## Hydraulic Fracturing Fluid Product Component Information Disclosure

| Fracture Date              | 2/26/2011        |
|----------------------------|------------------|
| State:                     | CA               |
| County:                    | Los Angeles      |
| API Number:                | 04-237-27149     |
| Operator Name:             | Occidental (OXY) |
| Well Name and Number:      | C-349            |
| Longitude:                 | -118.137813      |
| Latitude:                  | 33.739319        |
| Long/Lat Projection:       | NAD27            |
| Production Type:           | Oil              |
| True Vertical Depth (TVD): | 6,292            |
| Total Water Volume (gal)*: | 91,186           |

## Hydraulic Fracturing Fluid Composition:

| Trade Name         | Supplier | Purpose      | Ingredients                      | Chemical Abstract<br>Service Number<br>(CAS #) | Maximum Ingredient Concentration in Additive (% by mass)** | Maximum Ingredient Concentration in HF Fluid (% by mass)** | Comments |
|--------------------|----------|--------------|----------------------------------|--|--|--|----------|
|                    |          |              |                                  |  |  |  |          |
| Water              | Operator | Carrier      | Water                            | 7732-18-5                                      | 100.00%  | 75.86803%  |          |
|                    | 5        |              |                                  | 44000 00 7                                     | 07.000/  | 22 = 1222/   |          |
| Super LC           | BHI      | Proppant     | Silicon Dioxide (Silica Sand)    | 14808-60-7                                     | 97.00%   | 20.75130%  |          |
|                    |          |              | Phenol Formaldehyde Resin        | 9003-35-4                                      | 5.00%  | 1.06965%   |          |
|                    |          |              | Hexamethylenetetramine           | 1009-7-0                                       | 0.01%  | 0.00214%   |          |
|                    |          |              |                                  |  |  |  |          |
| Potassium Chloride | BHI      | Clay Control | Potassium Chloride               | 7447-40-7                                      | 100.00%  | 0.01259%   |          |
|                    |          |              |                                  |  |  |  |          |
| BF-7L              | BHI      | Buffer       | Potassium Carbonate              | 584-08-7                                       | 50.00%   | 0.20739%   |          |
|                    |          |              |                                  |  |  |  |          |
| Enzyme G-I         | BHI      | Breaker      | Hemicellulase Enzyme Concentrate | 9025-56-3                                      | 3.00%  | 0.00419%   |          |
|                    |          |              | Water                            | 7732-18-5                                      | 97.00%   | 0.13549%   |          |
| GBW-5              | BHI      | Breaker      | Ammonium Persulfate              | 7727-54-0                                      | 99.00%   | 0.04010%   |          |
| GW-3LDF            | BHI      | Gellant      | Petroleum Distillate Blend       | CBI  | 70.00%   | 0.35699%   |          |
| <u> </u>           |          | Conari       | Guar Gum                         | 9000-30-0                                      | 40.00%   | 0.20399%   |          |
|                    | 5        |              |                                  |  | 100 000/   | 2 22 2 2 2 4   |          |
| High Perm CRB      | BHI      | Breaker      | Ammonium Persulphate             | 7727-54-0                                      | 100.00%  | 0.00705%   |          |
|                    |          |              | Crystalline Silica Quartz        | 14808-60-7                                     | 15.00%   | 0.00106%   |          |
| Inflo 250W         | BHI      | Surfactant   | Surfactants                      | CBI  | 80.00%   | 0.11506%   |          |
|                    |          |              | 2-Butoxyethanol                  | 111-76-2                                       | 20.00%   | 0.02876%   |          |
|                    |          |              | Methanol                         | 67-56-1  | 30.00%   | 0.04315%   |          |
| Supercot W         | BHI      | Activator    | Methanol                         | 67-56-1  | 40.00%   | 0.03600%   |          |
| Superset W         | рп       | ACIIVAIOI    | INECHATION                       | 07-30-1  | 40.00%   | 0.03000%   |          |

|            |     |             | Nonyl phenyl polyethylene glycol ether | 9016-45-9  | 60.00% | 0.05400% |  |
|------------|-----|-------------|--|------------|--------|----------|--|
| XLW-32     | BHI | Crosslinker | Methanol                               | 67-56-1    | 90.00% | 0.03609% |  |
|            |     |             | Boric Oxide                            | 1303-86-2  | 20.00% | 0.00401% |  |
| XLW-56     | BHI | Crosslinker | Glyoxal                                | 107-22-2   | 30.00% | 0.06562% |  |
|            |     |             | Sodium Tetraborate                     | 1330-43-4  | 10.00% | 0.02187% |  |
|            |     |             | Sodium Hydroxide                       | 1310-73-2  | 5.00%  | 0.01094% |  |
|            |     |             | D-Glucitol                             | 50-70-4    | 10.00% | 0.02187% |  |
| X-Cide 207 | BHI | Biocide     | 5-Chloro-2-Methyl-4-Isothiazolin-3-One | 26172-55-4 | 10.00% | 0.00032% |  |
|            |     |             | 2-Methyl-4-Isothiazolin-3-One          | 2682-20-4  | 5.00%  | 0.00016% |  |
|            |     |             | Magnesium Nitrate                      | 10377-60-3 | 10.00% | 0.00032% |  |
|            |     |             | Magnesium Chloride                     | 7786-30-3  | 5.00%  | 0.00016% |  |
|            |     |             | Diatomaceous Earth, Calcined           | 91053-39-3 | 60.00% | 0.00190% |  |
|            |     |             | Crystalline Silica: Cristobalite       | 14464-46-1 | 1.00%  | 0.00003% |  |
|            |     |             | Crystalline Silica: Quartz (SiO2)      | 14808-60-7 | 1.00%  | 0.00003% |  |
|            |     |             |  |            |        |          |  |
|            |     |             |  |            |        |          |  |
|            |     |             |  |            |        |          |  |

<sup>\*</sup> Total Water Volume sources may include fresh water, produced water, and/or recycled water

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

<sup>\*\*</sup> Information is based on the maximum potential for concentration and thus the total may be over 100%