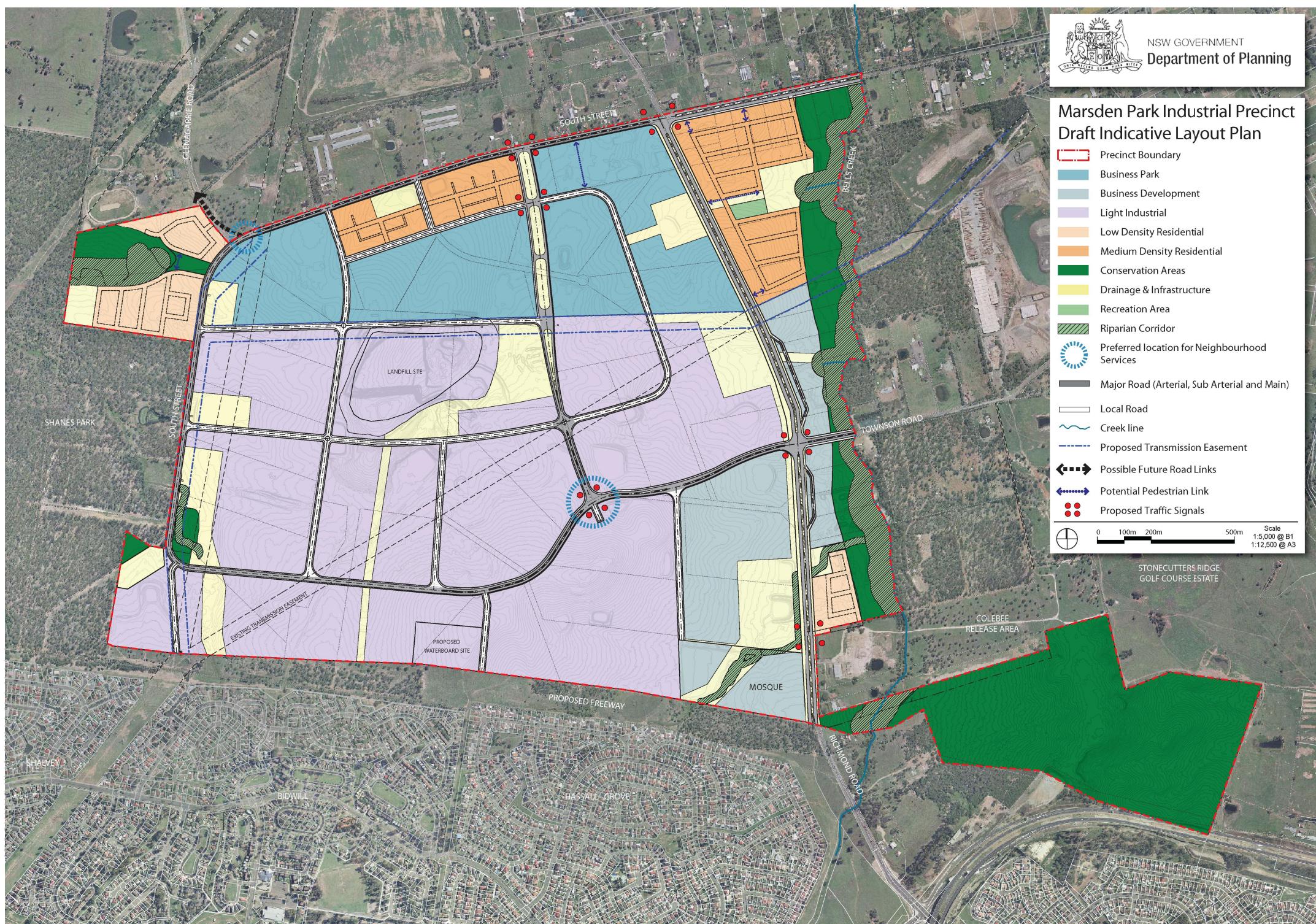




## Marsden Park Industrial Precinct Draft Indicative Layout Plan

- Precinct Boundary
- Business Park
- Business Development
- Light Industrial
- Low Density Residential
- Medium Density Residential
- Conservation Areas
- Drainage & Infrastructure
- Recreation Area
- Riparian Corridor
- Preferred location for Neighbourhood Services
- Major Road (Arterial, Sub Arterial and Main)
- Local Road
- Creek line
- Proposed Transmission Easement
- Possible Future Road Links
- Potential Pedestrian Link
- Proposed Traffic Signals

Scale 0 100m 200m 500m 1:5,000 @ B1 1:12,500 @ A3





## Appendix B

# Summary Results Tables

**Table A - Soil Analytical Summary Results  
Marsden Park Industrial Precinct**

**Bold** Concentration reported above HIL (A) (NSW DECC 2006)  
**Bold** Concentration reported above HIL (E) (NSW DECC 2006)

**Bold** Concentration reported above HIL (E) (NSW DECC 2006)  
**Bold** Concentration reported above HIL (F) (NSW DECC 2006)

