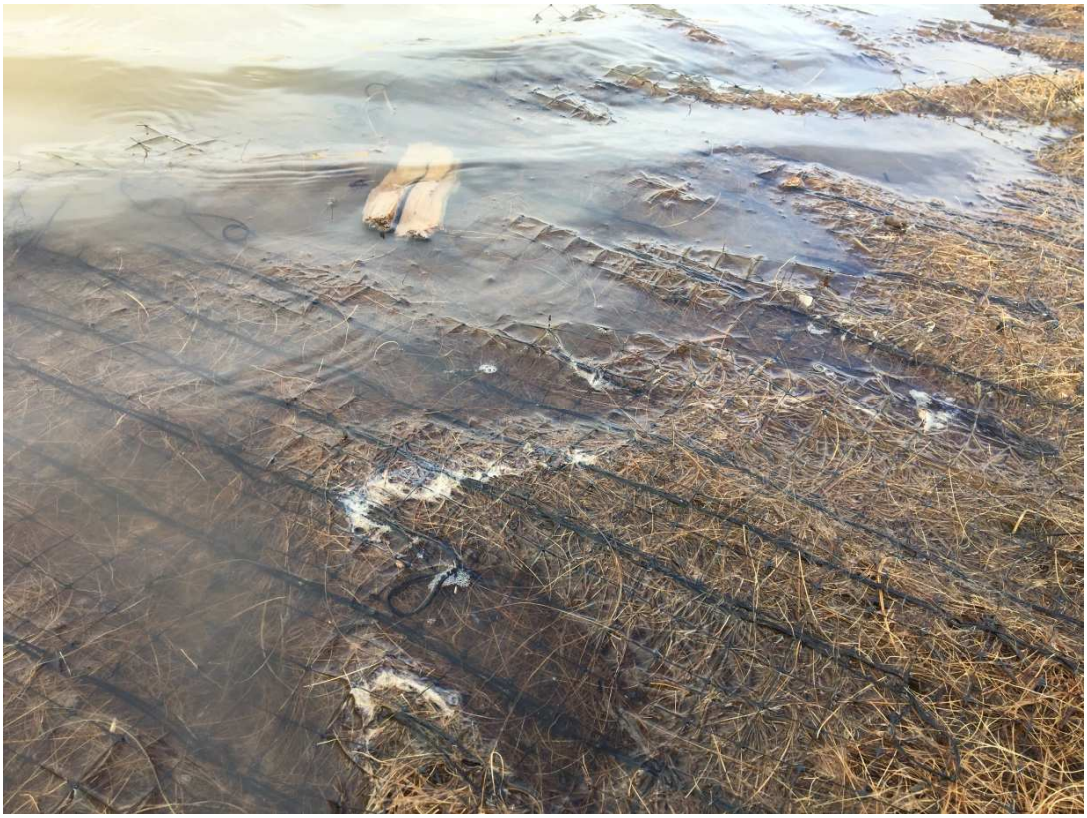

Photo 2: Close up of organic sheen along north embankment

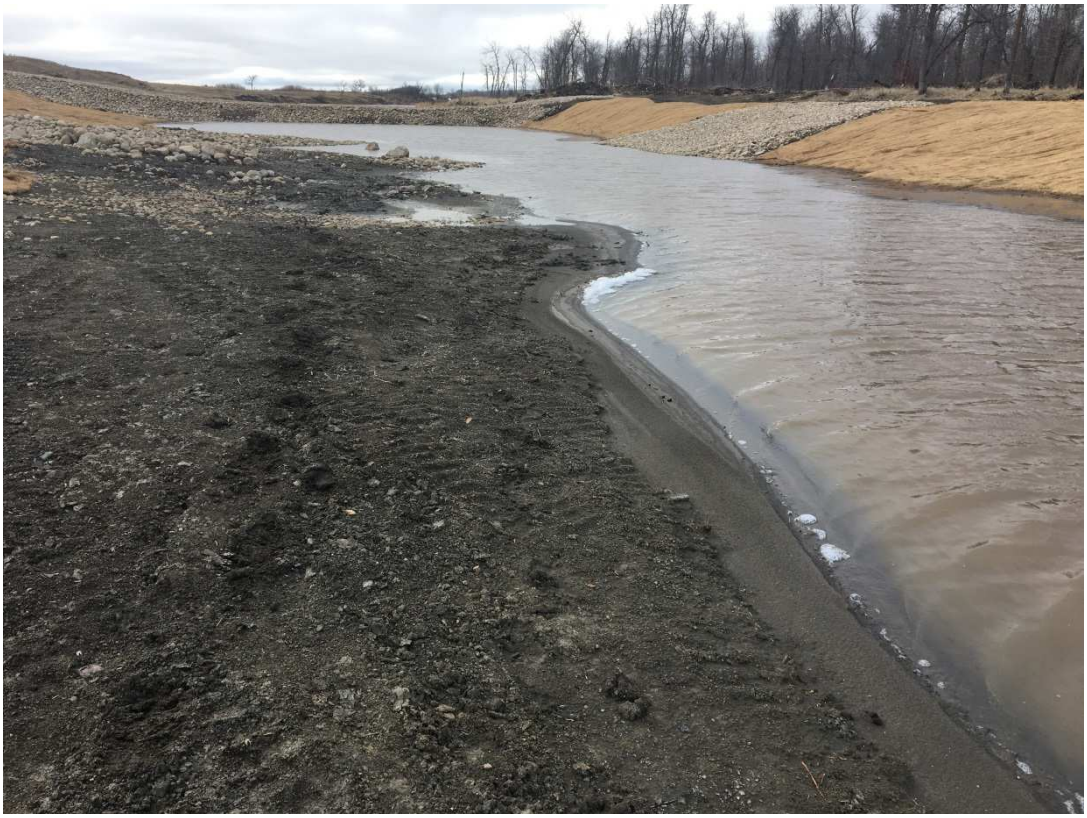

Photo 3: View east towards receding water levels within the oxbow.

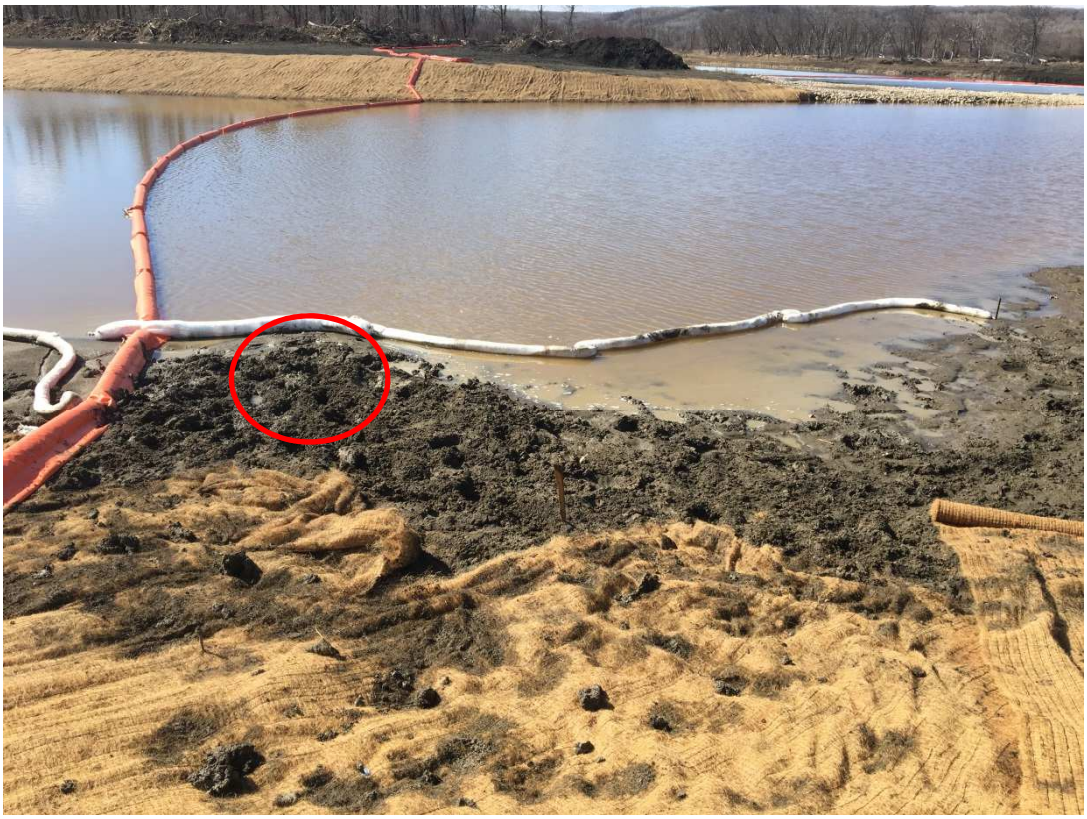

Photo 4: View of small puddle along the northwest embankment with hydrocarbon sheen.

