Our Mission: To protect and improve the health and environment of all Kansans.
NuStar Pipeline Release
Homeowners Association Meeting
August 29, 2013, 7:00 PM

Peace Lutheran Church
405 W. 21st Street
Andover, Kansas

Our Mission: To protect and improve the health and environment of all Kansans.
Introductions

KDHE

• Pamela Green, Project Manager
• Chris Carey, Unit Chief, Site Restoration Unit
• Rick Bean, Chief, Remedial Section
• Kyle Parker, South Central District Office
• Grant Harse, Environmental Attorney
Introductions

NuStar

- Renee Robinson, Environmental
- Joe Aldridge, Environmental
- Bill Fogarty, Regional General Manager
- Dan Tibbits, Regional HSE Director
- Mike Dillinger, In-House Counsel

Apex Environmental

- Samuel Jackson, Apex Consultants
Roles & Responsibilities

- **NuStar**
  - Responsible Party
- **Apex**
  - Contracted by NuStar to assist in providing environmental services
- **KDHE**
  - Provide oversight of investigation and cleanup
  - Ensure protection of human health and the environment
Purpose

• Update the community on preliminary results
• Address and understand community concerns
• Share information regarding anticipated future activities
Agenda

- Background and Response Actions
- KDHE Process
- Preliminary Site Investigation Results
- Future Actions
- Examples of Remedial Actions for Petroleum Sites
- Community Involvement
- Overview and Path Forward
- Questions
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Background

- June 9, 2012 – NuStar received a report of a gasoline odor in the irrigation well at 2006 N. Colt Court.
- June 12, 2012 – KDHE District Office notified.
- June 12, 2012, NuStar representatives collected groundwater samples from the affected irrigation well at 2006 Colt Court which confirmed the petroleum impacts.
  - Six nearby irrigation wells were also inspected and field tested for potential gasoline impact. No indications of petroleum impacts were observed in these wells.
- June 15, 2012, the affected irrigation well-fed sprinkler system was connected to the public water supply.
Background

- From June 13th through July 3rd, 2012, NuStar conducted various excavation activities along with hydrostatic and tracer testing in order to locate the leak point. In late June and early July, a 250 foot section of the pipeline was identified and isolated as a result hydrostatic testing and subsequently excavated.

- July 3, 2012 - after several weeks of testing and excavation, the leak point was located in a section of piping located beneath W. Mountain Street.

- July 5 and 6, 2012 - approximately 16 cubic yards of impacted soil was excavated from beneath and adjacent to the pipeline, and the pipeline was replaced.
Product Recovery

• Product recovery from the 2006 Colt Ct. well since June 14, 2012.
• Over 225 gallons of product have been recovered from the irrigation well.
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• Closing Remarks
• Questions
Generalized Process to Address Contaminated Sites

- Investigation
- Evaluation of Remedial Alternatives
- Draft Decision Statement
- Public Comment
- Final Decision Document
- Cleanup
- Closure

Interim Measures

Monitoring

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Site Investigation Activities

• Soil Sampling (2012-2013)
• Irrigation Wells (2012-2013) (ongoing)
• Monitoring Wells (2013) (ongoing)
Preliminary Results

Screening Levels:

- EPA’s Maximum Contaminant Levels (MCLs)
- KDHE Risk-Based Standards for Kansas (RSK) Manual – Tier 2 Levels
Soil Sample Results

- Samples of excavation floor and sidewalls
  - Petroleum contamination still present above Tier 2 Levels
- Soil sample from 2006 N. Colt Court
  - No petroleum contamination above Tier 2 Levels
Irrigation Well Findings

• Grab samples were collected near the water table.
• Results used to help delineate area of contamination.
• Due to large screened interval, these results may be different from what is pumped from the well.
• Results of 10 irrigation wells sampled in July and August 2013:
  ➢ Three wells impacted above MCLs
  ➢ Two wells with low-level detections below the MCLs
  ➢ Five wells with no detections
Groundwater Flow

• Groundwater elevation measurements show groundwater flowing away from pond to northeast and east
Groundwater Flow Map

Legend:
- **MW-1**: Monitoring Well Location
- **1387 FT**: Groundwater Elevation in Feet MSL
- **1330**: Groundwater Elevation Contour (Dashed Where Inferred)
- **Inferred Groundwater Flow Direction**
- **B-1**: Boring Location
- **Irrigation Well Impacted by Separate-Phase Hydrocarbons**
- **Irrigation Well Location Sampled for Dissolved-Phase Hydrocarbons**
- **Irrigation Well**
- **VP-4**: Soil Vapor Monitoring Point
- **Property Line**
- **Pipeline**
- **HOA**: Lot Owned by Quail Crossing Homeowner's Association

NOTE: A well survey has been performed to identify irrigation wells shown on this map; however, additional irrigation wells may be present.