**Bold** Concentration reported above F10 (F) (NSW DECC 2006)  
**Bold** Concentration reported above Threshold Concentrations in Gu

**Bold** Concentration reported above PBIL (NSW DECC 2006)

**Table B - Surface Water Analytical Summary Results**  
**Marsden Park Industrial Precinct**

|   | Metals            |         |                   |        |         |        |      |      |                        |                        | Lead                   | TPH                  |                              |         |                   | BTEX               |                    |                 | PAHs        |                       |         | Inorganics |           |           |        |          |                    | Biological |      | Organochlorine Pesticides |               |                                  | Organophosphorus Pesticides    |          |                   |           |      |        |            |              |          |            |        |              |      |      |
|---|-------------------|---------|-------------------|--------|---------|--------|------|------|------------------------|------------------------|------------------------|----------------------|------------------------------|---------|-------------------|--------------------|--------------------|-----------------|-------------|-----------------------|---------|------------|-----------|-----------|--------|----------|--------------------|------------|------|---------------------------|---------------|----------------------------------|--------------------------------|----------|-------------------|-----------|------|--------|------------|--------------|----------|------------|--------|--------------|------|------|
|   | Arsenic           | Cadmium | Chromium (III+VI) | Copper | Mercury | Nickel | Zinc | Lead | TPH C 6 - C 9 Fraction | TPH C10 - C14 Fraction | TPH C15 - C28 Fraction | TPH C29-C36 Fraction | TPH+C10 - C36 (Sum of total) | Benzene | Ethylbenzene      | Toluene            | Xylene Total       | Benzo(a) pyrene | Naphthalene | PAH Total (NSW, 1999) | Calcium | Chloride   | Magnesium | Potassium | Sodium | Sulphate | Alkalinity (total) | Ammonia    | BOD  | COD                       | Ionic Balance | Bicarbonate as CaCO <sub>3</sub> | Carbonate as CaCO <sub>3</sub> | Coliform | Aldrin + Dieldrin | Chlordane | DDT  | Endrin | Heptachlor | Chlorpyrifos | Diazinon | Dimethoate | Ethion | Fenitrothion |      |      |
|   | ug/L              | ug/L    | ug/L              | ug/L   | ug/L    | ug/L   | ug/L | ug/L | ug/L                   | ug/L                   | ug/L                   | ug/L                 | ug/L                         | ug/L    | ug/L              | ug/L               | ug/L               | ug/L            | ug/L        | ug/L                  | mg/L    | mg/L       | mg/L      | mg/L      | mg/L   | mg/L     | mg/L               | mg/L       | mg/L | mg/L                      | mg/L          | mg/L                             | cfu/100 ml                     | ug/L     | ug/L              | ug/L      | ug/L | ug/L   | ug/L       | ug/L         | ug/L     | ug/L       | ug/L   |              |      |      |
| Laboratory PQL                              | 1                 | 0.1     | 1                 | 1      | 0.5     | 1      | 1    | 1    | 10                     | 50                     | 100                    | 50                   | 325 <sup>(6)</sup>           | 950     | 80 <sup>(1)</sup> | 180 <sup>(1)</sup> | 625 <sup>(1)</sup> | 0.2             | 16          | -                     | -       | -          | -         | -         | -      | -        | -                  | 0.1        | 0.01 | 2                         | 5             | -                                | -                              | -        | -                 | 0.2       | 0.2  | 0.2    | 0.2        | 0.2          | 0.2      |            |        |              |      |      |
| ANZECC (2000) Ecosystems Fresh Water (95%)  | 24 <sup>(3)</sup> | 0.2     | 1 <sup>(4)</sup>  | 1.4    | 0.6     | 11     | 8    | 3.4  | -                      | -                      | -                      | -                    | 325 <sup>(6)</sup>           | 950     | 80 <sup>(1)</sup> | 180 <sup>(1)</sup> | 625 <sup>(1)</sup> | 0.2             | 16          | -                     | -       | -          | -         | -         | -      | -        | -                  | 0.1        | 0.1  | -                         | -             | 1000 <sup>(2)</sup>              | 0.08                           | 0.01     | 0.02              | 0.09      | 0.01 | 0.01   | 0.15       | -            | 0.2      | -          |        |              |      |      |
| Australian Drinking Water Guidelines (2004) | 7                 | 2       | 50                | 2000   | 1       | 20     | 3000 | 10   | -                      | -                      | -                      | -                    | -                            | 1       | 300               | 800                | 600                | 0.01            | -           | -                     | -       | -          | -         | -         | -      | -        | -                  | 500        | -    | 0.5 <sup>(5)</sup>        | -             | -                                | -                              | -        | -                 | 0.3       | 0.01 | 0.06   | -          | 0.05         | 10       | 3          | 50     | 3            | 10   | 30   |
| Field_ID Sampled_Date                       |                   |         |                   |        |         |        |      |      |                        |                        |                        |                      |                              |         |                   |                    |                    |                 |             |                       |         |            |           |           |        |          |                    |            |      |                           |               |                                  |                                |          |                   |           |      |        |            |              |          |            |        |              |      |      |
| Piggery                                     |                   |         |                   |        |         |        |      |      |                        |                        |                        |                      |                              |         |                   |                    |                    |                 |             |                       |         |            |           |           |        |          |                    |            |      |                           |               |                                  |                                |          |                   |           |      |        |            |              |          |            |        |              |      |      |