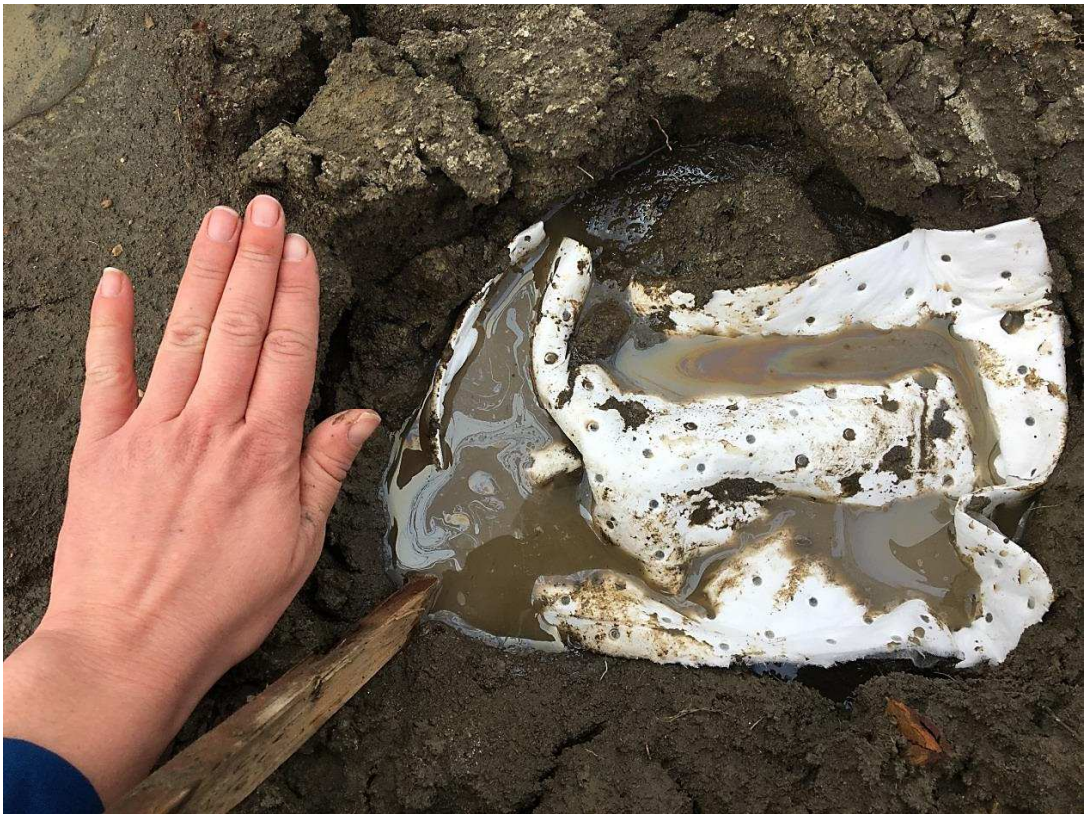

Photo 5: Close up of small puddle and hydrocarbon sheen noted above.

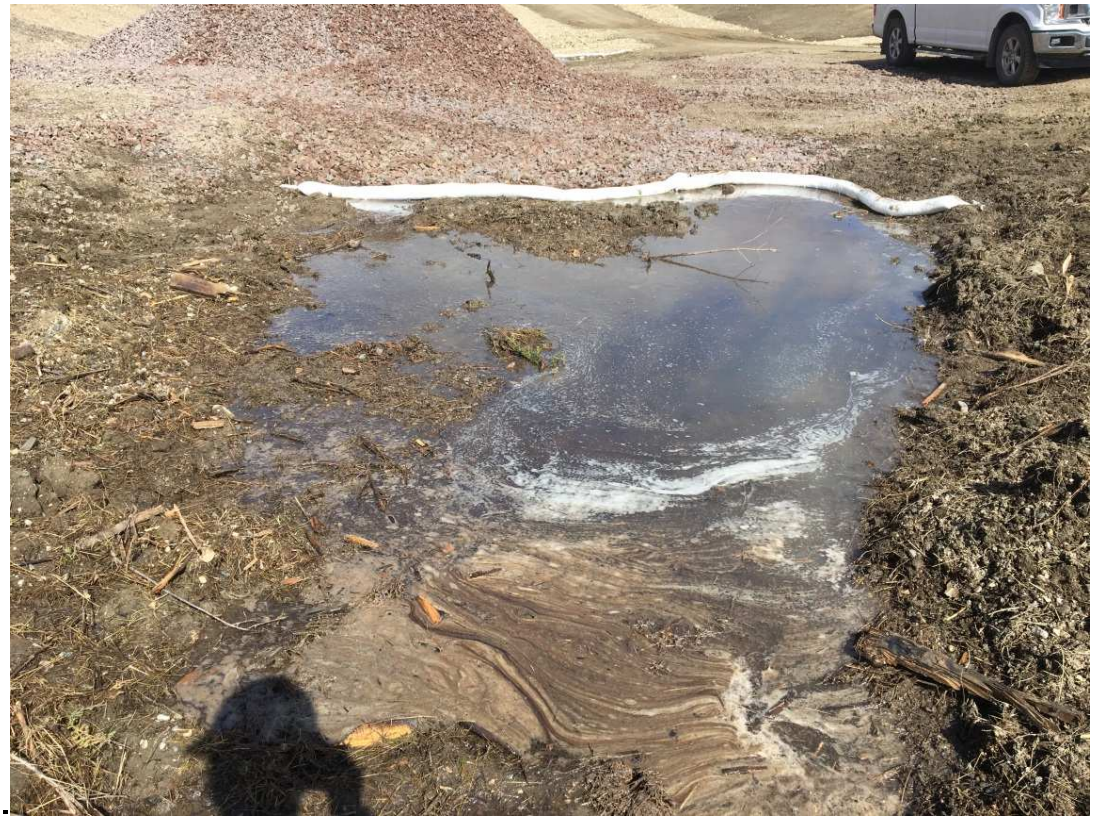

Photo 6: View of pooling water with slight hydrocarbon sheen north of tracks.

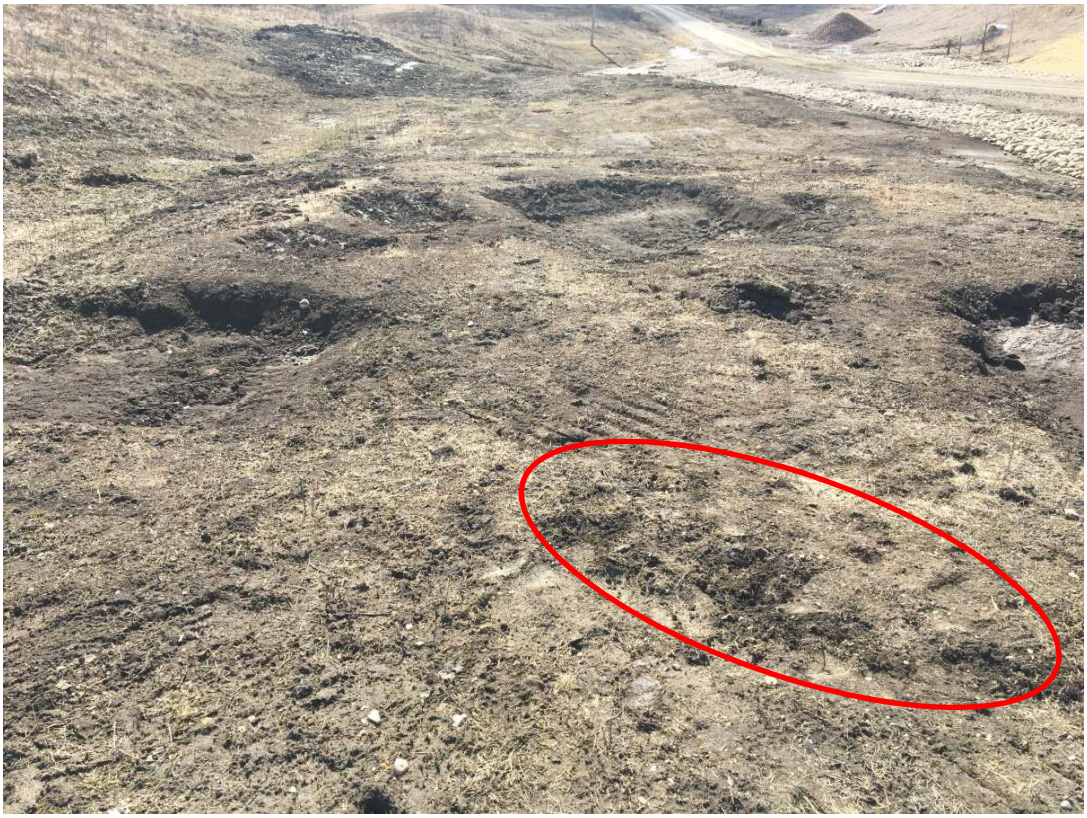

Photo 7: View east towards small traces of product on ground surface north of the grid road that were removed.

