

100 bbl Produced Water Tanks 1 and 2

* Project Setup Information

*

Project File : Untitled.Ept
 Model : Stable Oil Tank
 Calculation Method : AP42
 Control Efficiency : 100.0%

Filed Name : Marcellus Shale - Laurel Mountain Midstream
 Well Name : Springhill Compressor Station
 Well ID : 100 BBL Produced Water Tanks
 Date : 2009.10.23

* Data Input

*

Separator Pressure : 23.00 [psig]
 Separator Temperature : 85.00 [F]
 Ambient Pressure : 14.70 [psia]
 Ambient Temperature : 70.00 [F]
 C10+ SG : 0.8990
 C10+ MW : 166.00

-- Stable Oil

| No. | Component | mol % |
|-----|---------------|---------|
| 1 | H2S | 0.0298 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 0.0813 |
| 4 | N2 | 0.0006 |
| 5 | C1 | 0.1429 |
| 6 | C2 | 0.3200 |
| 7 | C3 | 1.6601 |
| 8 | i-C4 | 1.0163 |
| 9 | n-C4 | 4.3102 |
| 10 | i-C5 | 3.0783 |
| 11 | n-C5 | 5.0568 |
| 12 | C6 | 4.2584 |
| 13 | C7 | 10.6399 |
| 14 | C8 | 11.1525 |
| 15 | C9 | 5.6739 |
| 16 | C10+ | 47.3307 |
| 17 | Benzene | 0.5815 |
| 18 | Toluene | 0.2191 |
| 19 | E-Benzene | 0.0732 |
| 20 | Xylenes | 0.6999 |
| 21 | n-C6 | 3.6746 |
| 22 | 224Trimethylp | 0.0000 |

-- Sales Oil

 Production Rate : 4.1 [bbl/day]

100 bbl Produced Water Tanks 1 and 2
 Days of Annual Operation : 365 [days/year]
 API Gravity : 46.0
 Reid Vapor Pressure : 7.70[psia]
 Bulk Temperature : 60.00[F]

-- Tank and Shell Data

 Diameter : 8.50[ft]
 Shell Height : 10.00[ft]
 Cone Roof Slope : 0.06
 Average Liquid Height : 5.00[ft]
 Vent Pressure Range : 0.06[psi]
 Solar Absorbance : 0.89

-- Meteorological Data

----- Page 1----- E&P TANK

City : Pittsburgh, PA
 Ambient Pressure : 14.70[psia]
 Ambient Temperature : 70.00[F]
 Min Ambient Temperature : 40.70[F]
 Max Ambient Temperature : 59.90[F]
 Total Solar Insolation : 1067.00[Btu/ft^2*day]

 * Calculation Results
 *

-- Emission Summary

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|------------|--------------------------|-------------------------|
| Total HAPs | 0.020 | 0.005 |
| Total HC | 0.509 | 0.116 |
| VOCs, C2+ | 0.509 | 0.116 |
| VOCs, C3+ | 0.499 | 0.114 |

Uncontrolled Recovery Info.

| | | |
|----------|---------------|-----------|
| Vapor | 18.2300 x1E-3 | [MSCFD] |
| HC Vapor | 18.1000 x1E-3 | [MSCFD] |
| GOR | 4.44 | [SCF/bbl] |

-- Emission Composition

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] |
|----|-----------|--------------------------|-------------------------|
| 1 | H2S | 0.002 | 0.000 |
| 2 | O2 | 0.000 | 0.000 |
| 3 | CO2 | 0.001 | 0.000 |
| 4 | N2 | 0.000 | 0.000 |
| 5 | C1 | 0.000 | 0.000 |
| 6 | C2 | 0.010 | 0.002 |
| 7 | C3 | 0.109 | 0.025 |
| 8 | i-C4 | 0.050 | 0.011 |
| 9 | n-C4 | 0.154 | 0.035 |