| SW1   | 1/10/2008         | 16      | <0.1              | 36     | 62      | <0.5   | 22   | 100  | 43                     | 29                     | <50                    | 140                  | <100                         | 140     | <1                | <1                 | 29                 | <3              | <1          | <1                    | ND      | 3.2        | 130       | 8.3       | 15     | 100      | 55                 | 24         | 0.7  | 26                        | 180           | 3                                | 24                             | <5       | 15000             | <0.4      | <0.2 | <0.2   | <0.2       | <0.2         | <0.2     | <0.2       | <0.2   | <0.2         | <0.2 |      |
| SW2   | 1/10/2008         | 2.3     | 0.2               | 2      | 7.1     | <0.5   | 2.6  | 8.5  | 2.3                    | <10                    | <50                    | <100                 | <100                         | <250    | <1                | <1                 | <1                 | <3              | <1          | <1                    | ND      | 8.6        | 110       | 17        | 29     | 69       | <5                 | 130        | 0.2  | <4                        | 120           | -1.1                             | 130                            | <5       | 200               | <0.4      | <0.2 | <0.2   | <0.2       | <0.2         | <0.2     | <0.2       | <0.2   | <0.2         | <0.2 |      |
| SW3   | 1/10/2008         | 11      | <0.1              | 1.5    | 11      | <0.5   | 5.4  | 34   | 4.3                    | <10                    | <50                    | 130                  | <100                         | 130     | <1                | <1                 | <1                 | <3              | <1          | <1                    | ND      | 27         | 90        | 15        | 45     | 43       | <5                 | 180        | 2.8  | 51                        | 320           | -4.5                             | 180                            | <5       | 230               | <0.4      | <0.2 | <0.2   | <0.2       | <0.2         | <0.2     | <0.2       | <0.2   | <0.2         | <0.2 |      |
| Steggles                                    |                   |         |                   |        |         |        |      |      |                        |                        |                        |                      |                              |         |                   |                    |                    |                 |             |                       |         |            |           |           |        |          |                    |            |      |                           |               |                                  |                                |          |                   |           |      |        |            |              |          |            |        |              |      |      |
| SW4   | 1/10/2008         | 1.9     | <0.1              | 3.2    | 18      | <0.5   | 3.2  | 82   | 3.5                    | 19                     | <50                    | 110                  | <100                         | 110     | <1                | <1                 | 23                 | <3              | <1          | <1                    | ND      | 13         | 140       | 8.3       | 55     | 120      | 23                 | 150        | 1.9  | 43                        | 400           | 3.5                              | 150                            | <5       | 3900000           | <0.4      | <0.2 | <0.2   | <0.2       | <0.2         | <0.2     | <0.2       | <0.2   | <0.2         | <0.2 |      |
| SW5   | 1/10/2008         | 8.3     | <0.1              | 2.4    | 8.8     | <0.5   | 2.9  | 16   | 3.2                    | <10                    | <50                    | <100                 | <100                         | <250    | <1                | <1                 | <1                 | <3              | <1          | <1                    | ND      | 11         | 95        | 8.7       | 35     | 76       | 12                 | 130        | <0.1 | <4                        | 80            | -0.52                            | 98                             | 36       | 30                | <0.4      | <0.2 | <0.2   | <0.2       | <0.2         | <0.2     | <0.2       | <0.2   | <0.2         | <0.2 | <0.2 |
| Quality Control                             |                   |         |                   |        |         |        |      |      |                        |                        |                        |                      |                              |         |                   |                    |                    |                 |             |                       |         |            |           |           |        |          |                    |            |      |                           |               |                                  |                                |          |                   |           |      |        |            |              |          |            |        |              |      |      |
| QA1   | 1/10/2008         | 18      | 0.1               | 47     | 71      | <0.5   | 27   | 120  | 46                     | 27                     | <50                    | 140                  | <100                         | 140     | <1                | <1                 | 32                 | <3              | <1          | <1                    | ND      | 3.1        | 140       | 8         | 15     | 100      | 50                 | 24         | 0.6  | 25                        | 160           | 0.75                             | 24                             | <5       | 16000             | <0.4      | <0.2 | <0.2   | <0.2       | <0.2         | <0.2     | <0.2       | <0.2   | <0.2         | <0.2 |      |
| QA2   | 1/10/2008         | 8       | <0.5              | <5     | 6       | <0.1   | <0.5 | 13   | <0.5                   | <50                    | <50                    | <200                 | <50                          | <300    | <1                | <1                 | <1                 | <3              | <1          | <1                    | ND      | 10.7       | 89        | 9.3       | 35.3   | 82.9     | 14                 | -          | 0.05 | 3                         | 76            | -                                | -                              | -        | <1                | <0.5      | <2   | <2     | <2         | <2           | <2       | <2         | <2     | <2           | <2   |      |

