# APPENDIX E PARTICLE ANALYSIS REPORT

4882 McGrath Street • Suite 260 • Ventura, California 93003-7721 USA TEL: (805) 644-8884 • FAX: (805) 644-8655 • Email: <u>PMTCompany @AOL.COM</u>

January 29, 2007

Sierra Research 1801 J Street Sacramento, CA 95814

PMT PROJECT#: 95194

DATE of TEST: 01/29/07

### **PARTICLE ANALYSIS REPORT**

**PROCEDURE:** THE SAMPLE WAS TRANSFERRED TO A CLEAN FLEAKER FLASK FOR ANALYSIS USING AN ELECTRO-OPTICAL PARTICLE ANALYSIS SYSTEM EMPLOYING THE LIGHT SCATTERING PRINCIPLE OF OPERATION. TWO TESTS OF 100mL EACH WERE MADE AND RESULTS AVERAGED. STIRRING WAS BY MAGNETIC STIRRER AND WAS CONTINUOUS THROUGHOUT ALL TESTING.

### SAMPLE DESCRIPTION: LOT # I, SAMPLE # 1

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 15,892,960                               | 50.28%                      |  |  |  |
| 2.5 - 5.0μm                      | 4,041,680                                | 12.79%                      |  |  |  |
| 5.0 - 7.5μm                      | 2,622,400                                | 8.30%                       |  |  |  |
| 7.5 - 10µm                       | 1,904,960                                | 6.03%                       |  |  |  |
| 10 - 25μm                        | 5,512,400                                | 17.44%                      |  |  |  |
| OVER 25µm                        | 1,632,400                                | 5.16%                       |  |  |  |
| TOTAL                            | 31,606,800                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by <u>population</u> of particles counted. Counts are normalized for a 1:79 dilution..

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#### SAMPLE DESCRIPTION: LOT # I, SAMPLE # 2

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 37,227,520                               | 50.73%                      |  |  |  |
| 2.5 - 5.0μm                      | 10,973,760                               | 14.95%                      |  |  |  |
| 5.0 - 7.5μm                      | 7,452,800                                | 10.16%                      |  |  |  |
| 7.5 - 10µm                       | 5,048,640                                | 6.88%                       |  |  |  |
| 10 - 25μm                        | 10,553,120                               | 14.38%                      |  |  |  |
| OVER 25µm                        | 2,129,120                                | 2.90%                       |  |  |  |
| TOTAL                            | 73,384,960                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:159 dilution...

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#### SAMPLE DESCRIPTION: LOT # I, SAMPLE # 3

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 13,345,040                               | 53.36%                      |  |  |  |
| 2.5 - 5.0μm                      | 2,482,400                                | 9.93%                       |  |  |  |
| 5.0 - 7.5μm                      | 1,529,520                                | 6.12%                       |  |  |  |
| 7.5 - 10μm                       | 1,178,240                                | 4.71%                       |  |  |  |
| 10 - 25μm                        | 4,308,640                                | 17.23%                      |  |  |  |
| OVER 25µm                        | 2,164,240                                | 8.65%                       |  |  |  |
| TOTAL                            | 25,008,080                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:79 dilution...

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### SAMPLE DESCRIPTION: LOT # I, SAMPLE # 4

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 59,472,000                               | 70.50%                      |  |  |  |
| 2.5 - 5.0μm                      | 8,179,200                                | 9.70%                       |  |  |  |
| 5.0 - 7.5μm                      | 3,901,600                                | 4.63%                       |  |  |  |
| 7.5 - 10µm                       | 2,784,000                                | 3.30%                       |  |  |  |
| 10 - 25μm                        | 7,609,200                                | 9.02%                       |  |  |  |
| OVER 25µm                        | 2,408,000                                | 2.85%                       |  |  |  |
| TOTAL                            | 84,354,000                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:399 dilution..

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#### SAMPLE DESCRIPTION: LOT # II, SAMPLE # 1

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 10,992,160                               | 68.05%                      |  |  |  |
| 2.5 - 5.0μm                      | 1,424,720                                | 8.82%                       |  |  |  |
| 5.0 - 7.5μm                      | 678,080                                  | 4.20%                       |  |  |  |
| 7.5 - 10μm                       | 462,640                                  | 2.86%                       |  |  |  |
| 10 - 25μm                        | 1,601,760                                | 9.92%                       |  |  |  |
| OVER 25μm                        | 994,720                                  | 6.16%                       |  |  |  |
| TOTAL                            | 16,154,080                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:79 dilution...