100 bbl Produced Water Tanks 1 and 2

| | | | |
|----|---------------|-------|-------|
| 10 | i-C5 | 0.057 | 0.013 |
| 11 | n-C5 | 0.067 | 0.015 |
| 12 | C6 | 0.020 | 0.005 |
| 13 | C7 | 0.018 | 0.004 |
| 14 | C8 | 0.007 | 0.002 |
| 15 | C9 | 0.001 | 0.000 |
| 16 | C10+ | 0.000 | 0.000 |
| 17 | Benzene | 0.001 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 |
| 21 | n-C6 | 0.013 | 0.003 |
| 22 | 224Trimethylp | 0.000 | 0.000 |
| | Total | 0.510 | 0.116 |

-- Stream Data

| No. | Component | MW | Stable Oil mol % | Sales Oil mol % | Total Emissions mol % |
|----------------------|--------------------------|--------|---------------------|--------------------|--------------------------|
| 1 | H2S | 34.80 | 0.0508 | 0.0098 | 0.5465 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.2437 | 0.0009 | 0.1640 |
| 4 | N2 | 28.01 | 0.0102 | 0.0000 | 0.0001 |
| 5 | C1 | 16.04 | 0.9543 | 0.0000 | 0.0001 |
| 6 | C2 | 30.07 | 0.6701 | 0.0373 | 3.8757 |
| 7 | C3 | 44.10 | 2.1827 | 0.9117 | 28.0946 |
| 8 | i-C4 | 58.12 | 1.1269 | 0.8183 | 9.8255 |
| 9 | n-C4 | 58.12 | 4.6091 | 3.7640 | 30.2584 |
| 10 | i-C5 | 72.15 | 3.1066 | 2.9813 | 8.9486 |
| 11 | n-C5 | 72.15 | 5.0558 | 4.9858 | 10.6419 |
| 12 | C6 | 86.16 | 4.1726 | 4.3324 | 2.6583 |
| 13 | C7 | 100.20 | 10.3655 | 10.9186 | 2.1550 |
| Page 2----- E&P TANK | | | | | |
| 14 | C8 | 114.23 | 10.8426 | 11.4772 | 0.6934 |
| 15 | C9 | 128.28 | 5.5127 | 5.8440 | 0.1181 |
| 16 | C10+ | 166.00 | 45.9695 | 48.7693 | 0.0202 |
| 17 | Benzene | 78.11 | 0.5685 | 0.5949 | 0.2030 |
| 18 | Toluene | 92.13 | 0.2132 | 0.2253 | 0.0205 |
| 19 | E-Benzene | 106.17 | 0.0711 | 0.0754 | 0.0022 |
| 20 | Xylenes | 106.17 | 0.6802 | 0.7208 | 0.0180 |
| 21 | n-C6 | 86.18 | 3.5939 | 3.7498 | 1.7559 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 126.33 | 128.04 | 58.23 |
| | Stream Mole Ratio | | 1.0000 | 0.9947 | 0.0053 |
| | Heating Value [BTU/SCF] | | | | 3248.76 |
| | Gas Gravity [Gas/Air] | | | | 2.01 |
| | Bubble Pt. @ 100F [psia] | | 18.82 | 8.15 | |
| | RVP @ 100F [psia] | | 75.59 | 49.29 | |
| | SG @ 100F | | 0.804 | 0.807 | |

100 bbl Separator Produced Water Tank

* Project Setup Information
*

Project File : Untitled.Ept
Model : Stable Oil Tank
Calculation Method : AP42
Control Efficiency : 100.0%

Filed Name : Marcellus Shale Field
Well Name : Springhill Compressor Station
Well ID : 100 bbl Separator Produced Water Tank Red-Brown
Date : 2009.10.23

* Data Input
*

Separator Pressure : 23.00 [psig]
Separator Temperature : 85.00 [F]
Ambient Pressure : 14.70 [psia]
Ambient Temperature : 70.00 [F]
C10+ SG : 0.8990
C10+ MW : 166.00