**Notes**

- (1) ANZECC Low Reliability Guidelines  
(2) ANZECC trigger value for faecal coliforms in water used for pasture and fodder for dairy animals and grazing animals  
(3) Guidelines refer to Arsenic (III) only  
(4) Guidelines refer to Chromium (VI) only  
(5) Aesthetic drinking water guidelines  
(6) There is no criterion for TPH C10 – C36 that has been endorsed by the NSW DECC. A screening level has therefore been derived based on average of target value (50 mg/L) and intervention value (600 mg/L) for mineral oil in groundwater, from "Environmental Quality Objectives in the Netherlands", MHSPE 1994 (to be applied to TPH C10 – C36 detected above the PQL). This is comparable to levels of TPH that have been found to cause taste issues in drinking water.

**Bold** Concentration reported above the ANZECC (2000) trigger value  
**Bold** Concentration reported above the Australian Drinking Water Value  
**Bold** Laboratory PQL above the ANZECC (2000) trigger value  
**Bold** Laboratory PQL above the Australian Drinking Water Value

## **Table C - Groundwater Analytical Summary Results Marsden Park Industrial Precinct**

## Notes

- (1) ANZECC Low Reliability Guidelines  
 (2) ANZECC trigger value for faecal coliforms in water used for pasture and fodder for dairy animals and grazing animals  
 (3) Guidelines refer to Arsenic (III) only  
 (4) Guidelines refer to Chromium (VI) only  
 (5) Aesthetic drinking water guidelines  
 (6) There is no criterion for TPH C10 – C36 that has been endorsed by the NSW DECC. A screening level has therefore been derived based on average of target value (50 mg/L) and intervention value (600 mg/L) for mineral oil in groundwater, from "Environmental Quality Objectives in the Netherlands", MHSPE 1994 (to be applied to TPH C10 – C36 detected above the PQL). This is comparable to levels of TPH that have been found to cause taste issues in drinking water.

|             |  |
|-------------|--|
| <b>Bold</b> | Concentration reported above the ANZECC (2000) trigger value     |
| <b>Bold</b> | Concentration reported above the Australian Drinking Water Value |
| <b>Bold</b> | Laboratory PQL above the ANZECC (2000) trigger value             |
| <b>Bold</b> | Laboratory PQL above the Australian Drinking Water Value         |