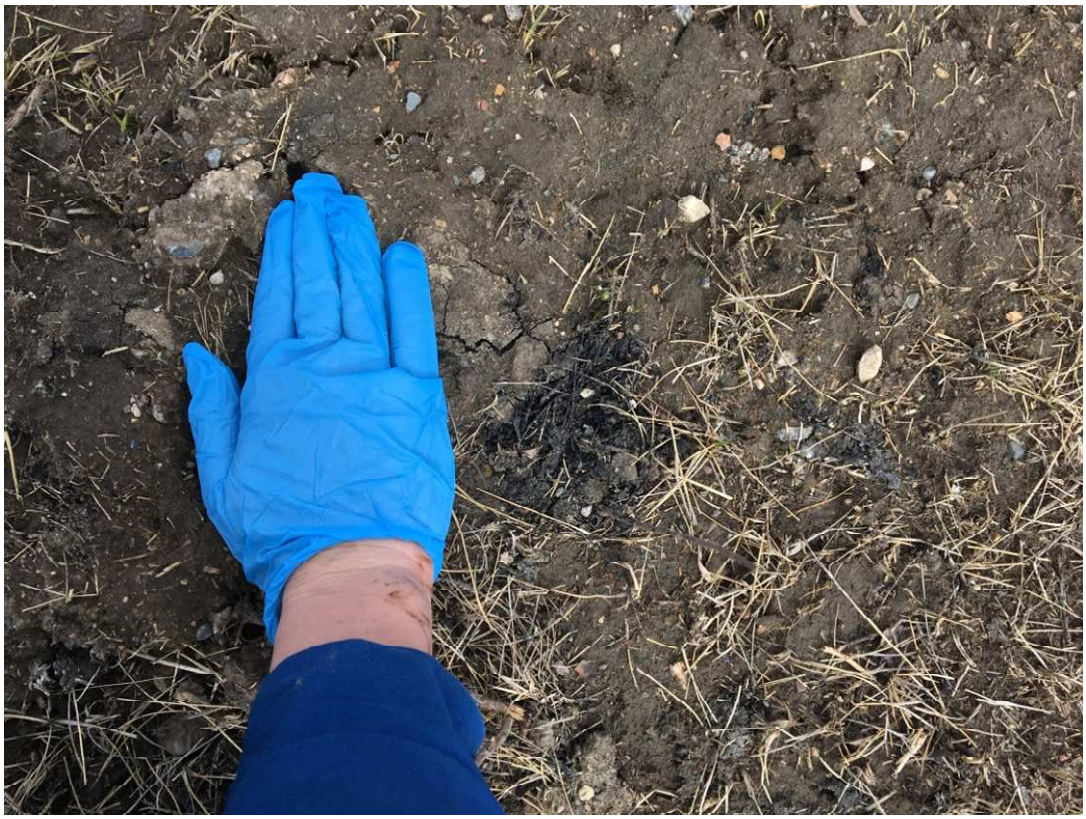

Photo 8: Close up of small residual product spots on ground surface north of grid road.

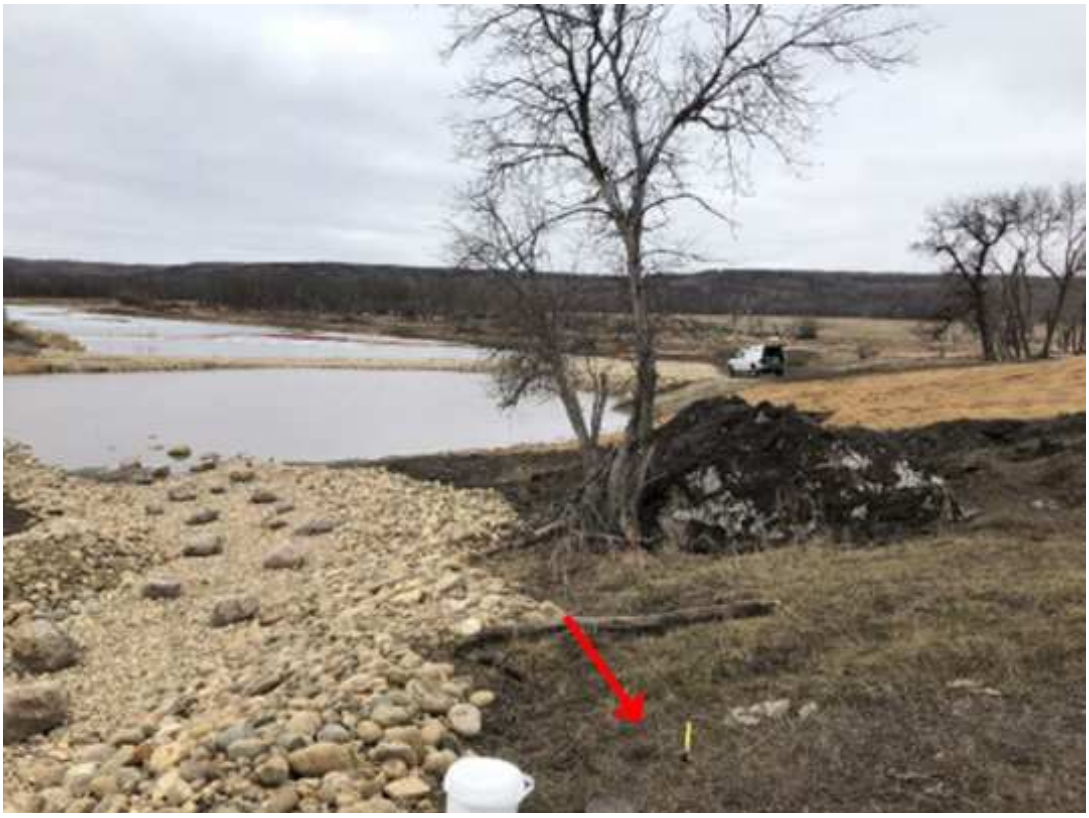

Photo 9: Location of two small impacted spots east of the intermodal containers.

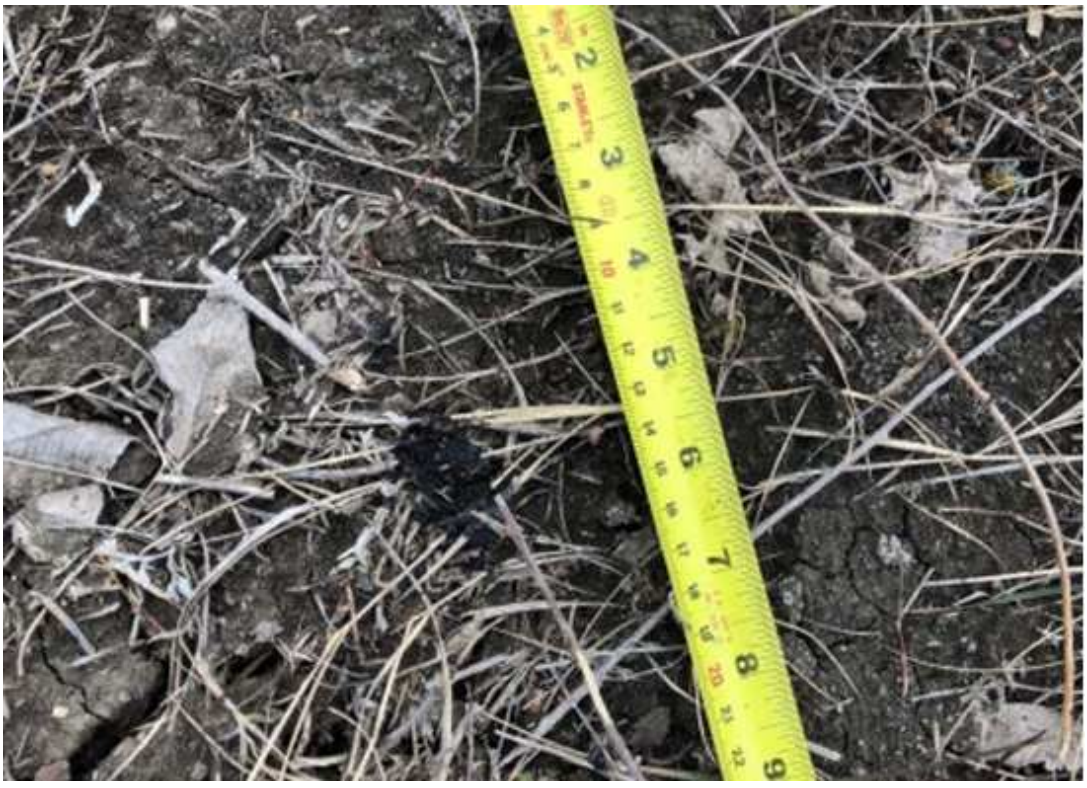

Photo 10: Example of small product spot observed in area shown in Photo 9.

