# INITIAL CALIBRATION SUMMARY

| | |
|---|---|
| **Method File** | E524G003 |
| **Last Calibration Update** | Mon Jan 13 09:57:17 2003 |

| | | | |
|---|---|---|---|
| **Level 1 File Name** | 3-0003.D | **Level 1 ID** | 0.3 |
| **Level 2 File Name** | 3-002.D | **Level 2 ID** | 2 |
| **Level 3 File Name** | 3-010.D | **Level 3 ID** | 10 |
| **Level 4 File Name** | 3-020.D | **Level 4 ID** | 20 |
| **Level 5 File Name** | 3-040.D | **Level 5 ID** | 40 |
| **Level 6 File Name** | 3-080.D | **Level 6 ID** | 80 |
| **Level 7 File Name** | 3-020.D | **Level 7 ID** | cc |

| Compound Name | Level 1 Response | Level 2 Response | Level 3 Response | Level 4 Response | Level 5 Response | Level 6 Response | Level 7 Response | Coeff X^0 | Coeff X^1 / ave RF | Coeff X^2 | R^2 / RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Fluorobenzene I1 1 | 765834 | 768596 | 755237 | 739905 | 721219 | 703721 | -1 | ------ | ------ | ------ | ------ |
| 3 di-Cl-di-F-methane 85 87 | 9202 | 44272 | 235359 | 427426 | 820884 | 1551879 | -1 | 0.0191 | 0.2750 | 0.0000 | 0.9996 |
| 4 Chloromethane 50 52 | 4751 | 30836 | 163038 | 374044 | 803175 | 1514667 | -1 | 0.0000 | 0.2433 | 0.0000 | 0.1388 |
| 9 F114 85 135 | 8035 | 46094 | 252154 | 462947 | 909235 | 1714061 | -1 | 0.0000 | 0.3193 | 0.0000 | 0.0593 |
| 5 vinyl chloride 62 64 | 4990 | 35625 | 183259 | 344227 | 682967 | 1258237 | -1 | 0.0000 | 0.2307 | 0.0000 | 0.0396 |
| 6 bromomethane 94 96 | 5861 | 43488 | 181174 | 281305 | 570773 | 1116110 | -1 | 0.0126 | 0.1961 | 0.0000 | 0.9990 |
| 7 Chloroethane 64 66 | 3629 | 27223 | 133510 | 250119 | 505034 | 952606 | -1 | 0.0000 | 0.1709 | 0.0000 | 0.0425 |
| 8 tri-Cl-F-methane 101 103 | 7295 | 56379 | 326202 | 612174 | 1192828 | 2238212 | -1 | 0.0000 | 0.3902 | 0.0000 | 0.1070 |
| 111 isopropyl alcohol x10 | 1236 | 8181 | 34708 | 55395 | 131600 | 244204 | -1 | 0.0000 | 0.0045 | 0.0000 | 0.1257 |
| 100 ethyl ether x5 | 20361 | 108089 | 509174 | 980952 | 1975186 | 3742221 | -1 | 0.0000 | 0.1425 | 0.0000 | 0.1211 |
| 102 Acrolein x10 | 3234 | 15074 | 75489 | 215710 | 340415 | 601157 | -1 | 0.0000 | 0.0114 | 0.0000 | 0.1719 |
| 119 methyl acetate | 4062 | 15788 | 82815 | 187169 | -1 | 696519 | -1 | -0.0033 | 0.1242 | 0.0000 | 0.9997 |
| 104 Carbon disulfide | 21121 | 133095 | 626926 | 1173322 | 2357195 | 4372134 | -1 | 0.0000 | 0.8336 | 0.0000 | 0.0625 |
| 103 Acrylonitrilex10 | 4569 | 37044 | 178667 | 348877 | 701313 | 1341637 | -1 | 0.0000 | 0.0239 | 0.0000 | 0.0128 |
| 95 Acetone x10 | 989 | 41993 | 128289 | 268909 | 465240 | 912905 | -1 | 0.0227 | 0.0159 | 0.0000 | 0.9991 |
| 108 F-113 | 5327 | 41068 | 259145 | 480691 | 925581 | 1749444 | -1 | 0.0000 | 0.2998 | 0.0000 | 0.1395 |
| 13 11-dichloroethene 61 96 | 8641 | 61263 | 309126 | 575822 | 1147783 | 2146767 | -1 | 0.0000 | 0.3920 | 0.0000 | 0.0313 |
| 101 Acetonnitrilex10 | 2063 | 1527 | 53569 | 97490 | 189257 | 353648 | -1 | 0.0013 | 0.0063 | 0.0000 | 0.9985 |
| 109 Iodomethane | 3901 | 55824 | 290992 | 473953 | 954242 | 1666625 | -1 | 0.0467 | 0.2964 | 0.0000 | 0.9961 |
| 113 Tert butyl alcohol x10 | 2556 | 18436 | 60720 | 133851 | 240444 | 485913 | -1 | 0.0016 | 0.0086 | 0.0000 | 0.9991 |
| 18 methylene chloride 49 84 | 28023 | 111315 | 375753 | 602942 | 1052979 | -1 | -1 | 0.0818 | 0.3520 | 0.0000 | 0.9932 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 112 Allyl chloride | 11807 | 73643 | 318868 | 616004 | 1168854 | 2056270 | -1 | 0.0000 | 0.4336 | 0.0000 | 0.1239 |
| 200 Nitro methane x10 | 10089 | 68361 | 334791 | 633827 | 1264975 | 2385881 | -1 | 0.0000 | 0.0436 | 0.0000 | 0.0192 |
| 10 t-Bu-Me-ether 73 57 | 19344 | 73627 | 300489 | 618307 | 1211982 | 2415631 | -1 | -0.0086 | 0.4281 | 0.0000 | 0.9997 |
| 19 t-12-di-Cl-ethene 96 61 | 7446 | 45222 | 225516 | 438020 | 867973 | 1629626 | -1 | 0.0000 | 0.3005 | 0.0000 | 0.0405 |
| 98 Vinyl acetate x5 | 35861 | 233914 | 1080092 | 1161950 | 4543111 | 6984572 | -1 | 0.0000 | 0.2704 | 0.0000 | 0.2248 |
| 21 11-dichloroethane 63 83 | 11490 | 83925 | 403704 | 780313 | 1539657 | 2853804 | -1 | 0.0000 | 0.5248 | 0.0000 | 0.0336 |
| 91 2-butanone MEKx10 | 23960 | 146366 | 680153 | 1296553 | 2708302 | 5159574 | -1 | 0.0000 | 0.0938 | 0.0000 | 0.0620 |
| 115 Di isoprop ether | 2475 | 206054 | 993426 | 1953682 | 3898884 | 7414434 | -1 | 0.0032 | 1.3231 | 0.0000 | 0.9998 |
| 22 c-12-di-Cl-ethene 96 61 | 6875 | 46067 | 219592 | 430734 | 857123 | 1613152 | -1 | 0.0000 | 0.2941 | 0.0000 | 0.0183 |
| 23 22-Dichloropropane 77 97 | 13155 | 71811 | 330092 | 619878 | 1207116 | 2269373 | -1 | 0.0000 | 0.4529 | 0.0000 | 0.1383 |
| 24 Br-Cl-methane 128 130 | 956 | 15248 | 78733 | 153832 | 312235 | 593248 | -1 | -0.0008 | 0.1060 | 0.0000 | 0.9998 |
| 25 chloroform 83 85 | 14881 | 81604 | 372529 | 722194 | 1453363 | 2739754 | -1 | 0.0000 | 0.5251 | 0.0000 | 0.1186 |
| 201 Ethyl acetate x2 | -1 | 44403 | 206670 | 296783 | 873148 | 1526995 | -1 | 0.0000 | 0.1337 | 0.0000 | 0.1475 |
| 116 ETBE | 20917 | 124488 | 594002 | 1154600 | 2264664 | 4329036 | -1 | 0.0000 | 0.8068 | 0.0000 | 0.0650 |
| 117 Iso-butyl alcohol X10 | 5582 | 44403 | 221032 | 297076 | 880890 | 1546333 | -1 | 0.0000 | 0.0268 | 0.0000 | 0.1460 |
| 26 tetrahydrofuranx5 | 1945 | 8407 | 36840 | 75144 | 146600 | 287877 | -1 | 0.0000 | 0.0102 | 0.0000 | 0.0418 |
| 27 Di-Br-F-Methane (S1) 111 1 | 13867 | 59189 | 265788 | 517816 | 1038870 | 1963588 | -1 | 0.0096 | 0.3493 | 0.0000 | 0.9997 |
| 34 111-tri-Cl-ethane 97 99 | 12459 | 65859 | 315664 | 604949 | 1193974 | 2324189 | -1 | 0.0000 | 0.4374 | 0.0000 | 0.1185 |
| 30 12-dichloroethane 64 62 | 549 | 31555 | 154021 | 298086 | 600265 | 1155412 | -1 | -0.0025 | 0.2060 | 0.0000 | 0.9999 |
| 35 11-Di-Cl-propene 75 110 | 9488 | 58117 | 286388 | 549558 | 1091787 | 2099663 | -1 | 0.0000 | 0.3822 | 0.0000 | 0.0404 |
| 29 1,2-di-Cl-ethane-d4 [Surr] 10 | -1 | 26643 | 124715 | 242470 | 475685 | 894560 | -1 | 0.0000 | 0.1652 | 0.0000 | 0.0314 |
| 36 benzene 78 52 | 19613 | 138554 | 661631 | 1277049 | 2547937 | 4710056 | -1 | 0.0000 | 0.8690 | 0.0000 | 0.0263 |
| 37 CCl4 117 119 | 7832 | 47773 | 267339 | 493900 | 981263 | 1852391 | -1 | 0.0000 | 0.3348 | 0.0000 | 0.0432 |
| 97 thiophene | 10129 | 70133 | 323713 | 623624 | 1239916 | 2337761 | -1 | 0.0000 | 0.4320 | 0.0000 | 0.0339 |
| 118 TAME | 4367 | 97622 | 406861 | 792558 | 1521011 | 3045504 | -1 | 0.0000 | 0.5555 | 0.0000 | 0.0806 |
| 39 12-di-Cl-propane 63 76 | 5869 | 38931 | 190695 | 376101 | 741594 | 1426638 | -1 | 0.0000 | 0.2543 | 0.0000 | 0.0066 |
| 40 trichloroethene 130 132 | 5805 | 41064 | 207771 | 403682 | 804090 | 1515012 | -1 | 0.0000 | 0.2693 | 0.0000 | 0.0339 |
| 96 Me-methacrylate | 1472 | 19691 | 65318 | 123371 | 250724 | 519513 | -1 | -0.0068 | 0.0920 | 0.0000 | 0.9983 |
| 42 Br-di-Cl-methane 83 85 | 10138 | 55994 | 256691 | 484084 | 955698 | 1823535 | -1 | 0.0000 | 0.3546 | 0.0000 | 0.1265 |
| 41 dibromomethane 174 172 | 2292 | 17911 | 96884 | 194764 | 383350 | 714384 | -1 | 0.0000 | 0.1227 | 0.0000 | 0.1029 |

| Compound Name | Level 1 Response | Level 2 Response | Level 3 Response | Level 4 Response | Level 5 Response | Level 6 Response | Level 7 Response | Coeff X^0 | Coeff X^1 / ave RF | Coeff X^2 | R^2 / RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 c-13-di-Cl-propene 75 110 | 7832 | 48533 | 229072 | 445153 | 890451 | 1727952 | -1 | ------ | ------ | ------ | ------ |
| 55 toluene-d8(S2) 100 99 | -1 | 78299 | 377922 | 725871 | 1455135 | 2774904 | -1 | 0.0000 | 0.4995 | 0.0000 | 0.0157 |
| 92 2-ClEt-Vi-ether10 | 10352 | 80060 | 410701 | 820365 | 1655105 | 3234891 | -1 | 0.0000 | 0.0536 | 0.0000 | 0.0868 |
| 56 toluene 91 92 | 21278 | 126101 | 601438 | 1149709 | 2291459 | 4425814 | -1 | 0.0000 | 0.8167 | 0.0000 | 0.0680 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 Et methacrylate | -1 | 35707 | 132945 | 165590 | 512644 | 828103 | -1 | 0.0000 | 0.1690 | 0.0000 | 0.2625 |
| 93 2-Hexanone x5 | 10744 | 47646 | 218029 | 368204 | 831419 | 1601350 | -1 | 0.0000 | 0.0568 | 0.0000 | 0.0778 |
| 48 112-tri-Cl-Et 97 83 | 5203 | 21908 | 90597 | 172036 | 347876 | 664699 | -1 | 0.0031 | 0.1179 | 0.0000 | 0.9998 |
| 58 1,2-di-br-ethane 107 109 | 1144 | 19207 | 94012 | 191133 | 371448 | 723238 | -1 | -0.0016 | 0.1288 | 0.0000 | 1.0000 |
| 51 di-Br-Cl-methane 129 127 | 2693 | 27173 | 125300 | 243477 | 489254 | 967601 | -1 | 0.0000 | 0.1610 | 0.0000 | 0.1359 |
| 46 t-13-di-cl-propene 75 110 | 4584 | 30276 | 155530 | 301394 | 594704 | 1109294 | -1 | 0.0000 | 0.2015 | 0.0000 | 0.0211 |
| 105 1-Chlorohexane | 12961 | 43864 | 205359 | 374248 | 719249 | 1336615 | -1 | 0.0247 | 0.2364 | 0.0000 | 0.9994 |
| 47 Cl-benzene-d5, I2 | 226795 | 229493 | 225971 | 224981 | 233528 | 241678 | -1 | 0.0000 | 1.0000 | 0.0000 | 0.0000 |
| 54 MIBK | 1407 | 13676 | 74160 | 143757 | 303184 | 587112 | -1 | 0.0184 | 0.3053 | 0.0000 | 0.9988 |
| 49 1,3-di-cl-propane 76 78 | 4247 | 30516 | 157929 | 310529 | 604220 | 1155285 | -1 | 0.0000 | 0.6537 | 0.0000 | 0.0595 |
| 59 tetra-Cl-ethene 166 168 | 5221 | 40927 | 216892 | 417298 | 825820 | 1643233 | -1 | 0.0000 | 0.8800 | 0.0000 | 0.0760 |

| Compound Name | Level 1 Response | Level 2 Response | Level 3 Response | Level 4 Response | Level 5 Response | Level 6 Response | Level 7 Response | Coeff X^0 | Coeff X^1 / ave RF | Coeff X^2 | R^2 / RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 chlorobenzene 112 77 | 9971 | 71440 | 352480 | 668143 | 1330525 | 2470738 | -1 | 0.0000 | ------ | ------ | ------ |
| 61 1112-tetra-Cl-Et 131 133 | 3219 | 28400 | 138607 | 283855 | 562377 | 1108773 | -1 | 0.0000 | 0.5853 | 0.0000 | 0.0996 |
| 64 ethylbenzene 91 106 | 21430 | 140640 | 637777 | 1239073 | 2446417 | 4804958 | -1 | 0.0000 | 2.8157 | 0.0000 | 0.0906 |
| 65 m/p-Xylenes x2 | 31419 | 213036 | 1000145 | 1911139 | 3754507 | 7222435 | -1 | 0.0000 | 2.1406 | 0.0000 | 0.0830 |
| 99 1-4-di-Cl-butane | 5503 | 32572 | 146606 | 276558 | 532573 | 1001628 | -1 | 0.0000 | 0.6450 | 0.0000 | 0.1606 |
| 52 bromoform 173 175 | 806 | 13982 | 71698 | 143599 | 281887 | 544898 | -1 | 0.0303 | 0.2823 | 0.0000 | 0.9980 |
| 66 styrene 104 78 | 10850 | 75317 | 352645 | 677932 | 1346269 | 2563056 | -1 | 0.0000 | 1.5116 | 0.0000 | 0.0758 |
| 67 o-xylene 91 106 | 16715 | 110603 | 485194 | 915641 | 1764503 | 3287299 | -1 | 0.0000 | 2.1063 | 0.0000 | 0.1398 |
| 68 1122-Tetra-Cl-Et 83 85 | 2658 | 21540 | 91096 | 173152 | 326262 | 625224 | -1 | 0.0000 | 0.3868 | 0.0000 | 0.1294 |
| 110 t-1,4-dichloro-2-butene | 1095 | 7032 | 17679 | 27009 | 54200 | 103110 | -1 | 0.0235 | 0.0507 | 0.0000 | 0.9991 |
| 106 Cl-benzyl | 6053 | 24517 | 121704 | 238713 | 457227 | 866531 | -1 | 0.0784 | 0.4469 | 0.0000 | 0.9969 |
| 62 1,4-DCB-d4 150 152 I3 | 197143 | 197148 | 188831 | 184633 | 176207 | 164785 | -1 | 0.0000 | 1.0000 | 0.0000 | 0.0000 |
| 69 123-tri-Cl-Pr 110 97 | 253 | 4401 | 21971 | 45443 | 89331 | 172722 | -1 | 0.0000 | 0.1218 | 0.0000 | 0.0642 |
| 70 4-Br-1-F-Bz (S3) 174 95 | -1 | 36886 | 165570 | 327081 | 627145 | 1159540 | -1 | 0.0000 | 0.8935 | 0.0000 | 0.0269 |
| 71 isopropylbenzene 105 120 | 16442 | 135584 | 641793 | 1217921 | 2372165 | 4528346 | -1 | 0.0000 | 3.2861 | 0.0000 | 0.0771 |
| 72 bromobenzene 156 158 | 3119 | 27613 | 143515 | 285095 | 554412 | 1030644 | -1 | 0.0000 | 0.7214 | 0.0000 | 0.1387 |
| 73 n-propylbenzene 120 78 | 4297 | 36443 | 173970 | 335858 | 643879 | 1212584 | -1 | 0.0000 | 0.8858 | 0.0000 | 0.0883 |
| 74 2-Cl-Tl 126 128 | 3821 | 23738 | 106793 | 201349 | 427470 | 745993 | -1 | 0.0000 | 0.5885 | 0.0000 | 0.0623 |
| 75 4-Cl-Tl 126 128 | 4042 | 32882 | 163598 | 289530 | 594245 | 1075809 | -1 | 0.0000 | 0.8045 | 0.0000 | 0.0813 |
| 76 135-tri-Me-Bz 105 120 | 14680 | 107323 | 509842 | 969387 | 1885346 | 3580223 | -1 | 0.0000 | 2.6533 | 0.0000 | 0.0343 |
| 79 tert-butylbenzene 119 91 | 13115 | 113211 | 533176 | 1020985 | 1994231 | 3739615 | -1 | 0.0000 | 2.7239 | 0.0000 | 0.0919 |
| 78 124-tri-Me-Bz 105 120 | 11184 | 96787 | 424953 | 847796 | 1639260 | 3054447 | -1 | 0.0000 | 2.2558 | 0.0000 | 0.0848 |
| 80 13-di-Cl-Bz 146 148 | 5522 | 45648 | 238597 | 400250 | 844281 | 1658291 | -1 | 0.0000 | 1.1491 | 0.0000 | 0.1087 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 14-di-Cl-Bz 146 148 | 9029 | 69544 | 305231 | 644124 | 1193857 | 2207723 | -1 | 0.0000 | 1.6699 | 0.0000 | 0.0524 |
| 81 sec-butylbenzene 105 134 | 19695 | 163551 | 797663 | 1465228 | 2859247 | 5499576 | -1 | 0.0000 | 3.9831 | 0.0000 | 0.0835 |
| 77 4-iso-Pr-toluene 119 134 | 14306 | 119820 | 572630 | 1085210 | 2064029 | 3804782 | -1 | 0.0000 | 2.8739 | 0.0000 | 0.0804 |
| 84 12-di-Cl-benzene 146 148 | 5444 | 45355 | 219614 | 410082 | 812246 | 1524040 | -1 | 0.0000 | 1.1088 | 0.0000 | 0.0849 |
| 85 n-butylbenzene 91 134 | 17944 | 117913 | 579573 | 1096665 | 2099124 | 3991637 | -1 | 0.0000 | 3.0116 | 0.0000 | 0.0128 |
| 86 12-diBr-3-Cl-Pra 157 155 | -1 | 2498 | 14611 | 31395 | 62914 | 120318 | -1 | 0.0000 | 0.0813 | 0.0000 | 0.1395 |
| 87 124-tri-Cl-Bz 180 182 | 3158 | 29532 | 158333 | 322231 | 604462 | 1187497 | -1 | -0.0539 | 0.9002 | 0.0000 | 0.9995 |
| 88 naphthalene 128 129 | 4753 | 21798 | 116373 | 245906 | 459400 | 922945 | -1 | 0.0000 | 0.6651 | 0.0000 | 0.1268 |
| 90 123-tri-Cl-Bz 180 182 | 2940 | 22060 | 121207 | 239739 | 448256 | 845940 | -1 | 0.0000 | 0.6042 | 0.0000 | 0.1029 |
| 89 hx-Cl-butadiene 225 260 | 2553 | 24644 | 130257 | 244690 | 466707 | 859594 | -1 | 0.0135 | 0.6525 | 0.0000 | 0.9999 |

# Response Factor Report GCMS-G

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 09:57:17 2003
Response via : Initial Calibration

Calibration Files
0.3 =3-0003.D 2 =3-002.D 10 =3-010.D
20 =3-020.D 40 =3-040.D 80 =3-080.D

| | | | Compound | 0.3 | 2 | 10 | 20 | 40 | 80 | Avg | %RSD | r² |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | 1 | Fluorobenzene I1 | ----------ISTD---------- | | | | | | | | |
| 2) | | 3 | di-Cl-di-F-metha | 0.401 | 0.288 | 0.312 | 0.289 | 0.285 | 0.276 | 0.308 | 15.17 | 1.000 |
| 3) | P | 4 | Chloromethane | | 0.201 | 0.216 | 0.253 | 0.278 | 0.269 | 0.243 | 13.88 | |
| 4) | | 9 | F114 85 135 | 0.350 | 0.300 | 0.334 | 0.313 | 0.315 | 0.304 | 0.319 | 5.93 | |
| 5) | C | 5 | vinyl chloride | 0.217 | 0.232 | 0.243 | 0.233 | 0.237 | 0.223 | 0.231 | 3.96 | |
| 6) | | 6 | bromomethane | 0.255 | 0.283 | 0.240 | 0.190 | 0.198 | 0.198 | 0.227 | 16.60 | 0.999 |
| 7) | | 7 | Chloroethane | 0.158 | 0.177 | 0.177 | 0.169 | 0.175 | 0.169 | 0.171 | 4.25 | |
| 8) | | 8 | tri-Cl-F-methane | 0.318 | 0.367 | 0.432 | 0.414 | 0.413 | 0.398 | 0.390 | 10.70 | |
| 9) | | 111 | isopropyl alcoh | | 0.005 | 0.005 | 0.004 | 0.005 | 0.004 | 0.005# | 12.57 | |
| 10) | | 100 | ethyl ether x5 | 0.177 | 0.141 | 0.135 | 0.133 | 0.137 | 0.133 | 0.143 | 12.11 | |
| 11) | | 102 | Acrolein x10 | | 0.010 | 0.010 | 0.015 | 0.012 | 0.011 | 0.011# | 17.19 | |
| 12) | | 119 | methyl acetate | 0.177 | 0.103 | 0.110 | 0.126 | | 0.124 | 0.128 | 22.73 | 1.000 |
| 13) | | 104 | Carbon disulfid | 0.919 | 0.866 | 0.830 | 0.793 | 0.817 | 0.777 | 0.834 | 6.25 | |
| 14) | | 103 | Acrylonitrilex1 | | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024# | 1.28 | |
| 15) | | 95 | Acetone x10 | | 0.027 | 0.017 | 0.018 | 0.016 | 0.016 | 0.019# | 25.00 | 0.999 |
| 16) | | 108 | F-113 | 0.232 | 0.267 | 0.343 | 0.325 | 0.321 | 0.311 | 0.300 | 13.95 | |
| 17) | M,C | 13 | 11-dichloroethen | 0.376 | 0.399 | 0.409 | 0.389 | 0.398 | 0.381 | 0.392 | 3.13 | |
| 18) | | 101 | Acetonnitrilex1 | 0.009 | 0.001 | 0.007 | 0.007 | 0.007 | 0.006 | 0.006# | 44.01 | 0.998 |
| 19) | | 109 | Iodomethane | 0.170 | 0.363 | 0.385 | 0.320 | 0.331 | 0.296 | 0.311 | 24.45 | 0.996 |
| 20) | | 113 | Tert butyl alco | | 0.012 | 0.008 | 0.009 | 0.008 | 0.009 | 0.009# | 17.38 | 0.999 |
| 21) | | 18 | methylene chlori | 1.220 | 0.724 | 0.498 | 0.407 | 0.365 | | 0.643 | 54.62 | 0.993 |
| 22) | | 112 | Allyl chloride | 0.514 | 0.479 | 0.422 | 0.416 | 0.405 | 0.365 | 0.434 | 12.39 | |
| 23) | | 200 | Nitro methane x | 0.044 | 0.044 | 0.044 | 0.043 | 0.044 | 0.042 | 0.044# | 1.92 | |
| 24) | | 10 | t-Bu-Me-ether | 0.842 | 0.479 | 0.398 | 0.418 | 0.420 | 0.429 | 0.498 | 34.33 | 1.000 |
| 25) | | 19 | t-12-di-Cl-ethen | 0.324 | 0.294 | 0.299 | 0.296 | 0.301 | 0.289 | 0.301 | 4.05 | |
| 26) | | 98 | Vinyl acetate x5 | 0.312 | 0.304 | 0.286 | 0.157 | 0.315 | 0.248 | 0.270 | 22.48 | |
| 27) | P | 21 | 11-dichloroethan | 0.500 | 0.546 | 0.535 | 0.527 | 0.534 | 0.507 | 0.525 | 3.36 | |
| 28) | | 91 | 2-butanone MEKx1 | 0.104 | 0.095 | 0.090 | 0.088 | 0.094 | 0.092 | 0.094 | 6.20 | |

(#) = Out of Range

# Response Factor Report GCMS-G

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 09:57:17 2003
Response via : Initial Calibration

Calibration Files
0.3 =3-0003.D 2 =3-002.D 10 =3-010.D
20 =3-020.D 40 =3-040.D 80 =3-080.D

| | | Compound | 0.3 | 2 | 10 | 20 | 40 | 80 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 29) | | 115 Di isoprop ethe | 0.108 | 1.340 | 1.315 | 1.320 | 1.351 | 1.317 | 1.125 | 44.32 |
| 30) | | 22 c-12-di-Cl-ethen | 0.299 | 0.300 | 0.291 | 0.291 | 0.297 | 0.287 | 0.294 | 1.83 |
| 31) | | 23 22-Dichloropropa | 0.573 | 0.467 | 0.437 | 0.419 | 0.418 | 0.403 | 0.453 | 13.83 |
| 32) | | 24 Br-Cl-methane | 0.042 | 0.099 | 0.104 | 0.104 | 0.108 | 0.105 | 0.094 | 27.43 |
| 33) | C | 25 chloroform | 0.648 | 0.531 | 0.493 | 0.488 | 0.504 | 0.487 | 0.525 | 11.86 |
| 34) | | 201 Ethyl acetate x | | 0.144 | 0.137 | 0.100 | 0.151 | 0.136 | 0.134 | 14.75 |
| 35) | | 116 ETBE | 0.910 | 0.810 | 0.787 | 0.780 | 0.785 | 0.769 | 0.807 | 6.50 |
| 36) | | 117 Iso-butyl alcoh | 0.024 | 0.029 | 0.029 | 0.020 | 0.031 | 0.027 | 0.027# | 14.60 |
| 37) | | 26 tetrahydrofuranx | | 0.011 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010# | 4.18 |
| 38) | S | 27 Di-Br-F-Methane | 0.604 | 0.385 | 0.352 | 0.350 | 0.360 | 0.349 | 0.400 | 25.18 |
| 39) | | 34 111-tri-Cl-ethan | 0.542 | 0.428 | 0.418 | 0.409 | 0.414 | 0.413 | 0.437 | 11.85 |
| 40) | | 30 12-dichloroethan | 0.024 | 0.205 | 0.204 | 0.201 | 0.208 | 0.205 | 0.175 | 42.30 |
| 41) | | 35 11-Di-Cl-propene | 0.413 | 0.378 | 0.379 | 0.371 | 0.378 | 0.373 | 0.382 | 4.04 |
| 42) | S | 29 1,2-di-Cl-ethane | | 0.173 | 0.165 | 0.164 | 0.165 | 0.159 | 0.165 | 3.14 |
| 43) | M | 36 benzene | 0.854 | 0.901 | 0.876 | 0.863 | 0.883 | 0.837 | 0.869 | 2.63 |
| 44) | | 37 CCl4 | 0.341 | 0.311 | 0.354 | 0.334 | 0.340 | 0.329 | 0.335 | 4.32 |
| 45) | | 97 thiophene | 0.441 | 0.456 | 0.429 | 0.421 | 0.430 | 0.415 | 0.432 | 3.39 |
| 46) | | 118 TAME | | 0.635 | 0.539 | 0.536 | 0.527 | 0.541 | 0.556 | 8.06 |
| 47) | C | 39 12-di-Cl-propane | 0.255 | 0.253 | 0.252 | 0.254 | 0.257 | 0.253 | 0.254 | 0.66 |
| 48) | M | 40 trichloroethene | 0.253 | 0.267 | 0.275 | 0.273 | 0.279 | 0.269 | 0.269 | 3.39 |
| 49) | | 96 Me-methacrylate | | 0.128 | 0.086 | 0.083 | 0.087 | 0.092 | 0.095 | 19.43 |
| 50) | | 42 Br-di-Cl-methane | 0.441 | 0.364 | 0.340 | 0.327 | 0.331 | 0.324 | 0.355 | 12.65 |
| 51) | | 41 dibromomethane | 0.100 | 0.117 | 0.128 | 0.132 | 0.133 | 0.127 | 0.123 | 10.29 |
| 52) | | 45 c-13-di-Cl-prope | 0.341 | 0.316 | 0.303 | 0.301 | 0.309 | 0.307 | 0.313 | 4.71 |
| 53) | S | 55 toluene-d8(S2) | | 0.509 | 0.500 | 0.491 | 0.504 | 0.493 | 0.500 | 1.57 |
| 54) | | 92 2-ClEt-Vi-ether1 | 0.045 | 0.052 | 0.054 | 0.055 | 0.057 | 0.057 | 0.054 | 8.68 |
| 55) | M C | 56 toluene | 0.926 | 0.820 | 0.796 | 0.777 | 0.794 | 0.786 | 0.817 | 6.80 |
| 56) | | 107 Et methacrylate | | 0.232 | 0.176 | 0.112 | 0.178 | 0.147 | 0.169 | 26.25 |
| 57) | | 93 2-Hexanone x5 | | 0.062 | 0.058 | 0.050 | 0.058 | 0.057 | 0.057 | 7.78 |

(#) = Out of Range

# Response Factor Report GCMS-G

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 09:57:17 2003
Response via : Initial Calibration

