

**Matrix Spike/Matrix Spike Duplicate Summary**

**SW-846**

**SDG No.:** Q3662

**Analytical Method:** SW8270E

**Client:** HDR, Inc.

**DataFile:** BF144303.D

| Parameter                        | Spike | Sample Result                                 | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Low     | Limits High | RPD |
|----------------------------------|-------|-----------------------------------------------|--------|-------|-----|----------|-----|----------|---------|-------------|-----|
| <b>Lab Sample ID: Q3662-02MS</b> |       | <b>Client Sample ID: B3-0.0-1.0-2025117MS</b> |        |       |     |          |     |          |         |             |     |
| Benzaldehyde                     | 2000  | 0                                             | 1500   | ug/Kg | 75  |          |     |          | 20 (20) | 160 (111)   |     |
| Phenol                           | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 20 (51) | 160 (122)   |     |
| bis(2-Chloroethyl)ether          | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (67) | 130 (110)   |     |
| 2-Chlorophenol                   | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (67) | 130 (119)   |     |
| 2-Methylphenol                   | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (68) | 130 (116)   |     |
| 2,2-oxybis(1-Chloropropane)      | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (59) | 130 (113)   |     |
| Acetophenone                     | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (55) | 130 (128)   |     |
| 3+4-Methylphenols                | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 20 (70) | 160 (111)   |     |
| N-Nitroso-di-n-propylamine       | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (59) | 130 (119)   |     |
| Hexachloroethane                 | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 20 (65) | 160 (115)   |     |
| Nitrobenzene                     | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (66) | 130 (120)   |     |
| Isophorone                       | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (67) | 130 (113)   |     |
| 2-Nitrophenol                    | 2000  | 0                                             | 1500   | ug/Kg | 75  |          |     |          | 70 (69) | 130 (135)   |     |
| 2,4-Dimethylphenol               | 2000  | 0                                             | 2000   | ug/Kg | 100 |          |     |          | 70 (63) | 130 (151)   |     |
| bis(2-Chloroethoxy)methane       | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (70) | 130 (112)   |     |
| 2,4-Dichlorophenol               | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (70) | 130 (121)   |     |
| Naphthalene                      | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (66) | 130 (113)   |     |
| 4-Chloroaniline                  | 2000  | 0                                             | 450    | ug/Kg | 23  | *        |     |          | 70 (10) | 130 (100)   |     |
| Hexachlorobutadiene              | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (67) | 130 (118)   |     |
| Caprolactam                      | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 20 (51) | 160 (134)   |     |
| 4-Chloro-3-methylphenol          | 2000  | 0                                             | 1600   | ug/Kg | 80  |          |     |          | 70 (71) | 130 (118)   |     |
| 2-Methylnaphthalene              | 2000  | 0                                             | 1600   | ug/Kg | 80  |          |     |          | 70 (59) | 130 (123)   |     |
| Hexachlorocyclopentadiene        | 3900  | 0                                             | 1200   | ug/Kg | 31  |          |     |          | 20 (16) | 160 (175)   |     |
| 2,4,6-Trichlorophenol            | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (67) | 130 (128)   |     |
| 2,4,5-Trichlorophenol            | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (69) | 130 (123)   |     |
| 1,1-Biphenyl                     | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (69) | 130 (126)   |     |
| 2-Chloronaphthalene              | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (71) | 130 (113)   |     |
| 2-Nitroaniline                   | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (73) | 130 (125)   |     |
| Dimethylphthalate                | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (72) | 130 (116)   |     |
| Acenaphthylene                   | 2000  | 0                                             | 2000   | ug/Kg | 100 |          |     |          | 70 (69) | 130 (128)   |     |
| 2,6-Dinitrotoluene               | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (67) | 130 (141)   |     |
| 3-Nitroaniline                   | 2000  | 0                                             | 1300   | ug/Kg | 65  | *        |     |          | 70 (28) | 130 (102)   |     |
| Acenaphthene                     | 2000  | 0                                             | 1600   | ug/Kg | 80  |          |     |          | 70 (70) | 130 (121)   |     |
| 2,4-Dinitrophenol                | 3900  | 0                                             | 280    | ug/Kg | 7   | *        |     |          | 20 (10) | 160 (164)   |     |
| 4-Nitrophenol                    | 3900  | 0                                             | 3600   | ug/Kg | 92  |          |     |          | 20 (49) | 160 (133)   |     |
| Dibenzofuran                     | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (71) | 130 (111)   |     |
| 2,4-Dinitrotoluene               | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (73) | 130 (130)   |     |
| Diethylphthalate                 | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (73) | 130 (116)   |     |
| 4-Chlorophenyl-phenylether       | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (72) | 130 (112)   |     |
| Fluorene                         | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (67) | 130 (114)   |     |
| 4-Nitroaniline                   | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (61) | 130 (128)   |     |
| 4,6-Dinitro-2-methylphenol       | 2000  | 0                                             | 220    | ug/Kg | 11  | *        |     |          | 70 (25) | 130 (163)   |     |
| N-Nitrosodiphenylamine           | 2000  | 0                                             | 1800   | ug/Kg | 90  |          |     |          | 70 (73) | 130 (118)   |     |
| 4-Bromophenyl-phenylether        | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (65) | 130 (121)   |     |
| Hexachlorobenzene                | 2000  | 0                                             | 1700   | ug/Kg | 85  |          |     |          | 70 (67) | 130 (118)   |     |
| Atrazine                         | 2000  | 0                                             | 1900   | ug/Kg | 95  |          |     |          | 70 (79) | 130 (127)   |     |