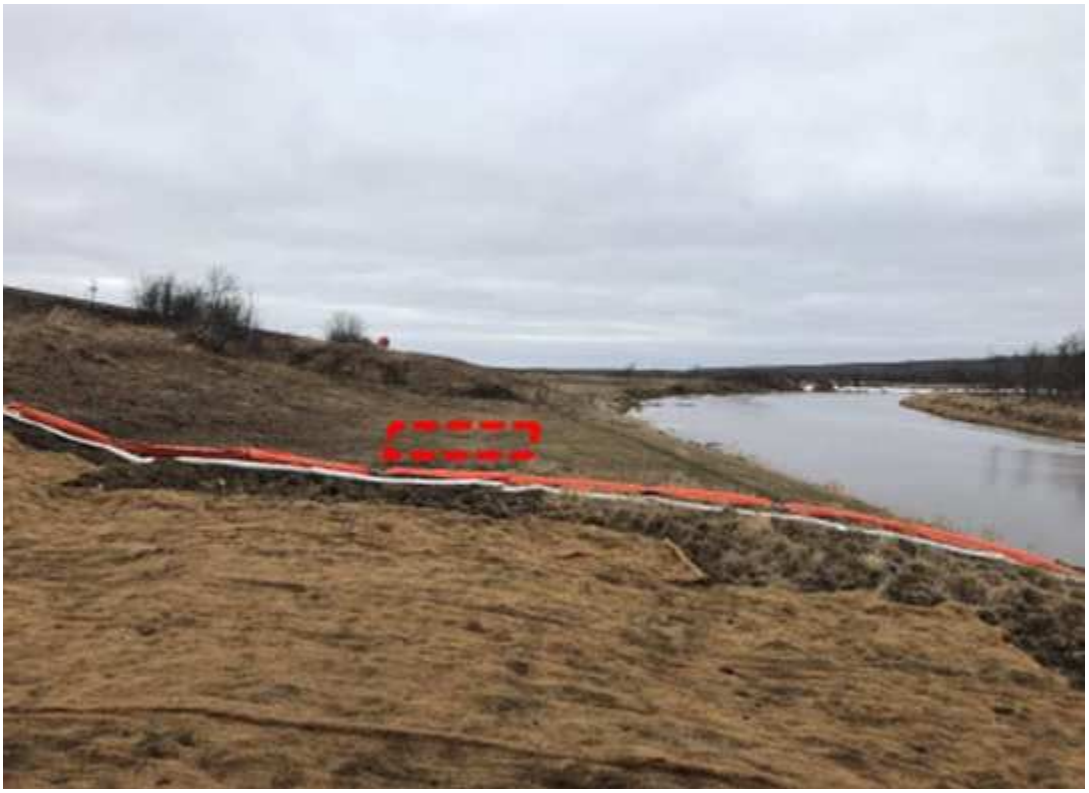

Photo 11: View east towards east of the east boom where five small spots observed.

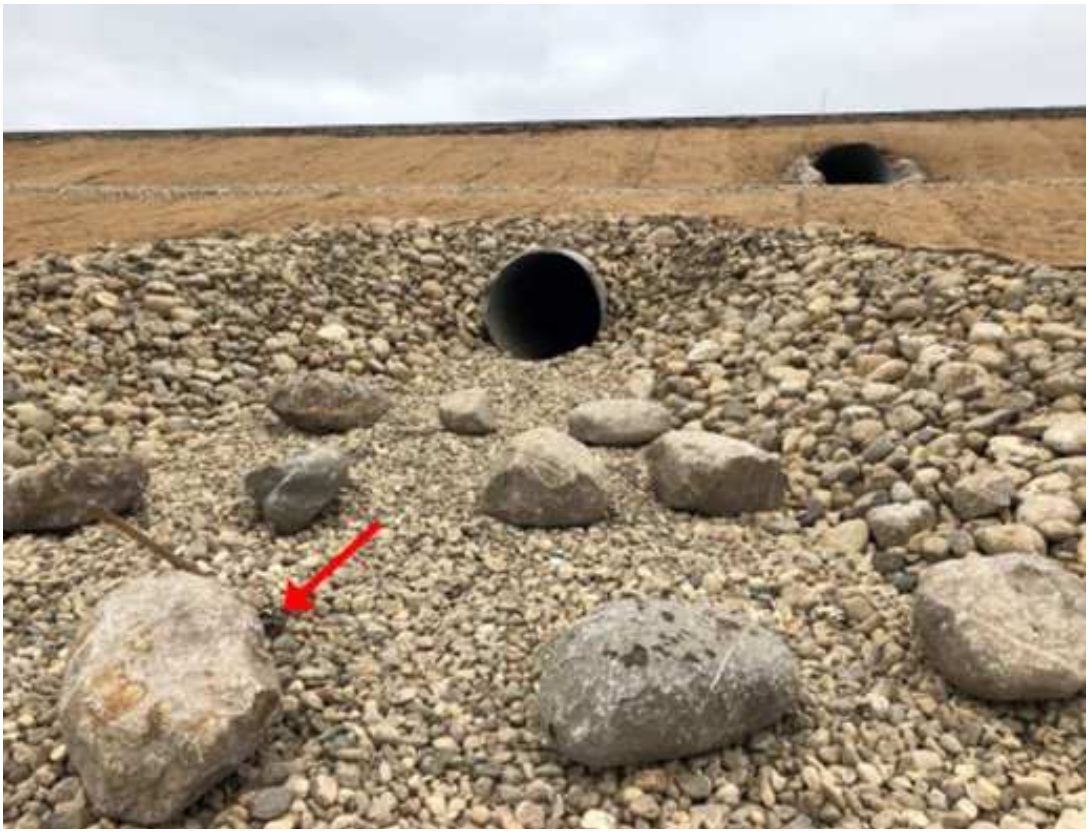

Photo 12: Location of river rocks with observed product downslope of the east culvert.

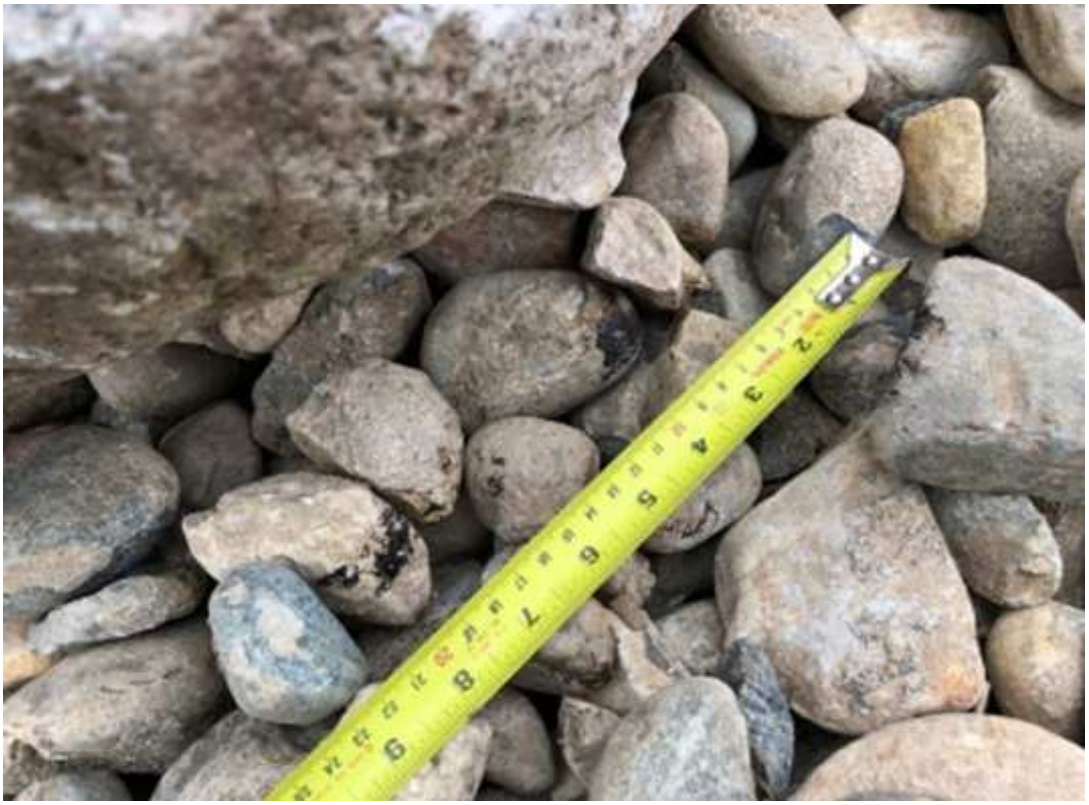

Photo 13: River rocks with small amount of product on them (location shown in Photo 12).