Calibration Files
0.3 =3-0003.D 2 =3-002.D 10 =3-010.D
20 =3-020.D 40 =3-040.D 80 =3-080.D

| | | | Compound | 0.3 | 2 | 10 | 20 | 40 | 80 | Avg | %RSD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58) | | 48 | 112-tri-Cl-Et | 0.226 | 0.143 | 0.120 | 0.116 | 0.121 | 0.118 | 0.141 | 30.67 | [illegible] |
| 59) | | 58 | 1,2-di-br-ethane | 0.050 | 0.125 | 0.124 | 0.129 | 0.129 | 0.128 | 0.114 | 27.70 | [illegible] |
| 60) | | 51 | di-Br-Cl-methane | 0.117 | 0.177 | 0.166 | 0.165 | 0.170 | 0.172 | 0.161 | 13.59 | |
| 61) | | 46 | t-13-di-cl-prope | 0.200 | 0.197 | 0.206 | 0.204 | 0.206 | 0.197 | 0.202 | 2.11 | |
| 62) | | 105 | 1-Chlorohexane | 0.564 | 0.285 | 0.272 | 0.253 | 0.249 | 0.237 | 0.310 | 40.49 | 0.999 |
| 63) | I | 47 | Cl-benzene-d5, I2 | ----------ISTD---------- | | | | | | | | |
| 64) | | 54 | MIBK | 0.207 | 0.298 | 0.328 | 0.319 | 0.325 | 0.304 | 0.297 | 15.38 | 0.999 |
| 65) | | 49 | 1,3-di-cl-propan | 0.624 | 0.665 | 0.699 | 0.690 | 0.647 | 0.598 | 0.654 | 5.95 | |
| 66) | | 59 | tetra-Cl-ethene | 0.767 | 0.892 | 0.960 | 0.927 | 0.884 | 0.850 | 0.880 | 7.60 | |
| 67) | M P | 60 | chlorobenzene | 1.465 | 1.556 | 1.560 | 1.485 | 1.424 | 1.278 | 1.461 | 7.13 | |
| 68) | | 61 | 1112-tetra-Cl-Et | 0.473 | 0.619 | 0.613 | 0.631 | 0.602 | 0.573 | 0.585 | 9.96 | |
| 69) | C | 64 | ethylbenzene | 3.150 | 3.064 | 2.822 | 2.754 | 2.619 | 2.485 | 2.816 | 9.06 | |
| 70) | | 65 | m/p-Xylenes x2 | 2.309 | 2.321 | 2.213 | 2.124 | 2.010 | 1.868 | 2.141 | 8.30 | |
| 71) | | 99 | 1-4-di-Cl-butane | 0.809 | 0.710 | 0.649 | 0.615 | 0.570 | 0.518 | 0.645 | 16.06 | |
| 72) | P | 52 | bromoform | 0.118 | 0.305 | 0.317 | 0.319 | 0.302 | 0.282 | 0.274 | 28.23 | 0.998 |
| 73) | | 66 | styrene | 1.595 | 1.641 | 1.561 | 1.507 | 1.441 | 1.326 | 1.512 | 7.58 | |
| 74) | | 67 | o-xylene | 2.457 | 2.410 | 2.147 | 2.035 | 1.889 | 1.700 | 2.106 | 13.98 | |
| 75) | P | 68 | 1122-Tetra-Cl-Et | 0.391 | 0.469 | 0.403 | 0.385 | 0.349 | 0.323 | 0.387 | 12.94 | |
| 76) | | 110 | t-1,4-dichloro- | | 0.153 | 0.078 | 0.060 | 0.058 | 0.053 | 0.081 | 51.75 | 0.999 |
| 77) | | 106 | Cl-benzyl | 0.890 | 0.534 | 0.539 | 0.531 | 0.489 | 0.448 | 0.572 | 27.91 | 0.998 |
| 78) | I | 62 | 1,4-DCB-d4 150 152 | ----------ISTD---------- | | | | | | | | |
| 79) | | 69 | 123-tri-Cl-Pr | | 0.112 | 0.116 | 0.123 | 0.127 | 0.131 | 0.122 | 6.42 | |
| 80) | S | 70 | 4-Br-1-F-Bz (S3) | | 0.935 | 0.877 | 0.886 | 0.890 | 0.880 | 0.893 | 2.69 | |
| 81) | | 71 | isopropylbenzene | 2.780 | 3.439 | 3.399 | 3.298 | 3.366 | 3.435 | 3.286 | 7.71 | |
| 82) | | 72 | bromobenzene | 0.527 | 0.700 | 0.760 | 0.772 | 0.787 | 0.782 | 0.721 | 13.87 | |
| 83) | | 73 | n-propylbenzene | 0.727 | 0.924 | 0.921 | 0.910 | 0.914 | 0.920 | 0.886 | 8.83 | |
| 84) | | 74 | 2-Cl-Tl 126 | 0.646 | 0.602 | 0.566 | 0.545 | 0.606 | 0.566 | 0.589 | 6.23 | |

(#) = Out of Range

# Response Factor Report GCMS-G

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 09:57:17 2003
Response via : Initial Calibration

Calibration Files
0.3 =3-0003.D 2 =3-002.D 10 =3-010.D
20 =3-020.D 40 =3-040.D 80 =3-080.D

| | Compound | | 0.3 | 2 | 10 | 20 | 40 | 80 | Avg | %RSD | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 85) | 75 4-Cl-Tl | 126 | 0.683 | 0.834 | 0.866 | 0.784 | 0.843 | 0.816 | 0.804 | 8.13 | |
| 86) | 76 135-tri-Me-Bz | | 2.482 | 2.722 | 2.700 | 2.625 | 2.675 | 2.716 | 2.653 | 3.43 | |
| 87) | 79 tert-butylbenzen | | 2.218 | 2.871 | 2.824 | 2.765 | 2.829 | 2.837 | 2.724 | 9.19 | |
| 88) | 78 124-tri-Me-Bz | | 1.891 | 2.455 | 2.250 | 2.296 | 2.326 | 2.317 | 2.256 | 8.48 | |
| 89) | 80 13-di-Cl-Bz | 146 | 0.934 | 1.158 | 1.264 | 1.084 | 1.198 | 1.258 | 1.149 | 10.87 | |
| 90) | 82 14-di-Cl-Bz | 146 | 1.527 | 1.764 | 1.616 | 1.744 | 1.694 | 1.675 | 1.670 | 5.24 | |
| 91) | 81 sec-butylbenzene | | 3.330 | 4.148 | 4.224 | 3.968 | 4.057 | 4.172 | 3.983 | 8.35 | |
| 92) | 77 4-iso-Pr-toluene | | 2.419 | 3.039 | 3.032 | 2.939 | 2.928 | 2.886 | 2.874 | 8.04 | |
| 93) | 84 12-di-Cl-benzene | | 0.920 | 1.150 | 1.163 | 1.111 | 1.152 | 1.156 | 1.109 | 8.49 | |
| 94) | 85 n-butylbenzene | | 3.034 | 2.990 | 3.069 | 2.970 | 2.978 | 3.028 | 3.012 | 1.28 | |
| 95) | 86 12-diBr-3-Cl-Pra | | | 0.063 | 0.077 | 0.085 | 0.089 | 0.091 | 0.081 | 13.95 | |
| 96) | 87 124-tri-Cl-Bz | | 0.534 | 0.749 | 0.838 | 0.873 | 0.858 | 0.901 | 0.792 | 17.24 | 0.999 |
| 97) | 88 naphthalene | | 0.804 | 0.553 | 0.616 | 0.666 | 0.652 | 0.700 | 0.665 | 12.68 | |
| 98) | 90 123-tri-Cl-Bz | | 0.497 | 0.559 | 0.642 | 0.649 | 0.636 | 0.642 | 0.604 | 10.29 | |
| 99) | 89 hx-Cl-butadiene | | 0.432 | 0.625 | 0.690 | 0.663 | 0.662 | 0.652 | 0.621 | 15.29 | 1.000 |

(#) = Out of Range

# Continuing Calibration Concentration Summary

**Data File** G1044Q01.D
**Method File** E524G003

| Compound Name | Amount | Actual | Units | %Dev | Target Response |
|---|---|---|---|---|---|
| 1 Fluorobenzene I1 1 | 10 | 10.00 | ppb | 0.00 | 796616 |
| 3 di-Cl-di-F-methane 85 87 | 20 | 17.19 | ppb | 14.06 | 391713 |
| 4 Chloromethane 50 52 | 20 | 17.91 | ppb | 10.45 | 347170 |
| 9 F114 85 135 | 20 | 16.95 | ppb | 15.23 | 431287 |
| 5 vinyl chloride 62 64 | 20 | 17.64 | ppb | 11.78 | 324322 |
| 6 bromomethane 94 96 | 20 | 19.27 | ppb | 3.65 | 311034 |
| 7 Chloroethane 64 66 | 20 | 17.40 | ppb | 12.98 | 236890 |
| 8 tri-Cl-F-methane 101 103 | 20 | 17.66 | ppb | 11.71 | 548800 |
| 111 isopropyl alcohol x10 | 200 | 187.37 | ppb | 6.31 | 67350 |
| 100 ethyl ether x5 | 100 | 81.84 | ppb | 18.16 | 929231 |
| 102 Acrolein x10 | 200 | 149.65 | ppb | 25.17 | 135563 |
| 119 methyl acetate | 20 | 16.58 | ppb | 17.09 | 161424 |
| 104 Carbon disulfide | 20 | 16.24 | ppb | 18.81 | 1078389 |
| 103 Acrylonitrilex10 | 200 | 173.63 | ppb | 13.19 | 330493 |
| 95 Acetone x10 | 200 | 167.58 | ppb | 16.21 | 230352 |
| 108 F-113 | 20 | 17.73 | ppb | 11.36 | 423314 |
| 13 11-dichloroethene 61 96 | 20 | 16.97 | ppb | 15.13 | 530128 |
| 101 Acetonnitrilex10 | 200 | 179.80 | ppb | 10.10 | 91752 |
| 109 Iodomethane | 20 | 21.14 | ppb | 5.72 | 536517 |
| 1 Tert butyl alcohol x10 | 200 | 169.00 | ppb | 15.50 | 116507 |
| 1 ethylene chloride 49 84 | 20 | 11.83 | ppb | 40.83 | 397006 |
| 112 Allyl chloride | 20 | 17.03 | ppb | 14.85 | 588305 |
| 200 Nitro methane x10 | 200 | 175.74 | ppb | 12.13 | 610779 |
| 10 t-Bu-Me-ether 73 57 | 20 | 16.56 | ppb | 17.22 | 557717 |
| 19 t-12-di-Cl-ethene 96 61 | 20 | 16.96 | ppb | 15.20 | 406048 |
| 98 Vinyl acetate x5 | 100 | 91.24 | ppb | 8.76 | 1965632 |
| 21 11-dichloroethane 63 83 | 20 | 17.96 | ppb | 10.18 | 750915 |
| 91 2-butanone MEKx10 | 200 | 164.89 | ppb | 17.56 | 1231875 |
| 115 Di isoprop ether | 20 | 17.14 | ppb | 14.32 | 1808509 |
| 22 c-12-di-Cl-ethene 96 61 | 20 | 16.89 | ppb | 15.55 | 395661 |
| 23 22-Dichloropropane 77 97 | 20 | 15.99 | ppb | 20.03 | 576991 |
| 24 Br-Cl-methane 128 130 | 20 | 16.86 | ppb | 15.70 | 141700 |
| 25 chloroform 83 85 | 20 | 16.48 | ppb | 17.61 | 689236 |
| 201 Ethyl acetate x2 | 40 | 35.55 | ppb | 11.12 | 378636 |
| 116 ETBE | 20 | 16.37 | ppb | 18.16 | 1052083 |
| 117 Iso-butyl alcohol X10 | 200 | 184.17 | ppb | 7.92 | 392518 |
| 26 tetrahydrofuranx5 | 100 | 85.20 | ppb | 14.80 | 69559 |
| 27 Di-Br-F-Methane (S1) 111 1 | 20 | 17.40 | ppb | 12.98 | 491970 |
| 34 111-tri-Cl-ethane 97 99 | 20 | 16.22 | ppb | 18.92 | 564989 |
| 30 12-dichloroethane 64 62 | 20 | 17.32 | ppb | 13.41 | 282242 |
| 35 11-Di-Cl-propene 75 110 | 20 | 16.34 | ppb | 18.29 | 497493 |
| 29 1,2-di-Cl-ethane-d4 [Surr] 10 | 20 | 17.16 | ppb | 14.18 | 225901 |
| 36 benzene 78 52 | 20 | 17.33 | ppb | 13.37 | 1199382 |
| 37 CCl4 117 119 | 20 | 17.10 | ppb | 14.51 | 455994 |

| | | | | | |
|---|---|---|---|---|---|
| 97 thiophene | 20 | 16.95 | ppb | 15.26 | 583305 |
| 1[illegible] TAME | 20 | 15.87 | ppb | 20.63 | 702458 |
| [illegible]-di-Cl-propane 63 76 | 20 | 17.34 | ppb | 13.31 | 351243 |
| 40 trichloroethene 130 132 | 20 | 17.62 | ppb | 11.92 | 377871 |
| 96 Me-methacrylate | 20 | 17.85 | ppb | 10.77 | 125425 |
| 42 Br-di-Cl-methane 83 85 | 20 | 15.94 | ppb | 20.31 | 450244 |
| 41 dibromomethane 174 172 | 20 | 18.45 | ppb | 7.74 | 180293 |
| 45 c-13-di-Cl-propene 75 110 | 20 | 16.57 | ppb | 17.14 | 412841 |
| 55 toluene-d8(S2) 100 99 | 20 | 17.54 | ppb | 12.30 | 697975 |
| 92 2-ClEt-Vi-ether10 | 200 | 175.75 | ppb | 12.12 | 750880 |

| Compound Name | Amount | Actual | Units | %Dev | Target Response |
|---|---|---|---|---|---|
| 56 toluene 91 92 | 20 | 16.81 | ppb | 15.95 | 1093591 |
| 107 Et methacrylate | 20 | 17.29 | ppb | 13.55 | 232775 |
| 93 2-Hexanone x5 | 100 | 86.81 | ppb | 13.19 | 392829 |
| 48 112-tri-Cl-Et 97 83 | 20 | 16.95 | ppb | 15.24 | 161722 |
| 58 1,2-di-br-ethane 107 109 | 20 | 16.98 | ppb | 15.09 | 172988 |
| 51 di-Br-Cl-methane 129 127 | 20 | 17.48 | ppb | 12.61 | 224132 |
| 46 t-13-di-cl-propene 75 110 | 20 | 17.60 | ppb | 12.00 | 282573 |
| 105 1-Chlorohexane | 20 | 18.07 | ppb | 9.65 | 359945 |
| 47 Cl-benzene-d5, I2 | 10 | 10.00 | ppb | 0.00 | 235344 |
| 54 MIBK | 20 | 18.90 | ppb | 5.50 | 140136 |
| 49 1,3-di-cl-propane 76 78 | 20 | 18.31 | ppb | 8.47 | 281641 |
| 59 tetra-Cl-ethene 166 168 | 20 | 18.21 | ppb | 8.97 | 377073 |
| 60 chlorobenzene 112 77 | 20 | 18.14 | ppb | 9.32 | 623775 |
| 61 1112-tetra-Cl-Et 131 133 | 20 | 18.92 | ppb | 5.41 | 260584 |
| [illegible]ylbenzene 91 106 | 20 | 17.29 | ppb | 13.57 | 1145522 |

| Compound Name | Amount | Actual | Units | %Dev | Target Response |
|---|---|---|---|---|---|
| 65 m/p-Xylenes x2 | 40 | 35.76 | ppb | 10.60 | 1801521 |
| 99 1-4-di-Cl-butane | 20 | 16.44 | ppb | 17.80 | 249550 |
| 52 bromoform 173 175 | 20 | 18.57 | ppb | 7.15 | 130519 |
| 66 styrene 104 78 | 20 | 17.65 | ppb | 11.75 | 627907 |
| 67 o-xylene 91 106 | 20 | 17.23 | ppb | 13.83 | 854318 |
| 68 1122-Tetra-Cl-Et 83 85 | 20 | 17.29 | ppb | 13.57 | 157341 |
| 110 t-1,4-dichloro-2-butene | 20 | 20.23 | ppb | 1.14 | 29653 |
| 106 Cl-benzyl | 20 | 18.94 | ppb | 5.29 | 217674 |
| 62 1,4-DCB-d4 150 152 I3 | 10 | 10.00 | ppb | 0.00 | 194845 |
| 69 123-tri-Cl-Pr 110 97 | 20 | 16.92 | ppb | 15.39 | 40148 |
| 70 4-Br-1-F-Bz (S3) 174 95 | 20 | 17.58 | ppb | 12.11 | 306029 |
| 71 isopropylbenzene 105 120 | 20 | 17.55 | ppb | 12.23 | 1123964 |
| 72 bromobenzene 156 158 | 20 | 18.24 | ppb | 8.81 | 256336 |
| 73 n-propylbenzene 120 78 | 20 | 17.81 | ppb | 10.96 | 307368 |
| 74 2-Cl-Tl 126 128 | 20 | 17.09 | ppb | 14.53 | 196033 |
| 75 4-Cl-Tl 126 128 | 20 | 17.35 | ppb | 13.26 | 271926 |
| 76 135-tri-Me-Bz 105 120 | 20 | 16.96 | ppb | 15.19 | 876887 |
| 79 tert-butylbenzene 119 91 | 20 | 17.96 | ppb | 10.21 | 953072 |
| 78 124-tri-Me-Bz 105 120 | 20 | 17.48 | ppb | 12.58 | 768449 |
| 80 13-di-Cl-Bz 146 148 | 20 | 17.97 | ppb | 10.13 | 402440 |
| 82 14-di-Cl-Bz 146 148 | 20 | 16.63 | ppb | 16.83 | 541239 |
| 81 [illegible]ec-butylbenzene 105 134 | 20 | 17.92 | ppb | 10.39 | 1390850 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 77 4-iso-Pr-toluene | 119 134 | 20 | 18.03 | ppb | 9.85 | 1009580 |
| 84 12-di-Cl-benzene | 146 148 | 20 | 17.46 | ppb | 12.70 | 377204 |
| butylbenzene | 91 134 | 20 | 17.34 | ppb | 13.30 | 1017452 |
| 86 12-diBr-3-Cl-Pra | 157 155 | 20 | 18.10 | ppb | 9.51 | 28653 |
| 87 124-tri-Cl-Bz | 180 182 | 20 | 16.93 | ppb | 15.36 | 286395 |
| 88 naphthalene | 128 129 | 20 | 18.23 | ppb | 8.85 | 236255 |
| 90 123-tri-Cl-Bz | 180 182 | 20 | 17.95 | ppb | 10.27 | 211274 |
| | | | | Ave.% Dev | 13.04 | |

# Evaluate Continuing Calibration Report

3139

Data File : C:\HPCHEM\1\DATA\03G1044\G1044Q01.D  Vial: 9
Acq On : 10 Jan 03 6:50 pm  Operator: Eddie
Sample : f=1 ccv/icv  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1 Fluorobenzene I1 1 | 1.000 | 1.000 | 0.0 | 108 | 0.00 |
| 2 | | 3 di-Cl-di-F-methane 85 8 | 0.308 | 0.246 | 20.2# | 92 | 0.00 |
| 3 | P | 4 Chloromethane 50 5 | 0.243 | 0.218 | 10.5 | 93 | 0.00 |
| 4 | | 9 F114 85 135 | 0.319 | 0.271 | 15.2 | 93 | 0.00 |
| 5 | C | 5 vinyl chloride 62 6 | 0.231 | 0.204 | 11.8 | 94 | 0.00 |
| 6 | | 6 bromomethane 94 9 | 0.227 | 0.195 | 14.1 | 111 | 0.00 |
| 7 | | 7 Chloroethane 64 66 | 0.171 | 0.149 | 13.0 | 95 | 0.00 |
| 8 | | 8 tri-Cl-F-methane 101 10 | 0.390 | 0.344 | 11.7 | 90 | 0.00 |
| 9 | | 111 isopropyl alcohol x10 | 0.005 | 0.004# | 6.3 | 122 | 0.00 |
| 10 | | 100 ethyl ether x5 | 0.143 | 0.117 | 18.2 | 95 | 0.00 |
| 11 | | 102 Acrolein x10 | 0.011 | 0.009# | 25.2# | 63 | 0.00 |
| 12 | | 119 methyl acetate | 0.128 | 0.101 | 20.8# | 86 | 0.00 |
| 13 | | 104 Carbon disulfide | 0.834 | 0.677 | 18.8 | 92 | 0.00 |
| 14 | | 103 Acrylonitrilex10 | 0.024 | 0.021# | 13.2 | 95 | 0.00 |
| 15 | | 95 Acetone x10 | 0.019 | 0.014# | 23.8# | 86 | 0.00 |
| 16 | | 108 F-113 | 0.300 | 0.266 | 11.4 | 88 | 0.00 |
| 17 | M,C | 13 11-dichloroethene 61 9 | 0.392 | 0.333 | 15.1 | 92 | 0.00 |
| 18 | | 101 Acetonnitrilex10 | 0.006 | 0.006# | 5.3 | 94 | 0.00 |
| 19 | | 109 Iodomethane | 0.311 | 0.337 | -8.3 | 113 | 0.00 |
| 20 | | 113 Tert butyl alcohol x10 | 0.009 | 0.007# | 20.6# | 87 | 0.00 |
| 21 | | 18 methylene chloride 49 8 | 0.643 | 0.249 | 61.2# | 66 | 0.00 |
| 22 | | 112 Allyl chloride | 0.434 | 0.369 | 14.8 | 96 | 0.00 |
| 23 | | 200 Nitro methane x10 | 0.044 | 0.038# | 12.1 | 96 | 0.00 |
| 24 | | 10 t-Bu-Me-ether 73 57 | 0.498 | 0.350 | 29.7# | 90 | 0.00 |
| 25 | | 19 t-12-di-Cl-ethene 96 6 | 0.301 | 0.255 | 15.2 | 93 | 0.00 |
| 26 | | 98 Vinyl acetate x5 | 0.270 | 0.247 | 8.8 | 169# | 0.00 |
| 27 | P | 21 11-dichloroethane 63 8 | 0.525 | 0.471 | 10.2 | 96 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

3140

Data File : C:\HPCHEM\1\DATA\03G1044\G1044Q01.D  Vial: 9
Acq On : 10 Jan 03 6:50 pm  Operator: Eddie
Sample : f=1 ccv/icv  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 28 | | 91 2-butanone MEKx10 | 0.094 | 0.077 | 17.6 | 95 | 0.00 |
| 29 | | 115 Di isoprop ether | 1.125 | 1.135 | -0.9 | 93 | 0.00 |
| 30 | | 22 c-12-di-Cl-ethene 96 6 | 0.294 | 0.248 | 15.6 | 92 | 0.00 |
| 31 | | 23 22-Dichloropropane 77 9 | 0.453 | 0.362 | 20.0# | 93 | 0.00 |
| 32 | | 24 Br-Cl-methane 128 13 | 0.094 | 0.089 | 5.2 | 92 | 0.00 |
| 33 | C | 25 chloroform 83 8 | 0.525 | 0.433 | 17.6 | 95 | 0.00 |
| 34 | | 201 Ethyl acetate x2 | 0.134 | 0.119 | 11.1 | 128 | 0.00 |
| 35 | | 116 ETBE | 0.807 | 0.660 | 18.2 | 91 | 0.00 |
| 36 | | 117 Iso-butyl alcohol X10 | 0.027 | 0.025# | 7.9 | 132 | 0.00 |
| 37 | | 26 tetrahydrofuranx5 | 0.010 | 0.009# | 14.8 | 93 | 0.00 |
| 38 | S | 27 Di-Br-F-Methane (S1) 11 | 0.400 | 0.309 | 22.8# | 95 | 0.00 |
| 39 | | 34 111-tri-Cl-ethane 97 9 | 0.437 | 0.355 | 18.9 | 93 | 0.00 |
| 40 | | 30 12-dichloroethane 64 6 | 0.175 | 0.177 | -1.4 | 95 | 0.00 |
| 41 | | 35 11-Di-Cl-propene 75 11 | 0.382 | 0.312 | 18.3 | 91 | 0.00 |
| 42 | S | 29 1,2-di-Cl-ethane-d4 [Sur | 0.165 | 0.142 | 14.2 | 93 | 0.00 |
| 43 | M | 36 benzene 78 5 | 0.869 | 0.753 | 13.4 | 94 | 0.00 |
| 44 | | 37 CCl4 117 11 | 0.335 | 0.286 | 14.5 | 92 | 0.00 |
| 45 | | 97 thiophene | 0.432 | 0.366 | 15.3 | 94 | 0.00 |
| 46 | | 118 TAME | 0.556 | 0.441 | 20.6# | 89 | 0.00 |
| 47 | C | 39 12-di-Cl-propane 63 7 | 0.254 | 0.220 | 13.3 | 93 | 0.00 |
| 48 | M | 40 trichloroethene 130 13 | 0.269 | 0.237 | 11.9 | 94 | 0.00 |
| 49 | | 96 Me-methacrylate | 0.095 | 0.079 | 17.5 | 102 | 0.00 |
| 50 | | 42 Br-di-Cl-methane 83 8 | 0.355 | 0.283 | 20.3# | 93 | 0.00 |
| 51 | | 41 dibromomethane 174 17 | 0.123 | 0.113 | 7.7 | 93 | 0.00 |
| 52 | | 45 c-13-di-Cl-propene 75 11 | 0.313 | 0.259 | 17.1 | 93 | 0.00 |
| 53 | S | 55 toluene-d8(S2) 100 | 0.500 | 0.438 | 12.3 | 96 | 0.00 |
| 54 | | 92 2-ClEt-Vi-ether10 | 0.054 | 0.047# | 12.1 | 92 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

3141

Data File : C:\HPCHEM\1\DATA\03G1044\G1044Q01.D  Vial: 9
Acq On : 10 Jan 03 6:50 pm  Operator: Eddie
Sample : f=1 ccv/icv  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | | Compound | | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|---|
| 55 | M | C | 56 toluene | 91 9 | 0.817 | 0.686 | 16.0 | 95 | 0.00 |
| 56 | | | 107 Et methacrylate | | 0.169 | 0.146 | 13.6 | 141 | 0.00 |
| 57 | | | 93 2-Hexanone x5 | | 0.057 | 0.049# | 13.2 | 107 | 0.00 |
| 58 | | | 48 112-tri-Cl-Et | 97 8 | 0.141 | 0.102 | 27.8# | 94 | 0.00 |
| 59 | | | 58 1,2-di-br-ethane | 107 109 | 0.114 | 0.109 | 5.0 | 91 | 0.00 |
| 60 | | | 51 di-Br-Cl-methane | 129 12 | 0.161 | 0.141 | 12.6 | 92 | 0.00 |
| 61 | | | 46 t-13-di-cl-propene | 75 11 | 0.202 | 0.177 | 12.0 | 94 | 0.00 |
| 62 | | | 105 1-Chlorohexane | | 0.310 | 0.226 | 27.2# | 96 | 0.00 |
| 63 | I | | 47 Cl-benzene-d5, I2 | | 1.000 | 1.000 | 0.0 | 105 | 0.00 |
| 64 | | | 54 MIBK | | 0.297 | 0.298 | -0.3 | 97 | 0.00 |
| 65 | | | 49 1,3-di-cl-propane | 76 78 | 0.654 | 0.598 | 8.5 | 91 | 0.00 |
| 66 | | | 59 tetra-Cl-ethene | 166 16 | 0.880 | 0.801 | 9.0 | 90 | 0.00 |
| 67 | M | P | 60 chlorobenzene | 112 7 | 1.461 | 1.325 | 9.3 | 93 | 0.00 |
| 68 | | | 61 1112-tetra-Cl-Et | 131 13 | 0.585 | 0.554 | 5.4 | 92 | 0.00 |
| 69 | C | | 64 ethylbenzene | 91 10 | 2.816 | 2.434 | 13.6 | 92 | 0.00 |
| 70 | | | 65 m/p-Xylenes x2 | | 2.141 | 1.914 | 10.6 | 94 | 0.00 |
| 71 | | | 99 1-4-di-Cl-butane | | 0.645 | 0.530 | 17.8 | 90 | 0.00 |
| 72 | P | | 52 bromoform | 173 17 | 0.274 | 0.277 | -1.3 | 91 | 0.00 |
| 73 | | | 66 styrene | 104 7 | 1.512 | 1.334 | 11.7 | 93 | 0.00 |
| 74 | | | 67 o-xylene | 91 10 | 2.106 | 1.815 | 13.8 | 93 | 0.00 |
| 75 | P | | 68 1122-Tetra-Cl-Et | 83 8 | 0.387 | 0.334 | 13.6 | 91 | 0.00 |
| 76 | | | 110 t-1,4-dichloro-2-butene | | 0.081 | 0.063 | 21.8# | 110 | 0.00 |
| 77 | | | 106 Cl-benzyl | | 0.572 | 0.462 | 19.1 | 91 | 0.00 |
| 78 | I | | 62 1,4-DCB-d4 150 152 I3 | | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 79 | | | 69 123-tri-Cl-Pr | 110 9 | 0.122 | 0.103 | 15.4 | 88 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

3142

Data File : C:\HPCHEM\1\DATA\03G1044\G1044Q01.D  Vial: 9
Acq On : 10 Jan 03 6:50 pm  Operator: Eddie
Sample : f=1 ccv/icv  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

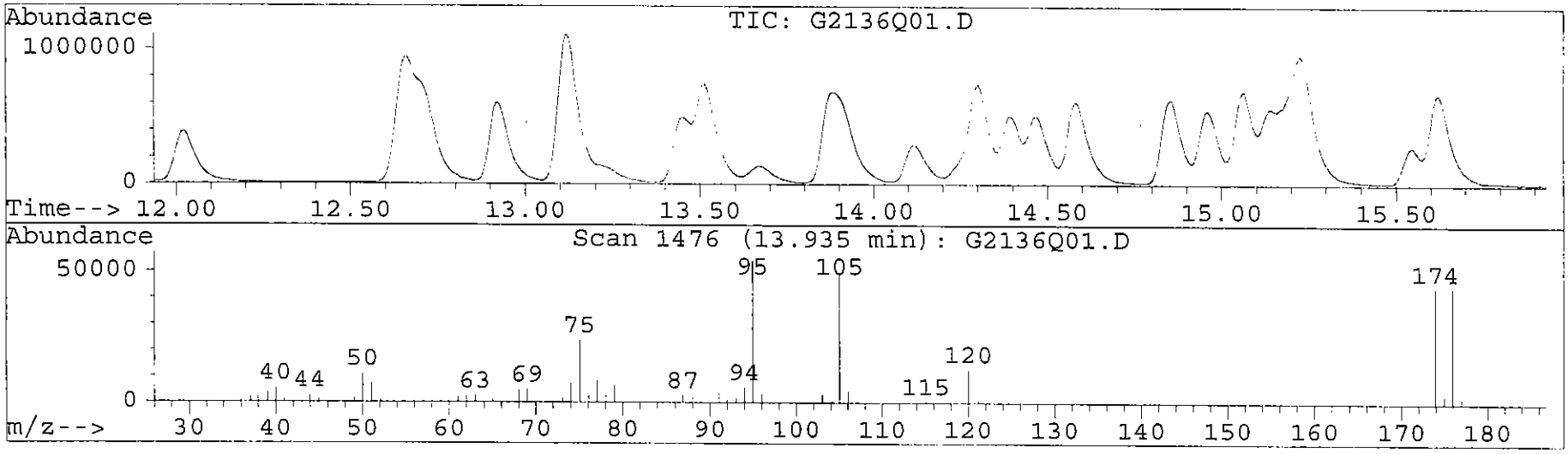
| | | Compound | | | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|---|
| 80 | S | 70 4-Br-1-F-Bz (S3) | 174 | 9 | 0.893 | 0.785 | 12.1 | 94 | 0.00 |
| 81 | | 71 isopropylbenzene | 105 | 12 | 3.286 | 2.884 | 12.2 | 92 | 0.00 |
| 82 | | 72 bromobenzene | 156 | 15 | 0.721 | 0.658 | 8.8 | 90 | 0.00 |
| 83 | | 73 n-propylbenzene | 120 | 7 | 0.886 | 0.789 | 11.0 | 92 | 0.00 |
| 84 | | 74 2-Cl-Tl | 126 | 128 | 0.589 | 0.503 | 14.5 | 97 | 0.00 |
| 85 | | 75 4-Cl-Tl | 126 | 128 | 0.804 | 0.698 | 13.3 | 94 | 0.00 |
| 86 | | 76 135-tri-Me-Bz | 105 | 12 | 2.653 | 2.250 | 15.2 | 90 | 0.00 |
| 87 | | 79 tert-butylbenzene | 119 | 9 | 2.724 | 2.446 | 10.2 | 93 | 0.00 |
| 88 | | 78 124-tri-Me-Bz | 105 | 12 | 2.256 | 1.972 | 12.6 | 91 | 0.00 |
| 89 | | 80 13-di-Cl-Bz | 146 | 148 | 1.149 | 1.033 | 10.1 | 101 | 0.00 |
| 90 | | 82 14-di-Cl-Bz | 146 | 148 | 1.670 | 1.389 | 16.8 | 84 | 0.00 |
| 91 | | 81 sec-butylbenzene | 105 | 13 | 3.983 | 3.569 | 10.4 | 95 | 0.00 |
| 92 | | 77 4-iso-Pr-toluene | 119 | 13 | 2.874 | 2.591 | 9.9 | 93 | 0.00 |
| 93 | | 84 12-di-Cl-benzene | 146 | 14 | 1.109 | 0.968 | 12.7 | 92 | 0.00 |
| 94 | | 85 n-butylbenzene | 91 | 13 | 3.012 | 2.611 | 13.3 | 93 | 0.00 |
| 95 | | 86 12-diBr-3-Cl-Pra | 157 | 15 | 0.081 | 0.074 | 9.5 | 91 | 0.00 |
| 96 | | 87 124-tri-Cl-Bz | 180 | 18 | 0.792 | 0.735 | 7.2 | 89 | 0.00 |
| 97 | | 88 naphthalene | 128 | 12 | 0.665 | 0.606 | 8.8 | 96 | 0.00 |
| 98 | | 90 123-tri-Cl-Bz | 180 | 18 | 0.604 | 0.542 | 10.3 | 88 | 0.00 |
| 99 | | 89 hx-Cl-butadiene | 225 | 26 | 0.621 | 0.586 | 5.5 | 93 | 0.00 |

# BFB

Data File : C:\HPCHEM\1\DATA\03G2136\G2136Q01.D
Acq On : 23 Apr 03 11:16 am
Sample : f=1
Misc :

Vial: 17
Operator: Eddie
Inst : GCMS-G
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2




Peak Apex is scan: 1476

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.4 | 11041 | PASS |
| 75 | 95 | 30 | 60 | 44.1 | 23880 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 54168 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 3436 | PASS |
| 173 | 174 | 0 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 100 | 81.8 | 44304 | PASS |
| 175 | 174 | 5 | 9 | 7.3 | 3246 | PASS |
| 176 | 174 | 95 | 101 | 99.7 | 44184 | PASS |
| 177 | 176 | 5 | 9 | 6.0 | 2672 | PASS |

