



Antea USA, Inc.  
3855 Precision Drive, Suite 160  
Loveland, Colorado 80538 USA  
www.anteagroup.com

July 28, 2016

Darrin Pampaian, P.E.  
Permits Coordinator  
Idaho DEQ – Air Quality Division  
1410 N Hilton, Boise ID 83706-1255

RECEIVED  
AUG 01 2016  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
STATE A.Q. PROGRAM

Subject: Permit Application  
Former Chevron Pipe Line  
Milepost 237.4 – Crows Nest  
Hagerman, Idaho

Dear Mr. Pampaian:

Antea®Group has been retained by Tesoro Logistics Northwest Pipeline, LLC (Tesoro) to address contaminated soil at the site of a petroleum pipeline release. The following is provided to inform the Air Quality Division (ADQ) of the details of the remediation system.

The existing system includes six wells that are installed to a total depth of 25 feet. A vacuum blower is connected to the well network with above grade piping. Two-one horsepower blowers are currently in use that each develop a vacuum of 50 inches water column and produce a flow rate of approximately 60 cubic feet per minute (cfm). The existing system was put into operation in August 2011. Attached are figures with site the location and well layout. The project site is on State Endowment Land in Section 16, Township 8S, Range 13E, attached is a copy of the land use permit. The site is located at latitude 42.738650° longitude -114.948354°, which is ~5.5 miles southwest of Hagerman ID.

SVE systems are designed to volatilize petroleum constituents adsorbed onto soil particles and to remove petroleum. Volatilized petroleum constituents in the vadose zone are introduced into the system via SVE wells. The SVE wells are placed to allow for influence overlap. Site-specific soil and ground water conditions will govern the operational parameters of the systems. These wells are connected to an equipment enclosure via above grade piping consisting of four-inch diameter schedule 40 PVC. The equipment enclosure contains the vacuum blowers, a dilution air valve, a vacuum relief valve, flow indicators and vacuum gauges.

The system is now operating under the exemption requirements of IDAPA 58.01.01.222.02.j which has a five year limit. Due to the remote location of the site the available site power limited the size of equipment selected for the site. At this time we are planning to replace the two individual blowers with a single blower.

The air discharge from the system has been sampled quarterly and air samples are analyzed by EPA method 18 modified, a table summarizing this data is attached. A typical decline trend in mass removal since system startup is evident. To estimate future emissions an average of the laboratory results from 2015 was used with a proposed flow rate of 105 cfm. The estimated benzene removal rate is 0.057 lb/hr or 500 lb/year and Total Petroleum Hydrocarbon (TPH) rate is 12.75 tons/year. These amounts represent the maximum estimated removal rate and do not include anticipated removal declines as the source of soil contamination is removed.

Attached are Idaho forms GI, EU0 and the application fee.



Air Discharge Permit Information  
Former Chevron Pipe Line  
Milepost 237.4 – Crows Nest  
Antea Group Project No. K014TSCN1  
Page 2

If you have any comments or questions regarding this correspondence or the project please call me at (970)292-1883.

Sincerely,

**ANTEA GROUP**



Steve Warner  
Project Engineer

SW/ hb  
Attachment(s)



Please see instructions on second page before filling out the form.