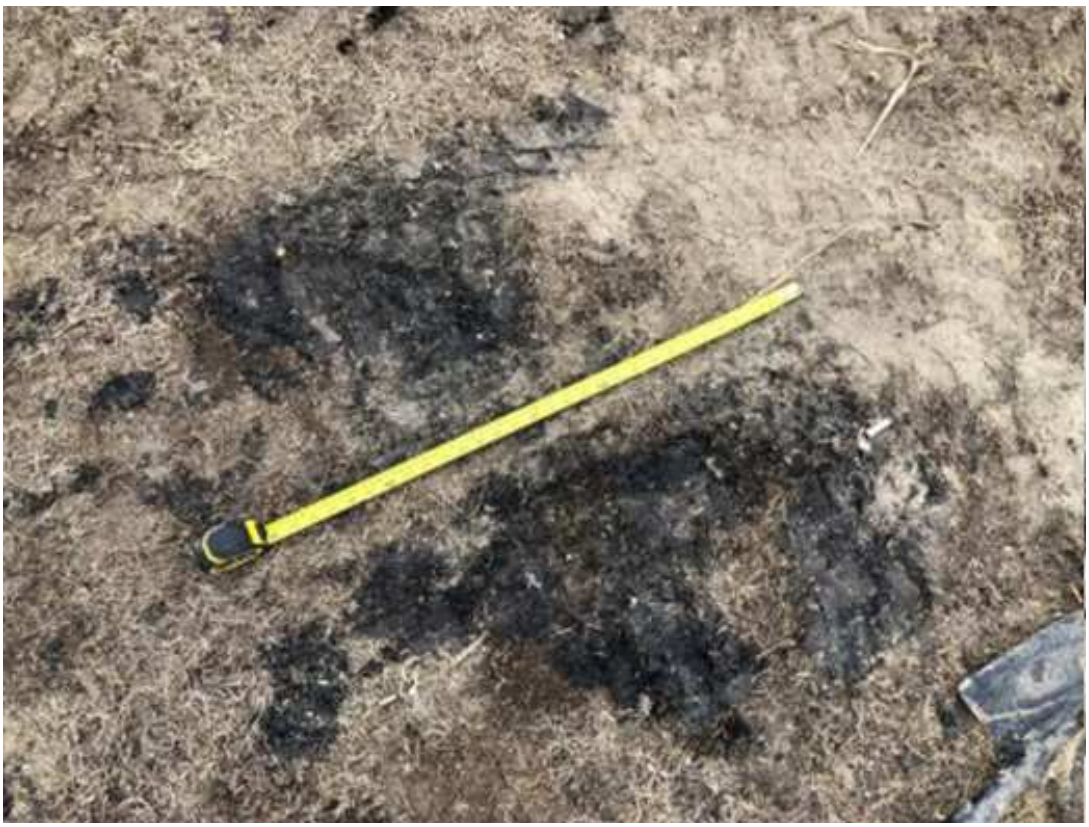

Photo 14: Product spots observed in south shearing area.

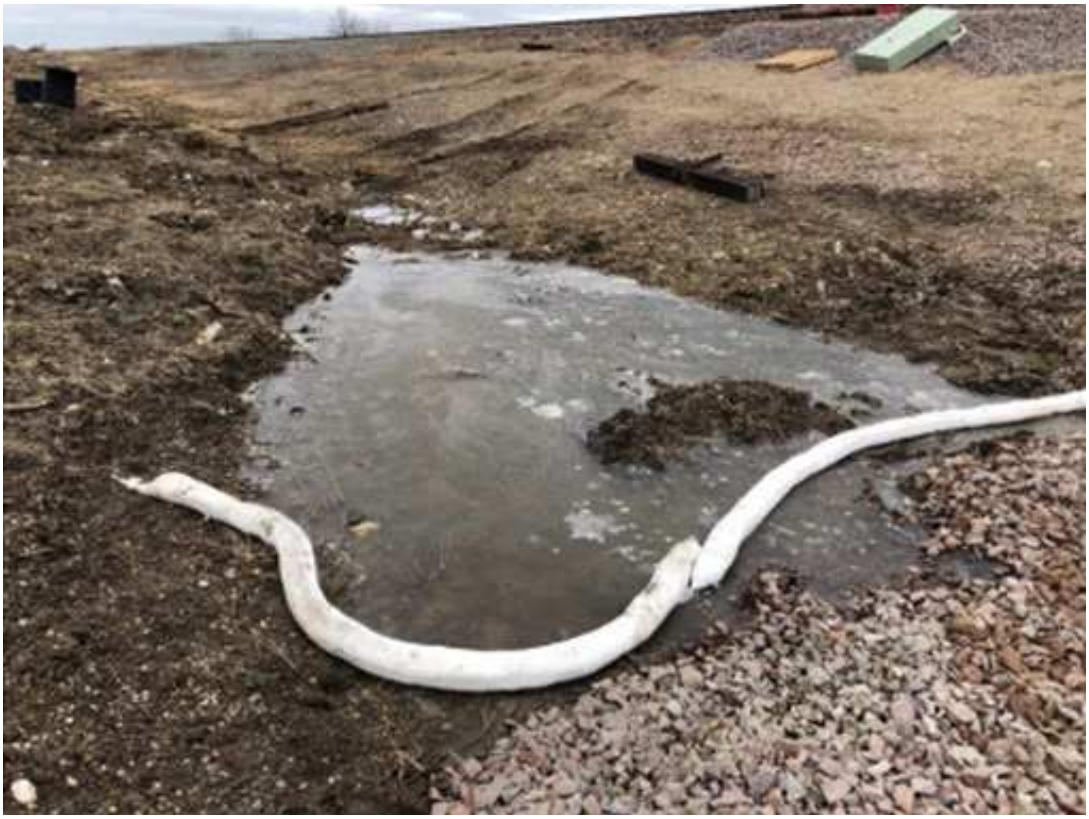

Photo 15: View to the east of the puddle located adjacent to the east culvert on the north side of the tracks.

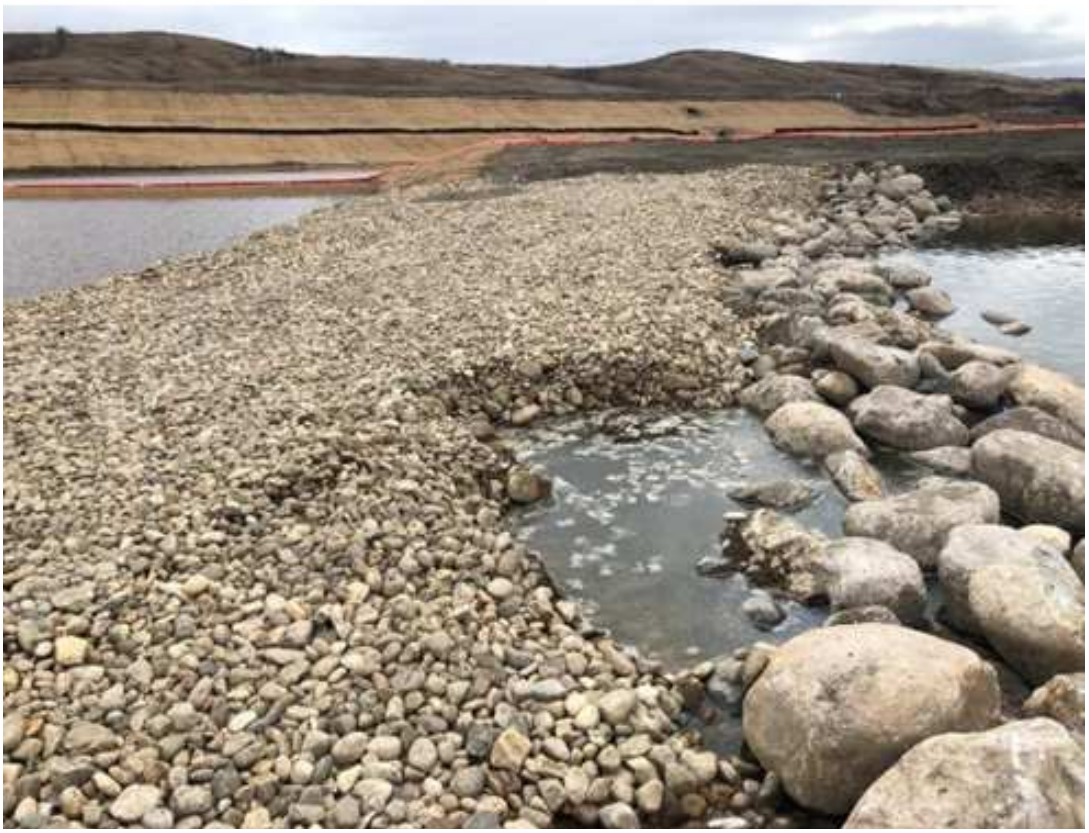

Photo 16: Area of subsidence within the south berm.