G2136Q01.D E524G003.M Wed Apr 23 16:30:57 2003

FORM-5A

Applied P & Ch Laboratory

# Volatile Organic Instrument Performance Check for Method 524.2

## Bromofluorobenzene (BFB ), Part II

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 032819 |
| Project ID: | JPL | BFB Inj. Date: | 04/23/03 | Batch No: | 03G2136 |
| | | BFB Inj. Time: | 11:16 | Sequence No: | 03G2136 |
| Project No: | 04-4428.10 | Instrument ID: | G | GC Column: | DB-VEX |
| Data File Name: | G2136Q01 | Heated Purge: (Y/N) | N | Column ID: | 0.45 mm |

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

| # | Client Sample No | Lab Sample ID | Data File Name | Date Analyzed | Time Analyzed |
|---|---|---|---|---|---|
| 1 | 03G2136-CCV-01 | 03G2136-CCV-01 | G2136Q01 | 04/23/03 | 11:16 |
| 2 | 03G2136-LCS-01 | 03G2136-LCS-01 | G2136L01 | 04/23/03 | 11:44 |
| 3 | MW-19-2MS | 03-2819-3MS | G2136M01 | 04/23/03 | 12:13 |
| 4 | MW-19-2MSD | 03-2819-3MSD | G2136N01 | 04/23/03 | 12:42 |
| 5 | 03G2136-MB-01 | 03G2136-MB-01 | G2136K01 | 04/23/03 | 15:34 |
| 6 | EB-3-4/22/03 | 03-2819-1 | 2819-01 | 04/23/03 | 16:03 |
| 7 | MW-19-1 | 03-2819-2 | 2819-02 | 04/23/03 | 16:32 |
| 8 | MW-19-2 | 03-2819-3 | 2819-03 | 04/23/03 | 17:00 |
| 9 | MW-19-3 | 03-2819-4 | 2819-04 | 04/23/03 | 17:29 |
| 10 | MW-19-4 | 03-2819-5 | 2819-05 | 04/23/03 | 17:58 |
| 11 | MW-19-5 | 03-2819-6 | 2819-06 | 04/23/03 | 18:26 |
| 12 | TB-3-4/22/03 | 03-2819-7 | 2819-07 | 04/23/03 | 18:56 |
| 13 | | | | | |
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# Continuing Calibration Concentration Summary

**Data File** G2136Q01.D
**Method File** E524G003

| Compound Name | Amount | Actual | Units | %Dev | Target Response |
|---|---|---|---|---|---|
| 1 Fluorobenzene I1 1 | 10 | 10.00 | ppb | 0.00 | 607722 |
| 3 di-Cl-di-F-methane 85 87 | 20 | 19.12 | ppb | 4.40 | 331112 |
| 4 Chloromethane 50 52 | 20 | 17.50 | ppb | 12.50 | 258805 |
| 9 F114 85 135 | 20 | 18.05 | ppb | 9.77 | 350192 |
| 5 vinyl chloride 62 64 | 20 | 16.48 | ppb | 17.62 | 231039 |
| 6 bromomethane 94 96 | 20 | 13.76 | ppb | 31.20 | 171626 |
| 7 Chloroethane 64 66 | 20 | 18.46 | ppb | 7.71 | 191652 |
| 8 tri-Cl-F-methane 101 103 | 20 | 20.14 | ppb | 0.68 | 477441 |
| 111 isopropyl alcohol x10 | 200 | 169.22 | ppb | 15.39 | 46403 |
| 100 ethyl ether x5 | 100 | 81.63 | ppb | 18.37 | 707040 |
| 102 Acrolein x10 | 200 | 145.19 | ppb | 27.40 | 100338 |
| 119 methyl acetate | 20 | 21.05 | ppb | 5.25 | 156875 |
| 104 Carbon disulfide | 20 | 17.01 | ppb | 14.96 | 861637 |
| 103 Acrylonitrilex10 | 200 | 176.23 | ppb | 11.89 | 255903 |
| 95 Acetone x10 | 200 | 225.98 | ppb | 12.99 | 232152 |
| 108 F-113 | 20 | 20.72 | ppb | 3.62 | 377520 |
| 13 11-dichloroethene 61 96 | 20 | 18.52 | ppb | 7.41 | 441189 |
| 101 Acetonnitrilex10 | 200 | 203.97 | ppb | 1.98 | 79296 |
| 109 Iodomethane | 20 | 19.20 | ppb | 4.01 | 374233 |
| 113 Tert butyl alcohol x10 | 200 | 168.01 | ppb | 15.99 | 88367 |
| 18 methylene chloride 49 84 | 20 | 16.78 | ppb | 16.08 | 408745 |
| 112 Allyl chloride | 20 | 21.01 | ppb | 5.06 | 553724 |
| 200 Nitro methane x10 | 200 | 189.27 | ppb | 5.36 | 501840 |
| 10 t-Bu-Me-ether 73 57 | 20 | 17.73 | ppb | 11.37 | 455885 |
| 19 t-12-di-Cl-ethene 96 61 | 20 | 17.52 | ppb | 12.38 | 320062 |
| 98 Vinyl acetate x5 | 100 | 83.10 | ppb | 16.90 | 1365738 |
| 21 11-dichloroethane 63 83 | 20 | 20.33 | ppb | 1.64 | 648295 |
| 91 2-butanone MEKx10 | 200 | 183.39 | ppb | 8.31 | 1045199 |
| 115 Di isoprop ether | 20 | 19.13 | ppb | 4.34 | 1540205 |
| 22 c-12-di-Cl-ethene 96 61 | 20 | 17.66 | ppb | 11.68 | 315685 |
| 23 22-Dichloropropane 77 97 | 20 | 20.09 | ppb | 0.44 | 552836 |
| 24 Br-Cl-methane 128 130 | 20 | 15.79 | ppb | 21.04 | 101219 |
| 25 chloroform 83 85 | 20 | 18.17 | ppb | 9.13 | 579919 |
| 201 Ethyl acetate x2 | 40 | 36.14 | ppb | 9.66 | 293621 |
| 116 ETBE | 20 | 17.64 | ppb | 11.79 | 865052 |
| 117 Iso-butyl alcohol X10 | 200 | 179.94 | ppb | 10.03 | 292565 |
| 26 tetrahydrofuranx5 | 100 | 81.92 | ppb | 18.08 | 51022 |
| 27 Di-Br-F-Methane (S1) 111 1 | 20 | 18.36 | ppb | 8.18 | 395666 |
| 34 111-tri-Cl-ethane 97 99 | 20 | 19.12 | ppb | 4.41 | 508129 |
| 30 12-dichloroethane 64 62 | 20 | 17.49 | ppb | 12.54 | 217493 |
| 35 11-Di-Cl-propene 75 110 | 20 | 19.67 | ppb | 1.65 | 456844 |
| 29 1,2-di-Cl-ethane-d4 [Surr] 10 | 20 | 17.01 | ppb | 14.93 | 170835 |
| 36 benzene 78 52 | 20 | 19.74 | ppb | 1.32 | 1042279 |
| 37 CCl4 117 119 | 20 | 20.72 | ppb | 3.62 | 421632 |

| | | | | | |
|---|---|---|---|---|---|
| 97 thiophene | 20 | 17.90 | ppb | 10.48 | 470062 |
| 118 TAME | 20 | 17.18 | ppb | 14.11 | 579903 |
| 39 12-di-Cl-propane 63 76 | 20 | 20.18 | ppb | 0.92 | 311930 |
| 40 trichloroethene 130 132 | 20 | 18.28 | ppb | 8.59 | 299143 |
| 96 Me-methacrylate | 20 | 17.81 | ppb | 10.93 | 95501 |
| 42 Br-di-Cl-methane 83 85 | 20 | 17.21 | ppb | 13.93 | 370960 |
| 41 dibromomethane 174 172 | 20 | 17.14 | ppb | 14.32 | 127739 |
| 45 c-13-di-Cl-propene 75 110 | 20 | 18.38 | ppb | 8.12 | 349240 |
| 55 toluene-d8(S2) 100 99 | 20 | 18.89 | ppb | 5.53 | 573560 |
| 92 2-ClEt-Vi-ether10 | 200 | 103.48 | ppb | 48.26 | 337272 |

| Compound Name | Amount | Actual | Units | %Dev | Target Response |
|---|---|---|---|---|---|
| 56 toluene 91 92 | 20 | 18.62 | ppb | 6.88 | 924330 |
| 107 Et methacrylate | 20 | 17.19 | ppb | 14.05 | 176545 |
| 93 2-Hexanone x5 | 100 | 92.08 | ppb | 7.92 | 317873 |
| 48 112-tri-Cl-Et 97 83 | 20 | 17.18 | ppb | 14.10 | 124996 |
| 58 1,2-di-br-ethane 107 109 | 20 | 16.69 | ppb | 16.53 | 129708 |
| 51 di-Br-Cl-methane 129 127 | 20 | 17.90 | ppb | 10.50 | 175124 |
| 46 t-13-di-cl-propene 75 110 | 20 | 18.29 | ppb | 8.54 | 224046 |
| 105 1-Chlorohexane | 20 | 22.45 | ppb | 12.24 | 337477 |
| 47 Cl-benzene-d5, I2 | 10 | 10.00 | ppb | 0.00 | 177786 |
| 54 MIBK | 20 | 20.00 | ppb | 0.02 | 111859 |
| 49 1,3-di-cl-propane 76 78 | 20 | 20.01 | ppb | 0.07 | 232606 |
| 59 tetra-Cl-ethene 166 168 | 20 | 20.19 | ppb | 0.97 | 315959 |
| 60 chlorobenzene 112 77 | 20 | 19.97 | ppb | 0.15 | 518876 |
| 61 1112-tetra-Cl-Et 131 133 | 20 | 20.13 | ppb | 0.65 | 209462 |
| 64 ethylbenzene 91 106 | 20 | 20.85 | ppb | 4.24 | 1043641 |

| Compound Name | Amount | Actual | Units | %Dev | Target Response |
|---|---|---|---|---|---|
| 65 m/p-Xylenes x2 | 40 | 41.65 | ppb | 4.13 | 1585237 |
| 99 1-4-di-Cl-butane | 20 | 19.17 | ppb | 4.13 | 219872 |
| 52 bromoform 173 175 | 20 | 18.33 | ppb | 8.36 | 97388 |
| 66 styrene 104 78 | 20 | 20.38 | ppb | 1.88 | 547585 |
| 67 o-xylene 91 106 | 20 | 20.11 | ppb | 0.55 | 753059 |
| 68 1122-Tetra-Cl-Et 83 85 | 20 | 18.04 | ppb | 9.82 | 124020 |
| 110 t-1,4-dichloro-2-butene | 20 | 19.74 | ppb | 1.31 | 21959 |
| 106 Cl-benzyl | 20 | 22.21 | ppb | 11.05 | 190403 |
| 62 1,4-DCB-d4 150 152 I3 | 10 | 10.00 | ppb | 0.00 | 136643 |
| 69 123-tri-Cl-Pr 110 97 | 20 | 18.00 | ppb | 9.98 | 29953 |
| 70 4-Br-1-F-Bz (S3) 174 95 | 20 | 20.30 | ppb | 1.48 | 247796 |
| 71 isopropylbenzene 105 120 | 20 | 23.37 | ppb | 16.85 | 1049331 |
| 72 bromobenzene 156 158 | 20 | 20.52 | ppb | 2.58 | 202215 |
| 73 n-propylbenzene 120 78 | 20 | 23.40 | ppb | 16.99 | 283204 |
| 74 2-Cl-TI 126 128 | 20 | 20.00 | ppb | 0.00 | 160841 |
| 75 4-Cl-TI 126 128 | 20 | 21.86 | ppb | 9.31 | 240330 |
| 76 135-tri-Me-Bz 105 120 | 20 | 22.47 | ppb | 12.34 | 814624 |
| 79 tert-butylbenzene 119 91 | 20 | 22.87 | ppb | 14.36 | 851316 |
| 78 124-tri-Me-Bz 105 120 | 20 | 22.64 | ppb | 13.19 | 697791 |
| 80 13-di-Cl-Bz 146 148 | 20 | 19.02 | ppb | 4.91 | 298615 |
| 82 14-di-Cl-Bz 146 148 | 20 | 20.12 | ppb | 0.59 | 459066 |
| 81 sec-butylbenzene 105 134 | 20 | 23.35 | ppb | 16.74 | 1270771 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 77 4-iso-Pr-toluene 119 134 | 20 | 22.90 | ppb | 14.50 | 899269 |
| 84 12-di-Cl-benzene 146 148 | 20 | 19.50 | ppb | 2.51 | 295404 |
| 85 n-butylbenzene 91 134 | 20 | 22.49 | ppb | 12.46 | 925579 |
| 86 12-diBr-3-Cl-Pra 157 155 | 20 | 17.80 | ppb | 11.00 | 19763 |
| 87 124-tri-Cl-Bz 180 182 | 20 | 18.99 | ppb | 5.07 | 226179 |
| 88 naphthalene 128 129 | 20 | 17.86 | ppb | 10.72 | 162271 |
| 90 123-tri-Cl-Bz 180 182 | 20 | 20.21 | ppb | 1.07 | 166889 |
| | | | Ave.% Dev | 8.80 | |

# Evaluate Continuing Calibration Report

3148

Data File : C:\HPCHEM\1\DATA\03G2136\G2136Q01.D  Vial: 17
Acq On : 23 Apr 03 11:16 am  Operator: Eddie
Sample : f=1  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | 1 Fluorobenzene I1 1 | 1.000 | 1.000 | 0.0 | 82 | 0.00 |
| 2 | | 3 di-Cl-di-F-methane 85 8 | 0.308 | 0.272 | 11.6 | 77 | -0.01 |
| 3 | P | 4 Chloromethane 50 5 | 0.243 | 0.213 | 12.5 | 69 | -0.02 |
| 4 | | 9 F114 85 135 | 0.319 | 0.288 | 9.8 | 76 | -0.02 |
| 5 | C | 5 vinyl chloride 62 6 | 0.231 | 0.190 | 17.6 | 67 | -0.01 |
| 6 | | 6 bromomethane 94 9 | 0.227 | 0.141 | 37.9# | 61 | -0.02 |
| 7 | | 7 Chloroethane 64 66 | 0.171 | 0.158 | 7.7 | 77 | 0.00 |
| 8 | | 8 tri-Cl-F-methane 101 10 | 0.390 | 0.393 | -0.7 | 78 | 0.00 |
| 9 | | 111 isopropyl alcohol x10 | 0.005 | 0.004# | 15.4 | 84 | -0.02 |
| 10 | | 100 ethyl ether x5 | 0.143 | 0.116 | 18.4 | 72 | 0.00 |
| 11 | | 102 Acrolein x10 | 0.011 | 0.008# | 27.4# | 47 | 0.00 |
| 12 | | 119 methyl acetate | 0.128 | 0.129 | -0.9 | 84 | 0.00 |
| 13 | | 104 Carbon disulfide | 0.834 | 0.709 | 15.0 | 73 | 0.00 |
| 14 | | 103 Acrylonitrilex10 | 0.024 | 0.021# | 11.9 | 73 | 0.00 |
| 15 | | 95 Acetone x10 | 0.019 | 0.019# | -0.7 | 86 | 0.00 |
| 16 | | 108 F-113 | 0.300 | 0.311 | -3.6 | 79 | 0.00 |
| 17 | M,C | 13 11-dichloroethene 61 9 | 0.392 | 0.363 | 7.4 | 77 | 0.00 |
| 18 | | 101 Acetonnitrilex10 | 0.006 | 0.007# | -7.3 | 81 | 0.00 |
| 19 | | 109 Iodomethane | 0.311 | 0.308 | 1.0 | 79 | 0.00 |
| 20 | | 113 Tert butyl alcohol x10 | 0.009 | 0.007# | 21.1# | 66 | 0.00 |
| 21 | | 18 methylene chloride 49 8 | 0.643 | 0.336 | 47.7# | 68 | 0.00 |
| 22 | | 112 Allyl chloride | 0.434 | 0.456 | -5.1 | 90 | 0.00 |
| 23 | | 200 Nitro methane x10 | 0.044 | 0.041# | 5.4 | 79 | 0.00 |
| 24 | | 10 t-Bu-Me-ether 73 57 | 0.498 | 0.375 | 24.6# | 74 | 0.00 |
| 25 | | 19 t-12-di-Cl-ethene 96 6 | 0.301 | 0.263 | 12.4 | 73 | 0.00 |
| 26 | | 98 Vinyl acetate x5 | 0.270 | 0.225 | 16.9 | 118 | 0.00 |
| 27 | P | 21 11-dichloroethane 63 8 | 0.525 | 0.533 | -1.6 | 83 | 0.00 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G2136\G2136Q01.D  Vial: 17
Acq On : 23 Apr 03 11:16 am  Operator: Eddie
Sample : f=1  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | Compound | | | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|---|
| 28 | | 91 2-butanone MEKx10 | | | 0.094 | 0.086 | 8.3 | 81 | 0.00 |
| 29 | | 115 Di isoprop ether | | | 1.125 | 1.267 | -12.6 | 79 | 0.00 |
| 30 | | 22 c-12-di-Cl-ethene | 96 | 6 | 0.294 | 0.260 | 11.7 | 73 | 0.00 |
| 31 | | 23 22-Dichloropropane | 77 | 9 | 0.453 | 0.455 | -0.4 | 89 | 0.01 |
| 32 | | 24 Br-Cl-methane | 128 | 13 | 0.094 | 0.083 | 11.2 | 66 | 0.01 |
| 33 | C | 25 chloroform | 83 | 8 | 0.525 | 0.477 | 9.1 | 80 | 0.00 |
| 34 | | 201 Ethyl acetate x2 | | | 0.134 | 0.121 | 9.7 | 99 | 0.00 |
| 35 | | 116 ETBE | | | 0.807 | 0.712 | 11.8 | 75 | 0.01 |
| 36 | | 117 Iso-butyl alcohol X10 | | | 0.027 | 0.024# | 10.0 | 98 | 0.00 |
| 37 | | 26 tetrahydrofuranx5 | | | 0.010 | 0.008# | 18.1 | 68 | 0.00 |
| 38 | S | 27 Di-Br-F-Methane (S1) | | 11 | 0.400 | 0.326 | 18.6 | 76 | 0.00 |
| 39 | | 34 111-tri-Cl-ethane | 97 | 9 | 0.437 | 0.418 | 4.4 | 84 | 0.00 |
| 40 | | 30 12-dichloroethane | 64 | 6 | 0.175 | 0.179 | -2.5 | 73 | 0.00 |
| 41 | | 35 11-Di-Cl-propene | 75 | 11 | 0.382 | 0.376 | 1.6 | 83 | 0.01 |
| 42 | S | 29 1,2-di-Cl-ethane-d4 [Sur | | | 0.165 | 0.141 | 14.9 | 70 | 0.00 |
| 43 | M | 36 benzene | 78 | 5 | 0.869 | 0.858 | 1.3 | 82 | 0.00 |
| 44 | | 37 CCl4 | 117 | 11 | 0.335 | 0.347 | -3.6 | 85 | 0.01 |
| 45 | | 97 thiophene | | | 0.432 | 0.387 | 10.5 | 75 | 0.01 |
| 46 | | 118 TAME | | | 0.556 | 0.477 | 14.1 | 73 | 0.00 |
| 47 | C | 39 12-di-Cl-propane | 63 | 7 | 0.254 | 0.257 | -0.9 | 83 | 0.00 |
| 48 | M | 40 trichloroethene | 130 | 13 | 0.269 | 0.246 | 8.6 | 74 | 0.01 |
| 49 | | 96 Me-methacrylate | | | 0.095 | 0.079 | 17.7 | 77 | 0.00 |
| 50 | | 42 Br-di-Cl-methane | 83 | 8 | 0.355 | 0.305 | 13.9 | 77 | 0.00 |
| 51 | | 41 dibromomethane | 174 | 17 | 0.123 | 0.105 | 14.3 | 66 | 0.01 |
| 52 | | 45 c-13-di-Cl-propene | 75 | 11 | 0.313 | 0.287 | 8.1 | 78 | 0.01 |
| 53 | S | 55 toluene-d8(S2) | | 100 | 0.500 | 0.472 | 5.5 | 79 | 0.00 |
| 54 | | 92 2-ClEt-Vi-ether10 | | | 0.054 | 0.028# | 48.3# | 41 | 0.01 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G2136\G2136Q01.D  Vial: 17
Acq On : 23 Apr 03 11:16 am  Operator: Eddie
Sample : f=1  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab**  EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050  Min. Rel. Area : 35%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 150%

| | | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|
| 55 | M | C | 56 toluene 91 9 | 0.817 | 0.760 | 6.9 | 80 | 0.02 |
| 56 | | | 107 Et methacrylate | 0.169 | 0.145 | 14.1 | 107 | 0.02 |
| 57 | | | 93 2-Hexanone x5 | 0.057 | 0.052 | 7.9 | 86 | 0.02 |
| 58 | | | 48 112-tri-Cl-Et 97 8 | 0.141 | 0.103 | 26.9# | 73 | 0.02 |
| 59 | | | 58 1,2-di-br-ethane 107 109 | 0.114 | 0.107 | 6.6 | 68 | 0.02 |
| 60 | | | 51 di-Br-Cl-methane 129 12 | 0.161 | 0.144 | 10.5 | 72 | 0.02 |
| 61 | | | 46 t-13-di-cl-propene 75 11 | 0.202 | 0.184 | 8.5 | 74 | 0.00 |
| 62 | | | 105 1-Chlorohexane | 0.310 | 0.278 | 10.5 | 90 | 0.02 |
| 63 | I | | 47 Cl-benzene-d5, I2 | 1.000 | 1.000 | 0.0 | 79 | 0.02 |
| 64 | | | 54 MIBK | 0.297 | 0.315 | -6.0 | 78 | 0.02 |
| 65 | | | 49 1,3-di-cl-propane 76 78 | 0.654 | 0.654 | -0.1 | 75 | 0.02 |
| 66 | | | 59 tetra-Cl-ethene 166 16 | 0.880 | 0.889 | -1.0 | 76 | 0.02 |
| 67 | M | P | 60 chlorobenzene 112 7 | 1.461 | 1.459 | 0.2 | 78 | 0.02 |
| 68 | | | 61 1112-tetra-Cl-Et 131 13 | 0.585 | 0.589 | -0.7 | 74 | 0.02 |
| 69 | C | | 64 ethylbenzene 91 10 | 2.816 | 2.935 | -4.2 | 84 | 0.02 |
| 70 | | | 65 m/p-Xylenes x2 | 2.141 | 2.229 | -4.1 | 83 | 0.02 |
| 71 | | | 99 1-4-di-Cl-butane | 0.645 | 0.618 | 4.1 | 80 | 0.01 |
| 72 | P | | 52 bromoform 173 17 | 0.274 | 0.274 | -0.0 | 68 | 0.02 |
| 73 | | | 66 styrene 104 7 | 1.512 | 1.540 | -1.9 | 81 | 0.01 |
| 74 | | | 67 o-xylene 91 10 | 2.106 | 2.118 | -0.6 | 82 | 0.01 |
| 75 | P | | 68 1122-Tetra-Cl-Et 83 8 | 0.387 | 0.349 | 9.8 | 72 | 0.02 |
| 76 | | | 110 t-1,4-dichloro-2-butene | 0.081 | 0.062 | 23.3# | 81 | 0.00 |
| 77 | | | 106 Cl-benzyl | 0.572 | 0.535 | 6.3 | 80 | 0.01 |
| 78 | I | | 62 1,4-DCB-d4 150 152 I3 | 1.000 | 1.000 | 0.0 | 74 | 0.04 |
| 79 | | | 69 123-tri-Cl-Pr 110 9 | 0.122 | 0.110 | 10.0 | 66 | 0.01 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G2136\G2136Q01.D  Vial: 17
Acq On : 23 Apr 03 11:16 am  Operator: Eddie
Sample : f=1  Inst : GCMS-G
Misc :  Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\E524G003.M
Title : **Applied P &Ch Lab** EPA 524.2
Last Update : Mon Jan 13 10:38:23 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 35% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | Compound | | | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|---|---|
| 80 | S | 70 4-Br-1-F-Bz (S3) | 174 | 9 | 0.893 | 0.907 | -1.5 | 76 | 0.01 |
| 81 | | 71 isopropylbenzene | 105 | 12 | 3.286 | 3.840 | -16.8 | 86 | 0.01 |
| 82 | | 72 bromobenzene | 156 | 15 | 0.721 | 0.740 | -2.6 | 71 | 0.01 |
| 83 | | 73 n-propylbenzene | 120 | 7 | 0.886 | 1.036 | -17.0 | 84 | 0.01 |
| 84 | | 74 2-Cl-Tl | 126 | 128 | 0.589 | 0.589 | 0.0 | 80 | 0.01 |
| 85 | | 75 4-Cl-Tl | 126 | 128 | 0.804 | 0.879 | -9.3 | 83 | 0.02 |
| 86 | | 76 135-tri-Me-Bz | 105 | 12 | 2.653 | 2.981 | -12.3 | 84 | 0.01 |
| 87 | | 79 tert-butylbenzene | 119 | 9 | 2.724 | 3.115 | -14.4 | 83 | 0.01 |
| 88 | | 78 124-tri-Me-Bz | 105 | 12 | 2.256 | 2.553 | -13.2 | 82 | 0.02 |
| 89 | | 80 13-di-Cl-Bz | 146 | 148 | 1.149 | 1.093 | 4.9 | 75 | 0.03 |
| 90 | | 82 14-di-Cl-Bz | 146 | 148 | 1.670 | 1.680 | -0.6 | 71 | 0.01 |
| 91 | | 81 sec-butylbenzene | 105 | 13 | 3.983 | 4.650 | -16.7 | 87 | 0.02 |
| 92 | | 77 4-iso-Pr-toluene | 119 | 13 | 2.874 | 3.291 | -14.5 | 83 | 0.01 |
| 93 | | 84 12-di-Cl-benzene | 146 | 14 | 1.109 | 1.081 | 2.5 | 72 | 0.03 |
| 94 | | 85 n-butylbenzene | 91 | 13 | 3.012 | 3.387 | -12.5 | 84 | 0.02 |
| 95 | | 86 12-diBr-3-Cl-Pra | 157 | 15 | 0.081 | 0.072 | 11.0 | 63 | 0.04 |
| 96 | | 87 124-tri-Cl-Bz | 180 | 18 | 0.792 | 0.828 | -4.5 | 70 | 0.03 |
| 97 | | 88 naphthalene | 128 | 12 | 0.665 | 0.594 | 10.7 | 66 | 0.02 |
| 98 | | 90 123-tri-Cl-Bz | 180 | 18 | 0.604 | 0.611 | -1.1 | 70 | 0.00 |
| 99 | | 89 hx-Cl-butadiene | 225 | 26 | 0.621 | 0.818 | -31.8# | 91 | 0.02 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

FORM-8A

Applied P & Ch Laboratory

# Internal Standard Area and RT Summary for Method 524.2

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 032819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | CCV Data File: | G2136Q01 | Instrument ID: | G |

Batch No: 03G2136

| # | Client Sample No | Lab Sample ID | Analysis Date & Time | IS-1 Area # | IS-1 RT # | IS-2 Area # | IS-2 RT # | IS-3 Area # | IS-3 RT # |
|---|---|---|---|---|---|---|---|---|---|
| 12 Hour CCV STD | | | 04/23/03 11:16 | 607722 | 9.04 | 177786 | 12.68 | 136643 | 15.19 |
| CCV Upper Limit | | | | 1215444 | 9.54 | 355572 | 13.18 | 273286 | 15.69 |
| CCV Lower Limit | | | | 303861 | 8.54 | 88893 | 12.18 | 68321 | 14.69 |
| 1 | 03G2136-LCS-01 | 03G2136-LCS-01 | 04/23/03 11:44 | 578592 | 9.04 | 162818 | 12.68 | 125199 | 15.17 |
| 2 | MW-19-2MS | 03-2819-3MS | 04/23/03 12:13 | 571243 | 9.03 | 165663 | 12.69 | 130873 | 15.18 |
| 3 | MW-19-2MSD | 03-2819-3MSD | 04/23/03 12:42 | 564267 | 9.03 | 162626 | 12.68 | 129744 | 15.19 |
| 4 | 03G2136-MB-01 | 03G2136-MB-01 | 04/23/03 15:34 | 578470 | 9.04 | 153762 | 12.68 | 123416 | 15.18 |
| 5 | EB-3-4/22/03 | 03-2819-1 | 04/23/03 16:03 | 587287 | 9.05 | 160126 | 12.68 | 126755 | 15.18 |
| 6 | MW-19-1 | 03-2819-2 | 04/23/03 16:32 | 601540 | 9.05 | 167079 | 12.69 | 129557 | 15.18 |
| 7 | MW-19-2 | 03-2819-3 | 04/23/03 17:00 | 585612 | 9.05 | 156144 | 12.70 | 120538 | 15.21 |
| 8 | MW-19-3 | 03-2819-4 | 04/23/03 17:29 | 572812 | 9.07 | 152452 | 12.71 | 120795 | 15.20 |
| 9 | MW-19-4 | 03-2819-5 | 04/23/03 17:58 | 595106 | 9.07 | 162992 | 12.71 | 126887 | 15.21 |
| 10 | MW-19-5 | 03-2819-6 | 04/23/03 18:26 | 585943 | 9.08 | 167486 | 12.72 | 124029 | 15.23 |
| 11 | TB-3-4/22/03 | 03-2819-7 | 04/23/03 18:56 | 573973 | 9.08 | 153318 | 12.74 | 118329 | 15.23 |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

Applied P & Ch Laboratory
[illegible] Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

VOC-044

# VOC Analysis General Logbook

Sequence # 0361044 Batch # 0361044 Matrix: W Date: 1/10/03 Analyst: E. Lin

IS/Surrogate: GC14507/14508 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

Sub. + Ini. Batch ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

| # | Type | Sample ID | Method | $V/X=J_1$ | $V_f/V_i=J_2$ | $V_{ppg}/V_{inj}=J_3$ | F | A-# | Datafile | Note | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2377 | SP | G1044P01 | E624G-603 | 25/25=1 | / = | / = | 1 | | G1044P01 | 1/10/03 1:3 lpm | |
| 2378 | Calib | 3-0003 | | / = | / = | / = | | | 3-0003 | GC 14720 | |
| 2379 | ↓ | 3-002 | ↓ | / = | / = | / = | ↓ | | 3-002 | ↓ | |
| 2380 | | 3-010 | | / = | / = | / = | | | 3-010 | | |
| 2381 | | 3-020 | | / = | / = | / = | | | 3-020 | | |
| 2382 | | 3-040 | | / = | / = | / = | | | 3-040 | | |
| 2383 | ↓ | 3-080 | | / = | / = | / = | | | 3-080 | ↓ | |
| 2384 | CCV | G1044Q01 | | / = | / = | / = | | | G1044Q01 | CCV/ICV/BFB GC14721 | |
| 2385 | MS | M01 | | / = | / = | / = | | | M01 | S1011-03 | <2 |
| 2386 | LCS | L01 | | / = | / = | / = | | | L01 | | |
| 2387 | MSD | N01 | | / = | / = | / = | | | N01 | S1011-03 | <2 |
| 2388 | MB | K01 | | / = | / = | / = | | | K01 | | |
| 2389 | Sample | 1084-03 | | / = | / = | / = | | | 1084-03 | | <2 |
| 2390 | | 6844-02A | | / = | / = | / = | | | 6844-02A | | |
| 2391 | | 6844-01A | | / = | / = | / = | | | ↓ -01A | | |
| 2392 | | 1017-1 | | / = | / = | / = | | | 1017-1 | | |
| 2393 | | 1011-02 | | / = | / = | / = | | | 1011-02 | | |
| 2394 | | ↓ 3 | | / = | / = | / = | | | ↓ 3 | | |
| 2395 | | 4 | | / = | / = | / = | | | 4 | | |
| 2396 | | ↓ 5 | | / = | / = | / = | | | ↓ 5 | | |
| 2397 | | 1047-01 | | / = | / = | / = | | | 1047-01 | | |
| 2398 | | ↓ -02 | | / = | / = | / = | | | ↓ -02 | | |
| 2399 | | 1051-2 | | / = | / = | / = | | | 1051-02 | | |
| 2400 | | ↓ 3 | | / = | / = | / = | | | ↓ 3 | | |
| 2401 | | 1084-1 | | / = | / = | / = | | | 1084-01 | | |
| 2402 | | ↓ 2 | | / = | / = | / = | | | ↓ 2 | | |
| 2403 | | ↓ 4 | | / = | / = | / = | | | ↓ 4 | | |
| 2404 | | | | / = | / = | / = | | | | | |
| 2405 | | | | / = | / = | / = | | | | | |
| 2406 | | | | / = | 1/10/03 | / = | | | | | |
| 2407 | | | | / = | / = | / = | | | | | |
| 2408 | | | | / = | / = | / = | | | | | |

| Type | Op # | STD Lot # | $C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$ | Op # | STD Lot # | $C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$ |
|---|---|---|---|---|---|---|
| LCS/LCSD | 2386 | GC-14721 | 200 × 2.5 /X= 10 ppb | | GC- | × /X= ppb |
| MS/MSD | 2385/2387 | GC-14721 | × /X= ppb | | GC- | × /X= ppb |

