Principal Investigator: Alex Dankanich
Senior Accident Investigator: Mike Yazemboski
Region Director: Byron Coy
Date of Report: 7/17/2013
Subject: Failure Investigation Report – Buckeye Macungie Tank 230 bottom weld failure

Operator, Location, & Consequences

Date of Failure: 07/13/2012
Commodity Released: Hazardous Liquid (Gasoline)
City/County & State: Emmaus, Lehigh County, PA
OpID & Operator Name: 1845 - Buckeye Partners, LP
Unit # & Unit Name: 321 - Macungie - PA
SMART Activity #: 140298
Milepost / Location: Macungie Station, 5131 Buckeye Road, Emmaus, PA 18049
Latitude 40.513554, Longitude -75.53238
Type of Failure: Leak from crack in weld between tank bottom and wall
Fatalities: No
Injuries: No
Description of area impacted: Leak was contained to the tank dike area. Facility is located a High Consequence Area (HCA).
Total Costs: $380,538
Executive Summary

At 11:30 am on July 13, 2012, gasoline was discovered in the dike area of Tank 230 in the Buckeye Macungie Station located in Emmaus, Lehigh County, Pennsylvania. Tank 230 is designated as a break-out tank and is thus regulated under 49 CFR, Part 195. The leak was caused by a low cycle fatigue weld failure due to the filling and draining of the tank. Corrosion contributed to the weld failure. Approximately 9 barrels of gasoline leaked into tank dike area. The gasoline was totally contained on Operator-controlled property. Tank 230 is located in a designated high consequence area (HCA). There were no injuries or fatalities, evacuations, or supply disruptions as a result of the incident.

An inspector from PHMSA Eastern Region was dispatched to the location on August 16, 2012 to conduct an investigation into the cause of the release.

System Details

Buckeye Partners, LP owns and operates a break out tank farm in Macungie, PA (Appendix A). Refined products are regularly delivered to the tank farm, temporarily stored, and shipped out by pipeline and by truck to fill requests for product. A Buckeye owned system of pipelines enters and exits the tank farm.

Tank 230 is an atmospheric storage tank that was built in 1974. It is 110 foot diameter by 48 feet high and has an internal floating roof and a steel cone roof. It was last internally inspected on 4/2/1997 by DJA Inspection Services, Inc (Appendix B / Appendix C). At that time it had a magnetic flux leakage scan over 100% of the floor, and ultrasonic thickness readings taken on the bottom. Repairs were made on all pits as needed to achieve a calculated floor life of about 24 years. A 2008 external inspection (Appendix D) included ultrasonic thickness readings of the shell, nozzles and roof.

Events Leading up to the Failure

Prior to the leak that was discovered on July 13, 2012, Tank 230 was in normal service (Appendix E). There were no leaks or operational issues reported since the tank bottom was repaired following the 1997 out-of-service inspection.

Emergency Response

At 11:30 am on July 13, 2012, while performing a monthly tank inspection on Tank 230 at Buckeye's Macungie Station (Appendix F), a Buckeye operations employee noticed stained soil next to the tank. Emergency response procedures were initiated and all appropriate notifications were made. The tank was isolated and emptied. Three monitoring wells were excavated in the area of the stained soil. Gasoline odor was detected in the well closest to the tank, but no free product was observed. The monitoring wells were checked during the tank emptying process and no additional product was discovered. The tank was emptied and cleaned.

Summary of Return-to-Service

The tank bottom was inspected and repaired. Below is a list of the repairs completed. The tank was hydrostatically tested and returned to service in January of 2013.

1. New 30 inch wide annular ring installed
   a. Vacuum box tested lap weld to existing tank bottom
   b. Vacuum box and mag particle tested annular ring butt welds
   c. Oil penetrant tested shell/annular ring corner weld
   d. Helium tested entire tank bottom
2. Repaired 4 soilside pits
3. Installed new epoxy floor coating
4. Removed leak detection tubes
5. Installed new man-way and door sheet
6. Painted tank exterior shell course 1 (up to first horizontal weld – 8”)

Investigation Details

PHMSA Eastern Region received an NRC report 1017664 on 7-14-2012 regarding a possible tank leak after a routine plant patrol found gasoline at the chime area of Tank 230 at the Buckeye Macungie PA tank farm. The gasoline appeared to be coming from under the tank bottom. The gasoline was transferred to another tank, and the tank was cleaned and taken out of service for inspection. An internal inspection and investigation revealed a crack in the fillet weld at the base of the tank wall and bottom plate.

A metallurgical analysis (Appendix G) was performed on the failed weld. A summary of the metallurgical analysis is below. Tank 230 was repaired and returned to service.

A soil boring investigation was conducted and soil samples were sent for laboratory analysis. Soil results indicated that concentrations of target constituents of concern are below PADEP approved risk-based site specific standards for the Macungie Station; therefore, no additional environmental Investigation or remediation was conducted.