| FACILITY AND PERMIT INFORMATION  |  |   |
|--|--|---|
| 1. Facility Name:  |  | 2. Facility ID Number:  |
| Tesoro Logistics Northwest Pipeline, LLC   |  | Former Chevron Pipe Line Milepost 237.4- Crows Nest   |
| 3. Brief Project Description:  | <p>Petroleum environmental remediation of a pipeline release discovered March 30, 2011. Assessment of the extent and magnitude of the release was completed and the Remedial Action Plan approved by the IDEQ in June 2011. The soil vapor extraction (SVE) system was constructed and started operation in August 2011. The system includes 16 vapor extraction points with vacuum applied to the subsurface by two GAST one horsepower regenerative blowers, the total discharge rate is 90 cfm. The current annual discharge is ~5 tons/year TPH and 325 pounds Benzene.</p> <p>The proposed remediation plan is to continue operation of the SVE consistent with how the SVE system has been operated for the past five years under the exemption requirements of IDAPA 58.01.01.222.02.j. Some modifications to SVE components are proposed to increase the efficiency of the SVE which will include replacing the two existing blowers with a single blower capable of 105 cfm at a vacuum of 40" H2O.</p> |   |
| 4. Facility Contact Name:  |  | 5. Facility Contact Title:  |
| Steve Warner   |  | Project Engineer Antea Group  |
| 6. Facility Contact Telephone Number:  |  | 7. Facility Contact Email:  |
| 970-292-1883   |  | steve.warner@anteagroup.com   |
| 8. Mailing address where permit will be sent (street/city/state/zip code):   |  | 9. Physical address of facility (if different than mailing address) (street/city/state/zip code): |
| 2750 W Rasmussen Road, Suite 205C<br>Park City, UT 84098   |  | Milepost 237.4 Crows Nest Rd<br>Hagerman, ID  |
| 10. County Facility is located   | Twin Falls   |   |
| 11. Is the equipment portable?   | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes  |   |
| 12. NAICS codes  | Primary NAICS: 4869  | Secondary NAICS (if applicable):  |
| 13. Brief business description and principal product produced:   | Petroleum Pipeline Operator  |   |
| 14. Describe any contiguous or adjacent facility this company owns or operates:  |  |   |
| 15. Permit Application Type. Provide Permit Number for existing permit. For a PTC, an application fee is required.                                     | <input checked="" type="checkbox"/> Initial Permit to Construct (PTC) <input type="checkbox"/> PTC Modification  | PTC No. ____ Issued Date ____   |
|  | <input type="checkbox"/> Initial Tier II <input type="checkbox"/> Tier II Modification <input type="checkbox"/> Tier II Renewal  | Tier II No. ____ Issued Date ____   |
|  | <input type="checkbox"/> Initial Tier I <input type="checkbox"/> Tier I Administrative Amendment<br><input type="checkbox"/> Tier I Minor Modification <input type="checkbox"/> Tier I Significant Modification<br><input type="checkbox"/> Tier I Renewal   | Tier I No. ____ Issued Date ____  |
| 16. For Tier I permitted facilities only: If you are applying for a PTC then you must specify how the PTC will be incorporated into the Tier I permit. | <input type="checkbox"/> Incorporate PTC at the time of Tier I renewal (IDAPA 58.01.01.209.05.a)<br><input type="checkbox"/> Co-process PTC with Tier I Modification (IDAPA 58.01.01.209.05.b)<br><input type="checkbox"/> Administrative amend the Tier I to incorporate PTC upon applicant's request (IDAPA 58.01.01.209.05.c)   |   |
| 17. <input checked="" type="checkbox"/> Check here to request facility draft permit before final issuance.   |  |   |

**Certification of Truth, Accuracy, and Completeness (by Responsible Official)**

I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123 124.

Steve Warner  
 Responsible Official Signature

Project Engineer  
 Responsible Official Title

7/28/2016  
 Date

Steve Warner  
 Print or Type Responsible Official Name



Please see instructions on page 2 before filling out the form.