**Table D - Soil Relative Percentage Differences**  
**Marsden Park Industrial Precinct**

|                  | SDG<br>Field_ID<br>Sampled_Date | 23167<br>HA7<br>1/10/2008 | 23167<br>QC1<br>1/10/2008 | 23311<br>TP2<br>7/10/2008 | 23311<br>QC3<br>7/10/2008 | 23311<br>TP10<br>8/10/2008 | 23311<br>QC5<br>8/10/2008 | 23381<br>TP26<br>9/10/2008 | 23381<br>QC8<br>9/10/2008 | 23381<br>TP29<br>10/10/2008 | 23381<br>QC9<br>10/10/2008 | 23518<br>MW5<br>15/10/2008 | 23518<br>QC10<br>15/10/2008 | 23167<br>HA12<br>10/1/2008 | Interlab_D<br>QC2<br>1/10/2008 | 23311<br>TP16<br>8/10/2008 | Interlab_D<br>QC6<br>8/10/2008 | 23381<br>TP21<br>9/10/2008 | Interlab_D<br>QC7<br>9/10/2008 |
|------------------|---------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|----------------------------|---------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|
| BTEX             | Benzene                         | mg/kg 0.5                 | <0.5                      | <0.5                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.5                       | <0.5                           | N/C                        | <0.5                           | <0.2                       | N/C <0.5                       |
|                  | Ethylbenzene                    | mg/kg 1                   | <1.0                      | <1.0                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <1.0                       | <1.0                           | N/C                        | <1.0                           | <0.5                       | N/C <1.0                       |
|                  | Toluene                         | mg/kg 0.5                 | <0.5                      | <0.5                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.5                       | <0.5                           | N/C                        | <0.5                           | <0.5                       | N/C                            |
|                  | Xylene (m & p)                  | mg/kg 2                   | <2.0                      | <2.0                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <2.0                       | <2.0                           | N/C                        | <2.0                           | <1.0                       | N/C <2.0                       |
|                  | Xylene (o)                      | mg/kg 1                   | <1.0                      | <1.0                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <1.0                       | <1.0                           | N/C                        | <1.0                           | <0.5                       | N/C <1.0                       |
| Inorganics       | Ammonia                         | mg/kg 0.5                 | 1.8                       | 1.8                       | 0                         |                            |                           |                            |                           |                             |                            |                            |                             | 3.6                        | 3.3                            | 9                          | 2.8                            | 6.1                        | 74                             |
|                  | Moisture                        | % 0.1                     | 6.8                       | 6.8                       | 0                         | 15.0                       | 17.0                      | 13                         | 15.0                      | 15.0                        | 0                          | 9.0                        | 9.3                         | 3                          | 15.0                           | 14.0                       | 7                              | 12.0                       | 14.0                           |
|                  | Lead                            | mg/kg 1                   | 12.0                      | 14.0                      | 15                        | 29.0                       | 29.0                      | 0                          | 61.0                      | 57.0                        | 7                          | 36.0                       | 36.0                        | 0                          | 30.0                           | 28.0                       | 7                              | 48.0                       | 38.0                           |
| Metals           | Arsenic                         | mg/kg 4                   | 4.0                       | 5.0                       | 22                        | 9.0                        | 8.0                       | 12                         | 8.0                       | 7.0                         | 13                         | 16.0                       | 17.0                        | 6                          | 5.0                            | 5.0                        | 0                              | <4.0                       | <4.0                           |
|                  | Cadmium                         | mg/kg 0.5                 | <0.5                      | <0.5                      | N/C                       | <0.5                       | <0.5                      | N/C                        | <0.5                      | <0.5                        | N/C                        | 0.7                        | 0.6                         | 15                         | <0.5                           | 0.6                        | 18                             | <0.5                       | <0.5                           |
|                  | Chromium (III+VI)               | mg/kg 1                   | 19.0                      | 14.0                      | 30                        | 22.0                       | 19.0                      | 15                         | 23.0                      | 29.0                        | 23                         | 20.0                       | 23.0                        | 14                         | 19.0                           | 23.0                       | 19                             | 14.0                       | 15.0                           |
|                  | Copper                          | mg/kg 1                   | 14.0                      | 12.0                      | 15                        | 25.0                       | 30.0                      | 18                         | 32.0                      | 31.0                        | 3                          | 18.0                       | 19.0                        | 5                          | 24.0                           | 20.0                       | 18                             | 18.0                       | 17.0                           |
|                  | Mercury                         | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       | <0.1                       | 0.1                       | 0                          | <0.1                      | <0.1                        | N/C                        | <0.1                       | <0.1                        | N/C                        | <0.1                           | <0.1                       | N/C                            | <0.1                       | 0.08                           |
|                  | Nickel                          | mg/kg 1                   | 10.0                      | 10.0                      | 0                         | 8.0                        | 10.0                      | 22                         | 9.0                       | 15.0                        | 50                         | 13.0                       | 14.0                        | 7                          | 12.0                           | 11.0                       | 9                              | 12.0                       | 0                              |
|                  | Zinc                            | mg/kg 1                   | 56.0                      | 43.0                      | 26                        | 230.0                      | 260.0                     | 12                         | 420.0                     | 430.0                       | 2                          | 82.0                       | 77.0                        | 6                          | 40.0                           | 35.0                       | 13                             | 62.0                       | 64.0                           |
| Organochlorine   | 4,4-DDE                         | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
| Pesticides       | a-BHC                           | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Aldrin                          | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | b-BHC                           | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Chlordane (cis)                 | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Chlordane (trans)               | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | d-BHC                           | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | DDD                             | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | DDT                             | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.2                       | N/C <0.1                       |
|                  | Dieldrin                        | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Endosulfan I                    | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Endosulfan II                   | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Endosulfan sulphate             | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Endrin                          | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Endrin aldehyde                 | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.2                       | N/C <0.1                       |
|                  | g-BHC (Lindane)                 | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Heptachlor                      | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Heptachlor epoxide              | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Hexachlorobenzene               | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
|                  | Methoxychlor                    | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.2                       | N/C <0.1                       |
| Organophosphorus | Bromophos-ethyl                 | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.05                      | N/C <0.1                       |
| Pesticides       | Chlorpyrifos                    | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.5                       | N/C <0.1                       |
|                  | Chlorpyrifos-methyl             | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.1                       | N/C <0.1                       |
|                  | Diazinon                        | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.5                       | N/C <0.1                       |
|                  | Dimethoate                      | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.5                       | N/C <0.1                       |
|                  | Ethion                          | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.1                       | N/C <0.1                       |
|                  | Fenitrothion                    | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.5                       | N/C <0.1                       |
|                  | Ronnel                          | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       |                            |                           |                            |                           |                             |                            |                            |                             | <0.1                       | <0.1                           | N/C                        | <0.1                           | <0.5                       | N/C <0.1                       |
| PAH/Phenols      | Acenaphthene                    | mg/kg 0.1                 | <0.1                      | <0.1                      | N/C                       | <0.1                       | <0.1                      | N/C                        | <0.1                      | <0.1                        | 0                          | <0.1                       | <0.1                        | N/C                        | <0.1                           | <0.1</                     |                                |                            |                                |

## **Notes**

RPD not calculated where both duplicate pairs reported concentrations <PQ

One duplicate pair reported a concentration < PQL, the PQL has been used to calculate the RPD