Footnote/Anomaly:

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

VOC-082

# VOC Analysis General Logbook

Sequence # 03G2136 Batch # 03G2136 Matrix: W Date: 04/23/03 Analyst: Eddie

Lot #: IS/Surrogate: GC-15087/15088 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

☐ Calib. + Ini. Batch ☒ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

| Op. # | Type | Sample ID | Method | $V/X=f_1$ | $V_f/V_i=f_2$ | $V_{pg}/V_{inj}=f_3$ | F | A-# | Datafile | Note | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3593 | SP | G2136P01 | E5246 03 | 25/25 = 1 | / = | / = | 1 | | G2136P01 | 04/23/03 | |
| 3594 | CCV | Q01 | | / = | / = | / = | | | Q01 | GC15087 | 11:16 am |
| 3595 | LCS | L01 | | / = | / = | / = | | | L01 | | |
| 3596 | MS | M01 | | / = | / = | / = | | | M01 | $2819-03 | <2 |
| 3597 | MSD | N01 | | / = | / = | / = | | | N01 | ↓ | ↓ |
| 3598 | MS | M02 | | / = | / = | / = | | | M02 | $2809-04 | |
| 3599 | MSD | N02 | | / = | / = | / = | | | N02 | ↓ 04 | ↓ |
| 3600 | MB | K01 | | / = | / = | / = | | | K01 | | |
| 3601 | Sample | 2819-01 | | / = | / = | / = | | | 2819-01 | | <2 |
| 3602 | | 02 | | / = | / = | / = | | | 02 | | |
| 3603 | | 03 | | / = | / = | / = | | | 03 | | |
| 3604 | | 04 | | / = | / = | / = | | | 04 | | |
| 3605 | | 05 | | / = | / = | / = | | | 05 | | |
| 3606 | | 06 | | / = | / = | / = | | | 06 | | |
| 3607 | | 07 | | / = | / = | / = | | | 07 | | |
| 3608 | | 2809-01 | | / = | / = | / = | | | 2809-01 | | |
| 3609 | | 02 | | / = | / = | / = | | | 02 | | |
| 3610 | | 03 | | / = | / = | / = | | | 03 | | |
| 3611 | | 04 | | / = | / = | / = | | | 04 | | |
| 3612 | | 05 | | / = | / = | / = | | | 05 | | |
| 3613 | | 06 | | / = | / = | / = | | | 06 | | |
| 3614 | | 07 | | / = | / = | / = | | | 07 | | |
| 3615 | | 08 | | / = | / = | / = | | | 08 | | |
| 3616 | | 09 | | / = | / = | / = | | | 09 | | |
| 3617 | | | | / = | / = | / = | | | | | |
| 3618 | | | | / = | / = | / = | | | | | |
| 3619 | | | | / = | / = | / = | | | | | |
| 3620 | | | | / = | / = | / = | | | | | |
| 3621 | | | | / = | / = | / = | | | | | |
| 3622 | | | | / = | 04/30/03 | / = | | | | | |
| 3623 | | | | / = | / = | / = | | | | | |
| 3624 | | | | / = | / = | / = | | | | | |

| Type | Op # | STD Lot # | $C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$ | Op # | STD Lot # | $C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$ |
|---|---|---|---|---|---|---|
| LCS/LCSD | 3595 | GC-15088 | 200 × 2.5 /X= 20 ppb | | GC- | × /X= ppb |
| MS/MSD | 3596/3597 | GC-15088 | × /X= ppb | 3598/3599 | GC-15088 | 200 × 2.5 /X= 20 ppb |

Footnote/Anomaly:

Level C Data Package Deliverables

# Metals

Applied P & Ch Laboratory

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# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/23/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03M1360-MB-01 | Received Date: | 04/23/2003 |
| Sample ID: | **03M1360-MB-01** | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Method Blank | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | < 5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 118 | B | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | < 50 | U | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | < 100 | U | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | < 400 | U | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | < 2000 | U | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/22/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03-2819-1 | Received Date: | 04/22/2003 |
| Sample ID: | **EB-3-4/22/03** | Sample Matrix | Water | Moisture %: | - |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | < 5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 204 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | 53.1 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | 24.7 | B | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | 46.6 | B | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | 446 | B | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/22/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03-2819-2 | Received Date: | 04/22/2003 |
| Sample ID: | **MW-19-1** | Sample Matrix | Water | Moisture %: | - |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | <5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 33500 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | 2500 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | 10400 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | 2190 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | 11800 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/22/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03-2819-3 | Received Date: | 04/22/2003 |
| Sample ID: | **MW-19-2** | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | < 5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 112000 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | 3150 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | 37900 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | 2820 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | 28500 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control
W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/22/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03-2819-4 | Received Date: | 04/22/2003 |
| Sample ID: | **MW-19-3** | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | < 5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 106000 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | 236 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | 35000 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | 3020 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | 29700 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/22/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03-2819-5 | Received Date: | 04/22/2003 |
| Sample ID: | **MW-19-4** | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | < 5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 34000 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | 105 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | 17500 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | 2060 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | 20800 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

Applied P & Ch Laboratory

# Metal Analysis Results

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Collection Date: | 04/22/2003 |
| Project ID: | JPL | Service ID: | 32819 | Collected by: | |
| | | Lab Sample ID: | 03-2819-6 | Received Date: | 04/22/2003 |
| Sample ID: | **MW-19-5** | Sample Matrix | Water | Moisture %: | – |
| Sample Type: | Field Sample | | | | |

| Element Name | CAS No | Unit | RL | Result | C | M | Q | Batch | D-Date | A-Date | DF | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARSENIC | 7440-38-2 | µg/L | 5 | < 5 | U | F | | 03M1360E | 04/23/03 | 04/23/03 | 1 | 200.9 |
| CALCIUM | 7440-70-2 | µg/L | 200 | 44800 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| IRON | 7439-89-6 | µg/L | 50 | 616 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| MAGNESIUM | 7439-95-4 | µg/L | 100 | 27700 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| POTASSIUM | 7440-09-7 | µg/L | 400 | 2770 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |
| SODIUM | 7440-23-5 | µg/L | 2000 | 30100 | | P | | 03M1374L | 04/25/03 | 04/25/03 | 1 | 200.7 |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: RL: PQL (EQL) or CRDL D-Date: Digestion Date; A-Date: Analysis Date; DF: Dilution Factor

C Qualifier: U - Not Detected or less than IDL B - Less than RL (PQL, EQL or CRDL), but greater than IDL.

Q Qualifier: N - Spike recovery out of control * - Duplicate analysis out of control

W - Post digestion spike for GFAA out of control E - Serial dilution difference out of control

M Qualifier: P - ICP A - FLAA F - GFAA CV - Cold Vapor

FORM-2A Metal

Applied P & Ch Laboratory

# Initial and Continuing Calibration Verification

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Instrument: | GFAA-E | Method: | 200.9 |

Batch No.(s): 03M1360

Analysis Date: **04/23/03** Concentration Units: **UG/L**

| | | ICV | 12:59 | | CCV | 14:17 | | CCV | 15:33 | | CCV | 16:50 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # | Analyte | True | Result | %R | True | Result | %R | True | Result | %R | True | Result | %R |
| 1 | Arsenic | 50.0 | 47.60 | 95.2 | 50.0 | 55.10 | 110.2 | 50.0 | 55.10 | 110.2 | 50.0 | 55.50 | 111.0 |

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2A Metal

Applied P & Ch Laboratory

# Initial and Continuing Calibration Verification

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Instrument: | GFAA-E | Method: | 200.9 |
| Batch No.(s): | 03M1360 | | | | |

Analysis Date: **04/23/03** Concentration Units: **UG/L**

| # | Analyte | CCV True | 17:09 Result | %R | True | Result | %R | True | Result | %R | True | Result | %R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | 50.0 | 57.00 | 114.0 | | | | | | | | | |

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2A Metal

Applied P & Ch Laboratory

# Initial and Continuing Calibration Verification

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |

Batch No.(s): 03M1374

Analysis Date: **04/25/03** Concentration Units: **UG/L**

| # | Analyte | ICV True | 11:24 Result | %R | CCV True | 11:42 Result | %R | CCV True | 12:17 Result | %R | CCV True | 12:50 Result | %R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 10000.0 | 9800.51 | 98.0 | 5000.0 | 5026.33 | 100.5 | 5000.0 | 4863.49 | 97.3 | 5000.0 | 4822.06 | 96.4 |
| 2 | Antimony | 4000.0 | 4040.45 | 101.0 | 2000.0 | 1999.65 | 100.0 | 2000.0 | 1938.52 | 96.9 | 2000.0 | 1915.93 | 95.8 |
| 3 | Arsenic | 1000.0 | 1014.19 | 101.4 | 500.0 | 518.37 | 103.7 | 500.0 | 488.79 | 97.8 | 500.0 | 506.99 | 101.4 |
| 4 | Barium | 10000.0 | 9853.73 | 98.5 | 5000.0 | 4871.59 | 97.4 | 5000.0 | 4779.16 | 95.6 | 5000.0 | 4712.02 | 94.2 |
| 5 | Beryllium | 1000.0 | 984.57 | 98.5 | 500.0 | 486.34 | 97.3 | 500.0 | 477.69 | 95.5 | 500.0 | 474.05 | 94.8 |
| 6 | Cadmium | 2000.0 | 1974.48 | 98.7 | 1000.0 | 997.10 | 99.7 | 1000.0 | 965.25 | 96.5 | 1000.0 | 960.29 | 96.0 |
| 7 | Calcium | 100000.0 | 100932.81 | 100.9 | 50000.0 | 50605.34 | 101.2 | 50000.0 | 48762.74 | 97.5 | 50000.0 | 48194.04 | 96.4 |
| 8 | Chromium | 1000.0 | 988.53 | 98.9 | 500.0 | 497.42 | 99.5 | 500.0 | 478.22 | 95.6 | 500.0 | 470.56 | 94.1 |
| 9 | Cobalt | 4000.0 | 3950.49 | 98.8 | 2000.0 | 1977.86 | 98.9 | 2000.0 | 1946.26 | 97.3 | 2000.0 | 1944.70 | 97.2 |
| 10 | Copper | 4000.0 | 3958.20 | 99.0 | 2000.0 | 1956.60 | 97.8 | 2000.0 | 1918.76 | 95.9 | 2000.0 | 1923.00 | 96.2 |
| 11 | Iron | 10000.0 | 9861.43 | 98.6 | 5000.0 | 4956.01 | 99.1 | 5000.0 | 4820.73 | 96.4 | 5000.0 | 4790.46 | 95.8 |
| 12 | Lead | 1000.0 | 1006.26 | 100.6 | 500.0 | 513.72 | 102.7 | 500.0 | 502.01 | 100.4 | 500.0 | 491.63 | 98.3 |
| 13 | Magnesium | 50000.0 | 49424.77 | 98.8 | 25000.0 | 24546.03 | 98.2 | 25000.0 | 24045.72 | 96.2 | 25000.0 | 23752.02 | 95.0 |
| 14 | Manganese | 4000.0 | 3953.64 | 98.8 | 2000.0 | 1968.11 | 98.4 | 2000.0 | 1934.21 | 96.7 | 2000.0 | 1917.56 | 95.9 |
| 15 | Nickel | 4000.0 | 3953.03 | 98.8 | 2000.0 | 1996.42 | 99.8 | 2000.0 | 1965.90 | 98.3 | 2000.0 | 1968.65 | 98.4 |
| 16 | Potassium | 30000.0 | 28882.88 | 96.3 | 15000.0 | 14998.49 | 100.0 | 15000.0 | 14796.35 | 98.6 | 15000.0 | 14958.27 | 99.7 |
| 17 | Selenium | 1000.0 | 998.21 | 99.8 | 500.0 | 521.50 | 104.3 | 500.0 | 505.85 | 101.2 | 500.0 | 495.08 | 99.0 |
| 18 | Silver | 2000.0 | 1985.08 | 99.3 | 1000.0 | 973.43 | 97.3 | 1000.0 | 952.59 | 95.3 | 1000.0 | 946.67 | 94.7 |
| 19 | Sodium | 200000.0 | 195484.33 | 97.7 | 100000.0 | 100499.71 | 100.5 | 100000.0 | 99574.38 | 99.6 | 100000.0 | 98943.65 | 98.9 |
| 20 | Thallium | 1000.0 | 1014.90 | 101.5 | 500.0 | 502.67 | 100.5 | 500.0 | 486.79 | 97.4 | 500.0 | 481.30 | 96.3 |
| 21 | Vanadium | 4000.0 | 3940.19 | 98.5 | 2000.0 | 1986.79 | 99.3 | 2000.0 | 1945.31 | 97.3 | 2000.0 | 1930.90 | 96.5 |
| 22 | Zinc | 4000.0 | 3944.79 | 98.6 | 2000.0 | 2003.32 | 100.2 | 2000.0 | 1993.07 | 99.7 | 2000.0 | 2009.54 | 100.5 |
| 23 | Molybdenum | 4000.0 | 3951.98 | 98.8 | 2000.0 | 1991.95 | 99.6 | 2000.0 | 1911.98 | 95.6 | 2000.0 | 1875.31 | 93.8 |

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2A Metal

Applied P & Ch Laboratory

# Initial and Continuing Calibration Verification

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |

Batch No.(s): 03M1374

Analysis Date: **04/25/03** Concentration Units: **UG/L**

| # | Analyte | CCV True | 13:25 Result | %R | CCV True | 13:55 Result | %R | CCV True | 14:31 Result | %R | CCV True | 15:06 Result | %R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 5000.0 | 4737.60 | 94.8 | 5000.0 | 4941.46 | 98.8 | 5000.0 | 4869.95 | 97.4 | 5000.0 | 4959.09 | 99.2 |
| 2 | Antimony | 2000.0 | 1953.40 | 97.7 | 2000.0 | 1980.63 | 99.0 | 2000.0 | 1989.87 | 99.5 | 2000.0 | 1948.58 | 97.4 |
| 3 | Arsenic | 500.0 | 507.36 | 101.5 | 500.0 | 514.17 | 102.8 | 500.0 | 510.55 | 102.1 | 500.0 | 505.77 | 101.2 |
| 4 | Barium | 5000.0 | 4613.34 | 92.3 | 5000.0 | 4872.86 | 97.5 | 5000.0 | 4782.11 | 95.6 | 5000.0 | 4797.33 | 95.9 |
| 5 | Beryllium | 500.0 | 465.30 | 93.1 | 500.0 | 486.30 | 97.3 | 500.0 | 477.07 | 95.4 | 500.0 | 481.28 | 96.3 |
| 6 | Cadmium | 1000.0 | 973.58 | 97.4 | 1000.0 | 987.97 | 98.8 | 1000.0 | 983.09 | 98.3 | 1000.0 | 964.41 | 96.4 |
| 7 | Calcium | 50000.0 | 50071.24 | 100.1 | 50000.0 | 50534.87 | 101.1 | 50000.0 | 50242.74 | 100.5 | 50000.0 | 49435.95 | 98.9 |
| 8 | Chromium | 500.0 | 477.27 | 95.5 | 500.0 | 487.19 | 97.4 | 500.0 | 483.45 | 96.7 | 500.0 | 480.74 | 96.1 |
| 9 | Cobalt | 2000.0 | 1909.25 | 95.5 | 2000.0 | 1987.38 | 99.4 | 2000.0 | 1944.26 | 97.2 | 2000.0 | 1950.88 | 97.5 |
| 10 | Copper | 2000.0 | 1886.08 | 94.3 | 2000.0 | 1951.29 | 97.6 | 2000.0 | 1916.69 | 95.8 | 2000.0 | 1928.42 | 96.4 |
| 11 | Iron | 5000.0 | 4688.63 | 93.8 | 5000.0 | 4899.02 | 98.0 | 5000.0 | 4818.74 | 96.4 | 5000.0 | 4865.95 | 97.3 |
| 12 | Lead | 500.0 | 496.72 | 99.3 | 500.0 | 504.41 | 100.9 | 500.0 | 493.69 | 98.7 | 500.0 | 494.27 | 98.9 |
| 13 | Magnesium | 25000.0 | 23289.93 | 93.2 | 25000.0 | 24411.66 | 97.6 | 25000.0 | 24001.38 | 96.0 | 25000.0 | 24169.03 | 96.7 |
| 14 | Manganese | 2000.0 | 1879.44 | 94.0 | 2000.0 | 1968.70 | 98.4 | 2000.0 | 1930.98 | 96.5 | 2000.0 | 1939.74 | 97.0 |
| 15 | Nickel | 2000.0 | 1933.72 | 96.7 | 2000.0 | 2000.07 | 100.0 | 2000.0 | 1961.68 | 98.1 | 2000.0 | 1976.77 | 98.8 |
| 16 | Potassium | 15000.0 | 14857.13 | 99.0 | 15000.0 | 14969.10 | 99.8 | 15000.0 | 14877.48 | 99.2 | 15000.0 | 14914.70 | 99.4 |
| 17 | Selenium | 500.0 | 509.85 | 102.0 | 500.0 | 514.56 | 102.9 | 500.0 | 505.19 | 101.0 | 500.0 | 494.73 | 98.9 |
| 18 | Silver | 1000.0 | 931.04 | 93.1 | 1000.0 | 967.80 | 96.8 | 1000.0 | 950.32 | 95.0 | 1000.0 | 960.07 | 96.0 |
| 19 | Sodium | 100000.0 | 97081.64 | 97.1 | 100000.0 | 101000.34 | 101.0 | 100000.0 | 99368.82 | 99.4 | 100000.0 | 99478.29 | 99.5 |
| 20 | Thallium | 500.0 | 494.82 | 99.0 | 500.0 | 504.41 | 100.9 | 500.0 | 512.15 | 102.4 | 500.0 | 488.73 | 97.7 |
| 21 | Vanadium | 2000.0 | 1896.54 | 94.8 | 2000.0 | 1974.91 | 98.7 | 2000.0 | 1944.62 | 97.2 | 2000.0 | 1962.79 | 98.1 |
| 22 | Zinc | 2000.0 | 1969.02 | 98.5 | 2000.0 | 2018.25 | 100.9 | 2000.0 | 1979.64 | 99.0 | 2000.0 | 1987.85 | 99.4 |
| 23 | Molybdenum | 2000.0 | 1913.19 | 95.7 | 2000.0 | 1946.37 | 97.3 | 2000.0 | 1944.03 | 97.2 | 2000.0 | 1916.12 | 95.8 |

(a) ICV Control Limit 95-105%; For Hg, 90-110%.

(b) CCV Control Limit 90-110%; For Hg, 80-120%.

FORM-2B Metal

Applied P & Ch Laboratory

# CRDL Standard For AA and ICP

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |

Batch No.(s): 03M1374

Analysis Date: **04/25/03** Concentration Units: **UG/L**

| # | Analyte | True | 11:34 Found | R% | Time Found | R% |
|---|---|---|---|---|---|---|
| 1 | Aluminum | 200.0 | 189.54 | 94.8 | | |
| 2 | Antimony | 20.0 | 14.43 | 72.1 | | |
| 3 | Arsenic | 20.0 | 17.39 | 87.0 | | |
| 4 | Barium | 10.0 | 9.72 | 97.2 | | |
| 5 | Beryllium | 4.0 | 3.93 | 98.3 | | |
| 6 | Cadmium | 5.0 | 4.67 | 93.5 | | |
| 7 | Calcium | 1000.0 | 1094.06 | 109.4 | | |
| 8 | Chromium | 10.0 | 9.52 | 95.2 | | |
| 9 | Cobalt | 20.0 | 18.17 | 90.9 | | |
| 10 | Copper | 10.0 | 8.92 | 89.2 | | |
| 11 | Iron | 50.0 | 44.61 | 89.2 | | |
| 12 | Lead | 10.0 | 8.77 | 87.7 | | |
| 13 | Magnesium | | 8.51 | | | |
| 14 | Manganese | 10.0 | 8.67 | 86.7 | | |
| 15 | Nickel | 20.0 | 18.17 | 90.9 | | |
| 16 | Potassium | | 20.58 | | | |
| 17 | Selenium | 10.0 | 11.81 | 118.1 | | |
| 18 | Silver | 10.0 | 9.61 | 96.1 | | |
| 19 | Sodium | | 20.45 | | | |
| 20 | Thallium | 10.0 | 9.23 | 92.3 | | |
| 21 | Vanadium | 10.0 | 9.16 | 91.6 | | |
| 22 | Zinc | 20.0 | 19.18 | 95.9 | | |
| 23 | Molybdenum | 15.0 | 12.77 | 85.1 | | |

FORM-3 Metal

Applied P & Ch Laboratory

# Metal ICB/CCB Summary

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Instrument: | GFAA-E | Method: | 200.9 |
| Batch No.(s): | 03M1360 | | | | |

Analysis Date: **04/23/03** Concentration Units: **UG/L**

| # | Analyte | ICB Result | 13:05 C | CCB Result | 14:23 C | CCB Result | 15:39 C | CCB Result | 16:56 C | CCB Result | 17:15 C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | 2.10 | U | 2.10 | U | 2.10 | U | 2.10 | U | 2.10 | U |

FORM-3 Metal

Applied P & Ch Laboratory

# Metal ICB/CCB Summary

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |
| Batch No.(s): | 03M1374 | | | | |

Analysis Date: **04/25/03** Concentration Units: **UG/L**

| # | Analyte | ICB Result | 11:31 C | CCB Result | 11:45 C | CCB Result | 12:21 C | CCB Result | 12:53 C | CCB Result | 13:29 C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 5.60 | U | 80.80 | B | 7.56 | B | 5.60 | U | 5.60 | U |
| 2 | Antimony | 2.70 | U | 2.70 | U | -3.72 | B | 2.70 | U | -6.79 | B |
| 3 | Arsenic | -2.14 | B | 1.90 | U | 1.90 | U | 1.90 | U | 1.90 | U |
| 4 | Barium | 1.25 | B | 1.71 | B | 2.17 | B | 1.20 | U | 1.20 | U |
| 5 | Beryllium | 0.11 | B | 0.27 | B | 0.20 | B | 0.06 | U | 0.10 | B |
| 6 | Cadmium | 0.13 | U | 0.35 | B | 0.13 | U | -0.17 | B | -0.26 | B |
| 7 | Calcium | 59.00 | U | 201.41 | | 59.00 | U | 59.00 | U | 59.00 | U |
| 8 | Chromium | 0.42 | B | 0.66 | B | 0.75 | B | 0.61 | B | 0.48 | B |
| 9 | Cobalt | 0.73 | B | 0.89 | B | 0.74 | B | 0.49 | U | 0.49 | U |
| 10 | Copper | 1.70 | U | 1.70 | U | 1.70 | U | 1.70 | U | 1.70 | U |
| 11 | Iron | 1.50 | U | 29.33 | B | 2.69 | B | 1.50 | U | 1.50 | U |
| 12 | Lead | 1.30 | U | -2.36 | B | -1.61 | B | 1.30 | U | -1.84 | B |
| 13 | Magnesium | 9.70 | U | 79.39 | B | 20.43 | B | 9.70 | U | 9.70 | U |
| 14 | Manganese | 0.46 | B | 1.10 | B | 1.11 | B | 0.51 | B | 0.53 | B |
| 15 | Nickel | 0.46 | U | 0.61 | B | 0.91 | B | 0.46 | U | 0.52 | B |
| 16 | Potassium | 22.54 | B | 19.13 | B | 28.08 | B | 25.62 | B | 22.07 | B |
| 17 | Selenium | 2.30 | U | 2.30 | U | 2.30 | U | 2.30 | U | 2.43 | B |
| 18 | Silver | 0.70 | B | 0.61 | U | 0.61 | U | 1.31 | B | 0.61 | U |
| 19 | Sodium | 144.00 | U | 144.00 | U | 144.00 | U | 144.00 | U | 270.76 | B |
| 20 | Thallium | 1.60 | U | 1.60 | U | 1.60 | U | 1.60 | U | 1.60 | U |
| 21 | Vanadium | 0.13 | U | -0.17 | B | -0.65 | B | -1.11 | B | -0.42 | B |
| 22 | Zinc | 2.20 | U | 2.20 | U | 2.20 | U | 2.20 | U | 2.20 | U |
| 23 | Molybdenum | 0.32 | U | 1.32 | B | 1.57 | B | 0.32 | U | 0.54 | B |

FORM-3 Metal

Applied P & Ch Laboratory

# Metal ICB/CCB Summary

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |

Batch No.(s): 03M1374

Analysis Date: **04/25/03** Concentration Units: **UG/L**

| # | Analyte | CCB Result | 13:59 C | CCB Result | 14:35 C | CCB Result | 15:10 C | CCB Result | Time C | CCB Result | Time C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 5.60 | U | 5.60 | U | 5.60 | U | | | | |
| 2 | Antimony | -6.05 | B | -6.23 | B | -5.02 | B | | | | |
| 3 | Arsenic | 1.90 | U | -3.49 | B | -2.67 | B | | | | |
| 4 | Barium | 1.20 | U | 1.20 | U | 1.20 | U | | | | |
| 5 | Beryllium | 0.06 | U | 0.07 | B | 0.06 | U | | | | |
| 6 | Cadmium | 0.13 | U | -0.21 | B | 0.13 | U | | | | |
| 7 | Calcium | 59.00 | U | 59.00 | U | 59.00 | U | | | | |
| 8 | Chromium | 0.56 | B | 0.54 | B | 0.32 | B | | | | |
| 9 | Cobalt | 0.49 | U | 0.49 | U | 0.49 | U | | | | |
| 10 | Copper | 1.70 | U | 1.70 | U | 1.70 | U | | | | |
| 11 | Iron | 1.50 | U | 1.50 | U | 1.77 | B | | | | |
| 12 | Lead | 1.30 | U | -2.11 | B | -2.04 | B | | | | |
| 13 | Magnesium | 9.70 | U | 13.28 | B | 10.28 | B | | | | |
| 14 | Manganese | 0.57 | B | 0.65 | B | 0.62 | B | | | | |
| 15 | Nickel | 0.46 | U | 0.46 | U | 0.46 | U | | | | |
| 16 | Potassium | 15.86 | B | 15.49 | B | 13.17 | B | | | | |
| 17 | Selenium | 2.30 | U | 2.74 | B | 3.15 | B | | | | |
| 18 | Silver | 1.07 | B | 0.61 | U | 1.66 | B | | | | |
| 19 | Sodium | 144.00 | U | 144.00 | U | 144.00 | U | | | | |
| 20 | Thallium | 1.60 | U | 2.30 | B | 1.60 | U | | | | |
| 21 | Vanadium | -0.53 | B | -0.33 | B | -1.22 | B | | | | |
| 22 | Zinc | 2.20 | U | 2.20 | U | 2.20 | U | | | | |
| 23 | Molybdenum | 0.93 | B | 1.20 | B | 0.46 | B | | | | |

FORM-4 Metal

Applied P & Ch Laboratory

# ICP Interference Check Sample

Client Name: GEOFON, Inc.
Project No: 04-4428.10
Lab Code: APCL
Project Name: JPL
Service ID: 032819
Sequence No.: 03M1374L
ICP ID Number: ICP -L

Batch No.(s): 03M1374

Analysis Date: **04/25/03**

Concentration Units: **UG/L**

| # | Analyte | Expected Sol. A | Expected Sol. AB | Initial 11:37 Sol. A | Found 11:39 Sol. AB | %R | Final 15:01 Sol. A | Found 15:04 Sol. AB | %R |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 500000 | 500000 | 451371 | 471065.1 | 94.2 | 441429 | 473283.1 | 94.7 |
| 2 | Antimony | 0 | 1000 | -17 | 963.3 | 96.3 | -8 | 966.6 | 96.7 |
| 3 | Arsenic | 0 | 1000 | -5 | 984.3 | 98.4 | -5 | 979.5 | 97.9 |
| 4 | Barium | 0 | 500 | -1 | 497.2 | 99.4 | -1 | 484.7 | 96.9 |
| 5 | Beryllium | 0 | 500 | 0 | 484.4 | 96.9 | 0 | 486.8 | 97.4 |
| 6 | Cadmium | 0 | 1000 | -1 | 962.9 | 96.3 | -2 | 985.8 | 98.6 |
| 7 | Calcium | 500000 | 500000 | 458056 | 474733.0 | 94.9 | 462402 | 484407.3 | 96.9 |
| 8 | Chromium | 0 | 500 | 6 | 497.5 | 99.5 | 6 | 507.0 | 101.4 |
| 9 | Cobalt | 0 | 500 | 2 | 472.5 | 94.5 | 3 | 482.5 | 96.5 |
| 10 | Copper | 0 | 500 | 6 | 515.8 | 103.2 | 7 | 503.7 | 100.7 |
| 11 | Iron | 200000 | 200000 | 177235 | 181602.5 | 90.8 | 172514 | 182226.3 | 91.1 |
| 12 | Lead | 0 | 1000 | -6 | 924.6 | 92.5 | -8 | 948.8 | 94.9 |
| 13 | Magnesium | 500000 | 500000 | 460681 | 471089.1 | 94.2 | 446297 | 472814.0 | 94.6 |
| 14 | Manganese | 0 | 500 | -2 | 491.4 | 98.3 | -2 | 478.0 | 95.6 |
| 15 | Nickel | 0 | 1000 | 1 | 924.6 | 92.5 | 2 | 949.8 | 95.0 |
| 16 | Potassium | 0 | 0 | 1 | 9.9 | | 10 | 43.3 | |
| 17 | Selenium | 0 | 1000 | 11 | 952.8 | 95.3 | 11 | 990.8 | 99.1 |
| 18 | Silver | 0 | 1000 | 6 | 1015.6 | 101.6 | 6 | 992.8 | 99.3 |
| 19 | Sodium | 0 | 0 | -111 | 261.5 | | 19 | 207.4 | |
| 20 | Thallium | 0 | 1000 | -3 | 924.1 | 92.4 | 2 | 944.8 | 94.5 |
| 21 | Vanadium | 0 | 500 | -4 | 490.1 | 98.0 | -5 | 478.2 | 95.6 |
| 22 | Zinc | 0 | 1000 | 2 | 985.5 | 98.5 | 3 | 970.3 | 97.0 |
| 23 | Molybdenum | 0 | 1000 | 0 | 934.8 | 93.5 | 2 | 965.6 | 96.6 |

FORM-5A Metal

Applied P & Ch Laboratory

# Matrix Spike/Matrix Spike Duplicate Recovery for Method 200.9

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03M1360E | | |
| MS Filename: | - | Date Analyzed: | 042303 | Time Analyzed: | 13:50 |
| MSD Filename: | - | Date Analyzed: | 042303 | Time Analyzed: | 13:57 |
| MS Sample No: | **MW-4-2** | Sample Lab ID: | 03-2809-4 | | |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration MS | MS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| ARSENIC | µg/L | 50 | 1.6 | 54.3 | 105 | 75-125 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | MSD Concentration | MSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| ARSENIC | µg/L | 50 | 56.0 | 109 | 4 | 20 | 75-125 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

FORM-5A Metal

Applied P & Ch Laboratory

# Matrix Spike/Matrix Spike Duplicate Recovery for Method 200.7

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03M1374L | | |
| MS Filename: | - | Date Analyzed: | 042503 | Time Analyzed: | 12:10 |
| MSD Filename: | - | Date Analyzed: | 042503 | Time Analyzed: | 12:12 |
| MS Sample No: | **10GP-03-1-GW** | Sample Lab ID: | 03-2842-8 | | |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration MS | MS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| CALCIUM | µg/L | 20000 | 20100 | 41600 | 108 | 75-125 |
| IRON | µg/L | 1000 | 927 | 1980 | 105 | 75-125 |
| MAGNESIUM | µg/L | 10000 | 22400 | 33500 | 111 | 75-125 |
| POTASSIUM | µg/L | 5000 | 28700 | 33300 | 92 | 75-125 |
| SODIUM | µg/L | 40000 | 202000 | 244000 | 105 | 75-125 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | MSD Concentration | MSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| CALCIUM | µg/L | 20000 | 39500 | 97 | 11 | 20 | 75-125 |
| IRON | µg/L | 1000 | 1940 | 101 | 4 | 20 | 75-125 |
| MAGNESIUM | µg/L | 10000 | 32600 | 102 | 8 | 20 | 75-125 |
| POTASSIUM | µg/L | 5000 | 33300 | 92 | 0 | 20 | 75-125 |
| SODIUM | µg/L | 40000 | 244000 | 105 | 0 | 20 | 75-125 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

FORM-5B Metal

Applied P & Ch Laboratory

# Post Digest Spike Sample Recovery

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Batch No.: | 03M1360 | Method: | 200.9 |
| Spike Sample No. : | 03-2809-04 | Matrix: | WATER | Instrument: | GFAA-E |
| Client Sample No.: | **MW-4-2** | Analysis Date: | 04/23/03 | | |

Concentration Units: **UG/L**

| # | Analyte | Spiked Sample Result(SSR) | 14:04 C | Sample Result(SR) | 13:31 C | Spike Added(SA) | % Rec. | Control Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Arsenic | 54.4000 | | 1.6000 | U | 50.00 | 108.8 | 75-125 | |