-- Stable Oil

| No. | Component | mol % |
|-----|---------------|---------|
| 1 | H2S | 0.0298 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 0.0813 |
| 4 | N2 | 0.0006 |
| 5 | C1 | 0.1429 |
| 6 | C2 | 0.3200 |
| 7 | C3 | 1.6601 |
| 8 | i-C4 | 1.0163 |
| 9 | n-C4 | 4.3102 |
| 10 | i-C5 | 3.0783 |
| 11 | n-C5 | 5.0568 |
| 12 | C6 | 4.2584 |
| 13 | C7 | 10.6399 |
| 14 | C8 | 11.1525 |
| 15 | C9 | 5.6739 |
| 16 | C10+ | 47.3307 |
| 17 | Benzene | 0.5815 |
| 18 | Toluene | 0.2191 |
| 19 | E-Benzene | 0.0732 |
| 20 | Xylenes | 0.6999 |
| 21 | n-C6 | 3.6746 |
| 22 | 224Trimethylp | 0.0000 |

-- Sales Oil

Production Rate : 4 [bbl/day]

100 bbl Separator Produced Water Tank

Days of Annual Operation : 365 [days/year]
 API Gravity : 46.0
 Reid Vapor Pressure : 7.70[psia]
 Bulk Temperature : 60.00[F]

-- Tank and Shell Data

 Diameter : 8.50[ft]
 Shell Height : 10.00[ft]
 Cone Roof Slope : 0.06
 Average Liquid Height : 5.00[ft]
 Vent Pressure Range : 0.06[psi]
 Solar Absorbance : 0.89

-- Meteorological Data

----- E&P TANK
 Page 1-----

City : Pittsburgh, PA
 Ambient Pressure : 14.70[psia]
 Ambient Temperature : 70.00[F]
 Min Ambient Temperature : 40.70[F]
 Max Ambient Temperature : 59.90[F]
 Total Solar Insolation : 1067.00[Btu/ft^2*day]

 * Calculation Results
 *

-- Emission Summary

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] | Controlled [ton/yr] | Controlled [lb/hr] |
|------------|--------------------------|-------------------------|------------------------|-----------------------|
| Total HAPs | 0.020 | 0.005 | 0.001 | 0.000 |
| Total HC | 0.508 | 0.116 | 0.023 | 0.005 |
| VOCs, C2+ | 0.508 | 0.116 | 0.023 | 0.005 |
| VOCs, C3+ | 0.498 | 0.114 | 0.022 | 0.005 |

Uncontrolled Recovery Info.

Vapor 18.2100 x1E-3 [MSCFD]
 HC Vapor 18.0800 x1E-3 [MSCFD]
 GOR 4.44 [SCF/bbl]

-- Emission Composition

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] | Controlled [ton/yr] | Controlled [lb/hr] |
|----|-----------|--------------------------|-------------------------|------------------------|-----------------------|
| 1 | H2S | 0.002 | 0.000 | 0.000 | 0.000 |
| 2 | O2 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3 | CO2 | 0.001 | 0.000 | 0.000 | 0.000 |
| 4 | N2 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | C1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 6 | C2 | 0.010 | 0.002 | 0.000 | 0.000 |
| 7 | C3 | 0.109 | 0.025 | 0.000 | 0.000 |
| 8 | i-C4 | 0.050 | 0.011 | 0.000 | 0.000 |
| 9 | n-C4 | 0.154 | 0.035 | 0.000 | 0.000 |

| 100 bbl Separator Produced Water Tank | | | | | |
|---------------------------------------|---------------|-------|-------|-------|-------|
| 10 | i-C5 | 0.057 | 0.013 | 0.000 | 0.000 |
| 11 | n-C5 | 0.067 | 0.015 | 0.000 | 0.000 |
| 12 | C6 | 0.020 | 0.005 | 0.000 | 0.000 |
| 13 | C7 | 0.018 | 0.004 | 0.000 | 0.000 |
| 14 | C8 | 0.007 | 0.002 | 0.000 | 0.000 |
| 15 | C9 | 0.001 | 0.000 | 0.000 | 0.000 |
| 16 | C10+ | 0.000 | 0.000 | 0.000 | 0.000 |
| 17 | Benzene | 0.001 | 0.000 | 0.000 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 | 0.000 | 0.000 |
| 21 | n-C6 | 0.013 | 0.003 | 0.000 | 0.000 |
| 22 | 224Trimethylp | 0.000 | 0.000 | 0.000 | 0.000 |
| | Total | 0.510 | 0.116 | 0.000 | 0.000 |