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### SAMPLE DESCRIPTION: LOT # II, SAMPLE # 2

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 10,762,880                               | 75.13%                      |  |  |  |
| 2.5 - 5.0μm                      | 1,247,200                                | 8.71%                       |  |  |  |
| 5.0 - 7.5μm                      | 483,360                                  | 3.37%                       |  |  |  |
| 7.5 - 10μm                       | 291,440                                  | 2.03%                       |  |  |  |
| 10 - 25μm                        | 882,080                                  | 6.16%                       |  |  |  |
| OVER 25µm                        | 657,840                                  | 4.59%                       |  |  |  |
| TOTAL                            | 14,324,800                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:79 dilution..

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#### SAMPLE DESCRIPTION: LOT # II, SAMPLE # 3

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 12,074,320                               | 70.97%                      |  |  |  |
| 2.5 - 5.0μm                      | 1,560,560                                | 9.17%                       |  |  |  |
| 5.0 - 7.5μm                      | 633,680                                  | 3.72%                       |  |  |  |
| 7.5 - 10µm                       | 410,160                                  | 2.41%                       |  |  |  |
| 10 - 25μm                        | 1,353,600                                | 7.96%                       |  |  |  |
| OVER 25μm                        | 980,960                                  | 5.77%                       |  |  |  |
| TOTAL                            | 17,013,280                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:79 dilution...

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#### SAMPLE DESCRIPTION: LOT # II, SAMPLE # 4

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 <b>-</b> 2.5μm               | 17,618,640                               | 58.15%                      |  |  |  |
| 2.5 - 5.0μm                      | 4,157,040                                | 13.72%                      |  |  |  |
| 5.0 - 7.5μm                      | 2,422,240                                | 8.00%                       |  |  |  |
| 7.5 - 10µm                       | 1,541,040                                | 5.09%                       |  |  |  |
| 10 - 25μm                        | 3,485,440                                | 11.50%                      |  |  |  |
| OVER 25µm                        | 1,071,840                                | 3.54%                       |  |  |  |
| TOTAL                            | 30,296,240                               | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. Counts are normalized for a 1:79 dilution...

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#### SAMPLE DESCRIPTION: LOT # III-W, DEIONIZED WATER

| PARTICLE SIZE<br>RANGE (MICRONS) | AVE. PARTICLES PER<br>100mL TEST PORTION | *PERCENTAGE<br>DISTRIBUTION |  |  |  |
|----------------------------------|--|-----------------------------|--|--|--|
| 0.5 - 2.5μm                      | 16,258                                   | 79.37%                      |  |  |  |
| 2.5 - 5.0μm                      | 1,622                                    | 7.92%                       |  |  |  |
| 5.0 - 7.5μm                      | 746                                      | 3.64%                       |  |  |  |
| 7.5 - 10μm                       | 595                                      | 2.90%                       |  |  |  |
| 10 - 25μm                        | 1,196                                    | 5.84%                       |  |  |  |
| OVER 25µm                        | 68                                       | 0.33%                       |  |  |  |
| TOTAL                            | 20,485                                   | 100%                        |  |  |  |

<sup>\*</sup>Percent distribution by population of particles counted. No dilution used for this test sample.

### **CHAIN OF CUSTODY RECORD**

### APPLIED ENVIRONMENTAL CONSULTANTS, INC.

| DATE       |             |
|------------|-------------|
| 111012001  |             |
| LAB NUMBER | Page 1 of Z |

