Table S1: Fitted coupling coefficient for the *ReEz* signal

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Calculated signal | Regime | Frequency, kHz | Resistivity, ohm·m | Probe |
| “–0.25 m” | “0 m” | “+0.25 m” |
| Measured signal |
| *ReI* | *ImI* | *ReI* | *ImI* | *ReI* | *ImI* |
| *ReEz* | SUM | 250 | 1.04 | 823 | 200 | 900 | 210 | 806 | 205 |
| 2.5 | 473 | 150 | 527 | 185 | 476 | 155 |
| 3.57 | 413 | 83 | 430 | 100 | 418 | 87 |
| 5.41 | 385 | 43 | 396 | 50 | 391 | 49 |
| 8.13 | 373 | 21 | 382 | 27 | 385 | 24 |
| 11.9 | 378 | 6 | 369 | 11 | 392 | 9 |
| 100 | 1.04 | 1702 | 530 | 1964 | 630 | 1778 | 530 |
| 2.5 | 1563 | 175 | 1668 | 200 | 1581 | 175 |
| 3.57 | 1456 | 95 | 1476 | 115 | 1482 | 98 |
| 5.41 | 1433 | 47 | 1450 | 60 | 1457 | 57 |
| 8.13 | 1432 | 15 | 1456 | 30 | 1475 | 20 |
| 11.9 | 1488 | 1 | 1383 | 6 | 1529 | 1 |
| 50 | 1.04 | 4828 | 680 | 4487 | 800 | 4802 | 680 |
| 2.5 | 4576 | 260 | 4275 | 300 | 4643 | 260 |
| 3.57 | 4324 | 140 | 4357 | 170 | 4450 | 145 |
| 5.41 | 4308 | 80 | 4329 | 100 | 4403 | 85 |
| 8.13 | 4326 | 15 | 4376 | 35 | 4447 | 20 |
| 11.9 | 4490 | 1 | 4272 | 1 | 4604 | 1 |
| DIF | 250 | 1.04 | 544 | 100 | 600 | 150 | 537 | 110 |
| 2.5 | 428 | 87 | 486 | 135 | 434 | 94 |
| 3.57 | 386 | 50 | 425 | 80 | 399 | 57 |
| 5.41 | 370 | 30 | 403 | 50 | 384 | 35 |
| 8.13 | 357 | 19 | 379 | 30 | 376 | 19 |
| 11.9 | 340 | 10 | 357 | 18 | 372 | 10 |
| 100 | 1.04 | 1618 | 300 | 1809 | 430 | 1641 | 300 |
| 2.5 | 1554 | 120 | 1634 | 180 | 1587 | 120 |
| 3.57 | 1454 | 70 | 1529 | 110 | 1505 | 80 |
| 5.41 | 1459 | 50 | 1538 | 68 | 1493 | 40 |
| 8.13 | 1434 | 34 | 1532 | 40 | 1499 | 20 |
| 11.9 | 1415 | 31 | 1536 | 30 | 1507 | 10 |
| 50 | 1.04 | 4614 | 420 | 4893 | 550 | 4700 | 420 |
| 2.5 | 4640 | 200 | 4826 | 250 | 4765 | 200 |
| 3.57 | 4388 | 117 | 4581 | 145 | 4558 | 117 |
| 5.41 | 4439 | 110 | 4645 | 110 | 4549 | 100 |
| 8.13 | 4416 | 70 | 4703 | 80 | 4602 | 70 |
| 11.9 | 4338 | 80 | 4737 | 50 | 4627 | 80 |