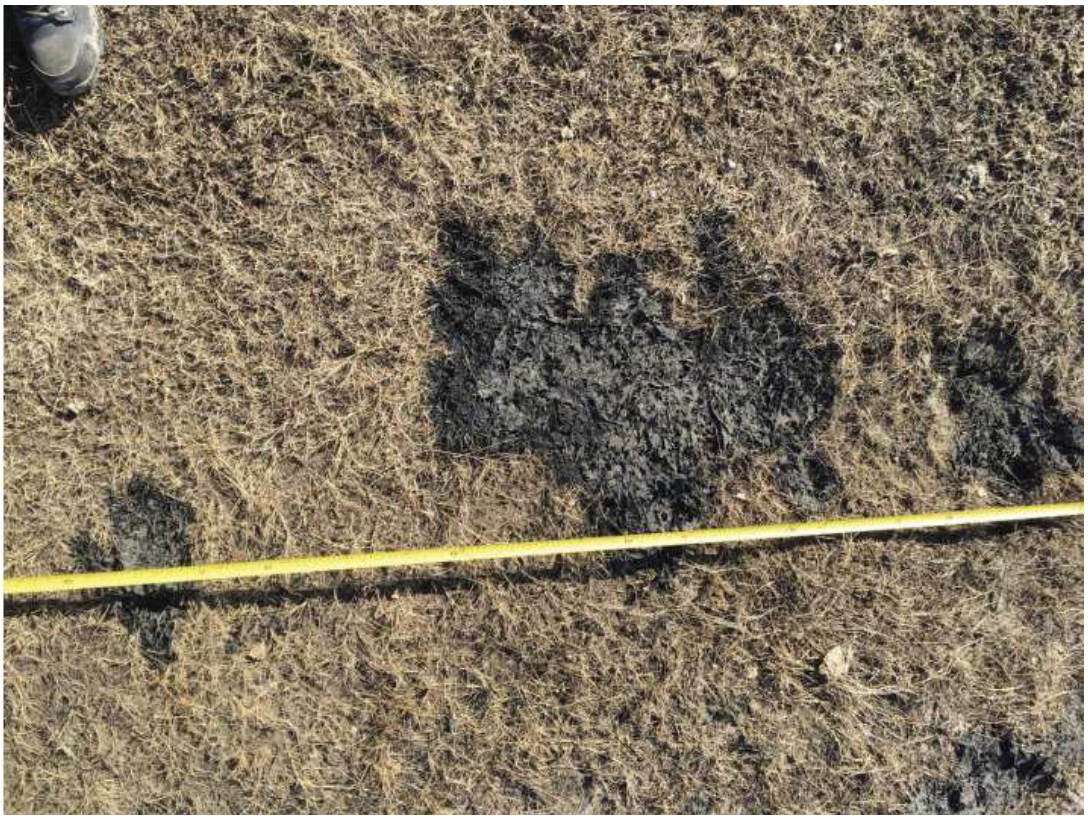

Photo 17: Example of product spot observed within former staging area north of the tracks.

Photo 18: Example of product spot observed within former staging area north of the tracks.

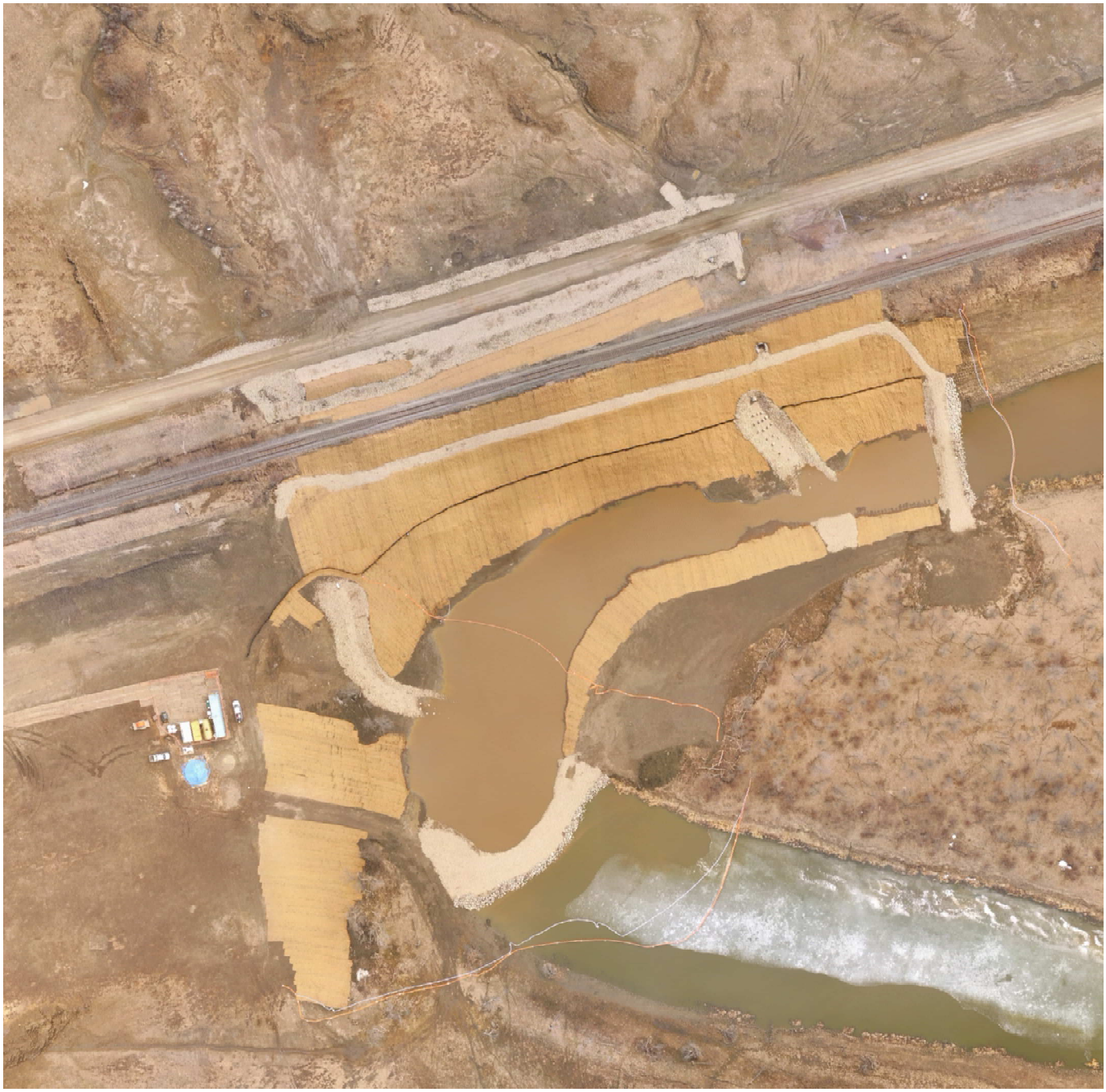

Photo 19: Drone imagery from April 8th, 2019.

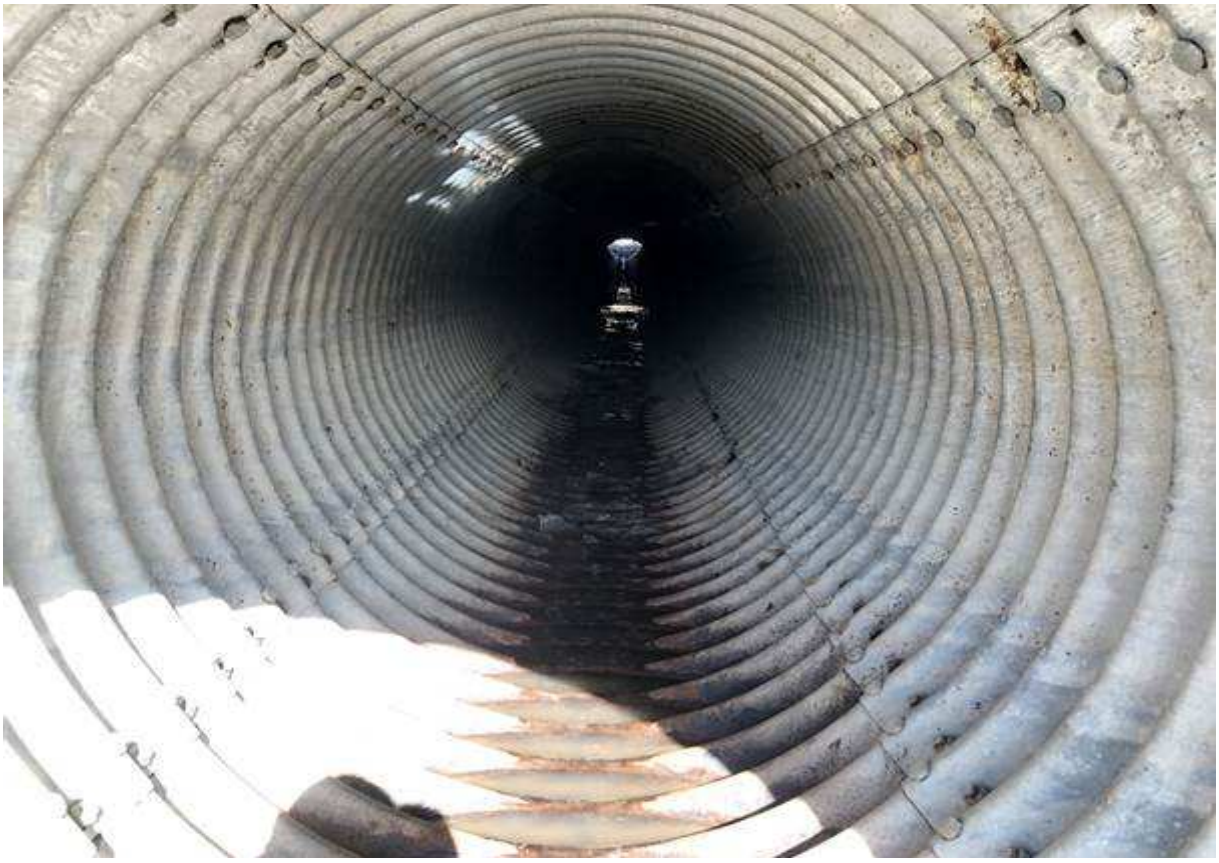

Photo 20: April 13, 2019 view looking north from the south end of the east culvert. Standing water is present in the middle of the culvert; no product or hydrocarbon sheen observed in surface water.

