

*Supplementary Information for*

# High Pressure Injection of Chemicals in a Gravel Beach

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Table S1

Table S1: Sampling time and measured concentration of lithium at each monitoring well.

| Well InjLand |              |          |              |            |              |
|--------------|--------------|----------|--------------|------------|--------------|
| SP_A         |              | SB Deep  |              | SB Shallow |              |
| Time (hr)    | Conc. (mg/L) | Time (h) | Conc. (mg/L) | Time (h)   | Conc. (mg/L) |
| 3.25         | 0.27         | 3.13     | 0.12         | 5.62       | 4.17         |
| 23.00        | 1.16         | 5.05     | 0.21         | 22.83      | 10.25        |
| 27.25        | 3.74         | 5.67     | 2.57         | 27.33      | 6.9          |
| 27.25        | 4.35         | 20.43    | 1.335        | 27.33      | 8.15         |
| 29.08        | 2.33         | 22.67    | 0.535        | 47.00      | 4.13         |
| 47.07        | 2.04         | 23.08    | 0.91         | 47.15      | 3.28         |
| 47.07        | 1.7          | 27.37    | 5.285        | 51.95      | 2.03         |
|              |              | 29.00    | 3.92         | 51.95      | 2.68         |
|              |              | 33.00    | 2.855        |            |              |
|              |              | 43.23    | 5.09         |            |              |
|              |              | 45.78    | 2.27         |            |              |
|              |              | 47.18    | 2.63         |            |              |
|              |              | 51.98    | 3.02         |            |              |
| Well InjSea  |              |          |              |            |              |
| SP_A         |              | SB Deep  |              | SB Shallow |              |
| Time (hr)    | Conc. (mg/L) | Time (h) | Conc. (mg/L) | Time (h)   | Conc. (mg/L) |
| 3.67         | 5.74         | 3.92     | 2.06         | 3.75       | 0.27         |
| 6.95         | 48.8         | 7.10     | 5.2          | 7.05       | 6.29         |
| 19.87        | 67.35        | 19.97    | 5.1          | 19.95      | 22.9         |
| 21.95        | 48.9         | 19.97    | 64.5         | 22.07      | 36.4         |
| 28.13        | 68.2         | 22.10    | 86.4         | 28.25      | 48.35        |
| 32.32        | 79.5         | 22.10    | 83.4         | 32.37      | 58.65        |
| 42.55        | 40.55        | 28.28    | 82.7         | 42.65      | 61.4         |
| 44.90        | 23.3         | 28.28    | 60.7         | 45.10      | 19.8         |
| 46.32        | 18.1         | 32.40    | 93.6         | 46.38      | 38.8         |
| 52.58        | 23.1         | 42.73    | 49.5         | 52.65      | 32.6         |
|              |              | 42.73    | 44.6         |            |              |
|              |              | 45.12    | 9.77         |            |              |
|              |              | 46.45    | 8.74         |            |              |
|              |              | 46.45    | 10.13        |            |              |
|              |              | 52.68    | 19.9         |            |              |
| Well InjLeft |              |          |              |            |              |
| SP_A         |              | SB Deep  |              | SB Shallow |              |
| Time (hr)    | Conc. (mg/L) | Time (h) | Conc. (mg/L) | Time (h)   | Conc. (mg/L) |
| 3.23         | 0.21         | 3.13     | 0.12         | 3.28       | 0.35         |

| 5.13          | 0.08         | 5.05  | 0.21  | 5.17  | 0.07  |
|---------------|--------------|-------|-------|-------|-------|
| 7.72          | 0.1          | 5.67  | 2.57  | 20.17 | 7.41  |
| 20.10         | 0.37         | 20.43 | 1.335 | 27.55 | 24.35 |
| 20.10         | 0.11         | 22.67 | 0.535 | 32.45 | 22.6  |
| 22.25         | 1.37         | 23.08 | 0.91  |       |       |
| 22.83         | 1.58         | 27.37 | 5.285 |       |       |
| 27.45         | 30.6         | 29.00 | 3.92  |       |       |
| 27.45         | 33           | 33.00 | 2.855 |       |       |
| 28.63         | 19.4         | 43.23 | 5.09  |       |       |
| 28.67         | 25.8         | 45.78 | 2.27  |       |       |
| 32.33         | 29.1         | 47.18 | 2.63  |       |       |
| 32.33         | 24.7         | 51.98 | 3.02  |       |       |
| 42.95         | 27.1         |       |       |       |       |
| 42.95         | 30.1         |       |       |       |       |
| 45.00         | 21.9         |       |       |       |       |
| 46.57         | 14.3         |       |       |       |       |
| 46.65         | 14.4         |       |       |       |       |
| 52.07         | 7.72         |       |       |       |       |
| Well InjRight |              |       |       |       |       |
| SB            |              |       |       |       |       |
| Time<br>(hr)  | Conc. (mg/L) |       |       |       |       |
| 5.45          | 0.19         |       |       |       |       |
| 20.52         | 5.41         |       |       |       |       |
| 22.35         | 16.7         |       |       |       |       |
| 27.73         | 30.6         |       |       |       |       |
| 28.92         | 23.2         |       |       |       |       |
| 28.92         | 22.4         |       |       |       |       |
| 32.50         | 28.8         |       |       |       |       |
| 32.50         | 31.4         |       |       |       |       |
| 43.10         | 10.34        |       |       |       |       |
| 46.50         | 25.4         |       |       |       |       |
| 46.50         | 23.5         |       |       |       |       |
| 52.18         | 7.65         |       |       |       |       |