-- Stream Data

| No. | Component | MW | Stable Oil mol % | Sales Oil mol % | Total Emissions mol % |
|----------------------|--------------------------|--------|---------------------|--------------------|--------------------------|
| 1 | H2S | 34.80 | 0.0508 | 0.0098 | 0.5458 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.2437 | 0.0009 | 0.1616 |
| 4 | N2 | 28.01 | 0.0102 | 0.0000 | 0.0001 |
| 5 | C1 | 16.04 | 0.9543 | 0.0000 | 0.0001 |
| 6 | C2 | 30.07 | 0.6701 | 0.0372 | 3.8635 |
| 7 | C3 | 44.10 | 2.1827 | 0.9108 | 28.0832 |
| 8 | i-C4 | 58.12 | 1.1269 | 0.8180 | 9.8275 |
| 9 | n-C4 | 58.12 | 4.6091 | 3.7631 | 30.2685 |
| 10 | i-C5 | 72.15 | 3.1066 | 2.9811 | 8.9531 |
| 11 | n-C5 | 72.15 | 5.0558 | 4.9856 | 10.6475 |
| 12 | C6 | 86.16 | 4.1726 | 4.3325 | 2.6598 |
| 13 | C7 | 100.20 | 10.3655 | 10.9190 | 2.1562 |
| Page 2----- E&P TANK | | | | | |
| 14 | C8 | 114.23 | 10.8426 | 11.4776 | 0.6938 |
| 15 | C9 | 128.28 | 5.5127 | 5.8442 | 0.1181 |
| 16 | C10+ | 166.00 | 45.9695 | 48.7712 | 0.0202 |
| 17 | Benzene | 78.11 | 0.5685 | 0.5950 | 0.2031 |
| 18 | Toluene | 92.13 | 0.2132 | 0.2253 | 0.0205 |
| 19 | E-Benzene | 106.17 | 0.0711 | 0.0754 | 0.0022 |
| 20 | Xylenes | 106.17 | 0.6802 | 0.7208 | 0.0180 |
| 21 | n-C6 | 86.18 | 3.5939 | 3.7498 | 1.7569 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 126.33 | 128.04 | 58.24 |
| | Stream Mole Ratio | | 1.0000 | 0.9947 | 0.0053 |
| | Heating Value [BTU/SCF] | | | | 3249.27 |
| | Gas Gravity [Gas/Air] | | | | 2.01 |
| | Bubble Pt. @ 100F [psia] | | 18.82 | 8.15 | |
| | RVP @ 100F [psia] | | 75.59 | 49.27 | |
| | SG @ 100F | | 0.804 | 0.807 | |

50 bbl Reboiler Produced Water

* Project Setup Information

*

Project File : Untitled.Ept
Model : Stable Oil Tank
Calculation Method : AP42
Control Efficiency : 100.0%

Filed Name : Marcellus Shale Field
Well Name : Springhill Compressor Station
Well ID : 50 BBL Reboiler Produced Water Tank
Date : 2009.10.23

* Data Input

*

Separator Pressure : 23.00 [psig]
Separator Temperature : 85.00 [F]
Ambient Pressure : 14.70 [psia]
Ambient Temperature : 70.00 [F]
C10+ SG : 0.8990
C10+ MW : 166.00