Metallurgical Analysis Summary:
The analysis states: “We believe the crack that ultimately formed the leak had initiated and propagated under cyclic fatigue loading. Specifically, the failure mechanism was low-cycle fatigue (LCF). LCF occurs under high-amplitude low-frequency loading. In this instance cyclic loading was a function of the applied pressure variations directly related to changing gasoline levels in the tank. While LCF can also be associated with thermal stress, this is not likely in this instance as such thermal stress changes are a function of temperature change. Since the tank only saw ambient temperatures, changes in thermal stresses would have been negligible. This initiated the crack from the inside of the tank that propagated through-wall, causing the leak. As previously noted, we were unable to identify features associated with fatigue from fracture surface evaluation. However, the presence of multiple cracks adjacent to the leak was an indicator of LCF. Multiple parallel cracks are common under LCF as the high strain amplitude can initiate several cracks. Only one preferential crack will continue to propagate while the others stop. The presence of these multiple transgranular cracks is a good indicator of an LCF mechanism. We are of the opinion that the root cause of cracking really resulted directly from the loss of wall associated with external pitting corrosion. The degree of external pitting observed would have increased the stress from applied service loads, in some cases more than doubling local stress. We believe the increase in stress caused by wall loss was sufficient to initiate and propagate an LCF crack adjacent to the weld toe in the floor plate”.

Findings and Contributing Factors

The source of the release was determined to be a small crack in the floor plate near the tank shell. Laboratory analysis revealed that corrosion contributed to the weld failure. Weld failure was due to Low Cycle Fatigue from the filling and draining of the tank.

There were leak detection tubes near the failure location which had been placed there after the tank was built. The tubes were no longer being used, however, Buckeye believes that the placement of these
tubes displaced the firm soil foundation in the area where the leak occurred. This may have contributed to the cycling effect of the floor plate during filling and draining of the tank.

**Appendices**

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>140298 Appendix A Maps</td>
</tr>
<tr>
<td>B</td>
<td>140298 Appendix B Bottom Inspection Report - 1997</td>
</tr>
<tr>
<td>C</td>
<td>140298 Appendix C Tank 230_mrt_calc 1997</td>
</tr>
<tr>
<td>D</td>
<td>140298 Appendix D API-653 In-Service Inspection - 2008</td>
</tr>
<tr>
<td>E</td>
<td>140298 Appendix E NRC Report 1017664</td>
</tr>
<tr>
<td>F</td>
<td>140298 Appendix F Buckeye O&amp;M Inspection procedures</td>
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<tr>
<td>G</td>
<td>140298 Appendix G Metallurgical Test Report</td>
</tr>
<tr>
<td>H</td>
<td>140298 Appendix H Accident Report 20120232 - 17205</td>
</tr>
</tbody>
</table>
Appendices A-D
Removed
Files available at PHMSA
INCIDENT DESCRIPTION

*Report taken at 14:41 on 13-JUL-12  
Incident Type: STORAGE TANK  
Incident Cause: EQUIPMENT FAILURE  
Affected Area: The incident was discovered on 13-JUL-12 at 13:00 local time.  
Affected Medium: OTHER  
DIKED AREA

SUSPECTED RESPONSIBLE PARTY

Organization: BUCKEYE PARTNERS  
EMMAUS, PA 18049

Type of Organization: PRIVATE ENTERPRISE

INCIDENT LOCATION

5131 BUCKEYE RD County: LEHIGH  
City: EMMAUS State: PA Zip: 18049

RELEASED MATERIAL(S)

CHRIS Code: GAS  
Official Material Name: GASOLINE: AUTOMOTIVE (UNLEADED)  
Also Known As:  
Qty Released: 25 BARREL(S)

DESCRIPTION OF INCIDENT

THE CALLER REPORTED THAT WHILE DOING A TANK INSPECTION, PRODUCT STAINING WAS DISCOVERED ON THE DIKE FLOOR. THERE WAS A DEVIATION IN THE PRODUCT LEVELS LAST NIGHT WHICH WOULD INDICATE 25 BBLS OF GASOLINE HAD DISCHARGED.

INCIDENT DETAILS

Description of Tank: GASOLINE  
Tank Above/Below Ground: ABOVE  
Transportable Container: NO  
Tank Regulated: YES  
Tank Regulated By: PHMSA  
Tank ID: 23  
Capacity of Tank: 73600 BARREL(S)  
Actual Amount: 60074 BARREL(S)

DAMAGES

Fire Involved: NO  
Injuries: NO  
Hospitalized: Empl/Crew: Passenger:  
Fatalities: NO  
Empl/Crew: Passenger: Occupant:  
Evacuations: NO  
Who Evacuated: Radius/Area:  
Damage: NO

Closure Type  Description of Closure  Length of Closure  Direction of Closure

Air: N  
Road: N  
Waterway: N  
Track: N  
Major Artery: N
Passengers Transferred: NO
Environmental Impact: UNKNOWN
Media Interest: NONE Community Impact due to Material:

**REMEDIAL ACTIONS**

TANK WILL BE EMPTIED/ INVESTIGATION UNDERWAY
Release Secured: YES
Release Rate:
Estimated Release Duration:

**WEATHER**

Weather: CLEAR, °F

**ADDITIONAL AGENCIES NOTIFIED**

Federal:
State/Local: DEP/ FD
State/Local On Scene:
State Agency Number:

**NOTIFICATIONS BY NRC**

ATLANTIC STRIKE TEAM (MAIN OFFICE)
   13-JUL-12  14:49
DHS PROTECTIVE SECURITY ADVISOR (PSA DESK)
   13-JUL-12  14:49
DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)
   13-JUL-12  14:49
U.S. EPA III (MAIN OFFICE)
   13-JUL-12  14:50
FLD INTEL SUPPORT TEAM PHILADELPHIA (MAIN OFFICE)
   13-JUL-12  14:49
NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)
   13-JUL-12  14:49
NJ STATE POLICE (MARINE SERVICES BUREAU)
   13-JUL-12  14:49
NOAA RPTS FOR PA (MAIN OFFICE)
   13-JUL-12  14:49
PA STATE POLICE (BUREAU OF CRIMINAL INVESTIGATION)
   13-JUL-12  14:49
PA EMERG MGMT AGCY (MAIN OFFICE)
   13-JUL-12  14:49