| <b>IDENTIFICATION</b>  |  |  |                                    |                 |                    |     |
|--|--|--|------------------------------------|-----------------|--------------------|-----|
| 1. Company Name:<br>Tesoro Logistics Northwest Pipeline  |  | 2. Facility Name:<br>Former Chevron Pipe Line Milepost 237.4- Crows Nest   |                                    |                 | 3. Facility ID No: |     |
| 4. Brief Project Description: Environmental remediation of soil impacted by petroleum.   |  |  |                                    |                 |                    |     |
| <b>EMISSIONS UNIT (PROCESS) IDENTIFICATION &amp; DESCRIPTION</b>   |  |  |                                    |                 |                    |     |
| 5. Emissions Unit (EU) Name:   |  | CROWS NEST   |                                    |                 |                    |     |
| 6. EU ID Number:   |  | 001  |                                    |                 |                    |     |
| 7. EU Type:  |  | <input type="checkbox"/> New Source <input checked="" type="checkbox"/> Unpermitted Existing Source<br><input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #: |                                    |                 | Date Issued:       |     |
| 8. Manufacturer:   |  | GAST   |                                    |                 |                    |     |
| 9. Model:  |  | SOIL VAPOR EXTRACTION (SVE) custom-designed  |                                    |                 |                    |     |
| 10. Maximum Capacity:  |  | 150 CFM  |                                    |                 |                    |     |
| 11. Date of Construction:  |  | 8/02/2011  |                                    |                 |                    |     |
| 12. Date of Modification (if any):   |  |  |                                    |                 |                    |     |
| 13. Is this a Controlled Emission Unit? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes    If Yes, complete the following section. If No, go to line 22.                                 |  |  |                                    |                 |                    |     |
| <b>EMISSIONS CONTROL EQUIPMENT</b>   |  |  |                                    |                 |                    |     |
| 14. Control Equipment Name and ID:   |  |  |                                    |                 |                    |     |
| 15. Date of Installation:  |  |  | 16. Date of Modification (if any): |                 |                    |     |
| 17. Manufacturer and Model Number:   |  |  |                                    |                 |                    |     |
| 18. ID(s) of Emission Unit Controlled:   |  |  |                                    |                 |                    |     |
| 19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No  |  |  |                                    |                 |                    |     |
| 20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No    (If Yes, attach and label manufacturer guarantee)           |  |  |                                    |                 |                    |     |
| Control Efficiency   |  | Pollutant Controlled   |                                    |                 |                    |     |
|  |  | PM   | PM10                               | SO <sub>2</sub> | NO <sub>x</sub>    | VOC |
| 21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. |  |  |                                    |                 |                    |     |
| <b>EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)</b>  |  |  |                                    |                 |                    |     |
| 22. Actual Operation:  |  | 24/7   |                                    |                 |                    |     |
| 23. Maximum Operation:   |  | 24/7   |                                    |                 |                    |     |
| <b>REQUESTED LIMITS</b>  |  |  |                                    |                 |                    |     |
| 24. Are you requesting any permit limits? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    (If Yes, indicate all that apply below)   |  |  |                                    |                 |                    |     |
| <input checked="" type="checkbox"/> Operation Hour Limit(s):   |  | 24/7   |                                    |                 |                    |     |
| <input type="checkbox"/> Production Limit(s):  |  |  |                                    |                 |                    |     |
| <input type="checkbox"/> Material Usage Limit(s):  |  |  |                                    |                 |                    |     |
| <input checked="" type="checkbox"/> Limits Based on Stack Testing:   |  | Please attach all relevant stack testing summary reports   |                                    |                 |                    |     |
| <input type="checkbox"/> Other:  |  |  |                                    |                 |                    |     |
| 25. Rationale for Requesting the Limit(s):   |  | Based on current system operation  |                                    |                 |                    |     |



Please see instructions on page 2 before filling out the form.

**IDENTIFICATION**

|   |  |                    |
|---|--|--------------------|
| 1. Company Name:<br>Tesoro Logistics Northwest Pipeline                                   | 2. Facility Name:<br>Former Chevron Pipe Line Milepost 237.4- Crows Nest | 3. Facility ID No: |
| 4. Brief Project Description:<br>Environmental remediation of soil impacted by petroleum. |  |                    |

**EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION**

|   |   |   |              |
|---|---|---|--------------|
| 5. Emissions Unit (EU) Name:            | CROWS NEST  |   |              |
| 6. EU ID Number:                        | 001   |   |              |
| 7. EU Type:                             | <input type="checkbox"/> New Source   | <input checked="" type="checkbox"/> Unpermitted Existing Source | Date Issued: |
|   | <input type="checkbox"/> Modification to a Permitted Source -- Previous Permit #:   |   |              |
| 8. Manufacturer:                        | GAST  |   |              |
| 9. Model:                               | SOIL VAPOR EXTRACTION (SVE) custom-designed   |   |              |
| 10. Maximum Capacity:                   | 150 CFM   |   |              |
| 11. Date of Construction:               | 8/02/2011   |   |              |
| 12. Date of Modification (if any):      |   |   |              |
| 13. Is this a Controlled Emission Unit? | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, complete the following section. If No, go to line 22. |   |              |