| 1553 W. Elna Rae Street, Sเ            | ıite 6, Temp    | e, AZ    | 85281 <b>♦</b> I | Phone 480-829-0     | )457 ♦ F    | ax 48 | 0-829-8  | 985 <b>♦</b> w | ww.ae     | cinc.org |              |          |                                       |     |          |        |                 |
|--|-----------------|----------|------------------|---------------------|-------------|-------|----------|----------------|-----------|----------|--------------|----------|---------------------------------------|-----|----------|--------|-----------------|
| CLIENT                                 |                 |          |                  | MANAGER             |             |       | - 1 1 50 |                |           |          |              |          |                                       |     |          |        |                 |
| SIERRA RESEAR                          | -CH             |          | 10               | NE NUMBER (AREA CO  | HUVK        | 205   | 1 AON    | ATHAC          | U MA      | RRUF     | <u></u> \ ø  |          |                                       |     | ANALY    | SES    |                 |
| 1801 J. STREET                         |                 |          | 480              | 829-045             | DE)         |       |          |                |           |          |              |          |                                       |     |          | / /    |                 |
|  | STATE ZIP C     |          | SITE CON         | ITACT               |             |       |          |                |           | /        |              | /        | ′ /                                   | / / | ′ /      | ′ /    |                 |
|  | CA 95           | 814      |                  |                     |             |       |          |                |           |          |              |          |                                       |     |          |        |                 |
| PROJECT NAME                           |                 |          | TELEPHO          | ONE NUMBER (AREA CO | DE)         |       |          |                |           |          |              |          |                                       |     |          |        | /               |
| SALT RIVER STUT                        | DY              |          | <u> </u>         |                     |             |       |          |                | /         | / /      | / /          | /        | / ,                                   | / , | / /      | / /    |                 |
| CONTINUE OF CHARGE ON BEING OF ENC.    |                 |          |                  |                     |             |       |          |                |           |          |              |          | /                                     | /   |          |        |                 |
|  |                 |          |                  | LAB/SAMPLE          | SA          | MPLE  | YPE      | No. of<br>Con- |           |          |              |          |                                       |     |          | / Sa   | mple Condition/ |
| SAMPLE NO./IDENTIFICATION              | DAT             | E TI     | ME               | NUMBER              | LIQ         | AIR   | SOLID    | tainers        |           |          | /            |          |                                       | /   | $\angle$ | /      | REMARKS         |
| Too 44 1                               |                 | 1/       |                  | T 1                 | 义           |       | ×        | 1              |           |          |              |          |                                       |     |          |        | ZE PER          |
| JAR #1                                 | 1419            | 5/06 13  | SIPM             | 11                  | ,           |       |          |                |           |          |              | ļ        |                                       |     |          | INSTRU | ctions from     |
| JAR + Z                                | 12/15           | 106 13   | 49 pm            | IZ                  | X           |       | X        | 1              |           |          |              |          | ļ                                     |     |          | BOB I  | DULLA at        |
| JAR # 3                                | 12/15           | 106 1:   | 47 pm            | 13                  | X           |       | Х        | 1              |           |          |              |          |                                       |     |          | SIERR  | A RESEARCE      |
| JAR #4                                 | 12/15           | 106 Z    | :00 pm           | 14                  | X           |       | X        | .1             |           |          |              |          |                                       |     |          |        |                 |
|  |                 |          |                  |                     |             |       |          |                |           |          |              |          |                                       |     |          |        |                 |
| -                                      |                 |          |                  |                     |             |       |          |                |           | ļ        |              |          |                                       |     |          |        |                 |
| DO THE SAMPLE(S) POSE ANY POTENTIAL HA | AZARD(S)? IF YE | S, PLEAS | SE EXPLAIN       |                     |             |       |          | :              | <u> </u>  | <u>L</u> |              | <u> </u> | <u> </u>                              | 1   | <u> </u> | İ      | VP-10           |
|  | ·               |          |                  |                     |             |       |          |                |           |          |              |          |                                       |     |          |        |                 |
| SAMPLERS (SIGNATURE)                   | •               | C        | CLIECTIO W       | DATE 12/5/06        | TIME 2.00   | 9 PM  | RELING   | QUISHED BY     | SIGNAT    | URE)     |              |          |                                       |     | DATE     | 8/07   | 1:50 gm         |
| RECEIVED BY (SIGNATURE)                | , F             |          | LAB              | DATE<br>1/22/07     | TIME<br>/U: |       | RELING   | UISHED B       | Y/(SIGNAT | URE)     |              | - De     | pord                                  | -CA |          | 29/07  | 1300            |
| RECEIVED BY (SIGNATURE)                |                 | 7-01     |                  | DATE                | TIME        |       | RELING   | DUISHED BY     | Y (SIGNAT | URE)     |              | 100      | 71 01 1                               |     | DATE     | -1/01  | TIME            |
| RECEIVED BY (SIGNATURE)                |                 |          |                  | DATE                | TIME        |       | RELING   | QUISHED B      | Y (SIGNAT | URE)     | <del>,</del> |          |                                       |     | DATE     | -      | TIME            |
| RECEIVED FOR LABORATORY BY             |                 |          | <u> </u>         | DATE                | TIME        |       |          |                | DAT       | rc       | Tir          | ME       | · · · · · · · · · · · · · · · · · · · |     |          |        | <u> </u>        |
| RESERVED FOR EABORATORY DI             |                 |          | RECEIVED         |                     | 11101       |       | <i>P</i> | CCEPTED        |           | -        | '"           | ***      |                                       |     |          |        |                 |
| METHOD OF SHIPMENT                     | 017             |          |                  |                     | •           |       |          |                |           |          |              |          |                                       |     |          |        |                 |
|  | レレ              |          |                  |                     |             |       | ,,       |                |           |          |              |          |                                       |     |          |        |                 |

SAMPLES PETALVES IN QUANTATIVE (30 DAYS).