Abbreviate / Analyte
PCE / Tetrachloroethene (PCE)
TCE / Trichloroethene (TCE)
Analyte / Matrix / Screening Level
Tetrachloroethene (PCE) / SO / 0.024
Trichloroethene (TCE) / SO / 0.02

CG001_GP007
ND (0.00477) PCE [0.0] :173
ND (0.00477) TCE [0.0] :173
ND (0.00469) PCE [5.0] :168
ND (0.00469) TCE [5.0] :168
ND (0.00462) PCE [10.0] :163
ND (0.00462) TCE [10.0] :163
ND (0.00506) PCE [28.0] :145
ND (0.00506) TCE [28.0] :145
ND (0.00487) PCE [42.0] :131
ND (0.00487) TCE [42.0] :131
ND (0.314) PCE [53.0] :120
ND (0.314) TCE [53.0] :120
ND (0.352) PCE [60.0] :113
ND (0.352) TCE [60.0] :113

CG001_GP015
ND (0.00578) PCE [0.0] :162
ND (0.00578) TCE [0.0] :162
ND (0.00473) PCE [5.0] :157
ND (0.00473) TCE [5.0] :157
ND (0.00469) PCE [10.0] :152
ND (0.00469) TCE [10.0] :152
ND (0.0575) PCE [37.0] :125
ND (0.0575) TCE [37.0] :125
ND (0.00586) PCE [56.0] :106
ND (0.00586) TCE [56.0] :106
ND (0.00535) PCE [71.0] :91
ND (0.00535) TCE [71.0] :91
ND (0.128) PCE [46.0] :116
ND (0.128) TCE [46.0] :116

CG001_GP016
ND (0.00604) PCE [0.0] :138
ND (0.00604) TCE [0.0] :138
ND (0.00511) PCE [5.0] :133
ND (0.00511) TCE [5.0] :133
ND (0.00546) PCE [10.0] :128
ND (0.00546) TCE [10.0] :128
ND (0.00479) PCE [13.0] :125
ND (0.00479) TCE [13.0] :125
ND (0.00452) PCE [21.0] :117
ND (0.00452) TCE [21.0] :117
ND (0.00512) PCE [31.0] :107
ND (0.00512) TCE [31.0] :107

CG001_GP013
ND (0.00473) PCE [0.0] :161
ND (0.00473) TCE [0.0] :161
ND (0.00494) PCE [5.0] :156
ND (0.00494) TCE [5.0] :156
ND (0.00507) PCE [10.0] :151
ND (0.00507) TCE [10.0] :151
ND (0.00858) PCE [26.0] :135
ND (0.00858) TCE [26.0] :135
ND (0.00453) PCE [34.0] :127
ND (0.00453) TCE [34.0] :127
ND (0.00551) PCE [44.0] :117
ND (0.00551) TCE [44.0] :117

CG001_GP014
ND (0.00424) PCE [0.0] :165
ND (0.00424) TCE [0.0] :165
ND (0.00456) PCE [5.0] :160
ND (0.00456) TCE [5.0] :160
ND (0.00399) PCE [10.0] :155
ND (0.00399) TCE [10.0] :155
ND (0.00615) PCE [29.0] :136
ND (0.00615) TCE [29.0] :136
ND (0.307) PCE [37.0] :128
ND (0.307) TCE [37.0] :128
ND (0.337) PCE [47.0] :118
ND (0.337) TCE [47.0] :118

CG001_GP002
ND (0.00565) PCE [0.0] :172
ND (0.00565) TCE [0.0] :172
ND (0.00482) PCE [5.0] :167
ND (0.00482) TCE [5.0] :167
ND (0.00583) PCE [10.0] :162
ND (0.00583) TCE [10.0] :162
ND (0.33) PCE [35.0] :137
ND (0.33) TCE [35.0] :137
ND (0.306) PCE [50.0] :122
ND (0.306) TCE [50.0] :122
ND (0.27) PCE [60.0] :112
ND (0.27) TCE [60.0] :112
ND (0.00687) PCE [78.0] :94
ND (0.00687) TCE [78.0] :94

CG001_GP017
ND (0.307) PCE [0.0] :142
ND (0.307) TCE [0.0] :142
ND (0.0107) PCE [5.0] :137
ND (0.0107) TCE [5.0] :137
ND (0.00467) PCE [10.0] :132
ND (0.00467) TCE [10.0] :132
ND (0.00508) PCE [16.0] :126
ND (0.00508) TCE [16.0] :126
ND (0.00517) PCE [25.0] :117
ND (0.00517) TCE [25.0] :117
ND (0.00569) PCE [35.0] :107
ND (0.00569) TCE [35.0] :107

CG001_GP012
ND (0.00595) PCE [0.0] :149
ND (0.00595) TCE [0.0] :149
ND (0.00475) PCE [5.0] :144
ND (0.00475) TCE [5.0] :144
ND (0.00384) PCE [10.0] :139
ND (0.00384) TCE [10.0] :139
ND (0.00543) PCE [24.0] :125
ND (0.00543) TCE [24.0] :125
ND (0.00548) PCE [32.0] :117
ND (0.00548) TCE [32.0] :117
ND (0.314) PCE [37.0] :112
ND (0.314) TCE [37.0] :112
ND (0.359) PCE [42.0] :107
ND (0.359) TCE [42.0] :107

CG001_GP018
ND (0.00447) PCE [0.0] :144
ND (0.00447) TCE [0.0] :144
ND (0.411) PCE [5.0] :139
ND (0.411) TCE [5.0] :139
ND (0.00601) PCE [10.0] :134
ND (0.00601) TCE [10.0] :134
ND (0.32) PCE [30.0] :114
ND (0.32) TCE [30.0] :114
ND (0.00471) PCE [41.0] :103
ND (0.00471) TCE [41.0] :103
ND (0.00493) PCE [51.0] :93
ND (0.00493) TCE [51.0] :93

CG001_GP001
ND (0.00623) PCE [0.0] :166
0.000429J (0.00623) TCE [0.0] :166
ND (0.00512) PCE [5.0] :160
ND (0.00512) TCE [5.0] :160
ND (0.278) PCE [10.0] :156
ND (0.278) TCE [10.0] :156
ND (0.355) PCE [32.0] :134
ND (0.355) TCE [32.0] :134
ND (0.288) PCE [50.0] :116
ND (0.288) TCE [50.0] :116
ND (0.00512) PCE [61.0] :104
ND (0.00512) TCE [61.0] :104
ND (0.28) PCE [40.0] :126
ND (0.28) TCE [40.0] :126

CG001_GP021
ND (0.00533) PCE [0.0] :144
ND (0.00533) TCE [0.0] :144
ND (0.00429) PCE [5.0] :139
ND (0.00429) TCE [5.0] :139
ND (0.00559) PCE [10.0] :134
ND (0.00559) TCE [10.0] :134
ND (0.00502) PCE [19.0] :125
ND (0.00502) TCE [19.0] :125
ND (0.00537) PCE [27.0] :117
ND (0.00537) TCE [27.0] :117
ND (0.00485) PCE [37.0] :107
ND (0.00485) TCE [37.0] :107

Soil stepout CG001_GP028 to the south of TCE exceedances

CG001_GP023
ND (0.00582) PCE [0.0] :136
ND (0.00582) TCE [0.0] :136
ND (0.00565) PCE [5.0] :131
ND (0.00565) TCE [5.0] :131
ND (0.334) PCE [10.0] :126
ND (0.334) TCE [10.0] :126
ND (0.287) PCE [11.0] :125
ND (0.287) TCE [11.0] :125
ND (0.435) PCE [19.0] :117
ND (0.435) TCE [19.0] :117
ND (0.00487) PCE [29.0] :107
ND (0.00487) TCE [29.0] :107

CG001_GP004
ND (0.00489) PCE [5.0] :152
ND (0.00489) TCE [5.0] :152
ND (0.00508) PCE [10.0] :147
ND (0.00508) TCE [10.0] :147
ND (0.308) PCE [18.0] :139
ND (0.308) TCE [18.0] :139
ND (0.286) PCE [32.0] :125
ND (0.286) TCE [32.0] :125
ND (0.252) PCE [40.0] :117
ND (0.252) TCE [40.0] :117
ND (0.21) PCE [50.0] :107
ND (0.21) TCE [50.0] :107
ND (0.00387) PCE [0.0] :157
ND (0.00387) TCE [0.0] :157