( ) = LABORATORY INHOUSE LIMIT

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**Analytical Method:** SW8270E

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**DataFile:** BF144303.D

| Parameter                  | Spike | Sample<br>Result | Result | Units | Rec | Rec<br>Qual | RPD | RPD<br>Qual | Low     | Limits<br>High | RPD |
|----------------------------|-------|------------------|--------|-------|-----|-------------|-----|-------------|---------|----------------|-----|
| Pentachlorophenol          | 3900  | 0                | 3300   | ug/Kg | 85  |             |     |             | 20 (39) | 160 (145)      |     |
| Phenanthrene               | 2000  | 94.7             | 1900   | ug/Kg | 90  |             |     |             | 70 (52) | 130 (128)      |     |
| Anthracene                 | 2000  | 0                | 1800   | ug/Kg | 90  |             |     |             | 70 (62) | 130 (124)      |     |
| Carbazole                  | 2000  | 0                | 2000   | ug/Kg | 100 |             |     |             | 70 (73) | 130 (115)      |     |
| Di-n-butylphthalate        | 2000  | 0                | 1900   | ug/Kg | 95  |             |     |             | 70 (72) | 130 (129)      |     |
| Fluoranthene               | 2000  | 270              | 2300   | ug/Kg | 102 |             |     |             | 70 (31) | 130 (152)      |     |
| Pyrene                     | 2000  | 190              | 1800   | ug/Kg | 81  |             |     |             | 70 (37) | 130 (122)      |     |
| Butylbenzylphthalate       | 2000  | 0                | 1900   | ug/Kg | 95  |             |     |             | 70 (59) | 130 (151)      |     |
| 3,3-Dichlorobenzidine      | 2000  | 0                | 1300   | ug/Kg | 65  | *           |     |             | 70 (10) | 130 (116)      |     |
| Benzo(a)anthracene         | 2000  | 120              | 1900   | ug/Kg | 89  |             |     |             | 70 (53) | 130 (119)      |     |
| Chrysene                   | 2000  | 120              | 1900   | ug/Kg | 89  |             |     |             | 70 (57) | 130 (121)      |     |
| bis(2-Ethylhexyl)phthalate | 2000  | 0                | 2000   | ug/Kg | 100 |             |     |             | 70 (64) | 130 (139)      |     |
| Di-n-octyl phthalate       | 2000  | 0                | 1900   | ug/Kg | 95  |             |     |             | 70 (51) | 130 (156)      |     |
| Benzo(b)fluoranthene       | 2000  | 170              | 2300   | ug/Kg | 107 |             |     |             | 70 (52) | 130 (117)      |     |
| Benzo(k)fluoranthene       | 2000  | 0                | 2100   | ug/Kg | 105 |             |     |             | 70 (57) | 130 (134)      |     |
| Benzo(a)pyrene             | 2000  | 130              | 2000   | ug/Kg | 94  |             |     |             | 70 (70) | 130 (142)      |     |
| Indeno(1,2,3-cd)pyrene     | 2000  | 0                | 1500   | ug/Kg | 75  |             |     |             | 70 (48) | 130 (129)      |     |
| Dibenz(a,h)anthracene      | 2000  | 0                | 1500   | ug/Kg | 75  |             |     |             | 70 (43) | 130 (123)      |     |
| Benzo(g,h,i)perylene       | 2000  | 0                | 1500   | ug/Kg | 75  |             |     |             | 70 (40) | 130 (133)      |     |
| 1,2,4,5-Tetrachlorobenzene | 2000  | 0                | 1800   | ug/Kg | 90  |             |     |             | 70 (65) | 130 (132)      |     |
| 1,4-Dioxane                | 2000  | 0                | 2000   | ug/Kg | 100 |             |     |             | 20 (46) | 160 (112)      |     |
| 2,3,4,6-Tetrachlorophenol  | 2000  | 0                | 1900   | ug/Kg | 95  |             |     |             | 70 (56) | 130 (141)      |     |