**Bold**

Bora

RFB exceeds nominally acceptable limit of

**Table E - Surface Water Relative Percentage Differences**  
**Marsden Park Industrial Precinct**

| SDG<br>Field_ID<br>Sampled_Date | 23167<br>SW1<br>1/10/2008 | 23167<br>QA1<br>1/10/2008 | RPD        | 23167<br>SWS<br>1/10/2008 | Interlab_D<br>QA2<br>1/10/2008 | RPD        |
|---------------------------------|---------------------------|---------------------------|------------|---------------------------|--------------------------------|------------|
| <b>Chem_Group</b>               | <b>ChemName</b>           | <b>Units</b>              | <b>EQL</b> |                           |                                |            |
|                                 | Alkalinity (Hydroxide)    | mg/l                      | 0.1        | <5.0                      | <5.0                           | N/C        |
|                                 | Bicarbonate as CaCO3      | mg/l                      | 0.1        | 24.0                      | 24.0                           | 0          |
|                                 | Bromophos-ethyl           | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Carbonate as CaCO3        | mg/l                      | 0.1        | <5.0                      | <5.0                           | N/C        |
|                                 |                           |                           |            |                           |                                |            |
| Biological                      | Coliform                  | CFU/100 mL                |            | 150000.0                  | 160000.0                       | 6          |
|                                 |                           |                           |            |                           |                                |            |
| BTEX                            | Benzene                   | µg/L                      | 1          | <1.0                      | <1.0                           | N/C        |
|                                 | Ethylbenzene              | µg/L                      | 1          | <1.0                      | <1.0                           | N/C        |
|                                 | Toluene                   | µg/L                      | 1          | 29.0                      | 32.0                           | 10         |
|                                 | Xylene (m & p)            | µg/L                      | 2          | <2.0                      | <2.0                           | N/C        |
|                                 | Xylene (o)                | µg/L                      | 1          | <1.0                      | <1.0                           | N/C        |
|                                 |                           |                           |            |                           |                                |            |
| Inorganics                      | Alkalinity (total)        | mg/l                      | 0.1        | 24.0                      | 24.0                           | 0          |
|                                 | Ammonia                   | mg/l                      | 0.1        | 0.7                       | 0.6                            | 15         |
|                                 | BOD                       | mg/l                      | 2          | 26.0                      | 25.0                           | 4          |
|                                 | Chloride                  | mg/l                      | 20         | 130.0                     | 140.0                          | 7          |
|                                 | COD                       | mg/l                      |            | 180.0                     | 160.0                          | 12         |
|                                 | Ionic Balance             | %                         |            | <b>3.0</b>                | <b>0.75</b>                    | <b>120</b> |
|                                 | Sulphate                  | mg/l                      | 5          | 55.0                      | 50.0                           | 10         |
|                                 |                           |                           |            |                           | 12.0                           | 14.0       |
|                                 |                           |                           |            |                           |                                | 15         |
| Lead                            | Lead                      | mg/l                      | 0.001      | 0.043                     | 0.046                          | 7          |
|                                 |                           |                           |            |                           |                                |            |
| Metals                          | Arsenic                   | mg/l                      | 0.001      | 0.016                     | 0.018                          | 12         |
|                                 | Cadmium                   | mg/l                      | 0.0001     | <b>&lt;0.0001</b>         | <b>0.0001</b>                  | <b>0</b>   |
|                                 | Calcium                   | mg/l                      | 0.03       | 3.2                       | 3.1                            | 3          |
|                                 | Chromium (III+VI)         | mg/l                      | 0.001      | 0.036                     | 0.047                          | 27         |
|                                 | Copper                    | mg/l                      | 0.001      | 0.062                     | 0.071                          | 14         |
|                                 | Magnesium                 | mg/l                      | 0.03       | 8.3                       | 8.0                            | 4          |
|                                 | Mercury                   | mg/l                      | 0.0005     | <0.0005                   | <0.0005                        | N/C        |
|                                 | Nickel                    | mg/l                      | 0.001      | 0.022                     | 0.027                          | 20         |
|                                 | Potassium                 | mg/l                      | 0.03       | 15.0                      | 15.0                           | 0          |
|                                 | Sodium                    | mg/l                      | 0.03       | 100.0                     | 100.0                          | 0          |
|                                 | Zinc                      | mg/l                      | 0.001      | 0.1                       | 0.12                           | 18         |
|                                 |                           |                           |            |                           | 0.016                          | 0.013      |
|                                 |                           |                           |            |                           |                                | 21         |
| OCP                             | 4,4-DDE                   | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | a-BHC                     | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Aldrin                    | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | b-BHC                     | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Chlordane (cis)           | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Chlordane (trans)         | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | d-BHC                     | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | DDD                       | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | DDT                       | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Dieldrin                  | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Endosulfan I              | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Endosulfan II             | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Endosulfan sulphate       | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Endrin                    | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Endrin aldehyde           | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | g-BHC (Lindane)           | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Heptachlor                | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Heptachlor epoxide        | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Hexachlorobenzene         | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Methoxychlor              | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 |                           |                           |            |                           |                                |            |
| Organophosphorus                | Chlorpyrifos              | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
| Pesticides                      | Chlorpyrifos-methyl       | mg/l                      | 0.0002     | <0.0002                   | <0.0002                        | N/C        |
|                                 | Diazinon                  | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Dimethoate                | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Ethion                    | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Fenitrothion              | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |
|                                 | Ronnel                    | µg/L                      | 0.2        | <0.2                      | <0.2                           | N/C        |