CG001_GP024
ND (0.00565) PCE [0.0] :167
ND (0.00565) TCE [0.0] :167
ND (0.00582) PCE [5.0] :162
ND (0.00582) TCE [5.0] :162
ND (0.00493) PCE [10.0] :157
ND (0.00493) TCE [10.0] :157
ND (0.269) PCE [42.0] :125
ND (0.269) TCE [42.0] :125
ND (0.272) PCE [50.0] :117
ND (0.272) TCE [50.0] :117
ND (0.00278) PCE [60.0] :107
ND (0.00278) TCE [60.0] :107

CG001_GP003
ND (0.00529) PCE [5.0] :166
ND (0.00529) TCE [5.0] :166
ND (0.00493) PCE [10.0] :161
ND (0.00493) TCE [10.0] :161
ND (0.312) PCE [46.0] :125
ND (0.312) TCE [46.0] :125
ND (2.91) PCE [55.0] :116
ND (2.91) TCE [55.0] :116
ND (0.00449) PCE [65.0] :106
ND (0.00449) TCE [65.0] :106
ND (0.00462) PCE [0.0] :171
ND (0.00462) TCE [0.0] :171

CG001_GP005
ND (0.0182) PCE [0.0] :173
ND (0.0182) TCE [0.0] :173
ND (0.0271) PCE [5.0] :168
ND (0.0271) TCE [5.0] :168
ND (0.00744) PCE [10.0] :163
ND (0.00744) TCE [10.0] :163
ND (0.00488) PCE [42.0] :131
ND (0.00488) TCE [42.0] :131
ND (0.282) PCE [50.0] :123
ND (0.282) TCE [50.0] :123
ND (0.358) PCE [60.0] :113
ND (0.358) TCE [60.0] :113
ND (0.00505) PCE [70.0] :103
ND (0.00505) TCE [70.0] :103

CG001_GP009
ND (0.197) PCE [0.0] :166
ND (0.197) TCE [0.0] :166
ND (0.00416) PCE [5.0] :161
ND (0.00416) TCE [5.0] :161
ND (0.00484) PCE [10.0] :156
ND (0.00484) TCE [10.0] :156
ND (0.247) PCE [41.0] :125
ND (0.247) TCE [41.0] :125
ND (0.274) PCE [49.0] :117
ND (0.274) TCE [49.0] :117
ND (0.213) PCE [59.0] :107
ND (0.213) TCE [59.0] :107

CG001_GP008
0.0331J (0.231) PCE [0.0] :173
ND (0.00453) TCE [0.0] :173
0.103J (0.263) PCE [5.0] :168
0.00112J (0.00524) TCE [5.0] :168
0.00367J (0.00479) PCE [10.0] :163
0.264J (0.294) TCE [10.0] :163
ND (0.23) PCE [56.0] :117
ND (0.23) TCE [56.0] :117
ND (0.187) PCE [66.0] :107
ND (0.187) TCE [66.0] :107
ND (0.242) PCE [48.0] :125
ND (0.242) TCE [48.0] :125

CG001_HA001
ND (0.00801) PCE [0.0] :134
ND (0.00801) TCE [0.0] :134

OAP_GP021
ND (0) PCE [0.0]
ND (0) TCE [0.0]
ND (0) PCE [5.0]
ND (0) TCE [5.0]
ND (0) PCE [14.0]
ND (0) TCE [14.0]

CG001_GP010
ND (0.00588) PCE [0.0] :145
ND (0.00588) TCE [0.0] :145
ND (0.00557) PCE [5.0] :140
ND (0.00557) TCE [5.0] :140
ND (0.00514) PCE [10.0] :135
ND (0.00514) TCE [10.0] :135
ND (0.241) PCE [20.0] :125
ND (0.241) TCE [20.0] :125
ND (0.257) PCE [28.0] :117
ND (0.257) TCE [28.0] :117
ND (0.238) PCE [40.0] :105
ND (0.238) TCE [40.0] :105

CG001_GP011
ND (0.00478) PCE [0.0] :145
0.000841J (0.00478) TCE [0.0] :145
ND (0.00493) PCE [5.0] :140
0.0015J (0.00493) TCE [5.0] :140
ND (0.329) PCE [10.0] :135
ND (0.329) TCE [10.0] :135
ND (0.306) PCE [14.0] :131
ND (0.306) TCE [14.0] :131
ND (0.284) PCE [32.0] :113
ND (0.284) TCE [32.0] :113
ND (0.546) PCE [35.0] :110
ND (0.546) TCE [35.0] :110
ND (0.33) PCE [53.0] :92
ND (0.33) TCE [53.0] :92
ND (0.283) PCE [22.0] :123
ND (0.283) TCE [22.0] :123

OAP_GP014
ND (0) PCE [0.0]
ND (0) TCE [0.0]
ND (0) PCE [5.0]
ND (0) TCE [5.0]
ND (0) PCE [14.0]
ND (0) TCE [14.0]
ND (0) PCE [22.0]
ND (0) TCE [22.0]

OAP_GP020
ND (0) PCE [0.0]
0.001S (0) TCE [0.0]
ND (0) PCE [5.0]
ND (0) TCE [5.0]
0.003S (0) PCE [14.0]
0.003S (0) TCE [14.0]

OAP_GP013
0.001S (0) PCE [0.0]
ND (0) TCE [0.0]
0.009S (0) PCE [5.0]
ND (0) TCE [5.0]
0.938S (0) PCE [14.0]
0.027S (0) TCE [14.0]
1.224S (0) PCE [22.0]
0.016S (0) TCE [22.0]

CG001_GP020
ND (0.291) PCE [0.0] :145
ND (0.291) TCE [0.0] :145
ND (0.00442) PCE [5.0] :140
ND (0.00442) TCE [5.0] :140
ND (0.00627) PCE [10.0] :135
ND (0.00627) TCE [10.0] :135
ND (0.0058) PCE [14.0] :131
ND (0.0058) TCE [14.0] :131
ND (0.00524) PCE [22.0] :123
ND (0.00524) TCE [22.0] :123
ND (0.297) PCE [32.0] :113
ND (0.297) TCE [32.0] :113
ND (0.318) PCE [48.0] :97
ND (0.318) TCE [48.0] :97

CG001_HA002
ND (0.00601) PCE [0.0] :135
0.000463J (0.00601) TCE [0.0] :135

CG001_HA003
ND (0.00804) PCE [0.0] :134
0.000725J (0.00804) TCE [0.0] :134

CG001_GP022
ND (0.0052) PCE [0.0] :140
ND (0.0052) TCE [0.0] :140
ND (0.00622) PCE [5.0] :135
ND (0.00622) TCE [5.0] :135
ND (0.00535) PCE [10.0] :130
ND (0.00535) TCE [10.0] :130
ND (0.00517) PCE [17.0] :123
ND (0.00517) TCE [17.0] :123
ND (0.00481) PCE [27.0] :113
ND (0.00481) TCE [27.0] :113

CG001_GP006
ND (0.269) PCE [0.0] :173
ND (0.269) TCE [0.0] :173
ND (0.298) PCE [5.0] :168
ND (0.298) TCE [5.0] :168
ND (0.0052) PCE [10.0] :163
ND (0.0052) TCE [10.0] :163
ND (0.312) PCE [32.0] :141
0.273J (0.312) TCE [32.0] :141
ND (0.312) PCE [48.0] :125
ND (0.312) TCE [48.0] :125
ND (7.6) PCE [56.0] :117
ND (7.6) TCE [56.0] :117
ND (0.355) PCE [66.0] :107
ND (0.355) TCE [66.0] :107
ND (0.00544) PCE [75.0] :98
ND (0.00544) TCE [75.0] :98

CG001_HA004
ND (0.00668) PCE [0.0] :136
ND (0.00668) TCE [0.0] :136

CG001_GP019
0.00114J (0.00535) PCE [0.0] :169
0.294J (0.282) TCE [0.0] :169
0.045J (0.274) PCE [5.0] :164
0.929 (0.274) TCE [5.0] :164
0.173J (0.331) PCE [10.0] :159
3.5 (0.331) TCE [10.0] :159
0.356J (0.345) PCE [18.0] :151
13.9J (0.345) TCE [18.0] :151
ND (0.00459) PCE [42.0] :127
0.00515 (0.00459) TCE [42.0] :127
ND (0.324) PCE [52.0] :117
ND (0.324) TCE [52.0] :117
ND (0.00662) PCE [65.0] :104
0.00253J (0.00662) TCE [65.0] :104