-- Stable Oil

| No. | Component | mol % |
|-----|---------------|---------|
| 1 | H2S | 0.0298 |
| 2 | O2 | 0.0000 |
| 3 | CO2 | 0.0813 |
| 4 | N2 | 0.0006 |
| 5 | C1 | 0.1429 |
| 6 | C2 | 0.3200 |
| 7 | C3 | 1.6601 |
| 8 | i-C4 | 1.0163 |
| 9 | n-C4 | 4.3102 |
| 10 | i-C5 | 3.0783 |
| 11 | n-C5 | 5.0568 |
| 12 | C6 | 4.2584 |
| 13 | C7 | 10.6399 |
| 14 | C8 | 11.1525 |
| 15 | C9 | 5.6739 |
| 16 | C10+ | 47.3307 |
| 17 | Benzene | 0.5815 |
| 18 | Toluene | 0.2191 |
| 19 | E-Benzene | 0.0732 |
| 20 | Xylenes | 0.6999 |
| 21 | n-C6 | 3.6746 |
| 22 | 224Trimethylp | 0.0000 |

-- Sales Oil

Production Rate : 1.4 [bbl/day]

50 bbl Reboiler Produced Water
 Days of Annual Operation : 365 [days/year]
 API Gravity : 46.0
 Reid Vapor Pressure : 7.70[psia]
 Bulk Temperature : 60.00[F]

-- Tank and Shell Data

 Diameter : 8.50[ft]
 Shell Height : 5.00[ft]
 Cone Roof Slope : 0.06
 Average Liquid Height : 5.00[ft]
 Vent Pressure Range : 0.06[psi]
 Solar Absorbance : 0.89

-- Meteorological Data

----- E&P TANK
 Page 1-----

City : Pittsburgh, PA
 Ambient Pressure : 14.70[psia]
 Ambient Temperature : 70.00[F]
 Min Ambient Temperature : 40.70[F]
 Max Ambient Temperature : 59.90[F]
 Total Solar Insolation : 1067.00[Btu/ft^2*day]

 * Calculation Results
 *

-- Emission Summary

| Item | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] | Controlled [ton/yr] | Controlled [lb/hr] |
|------------|--------------------------|-------------------------|------------------------|-----------------------|
| Total HAPs | 0.000 | 0.000 | 0.001 | 0.000 |
| Total HC | 0.120 | 0.027 | 0.023 | 0.005 |
| VOCs, C2+ | 0.120 | 0.027 | 0.023 | 0.005 |
| VOCs, C3+ | 0.113 | 0.026 | 0.022 | 0.005 |

Uncontrolled Recovery Info.

| | | |
|----------|--------------|-----------|
| Vapor | 4.6900 x1E-3 | [MSCFD] |
| HC Vapor | 4.5500 x1E-3 | [MSCFD] |
| GOR | 3.42 | [SCF/bbl] |

-- Emission Composition

| No | Component | Uncontrolled [ton/yr] | Uncontrolled [lb/hr] | Controlled [ton/yr] | Controlled [lb/hr] |
|----|-----------|--------------------------|-------------------------|------------------------|-----------------------|
| 1 | H2S | 0.001 | 0.000 | 0.000 | 0.000 |
| 2 | O2 | 0.000 | 0.000 | 0.000 | 0.000 |
| 3 | CO2 | 0.002 | 0.000 | 0.000 | 0.000 |
| 4 | N2 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | C1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 6 | C2 | 0.007 | 0.002 | 0.000 | 0.000 |
| 7 | C3 | 0.031 | 0.007 | 0.000 | 0.000 |
| 8 | i-C4 | 0.011 | 0.003 | 0.000 | 0.000 |
| 9 | n-C4 | 0.034 | 0.008 | 0.000 | 0.000 |