FORM-5B Metal

Applied P & Ch Laboratory

# Post Digest Spike Sample Recovery

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Batch No.: | 03M1374 | Method: | 200.9 |
| Spike Sample No. : | 03-2842-08 | Matrix: | WATER | Instrument: | ICP -L |
| Client Sample No.: | **10GP-03-1-GW** | Analysis Date: | 04/25/03 | | |

Concentration Units: **UG/L**

| # | Analyte | Spiked Sample Result(SSR) | 12:15 C | Sample Result(SR) | 12:00 C | Spike Added(SA) | % Rec. | Control Limit | Q |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 2123.1724 | | 40.3965 | B | 2000.00 | 104.1 | 75-125 | |
| 2 | Antimony | 510.9753 | | -1.9260 | U | 500.00 | 102.2 | 75-125 | |
| 3 | Arsenic | 535.5619 | | -0.1722 | U | 500.00 | 107.1 | 75-125 | |
| 4 | Barium | 4115.1899 | | 66.9105 | | 4000.00 | 101.2 | 75-125 | |
| 5 | Beryllium | 194.3507 | | 0.0537 | U | 200.00 | 97.2 | 75-125 | |
| 6 | Cadmium | 253.6125 | | 0.0808 | U | 250.00 | 101.4 | 75-125 | |
| 7 | Calcium | 39627.0234 | | 20121.0449 | | 20000.00 | 97.5 | 75-125 | |
| 8 | Chromium | 1024.6537 | | 2.1135 | B | 1000.00 | 102.3 | 75-125 | |
| 9 | Cobalt | 982.8012 | | 0.1108 | U | 1000.00 | 98.3 | 75-125 | |
| 10 | Copper | 1029.0854 | | 1.8516 | B | 1000.00 | 102.7 | 75-125 | |
| 11 | Iron | 1929.1129 | | 927.4280 | | 1000.00 | 100.2 | 75-125 | |
| 12 | Lead | 3066.7786 | | -1.0455 | U | 3000.00 | 102.2 | 75-125 | |
| 13 | Magnesium | 32551.5215 | | 22349.0977 | | 10000.00 | 102.0 | 75-125 | |
| 14 | Manganese | 994.8975 | | 64.4668 | | 1000.00 | 93.0 | 75-125 | |
| 15 | Nickel | 1013.1289 | | 2.2189 | B | 1000.00 | 101.1 | 75-125 | |
| 16 | Potassium | 33855.1797 | | 28714.5215 | | 5000.00 | 102.8 | | |
| 17 | Selenium | 529.0864 | | 2.1564 | U | 500.00 | 105.8 | 75-125 | |
| 18 | Silver | 1005.2655 | | 0.5428 | U | 1000.00 | 100.5 | 75-125 | |
| 19 | Sodium | 243383.1250 | | 202077.9844 | | 40000.00 | 103.3 | | |
| 20 | Thallium | 512.8484 | | -1.4090 | U | 500.00 | 102.6 | 75-125 | |
| 21 | Vanadium | 2009.0175 | | 3.1249 | B | 2000.00 | 100.3 | 75-125 | |
| 22 | Zinc | 517.0151 | | 3.9610 | B | 500.00 | 102.6 | 75-125 | |
| 23 | Molybdenum | 2103.3562 | | 25.5509 | | 2000.00 | 103.9 | 75-125 | |

FORM-6 Metal

Applied P & Ch Laboratory

## Duplicates Verification

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Batch No.: | 03M1360 | Method: | 200.9 |
| Spike Sample No. | 03-2809-04 | Matrix: | WATER | Instrument: | GFAA-E |
| Client Sample No. | MW-4-2 | % Solid: | 0.00 | Analysis Date: | 04/23/03 |

Concentration Unit: **UG/L**

| # | Analyte | 13:31 Sample(s) | C | 13:37 Duplicate | C | RPD(%) | Q |
|---|---|---|---|---|---|---|---|
| 1 | Arsenic | 1.6000 | U | 1.5000 | U | | |

FORM-6 Metal

Applied P & Ch Laboratory

# Duplicates Verification

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Batch No.: | 03M1374 | Method: | 200.9 |
| Spike Sample No. | 03-2842-08 | Matrix: | WATER | Instrument: | ICP -L |
| Client Sample No. | **10GP-03-1-GW** | % Solid: | 0.00 | Analysis Date: | 04/25/03 |

Concentration Unit: **UG/L**

| # | Analyte | 12:00 Sample(s) | C | 12:03 Duplicate | C | RPD(%) | Q |
|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 40.3965 | B | 43.7680 | B | 8.0 | |
| 2 | Antimony | -1.9260 | U | -1.6238 | U | | |
| 3 | Arsenic | -0.1722 | U | -0.7085 | U | | |
| 4 | Barium | 66.9105 | | 66.4724 | | 0.7 | |
| 5 | Beryllium | 0.0537 | U | 0.0524 | U | | |
| 6 | Cadmium | 0.0808 | U | -0.1368 | U | | |
| 7 | Calcium | 20121.0449 | | 19626.9453 | | 2.5 | |
| 8 | Chromium | 2.1135 | B | 2.2041 | B | 4.2 | |
| 9 | Cobalt | 0.1108 | U | -0.1263 | U | | |
| 10 | Copper | 1.8516 | B | 1.4511 | U | 200.0 | |
| 11 | Iron | 927.4280 | | 959.1155 | | 3.4 | |
| 12 | Lead | -1.0455 | U | 0.0204 | U | | |
| 13 | Magnesium | 22349.0977 | | 22978.5527 | | 2.8 | |
| 14 | Manganese | 64.4668 | | 65.9239 | | 2.2 | |
| 15 | Nickel | 2.2189 | B | 1.9982 | B | 10.5 | |
| 16 | Potassium | 28714.5215 | | 28541.0313 | | 0.6 | |
| 17 | Selenium | 2.1564 | U | 1.8592 | U | | |
| 18 | Silver | 0.5428 | U | 2.0280 | B | 200.0 | |
| 19 | Sodium | 202077.9844 | | 206793.1719 | | 2.3 | |
| 20 | Thallium | -1.4090 | U | -1.2842 | U | | |
| 21 | Vanadium | 3.1249 | B | 2.9728 | B | 5.0 | |
| 22 | Zinc | 3.9610 | B | 3.8445 | B | 3.0 | |
| 23 | Molybdenum | 25.5509 | | 25.0148 | | 2.1 | |

FORM-7 Metal

Applied P & Ch Laboratory

# Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 200.9

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03M1360E | | |
| LCS Filename: | - | Date Analyzed: | 042303 | Time Analyzed: | 13:18 |
| LCSD Filename: | - | Date Analyzed: | 042303 | Time Analyzed: | 13:24 |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration LCS | LCS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| ARSENIC | µg/L | 50 | 0 | 50.5 | 101 | 80-120 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | LCSD Concentration | LCSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| ARSENIC | µg/L | 50 | 49.9 | 100 | 1 | 20 | 80-120 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

_____

FORM-7 Metal

Applied P & Ch Laboratory

# Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 200.7

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03M1374L | | |
| LCS Filename: | - | Date Analyzed: | 042503 | Time Analyzed: | 11:54 |
| LCSD Filename: | - | Date Analyzed: | 042503 | Time Analyzed: | 11:56 |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration LCS | LCS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| CALCIUM | µg/L | 20000 | 0 | 20500 | 103 | 80-120 |
| IRON | µg/L | 1000 | 0 | 1000 | 100 | 80-120 |
| MAGNESIUM | µg/L | 10000 | 0 | 9390 | 94 | 80-120 |
| POTASSIUM | µg/L | 5000 | 0 | 5230 | 105 | 80-120 |
| SODIUM | µg/L | 40000 | 0 | 40700 | 102 | 80-120 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | LCSD Concentration | LCSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| CALCIUM | µg/L | 20000 | 19800 | 99 | 4 | 20 | 80-120 |
| IRON | µg/L | 1000 | 969 | 97 | 3 | 20 | 80-120 |
| MAGNESIUM | µg/L | 10000 | 9290 | 93 | 1 | 20 | 80-120 |
| POTASSIUM | µg/L | 5000 | 5130 | 103 | 2 | 20 | 80-120 |
| SODIUM | µg/L | 40000 | 39600 | 99 | 3 | 20 | 80-120 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

_____

FORM-9 Metal

Applied P & Ch Laboratory

# Serial Dilution

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Batch No.: | 03M1360 | Method: | 200.9 |
| Dilution Sample No.: | 03-2809-04 | Matrix: | WATER | Instrument: | GFAA-E |
| Client Sample No.: | **MW-4-2** | Analysis Date: | 04/23/03 | | |

Concentration Units: **UG/L**

| # | Analyte | Initial Sample Results(I) | 13:31 C | Serial Dilut Results(S) | 13:44 C | % Diff. | Q |
|---|---|---|---|---|---|---|---|
| 1 | Arsenic | 1.60 | U | 5.50 | U | | |

FORM-9 Metal

Applied P & Ch Laboratory

# Serial Dilution

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Batch No.: | 03M1374 | Method: | 200.9 |
| Dilution Sample No.: | 03-2842-08 | Matrix: | WATER | Instrument: | ICP -L |
| Client Sample No.: | **10GP-03-1-GW** | Analysis Date: | 04/25/03 | | |

Concentration Units: **UG/L**

| # | Analyte | Initial Sample Results(I) | 12:00 C | Serial Dilut Results(S) | 12:07 C | % Diff. | Q |
|---|---|---|---|---|---|---|---|
| 1 | Aluminum | 40.40 | B | 171.70 | B | 325.0 | |
| 2 | Antimony | -1.93 | U | -23.74 | U | | |
| 3 | Arsenic | -0.17 | U | 4.59 | U | | |
| 4 | Barium | 66.91 | | 66.73 | | 0.3 | |
| 5 | Beryllium | 0.05 | U | 0.01 | U | | |
| 6 | Cadmium | 0.08 | U | -0.68 | U | | |
| 7 | Calcium | 20121.04 | | 21241.20 | | 5.6 | |
| 8 | Chromium | 2.11 | B | 4.49 | B | 112.6 | |
| 9 | Cobalt | 0.11 | U | 0.52 | U | | |
| 10 | Copper | 1.85 | B | 3.91 | U | 100.0 | |
| 11 | Iron | 927.43 | | 937.61 | | 1.1 | |
| 12 | Lead | -1.05 | U | -4.23 | U | | |
| 13 | Magnesium | 22349.10 | | 22184.29 | | 0.7 | |
| 14 | Manganese | 64.47 | | 65.81 | | 2.1 | |
| 15 | Nickel | 2.22 | B | 2.14 | U | 100.0 | |
| 16 | Potassium | 28714.52 | | 26863.52 | | 6.4 | |
| 17 | Selenium | 2.16 | U | 4.20 | U | | |
| 18 | Silver | 0.54 | U | 1.69 | U | | |
| 19 | Sodium | 202077.98 | | 203387.38 | | 0.6 | |
| 20 | Thallium | -1.41 | U | 1.89 | U | | |
| 21 | Vanadium | 3.12 | B | -2.40 | U | 100.0 | |
| 22 | Zinc | 3.96 | B | 6.99 | U | 100.0 | |
| 23 | Molybdenum | 25.55 | | 24.99 | B | 2.2 | |

FORM-13 Metal

Applied P & Ch Laboratory

# Preparation Log

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Batch No.: | 03M1360 | Method: | 200.9 |
| Preparation Matrix: | WATER | Instrument: | GFAA-E | | |

| # | Client Sample No. | APCL Sample No. | Preparation Date | Weight (gram) | Volume (ml) |
|---|---|---|---|---|---|
| 1 | EB-1-4/17/03 | 03-2767-01 | 04/23/03 | | 50.0 |
| 2 | MW-21-1 | 03-2767-02 | 04/23/03 | | 50.0 |
| 3 | MW-21-2 | 03-2767-03 | 04/23/03 | | 50.0 |
| 4 | MW-21-3 | 03-2767-04 | 04/23/03 | | 50.0 |
| 5 | MW-21-4 | 03-2767-05 | 04/23/03 | | 50.0 |
| 6 | MW-21-5 | 03-2767-06 | 04/23/03 | | 50.0 |
| 7 | MW-4-2 | 03-2809-04DM | 04/23/03 | | 50.0 |
| 8 | DUPE-1-2Q03 | 03-2809-01 | 04/23/03 | | 50.0 |
| 9 | EB-2-4/21/03 | 03-2809-02 | 04/23/03 | | 50.0 |
| 10 | MW-4-1 | 03-2809-03 | 04/23/03 | | 50.0 |
| 11 | MW-4-3 | 03-2809-05 | 04/23/03 | | 50.0 |
| 12 | MW-4-4 | 03-2809-06 | 04/23/03 | | 50.0 |
| 13 | MW-4-5 | 03-2809-07 | 04/23/03 | | 50.0 |
| 14 | SOURCE-2Q03 | 03-2809-08 | 04/23/03 | | 50.0 |
| 15 | EB-3-4/22/03 | 03-2819-01 | 04/23/03 | | 50.0 |
| 16 | MW-19-1 | 03-2819-02 | 04/23/03 | | 50.0 |
| 17 | MW-19-2 | 03-2819-03 | 04/23/03 | | 50.0 |
| 18 | MW-19-3 | 03-2819-04 | 04/23/03 | | 50.0 |
| 19 | MW-19-4 | 03-2819-05 | 04/23/03 | | 50.0 |
| 20 | MW-19-5 | 03-2819-06 | 04/23/03 | | 50.0 |
| 21 | | 03M1360MB | 04/23/03 | | 50.0 |
| 22 | | 03M1360LCS | 04/23/03 | | 50.0 |
| 23 | | 03M1360LCSD | 04/23/03 | | 50.0 |
| 24 | MW-4-2 Dup. | 03M1360MD | 04/23/03 | | 50.0 |
| 25 | MW-4-2 MS | 03M1360MS | 04/23/03 | | 50.0 |
| 26 | MW-4-2 MSD | 03M1360MSD | 04/23/03 | | 50.0 |

FORM-13 Metal

Applied P & Ch Laboratory

# Preparation Log

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Batch No.: | 03M1374 | Method: | 200.9 |
| Preparation Matrix: | WATER | Instrument: | ICP -L | | |

| # | Client Sample No. | APCL Sample No. | Preparation Date | Weight (gram) | Volume (ml) |
|---|---|---|---|---|---|
| 1 | EB-3-4/22/03 | 03-2819-01 | 04/25/03 | | 50.0 |
| 2 | MW-19-1 | 03-2819-02 | 04/25/03 | | 50.0 |
| 3 | MW-19-2 | 03-2819-03 | 04/25/03 | | 50.0 |
| 4 | MW-19-3 | 03-2819-04 | 04/25/03 | | 50.0 |
| 5 | MW-19-4 | 03-2819-05 | 04/25/03 | | 50.0 |
| 6 | MW-19-5 | 03-2819-06 | 04/25/03 | | 50.0 |
| 7 | 10GP-03-1-GW | 03-2842-08DM | 04/25/03 | | 50.0 |
| 8 | 03GP-02-1-GW | 03-2842-03 | 04/25/03 | | 50.0 |
| 9 | 10GP-02-1-GW | 03-2842-07 | 04/25/03 | | 50.0 |
| 10 | 10GP-05-1-GW | 03-2842-09 | 04/25/03 | | 50.0 |
| 11 | 10GP-07-1-GW | 03-2842-10 | 04/25/03 | | 50.0 |
| 12 | DUPE-2-2Q03 | 03-2843-01 | 04/25/03 | | 50.0 |
| 13 | EB-4-4/23/03 | 03-2843-02 | 04/25/03 | | 50.0 |
| 14 | MW-14-1 | 03-2843-03 | 04/25/03 | | 50.0 |
| 15 | MW-14-2 | 03-2843-04 | 04/25/03 | | 50.0 |
| 16 | MW-14-3 | 03-2843-05 | 04/25/03 | | 50.0 |
| 17 | MW-14-4 | 03-2843-06 | 04/25/03 | | 50.0 |
| 18 | MW-14-5 | 03-2843-07 | 04/25/03 | | 50.0 |
| 19 | | 03M1374MB | 04/25/03 | | 50.0 |
| 20 | | 03M1374LCS | 04/25/03 | | 50.0 |
| 21 | | 03M1374LCSD | 04/25/03 | | 50.0 |
| 22 | 10GP-03-1-GW Dup. | 03M1374MD | 04/25/03 | | 50.0 |
| 23 | 10GP-03-1-GW MS | 03M1374MS | 04/25/03 | | 50.0 |
| 24 | 10GP-03-1-GW MSD | 03M1374MSD | 04/25/03 | | 50.0 |

FORM-14 Metal

Applied P & Ch Laboratory

# Analysis Run Log

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Instrument: | GFAA-E | Method: | 200.9 |
| Batch No.(s): | 03M1360 | Start Date: | 04/23/03 | End Date: | 04/23/03 |

| # | APCL Sample No. | D/F | Time | Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Hg Ni K Se Ag Na Tl V Zn Mo Sr Ti Sn Li B Si |
|---|---|---|---|---|
| 1 | AS Position 002 | 1.00 | 12:10 | √ |
| 2 | AS Position 001 | 1.00 | 12:14 | √ |
| 3 | Calib. Blank | 1.00 | 12:18 | √ |
| 4 | 1/2 STD1 1269A | 1.00 | 12:24 | √ |
| 5 | STD1 1269A | 1.00 | 12:30 | √ |
| 6 | STD2 1269B | 1.00 | 12:36 | √ |
| 7 | STD3 1269C | 1.00 | 12:43 | √ |
| 8 | ICV A1271 | 1.00 | 12:59 | √ |
| 9 | ICB | 1.00 | 13:05 | √ |
| 10 | M-BL 03M1360 | 1.00 | 13:11 | √ |
| 11 | LCS-03M1360 | 1.00 | 13:18 | √ |
| 12 | LCSD-03M1360 | 1.00 | 13:24 | √ |
| 13 | 2809-4 S F=1 | 1.00 | 13:31 | √ |
| 14 | 2809-4 D F=1 | 1.00 | 13:37 | √ |
| 15 | 2809-4 1/5 F=5 | 5.00 | 13:44 | √ |
| 16 | 2809-4 MS F=1 | 1.00 | 13:50 | √ |
| 17 | 2809-4 MSD F=1 | 1.00 | 13:57 | √ |
| 18 | 2809-4 PS F=1 | 1.00 | 14:04 | √ |
| 19 | 2809-1 F=1 | 1.00 | 14:10 | √ |
| 20 | CCV A1271 | 1.00 | 14:17 | √ |
| 21 | CCB | 1.00 | 14:23 | √ |
| 22 | 2809-2 F=1 | 1.00 | 14:29 | √ |
| 23 | 2809-3 F=1 | 1.00 | 14:36 | √ |
| 24 | 2809-5 F=1 | 1.00 | 14:42 | √ |
| 25 | 2809-6 F=1 | 1.00 | 14:48 | √ |
| 26 | 2809-7 F=1 | 1.00 | 14:55 | √ |
| 27 | 2809-8 F=1 | 1.00 | 15:01 | √ |
| 28 | 2819-1 F=1 | 1.00 | 15:07 | √ |
| 29 | 2819-2 F=1 | 1.00 | 15:13 | √ |
| 30 | 2819-3 F=1 | 1.00 | 15:20 | √ |
| 31 | CCV A1271 | 1.00 | 15:33 | √ |
| 32 | CCB | 1.00 | 15:39 | √ |
| 33 | 2819-4 F=1 | 1.00 | 15:58 | √ |
| 34 | 2819-5 F=1 | 1.00 | 16:05 | √ |
| 35 | 2819-6 F=1 | 1.00 | 16:12 | √ |
| 36 | 2767-1 F=1 | 1.00 | 16:18 | √ |
| 37 | 2767-2 F=1 | 1.00 | 16:25 | √ |
| 38 | 2767-3 F=1 | 1.00 | 16:31 | √ |
| 39 | 2767-4 F=1 | 1.00 | 16:37 | √ |
| 40 | 2767-5 F=1 | 1.00 | 16:44 | √ |

FORM-14 Metal

Applied P & Ch Laboratory

# Analysis Run Log

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1360E |
| | | Instrument: | GFAA-E | Method: | 200.9 |
| Batch No.(s): | 03M1360 | Start Date: | 04/23/03 | End Date: | 04/23/03 |

| # | APCL Sample No. | D/F | Time | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Ni | K | Se | Ag | Na | Tl | V | Zn | Mo | Sr | Ti | Sn | Li | B | Si |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | CCV A1271 | 1.00 | 16:50 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | CCB | 1.00 | 16:56 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 2767-6 F=1 | 1.00 | 17:02 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | CCV A1271 | 1.00 | 17:09 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | CCB | 1.00 | 17:15 | √ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

FORM-14 Metal

Applied P & Ch Laboratory

# Analysis Run Log

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |
| Batch No.(s): | 03M1374 | Start Date: | 04/25/03 | End Date: | 04/25/03 |

| # | APCL Sample No. | D/F | Time | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Ni | K | Se | Ag | Na | Tl | V | Zn | Mo | Sr | Ti | Sn | Li | B | Si |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Calib Blank | 1.00 | 11:13 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 2 | STD1 1423A | 1.00 | 11:16 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 3 | STD2 1423B | 1.00 | 11:18 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 4 | STD3 1423C | 1.00 | 11:22 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 5 | ICV 1447A | 1.00 | 11:24 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 6 | ICB | 1.00 | 11:31 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 7 | CRI A1432 | 1.00 | 11:34 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 8 | ICSA 1441 | 1.00 | 11:37 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 9 | ICSAB 1443 | 1.00 | 11:39 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 10 | CCV 1447B | 1.00 | 11:42 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 11 | CCB | 1.00 | 11:45 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 12 | M-BL 03M1374 W | 1.00 | 11:51 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 13 | LCS-03M1374 | 1.00 | 11:54 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 14 | LCSD-03M1374 | 1.00 | 11:56 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 15 | 2842-8 S F=1 | 1.00 | 12:00 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 16 | 2842-8 D F=1 | 1.00 | 12:03 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 17 | 2842-8 1/5 F=5 | 5.00 | 12:07 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 18 | 2842-8 MS F=1 | 1.00 | 12:10 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 19 | 2842-8 MSD F=1 | 1.00 | 12:12 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 20 | 2842-8 PS F=1 | 1.00 | 12:15 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 21 | CCV 1447B | 1.00 | 12:17 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 22 | CCB | 1.00 | 12:21 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 23 | 2842-3 F=1 | 1.00 | 12:25 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 24 | 2842-3 F=5 | 5.00 | 12:28 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 25 | 2842-7 F=1 | 1.00 | 12:31 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 26 | 2842-7 F=5 | 5.00 | 12:34 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 27 | 2842-9 F=1 | 1.00 | 12:38 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 28 | 2842-9 F=5 | 5.00 | 12:41 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 29 | 2842-10 F=1 | 1.00 | 12:44 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 30 | 2842-10 F=5 | 5.00 | 12:47 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 31 | CCV 1447B | 1.00 | 12:50 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 32 | CCB | 1.00 | 12:53 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 33 | 2819-1 F=1 | 1.00 | 12:57 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 34 | 2819-2 F=1 | 1.00 | 13:00 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 35 | 2819-3 F=1 | 1.00 | 13:04 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 36 | 2819-4 F=1 | 1.00 | 13:16 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 37 | 2819-5 F=1 | 1.00 | 13:19 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 38 | 2819-6 F=1 | 1.00 | 13:23 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 39 | CCV 1447B | 1.00 | 13:25 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |
| 40 | CCB | 1.00 | 13:29 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | |

FORM-14 Metal

Applied P & Ch Laboratory

# Analysis Run Log

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Project No: | 04-4428.10 | Lab Code: | APCL |
| Project Name: | JPL | Service ID: | 032819 | Sequence No.: | 03M1374L |
| | | Instrument: | ICP -L | Method: | 200.9 |
| Batch No.(s): | 03M1374 | Start Date: | 04/25/03 | End Date: | 04/25/03 |

| # | APCL Sample No. | D/F | Time | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Hg | Ni | K | Se | Ag | Na | Tl | V | Zn | Mo | Sr | Ti | Sn | Li | B | Si |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | 2843-1 F=1 | 1.00 | 13:32 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 42 | 2843-2 F=1 | 1.00 | 13:36 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 43 | 2843-3 F=1 | 1.00 | 13:39 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 44 | 2843-4 F=1 | 1.00 | 13:43 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 45 | 2843-5 F=1 | 1.00 | 13:46 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 46 | 2843-6 F=1 | 1.00 | 13:49 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 47 | 2843-7 F=1 | 1.00 | 13:53 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 48 | CCV 1447B | 1.00 | 13:55 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 49 | CCB | 1.00 | 13:59 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 50 | M-BL 03M1375S | 1.00 | 14:02 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 51 | LCS-03M1375 | 1.00 | 14:05 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 52 | LCSD-03M1375 | 1.00 | 14:07 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 53 | 2842-1 S F=200 | 4.00 | 14:11 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 54 | 2842-1 D F=200 | 4.00 | 14:14 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 55 | 2842-1 1/5 F=10 | 20.00 | 14:18 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 56 | 2842-1 MS F=200 | 4.00 | 14:21 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 57 | 2842-1 MSD F=20 | 4.00 | 14:25 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 58 | 2842-1 PS F=200 | 4.00 | 14:29 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 59 | CCV 1447B | 1.00 | 14:31 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 60 | CCB | 1.00 | 14:35 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 61 | 2842-2 F=200 | 4.00 | 14:37 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 62 | 2842-4 F=200 | 4.00 | 14:40 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 63 | 2842-5 F=200 | 4.00 | 14:42 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 64 | 2842-11 F=200 | 4.00 | 14:45 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 65 | 2842-12 F=200 | 4.00 | 14:47 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 66 | 2842-14 F=200 | 4.00 | 14:51 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 67 | 2842-15 F=200 | 4.00 | 14:53 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 68 | 2842-17 F=200 | 4.00 | 14:56 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 69 | 2842-18 F=200 | 4.00 | 14:58 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 70 | ICSA 1441 | 1.00 | 15:01 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 71 | ICSAB 1443 | 1.00 | 15:04 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 72 | CCV 1447B | 1.00 | 15:06 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 73 | CCB | 1.00 | 15:10 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |
| 74 | DLC A1427 | 1.00 | 15:15 | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | | |

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498



# Metal Digestion (3010/3050) Worksheet

XI 4/25/03

Batch # 03M1374 Matrix: W Method used: 3010A Date: 4/25/03 Digested by: XI Diluted by: N.F

Lot #: ASTM Type I water RW1408 $HNO_3$ 1102/20 $H_2SO_4$ _____ HCl 40 2050 $H_2O_2$ 023267

| OP # | Type | Samp ID /Lot # | X (g or mL) | $V_{digest}/X = f_1$ | $V_f/V_i = f_2$ | $V_f'/V_i' = f_3$ | $F=f_1f_2f_3$ | Note |
|---|---|---|---|---|---|---|---|---|
| 4251 | Method Blank | Bl. Lot: RW1408 | 50 | 50 /X= 1 | / = | / = | | 23ME |
| 4252 | LCS1 | Bl. Lot: " | | /X= | / = | / = | | |
| 4253 | Sample-1 | 2842 -8 | | /X= | / = | / = | | T=95°C |
| 4254 | MS1 on S-1 | -8 | | /X= | / = | / = | | |
| 4255 | MS2 on S-1 | -8 | | /X= | / = | / = | | |
| 4256 | Sample 2 | -3 | | /X= | 10/2=5 | / = | | F=5 for Na |
| 4257 | Sample 3 | -7 | | /X= | / = | / = | | K |
| 4258 | Sample 4 | -9 | | /X= | / = | / = | | K Na |
| 4259 | Sample 5 | -10 | | /X= | / = | / = | | K Na |
| 4260 | Sample 6 | 2819 -1 | | /X= | / = | / = | | |
| 4261 | Sample 7 | -2 | | /X= | / = | / = | | |
| 4262 | Sample 8 | -3 | | /X= | / = | / = | | MS/MSD |
| 4263 | Sample 9 | -4 | | /X= | / = | / = | | |
| 4264 | Sample 10 | -5 | | /X= | / = | / = | | |
| 4265 | LCS2 | Bl. Lot: RW1408 | | /X= | / = | / = | | |
| 4266 | Sample 11 | -6 | | /X= | / = | / = | | |
| 4267 | Sample 12 | 2843 -1 | | /X= | / = | / = | | |
| 4268 | Sample 13 | -2 | | /X= | / = | / = | | |
| 4269 | Sample 14 | -3 | | /X= | / = | / = | | |
| 4270 | Sample 15 | -4 | | /X= | / = | / = | | |
| 4271 | Sample 16 | -5 | | /X= | / = | / = | | |
| 4272 | Sample 17 | -6 | | /X= | / = | / = | | |
| 4273 | Sample 18 | -7 | | /X= | / = | / = | | |
| 4274 | Sample 19 | | | XI /X= | / = | / = | | |
| 4275 | Sample 20 | | | /X= 4/25/03 | / = | / = | | |
| 4276 | Duplicate | 2842 -8 | 50 | 50 /X= 1 | / = | / = | | |

## Specification of matrix spike and lab control spike

| QC Type | Spiked Element * | Spike Stock Solution Lot # | Spike Stock (Rep.) Conc. $C_s$, µg/mL | Spike Stock Volum Used $V_s$ mL | Spike Level $T'=C_sV_s/V$ ppm or mg/L | Sample Spike $T$, ppm |
|---|---|---|---|---|---|---|
| MS1 | /As/Se/Sb/$M_{20}$ | AA- /AA- /AA- /AA-1492 | / / / 25 | / / 12 | / / / 1 | |
| MS2 | /As/Se/Sb/$M_{20}$ | AA- /AA- /AA- /AA- " | / / / | / / / | / / / | |
| LCS1 | /As/Se/Sb/$M_{20}$ | AA- /AA- /AA- /AA-1492 | / / / | / / / | / / / | |
| LCS2 | /As/Se/Sb/$M_{20}$ | AA- /AA- /AA- /AA- " | / / / | / / / | / / / | |

* Notation: $T$ – rep. sample spike level. $T'$ – digest solution spike level. $T=f\,T'=C_sV_s/X$. M20 (or $M_j$) represents 20 (or j) metals, (see STD logbook).
If digest needs dilution for different metals, use dilution worksheet.

Applied P & Ch Laboratory
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# Metal Digestion (3010/3050) Worksheet

Batch # 03M1360 Matrix: W Method used: 3020A Date: 4/23/03 Digested by: KL Diluted by: _____

Lot #: ASTM Type I water RW1408 $HNO_3$ 1102050 $H_2SO_4$ _____ HCl _____ $H_2O_2$ _____

| OP # | Type | Samp ID /Lot # | X (g or mL) | $V_{digest}/X = f_1$ | $V_f/V_i = f_2$ | $V_f'/V_i' = f_3$ | $F=f_1f_2f_3$ | Note |
|---|---|---|---|---|---|---|---|---|
| 4017 | Method Blank | Bl. Lot: RW1408 | 50 | 50 /X= 1 | / = | / = | | GFAA – As |
| 4018 | LCS1 | Bl. Lot: 〃 | | /X= | / = | / = | | T=98°C |
| 4019 | Sample-1 | 2809 –4 | | /X= | / = | / = | | |
| 4020 | MS1 on S-1 | –4 | | /X= | / = | / = | | |
| 4021 | MS2 on S-1 | –4 | | /X= | / = | / = | | |
| 4022 | Sample 2 | –1 | | /X= | / = | / = | | |
| 4023 | Sample 3 | –2 | | /X= | / = | / = | | |
| 4024 | Sample 4 | –3 | | /X= | / = | / = | | |
| 4025 | Sample 5 | –5 | | /X= | / = | / = | | |
| 4026 | Sample 6 | –6 | | /X= | / = | / = | | |
| 4027 | Sample 7 | –7 | | /X= | / = | / = | | |
| 4028 | Sample 8 | –8 | | /X= | / = | / = | | |
| 4029 | Sample 9 | 2767 –1 | | /X= | / = | / = | | |
| 4030 | Sample 10 | –2 | | /X= | / = | / = | | |
| 4031 | LCS2 | Bl. Lot: RW1408 | | /X= | / = | / = | | |
| 4032 | Sample 11 | –3 | | /X= | / = | / = | | |
| 4033 | Sample 12 | –4 | | /X= | / = | / = | | |
| 4034 | Sample 13 | –5 | | /X= | / = | / = | | |
| 4035 | Sample 14 | –6 | | /X= | / = | / = | | |
| 4036 | Sample 15 | 2819 –1 | | /X= | / = | / = | | |
| 4037 | Sample 16 | –2 | | /X= | / = | / = | | |
| 4038 | Sample 17 | –3 | | /X= | / = | / = | | MS/MSD |
| 4039 | Sample 18 | –4 | | /X= | / = | / = | | |
| 4040 | Sample 19 | –5 | | /X= | / = | / = | | |
| 4041 | Sample 20 | –6 | | /X= | / = | / = | | |
| 4042 | Duplicate | 2809–4 | ↓ | ↓ /X= ↓ | / = | / = | | |

## Specification of matrix spike and lab control spike

| QC Type | Spiked Element * | Spike Stock Solution Lot # | Spike Stock (Rep.) Conc. $C_s$, µg/mL | Spike Stock Volum Used $V_s$ mL | Spike Level $T'=C_sV_s/V$ ppm or mg/L | Sample Spike $T$, ppm |
|---|---|---|---|---|---|---|
| MS1 | /As/Se/Sb/$M_{20}$ | AA- /AA-100 /AA- /AA- | / 57 / | 10.57 / | 10.057 / | |
| MS2 | /As/Se/Sb/$M_{20}$ | AA- /AA-11 /AA- /AA- | / / / | / / / | / / / | |
| LCS1 | /As/Se/Sb/$M_{20}$ | AA- /AA-101 /AA- /AA- | / / / | / / / | / / / | |
| LCS2 | /As/Se/Sb/$M_{20}$ | AA- /AA-11 /AA- /AA- | ↓ / / | ↓ / / | ↓ / / | |

* Notation: $T$ – rep. sample spike level. $T'$ – digest solution spike level. $T=f\,T'=C_sV_s/X$. M20 (or M$j$) represents 20 (or $j$) metals, (see STD logbook).
If digest needs dilution for different metals, use dilution worksheet.