**EMISSIONS CONTROL EQUIPMENT**

|   |                      |      |                                    |                 |     |    |
|---|----------------------|------|------------------------------------|-----------------|-----|----|
| 14. Control Equipment Name and ID:  |                      |      |                                    |                 |     |    |
| 15. Date of Installation:   |                      |      | 16. Date of Modification (if any): |                 |     |    |
| 17. Manufacturer and Model Number:  |                      |      |                                    |                 |     |    |
| 18. ID(s) of Emission Unit Controlled:  |                      |      |                                    |                 |     |    |
| 19. Is operating schedule different than emission units(s) involved? <input type="checkbox"/> Yes <input type="checkbox"/> No   |                      |      |                                    |                 |     |    |
| 20. Does the manufacturer guarantee the control efficiency of the control equipment? <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, attach and label manufacturer guarantee) |                      |      |                                    |                 |     |    |
| Control Efficiency  | Pollutant Controlled |      |                                    |                 |     |    |
|   | PM                   | PM10 | SO <sub>2</sub>                    | NO <sub>x</sub> | VOC | CO |

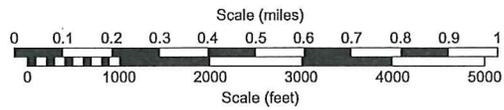
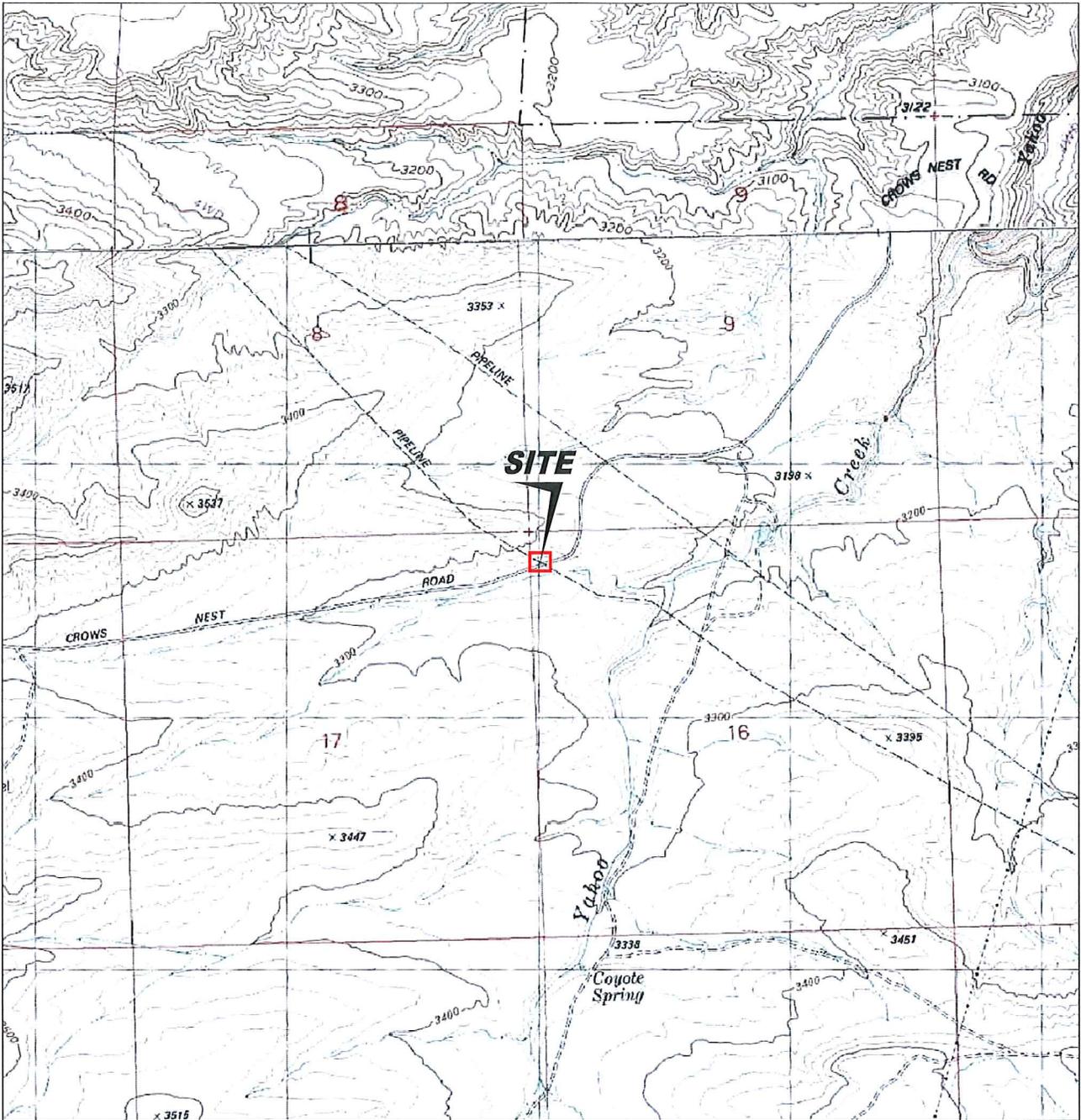
21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

**EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)**

|                        |      |
|------------------------|------|
| 22. Actual Operation:  | 24/7 |
| 23. Maximum Operation: | 24/7 |

**REQUESTED LIMITS**

|  |   |
|--|---|
| 24. Are you requesting any permit limits?                          | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If Yes, indicate all that apply below) |
| <input checked="" type="checkbox"/> Operation Hour Limit(s):       | 24/7  |
| <input type="checkbox"/> Production Limit(s):                      |   |
| <input type="checkbox"/> Material Usage Limit(s):                  |   |
| <input checked="" type="checkbox"/> Limits Based on Stack Testing: | Please attach all relevant stack testing summary reports  |
| <input type="checkbox"/> Other:                                    |   |
| 25. Rationale for Requesting the Limit(s):                         | Based on current system operation   |



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
SITE LOCATION MAP

Former Chevron Pipe Line  
Milepost 237.4 - Crows Nest  
NW NW Section 16, T8S, R13E - Hagerman, Idaho

|                          |             |                      |
|--------------------------|-------------|----------------------|
| Project No.<br>K014TSCN1 | Prepared by | Drawn by<br>JMA      |
| Date<br>2/13/14          | Reviewed by | Filename<br>K14TSCNT |





**LEGEND**

|   |   |
|---|---|
|  | SOIL VAPOR EXTRACTION WELL - 3' screen  |
|  | SOIL VAPOR EXTRACTION WELL - 10' screen |
|  | BUILDING                                |
|  | FENCE LINE                              |
|  | PIPELINE                                |
|  | 4" PVC VACUUM LINE                      |
|  | 6" PVC VACUUM LINE                      |

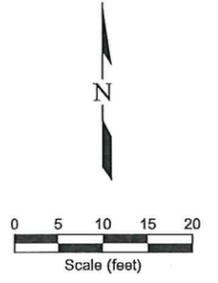


Figure 2  
**SOIL VAPOR EXTRACTION SYSTEM LAYOUT**  
 Former Chevron Pipe Line  
 Milepost 237.4 - Crows Nest  
 Hagerman, Idaho

|                          |             |                      |   |
|--------------------------|-------------|----------------------|---|
| Project No.<br>K014TSCN1 | Prepared by | Drawn by<br>JMA      |  |
| Date<br>2/12/14          | Reviewed by | Filename<br>K14TSCNQ |   |

TABLE 1  
 TESORO (FORMER CHEVRON) PIPE LINE - MILEPOST 237.4 HAGERMAN, IDAHO  
 ANALYTICAL RESULTS AND SYSTEM PERFORMANCE DATA