|             |                          |      |     |        |        |     |        |        |     |
|-------------|--------------------------|------|-----|--------|--------|-----|--------|--------|-----|
|             |                          |      |     |        |        |     |        |        |     |
| PAH/Phenols | Acenaphthene             | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Acenaphthylene           | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Anthracene               | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Benz(a)anthracene        | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Benzo(a) pyrene          | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Benzo(b)&(k)fluoranthene | µg/L | 2   | <2.0   | <2.0   | N/C | <2.0   | <2.0   | N/C |
|             | Benzo(g,h,i)perylene     | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Chrysene                 | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Dibenz(a,h)anthracene    | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Fluoranthene             | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Fluorene                 | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Indeno(1,2,3-c,d)pyrene  | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Naphthalene              | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Phenanthrene             | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             | Pyrene                   | µg/L | 1   | <1.0   | <1.0   | N/C | <1.0   | <1.0   | N/C |
|             |                          |      |     |        |        |     |        |        |     |
| TPH         | TPH C 6 - C 9 Fraction   | µg/L | 10  | 29.0   | 27.0   | 7   | <10.0  | <50.0  | N/C |
|             | TPH C10 - C14 Fraction   | µg/L | 50  | <50.0  | <50.0  | N/C | <50.0  | <50.0  | N/C |
|             | TPH C15 - C28 Fraction   | µg/L | 100 | 140.0  | 140.0  | 0   | <100.0 | <200.0 | N/C |
|             | TPH C29-C36 Fraction     | µg/L | 100 | <100.0 | <100.0 | N/C | <100.0 | <50.0  | N/C |

**Notes**

N/C RPD not calculated where both duplicate pairs reported concentrations <PQL

*Italics* One duplicate pair reported a concentration < PQL, the PQL has been used to calculate the RPD

**Bold** RPD exceeds nominally acceptable limit of 30% for inorganics or 50% for organics

**Table F - Grundwater Relative Percentage Differences**  
**Marsden Park Industrial Precinct**

| SDG               | 23836                        | 23836        | RPD        |         |         |     |
|-------------------|------------------------------|--------------|------------|---------|---------|-----|
| Field_ID          | MW5                          | QA3          |            |         |         |     |
| Sampled_Date      | 29/10/2008                   | 29/10/2008   |            |         |         |     |
| <b>Chem_Group</b> | <b>ChemName</b>              | <b>Units</b> | <b>EQL</b> |         |         |     |
| BTEX              | Benzene                      | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Ethylbenzene                 | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Toluene                      | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Xylene (m & p)               | µg/L         | 2          | <2.0    | <2.0    | N/C |
|                   | Xylene (o)                   | µg/L         | 1          | <1.0    | <1.0    | N/C |
| Lead              | Lead (Filtered)              | mg/l         | 0.001      | <0.001  | <0.001  | N/C |
| Metals            | Arsenic (Filtered)           | mg/l         | 0.001      | 0.0014  | 0.0014  | 0   |
|                   | Cadmium (Filtered)           | mg/l         | 0.0001     | <0.0001 | 0.0001  | 0   |
|                   | Chromium (III+VI) (Filtered) | mg/l         | 0.001      | 0.0018  | 0.0019  | 5   |
|                   | Copper (Filtered)            | mg/l         | 0.001      | 0.0029  | 0.0034  | 16  |
|                   | Mercury (Filtered)           | mg/l         | 0.0005     | <0.0005 | <0.0005 | N/C |
|                   | Nickel (Filtered)            | mg/l         | 0.001      | 0.0013  | 0.0012  | 8   |
|                   | Zinc (Filtered)              | mg/l         | 0.001      | 0.011   | 0.011   | 0   |
| PAH/Phenols       | Acenaphthene                 | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Acenaphthylene               | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Anthracene                   | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Benz(a)anthracene            | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Benzo(a) pyrene              | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Benzo(b)&(k)fluoranthene     | µg/L         | 2          | <2.0    | <2.0    | N/C |
|                   | Benzo(g,h,i)perylene         | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Chrysene                     | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Dibenz(a,h)anthracene        | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Fluoranthene                 | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Fluorene                     | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Indeno(1,2,3-c,d)pyrene      | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Naphthalene                  | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Phenanthrene                 | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | Pyrene                       | µg/L         | 1          | <1.0    | <1.0    | N/C |
| TPH               | TPH C 6 - C 9 Fraction       | µg/L         | 10         | <10.0   | <10.0   | N/C |
|                   | TPH C10 - C14 Fraction       | µg/L         | 50         | <50.0   | <50.0   | N/C |
|                   | TPH C15 - C28 Fraction       | µg/L         | 100        | <100.0  | <100.0  | N/C |
|                   | TPH C29-C36 Fraction         | µg/L         | 100        | <100.0  | <100.0  | N/C |
| VOC               | 1,1,1,2-tetrachloroethane    | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,1,1-trichloroethane        | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,1,2,2-tetrachloroethane    | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,1,2-trichloroethane        | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,1-dichloroethane           | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,1-dichloroethylene         | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,1-dichloropropene          | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2,3-trichlorobenzene       | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2,3-trichloropropane       | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2,4-trichlorobenzene       | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2,4-trimethylbenzene       | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2-dibromo-3-chloropropane  | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2-dibromoethane            | µg/L         | 1          | <1.0    | <1.0    | N/C |
|                   | 1,2-dichlorobenzene          | µg/L         | 1          | <1.0    | <1.0    | N/C |