OAP_GP019
ND (0) PCE [5.0]
ND (0) TCE [5.0]
ND (0) PCE [14.0]
ND (0) TCE [14.0]
ND (0) PCE [2.5]
ND (0) TCE [2.5]

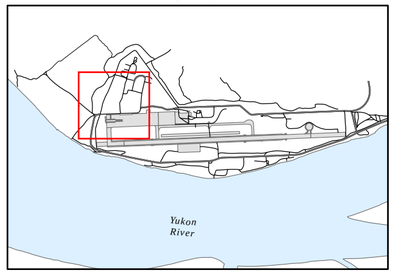
OAP_GP018
ND (0) PCE [2.0]
ND (0) TCE [2.0]
ND (0) PCE [5.0]
ND (0) TCE [5.0]
0.027S (0) PCE [14.0]
ND (0) TCE [14.0]
ND (0) PCE [22.0]
ND (0) TCE [22.0]

OAP_GP017
0.019S (0) PCE [0.0]
0.014S (0) TCE [0.0]
ND (0) PCE [5.0]
ND (0) TCE [5.0]
ND (0) PCE [14.0]
ND (0) TCE [14.0]

OAP_GP016
ND (0) PCE [0.0]
ND (0) TCE [0.0]
ND (0) PCE [5.0]
ND (0) TCE [5.0]
ND (0) PCE [14.0]
ND (0) TCE [14.0]

OAP_GP015
ND (0) PCE [2.0] :143
ND (0) TCE [2.0] :143
ND (0) PCE [5.0] :140
ND (0) TCE [5.0] :140
ND (0) PCE [14.0] :131
ND (0) TCE [14.0] :131
ND (0) PCE [22.0] :123
ND (0) TCE [22.0] :123

VICINITY MAP



LEGEND
- CG001\CG002
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Road
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour
- Abandoned Fuel Line (1962)
- Abandoned Fuel Line (1952)
- Active Fillstand Area
- Removed Fillstand Area
- Fuel Tank

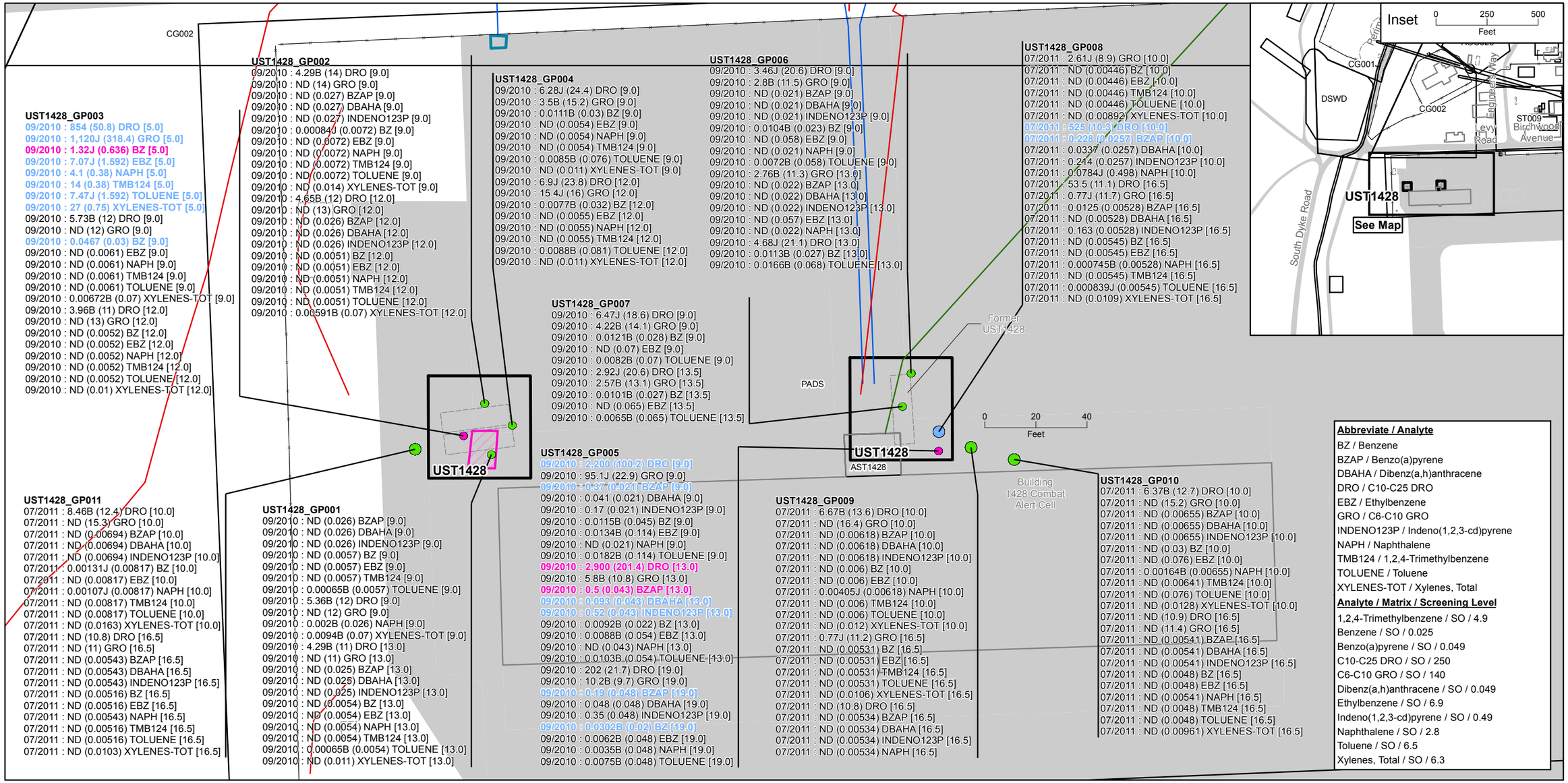
Underground Utility Locates - 2010
- Electrical Line
- Communications Line
- Sanitary Sewer Main
- Potable Water Main
- Fuel/Gas Line
- Concrete Pad
- Utility Vault
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

Notes:
1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   S - The sample results are unvalidated and should be used for screening purposes only.
2. Results shown for selected VOCs only (TCE and PCE).
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. Only detects are shown.
5. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Depth shown is the TOP depth of the sample.
10. 2010 utilities shown are underground only.

01-SS-01
0.00114J (0.00535) PCE [0.0] :167
Location ID
Solids Concentration (mg/kg)
Data Qualifier
Sample Quantitation Limit (mg/kg)
Analyte Abbreviate
Depth (Feet BGS)
Sample Elevation
(Surface Elevation minus Sample Beginning Depth)

0 75 150
Feet

Site Name: CG001\CG002 and OAP
Investigation Type: SC
Analytes: Selected Analytes
Media: Soil
SLs: Soil Extent
Data Range: 2011



Abbreviate / Analyte

BZ / Benzene
BZAP / Benzo(a)pyrene
DBAHA / Dibenz(a,h)anthracene
DRO / C10-C25 DRO
EBZ / Ethylbenzene
GRO / C6-C10 GRO
INDENO123P / Indeno(1,2,3-cd)pyrene
NAPH / Naphthalene
TMB124 / 1,2,4-Trimethylbenzene
TOLUENE / Toluene
XYLENES-TOT / Xylenes, Total

Analyte / Matrix / Screening Level

1,2,4-Trimethylbenzene / SO / 4.9
Benzene / SO / 0.025
Benzo(a)pyrene / SO / 0.049
C10-C25 DRO / SO / 250
C6-C10 GRO / SO / 140
Dibenz(a,h)anthracene / SO / 0.049
Ethylbenzene / SO / 6.9
Indeno(1,2,3-cd)pyrene / SO / 0.49
Naphthalene / SO / 2.8
Toluene / SO / 6.5
Xylenes, Total / SO / 6.3

LEGEND

- UST1428
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Airfield Surface or Road
- Suspect UST
- Fence
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

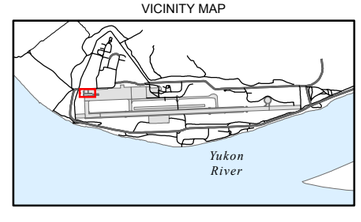
Underground Utility Locates - 2010

- Electrical Line
- Potable Water Main
- Sanitary Sewer Main
- Utility Vault

01-SS-01
0.028J (0.25) ACNP [5.0]

Location ID
Solids Concentration (mg/kg)
Data Qualifier
Sample Quantitation Limit (mg/kg)
Analyte Abbreviate
Depth (Feet BGS)

VICINITY MAP



0 20 40
Feet
N

Notes:
1. B - The analyte was detected in the associated method and/or calibration blank.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. Only select results are shown.
3. Screening levels are presented in units of ug/L for WG (groundwater) samples and mg/kg for SO (soil) samples.
4. Scarlet Label = Sample Exceeds Screening Level (Greater than 10X analyte SL)
5. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
6. SL = Screening Level
7. Depth shown is the TOP depth of the sample.
8. 2010 utilities shown are underground only.