50 bbl Reboiler Produced Water

| | | | | | |
|----|---------------|-------|-------|-------|-------|
| 10 | i-C5 | 0.012 | 0.003 | 0.000 | 0.000 |
| 11 | n-C5 | 0.014 | 0.003 | 0.000 | 0.000 |
| 12 | C6 | 0.004 | 0.001 | 0.000 | 0.000 |
| 13 | C7 | 0.004 | 0.001 | 0.000 | 0.000 |
| 14 | C8 | 0.001 | 0.000 | 0.000 | 0.000 |
| 15 | C9 | 0.000 | 0.000 | 0.000 | 0.000 |
| 16 | C10+ | 0.000 | 0.000 | 0.000 | 0.000 |
| 17 | Benzene | 0.000 | 0.000 | 0.000 | 0.000 |
| 18 | Toluene | 0.000 | 0.000 | 0.000 | 0.000 |
| 19 | E-Benzene | 0.000 | 0.000 | 0.000 | 0.000 |
| 20 | Xylenes | 0.000 | 0.000 | 0.000 | 0.000 |
| 21 | n-C6 | 0.003 | 0.001 | 0.000 | 0.000 |
| 22 | 224Trimethylp | 0.000 | 0.000 | 0.000 | 0.000 |
| | Total | 0.124 | 0.028 | 0.000 | 0.000 |

-- Stream Data

| No. | Component | MW | Stable Oil mol % | Sales Oil mol % | Total Emissions mol % |
|----------------------|--------------------------|--------|---------------------|--------------------|--------------------------|
| 1 | H2S | 34.80 | 0.0508 | 0.0181 | 0.8098 |
| 2 | O2 | 32.00 | 0.0000 | 0.0000 | 0.0000 |
| 3 | CO2 | 44.01 | 0.2437 | 0.0139 | 2.0996 |
| 4 | N2 | 28.01 | 0.0102 | 0.0000 | 0.0002 |
| 5 | C1 | 16.04 | 0.9543 | 0.0000 | 0.0002 |
| 6 | C2 | 30.07 | 0.6701 | 0.1224 | 10.4693 |
| 7 | C3 | 44.10 | 2.1827 | 1.2739 | 31.0081 |
| 8 | i-C4 | 58.12 | 1.1269 | 0.9258 | 8.6910 |
| 9 | n-C4 | 58.12 | 4.6091 | 4.0703 | 25.5367 |
| 10 | i-C5 | 72.15 | 3.1066 | 3.0428 | 7.1113 |
| 11 | n-C5 | 72.15 | 5.0558 | 5.0380 | 8.3713 |
| 12 | C6 | 86.16 | 4.1726 | 4.3015 | 2.0575 |
| 13 | C7 | 100.20 | 10.3655 | 10.7883 | 1.6600 |
| Page 2----- E&P TANK | | | | | |
| 14 | C8 | 114.23 | 10.8426 | 11.3222 | 0.5334 |
| 15 | C9 | 128.28 | 5.5127 | 5.7624 | 0.0908 |
| 16 | C10+ | 166.00 | 45.9695 | 48.0772 | 0.0157 |
| 17 | Benzene | 78.11 | 0.5685 | 0.5888 | 0.1570 |
| 18 | Toluene | 92.13 | 0.2132 | 0.2224 | 0.0158 |
| 19 | E-Benzene | 106.17 | 0.0711 | 0.0743 | 0.0017 |
| 20 | Xylenes | 106.17 | 0.6802 | 0.7108 | 0.0139 |
| 21 | n-C6 | 86.18 | 3.5939 | 3.7167 | 1.3568 |
| 22 | 224Trimethylp | 114.24 | 0.0000 | 0.0000 | 0.0000 |
| | MW | | 126.33 | 127.20 | 54.48 |
| | Stream Mole Ratio | | 1.0000 | 0.9959 | 0.0041 |
| | Heating Value [BTU/SCF] | | | | 2999.22 |
| | Gas Gravity [Gas/Air] | | | | 1.88 |
| | Bubble Pt. @ 100F [psia] | | 18.82 | 10.06 | |
| | RVP @ 100F [psia] | | 75.59 | 57.58 | |
| | SG @ 100F | | 0.804 | 0.806 | |

LAUREL MOUNTAIN MIDSTREAM, LLC
Springhill Compressor Station
General Permit BAQ-GPA/GP-5 Application
Truck Loading Emission Calculations

- Notes: 1 - Assumed submerged loading.
 2 - Emission factors and formulas are from EPA Section 5.2 Transportation and Marketing of

$$L_L = 12.46 \times S \times P \times M / T$$

where: L_L = loading loss, pounds per 1000 gallons (lb/1000 gal) of liquid loaded