|                           |      |    |       |       |     |
|---------------------------|------|----|-------|-------|-----|
| 1,2-dichloroethane        | µg/L | 1  | <1.0  | <1.0  | N/C |
| 1,2-dichloropropane       | µg/L | 1  | <1.0  | <1.0  | N/C |
| 1,3,5-trimethylbenzene    | µg/L | 1  | <1.0  | <1.0  | N/C |
| 1,3-dichlorobenzene       | µg/L | 1  | <1.0  | <1.0  | N/C |
| 1,3-dichloropropane       | µg/L | 1  | <1.0  | <1.0  | N/C |
| 1,4-dichlorobenzene       | µg/L | 1  | <1.0  | <1.0  | N/C |
| 2,2-dichloropropane       | µg/L | 1  | <1.0  | <1.0  | N/C |
| 2-chlorotoluene           | µg/L | 1  | <1.0  | <1.0  | N/C |
| 4-chlorotoluene           | µg/L | 1  | <1.0  | <1.0  | N/C |
| Bromobenzene              | µg/L | 1  | <1.0  | <1.0  | N/C |
| Bromochloromethane        | µg/L | 1  | <1.0  | <1.0  | N/C |
| Bromodichloromethane      | µg/L | 1  | <1.0  | <1.0  | N/C |
| Bromoform                 | µg/L | 1  | <1.0  | <1.0  | N/C |
| Bromomethane              | µg/L | 10 | <10.0 | <10.0 | N/C |
| Carbon tetrachloride      | µg/L | 1  | <1.0  | <1.0  | N/C |
| Chlorobenzene             | µg/L | 1  | <1.0  | <1.0  | N/C |
| Chlorodibromomethane      | µg/L | 1  | <1.0  | <1.0  | N/C |
| Chloroethane              | µg/L | 10 | <10.0 | <10.0 | N/C |
| Chloroform                | µg/L | 1  | <1.0  | <1.0  | N/C |
| Chloromethane             | µg/L | 10 | <10.0 | <10.0 | N/C |
| cis-1,2-dichloroethene    | µg/L | 1  | <1.0  | <1.0  | N/C |
| cis-1,3-dichloropropene   | µg/L | 1  | <1.0  | <1.0  | N/C |
| Dibromomethane            | µg/L | 1  | <1.0  | <1.0  | N/C |
| Dichlorodifluoromethane   | µg/L | 10 | <10.0 | <10.0 | N/C |
| Hexachlorobutadiene       | µg/L | 1  | <1.0  | <1.0  | N/C |
| Isopropylbenzene          | µg/L | 1  | <1.0  | <1.0  | N/C |
| n-butylbenzene            | µg/L | 1  | <1.0  | <1.0  | N/C |
| n-propylbenzene           | µg/L | 1  | <1.0  | <1.0  | N/C |
| p-isopropyltoluene        | µg/L | 1  | <1.0  | <1.0  | N/C |
| sec-butylbenzene          | µg/L | 1  | <1.0  | <1.0  | N/C |
| Styrene                   | µg/L | 1  | <1.0  | <1.0  | N/C |
| TCE                       | µg/L | 1  | <1.0  | <1.0  | N/C |
| tert-butylbenzene         | µg/L | 1  | <1.0  | <1.0  | N/C |
| Tetrachloroethene         | µg/L | 1  | <1.0  | <1.0  | N/C |
| trans-1,2-dichloroethene  | µg/L | 1  | <1.0  | <1.0  | N/C |
| trans-1,3-dichloropropene | µg/L | 1  | <1.0  | <1.0  | N/C |
| Trichlorofluoromethane    | µg/L | 10 | <10.0 | <10.0 | N/C |
| Vinyl chloride            | µg/L | 10 | <10.0 | <10.0 | N/C |

**Notes**

N/C

RPD not calculated where both duplicate pairs reported concentrations <PQL

**Italics**

One duplicate pair reported a concentration < PQL, the PQL has been used to calculate the RPD

**Bold**

RPD exceeds nominally acceptable limit of 30% for inorganics or 50% for organics



Appendix C – Available on Request  
**Laboratory Reports and Chain of Custody  
Sheets**



Appendix D – Available on Request  
**Borehole and Groundwater Well  
Construction Logs**



## Appendix E – Available on Request Calibration Certificates

Water quality meter

Interface meter

PID

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**Document Status**

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|         |         |                |           |                    |           |       |
|         |         |                |           |                    |           |       |