# Reasonable Potential Analyzer

Facility Name **Village of Pecos**

NPDES Permit Number **NM0029041**　　　　　　Outfall Number **001**

Proposed Critical Dilution* **15**

**\*Critical Dilution in draft permit, do not use % sign.**
**Enter data in yellow shaded cells only.  Fifty percent should be entered as 50, not 50%.**

**Test Data**

| Date (mm/yyy) | VERTEBRATE Lethal NOEC | Sublethal NOEC | Lethal TU | Sublethal TU | INVERTEBRATE Lethal NOEC | Sublethal NOEC | Lethal TU | Sublethal TU |
|---|---|---|---|---|---|---|---|---|
| Dec-12 | 20 | | 5.00 | | 20 | | 5.00 | |
| Jun-13 | 20 | | 5.00 | | 20 | | 5.00 | |
| Dec-13 | 20 | | 5.00 | | 20 | | 5.00 | |
| Jun-14 | 20 | | 5.00 | | 20 | | 5.00 | |
| Dec-14 | 20 | | 5.00 | | 20 | | 5.00 | |
| Jun-15 | 20 | | 5.00 | | 20 | | 5.00 | |
| Dec-15 | 20 | | 5.00 | | 20 | | 5.00 | |
| Jun-16 | 20 | | 5.00 | | 20 | | 5.00 | |
| Dec-16 | 20 | | 5.00 | | 20 | | 5.00 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 20 | 0 | 5.00 | #DIV/0! | 20 | 0 | 5.00 | #DIV/0! |

| | Lethal | Sublethal | | | Lethal | Sublethal |
|---|---|---|---|---|---|---|
| Count | 9 | 0 | | | 9 | 0 |
| Mean | 5.000 | #DIV/0! | | | 5.000 | #DIV/0! |
| Std. Dev. | 0.000 | #DIV/0! | | | 0.000 | #DIV/0! |
| CV | 0.6 | 0.6 | | | 0.6 | 0.6 |
| | | | | | | |
| RPMF | 1.8 | 6.2 | | | 1.8 | 6.2 |

**6.667** Reasonable Potential Acceptance Criteria

Vertebrate Lethal　　**1.350**　No Reasonable Potential exists.  Permit requires WET monitoring, but no WET limit.

Vertebrate Sublethal　**#DIV/0!**　#DIV/0!

Invertebrate Lethal　**1.350**　No Reasonable Potential exists.  Permit requires WET monitoring, but no WET limit.

Invertebrate Sublethal　**#DIV/0!**　#DIV/0!

# Reasonable Potential Analyzer

Facility Name **Village of Pecos**

NPDES Permit Number NM0029041 Outfall Number 001

Proposed Critical Dilution* 15

**\*Critical Dilution in draft permit, do not use % sign.**

**Enter data in yellow shaded cells only. Fifty percent should be entered as 50, not 50%.**

**Test Data**

| Date (mm/yyy) | VERTEBRATE | | | | INVERTEBRATE | | | |
|---|---|---|---|---|---|---|---|---|
| | Lethal NOEC | Sublethal NOEC | Lethal TU | Sublethal TU | Lethal NOEC | Sublethal NOEC | Lethal TU | Sublethal TU |

## Determining "Reasonable Potential" for Excursions Above Ambient Criteria Using Effluent Data Only

EPA recommends finding that a permittee has "reasonable potential" to exceed a receiving water quality standard if it cannot be demonstrated with a high confidence level that the upper bound of the lognormal distribution of effluent concentrations is below the receiving water criteria at specified low-flow conditions.

**Step 1**　　　　Determine the number of total observations ("n") for a particular set of effluent data (concentration or toxic units [TUs]), and determine the highest value from that data set.

**Step 2**　　　　Determine the coefficient of variation for the data set. For a data set where n<10, the coefficient of variation (CV) is estimated to equal 0.6, or the CV is calculated from data obtained from a discharger. For a data set where n>0, the CV is calculate as standard deviation/mean. For less than 10 items of data, the uncertainty in the CV is too large to calculate a standard deviation or mean with sufficient confidence.

**Step 3**　　　　Determine the appropriate ratio from the table below.

**Step 4**　　　　Multiply the highest value from a data set by the value from the table below. Use this value with the appropriate dilution to project a maximum receiving water concentration (RWC).

**Step 5**　　　　Compare the projected maximum RWC to the applicable standard (criteria maximum concentration, criteria continuous concentration [CCC], or reference ambient concentration). EPA recommends that permitting authorities find reasonable potential when the projected RWC is greater than an ambient criterion.

# Reasonable Potential Analyzer

**Determining "Reasonable Potential" for Excursions Above Ambient Criteria Using Effluent Data Only**

EPA recommends finding that a permittee has "reasonable potential" to exceed a receiving water quality standard if it cannot be demonstrated with a high confidence level that the upper bound of