Scale in Feet:

Groundwater Elevation Results
August 13, 2013
NuStar Pipeline Operating Partnership L.P.
Andover, Kansas
Benzene Concentrations in Groundwater

Legend:
- MW-1 Monitoring Well Location
- HOA Lot Owned by Quail Crossing Homeowner's Association
- Benzene Concentration: Greater than KDHE Screening Level (≥0.005 mg/L)
- Benzene Not Detected or Less than KDHE Screening level (<0.005 - ND mg/l)
- Water Sample Recently Collected or Water Sample to be Collected
- Irrigation Well Impacted by Separate-Phase Hydrocarbons

NOTES:
1) Data are preliminary and subject to revision.
2) A well survey has been performed to identify irrigation wells shown on this map; however, additional irrigation wells may be present.

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Future Actions

• Complete groundwater investigation and continue groundwater monitoring
• Perform vapor intrusion investigation
• Continue product recovery
• Implement additional interim measures and select final remedy
Future Actions

• Complete groundwater investigation
  – September 2013
    ➢ Sample additional Irrigation wells
    ➢ New monitoring wells

• Periodic groundwater sampling
Future Actions - Vapor Intrusion

- Migration of volatile chemicals from the subsurface into overlying structures
- Existing data indicate the need for vapor intrusion testing at the Site
- Winter 2013-2014 (cold weather season)
Future Actions – Interim Measures

• Interim Measures
  ➢ Continued Product Recovery
  ➢ Other remedial actions to be determined based on technical and logistical constraints.
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Potential Remedial Actions at Petroleum Sites

- \textit{In situ} Treatment
- Product Recovery
- Pump and Treat Contaminated Groundwater
- Soil Vapor Extraction
- Phytoremediation
- Monitoring
In Situ Treatment

- Injecting microbes, nutrients and/or other chemicals to reduce contaminant concentrations
- Limited on-site infrastructure requirements
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Product Recovery

- Vacuum truck or bailing to continue product removal from the effected irrigation well at 2006 N. Colt Court
- Expanded product recovery potentially using trenches or extraction wells
Pump and Treat
Soil Vapor Extraction

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Phytoremediation

- Tree roots take in water and pollution from the ground.
- Water enters the tree where pollution is cleaned up.
- Polluted soil leads to clean soil.
- Water table and polluted groundwater are affected by the process.
Monitoring

- Routine groundwater sampling to evaluate the performance of the remedy.
- Will be a component of any remedial strategy selected for the site.
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Community Involvement

• Purpose – strategy for community involvement and outreach:
  ➢ Keep you informed of ongoing and planned activities
  ➢ Hear your concerns
  ➢ Be part of the decision-making process
  ➢ Answers the 5 “W’s” of relaying information

• Conversation/Interviews
Community Involvement Plan

Establishes a local information repository:

• Newsletter/Fact Sheets of current activities
• Work Plans
• Investigation Results/Reports
• Corrective Action Study
• Corrective Action Decision
• Remediation Work Plans and Reports
Community Involvement Plan

How would you like to obtain information?

- E-mails or mailing list
- Web site
- Newspaper/local media
- Neighborhood/public meetings
Contacts

• KDHE: Pamela Green
  – pgreen@kdheks.gov
  – 785-296-1935

• NuStar: Dan Tibbits
  – Dan.Tibbits@nustarenergy.com
  – 316-721-7056
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Overview and Path Forward

• Preliminary results show elevated levels of benzene and other VOCs in soil and groundwater.
• Additional data are necessary to define the extent of impact, evaluate vapor intrusion and select appropriate response actions.
• KDHE will work with NuStar to complete this necessary work and develop a remedial strategy as quickly as possible.
• KDHE continues its efforts to develop a Community Involvement Plan and will be in touch with some Quail Crossing residents soon.
Questions
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