| Date Collected                     | Blower No. 1 (North) |            |               | Blower No. 2 (South) |            |               | Lab Data                     |                              | Recovery         |                  | Per Period Per Blower |               | Totals                   |        | Total Removed |               |                      |
|------------------------------------|----------------------|------------|---------------|----------------------|------------|---------------|------------------------------|------------------------------|------------------|------------------|-----------------------|---------------|--------------------------|--------|---------------|---------------|----------------------|
|                                    | Flow (fpm)           | Flow (cfm) | Vacuum ("H2O) | Flow (fpm)           | Flow (cfm) | Vacuum ("H2O) | Benzene (mg/m <sup>3</sup> ) | TPH-GRO (mg/m <sup>3</sup> ) | Benzene (lbs/hr) | TPH-GRO (lbs/hr) | Benzene (lbs)         | TPH-GRO (lbs) | Per Period (lbs) Benzene | TPH    | Benzene (lbs) | TPH-GRO (lbs) | Equivalent (gallons) |
| Startup 8/2/2011 through 6/13/2013 |                      |            |               |                      |            |               |                              |                              |                  |                  |                       |               |                          |        |               |               |                      |
| 8/14/2013                          | 733                  | 64         | 24.5          |                      |            |               | 54                           | 3800                         | 0.0129           | 0.909            | 19.2                  | 1352.1        |                          |        |               |               |                      |
| 8/14/2013                          |                      |            |               | 584                  | 51         | 23            | 250                          | 12,000                       | 0.0476           | 2.286            | 70.9                  | 3401.8        | 90.1                     | 4753.9 | 1417.1        | 72362.9       | 12060                |
| 9/19/2013                          | 470                  | 41         | 25.5          |                      |            |               | 110                          | 5,400                        | 0.0169           | 0.828            | 14.6                  | 715.4         |                          |        |               |               |                      |
| 9/19/2013                          |                      |            |               | 411                  | 36         | 24            | 450                          | 16,000                       | 0.0603           | 2.145            | 52.1                  | 1853.5        | 66.7                     | 2568.8 | 1483.8        | 74931.8       | 12489                |
| 10/9/2013                          | 580                  | 51         | 25            |                      |            |               | 86                           | 4,100                        | 0.0163           | 0.776            | 7.8                   | 372.4         |                          |        |               |               |                      |
| 10/9/2013                          |                      |            |               | 500                  | 44         | 24            | 310                          | 11,000                       | 0.0506           | 1.794            | 24.3                  | 861.2         | 32.1                     | 1233.6 | 1515.9        | 76165.3       | 12694                |
| 11/21/2013                         | 515                  | 45         | 25            |                      |            |               | 61                           | 2,900                        | 0.0102           | 0.487            | 10.6                  | 502.8         |                          |        |               |               |                      |
| 11/21/2013                         |                      |            |               | 475                  | 41         | 24            | 320                          | 12,000                       | 0.0496           | 1.859            | 51.2                  | 1919.0        | 61.7                     | 2421.8 | 1577.6        | 78587.1       | 13098                |
| 12/16/2013                         | 490                  | 43         | 25.5          |                      |            |               | 27                           | 1,500                        | 0.0043           | 0.240            | 2.6                   | 143.9         |                          |        |               |               |                      |
| 12/16/2013                         |                      |            |               | 530                  | 46         | 24            | 170                          | 7000                         | 0.0294           | 1.210            | 17.6                  | 726.2         | 20.2                     | 870.0  | 1597.8        | 79457.2       | 13243                |
| 1/6/2014                           | 510                  | 45         | 24.5          |                      |            |               | 48                           | 2,100                        | 0.0080           | 0.349            | 4.0                   | 176.1         |                          |        |               |               |                      |
| 1/6/2014                           |                      |            |               | 380                  | 33         | 24            | 260                          | 9,900                        | 0.0322           | 1.227            | 16.2                  | 618.5         | 20.3                     | 794.6  | 1618.1        | 80251.8       | 13375                |
| 2/24/2014                          | 640                  | 56         | 24.5          |                      |            |               | 38                           | 1,800                        | 0.0079           | 0.376            | 9.3                   | 442.0         |                          |        |               |               |                      |
| 2/24/2014                          |                      |            |               | 490                  | 43         | 24            | 320                          | 13,000                       | 0.0512           | 2.078            | 60.2                  | 2443.8        | 69.5                     | 2885.7 | 1687.6        | 83137.5       | 13856                |
| 3/20/2014                          | 575                  | 50         | 24.5          |                      |            |               | 28                           | 1,700                        | 0.0053           | 0.319            | 3.0                   | 183.7         |                          |        |               |               |                      |
| 3/20/2014                          |                      |            |               | 450                  | 39         | 24            | 190                          | 9,500                        | 0.0279           | 1.395            | 16.1                  | 803.3         | 19.1                     | 987.0  | 1706.7        | 84124.5       | 14021                |
| 4/23/2014                          | 535                  | 47         | 24.5          |                      |            |               | 35                           | 1,900                        | 0.0061           | 0.332            | 5.0                   | 270.6         |                          |        |               |               |                      |
| 4/23/2014                          |                      |            |               | 455                  | 40         | 24            | 210                          | 9,500                        | 0.0312           | 1.410            | 25.4                  | 1150.6        | 30.4                     | 1421.2 | 1737.1        | 85545.7       | 14258                |
| 5/19/2014                          | 560                  | 49         | 24.5          |                      |            |               | 22                           | 2,400                        | 0.0040           | 0.438            | 2.5                   | 273.6         |                          |        |               |               |                      |