Level C Data Package Deliverables

# Wet Chemistry

Applied P & Ch Laboratory

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# Wet Analysis Results for Method 9040B

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 9040B
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: pH**
**CAS No: 10-29-7**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 7.89 | |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 7.68 | |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 6.92 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 7.52 | |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 8.15 | |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 8.08 | |
| 03W2497-MB-01 | 03W2497-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2497 | pH unit | 0.01 | 6.85 | |

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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# Wet Analysis Results for Method SM2320B

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method SM2320B
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Bicarbonate**
**CAS No:**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg/L | 2 | <2 | U |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg/L | 2 | 129 | |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg/L | 2 | 210 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg/L | 2 | 253 | |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg/L | 2 | 148 | |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg/L | 2 | 155 | |
| 03W2539-MB-01 | 03W2539-MB-01 | Water | 04/24/03 | 04/24/03 | 04/24/03 | 03W2539 | mg/L | 2 | <2 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

Applied P & Ch Laboratory

# Wet Analysis Results for Method SM2320B

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method SM2320B
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Carbonate**
**CAS No:**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |
| 03W2539-MB-01 | 03W2539-MB-01 | Water | 04/24/03 | 04/24/03 | 04/24/03 | 03W2539 | mg-$CaCO_3$/L | 2 | <2 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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# Wet Analysis Results for Method 160.1

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 160.1
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Solids, Total Dissolved (TDS)**
**CAS No: 10-33-3**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | <10 | U |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | 162 | |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | 720 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | 582 | |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | 197 | |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | 352 | |
| 03W2500-MB-01 | 03W2500-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2500 | mg/L | 10 | <10 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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# Wet Analysis Results for Method 7196

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 7196
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Chromium (VI)**
**CAS No: 1333-82-0**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |
| 03W2501-MB-01 | 03W2501-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2501 | mg/L | 0.01 | <0.01 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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# Wet Analysis Results for Method 314.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 314.0

Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Perchlorate**

**CAS No:**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2496 | µg/L | 4 | <4 | U |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2496 | µg/L | 4 | <4 | U |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/23/03 | 03W2496 | µg/L | 4 | 4.3 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/23/03 | 03W2496 | µg/L | 4 | 3.6 | B |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/23/03 | 03W2496 | µg/L | 4 | <4 | U |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/23/03 | 03W2496 | µg/L | 4 | <4 | U |
| 03W2496-MB-01 | 03W2496-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2496 | µg/L | 4 | <4 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.

Qualifier: U - Not Detected or less than MDL

B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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# Wet Analysis Results for Method 300.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 300.0
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Chloride $Cl^-$**
**CAS No: 16887-00-6**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.25 | 0.26 | |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.25 | 8.3 | |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 4 | 100 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 2.5 | 88.3 | |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.8 | 18.6 | |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 2 | 67.2 | |
| 03W2479-MB-01 | 03W2479-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.2 | <0.2 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

Applied P & Ch Laboratory

# Wet Analysis Results for Method 300.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 300.0
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Nitrate as N**
**CAS No: 14797-55-8**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.05 | 0.098 | |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.05 | 1.2 | |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.8 | 12.5 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.5 | 10.8 | |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.16 | 2.3 | |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.4 | 1.2 | |
| 03W2479-MB-01 | 03W2479-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.04 | <0.04 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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# Wet Analysis Results for Method 300.0

Client Name: GEOFON, Inc. Project No: 04-4428.10 Anal. Method 300.0
Project ID: JPL Service ID: 32819 Collected by:

**Component Name: Sulfate $SO_4^{--}$**
**CAS No: 14808-79-8**

| Lab ID | Sample ID | Matrix | Coll. Date | Rcv Date | Anal. Date | Batch | Unit | RL | Result | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-2819-1 | EB-3-4/22/03 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.63 | 0.79 | |
| 03-2819-2 | MW-19-1 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.63 | 23.1 | |
| 03-2819-3 | MW-19-2 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 10 | 142 | |
| 03-2819-4 | MW-19-3 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 6.3 | 96.6 | |
| 03-2819-5 | MW-19-4 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 2 | 33.3 | |
| 03-2819-6 | MW-19-5 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 5 | 69.2 | |
| 03W2479-MB-01 | 03W2479-MB-01 | Water | 04/22/03 | 04/22/03 | 04/22/03 | 03W2479 | mg/L | 0.5 | <0.5 | U |

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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Applied P & Ch Laboratory

# Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 300.0

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2479 | | |
| LCS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 10:43 |
| LCSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 10:56 |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration LCS | LCS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| CHLORIDE $CL^-$ | mg/L | 4.0 | 0 | 3.96 | 99 | 80-120 |
| NITRATE AS N | mg/L | 1.5 | 0 | 1.51 | 101 | 80-120 |
| SULFATE $SO_4^{--}$ | mg/L | 15 | 0 | 14.8 | 99 | 80-120 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | LCSD Concentration | LCSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| CHLORIDE $CL^-$ | mg/L | 4.0 | 3.93 | 98 | 1 | 20 | 80-120 |
| NITRATE AS N | mg/L | 1.5 | 1.50 | 100 | 1 | 20 | 80-120 |
| SULFATE $SO_4^{--}$ | mg/L | 15 | 14.7 | 98 | 1 | 25 | 80-120 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* - Values outside of contract required QC Limits  D - Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Matrix Spike/Matrix Spike Duplicate Recovery for Method 300.0

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2479 | | |
| MS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:58 |
| MSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 17:11 |
| MS Sample No: | **MW-19-2** | Sample Lab ID: | 03-2819-3 | | |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration MS | MS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| CHLORIDE $CL^-$ | mg/L | 160 | 100 | 259 | 99 | 75-125 |
| NITRATE AS N | mg/L | 60.0 | 12.5 | 72.1 | 99 | 75-125 |
| SULFATE $SO_4^{--}$ | mg/L | 600 | 142 | 741 | 100 | 75-125 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | MSD Concentration | MSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| CHLORIDE $CL^-$ | mg/L | 160 | 260 | 100 | 1 | 20 | 75-125 |
| NITRATE AS N | mg/L | 60.0 | 72.0 | 99 | 0 | 20 | 75-125 |
| SULFATE $SO_4^{--}$ | mg/L | 600 | 730 | 98 | 2 | 25 | 75-125 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 314.0

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2496 | | |
| LCS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 18:49 |
| LCSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 19:07 |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration LCS | LCS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| PERCHLORATE | µg/L | 25 | 0 | 20.8 | 83 | 80-120 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | LCSD Concentration | LCSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| PERCHLORATE | µg/L | 25 | 20.4 | 82 | 1 | 20 | 80-120 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Matrix Spike/Matrix Spike Duplicate Recovery for Method 314.0

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2496 | | |
| MS Filename: | - | Date Analyzed: | 042303 | Time Analyzed: | 02:34 |
| MSD Filename: | - | Date Analyzed: | 042303 | Time Analyzed: | 02:52 |
| MS Sample No: | **MW-19-2** | Sample Lab ID: | 03-2819-3 | | |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration MS | MS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| PERCHLORATE | µg/L | 50.0 | 4.3 | 53.1 | 98 | 75-125 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | MSD Concentration | MSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| PERCHLORATE | µg/L | 50.0 | 54.4 | 100 | 2 | 20 | 75-125 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 160.1

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2500 | | |
| LCS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |
| LCSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration LCS | LCS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 400 | 0 | 421 | 105 | 88-108 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | LCSD Concentration | LCSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 400 | 428 | 107 | 2 | 20 | 88-108 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Matrix Spike/Matrix Spike Duplicate Recovery for Method 160.1

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2500 | | |
| MS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |
| MSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |
| MS Sample No: | **MW-19-2** | Sample Lab ID: | 03-2819-3 | | |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration MS | MS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 400 | 720 | 1100 | 95 | 80-119 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | MSD Concentration | MSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| SOLIDS, TOTAL DISSOLVED (TDS) | mg/L | 400 | 1080 | 90 | 5 | 20 | 80-119 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 7196

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2501 | | |
| LCS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |
| LCSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration LCS | LCS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| CHROMIUM (VI) | mg/L | 0.25 | 0 | 0.233 | 93 | 80-115 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | LCSD Concentration | LCSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| CHROMIUM (VI) | mg/L | 0.25 | 0.227 | 91 | 2 | 19 | 80-115 |
| # of Out-of-control | | | | 0 | 0 | | |

# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

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Applied P & Ch Laboratory

# Matrix Spike/Matrix Spike Duplicate Recovery for Method 7196

| | | | | | |
|---|---|---|---|---|---|
| Client Name: | GEOFON, Inc. | Contract No: | | Lab Code: | APCL |
| Case No: | | SAS No: | | Service ID: | 32819 |
| Project ID: | JPL | Project No: | 04-4428.10 | Sample Matrix: | Water |
| | | Batch No: | 03W2501 | | |
| MS Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |
| MSD Filename: | - | Date Analyzed: | 042203 | Time Analyzed: | 16:56 |
| MS Sample No: | **MW-19-2** | Sample Lab ID: | 03-2819-3 | | |

| Spiked Components | Unit | Spike Added | Concentration Unspiked | Concentration MS | MS Rec% # | QC Limit, % REC |
|---|---|---|---|---|---|---|
| CHROMIUM (VI) | mg/L | 0.25 | 0 | 0.221 | 88 | 78-115 |
| # of Out-of-control | | | | | 0 | |

| Spiked Components | Unit | Spike Added | MSD Concentration | MSD Rec% # | RPD% # | QC Limit, % RPD | QC Limit, % REC |
|---|---|---|---|---|---|---|---|
| CHROMIUM (VI) | mg/L | 0.25 | 0.217 | 87 | 1 | 19 | 78-115 |
| # of Out-of-control | | | | 0 | 0 | | |

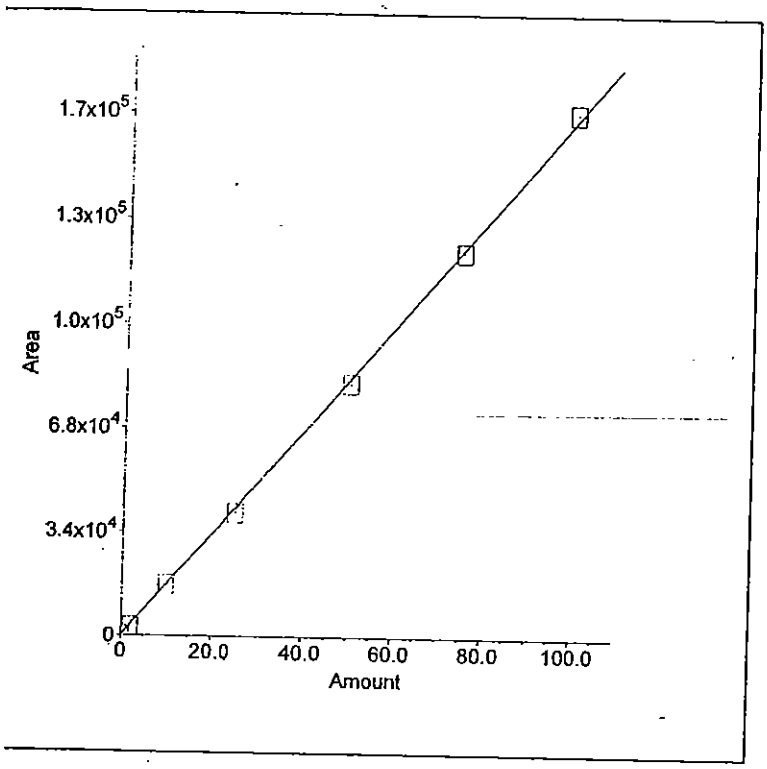
# Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits  D – Spiked components diluted out

Comments: _____

_____

1, Component:perchlorate
Standard:External Fit Type:Linear
Origin:Force Calibration:Area
$r^2$=0.999492
Amt=0.0005893*Resp+0




Calibration : 7 points, 0, 2, 10, 25, 50, 75, 100 ppb

Analyst C. W
Date 03/12/03
Instrument IC-1

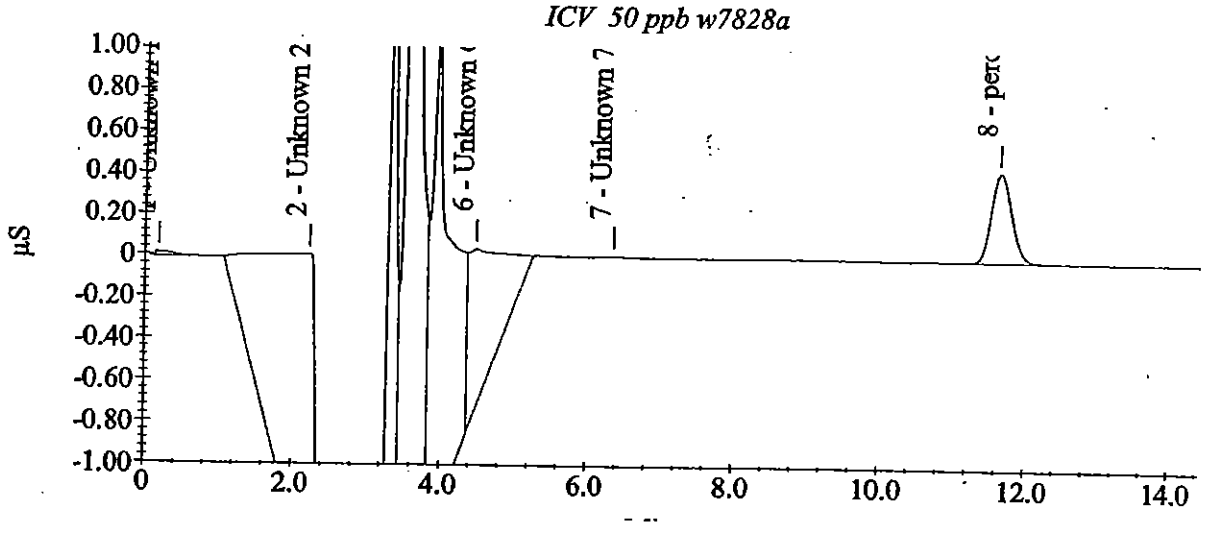
# APCL Perchlorate Analysis Report

**Sample Name : ICV 50 ppb w7828a**
**Data File Name : C:\DATA\E314-011\icv-50pb_009.DXD**

Method File Name : C:\PEAKNET\METHOD\E314-011.met
Date Time Collected : 03/12/2003 8:16:15 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

| Peak # | Component Name | Retention Time | Amount (ppb) | Peak Area | Peak Height |
|---|---|---|---|---|---|
| 8 | perchlorate | 11.65 | 49.49 | 83990 | 4321 |



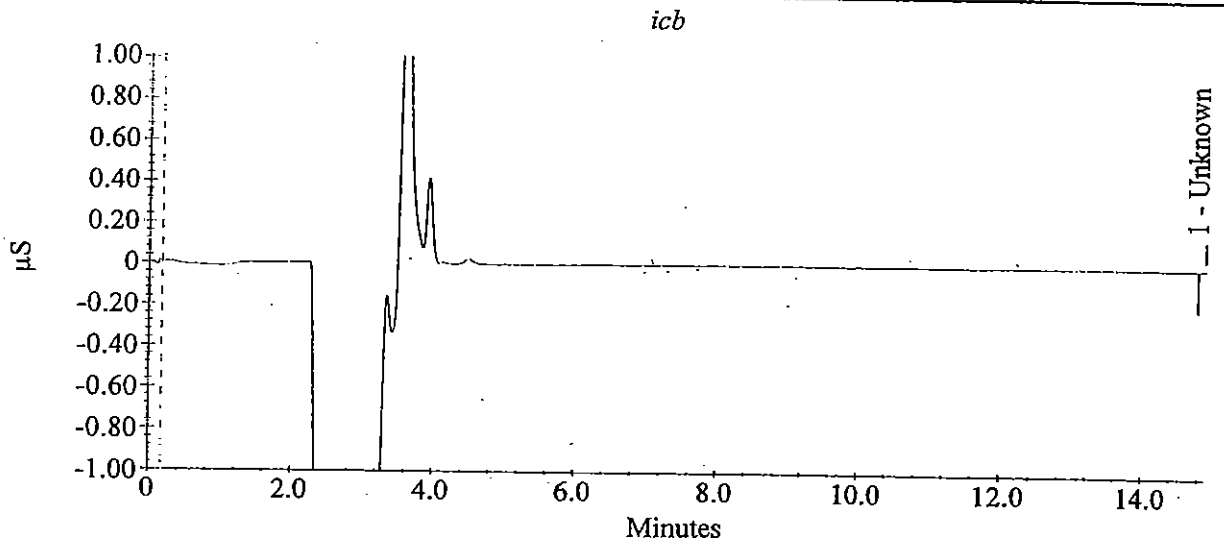
# APCL Perchlorate Analysis Report

**Sample Name : icb**
**Data File Name : C:\DATA\E314-011\ICB_010.DXD**

Method File Name : c:\PeakNet\method\E314-011.met
Date Time Collected : 03/12/2003 8:33:51 PM
System Operator : wei wang
Dilution Factor : 1.00

Peak Information : All Components

| Peak # | Component Name | Retention Time | Amount (ppb) | Peak Area | Peak Height |
|---|---|---|---|---|---|



# DIONEX METHOD PARAMETERS - E300-063.MET

Method Comment: APCL EPA 300 ANALYSIS DX-100
Column ID: Dionex AS4A-SC
Analyst ID: David

## System Parameters

System Name: DX-100

| | |
|---|---|
| Number of Detectors | 1 |
| Run Time (minutes) | 10.00 |
| Sampling Rate (seconds) | 0.20 |
| Detector 1 Type | COND |
| Detector 1 real time plot scale maximum (uS ) | 30.000 |
| minimum | -3.000 |
| Detector 1 Output Equivalent to 1 Volt (in uS ) | 30.00 |
| Detector 1 ACI Analog Input Connection | DET1 |
| Save Data File | Yes |

Data File Name: C:\DX\DATA\03W1991\W1991Q01.D10

## -- DETECTOR 1 PARAMETERS --

### Report Options

| | |
|---|---|
| Create ASCII Report File | No |
| Print Report | Yes |
| Print All Components | Yes |
| Print Components Found | No |
| Print Missing Components | No |
| Print All Peaks | No |
| Print Unknown Peaks | No |
| Print Chromatogram | Yes |
| Autoscale Chromatogram Maximum | No |
| Autoscale Chromatogram Minimum | No |
| Fill Peaks with Color | No |
| Draw Grid Lines on Chromatogram | No |
| Show Component Fraction Numbers | No |
| Label with Peak Number | No |
| Label with Retention Times on Chromatogram | Yes |
| Label with Component Name | Yes |
| Format File Name: C:\DX\METHOD\DEFAULT.PRF | |

### Integration Parameters

| | |
|---|---|
| Starting Peak Width (seconds) | 10.0 |
| Peak Threshold | 2.000 |
| Peak Area Reject | 1000 |
| Area Reject for Reference Peaks | 1000 |

### Data Events

| Time | Description |
|---|---|
| 0.13 | Start peak detection |
| 10.00 | Stop peak detection |

Calibration Parameters

| | |
|---|---|
| Number Of Levels for Calibration | 6 |
| Force Calibration Curve Through Origin | No |
| Calibration Fit Type | Linear |
| Replace Or Average Calibrations | Replace |
| External or Internal Calibration | External |
| Calculate Unknowns by Area or Height | Area |
| Default Sample Volume | 1.0 |
| Default Dilution Factor | 1.0 |
| Default Response Factor for Unknown Peaks | 0.0 |
| Calibration Standard Volume | 1.0 |
| Internal Standard Amount in Samples | 1.0 |
| Amount Units | ppm |

Component # 4 Bromide Retention Time 3.45
Reference Comp. Nitrate-N Window Size 0.20 min.
Amount = K0 + K1*Area
K0 = 4.58974E-002
K1 = 4.83279E-006

| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 7.50000E-002 | 13830 | 1488 |
| 2 | 1.50000E+000 | 298206 | 30100 |
| 3 | 3.00000E+000 | 591234 | 61776 |
| 4 | 6.00000E+000 | 1219933 | 128845 |
| 5 | 7.50000E+000 | 1559887 | 166594 |
| 6 | 0.00000E+000 | 0 | 0 |

Component # 5 Nitrate-N Retention Time 3.87
Reference Comp. Nitrate-N Window Size 0.25 min.
Amount = K0 + K1*Area
K0 = 4.24689E-002
K1 = 8.05553E-007

| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 3.75000E-002 | 40157 | 3802 |
| 2 | 7.50000E-001 | 849179 | 77129 |
| 3 | 1.50000E+000 | 1713421 | 152776 |
| 4 | 3.00000E+000 | 3610927 | 313707 |
| 5 | 3.75000E+000 | 4688990 | 396441 |
| 6 | 0.00000E+000 | 0 | 0 |

Component # 6 Phosphate-P Retention Time 6.38
Reference Comp. Phosphate-P Window Size 0.60 min.
Amount = K0 + K1*Area
K0 = 8.68926E-002
K1 = 2.12227E-006

| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 7.50000E-002 | 24783 | 1450 |
| 2 | 1.50000E+000 | 642376 | 38579 |
| 3 | 3.00000E+000 | 1301126 | 79971 |
| 4 | 6.00000E+000 | 2756481 | 168994 |
| 5 | 7.50000E+000 | 3546397 | 217521 |
| 6 | 0.00000E+000 | 0 | 0 |

Component Table -- Last Modified: 17:42 on Fri, 21 Mar 2003

Component # 1 Fluoride Retention Time 1.32
Reference Comp. Fluoride Window Size 0.15 min.
Amount = K0 + K1*Area
K0 = -9.62851E-004
K1 = 1.37614E-006

| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 2.50000E-002 | 28534 | 2732 |
| 2 | 5.00000E-001 | 373164 | 44629 |
| 3 | 1.00000E+000 | 707646 | 82595 |
| 4 | 2.00000E+000 | 1435865 | 173007 |
| 5 | 2.50000E+000 | 1837162 | 220914 |
| 6 | 0.00000E+000 | 0 | 0 |

Component # 2 Chloride Retention Time 1.97
Reference Comp. Chloride Window Size 0.15 min.
Amount = K0 + K1*Area
K0 = 1.28188E-001
K1 = 1.95287E-006

| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 1.00000E-001 | 51206 | 7044 |
| 2 | 2.00000E+000 | 909455 | 126181 |
| 3 | 4.00000E+000 | 1856586 | 261681 |
| 4 | 8.00000E+000 | 3987563 | 585791 |
| 5 | 1.00000E+001 | 5142155 | 754321 |
| 6 | 0.00000E+000 | 0 | 0 |

Component # 3 Nitrite-N Retention Time 2.33
Reference Comp. Chloride Window Size 0.15 min.
Amount = K0 + K1*Area
K0 = 2.38085E-002
K1 = 9.76240E-007

| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 3.75000E-002 | 30884 | 3582 |
| 2 | 7.50000E-001 | 734006 | 79701 |
| 3 | 1.50000E+000 | 1468106 | 162005 |
| 4 | 3.00000E+000 | 3021523 | 336616 |
| 5 | 3.75000E+000 | 3856614 | 429219 |
| 6 | 0.00000E+000 | 0 | 0 |

Component # 7 Sulfate Retention Time 7.92
Reference Comp. Sulfate Window Size 0.90 min.
Amount = K0 + K1*Area
K0 = 5.32283E-001
K1 = 2.53252E-006

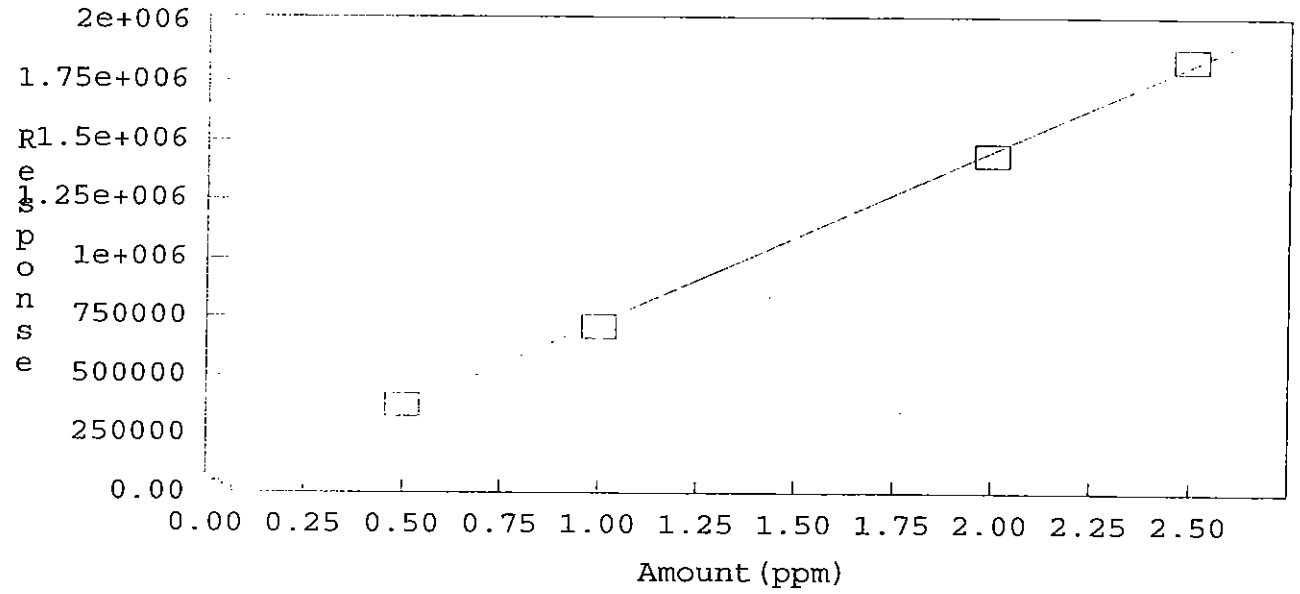
| Level | Amount | Area | Height |
|---|---|---|---|
| 1 | 3.76000E-001 | 129999 | 6524 |
| 2 | 7.50000E+000 | 2598757 | 138579 |
| 3 | 1.50000E+001 | 5330209 | 287851 |
| 4 | 3.00000E+001 | 11507107 | 615917 |
| 5 | 3.75000E+001 | 14859049 | 776426 |
| 6 | 0.00000E+000 | 0 | 0 |

Timed Events File: C:\DX\METHOD\W761CAL.TE

| Step | Time | Description |
|---|---|---|
| Init | | ACI Autosmp OFF |
| Init | | ACI pump st ON |
| Init | | ACI inject OFF |
| Init | | ACI auto zer OFF |
| Init | | ACI TTL 1 OFF |
| Init | | ACI TTL 2 OFF |
| Init | | ACI TTL 3 OFF |
| Init | | ACI TTL 4 OFF |
| Init | | ACI OFF |
| Init | | ACI OFF |
| 1 | 0.0 | ACI Autosmp ON |
| 1 | 0.0 | ACI auto zer ON |
| 2 | 2.5 | ACI Autosmp OFF |
| 2 | 2.5 | ACI inject ON |
| 2 | 2.5 | ACI TTL 1 ON |
| 2 | 2.5 | Start Sampling |

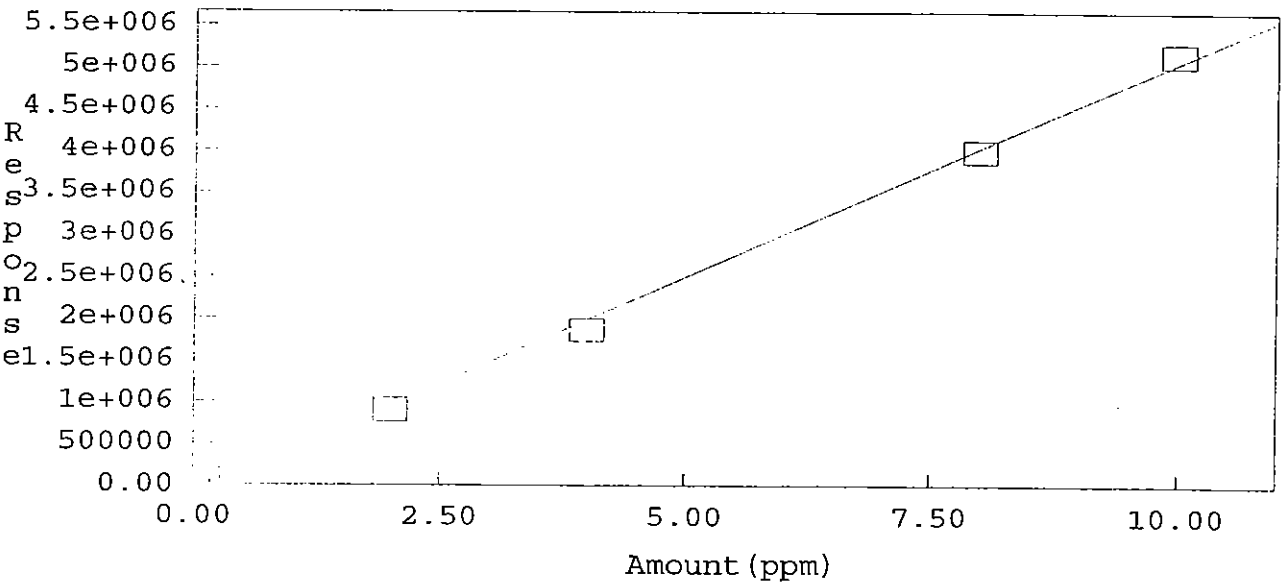
Method: E300-063.MET - Last Updated: 17:42 on Fri, 21 Mar 2003

Component: Fluoride
Fit Type: Linear
$r^2$ = 0.999552
Amt = Resp * 1.376e-006 + -0.000962
Resp = Amt * 7.267e+005 + 699.7
Standardization: External
Calibration: Area



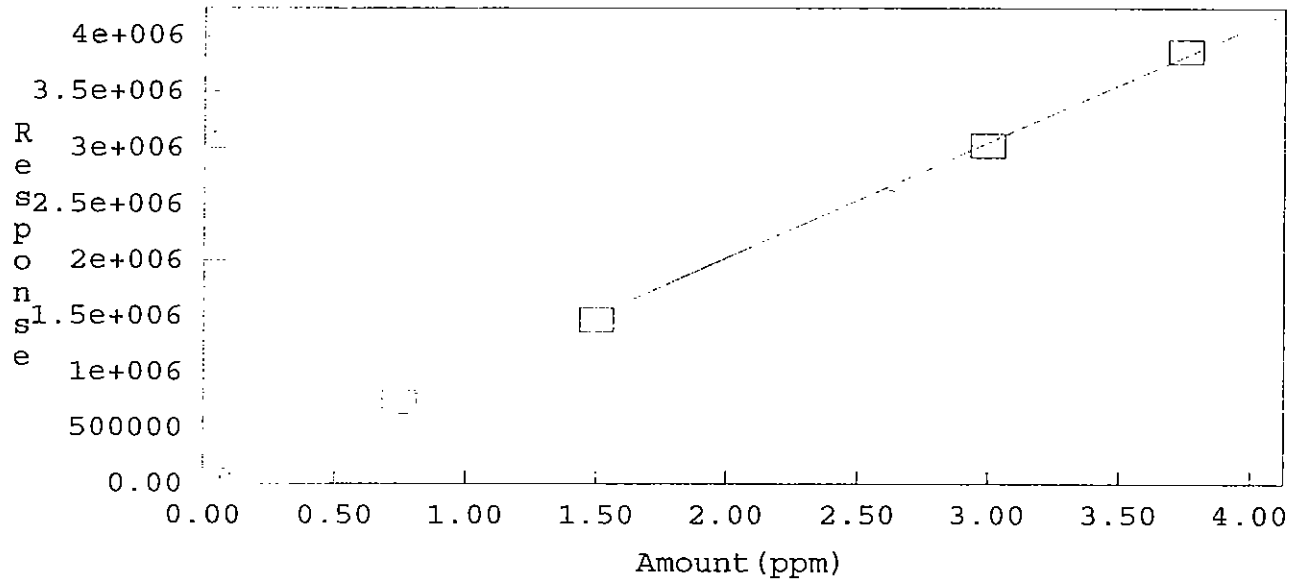

Method: C:\DX\METHOD\E300-063.MET

Component: Chloride
Fit Type: Linear
$r^2$ = 0.998409
Amt = Resp * 1.953e-006 + 0.1282
Resp = Amt * 5.121e+005 + -6.564e+00
Standardization: External
Calibration: Area



