Canadian Natural

PEACE RIVER
2018 WELL INTEGRITY PERFORMANCE
Scheme Approval #8143

April, 2019

PREMIUM VALUE. DEFINED GROWTH. INDEPENDENT.
Agenda

1. 2018 Casing Integrity Summary
2. Casing Integrity Initiatives
2018 Casing Integrity Summary

- No casing failures or well integrity issues on any thermal or utility wells
- All disposal wells passed packer isolation tests in August
  - 102/14-25-085-19W5M [well 322]
  - 102/16-23-085-19W5M [well 323]
- Completed casing at-grade corrosion repairs on Pads 32 and 33 (cut out and replacement)
- Two external, at-grade, casing corrosion checks run on Pad 22 wells prior to return to steam:
  - wells 22-01 and 22-02 (August).
  - no concerns identified; all wall losses on exposed primary barrier casing were well within acceptable.
- No scheduled, preventative, integrity work in 2018
  - no downhole well integrity logs required or run in 2018
External Casing Inspections - methodology

- Laser map and pit gauge used to assess amount of wall loss (22-01 prod’n casing):

- UT used to confirm remaining wall thickness at locations of deepest pit(s).
2018 PEACE RIVER WELL INTEGRITY INITIATIVES
2018 Initiatives

- Continue to monitor for external corrosion on thermal wells; take appropriate action where potential concerns identified

- Future risk mitigation:
  - Updated and issued internal Thermal Well Casing Integrity Protocol document (approved in 2018)
  - Training provided to all stakeholders on the documents