Site Name: UST1428
Investigation Type: SC
Analytes: Select Results
Media: Soil
SLs: Soil Extent
Data Range: 2010 and 2011

CH2MHILL

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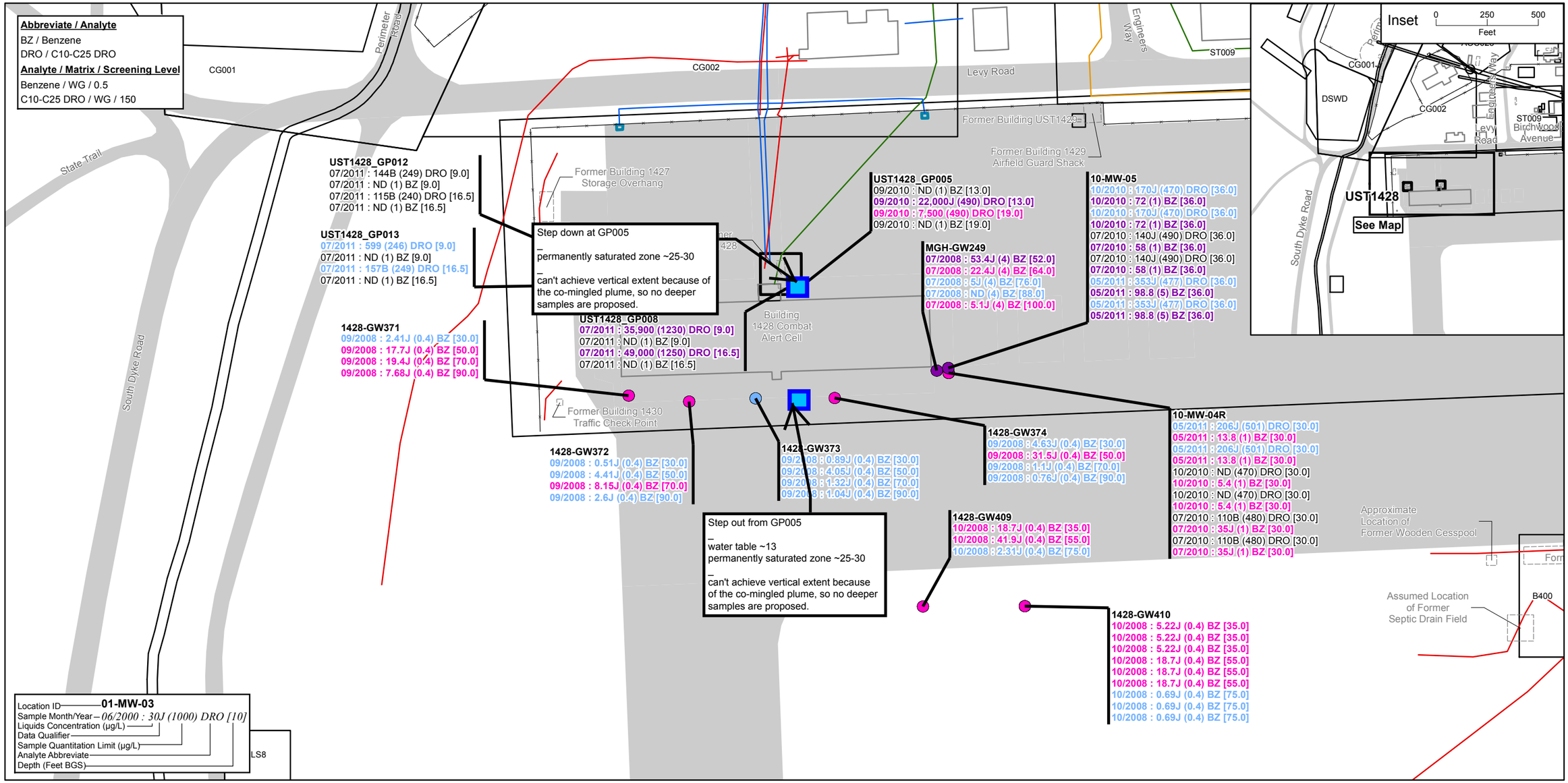


LEGEND

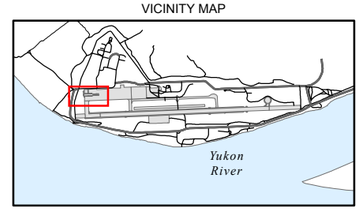
- UST1428
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Airfield Surface or Road
- Suspect UST
- Fence

Underground Utility Locates - 2010

- Electrical Line
- Communications Line
- Potable Water Main
- Sanitary Sewer Main
- Utility Vault

- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level

VICINITY MAP



0 50 100
Feet

N

1. B - The analyte was detected in the associated method and/or calibration blank.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. Only select analytes are shown: Benzene and C10-C25 DRO.
3. Screening levels are presented in units of ug/L for WG (groundwater) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level

Site Name: UST1428
Investigation Type: SC
Analytes: Selected Analytes
Media: Groundwater
SLs: Groundwater Project SLs
Data Range: 2010 and 2008

CH2MHILL

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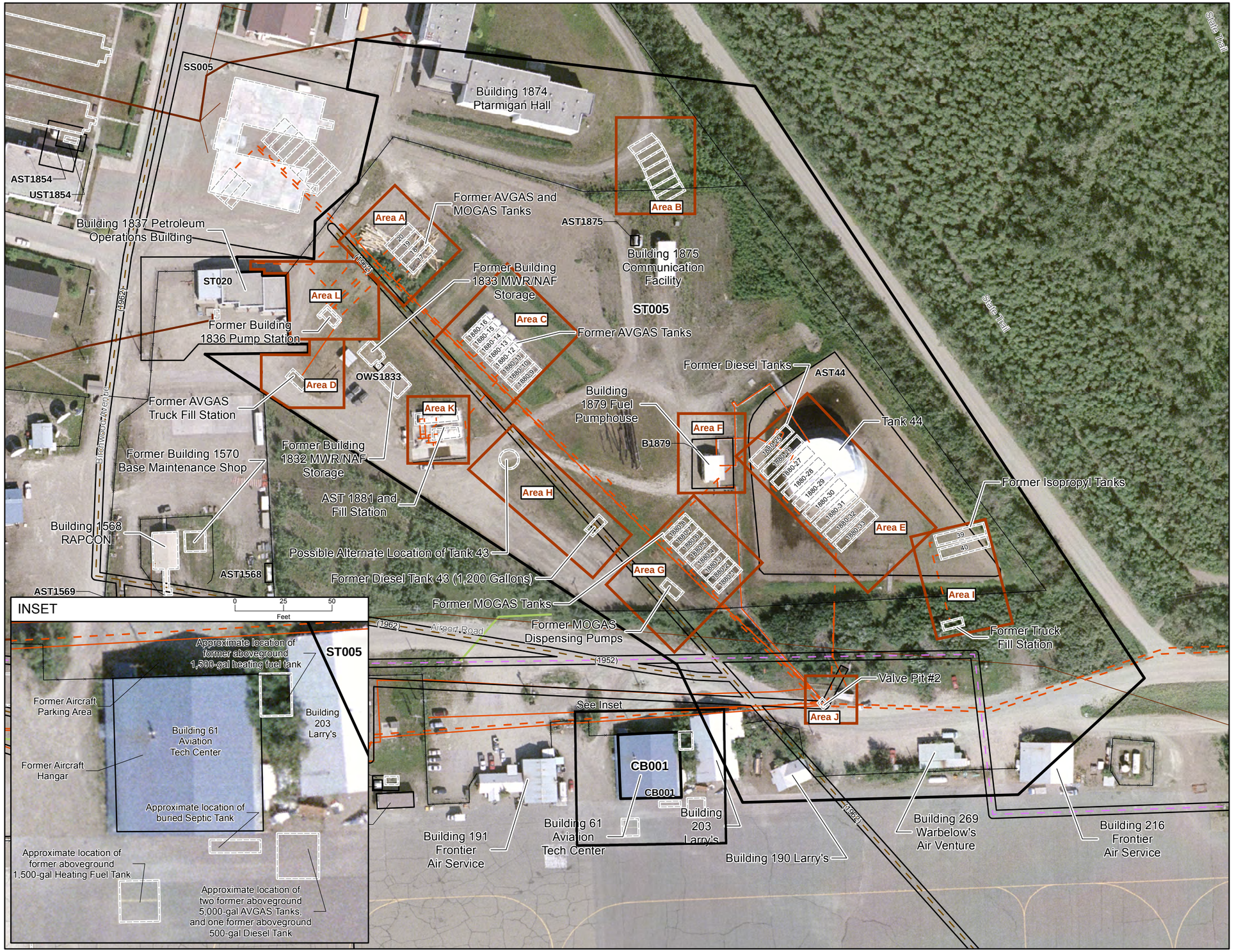
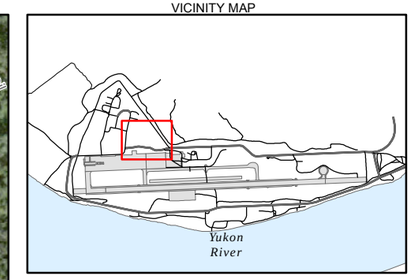