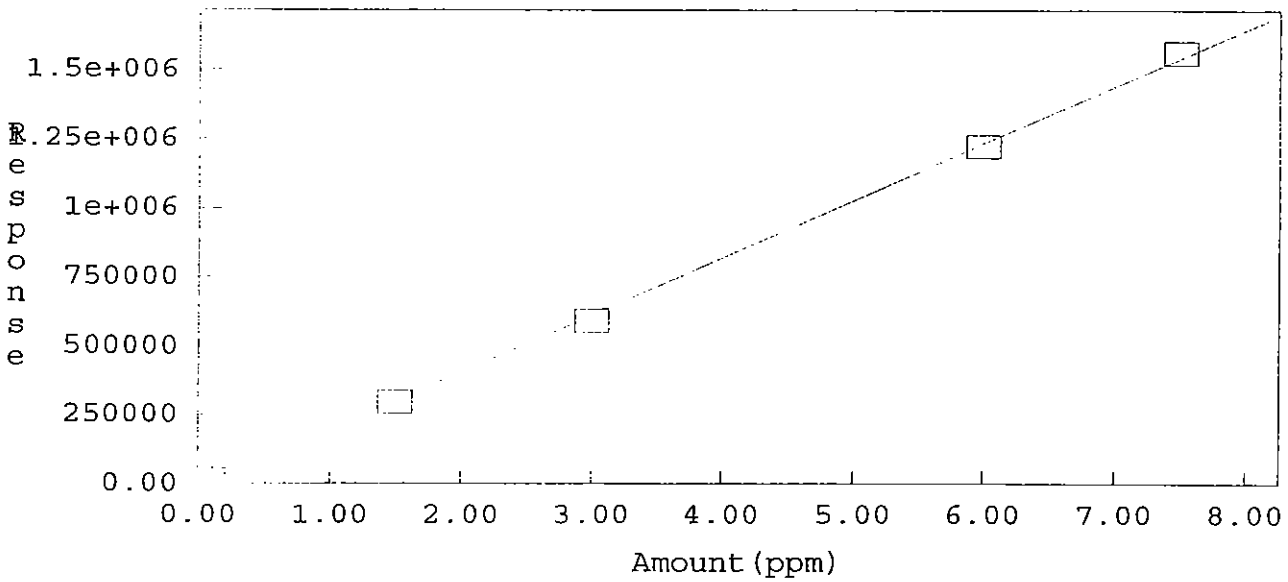
Method: C:\DX\METHOD\E300-063.MET

Component: Nitrite-N
Fit Type: Linear
$r^2$ = 0.999594
Amt = Resp * 9.762e-007 + 0.02381
Resp = Amt * 1.024e+006 + -2.439e+00
Standardization: External
Calibration: Area



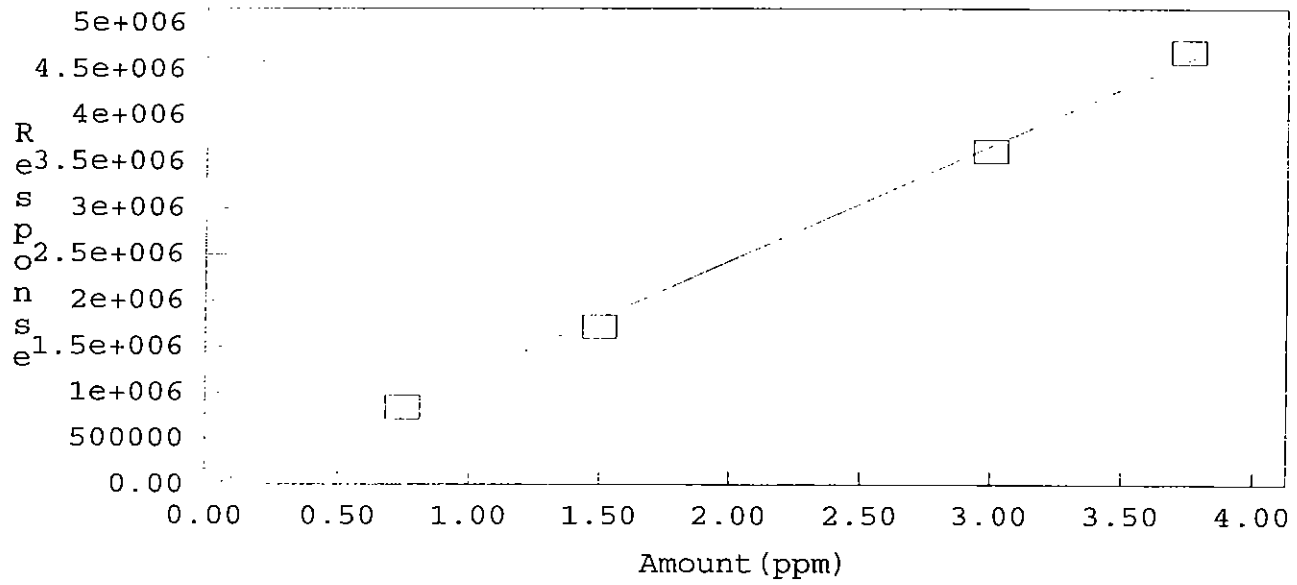

Method: C:\DX\METHOD\E300-063.MET

Component: Bromide
Fit Type: Linear
$r^2$ = 0.999518
Amt = Resp * 4.833e-006 + 0.0459
Resp = Amt * 2.069e+005 + -9497
Standardization: External
Calibration: Area



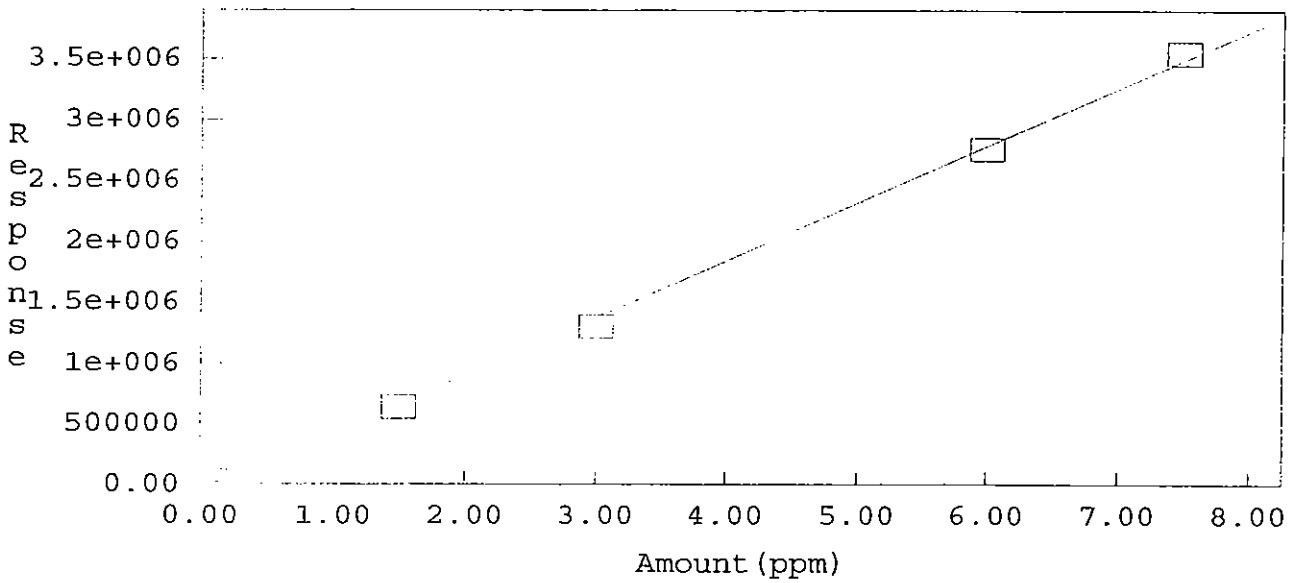
Method: C:\DX\METHOD\E300-063.MET

Component: Nitrate-N
Fit Type: Linear
$r^2$ = 0.998618
Amt = Resp * 8.056e-007 + 0.04247
Resp = Amt * 1.241e+006 + -5.272e+00
Standardization: External
Calibration: Area



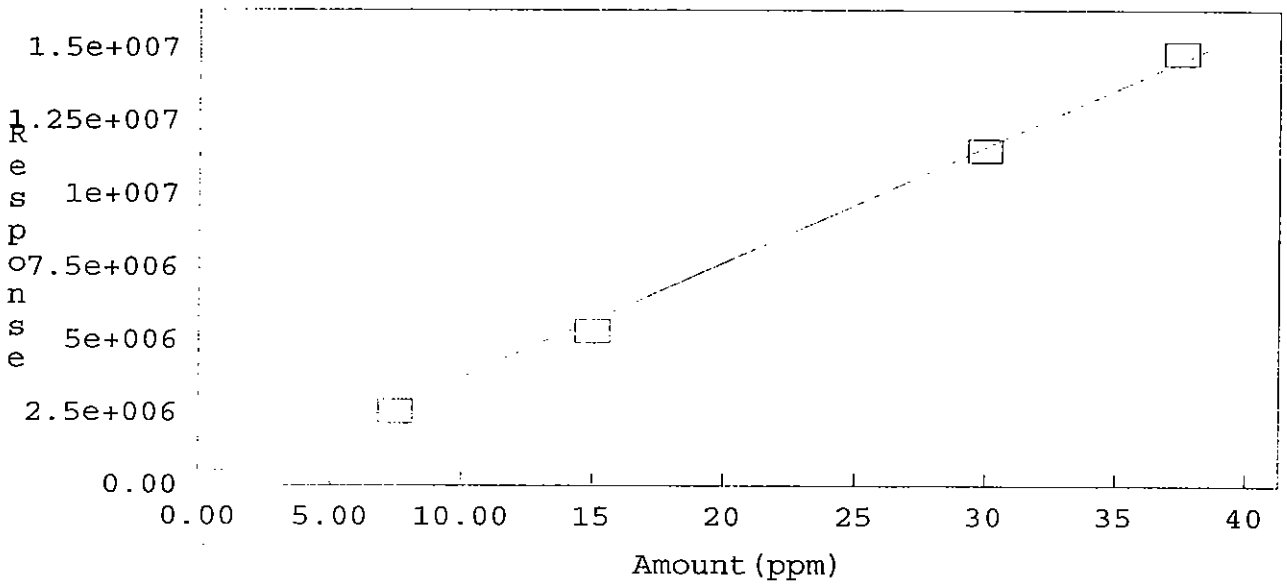

Method: C:\DX\METHOD\E300-063.MET

Component: Phosphate-P
Fit Type: Linear
$r^2$ = 0.998898
Amt = Resp * 2.122e-006 + 0.08689
Resp = Amt * 4.712e+005 + -4.094e+00
Standardization: External
Calibration: Area



Method: C:\DX\METHOD\E300-063.MET

Component: Sulfate
Fit Type: Linear
$r^2$ = 0.998245
Amt = Resp * 2.533e-006 + 0.5323
Resp = Amt * 3.949e+005 + -2.102e+00
Standardization: External
Calibration: Area

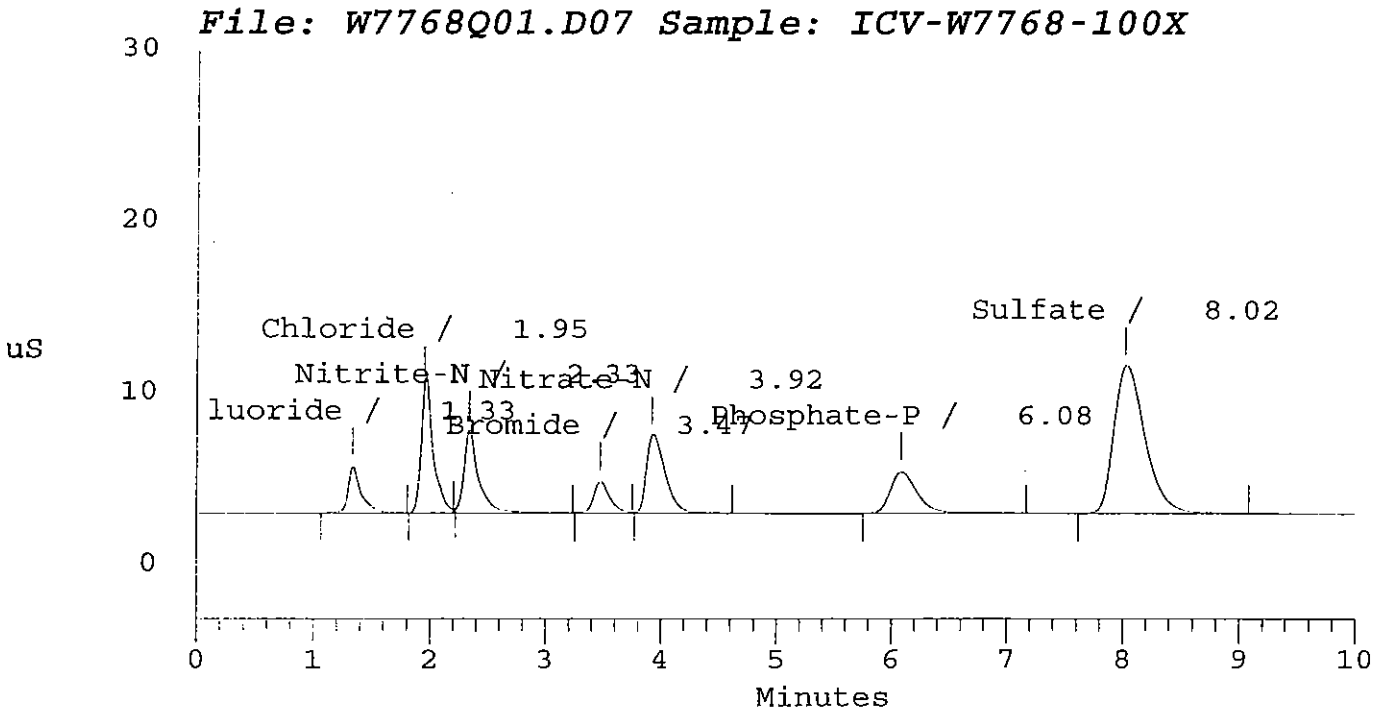


```
Sample Name: ICV-W7768-100X                    Date: 03/21/2003 17:56:33
Data File  : C:\DX\DATA\e300-063\W7768Q01.D07
Method     : C:\DX\METHOD\E300-063.MET
ACI Address: 1  System: 1  Inject#: 7                    Detector:COND
Analyst    : David          Column: Dionex AS4A-SC
```

| Calibration | Volume | Dilution | Points | Rate | Start | Stop | Area Reject |
|---|---|---|---|---|---|---|---|
| External | 1 | 1 | 3000 | 5Hz | 0.00 | 10.00 | 1000 |

********** Component Report: All Components **********

| Pk. Num | Ret Time | Component Name | Concentration ppm | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 1 | 1.33 | Fluoride | 0.999 | 89896 | 726672 | 2 | 0.00 |
| 2 | 1.95 | Chloride | 3.767 | 248158 | 1863483 | 2 | 0.00 |
| 3 | 2.33 | Nitrite-N | 1.445 | 160603 | 1455681 | 2 | 1.17 |
| 4 | 3.47 | Bromide | 2.881 | 61007 | 586729 | 2 | -0.71 |
| 5 | 3.92 | Nitrate-N | 1.410 | 149958 | 1697030 | 2 | 0.00 |
| 6 | 6.08 | Phosphate-P | 2.852 | 79916 | 1302965 | 1 | 0.00 |
| 7 | 8.02 | Sulfate | 13.993 | 285121 | 5314983 | 1 | 0.00 |
| | | Totals | 27.347 | 1074659 | 12947545 | | |

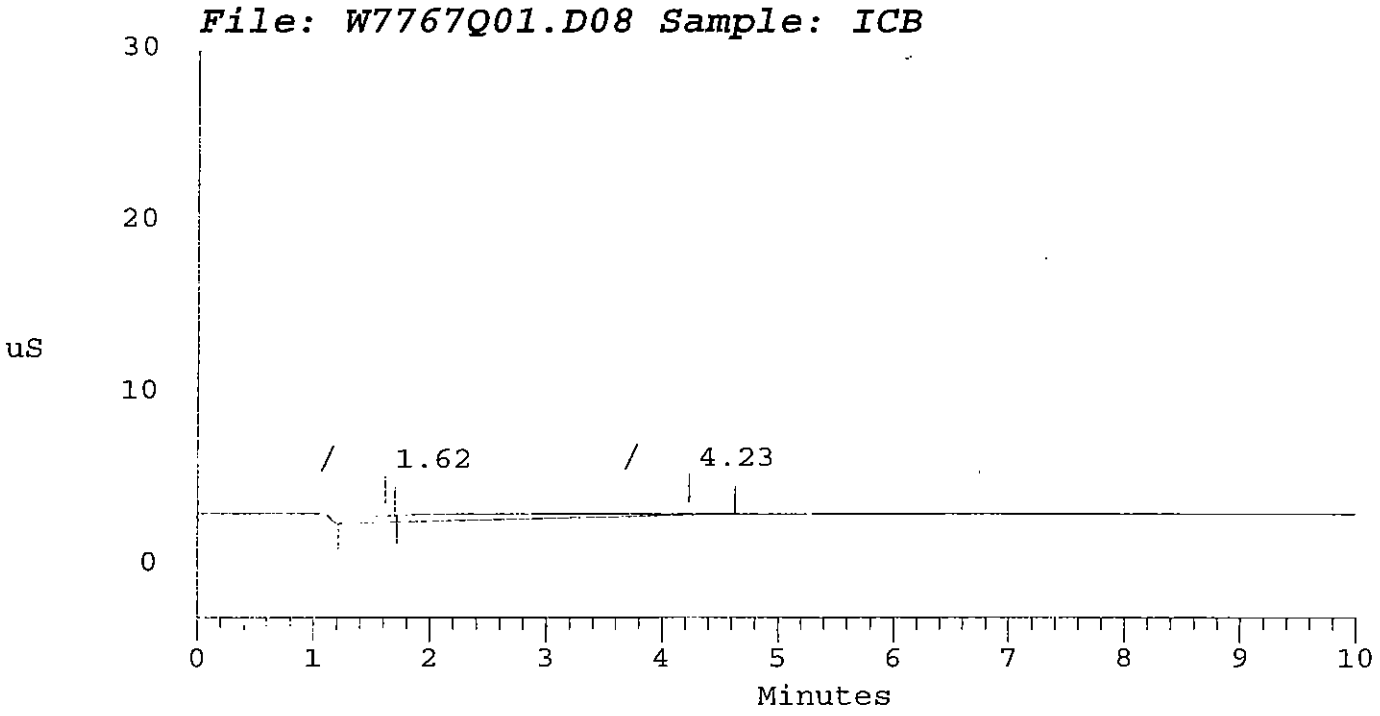


```
Sample Name: ICB                                  Date: 03/21/2003 18:21:00
Data File  : C:\DX\DATA\E300-063\W7767Q01.D08
Method     : C:\DX\METHOD\E300-063.MET
ACI Address: 1  System: 1  Inject#: 8                        Detector:COND
Analyst    : David          Column: Dionex AS4A-SC
```

| Calibration | Volume | Dilution | Points | Rate | Start | Stop | Area Reject |
|---|---|---|---|---|---|---|---|
| External | 1 | 1 | 3000 | 5Hz | 0.00 | 10.00 | 1000 |

********** Component Report: All Components **********

| Pk. Num | Ret Time | Component Name | Concentration ppm | Height | Area | Bl. Code | %Delta |
|---|---|---|---|---|---|---|---|
| 0 | 0.00 | Fluoride | 0.000 | 0 | 0 | 0 | 0.00 |
| 0 | 0.00 | Chloride | 0.000 | 0 | 0 | 0 | 0.00 |
| 0 | 0.00 | Nitrite-N | 0.000 | 0 | 0 | 0 | 0.00 |
| 0 | 0.00 | Bromide | 0.000 | 0 | 0 | 0 | 0.00 |
| 0 | 0.00 | Nitrate-N | 0.000 | 0 | 0 | 0 | 0.00 |
| 0 | 0.00 | Phosphate-P | 0.000 | 0 | 0 | 0 | 0.00 |
| 0 | 0.00 | Sulfate | 0.000 | 0 | 0 | 0 | 0.00 |
| | | Totals | 0.000 | 0 | 0 | | |



**Wet Chemistry QC Report B**
**Duplicate Results**

**Matrix: Water**

**APCL Service ID: 03-2819**

| Analysis | Batch ID | Analysis Date | Sample Name | Unit | Result | Duplicate Result | RPD % | RPD Control limit |
|---|---|---|---|---|---|---|---|---|
| Alkalinity | 03W2539 | 04/24/2003 | 03-2809-01 | mg/L | 161.0 | 158.4 | 2 | 20 |
| pH | 03W2497 | 04/22/2003 | MW-19-1 | pH unit | 7.68 | 7.62 | 1 | 20 |

Note: N/A = Not applicable; NR: Not requested; NC= Not Calculated; ND: Not detected.

6A

INITIAL CALIBRATION DATA

Lab Name: Applied P & Ch Lab Contract: _____

Analysis: Chromium (VI) Calibration Date: 01/29/2003

| Concentration (mg/L) | 0.000 | 0.0125 | 0.050 | 0.125 | 0.250 | 0.50 |
|---|---|---|---|---|---|---|
| Absorbance | 0.000 | 0.006 | 0.041 | 0.109 | 0.214 | 0.415 |

**A= 0.000 + 0.836C**

**A=Absorbance**

**C=Concentration (mg/L)**

**r= 0.9997**

FORM-7

Applied P & Ch Laboratory

# CCV Recovery for Wet Analysis

Client Name: GEOFON, Inc. Contract No.: Lab Code: APCL

Case No: SAS No.: Service ID: 32819

Project ID: JPL Project No.: 04-4428.10

| # | Component Name | Method | Batch No. | Unit | Expe-cted | Test Result | Rec. % | Dev. % | Flag | Control Limit, % | Test Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Chloride $Cl^-$ | 300.0 | 03W2479 | mg/L | 4.0 | 3.89 | 97 | -3 | √ | 90-110 | 04/22/2003 |
| | NITRATE as N-$NO_3^-$, BY | 300.0 | 03W2479 | mg/L | 1.5 | 1.50 | 100 | 0 | √ | 90-110 | 04/22/2003 |
| | SULFATE $SO_4^{--}$, BY I | 300.0 | 03W2479 | mg/L | 15 | 14.6 | 97 | -3 | √ | 90-110 | 04/22/2003 |
| | Chloride $Cl^-$ | 300.0 | 03W2479 | mg/L | 4.0 | 3.92 | 98 | -2 | √ | 90-110 | 04/22/2003 |
| | NITRATE as N-$NO_3^-$, BY | 300.0 | 03W2479 | mg/L | 1.5 | 1.52 | 101 | 1 | √ | 90-110 | 04/22/2003 |
| | SULFATE $SO_4^{--}$, BY I | 300.0 | 03W2479 | mg/L | 15 | 14.7 | 98 | -2 | √ | 90-110 | 04/22/2003 |
| | Chloride $Cl^-$ | 300.0 | 03W2479 | mg/L | 4.0 | 3.97 | 99 | -1 | √ | 90-110 | 04/22/2003 |
| | NITRATE as N-$NO_3^-$, BY | 300.0 | 03W2479 | mg/L | 1.5 | 1.53 | 102 | 2 | √ | 90-110 | 04/22/2003 |
| | SULFATE $SO_4^{--}$, BY I | 300.0 | 03W2479 | mg/L | 15 | 14.8 | 99 | -1 | √ | 90-110 | 04/22/2003 |
| | Chloride $Cl^-$ | 300.0 | 03W2479 | mg/L | 4.0 | 3.92 | 98 | -2 | √ | 90-110 | 04/22/2003 |
| | NITRATE as N-$NO_3^-$, BY | 300.0 | 03W2479 | mg/L | 1.5 | 1.52 | 101 | 1 | √ | 90-110 | 04/22/2003 |
| | SULFATE $SO_4^{--}$, BY I | 300.0 | 03W2479 | mg/L | 15 | 14.7 | 98 | -2 | √ | 90-110 | 04/22/2003 |
| 2 | Perchlorate | 314.0 | 03W2496 | mg/L | 50 | 52.4 | 105 | 5 | √ | 85-115 | 04/22/2003 |
| | Perchlorate | 314.0 | 03W2496 | mg/L | 50 | 53.9 | 108 | 8 | √ | 85-115 | 04/23/2003 |
| | Perchlorate | 314.0 | 03W2496 | mg/L | 50 | 53.7 | 107 | 7 | √ | 85-115 | 04/23/2003 |
| | Perchlorate | 314.0 | 03W2496 | mg/L | 50 | 48.2 | 96 | -4 | √ | 85-115 | 04/23/2003 |
| | Perchlorate | 314.0 | 03W2496 | mg/L | 50 | 51.8 | 104 | 4 | √ | 85-115 | 04/23/2003 |
| 3 | Chromium (VI) | 7196 | 03W2501 | mg/L | 0.25 | 0.244 | 98 | -2 | √ | 90-110 | 04/22/2003 |
| | Chromium (VI) | 7196 | 03W2501 | mg/L | 0.25 | 0.254 | 102 | 2 | √ | 90-110 | 04/22/2003 |

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

# Alkalinity/OH/$CO_3$/$HCO_3$ ( 310.1/SM2320B ) Worksheet



Batch # 03W2539 Matrix: W Titrant $H_2SO_4$ Lot # W7900 Concentration (C) 0.02555 N; Test Date: 4/24/03 Analyst: DL SOP: G-51

| # | Sample ID | Dilution $V_f/V_i=f_1$ | Smpl Amnt V, mL | $H_2SO_4$ (mL) by Phnln $S_A$ | $E_A$ | A | $H_2SO_4$ (mL) by MR-BCG $S_B$ | $E_B$ | B | Phnln-Alk., P | Tot. Alk., T ( in unit of mg$CaCO_3$/L) | $OH^-$ | $CO_3^{2-}$ | $HCO_3^-$ | Note & Anomaly |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MB: T1k.1 | 1 = | 100 | | | 0 | | | 0 | | 0 | 0 | 0 | 0 | |
| 2 | LCS | 1 = | 100 | | | | | | 7.80 | | 99.6 | | | | |
| 3 | LCSD | 1 = | 100 | | | | | | 7.85 | | 100.3 | | | | |
| 4 | 2809-1 | 1 = | 100 | | | 0 | | | 6.30 | | 161.0 | 0 | 0 | 161.0 | |
| 5 | -2 | 1 = | 100 | | | 0 | | | 0 | | 0 | 0 | 0 | 0 | |
| 6 | -3 | 1 = | 100 | | | 0 | | | 7.00 | | 178.9 | 0 | 0 | 178.9 | |
| 7 | -4 | 1 = | 100 | | | 0 | | | 8.75 | | 223.6 | 0 | 0 | 223.6 | |
| 8 | -5 | 1 = | 100 | | | 0 | | | 7.70 | | 196.7 | 0 | 0 | 196.7 | |
| 9 | -6 | 1 = | 100 | | | 0 | | | 5.75 | | 146.9 | 0 | 0 | 146.9 | |
| 10 | -7 | 1 = | 100 | | | 0.20 | | | 4.90 | 5.11 | 130.3 | 0 | 10.2 | 120.1 | |
| 11 | -8 | 1 = | 100 | | | 0 | | | 0 | | 0 | 0 | 0 | 0 | |
| 12 | 2815-1 | 1 = | 100 | | | 0 | | | 14.60 | | 373.0 | 0 | 0 | 373.0 | |
| 13 | 2819-6 | 1 = | 100 | | | 0 | | | 6.05 | | 154.6 | 0 | 0 | 154.6 | |
| 14 | -5 | 1 = | 100 | | | 0 | | | 5.80 | | 148.2 | 0 | 0 | 148.2 | |
| 15 | -4 | 1 = | 100 | | | 0 | | | 9.90 | | 252.9 | 0 | 0 | 252.9 | |
| 16 | -3 | 1 = | 100 | | | 0 | | | 8.20 | | 209.5 | 0 | 0 | 209.5 | |
| 17 | -2 | 1 = | 100 | | | 0 | | | 5.05 | | 129.0 | 0 | 0 | 129.0 | |
| 18 | -1 | 1 = | 100 | | | 0 | | | 0 | | 0 | 0 | 0 | 0 | |
| 19 | 2843-6 | 1 = | 100 | | | 0 | | | 6.60 | | 168.9 | 0 | 0 | 168.9 | |
| 20 | -7 | 1 = | 100 | | | 0.05 | | | 5.20 | 3.8 | ~~133.9~~ 132.9 | 0 | 7.6 | ~~126.3~~ 129.1 | 4/24/03 |
| Dup. | 2809-1 | 1 = | 100 | | | | | | 6.20 | | 158.4 | 0 | 0 | 158.4 | |

| Titration Results | $OH^-$ ($CaCO_3$ mg/L) | $CO_3^{2-}$ ($CaCO_3$ mg/L) | $HCO_3^-$ ($CaCO_3$ mg/L) |
|---|---|---|---|
| P=0 | 0 | 0 | T |
| P<T/2 | 0 | 2P | T-2P |
| P=T/2 | 0 | 2P | 0 |
| P>T/2 | 2P-T | 2(T-P) | 0 |
| P = T | T | 0 | 0 |

**Calculation:**

$A=S_A-E_A$

$B=S_B-E_B$

$P=50{,}000\ f_1\ A\ C\ /V$

$T=50{,}000\ f_1\ (A+B)\ C\ /V$

APCL Form 5-101, Nov. 29, 1999 Ver 3.2

Using blue pen. Correcting by red pen.