**ADDITIONAL INFORMATION**

*** END INCIDENT REPORT # 1017664 ***
Appendix F

O&M Inspection Procedures

Removed

Files available at PHMSA
Appendix G
Metallurgical Test Report
Removed
Files available at PHMSA
## ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. Public reporting for this collection of information is estimated to be approximately 10 hours per response (5 hours for a small release), including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

### INSTRUCTIONS

**Important:** Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at [http://www.phmsa.dot.gov/pipeline](http://www.phmsa.dot.gov/pipeline).

## PART A - KEY REPORT INFORMATION

<table>
<thead>
<tr>
<th>Report Type: (select all that apply)</th>
<th>Original:</th>
<th>Supplemental:</th>
<th>Final:</th>
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</table>

### Last Revision Date:

| 02/04/2013 |

1. **Operator's OPS-issued Operator Identification Number (OPID):** 1845

2. **Name of Operator:** BUCKEYE PARTNERS, LP

3. **Address of Operator:**

   - **Street Address:** FIVE TEK PARK
   - **City:** BREINIGSVILLE
   - **State:** Pennsylvania
   - **Zip Code:** 18031

4. **Local time (24-hr clock) and date of the Accident:** 07/13/2012 11:30

5. **Location of Accident:**

   - **Latitude:** 40.513554
   - **Longitude:** -75.53238

6. **National Response Center Report Number (if applicable):** 1017664

7. **Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):** 07/13/2012 14:40

8. **Commodity released: (select only one, based on predominant volume released):**

   - **Specify Commodity Subtype:** Gasoline (non-Ethanol)

   - **If “Other” Subtype, Describe:**

     - **If Biofuel/Alternative Fuel and Commodity Subtype is Ethanol Blend, then % Ethanol Blend:**%
     - **If Biofuel/Alternative Fuel and Commodity Subtype is Biodiesel, then Biodiesel Blend (e.g. B2, B20, B100):** B

9. **Estimated volume of commodity released unintentionally (Barrels):** 8.70

10. **Estimated volume of intentional and/or controlled release/blowdown (Barrels):**

11. **Estimated volume of commodity recovered (Barrels):** .02

12. **Were there fatalities?** No

   - **If Yes, specify the number in each category:**

     - **Operator employees**
     - **Contractor employees working for the Operator**
     - **Non-Operator emergency responders**
     - **Workers working on the right-of-way, but NOT associated with this Operator**
     - **General public**
     - **Total fatalities (sum of above)**

13. **Were there injuries requiring inpatient hospitalization?** No

   - **If Yes, specify the number in each category:**

     - **Operator employees**
     - **Contractor employees working for the Operator**
     - **Non-Operator emergency responders**
13d. Workers working on the right-of-way, but NOT associated with this Operator

13e. General public

13f. Total injuries (sum of above)

14. Was the pipeline/facility shut down due to the Accident? No
   - If No, Explain: THE TANK WAS ISOLATED AND EMPTIED
   - If Yes, complete Questions 14a and 14b: (use local time, 24-hr clock)

14a. Local time and date of shutdown: 07/13/2012 11:30

14b. Local time pipeline/facility restarted: 07/13/2012 11:30
   - Still shut down? (* Supplemental Report Required)

15. Did the commodity ignite? No

16. Did the commodity explode? No

17. Number of general public evacuated: 0

18. Time sequence (use local time, 24-hour clock):

   18a. Local time Operator identified Accident: 07/13/2012 11:30

   18b. Local time Operator resources arrived on site: 07/13/2012 11:30

PART B - ADDITIONAL LOCATION INFORMATION

1. Was the origin of Accident onshore? Yes
   - If Yes, Complete Questions (2-12)
   - If No, Complete Questions (13-15)

   - If Onshore:

2. State: Pennsylvania

3. Zip Code: 18049

4. City: EMMAUS

5. County or Parish: LEHIGH

6. Operator-designated location: Specify:

7. Pipeline/Facility name: MACUNGIE STATION

8. Segment name/ID: ZG

9. Was Accident on Federal land, other than the Outer Continental Shelf (OCS)? No

10. Location of Accident: Totally contained on Operator-controlled property

11. Area of Accident (as found): Tank, including attached appurtenances

   - If Other, Describe:
   - Depth-of-Cover (in):

12. Did Accident occur in a crossing? No

   - If Yes, specify below:
   - If Bridge crossing –
     - Cased/ Uncased:
   - If Railroad crossing –
     - Cased/ Uncased/ Bored/drilled
   - If Road crossing –
     - Cased/ Uncased/ Bored/drilled
   - If Water crossing –
     - Cased/ Uncased
       - Name of body of water, if commonly known:
         - Approx. water depth (ft) at the point of the Accident: 
           - Select:

   - If Offshore:

13. Approximate water depth (ft) at the point of the Accident:

14. Origin of Accident:
   - In State waters - Specify:
     - State:
     - Area:
       - Block/Tract #:
         - Nearest County/Parish:
   - On the Outer Continental Shelf (OCS) - Specify:
     - Area:
     - Block #:

15. Area of Accident:

PART C - ADDITIONAL FACILITY INFORMATION

1. Is the pipeline or facility: Interstate

2. Part of system involved in Accident:
   - Onshore Breakout Tank or Storage Vessel, including Attached Appurtenances:
     - Atmospheric or Low Pressure

Form PHMSA F 7000.1 (Rev. 12-2012)
3. Item involved in Accident: Tank/Vessel
   - If Pipe, specify:
     3a. Nominal diameter of pipe (in):
     3b. Wall thickness (in):
     3c. SMYS (Specified Minimum Yield Strength) of pipe (psi):
     3d. Pipe specification:
     3e. Pipe Seam , specify:
       - If Other, Describe:
     3f. Pipe manufacturer:
     3g. Year of manufacture:
     3h. Pipeline coating type at point of Accident, specify:
       - If Weld, including heat-affected zone, specify:
       - If Other, Describe:
       - If Valve, specify:
       - If Mainline, specify:
       - If Other, Describe:
     3i. Manufactured by:
     3j. Year of manufacture:
   - If Tank/Vessel, specify: Single Bottom System
   - If Other, describe:

4. Year item involved in Accident was installed: 1974

5. Material involved in Accident: Carbon Steel
   - If Material other than Carbon Steel, specify:

6. Type of Accident Involved: Leak
   - If Mechanical Puncture – Specify Approx. size:
     in. (axial) by in. (circular/ferential)
   - If Leak - Select Type: Crack
   - If Rupture - Select Orientation: Approx. size: in. (widest opening) by in. (length circumferentially or axially)
   - If Other – Describe:

PART D - ADDITIONAL CONSEQUENCE INFORMATION

1. Wildlife impact: No
   1a. If Yes, specify all that apply:
      - Fish/aquatic
      - Birds
      - Terrestrial

2. Soil contamination: Yes

3. Long term impact assessment performed or planned:

4. Anticipated remediation:
   4a. If Yes, specify all that apply:
      - Surface water
      - Groundwater
      - Soil
      - Vegetation
      - Wildlife

5. Water contamination: No
   5a. If Yes, specify all that apply:
      - Ocean/Seawater
      - Surface
      - Groundwater
      - Drinking water: (Select one or both)
       - Private Well
       - Public Water Intake

5b. Estimated amount released in or reaching water (Barrels):

6. At the location of this Accident, had the pipeline segment or facility been identified as one that "could affect" a High Consequence Area (HCA) as determined in the Operator's Integrity Management Program? Yes

7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)? Yes
   7a. If Yes, specify HCA type(s): (Select all that apply)
      - Commercially Navigable Waterway:
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?

<table>
<thead>
<tr>
<th>Area</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Population Area</td>
<td>Yes</td>
</tr>
<tr>
<td>Other Populated Area</td>
<td>No</td>
</tr>
<tr>
<td>Unusually Sensitive Area</td>
<td>Yes</td>
</tr>
</tbody>
</table>

8. Estimated Property Damage:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>8a. Estimated cost of public and non-Operator private property damage</td>
<td>$0</td>
</tr>
<tr>
<td>8b. Estimated cost of commodity lost</td>
<td>$0</td>
</tr>
<tr>
<td>8c. Estimated cost of Operator's property damage &amp; repairs</td>
<td>$370,115</td>
</tr>
<tr>
<td>8d. Estimated cost of Operator's emergency response</td>
<td>$10,423</td>
</tr>
<tr>
<td>8e. Estimated cost of Operator's environmental remediation</td>
<td>$0</td>
</tr>
<tr>
<td>8f. Estimated other costs</td>
<td>$0</td>
</tr>
<tr>
<td>8g. Total estimated property damage (sum of above)</td>
<td>$380,538</td>
</tr>
</tbody>
</table>

PART E - ADDITIONAL OPERATING INFORMATION

1. Estimated pressure at the point and time of the Accident (psig): .00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig): .00
3. Describe the pressure on the system or facility relating to the Accident (psig): Pressure did not exceed MOP
4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), was the system or facility relating to the Accident operating under an established pressure restriction with pressure limits below those normally allowed by the MOP?
   - No

5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?
   - No

5a. Type of upstream valve used to initially isolate release source:
5b. Type of downstream valve used to initially isolate release source:
5c. Length of segment isolated between valves (ft):
5d. Is the pipeline configured to accommodate internal inspection tools?
   - No

5e. Which physical features limit tool accommodation? (select all that apply)
   - Changes in line pipe diameter
   - Presence of unsuitable mainline valves
   - Tight or mitered pipe bends
   - Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.)
   - Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools)
   - Other:

5f. For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run?
   - No

5g. Which operational factors complicate execution? (select all that apply)
5f. Function of pipeline system:

6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident? Yes
   If Yes -
   6a. Was it operating at the time of the Accident? Yes
   6b. Was it fully functional at the time of the Accident? Yes
   6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident? No
   6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident? No

7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident? Yes
   - If Yes:
   7a. Was it operating at the time of the Accident? Yes
   7b. Was it fully functional at the time of the Accident? Yes
   7c. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident? No
   7d. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident? No

8. How was the Accident initially identified for the Operator? Local Operating Personnel, including contractors
   - If Other, Specify:
     Operator employee

9. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident? No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate)
   - If No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to:
     THE RELEASE VOLUME WAS TOO SMALL TO BE DETECTED BY THE CONTROLLER
   - If Yes, specify investigation result(s): (select all that apply)
     - Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue
     - Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue
     - Investigation identified no control room issues
     - Investigation identified no controller issues
     - Investigation identified incorrect controller action or controller error
     - Investigation identified fatigue may have affected the controller(s) involved or impacted the involved controller(s) response
     - Investigation identified incorrect procedures
     - Investigation identified incorrect control room equipment operation
     - Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response
     - Investigation identified areas other than those above: Describe:

PART F - DRUG & ALCOHOL TESTING INFORMATION

1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations? No
   - If Yes:
     1a. Specify how many were tested:
1b. Specify how many failed:  

2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?
- If Yes:
2a. Specify how many were tested:  
2b. Specify how many failed:  

**PART G – APPARENT CAUSE**

Select only one box from PART G in shaded column on left representing the APPARENT Cause of the Accident, and answer the questions on the right. Describe secondary, contributing or root causes of the Accident in the narrative (PART H).

**Apparent Cause:** G1 - Corrosion Failure

**External Corrosion:** Yes

**Internal Corrosion:**

- If External Corrosion:

1. Results of visual examination:
   - Localized Pitting

2. Type of corrosion: (select all that apply)
   - Galvanic: Yes
   - Atmospheric
   - Stray Current
   - Microbiological
   - Selective Seam
   - Other:

- If Other, Describe:

3. The type(s) of corrosion selected in Question 2 is based on the following: (select all that apply)
   - Field examination
   - Determined by metallurgical analysis: Yes
   - Other:

- If Other, Describe:

4. Was the failed item buried under the ground?
- If Yes:
  - 4a. Was failed item considered to be under cathodic protection at the time of the Accident?
    - If Yes - Year protection started:
  - 4b. Was shielding, tenting, or disbonding of coating evident at the point of the Accident?
  - 4c. Has one or more Cathodic Protection Survey been conducted at the point of the Accident?
    - If "Yes, CP Annual Survey" – Most recent year conducted:
    - If "Yes, Close Interval Survey" – Most recent year conducted:
    - If "Yes, Other CP Survey" – Most recent year conducted:
    - If No:
    - 4d. Was the failed item externally coated or painted?
      - If Yes:
        - 4d.1. Was cathodic protection system active?
        - 4d.2. Was shielding, tenting, or disbonding of coating evident at the point of the Accident?
        - 4d.3. Has one or more Cathodic Protection Survey been conducted at the point of the Accident?
          - If "Yes, CP Annual Survey" – Most recent year conducted:
          - If "Yes, Close Interval Survey" – Most recent year conducted:
          - If "Yes, Other CP Survey" – Most recent year conducted:
    - If No:
    - 4e. Was the failed item externally painted or coated?

5. Was there observable damage to the coating or paint in the vicinity of the corrosion?
- If Yes:
  - 5a. Was there observable damage to the coating or paint in the vicinity of the corrosion?

6. Results of visual examination:
   - Other:

7. Type of corrosion (select all that apply):
   - Corrosive Commodity
   - Water drop-out/ Acid
   - Microbiological
   - Erosion
   - Other:

- If Other, Describe:

8. The cause(s) of corrosion selected in Question 7 is based on the following (select all that apply):
   - Field examination
   - Determined by metallurgical analysis
   - Other:

- If Other, Describe:

9. Location of corrosion (select all that apply):
   - Low point in pipe
   - Elbow
10. Was the commodity treated with corrosion inhibitors or biocides?
11. Was the interior coated or lined with protective coating?
12. Were cleaning/dewatering pigs (or other operations) routinely utilized?
13. Were corrosion coupons routinely utilized?

Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.

14. List the year of the most recent inspections:

<table>
<thead>
<tr>
<th>Inspection Type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>API Std 653 Out-of-Service Inspection</td>
<td></td>
</tr>
<tr>
<td>API Std 653 In-Service Inspection</td>
<td></td>
</tr>
</tbody>
</table>

Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.

15. Has one or more internal inspection tool collected data at the point of the Accident?

<table>
<thead>
<tr>
<th>Inspection Type</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic Flux Leakage</td>
<td></td>
</tr>
<tr>
<td>Ultrasonic</td>
<td></td>
</tr>
<tr>
<td>Geometry</td>
<td></td>
</tr>
<tr>
<td>Caliper</td>
<td></td>
</tr>
<tr>
<td>Crack</td>
<td></td>
</tr>
<tr>
<td>Hard Spot</td>
<td></td>
</tr>
<tr>
<td>Combination Tool</td>
<td></td>
</tr>
<tr>
<td>Transverse Field/Triaxial</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?

If Yes -

Most recent year tested:
Test pressure:

17. Has one or more Direct Assessment been conducted on this segment?

- If Yes, and an investigative dig was conducted at the point of the Accident:

Most recent year conducted:
- If Yes, but the point of the Accident was not identified as a dig site:

Most recent year conducted:

18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?

18a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:

- Radiography
- Guided Wave Ultrasonic
- Handheld Ultrasonic Tool
- Wet Magnetic Particle Test
- Dry Magnetic Particle Test
- Other

Describe:

G2 - Natural Force Damage - only one sub-cause can be picked from shaded left-handed column

Natural Force Damage – Sub-Cause:

- If Earth Movement, NOT due to Heavy Rains/Floods:
1. Specify:  
   - If Other, Describe:  
   - If Heavy Rains/Floods:  
2. Specify:  
   - If Other, Describe:  
   - If Lightning:  
3. Specify:  
   - If Other, Describe:  
   - If Temperature:  
4. Specify:  
   - If Other, Describe:  
   - If High Winds:  
5. Specify:  
   - If Other Natural Force Damage:  
   Complete the following if any Natural Force Damage sub-cause is selected.