VICINITY MAP



LEGEND

- ST005/CB001
- Adjacent Site
- Approximate Location of Former Feature
- Source Area
- Fence
- Abandoned Fuel Line (1952)
- Abandoned Fuel Line (1962)
- Fuel Line
- Former Fuel Line
- Main Wastewater Line
- Service Wastewater Line
- Main Storm Sewer Line

Notes:
1. Aerial photography courtesy Alaska Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs. July 7, 2009. Pixel size 6 inch.
2. Sites that fall inside ERP Site ST005, that are evaluated in separate FSPs (attachment number listed, if applicable) or that are recommended by the PA as non-sites: OWS1833 (Att D31), AST1875 (Att D10), AST1880, AST1881, AST44, AST77506, B1836, B1879.

0 60 120
Feet

N

FIGURE D1-ST005/CB001
Site Layout
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL

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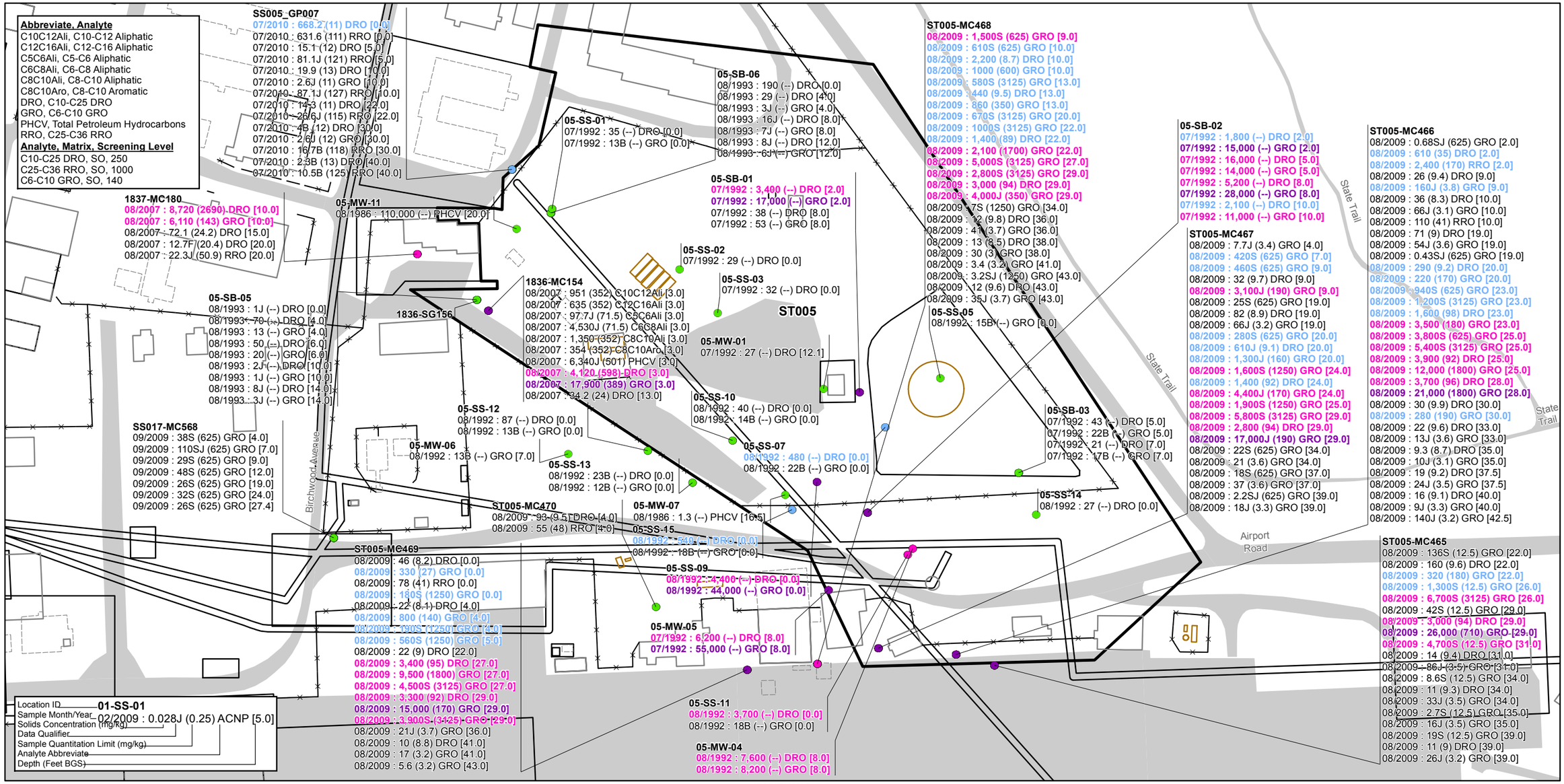


LEGEND

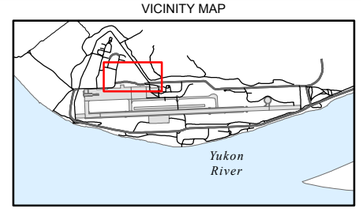
- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Fence

Below Ground Utility Locates - 2010

- Electrical Line
- Storm Drain
- Communications Line
- Sanitary Sewer Main
- Potable Water Main
- Fuel/Gas Line
- Utility Vault
- Electrical Transformer
- Concrete Pad

- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

VICINITY MAP



0 75 150
Feet

N

Notes:
1. B - The analyte was detected in the associated method and/or calibration blank.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   F - The analyte was positively identified by the lab: the associated numerical value is the approximate concentration of the analyte in the sample.
   S - The sample results are unvalidated and should be used for screening purposes only.
2. Only detect are posted.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level
8. Depth shown is the TOP depth of the sample.
9. 2010 utilities shown are underground only.