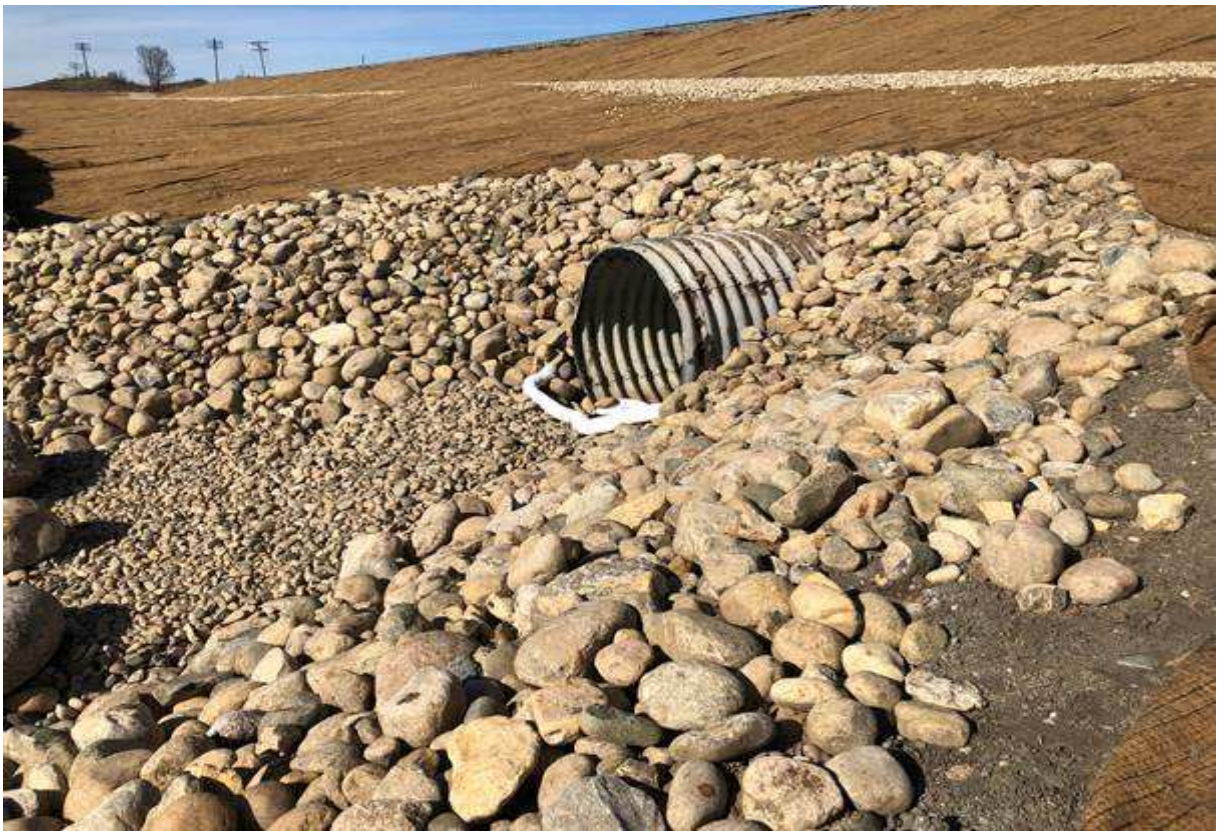

Photo 21: View of south end of east culvert after absorbent boom deployment – no outflow of surface water.

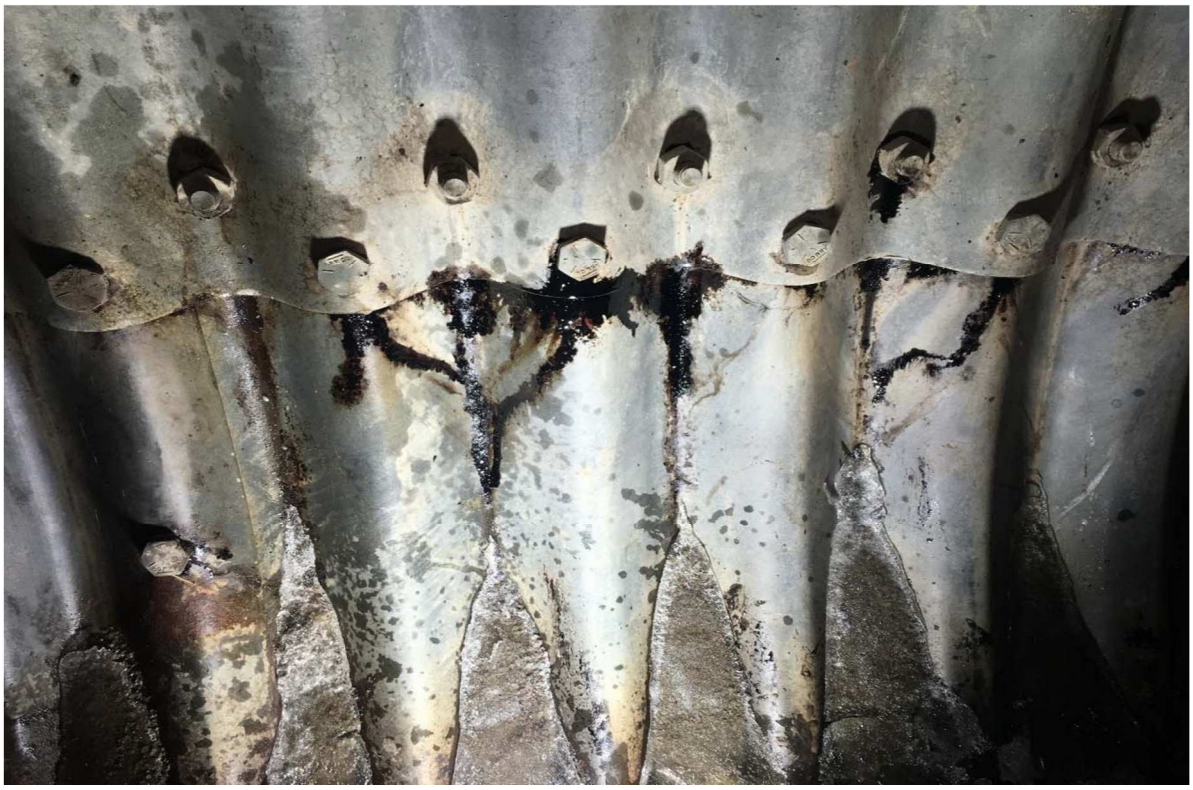

Photo 22 – Seepage in east culvert prior to cleaning as observed on April 14, 2019.

