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Cc: Jerry Alberts; Cole Kilstrom; Brian Dodek

Subject: River Ranch To Robinson Pad Pipeline Remediation Project - October 26th, 2010 Status Update

River Ranch To Robinson Pad Pipeline Remediation Project – October 26th, 2010 Status Update

COGCC Reporting:

- A Form 19 Spill Report was submitted 8/6/10 and subsequently revised on 8/10/10.
- A Form 27 Site Investigation and Remediation Work Plan was submitted 8/18/10 and subsequently revised on 10/07/10.

Environmental Site Assessment:

- LTE/Antero submitted its initial Work Plan to COGCC on 8/18/10.
- LTE/Antero submitted its Environmental Site Assessment Report to the COGCC on 10/7/10.
- August 31 to September 2, 2010 – Initial groundwater monitoring well sampling, samples were analyzed for BTEX.
- October 11th, a second round of groundwater monitoring well sampling was conducted. Samples were analyzed for BTEX.

- Monitoring well sampling will continue on a monthly basis.
- October 21st, LTE was on location to complete a second phase of environmental investigation.
 - They investigated subsurface soil conditions.
 - Monitored for presence of hydrocarbons with a photo ionization detector (PID) and collected soil samples for the laboratory at depths where evidence of hydrocarbon impact was detected.
 - This phase will assist in determining the extent of additional soil excavation if identified to be a viable remediation option.

Surface Water Monitoring Program:

- Surface water sampling (BTEX and chloride) continues at weekly scheduled intervals for Seeps 1-4 and Check Dam.
 - Seep 1 is additionally tested for TDS and anions/cations weekly.
- The CDPHE Outfall (a.k.a."Pond 3") is tested weekly for BTEX, chloride, TDS, DRO, GRO, anions/cations, and sulfate.
- Please refer to **Gravel Pit Release Rev 08_03_10-b** Diagram (attached) for sample locations.
- The last sampling event was Friday, October 22nd.
- Most recently available analytical data is contained in **Analytical Table 10-22-2010** (attached for your review).

Initial Soil/Groundwater Remediation Efforts:

- August 6th, 2010 HRL Compliance treated release excavation with 80gal/50Bbl Microblaze.
- August 11th, 2010 HRL Compliance again treated release excavation with 80gal/50Bbl Microblaze.

Future Remediation Considerations:

- Initial proposals to air sparge the impacted areas will be decided upon after analytical review of the 9/24 and 10/22 groundwater data results.
- Hydrological conditions at the site are being evaluated for best remediation options. Possible soil & groundwater in-situ treatment with microbial and/or oxidizing agents.
- A permeable reactive barrier is being evaluated.
- Excavation may also be prudent at the seep where hydrocarbons were originally discovered. This would be coordinated with the Grant Brothers.

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