FIGURE D18-ST005/CB001
Hydrocarbon in Soil

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

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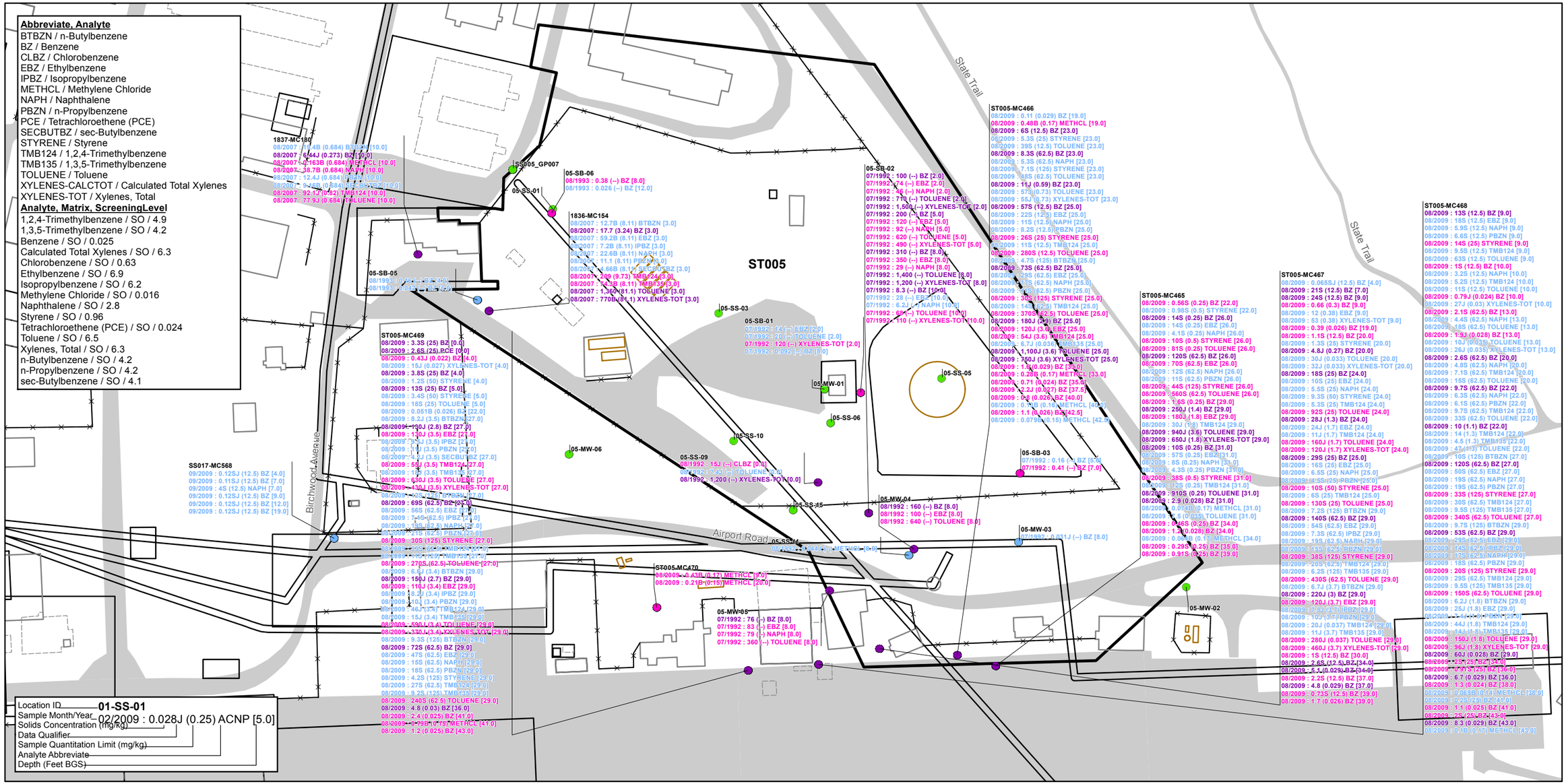
V:\GALENATO184_394439\MAPFILES\QAPP\ST005\FIGURE_D18_ST005_HIST_SO_HYDROCARBONS.MXD CVONFREE 7/28/2011 12:48:40 PM



LEGEND

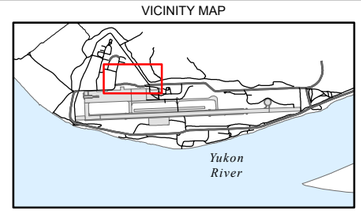
- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Fence

Below Ground Utility Locates - 2010

- Electrical Line
- Storm Drain
- Communications Line
- Sanitary Sewer Main
- Potable Water Main
- Fuel/Gas Line
- Utility Vault
- Electrical Transformer
- Concrete Pad

- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

VICINITY MAP



0 75 150
Feet

N

Notes:
1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. Only Exceedances are posted.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level
8. Depth shown is the TOP depth of the sample.
9. 2010 utilities shown are underground only.

FIGURE D19-ST005/CB001
VOCs in Soil

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

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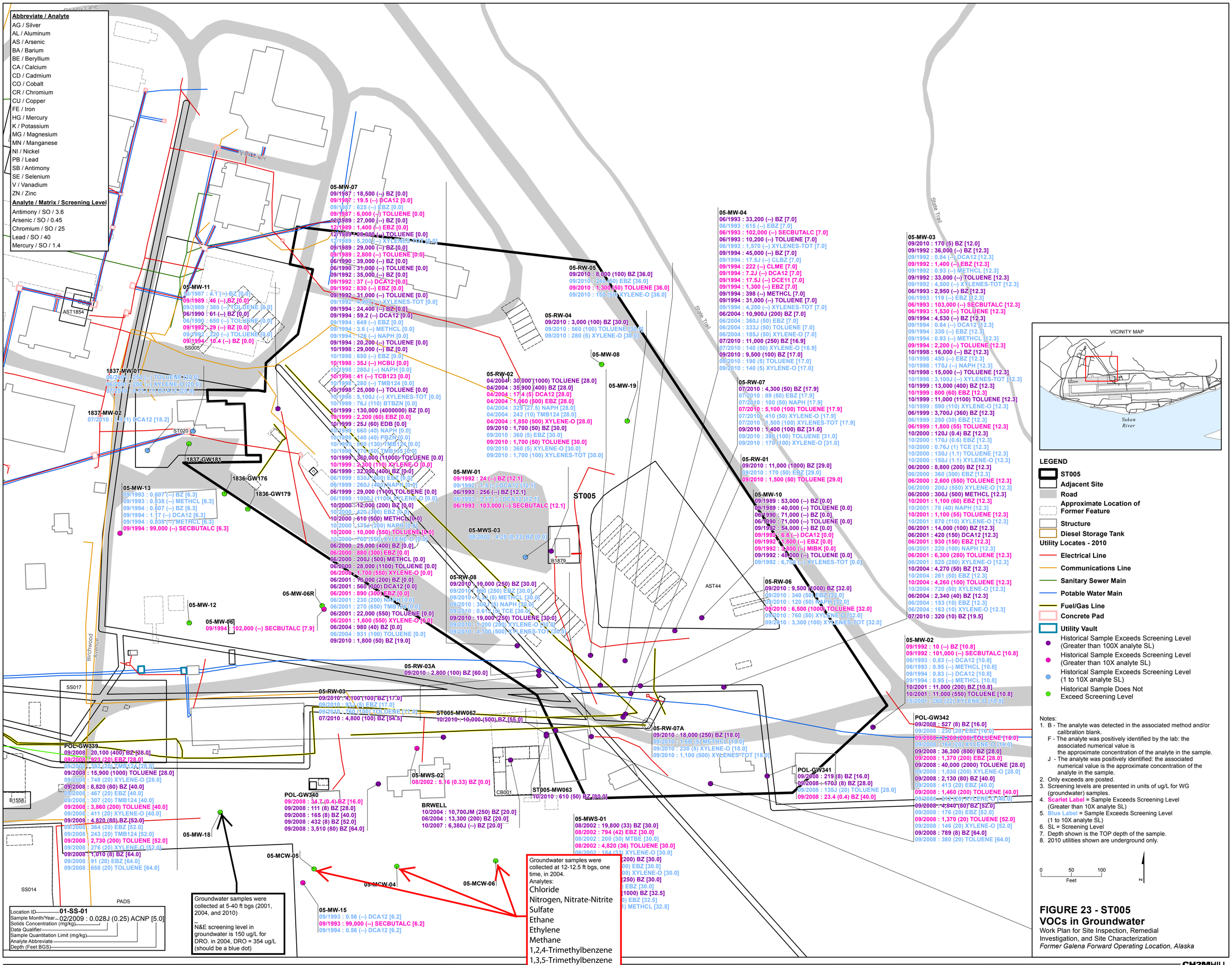
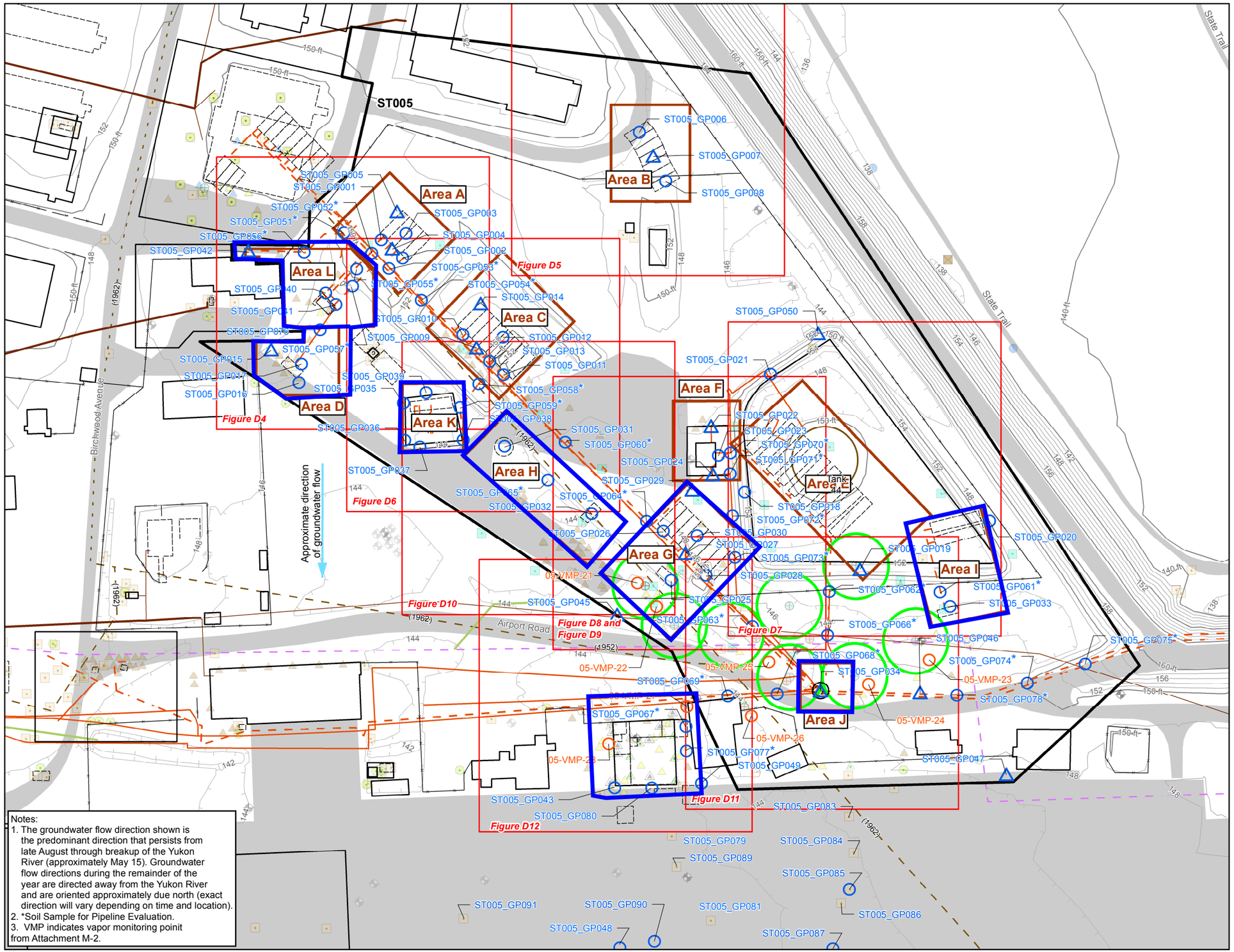
V:\GALENATO184_394439\MAPFILES\QAPP\ST005\FIGURE_D19_ST005_HIST_SO_VOCS.MXD CVONFREE 7/28/2011 12:50:41 PM