6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?  
   6a. If Yes, specify: (select all that apply)  
   - Hurricane  
   - Tropical Storm  
   - Tornado  
   - Other  
   - If Other, Describe:  

G3 - Excavation Damage - only one sub-cause can be picked from shaded left-hand column

Excavation Damage – Sub-Cause:  
   - If Excavation Damage by Operator (First Party):  
   - If Excavation Damage by Operator’s Contractor (Second Party):  
   - If Excavation Damage by Third Party:  
   - If Previous Damage due to Excavation Activity:  

Complete Questions 1-5 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.

1. Has one or more internal inspection tool collected data at the point of the Accident?  
   1a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:  
      - Magnetic Flux Leakage  
      Most recent year conducted:  
      - Ultrasonic  
      Most recent year conducted:  
      - Geometry  
      Most recent year conducted:  
      - Caliper  
      Most recent year conducted:  
      - Crack  
      Most recent year conducted:  
      - Hard Spot  
      Most recent year conducted:  
      - Combination Tool  
      Most recent year conducted:  
      - Transverse Field/Triaxial  
      Most recent year conducted:  
      - Other  
      Most recent year conducted:  
      Describe:  

2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?  

3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?  
   - If Yes, Most recent year tested:  
   Test pressure (psig):  

4. Has one or more Direct Assessment been conducted on the pipeline segment?  
   - If Yes, and an investigative dig was conducted at the point of the Accident:  
      Most recent year conducted:  
   - If Yes, but the point of the Accident was not identified as a dig site:
Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?

5a. If Yes, for each examination, conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:

<table>
<thead>
<tr>
<th>Non-Destructive Examination</th>
<th>Most Recent Year Conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiography</td>
<td></td>
</tr>
<tr>
<td>Guided Wave Ultrasonic</td>
<td></td>
</tr>
<tr>
<td>Handheld Ultrasonic Tool</td>
<td></td>
</tr>
<tr>
<td>Wet Magnetic Particle Test</td>
<td></td>
</tr>
<tr>
<td>Dry Magnetic Particle Test</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Describe:

Complete the following if Excavation Damage by Third Party is selected as the sub-cause.

6. Did the operator get prior notification of the excavation activity?

6a. If Yes, Notification received from: (select all that apply)

- One-Call System
- Excavator
- Contractor
- Landowner

Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.

7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?

8. Right-of-Way where event occurred: (select all that apply)

- Public
- Private
- Pipeline Property/Easement
- Power/Transmission Line
- Railroad
- Dedicated Public Utility Easement
- Federal Land
- Data not collected
- Unknown/Other

9. Type of excavator:

10. Type of excavation equipment:

11. Type of work performed:

12. Was the One-Call Center notified?

12a. If Yes, specify ticket number:

12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:

13. Type of Locator:

14. Were facility locate marks visible in the area of excavation?

15. Were facilities marked correctly?

16. Did the damage cause an interruption in service?

16a. If Yes, specify duration of the interruption (hours)

17. Description of the CGA-DIRT Root Cause (select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):

Root Cause:
- If One-Call Notification Practices Not Sufficient, specify:
- If Locating Practices Not Sufficient, specify:
- If Excavation Practices Not Sufficient, specify:
- If Other/None of the Above, explain:

G4 - Other Outside Force Damage - only one sub-cause can be selected from the shaded left-hand column

Other Outside Force Damage – Sub-Cause:
- If Nearby Industrial, Man-made, or Other Fire/Explosion as Primary Cause of Incident:
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:
  1. Vehicle/Equipment operated by:
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost
Their Mooring:

2. Select one or more of the following IF an extreme weather event was a factor:
   - Hurricane
   - Tropical Storm
   - Tornado
   - Heavy Rains/Flood
   - Other
     - If Other, Describe:

- If Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation:

- If Electrical Arcing from Other Equipment or Facility:

- If Previous Mechanical Damage NOT Related to Excavation:

Complete Questions 3-7 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.

3. Has one or more internal inspection tool collected data at the point of the Accident?
   3a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:
      - Magnetic Flux Leakage
        Most recent year conducted:
      - Ultrasonic
        Most recent year conducted:
      - Geometry
        Most recent year conducted:
      - Caliper
        Most recent year conducted:
      - Crack
        Most recent year conducted:
      - Hard Spot
        Most recent year conducted:
      - Combination Tool
        Most recent year conducted:
      - Transverse Field/Triaxial
        Most recent year conducted:
      - Other
        Most recent year conducted:

Describe:

4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?

5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?
   - If Yes:
     Most recent year tested:
     Test pressure (psig):

6. Has one or more Direct Assessment been conducted on the pipeline segment?
   - If Yes, and an investigative dig was conducted at the point of the Accident:
     Most recent year conducted:
   - If Yes, but the point of the Accident was not identified as a dig site:
     Most recent year conducted:

7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?
   7a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:
      - Radiography
        Most recent year conducted:
      - Guided Wave Ultrasonic
        Most recent year conducted:
      - Handheld Ultrasonic Tool
        Most recent year conducted:
      - Wet Magnetic Particle Test
        Most recent year conducted:
      - Dry Magnetic Particle Test
        Most recent year conducted:
      - Other
        Most recent year conducted:

Describe:

7b. If Intentional Damage:

8. Specify:
   - If Other, Describe:

- If Other Outside Force Damage:

---

Form PHMSA F 7000.1 (Rev. 12-2012)
9. Describe:

**G5 - Material Failure of Pipe or Weld** - only one sub-cause can be selected from the shaded left-hand column

Use this section to report material failures ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is "Pipe" or "Weld."