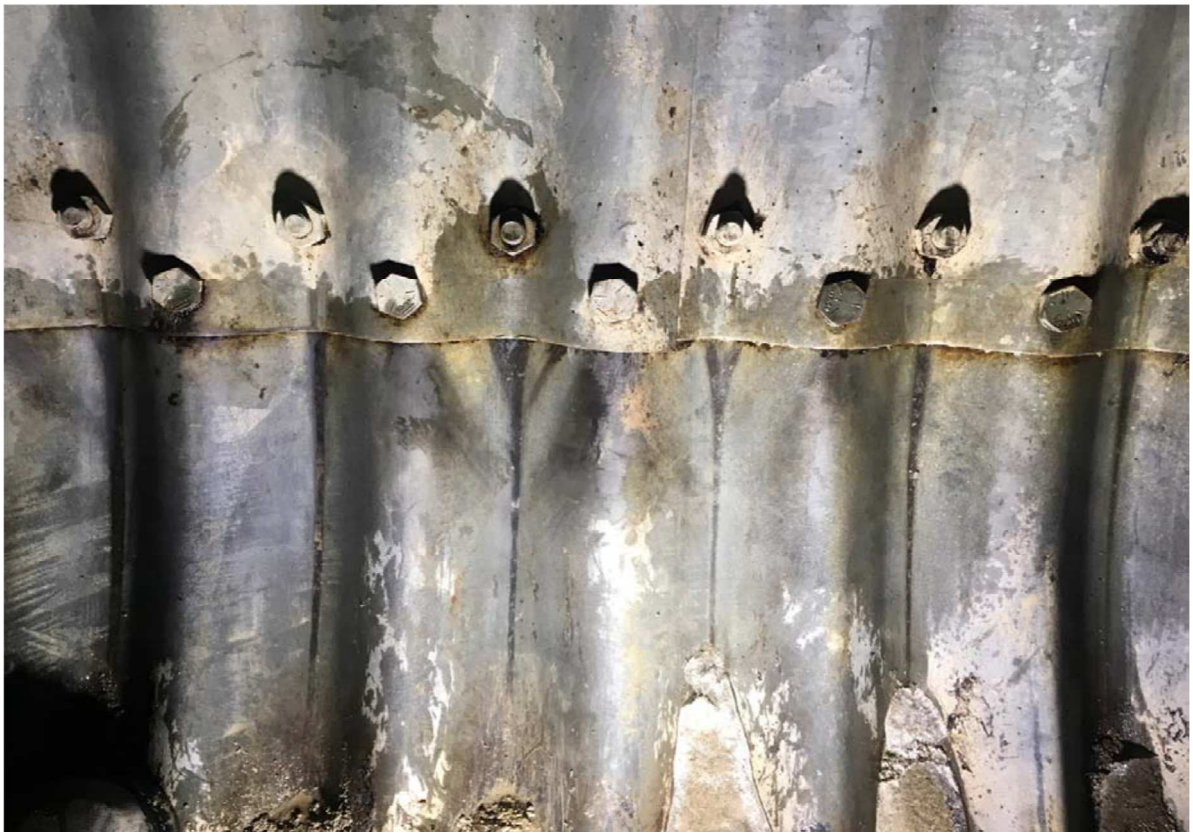

Photo 23 – Seepage in east culvert after cleaning as observed on April 14, 2019.

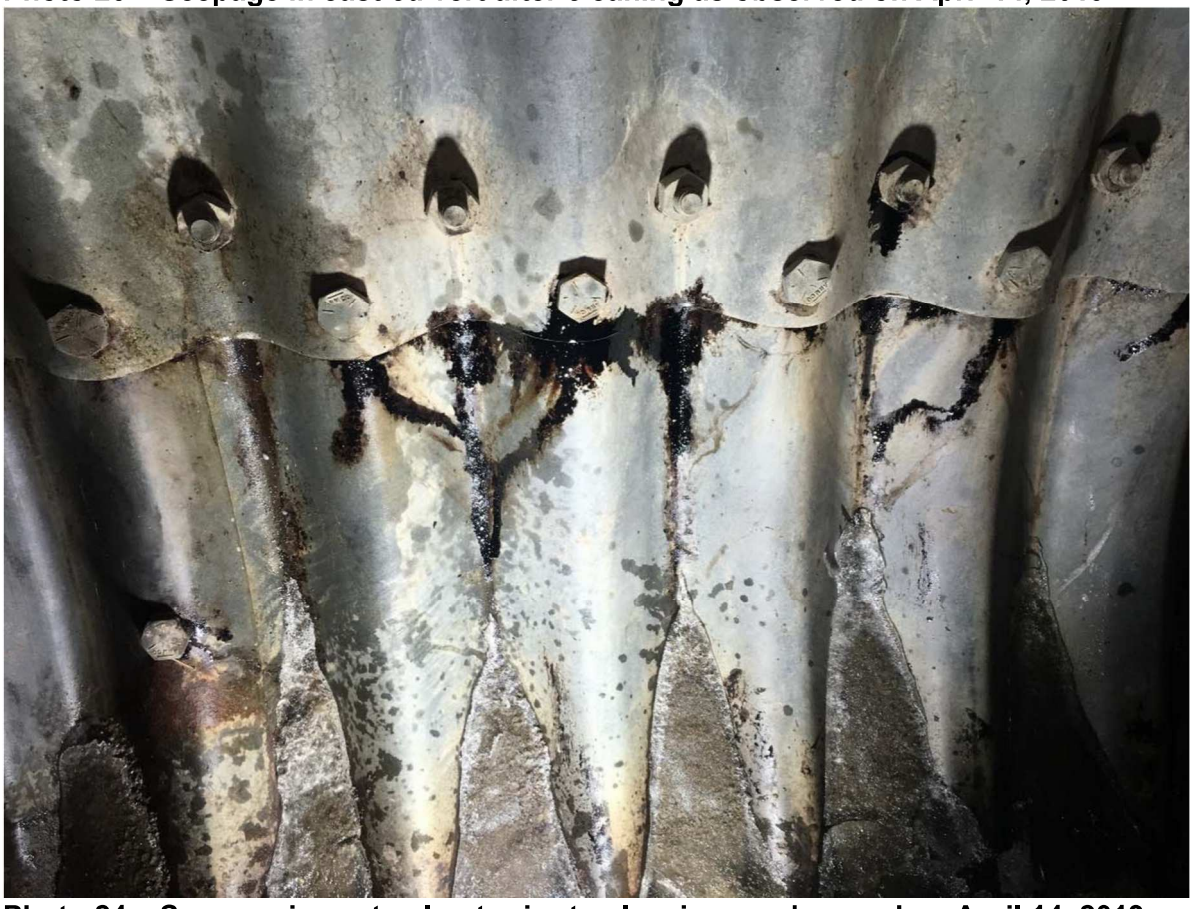

Photo 24 – Seepage in east culvert prior to cleaning as observed on April 14, 2019.

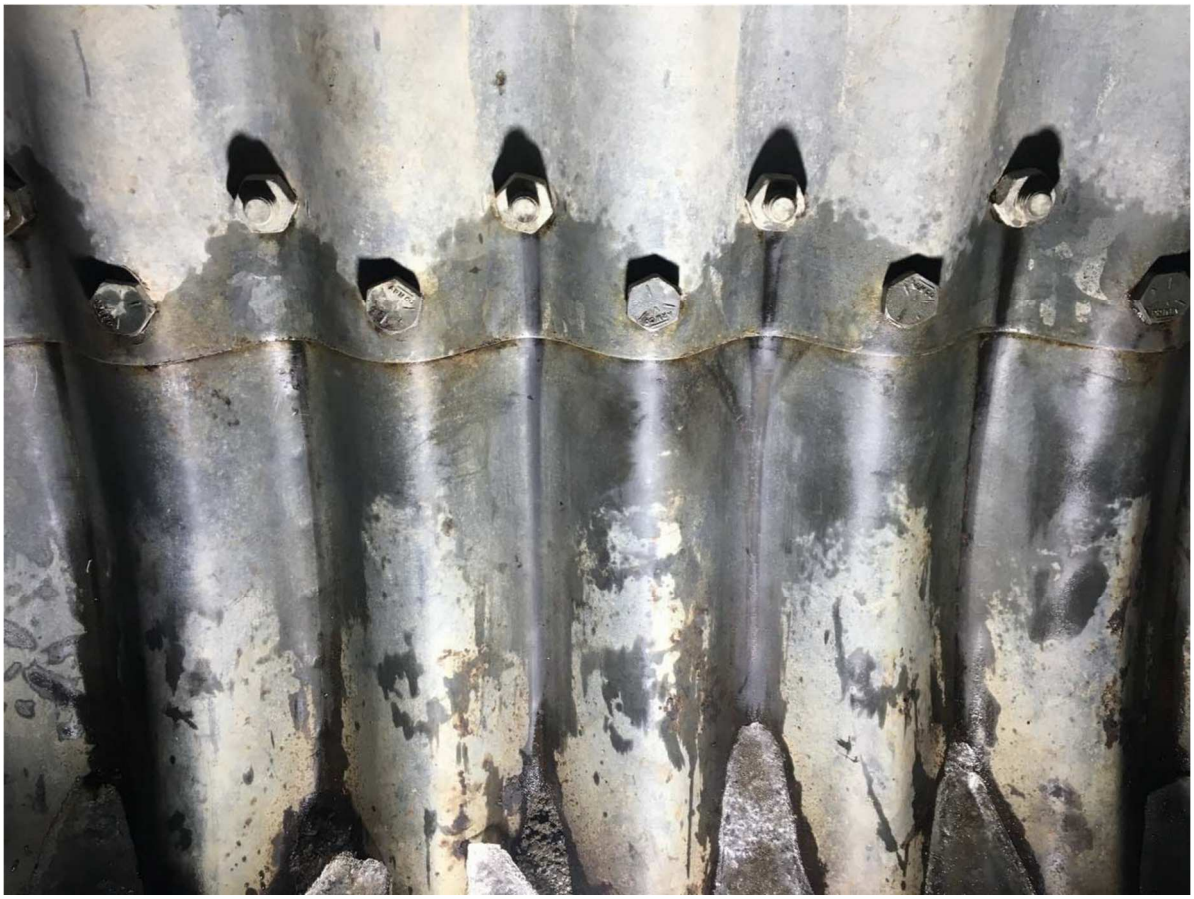

Photo 25 – Seepage in east culvert after cleaning as observed on April 14, 2019.