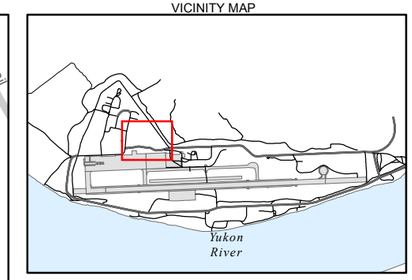


V:\GALENATO184_394439\MAPFILES\QAPP\ST005\FIGURE_D23_ST005_HIST_WG_VOCS_CSIZE.MXD CVONFREE 7/21/2011 1:29:02 PM



Notes:
1. The groundwater flow direction shown is the predominant direction that persists from late August through breakup of the Yukon River (approximately May 15). Groundwater flow directions during the remainder of the year are directed away from the Yukon River and are oriented approximately due north (exact direction will vary depending on time and location).
2. *Soil Sample for Pipeline Evaluation.
3. VMP indicates vapor monitoring poinit from Attachment M-2.

VICINITY MAP



LEGEND

- ST005/CB001
- Adjacent Site
- Airfield or Road
- Structure
- Approximate Location of Former Feature
- Source Area
- Fuel Tank
- Fence
- Main Wastewater Line
- Service Wastewater Line
- Main Storm Sewer Line
- Abandoned Fuel Line (1952)
- Abandoned Fuel Line (1962)
- Fuel Line
- Former Fuel Line
- Proposed Remediation System Optimization Soil Sample (See Attachment M-2)
- Proposed Soil Sample
- Proposed Soil/Groundwater Sample

Approximate Radius of Influence (See Attachment M-2)

- Bioventing ROI

Historical Sample Location

- Soil Boring
- Surface Soil Sample
- Sediment Sample
- Hydro Punch
- Monitoring Well
- Abandoned Monitoring Well
- Product Recovery Well
- Abandoned Recovery Well
- Bioventing System Well
- Surface Water Sample
- Ambient Air
- Gore Sorber
- Soil Vapor Sample
- Vapor Extraction System Effluent
- Vapor Extraction Well
- Vapor Monitoring Point

0 60 120
Feet

N

FIGURE D13-ST005/CB001 Proposed Sample Locations and Areas

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

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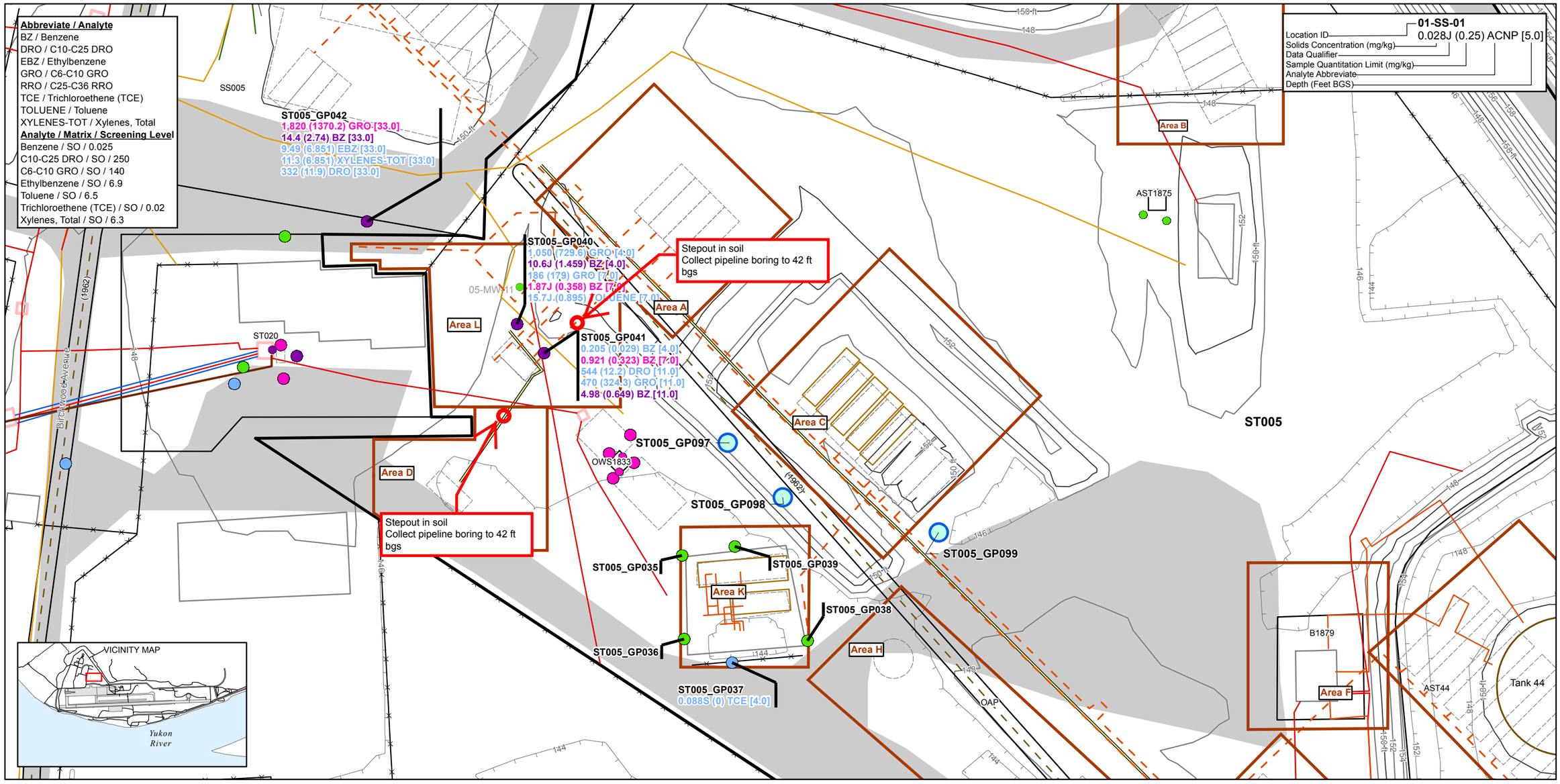