### Material Failure of Pipe or Weld – Sub-Cause:

1. The sub-cause selected below is based on the following: (select all that apply)
   - Field Examination
   - Determined by Metallurgical Analysis
   - Other Analysis
     - If "Other Analysis", Describe:
   - Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)

   **- If Construction, Installation, or Fabrication-related:**

2. List contributing factors: (select all that apply)
   - Fatigue or Vibration-related
     - Specify:
   - Mechanical Stress:
   - Other
     - If Other, Describe:

   **- If Original Manufacturing-related (NOT girth weld or other welds formed in the field):**

2. List contributing factors: (select all that apply)
   - Fatigue or Vibration-related
     - Specify:
   - Mechanical Stress:
   - Other
     - If Other, Describe:

   **- If Environmental Cracking-related:**

3. Specify:
   - Other - Describe:

Complete the following if any Material Failure of Pipe or Weld sub-cause is selected.

### 4. Additional factors: (select all that apply):

- Dent
- Gouge
- Pipe Bend
- Arc Burn
- Crack
- Lack of Fusion
- Lamination
- Buckle
- Wrinkle
- Misalignment
- Burnt Steel
- Other
  - If Other, Describe:

### 5. Has one or more internal inspection tool collected data at the point of the Accident?

5a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:
   - Magnetic Flux Leakage
   - Ultrasonic
   - Geometry
   - Caliper
   - Crack
   - Hard Spot
   - Combination Tool
   - Transverse Field/Triaxial
   - Other
6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?
   - If Yes:
     Most recent year tested:
     Test pressure (psig):

7. Has one or more Direct Assessment been conducted on the pipeline segment?
   - If Yes, and an investigative dig was conducted at the point of the Accident:
     Most recent year conducted:
   - If Yes, but the point of the Accident was not identified as a dig site:
     Most recent year conducted:

8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?
   8a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:
      - Radiography
        Most recent year conducted:
      - Guided Wave Ultrasonic
        Most recent year conducted:
      - Handheld Ultrasonic Tool
        Most recent year conducted:
      - Wet Magnetic Particle Test
        Most recent year conducted:
      - Dry Magnetic Particle Test
        Most recent year conducted:
      - Other
        Most recent year conducted:

G6 – Equipment Failure - only one sub-cause can be selected from the shaded left-hand column

<table>
<thead>
<tr>
<th>Equipment Failure – Sub-Cause:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- If Malfunction of Control/Relief Equipment:</td>
</tr>
<tr>
<td>1. Specify: (select all that apply)</td>
</tr>
<tr>
<td>- Control Valve</td>
</tr>
<tr>
<td>- Instrumentation</td>
</tr>
<tr>
<td>- SCADA</td>
</tr>
<tr>
<td>- Communications</td>
</tr>
<tr>
<td>- Block Valve</td>
</tr>
<tr>
<td>- Check Valve</td>
</tr>
<tr>
<td>- Relief Valve</td>
</tr>
<tr>
<td>- Power Failure</td>
</tr>
<tr>
<td>- Stopple/Control Fitting</td>
</tr>
<tr>
<td>- ESD System Failure</td>
</tr>
<tr>
<td>- Other</td>
</tr>
<tr>
<td>- If Other – Describe:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>- If Pump or Pump-related Equipment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Specify:</td>
</tr>
<tr>
<td>- If Other – Describe:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>- If Threaded Connection/Coupling Failure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Specify:</td>
</tr>
<tr>
<td>- If Other – Describe:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>- If Non-threaded Connection Failure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Specify:</td>
</tr>
<tr>
<td>- If Other – Describe:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>- If Defective or Loose Tubing or Fitting:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>- If Failure of Equipment Body (except Pump), Tank Plate, or other Material:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>- If Other Equipment Failure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Describe:</td>
</tr>
</tbody>
</table>

Complete the following if any Equipment Failure sub-cause is selected.

<table>
<thead>
<tr>
<th>6. Additional factors that contributed to the equipment failure: (select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Excessive vibration</td>
</tr>
<tr>
<td>- Overpressurization</td>
</tr>
<tr>
<td>- No support or loss of support</td>
</tr>
</tbody>
</table>
- Manufacturing defect
- Loss of electricity
- Improper installation
- Mismatched items (different manufacturer for tubing and tubing fittings)
- Dissimilar metals
- Breakdown of soft goods due to compatibility issues with transported commodity
- Valve vault or valve can contributed to the release
- Alarm/status failure
- Misalignment
- Thermal stress
- Other
  - If Other, Describe:

### G7 - Incorrect Operation
- only one sub-cause can be selected from the shaded left-hand column

#### Incorrect Operation – Sub-Cause:

**Damage by Operator or Operator's Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage**

- No

**Tank, Vessel, or Sump/Separator Allowed or Caused to Overfill or Overflow**

- No

1. Specify:
   - If Other, Describe:

**Valve Left or Placed in Wrong Position, but NOT Resulting in a Tank, Vessel, or Sump/Separator Overflow or Facility Overpressure**

- No

**Pipeline or Equipment Overpressured**

- No

**Equipment Not Installed Properly**

- No

**Wrong Equipment Specified or Installed**

- No

**Other Incorrect Operation**

- No

2. Describe:

Complete the following if any Incorrect Operation sub-cause is selected.