| 5/19/2014                          |                      |            |               | 470                  | 41         | 24            | 140                          | 7,800                        | 0.0215           | 1.196            | 13.4                  | 746.3         | 15.9                     | 1019.9 | 1753.0        | 86565.6       | 14428                |
| 6/9/2014                           | 630                  | 55         | 24.5          |                      |            |               | 38                           | 1,800                        | 0.0078           | 0.370            | 3.9                   | 186.4         |                          |        |               |               |                      |
| 6/9/2014                           |                      |            |               | 485                  | 42         | 24            | 310                          | 11,000                       | 0.0490           | 1.740            | 24.7                  | 877.2         | 28.7                     | 1063.6 | 1781.7        | 87629.2       | 14605                |
| 7/28/2014                          | 645                  | 56         | 24.5          |                      |            |               | 73                           | 4,100                        | 0.0154           | 0.863            | 18.1                  | 1014.5        |                          |        |               |               |                      |
| 7/28/2014                          |                      |            |               | 615                  | 54         | 24            | 320                          | 12,000                       | 0.0642           | 2.408            | 75.5                  | 2831.3        | 93.6                     | 3845.8 | 1875.2        | 91475.0       | 15246                |
| 8/25/2014                          | 630                  | 55         | 24.5          |                      |            |               | 93                           | 5,000                        | 0.0191           | 1.028            | 12.8                  | 690.5         |                          |        |               |               |                      |
| 8/25/2014                          |                      |            |               | 600                  | 52         | 24            | 230                          | 12,000                       | 0.0450           | 2.349            | 30.3                  | 1578.4        | 43.1                     | 2268.9 | 1918.3        | 93743.9       | 15624                |
| 9/26/2014                          | 590                  | 51         | 24.5          |                      |            |               | 73                           | 3,500                        | 0.0141           | 0.674            | 10.8                  | 517.4         |                          |        |               |               |                      |
| 9/26/2014                          |                      |            |               | 655                  | 57         | 24            | 250                          | 9,500                        | 0.0534           | 2.030            | 41.0                  | 1559.0        | 51.8                     | 2076.3 | 1970.1        | 95820.2       | 15970                |
| 10/28/2014                         | 560                  | 49         | 24.5          |                      |            |               | 73                           | 4,100                        | 0.0133           | 0.749            | 10.2                  | 575.2         |                          |        |               |               |                      |
| 10/28/2014                         |                      |            |               | 435                  | 38         | 24            | 350                          | 17,000                       | 0.0497           | 2.412            | 38.1                  | 1852.7        | 48.4                     | 2428.0 | 2018.5        | 98248.2       | 16375                |
| 11/25/2014                         | 510                  | 45         | 24.5          |                      |            |               | 45                           | 2,800                        | 0.0075           | 0.466            | 5.0                   | 313.0         |                          |        |               |               |                      |
| 11/25/2014                         |                      |            |               | 456                  | 40         | 24            | 350                          | 17,000                       | 0.0521           | 2.529            | 35.0                  | 1699.4        | 40.0                     | 2012.5 | 2058.5        | 100260.7      | 16710                |
| 2/24/2015                          | 525                  | 46         | 24.5          |                      |            |               | Failed Sample at Lab         |                              |                  |                  |                       |               |                          |        |               |               |                      |
| 2/24/2015                          |                      |            |               | 1900                 | 41         | 29            | 320                          | 1,700                        | 0.0496           | 0.263            | 108.3                 | 575.3         | 108.3                    | 575.3  | 2166.8        | 100260.7      | 16710                |
| 3/13/2015                          | 530                  | 46         | 25            |                      |            |               | 32                           | 2,100                        | 0.0055           | 0.363            | 2.3                   | 793.0         |                          |        |               |               |                      |
| 3/13/2015                          |                      |            |               | 1817                 | 40         | 29            | 240                          | 11,000                       | 0.0356           | 1.630            | 14.5                  | 665.0         | 16.8                     | 1458.0 | 2183.6        | 101718.7      | 16953                |
| 4/28/2015                          | 564                  | 49         | 24            |                      |            |               | 32                           | 2,100                        | 0.0059           | 0.386            | 6.5                   | 426.6         |                          |        |               |               |                      |
| 4/28/2015                          |                      |            |               | 1910                 | 42         | 28            | 210                          | 9,500                        | 0.0327           | 1.480            | 36.1                  | 1633.7        | 42.6                     | 2060.2 | 2226.2        | 103778.9      | 17296                |
| 6/4/2015                           | 449                  | 39         | 24            |                      |            |               | 32                           | 1,900                        | 0.0047           | 0.278            | 4.2                   | 247.1         |                          |        |               |               |                      |
| 6/4/2015                           |                      |            |               | 1742                 | 38         | 28            | 210                          | 9,100                        | 0.0298           | 1.293            | 26.5                  | 1148.0        | 30.7                     | 1395.1 | 2256.9        | 105174.1      | 17529                |
| 7/7/2015                           | 462                  | 40         | 24            |                      |            |               | 80                           | 3,800                        | 0.0030           | 0.143            | 2.4                   | 113.4         |                          |        |               |               |                      |
| 7/7/2015                           |                      |            |               | 1884                 | 41         | 24            | 450                          | 16,000                       | 0.0691           | 2.458            | 54.8                  | 1947.0        | 57.1                     | 2060.4 | 2314.0        | 107234.5      | 17872                |