S = a saturation factor. Use 0.5 for submerge loading into clean tank

P = true vapor pressure of liquid loaded, psia

M = molecular weight of vapors, lb/lb-mol

T = temperature of bulk liquid loaded, °R (°F + 460)

- 3 - Temperature, vapor pressure and molecular weights are E&P Tank 2.0 defaults

- 4.- Assume conservative condensate throughput of 5000 barrels per year

| S | P (psia) | M (lb/lb-mol) | T (R) | L_L (lb/1000 gal) | Maximum Hourly Throughput (gallons/hr) | Annual Throughput (gallons/yr) | VOC Emission Rate (lb/hr) | VOC Emission Rate (tpy) |
|-----|-------------|------------------|----------|------------------------|---|--------------------------------------|------------------------------------|----------------------------------|
| 0.5 | 4.9 | 166 | 520 | 9.75 | 23.97 | 210000 | 0.23 | 1.02 |

Record Fee Payments - Role : FC

Fee Payment Screen

| Payment Information | | Reference | Date | Date on | Deposit | Paid By | | Address |
|---------------------|-------------|------------|------------|------------|---------|---------|--------|----------|
| Payment Type | Amount Paid | Number | Paid | Check | Method | Client | Payer | List |
| CHECK | \$375.00 | 9420000662 | 11/03/2009 | 10/06/2009 | DEP | Y | 274129 | LAUREL M |

| Retrieval Criteria | | | | | | | | |
|--------------------|------------|-----------|------------|-------------|---------|---------|-------------|-----------|
| Account Id | Invoice Id | Client Id | Client AKA | Client Name | Program | Auth Id | Entity Type | Entity Id |
| 668065 | | | | | | | | |

Get Client Retrieve Next Query

| Transaction Payments | | | | | | | | | | | |
|----------------------|-------------|---------|-------------|-----------|--------------|--------------|------------|---------|----------------|----------|---------------|
| Account Id | Feetrans Id | Auth Id | Entity Type | Entity Id | Trans Reason | Billing Year | Date Due | Balance | Amount Applied | Rev Code | Trans Details |
| 668065 | 1887420 | 812704 | | | GP | | 11/03/2009 | \$0.00 | \$375.00 | 1384 | |

Total Applied \$375.00 Total Amount of Payments \$375.00

LAUREL MOUNTAIN MIDSTREAM, LLC
 PO Box 21218
 Tulsa, OK 74121-1218
 Customer Support 1-866-778-2665

| CHECK NUMBER | PAY DATE | SUPPLIER NO. | SUPPLIER NAME | TOTAL AMOUNT |
|--------------|------------|--------------|------------------------------|--------------|
| 9420000662 | 10/06/2009 | 407947 | COMMONWEALTH OF PENNSYLVANIA | *****375.00 |

| INVOICE NUMBER | INV. DATE | INVOICE DESCRIPTION | NET AMOUNT |
|----------------|-----------|---------------------|------------|
| 05-OCT-2009A | 20091005 | FOR SPRING HILL | 375.00 |

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM. IT ALSO HAS A REFLECTIVE WATERMARK ON THE BACK.

LAUREL MOUNTAIN MIDSTREAM, LLC
 PO Box 21218
 Tulsa, OK 74121-1218
 Customer Support 1-866-778-2665

JPMorgan Chase Bank, N.A.
 Chicago, IL 60606

70-2322-1719
 A/C 826076770
9420000662
 DATE: 10/06/2009

PAY TO THE ORDER OF:

COMMONWEALTH OF PENNSYLVANIA
 400 WATER FRONT DRIVE
 PITTSBURGH, PA 15222-4745
 UNITED STATES

PAY → **\$*****375.00** USD

Rodney J. Sisk
 Authorized Signer

SUPPLIER NUMBER
 407947

⑈9420000662⑈ ⑆071923226⑆ 826076770⑈