3. Was this Accident related to (select all that apply):
   - Inadequate procedure
   - No procedure established
   - Failure to follow procedure
   - Other:
     - If Other, Describe:

4. What category type was the activity that caused the Accident?

5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?

5a. If Yes, were the individuals performing the task(s) qualified for the task(s)?

### G8 - Other Accident Cause
- only one sub-cause can be selected from the shaded left-hand column

#### Other Accident Cause – Sub-Cause:

- If Miscellaneous:
  1. Describe:
  - If Unknown:
    2. Specify:

### PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT

AT 11:30 AM ON JULY 13, 2012, WHILE PERFORMING A MONTHLY TANK INSPECTION ON TANK 230 AT BUCKEYE’S MACUNGIE STATION, A LOCAL OPERATIONS EMPLOYEE NOTICED STAINED SOIL NEXT TO THE TANK. EMERGENCY RESPONSE PROCEDURES WERE INITIATED AND ALL APPROPRIATE NOTIFICATIONS WERE MADE. THE TANK WAS ISOLATED AND EMPTIED. THREE MONITORING WELLS WERE EXCAVATED...
IN THE AREA OF THE STAINED SOIL, GASOLINE ODOR WAS DETECTED IN THE WELL CLOSEST TO THE TANK, BUT NO FREE PRODUCT WAS
OBSERVED. THE MONITORING WELLS WERE MONITORED DURING THE TANK EMPTYING PROCESS AND NO ADDITIONAL PRODUCT WAS
DISCOVERED.

THE TANK HAS BEEN EMPTIED AND CLEANED. AN INDEPENDENT INSPECTION COMPANY IS PERFORMING A SCAN OF THE TANK BOTTOM
TO LOCATE THE SOURCE OF THE RELEASE. THE SOURCE HAS NOT BEEN IDENTIFIED AT THE TIME OF THE SUBMISSION OF THIS REPORT
AND THE INVESTIGATION IS ONGOING.

UPDATE: THE SOURCE OF THE RELEASE HAS BEEN DETERMINED TO BE A SMALL CRACK IN THE FLOOR PLATE NEAR THE TANK SHELL.
THE DAMAGED FLOOR PLATE SECTION AND PART OF THE SHELL WAS REMOVED AND SENT TO AN INDEPENDENT LABORATORY FOR
METALLURGICAL ANALYSIS. THE METALLURGICAL ANALYSIS CONFIRMED THAT THE WALL LOSS FROM CORROSION ON THE EXTERIOR
SECTION SURFACE OF THE FLOOR PLATE (BOTTOMSIDE) HAD THE EFFECT OF INCREASED STRESS ON THE REMAINING STEEL FROM
NORMAL SERVICE LOADS WHICH IN TURN ALLOWED LOW CYCLE FATIGUE CRACKING TO OCCUR. THE TANK REPAIR PROCESS IS
UNDERWAY.

UPDATE: THE TANK REPAIR PROCESS HAS BEEN COMPLETED AND COSTS FINALIZED. THE TOTAL VOLUME RELEASED HAS BEEN
RECALCULATED AT 8.7 BARRELS. SOIL BORING INVESTIGATION WAS CONDUCTED AND SOIL SAMPLES WERE SENT FOR LABORATORY
ANALYSIS. ANALYTICAL SOIL RESULTS INDICATED THAT CONCENTRATIONS OF TARGET CONSTITUENTS OF CONCERN ARE BELOW PADEP
APPROVED RISK-BASED SITE SPECIFIC STANDARDS FOR MACUNGIE STATION; THEREFORE, NO ADDITIONAL ENVIRONMENTAL
INVESTIGATION OR REMEDIATION WILL BE CONDUCTED. BUCKEYE WILL NOT BE MAKING ANY MORE UPDATES TO THIS RELEASE REPORT.

PART I - PREPARER AND AUTHORIZED SIGNATURE

<table>
<thead>
<tr>
<th>Preparer's Name</th>
<th>BRAD YARZEBINSKI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparer's Title</td>
<td>COMPLIANCE SPECIALIST</td>
</tr>
<tr>
<td>Preparer's Telephone Number</td>
<td>610-904-4958</td>
</tr>
<tr>
<td>Preparer's E-mail Address</td>
<td><a href="mailto:BYARZEBINSKI@BUCKEYE.COM">BYARZEBINSKI@BUCKEYE.COM</a></td>
</tr>
<tr>
<td>Preparer's Facsimile Number</td>
<td>610-904-4545</td>
</tr>
<tr>
<td>Authorized Signature's Name</td>
<td>JOHN REINBOLD</td>
</tr>
<tr>
<td>Authorized Signature Title</td>
<td>COMPLIANCE MANAGER</td>
</tr>
<tr>
<td>Authorized Signature Telephone Number</td>
<td>610-904-4185</td>
</tr>
<tr>
<td>Authorized Signature Email</td>
<td><a href="mailto:JREINBOLD@BUCKEYE.COM">JREINBOLD@BUCKEYE.COM</a></td>
</tr>
<tr>
<td>Date</td>
<td>02/04/2013</td>
</tr>
</tbody>
</table>