File: [CUST.DOC.WET]ALK.TEX

Root-File: [CUST.DOC.WET]ALK_ROOT.TEX

1-Page-File: [CUST.DOC.WET]ALK1.TEX

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# pH ( 150.1/9045B ) Worksheet



**Temperature compensation must be performed by the instrument automatically.** Analyst DL SOP: G-44

| Batch # 03W2494 | Analysis Date: 4/22/03 | Batch # 03W2497 | Analysis Date: 4/22/03 |
|---|---|---|---|
| Starting Time: 14:40 | Ending Time: :__ | Starting Time: 16:24 | Ending Time: :__ |
| Matrix ☐ Aaueous ☒ Soil | | Matrix ☐ Aaueous ☐ Soil | |

| Standard | 4.00 | 7.00 | 10.00 |
|---|---|---|---|
| Lot # | | 2120 | 030659-24 |
| Temperature °C | | 24.0 | 24.0 |
| pH Reading | | 7.01 | 10.03 |
| T-corrected pH | | 7.00 | 10.01 |
| Control Limit | ±0.05 pH unit | | |

| Standard | 4.00 | 7.00 | 10.00 |
|---|---|---|---|
| Lot # | | 2120 | 030659-24 |
| Temperature °C | | 24.2 | 24.2 |
| pH Reading | | 7.02 | 10.03 |
| T-corrected pH | | 7.00 | 10.01 |
| Control Limit | ±0.05 pH unit | | |

| # | Sample ID | Pre-treat | pH | Note |
|---|---|---|---|---|
| MB | 08717HA | | 6.83 | 1:1 |
| 1 | 2778-31 | | 8.15 | |
| 2 | ↓ -32 | | 8.09 | |
| 3 | 2778-1 | | 9.42 | |
| 4 | -2 | | 9.21 | |
| 5 | -3 | | 9.62 | |
| 6 | -4 | | 9.57 | |
| 7 | -6 | | 8.69 | |
| 8 | -7 | | 9.24 | |
| 9 | -8 | | 9.33 | |
| 10 | ↓ -9 | | 9.21 | ↓ |
| 11 | 2816-13 | | 9.16 | 1:1 |
| 12 | -14 | | 9.05 | |
| 13 | -15 | | 9.47 | |
| 14 | -16 | | 9.19 | |
| 15 | -17 | | 9.10 | |
| 16 | -18 | | 9.20 | |
| 17 | -19 | | 9.29 | |
| 18 | ↓ -20 | | 9.21 | ↓ |
| 19 | | | | |
| 20 | | | | |
| Dup. | 2778-1 | | 9.37 | 1:1 |

| # | Sample ID | Pre-treat | pH | Note |
|---|---|---|---|---|
| MB | TIII5 | | 6.85 | |
| 1 | 2819-1 | | 7.89 | |
| 2 | -2 | | 7.68 | |
| 3 | -3 | | 6.92 | |
| 4 | -4 | | 7.52 | |
| 5 | -5 | | 8.15 | |
| 6 | ↓ -6 | | 8.08 | |
| 7 | 2830 - 4 | | 8.65 | |
| 8 | ↓ -9 | | 7.92 | |
| 9 | 2829- 2 | | 7.67 | |
| 10 | -5 | | 6.76 | |
| 11 | -1 | | 9.62 | |
| 12 | -3 | | 7.91 | |
| 13 | ↓ -4 | | 8.25 | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| Dup. | 2819-2 | | 7.62 | |

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TDS

# Solid Analysis ( 160.1, 160.2, 160.3 ) Worksheet

✓ 023

Batch # 03W2500 Matrix W Method: 160.1 Balance No. _____ Date: 4/22/03 Analyst: hm

**EPA 160.1** TDS – Total Dissolved (filterable) Solids — Dry for 1hr. or more at 180 °C

**EPA 160.2** TSS – Total Suspended (nonfilterable) Soilds — Dry for 1hr. or more at 103-105 °C

**EPA 160.3** TS – Total Solids — Dry for 1hr. or more at 103-105 °C

**Other method** (specify):

Result= $10^6 \times \Delta W \times f_1 / V$ SOP: G-81

| # | Analysis Type | Sample ID (STD Lot #) | Treatment Ratio $V_f/X=f_1$ | Volume $V$, mL | $W_1$ g | $W_2$ 1st, g | $W_2$ 2nd, g | $\Delta W = W_2 - W_1$, g | Results (ppm) | Note |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Blank | T115 | / = | 100 | 115.5103 | 115.5104 | 115.5104 | | 1 | C |
| 2 | LCS | " | / = | " | 114.0245 | 114.0666 | 114.0666 | | 421 | D |
| 3 | Sample-1 | 2809-1 | / = | 100 | 116.6483 | 116.6482 | 116.6483 | | 0 | Z5 |
| 4 | MS on S-1 | 3 | / = | ↓ | 115.3396 | 115.4498 | 115.4498 | 1102 | 1002 | B |
| 5 | MSD on S-1 | 3 | / = | ↓ | 107.4123 | 107.5202 | 107.5202 | | 1079 | BB |
| 6 | Sample-2 | 2 | / = | 50 | 106.3139 | 106.3226 | 106.3220 | | 162 | 8 |
| 7 | Sample-3 | 3 | / = | 100 | 105.3551 | 105.4271 | 105.4271 | | 720 | W1 |
| 8 | Sample-4 | 4 | / = | ↓ | 99.0748 | 99.1331 | 99.1330 | | 582 | Y2 |
| 9 | Sample-5 | 5 | / = | ↓ | 113.8605 | 113.8800 | 113.8802 | | 197 | 6 |
| 10 | Sample-6 | 6 | / = | ↓ | 103.9428 | 103.9780 | 103.9780 | | 352 | 14 |
| 11 | Sample-7 | 2809-1 | / = | ↓ | 115.1303 | 115.1521 | 115.1524 | | 221 | 10 |
| 12 | Sample-8 | 2 | / = | ↓ | 108.5434 | 108.5430 | 108.5432 | | 0 | 1P |
| 13 | Sample-9 | 3 | / = | ↓ | 121.3173 | 121.3420 | 121.4417 | | 244 | I |
| 14 | Sample-10 | 4 | / = | ↓ | 115.7063 | 115.7650 | 115.7650 | | 587 | HK |
| 15 | LCSD | T115 | / = | ↓ | 107.1871 | 107.1599 | 107.1599 | | 428 | D2 |
| 16 | Sample-11 | 5 | / = | ↓ | 104.3088 | 104.3313 | 104.3314 | | 226 | 3 |
| 17 | Sample-12 | 6 | / = | ↓ | 114.1411 | 114.1603 | 114.1602 | | 191 | C3 |
| 18 | Sample-13 | 7 | / = | ↓ | 115.9112 | 115.9244 | 115.9245 | | 133 | Y9 |
| 19 | Sample-14 | 8 | / = | ↓ | 103.5329 | 103.5329 | 103.5328 | | 0 | Z6 |
| 20 | Sample-15 MS | 4 | / = | ↓ | 104.2613 | 104.3621 | 104.3624 | | 1008 | 7 |
| 21 | Sample-16 MSD | 4 | / = | ↓ | 106.6522 | 106.7493 | 106.7493 | | 971 | X |
| 22 | Sample-17 | 2829-1 | / = | ↓ | 107.7078 | 107.7221 | 107.7222 | | 144 | O |
| 23 | Sample-18 | 2 | / = | ↓ | 111.2781 | 111.3022 | 113.3020 | | 239 | 5 |
| 24 | Sample-19 | 3 | / = | ↓ | 114.3693 | 114.4169 | 114.4172 | | 479 | A |
| 25 | Sample-20 | 4 | / = | ↓ | 111.7908 | 117.8209 | 111.8210 | | 302 | R |
| 26 | Mix Dup. | 5 | / = | ↓ | 114.3085 | 114.3040 | 114.3043 | | 0 | H |

| | STD Lot # | $C_{STD}(\mu g/mL) \times V_{STD}(mL)/X(g \text{ or } mL) = T$ | | Spike Rec. | Ctl Limit (W/S) |
|---|---|---|---|---|---|
| W- | 7618 | × / = 400 | ppm | % | 85-115 %/80-120 % |
| W- | " | × / = ↓ | ppm | % | " " |
| W- | 7619 | × / = ↓ | ppm | % | 90-110 %/85-115 % |
| W- | " | × / = ↓ | ppm | % | " " |

| PQL/MDL (in ppm) | |
|---|---|
| PQL(w) | 10 |
| PQL(s) | 50 |
| MDL(w) | 4 |
| MDL(s) | 20 |

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# Balance Daily Calibration Worksheet

Weight Set S/N: 12088 3228

| Calib. Date | Lab Balance # | Lab Balance 1 g ±0.05g | Lab Balance 10 g ±0.1g | Lab Balance 200 g ±0.5g | Lab Balance Note (C) | Digital Balance # | Digital Balance 1 g ±0.02g | Digital Balance 10 g ±0.05g | Digital Balance 200 g ±0.10g | Digital Balance Note (D) (C) (AR) | Analytical Balance # | Analytical Balance 1 g ±0.0002g | Analytical Balance 10 g ±0.0005g | Analytical Balance 200 g ±0.0010g | Analytical Balance Note (D) (C) (AR) | Calib. by |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/21/03 | A-01 | Not | in | use | ✓ | B-01 | 1.00 | 10.00 | 200.01 | ✓✓✓ | C-01 | 1.0000 | 10.0000 | 200.0001 | ✓✓✓ | YL |
| | ~~A-02~~ | | | | | B-05 | 1.00 | 9.99 | 200.00 | ✓✓✓ | C-02 | 1.0000 | 10.0001 | 200.0000 | ✓✓✓ | |
| | A-03 | 1.00 | 10.00 | 200.01 | ✓ | B-06 | 1.00 | 10.01 | 200.00 | ✓✓✓ | C- | | | | | |
| | A-04 | | | | | B-07 | 1.00 | 10.00 | 199.99 | ✓✓✓ | C- | | | | | |
| | A- | | 4/21/03 | | | B- | | | | | C- | | 4/21/03 | | | |
| | A- | | | | | B- | | 4/21/03 | | | C- | | | | | |
| 4/22/03 | A-01 | not | in | use | ✓ | B-01 | 1.00 | 10.00 | 200.01 | ✓✓✓ | C-01 | 1.0000 | 10.0000 | 200.0001 | ✓✓✓ | YL |
| | ~~A-02~~ | | | | | B-05 | 1.00 | 9.99 | 200.00 | ✓✓✓ | C-02 | 1.0000 | 10.0001 | 200.0000 | ✓✓✓ | |
| | A-03 | 1.00 | 10.00 | 200.01 | ✓ | B-06 | 1.00 | 10.00 | 200.00 | ✓✓✓ | C- | | | | | |
| | A-04 | | | | | B-07 | 1.00 | 10.00 | 199.99 | ✓✓✓ | C- | | | | | |
| | A- | | 4/22/03 | | | B- | | | | | C- | | 4/22/03 | | | |
| | A- | | | | | B- | | 4/22/03 | | | C- | | | | | |
| 4/23/03 | A-01 | Not | in | use | ✓ | B-01 | 1.00 | 10.00 | 200.01 | ✓✓✓ | C-01 | 1.0000 | 10.0000 | 200.0001 | ✓✓✓ | YL |
| | ~~A-02~~ | | | | | B-05 | 1.00 | 9.99 | 200.00 | ✓✓✓ | C-02 | 1.0001 | 10.0001 | 200.0002 | ✓✓✓ | |
| | A-03 | 1.00 | 10.00 | 20001 | ✓ | B-06 | 1.00 | 10.00 | 200.00 | ✓✓✓ | C- | | | | | |
| | A-04 | | | | | B-07 | 1.00 | 10.00 | 199.99 | ✓✓✓ | C- | | | | | |
| | A- | | 4/23/03 | | | B- | | | | | C- | | 4/23/03 | | | |
| | A- | | | | | B- | | 4/23/03 | | | C- | | | | | |
| 4/24/03 | A-01 | Not | in | use | ✓ | B-01 | 1.00 | 10.00 | 200.00 | ✓✓✓ | C-01 | 1.0000 | 9.9999 | 200.0000 | ✓✓✓ | YL |
| | ~~A-02~~ | | | | | B-05 | 1.00 | 10.01 | 200.01 | ✓✓✓ | C-02 | 1.0000 | 10.0000 | 200.0002 | ✓✓✓ | |
| | A-03 | 1.00 | 10.00 | 200.00 | | B-06 | 1.00 | 10.00 | 200.00 | ✓✓✓ | C- | | | | | |
| | A-04 | | | | | B-07 | 1.00 | 9.99 | 199.99 | ✓✓✓ | C- | | | | | |
| | A- | | 4/24/03 | | | B- | | | 4/24/03 | | C- | | 4/24/03 | | | |
| | A- | | | | | B- | | 4/24/03 | | | C- | | | | | |

Notation: (C) – Cleanliness; (D) – Display; (AR) – Auto Rezeroing.

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# Chromium (VI) ( 7196 ) Worksheet

Batch #: 02W750 Matrix: W [ Holding Time: 24 hours!! ] Test Date: 4/22/02 Analyst:

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: 16:56 SOP: G-22

| Calibration | STD Lot # | $C_{std} \times V_{std} / V_f = C_i$ | $A_i$ | $RF_i = A_i / C_i$ | Calibration results | Note |
|---|---|---|---|---|---|---|
| STD-1 | W- | x / = mg/L | | | Least Square [RF]= | Cal. Code: |
| STD-2 | W- | x / = mg/L | | | Average $\overline{RF}$= | |
| STD-3 | W- | x / = mg/L | | | C.C.=0.9997 (≥ 0.995) | |
| STD-4 | W- | x / = mg/L | | | RSD= % (≤ 15%) | |
| STD-5 | W- | x / = mg/L | | | Ref. page | |
| STD-6 | W- | x / = mg/L | | | A=0.000+0.836C | |

| Analysis Type | Sample ID or Lot # | Samp. Amnt $X_0$ (g or mL) | Dilu./Ext $X/X_0 = f_1$ | Treat. Ratio $V/X = f_2$ | 540 nm A | Concentration $C' = A/\overline{RF}$ | C (Sample) $C = f_1 f_2 C'$ | Anomaly Note |
|---|---|---|---|---|---|---|---|---|
| CCV | Lot: W-7853 | Expected Conc.: x / =0.25 mg/L | | | 0.204 | 0.244 mg/L | REC. % | 90-110 % |
| Method Blank | Bl. Lot: T1115 | | /$X_0$ = 1 | 95.0/ = | 0.000 | mg/L | 0.000 ppm | |
| LCS1 | Bl. Lot: " | | /$X_0$ = 1 | 95.0/ = | 0.195 | mg/L | 0.233 ppm | |
| Sample-1 | 2819-1 | | /$X_0$ = 1 | 95.0/ = | 0.001 | mg/L | 0.000 ppm | |
| MS on S-1 | 3 | | /$X_0$ = 1 | 95.0/ = | 0.185 | mg/L | 0.221 ppm | |
| MSD on S-1 | 3 | | /$X_0$ = 1 | 95.0/ = | 0.181 | mg/L | 0.217 ppm | |
| Sample 2 | 2 | | /$X_0$ = 1 | 95.0/ = | 0.004 | mg/L | 0.005 ppm | |
| Sample 3 | 3 | | /$X_0$ = 1 | 95.0/ = | 0.002 | mg/L | 0.002 ppm | |
| Sample 4 | 4 | | /$X_0$ = 1 | 95.0/ = | 0.002 | mg/L | 0.002 ppm | |
| Sample 5 | 5 | | /$X_0$ = 1 | 95.0/ = | 0.001 | mg/L | 0.001 ppm | |
| Sample 6 | 6 | | /$X_0$ = 1 | 95.0/ = | 0.001 | mg/L | 0.001 ppm | |
| Sample 7 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 8 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 9 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 10 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Blank | Lot: | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| LCS2 | Bl. Lot: T1115 | | /$X_0$ = 1 | 95.0/ = | 0.190 | mg/L | 0.227 ppm | |
| Sample 11 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 12 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 13 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 14 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 15 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 16 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 17 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 18 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 19 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| Sample 20 | | | /$X_0$ = 1 | 95.0/ = | | mg/L | ppm | |
| MTX Dup. | closing 0.25 mg/L | | /$X_0$ = 1 | 95.0/ = | 0.212 | 0.254 mg/L | ppm | |

| Type | STD Lot # | $C_{STD(\mu g/mL)} \times V_{STD(mL)} / X_{(g \text{ or } mL)} = T$ | Spike Rec. | Ctl Limit (W/S) |
|---|---|---|---|---|
| MS | W- 7757 | x / = 0.25 ppm | % | 80-120 %/80-120 % |
| MSD | W- " | x / = ppm | % | .. .. |
| LCS | W- 7853 | x / = ppm | % | 80-120 %/80-120 % |
| LCSD | W- " | x / = ppm | % | .. .. |

| PQL/MDL (in ppm) | |
|---|---|
| PQL(w) | 0.01 |
| PQL(s) | 0.05 |
| MDL(w) | 0.005 |
| MDL(s) | 0.025 |

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# Chromium (VI) ( 7196 ) Worksheet

Batch # 03W1295 Matrix: W [ Holding Time: 24 hours!! ] Test Date: 1/29/03 Analyst: BN

Lot #: Reagent Water _____ Diphenylcazide solution _____ Test Time: _____ SOP: G-22

| Calibration | STD Lot # | $C_{std} \times V_{std} / V_f = C_i$ | $A_i$ | $RF_i = A_i / C_i$ | Calibration results | Note |
|---|---|---|---|---|---|---|
| STD-1 | W-7191 | × / =0.000 mg/L | 0.000 | | Least Square [RF]= | Cal. Code: |
| STD-2 | W- | × / =0.025 mg/L | 0.006 | | Average $\overline{RF}$= | A=0.000+0.836C |
| STD-3 | W- | × / =0.050 mg/L | 0.041 | | C.C.=0.9977 (≥ 0.995) | |
| STD-4 | W- | × / =0.125 mg/L | 0.109 | | RSD= % (≤ 15%) | |
| STD-5 | W- | × / =0.250 mg/L | 0.214 | | Ref. page | |
| STD-6 | W- ↓ | × / =0.500 mg/L | 0.415 | | A=0.003+Bx Kg/03 | |

| Analysis Type | Sample ID or Lot # | Samp. Amnt $X_0$ (g or mL) | Dilu./Ext $X/X_0=f_1$ | Treat. Ratio $V/X=f_2$ | 540 nm A | Concentration $C'=A/\overline{RF}$ | C (Sample) $C=f_1 f_2 C'$ | Anomaly Note |
|---|---|---|---|---|---|---|---|---|
| CCV | Lot: W-7076. | Expected Conc.: | × | / = 0.25 mg/L | 0.206 | 0.258 mg/L | REC. % | 90-110 % |
| Method Blank | Bl. Lot: T1115 | | /$X_0$ = 1 | 95.0/ = | 0.000 | mg/L | 0.00 ppm | |
| LCS1 | Bl. Lot: " | | /$X_0$ = | 95.0/ = | 0.204 | mg/L | 0.244 ppm | |
| Sample-1 | 1369-1 | | /$X_0$ = | 95.0/ = | 0.000 | mg/L | 0.00 ppm | |
| MS on S-1 | 6 | | /$X_0$ = | 95.0/ = | 0.223 | mg/L | 0.266 ppm | |
| MSD on S-1 | 62 | | /$X_0$ = | 95.0/ = | 0.230 | mg/L | 0.275 ppm | |
| Sample 2 | 2 | | /$X_0$ = | 95.0/ = | 0.004 | mg/L | 0.005 ppm | |
| Sample 3 | 3 | | /$X_0$ = | 95.0/ = | 0.002 | mg/L | 0.002 ppm | |
| Sample 4 | 4 | | /$X_0$ = | 95.0/ = | 0.001 | mg/L | 0.001 ppm | |
| Sample 5 | 5 | | /$X_0$ = | 95.0/ = | 0.002 | mg/L | 0.002 ppm | |
| Sample 6 | 6 | | /$X_0$ = ↓ | 95.0/ = | 0.004 | mg/L | 0.005 ppm | |
| Sample 7 | - | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 8 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 9 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 10 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Blank | Lot: | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| LCS2 | Bl. Lot: T1115 | | /$X_0$ = 1 | 95.0/ = | 0.210 | mg/L | 0.251 ppm | |
| Sample 11 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 12 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 13 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 14 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 15 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 16 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 17 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 18 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 19 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| Sample 20 | | | /$X_0$ = | 95.0/ = | | mg/L | ppm | |
| MTX Dup. | closing 0.25mg/L | | /$X_0$ = | 95.0/ = | 0.204 | mg/L | 0.248 ppm | |

| Type | STD Lot # | $C_{STD}(\mu g/mL) \times V_{STD}(mL) / X(g \text{ or } mL) = T$ | Spike Rec. | Ctl Limit (W/S) |
|---|---|---|---|---|
| MS | W- 7076 | × / =0.25 ppm | % | 80-120 %/80-120 % |
| MSD | W- ↓ | × / = ppm | % | .. .. |
| LCS | W- 7191 | × / = ppm | % | 80-120 %/80-120 % |
| LCSD | W- ↓ | × / = ppm | % | .. .. |

| PQL/MDL (in ppm) | |
|---|---|
| PQL(w) | 0.01 |
| PQL(s) | 0.05 |
| MDL(w) | 0.005 |
| MDL(s) | 0.025 |

| ine | Sample | Sample Type | Level | Method | Data File | Volume | Dilution |
|---|---|---|---|---|---|---|---|
| | ##03:w2496kw ipc 25ppb w7759 | Sample | | e314-011.met | c:\data\03w2496k\w2496k ipc 25ppb | 1 | 1 |
| | ccv 50ppb w7827e | Sample | | e314-011.met | c:\data\03w2496k\w2496k q01 | 1 | 1 |
| | ccb | Sample | | e314-011.met | c:\data\03w2496k\w2496k ccb01 | 1 | 1 |
| | lcs 25ppb w7827d | Sample | | e314-011.met | c:\data\03w2496k\w2496k l01 | 1 | 1 |
| | LCS 18PPB W7685D | Sample | | e314-011.met | c:\data\03w2496k\w2496k j01 | 1 | 1 |
| | ICCS 4ppb w7827b | Sample | | e314-011.met | c:\data\03w2496k\w2496k iccs 4ppb | 1 | 1 |
| | mb | Sample | | e314-011.met | c:\data\03w2496k\w2496k k01 | 1 | 1 |
| | 2805-19 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2805-19 | 1 | 1 |
| | 2809-01 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-01 | 1 | 1 |
| 0 | 2809-02 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-02 | 1 | 1 |
| 1 | 2809-03 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-03 | 1 | 1 |
| 2 | 2809-04 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-04 | 1 | 1 |
| 3 | ccv 50ppb w7827e | Sample | | e314-011.met | c:\data\03w2496k\w2496k q02 | 1 | 1 |
| 4 | ccb | Sample | | e314-011.met | c:\data\03w2496k\w2496k k02 | 1 | 1 |
| 5 | 2809-05 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-05 | 1 | 1 |
| 6 | 2809-06 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-06 | 1 | 1 |
| 7 | 2809-07 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-07 | 1 | 1 |
| 8 | 2809-08 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2809-08 | 1 | 1 |
| 9 | 2819-01 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2819-01 | 1 | 1 |
| 0 | 2819-02 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2819-02 | 1 | 1 |
| 1 | 2819-03 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2819-03 | 1 | 1 |
| 2 | 2819-04 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2819-04 | 1 | 1 |
| 3 | 2819-05 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2819-05 | 1 | 1 |
| 4 | ccv 50ppb w7827e | Sample | | e314-011.met | c:\data\03w2496k\w2496k q03 | 1 | 1 |
| 5 | CCB | Sample | | e314-011.met | c:\data\03w2496k\w2496k k03 | 1 | 1 |
| 6 | 2819-06 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2819-06 | 1 | 1 |
| 7 | 2809-04 MS 50PPB F=1 | Sample | | e314-011.met | c:\data\03w2496k\w2496k m01 | 1 | 1 |
| 8 | 2809-04 MSD 50PPB F=1 | Sample | | e314-011.met | c:\data\03w2496k\w2496k n01 | 1 | 1 |
| 9 | 2819-03 MS 50PPB F=1 | Sample | | e314-011.met | c:\data\03w2496k\w2496k m02 | 1 | 1 |
| 0 | 2819-03 MSD 50PPB F=1 | Sample | | e314-011.met | c:\data\03w2496k\w2496k n02 | 1 | 1 |
| 1 | ccv 50ppb w7827e | Sample | | e314-011.met | c:\data\03w2496k\w2496k q04 | 1 | 1 |
| 2 | ccv 50ppb w7827e | Sample | | e314-011.met | c:\data\03w2496k\w2496k q05 | 1 | 1 |
| 3 | CCB | Sample | | e314-011.met | c:\data\03w2496k\w2496k k04 | 1 | 1 |
| 4 | 2820-05 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2820-05 | 1 | 1 |
| 5 | 2820-06 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2820-06 | 1 | 1 |
| 6 | 2820-09 F=1 | Sample | | e314-011.met | c:\data\03w2496k\2820-09 | 1 | 1 |
| 7 | ccv 50ppb w7827e | Sample | | e314-011.met | c:\data\03w2496k\w2496k q06 | 1 | 1 |
| 8 | | Sample | | aastopcl.met | | 1 | 1 |

Analyst Wei Wang

Date 4/22-23/03

Instrument IC-K

| Line | Sample | Sample Type | Level | Method | Data File | Volume | Dilution |
|---|---|---|---|---|---|---|---|
| 1 | Cal blank | Sample | | e314-011.met | c:\data\e314-011\mb_001.dxd | 1 | 1 |
| 2 | cal standard 2ppb W7827a | Sample | | e314-011.met | c:\data\e314-011\std-2pb_002.dxd | 1 | 1 |
| 3 | cal standard 4ppb W7827b | Sample | | e314-011.met | c:\data\e314-011\std-4pb_003.dxd | 1 | 1 |
| 4 | cal standard 10ppb W7827c | Sample | | e314-011.met | c:\data\e314-011\std-10pb_004.dxd | 1 | 1 |
| 5 | cal standard 25ppb W7827d | Sample | | e314-011.met | c:\data\e314-011\std-25pb_005.dxd | 1 | 1 |
| 6 | cal standard 50ppb W7827e | Sample | | e314-011.met | c:\data\e314-011\std-50pb_006.dxd | 1 | 1 |
| 7 | cal standard 75ppb W7827f | Sample | | e314-011.met | c:\data\e314-011\std-75pb_007.dxd | 1 | 1 |
| 8 | cal standard 100ppb W7827g | Sample | | e314-011.met | c:\data\e314-011\std-100pb_008.dxd | 1 | 1 |
| 9 | ICV 50 ppb w7828a | Sample | | e314-011.met | c:\data\e314-011\icv-50pb_009.dxd | 1 | 1 |
| 10 | icb | Sample | | e314-011.met | c:\data\e314-011\icb_010.dxd | 1 | 1 |
| 11 | anion 100pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-100_011.dxd | 1 | 1 |
| 12 | anion 200pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-200_012.dxd | 1 | 1 |
| 13 | anion 300pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-300_013.dxd | 1 | 1 |
| 14 | anion 400pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-400_014.dxd | 1 | 1 |
| 15 | anion 500pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-500_015.dxd | 1 | 1 |
| 16 | anion 600pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-600_016.dxd | 1 | 1 |
| 17 | anion 800pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-800_017.dxd | 1 | 1 |
| 18 | anion 1000pm each ,25pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\mct-1000_018.dxd | 1 | 1 |
| 19 | anion 400pm each 2pb | Sample | | e314-011.met | c:\data\e314-011\ipc-2pb_019.dxd | 1 | 1 |
| 20 | anion 400pm each 4pb | Sample | | e314-011.met | c:\data\e314-011\ipc-4pb_020.dxd | 1 | 1 |
| 21 | anion 400pm each 25pb | Sample | | e314-011.met | c:\data\e314-011\ipc-25pb_021.dxd | 1 | 1 |
| 22 | ICV 50 ppb | Sample | | e314-011.met | c:\data\e314-011\ccv-50pb | 1 | 1 |
| 23 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-02_023.dxd | 1 | 1 |
| 24 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-03_024.dxd | 1 | 1 |
| 25 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-04 | 1 | 1 |
| 26 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-05 | 1 | 1 |
| 27 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-06 | 1 | 1 |
| 28 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-07 | 1 | 1 |
| 29 | MDL 4pb | Sample | | e314-011.met | c:\data\e314-011\mdl-08 | 1 | 1 |
| 30 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 31 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 32 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 33 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 34 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 35 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 36 | IDP and IDA 25pb | Sample | | e314-011.met | c:\data\e314-011\idap-25pb | 1 | 1 |
| 37 | MCT anion 800pm each, 25pbCLO4 | Sample | | e314-011.met | c:\data\e314-011\ipc-25pb | 1 | 1 |
| 38 | MCT anion 800pm each, 25pbCLO4 | Sample | | e314-011.met | c:\data\e314-011\ipc-25pb | 1 | 1 |
| 39 | MCT anion 800pm each, 4pbCLO4 | Sample | | e314-011.met | c:\data\e314-011\ipc-4pb | 1 | 1 |
| 40 | MCT anion 800pm each, 4pbCLO4 | Sample | | e314-011.met | c:\data\e314-011\ipc-4pb | 1 | 1 |
| 41 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s01 | 1 | 5 |
| 42 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s02 | 1 | 5 |
| 43 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s03 | 1 | 5 |
| 44 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s04 | 1 | 5 |
| 45 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s05 | 1 | 5 |
| 46 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s06 | 1 | 5 |
| 47 | MDL 20pb soil | Sample | | e314-011.met | c:\data\e314-011\mdl-s07 | 1 | 5 |
| 48 | standard 25ppb W7827d | Sample | | e314-011.met | c:\data\e314-011\std-25pb | 1 | 1 |
| 49 | anion 100pm each,4pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\am-100-4pb | 1 | 1 |
| 50 | anion 200pm each ,4pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\am-200-4pb | 1 | 1 |
| 51 | anion 300pm each ,4pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\am-300-4pb | 1 | 1 |
| 52 | anion 100pm each,2pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\am-100-2pb | 1 | 1 |
| 53 | anion 200pm each,2pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\am-200-2pb | 1 | 1 |
| 54 | anion 300pm each,2pb CLO4 | Sample | | e314-011.met | c:\data\e314-011\am-300-2pb | 1 | 1 |
| 55 | 1982-01 B S.C 4450us/cm | Sample | | e314-011.met | c:\data\e314-011\1982-01 | 1 | 1 |
| 56 | 1982-01 B S.C 4450us/cm | Sample | | e314-011.met | c:\data\e314-011\1982-01 | 1 | 2 |
| 57 | 1982-02 f=10 | Sample | | e314-011.met | c:\data\e314-011\1982-02_057.dxd | 1 | 10 |
| | | Sample | | aastopcl.met | | 1 | 1 |

DIONEX SCHEDULE - C:\DX\SCHEDULE\03W2479.SCH

| Inj# | Sample Name | Method | Data File | Vol. | Dil. | Int.Std. |
|---|---|---|---|---|---|---|
| 1 | ##03W2479, W CCVW77 | ..\E300-063 | ..\W2479Q01.D01 | 1 | 1 | 1 |
| 2 | MB RW1408 | ..\E300-063 | ..\W2479K01.D02 | 1 | 1 | 1 |
| 3 | LCS W7768-100X | ..\E300-063 | ..\W2479L01.D03 | 1 | 1 | 1 |
| 4 | LCSD W7768-100X | ..\E300-063 | ..\W2479J01.D04 | 1 | 1 | 1 |
| 5 | 2809-2 F=1.25 | ..\E300-063 | ..\2809-201.D05 | 1 | 1.25 | 1 |
| 6 | 2809-8 F=1.25 | ..\E300-063 | ..\2809-801.D06 | 1 | 1.25 | 1 |
| 7 | 2809-1 F=2.5 | ..\E300-063 | ..\2809-101.D07 | 1 | 2.5 | 1 |
| 8 | 2809-3 F=2 | ..\E300-063 | ..\2809-301.D08 | 1 | 2 | 1 |
| 9 | 2809-4 F=20 | ..\E300-063 | ..\2809-401.D09 | 1 | 20 | 1 |
| 10 | 2809-5 F=4 | ..\E300-063 | ..\2809-501.D10 | 1 | 4 | 1 |
| 11 | 2809-6 F=4 | ..\E300-063 | ..\2809-601.D11 | 1 | 4 | 1 |
| 12 | CCV2W7767-100X | ..\E300-063 | ..\W2479Q01.D12 | 1 | 1 | 1 |
| 13 | MB RW1408 | ..\E300-063 | ..\W2479K01.D13 | 1 | 1 | 1 |
| 14 | $2809-4 MS F=40 | ..\E300-063 | ..\W2479M01.D14 | 1 | 40 | 1 |
| 15 | $2809-4 MSD F=40 | ..\E300-063 | ..\W2479N01.D15 | 1 | 40 | 1 |
| 16 | 2815-1 F=2 | ..\E300-063 | ..\2815-101.D16 | 1 | 2 | 1 |
| 17 | 2809-7 F=4 | ..\E300-063 | ..\2809-701.D17 | 1 | 4 | 1 |
| 18 | CCV3W7767-100X | ..\E300-063 | ..\W2479Q01.D18 | 1 | 1 | 1 |
| 19 | MB RW1408 | ..\E300-063 | ..\W2479K11.D19 | 1 | 1 | 1 |
| 20 | $2819-3 MS F=40 | ..\E300-063 | ..\W2479M01.D20 | 1 | 40 | 1 |
| 21 | $2819-3 MSD F=40 | ..\E300-063 | ..\W2479N01.D21 | 1 | 40 | 1 |
| 22 | 2819-3 F=20 | ..\E300-063 | ..\2819-301.D22 | 1 | 20 | 1 |
| 23 | 2819-4 F=12.5 | ..\E300-063 | ..\2819-401.D23 | 1 | 12.5 | 1 |
| 24 | 2819-5 F=4 | ..\E300-063 | ..\2819-501.D24 | 1 | 4 | 1 |
| 25 | 2819-6 F=10 | ..\E300-063 | ..\2819-601.D25 | 1 | 10 | 1 |
| 26 | 2819-2 F=1.25 | ..\E300-063 | ..\2819-201.D26 | 1 | 1.25 | 1 |
| 27 | 2819-1 F=1.25 | ..\E300-063 | ..\2819-101.D27 | 1 | 1.25 | 1 |
| 28 | CCV4W7767-100X | ..\E300-063 | ..\W2479Q01.D28 | 1 | 1 | 1 |
| 29 | | ..\STOP.MET | | 1 | 1 | 1 |

Comment:
LCS/LCSD LOT # W7768
MS/MSD LOT # W7767
ELUENT LOT # W7868
ANALYTICAL METHOD 9056/E300 MATRIX W

Analyst JL
Date 4/22/03
Instrument J

DIONEX SCHEDULE - C:\DX\SCHEDULE\E300-063.SCH

| Inj# | Sample Name | Method | Data File | Vol. | Dil. | Int.Std. |
|---|---|---|---|---|---|---|
| 1 | autocal1r | ..\E300-063 | ..\W7767Q01.D01 | 1 | 1 | 1 |
| 2 | autocal2r | ..\E300-063 | ..\W7767Q01.D02 | 1 | 1 | 1 |
| 3 | autocal3r | ..\E300-063 | ..\W7767Q01.D03 | 1 | 1 | 1 |
| 4 | autocal4r | ..\E300-063 | ..\W7767Q01.D04 | 1 | 1 | 1 |
| 5 | autocal5r | ..\E300-063 | ..\W7767Q01.D05 | 1 | 1 | 1 |
| 6 | autocal6r | ..\E300-063 | ..\W7767Q01.D06 | 1 | 1 | 1 |
| 7 | icv-w7768-100X | ..\E300-063 | ..\W7768Q01.D07 | 1 | 1 | 1 |
| 8 | icb | ..\E300-063 | ..\W7767Q01.D08 | 1 | 1 | 1 |

Comment:

Analyst DL

Date 3/21/03

Instrument J