TABLE 1  
TESORO (FORMER CHEVRON) PIPE LINE - MILEPOST 237.4 HAGERMAN, IDAHO  
ANALYTICAL RESULTS AND SYSTEM PERFORMANCE DATA

|           |     |    |    |      |    |    |       |        |        |       |       |        |       |         |        |          |       |
|-----------|-----|----|----|------|----|----|-------|--------|--------|-------|-------|--------|-------|---------|--------|----------|-------|
| 8/12/2015 | 500 | 44 | 28 |      |    |    | 65.5  | 3,860  | 0.0027 | 0.157 | 2.3   | 136.0  |       |         |        |          |       |
| 8/12/2015 |     |    |    | 1920 | 42 | 26 | 112   | 13,500 | 0.0175 | 2.114 | 15.2  | 1826.4 | 17.5  | 1962.4  | 2331.5 | 109196.9 | 18199 |
| 10/1/2015 | 490 | 43 | -- |      |    |    | 53    | 3,970  | 0.0021 | 0.159 | 2.5   | 190.4  |       |         |        |          |       |
| 10/1/2015 |     |    |    | 2030 | 44 | -- | 229   | 12,100 | 0.0379 | 2.003 | 45.5  | 2403.8 | 48.0  | 2594.2  | 2379.5 | 111791.1 | 18632 |
| 3/17/2016 | 607 | 53 |    |      |    |    | 38.85 | 3,155  | 0.0019 | 0.156 | 7.8   | 629.7  |       |         |        |          |       |
| 3/17/2016 |     |    |    | 1078 | 24 |    | 496   | 26,900 | 0.0436 | 2.365 | 175.8 | 9535.3 | 183.6 | 10165.0 | 2563.1 | 121956.1 | 20326 |

NOTES:

Original system start date was August 2, 2011.  
Antea Group started operation and maintenance of system in August 2013.  
Air samples analyzed by EPA method 18 modified.  
November 2014 totals used for February 2015 also due to system downtime (from storm damage).

CONVERSIONS: 0.02832

Cubic meters/Cubic 0.0022  
Lbs/Gram = 60  
Min/Hour = 0.001  
Grams/Milligrams =  
u x-sec area Ft<sup>2</sup> 0.08726646 (4" discharge)  
0.021816 (2" discharge)  
1 gallon gasoline = 6 pounds

Permit limit request

Based on average removal concentrations in 2015  
Using a discharge flow rate of 105 cfm.  
Estimated discharge amounts:  
Benzene 500 lbs/yr  
TPH 12.75 tons/yr

| Year              | Total TPH      |               |
|-------------------|----------------|---------------|
|                   | Total lbs      | Eq. Gallons   |
| 2011              | 30,415         | 5,069         |
| 2012              | 28,483         | 4,747         |
| 2013              | 20,560         | 3,427         |
| 2014              | 20,803         | 3,467         |
| 2015              | 11,530         | 1922          |
| 2016              | 10,165         | 1694          |
| <b>Cumulative</b> | <b>111,791</b> | <b>20,326</b> |

Average Total TPH Removed Per Year (lbs)  
22,358