LEGEND

- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Source Area
- Fence
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour
- Former Fuel Line
- Abandoned Fuel Line (1962)
- Fuel Line

Underground Utility Locates - 2010

- Electrical Line
- Communications Line
- Potable Water Main
- Fuel/Gas Line
- Concrete Pad

- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- *Sample Exceeds Screening Level (1 to 10X analyte SL)*
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

Proposed Sample Location - Step Out #1

- Proposed Soil Sample

0 30 60
Feet

N

Notes:
1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   S - The sample results are unvalidated and should be used for screening purposes only.
2. Only exceedences shown.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level
8. Depth shown is the TOP depth of the sample.
9. 2010 utilities shown are underground only.

Site Name: ST005; Source Areas K and L
Investigation Type: SC
Analytes: All Exceedences
Media: Soil
SLs: Soil Extent
Data Range: 2011

CH2MHILL

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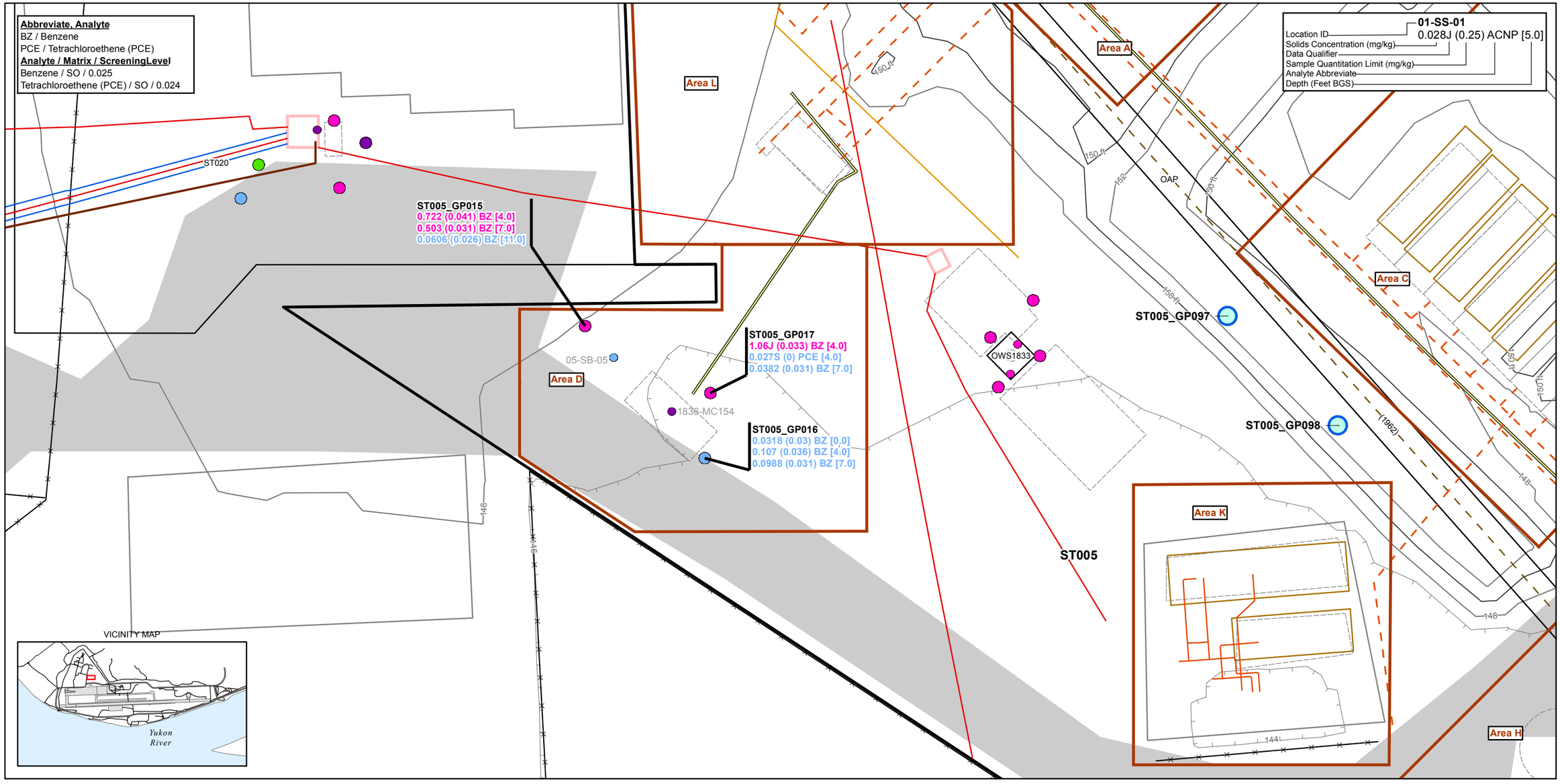

LEGEND

- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Source Area
- Fence
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour
- Former Fuel Line
- Abandoned Fuel Line (1962)
- Fuel Line

Underground Utility Locates - 2010

- Electrical Line
- Communications Line
- Potable Water Main
- Fuel/Gas Line
- Concrete Pad
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

Proposed Sample Location - Step Out #1

- Proposed Soil Sample

0 15 30
Feet

N

Notes:
1. S - The sample results are unvalidated and should be used for screening purposes only.
2. Only exceedences shown.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. Scarlet Label = Sample Exceeds Screening Level (Greater than 10X analyte SL)
5. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
6. SL = Screening Level
7. Depth shown is the TOP depth of the sample.
8. 2010 utilities shown are underground only.

Site Name: ST005; Source Area D
Investigation Type: SC
Analytes: All Exceedences
Media: Soil
SLs: Soil Extent
Data Range: 2011

CH2MHILL

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Abbreviate / Analyte
BZ / Benzene
DRO / C10-C25 DRO
EBZ / Ethylbenzene
GRO / C6-C10 GRO
PCE / Tetrachloroethene (PCE)
TOLUENE / Toluene
XYLENES-TOT / Xylenes, Total

Analyte / Matrix / Screening Level
Benzene / SO / 0.025
C10-C25 DRO / SO / 250
C6-C10 GRO / SO / 140
Ethylbenzene / SO / 6.9
Tetrachloroethene (PCE) / SO / 0.024
Toluene / SO / 6.5
Xylenes, Total / SO / 6.3

01-SS-01
0.028J (0.25) ACNP [5.0]
Location ID
Solids Concentration (mg/kg)
Data Qualifier
Sample Quantitation Limit (mg/kg)
Analyte Abbreviate
Depth (Feet BGS)

Area K
Area H
Area F
Area E
Area G
ST005
B1879
Tank 44
Airport Road
OAP
(1962)
(1952)

ST005_GP031

ST005_GP032
0.0517 (0.017) BZ [19.0]
261J (270.2) GRO [28.0]
1.54 (0.54) BZ [28.0]
13.4 (1.351) TOLUENE [28.0]
32.8 (1.351) XYLENES-TOT [28.0]
975 (718.3) GRO [31.0]
3.83 (1.437) BZ [31.0]
21 (3.591) EBZ [31.0]
9.43 (3.591) TOLUENE [31.0]
73.6 (3.591) XYLENES-TOT [31.0]
0.0279 (0.025) BZ [40.0]

ST005_GP026
5,280 (115.8) DRO [4.0]
8,590 (7509.8) GRO [4.0]
35.7 (15.02) BZ [4.0]
94.7 (37.549) TOLUENE [4.0]
337 (37.549) XYLENES-TOT [4.0]
9,780 (221.9) DRO [7.0]
0.0348 (0.027) BZ [28.0]
0.0428 (0.023) BZ [40.0]
0.312J (0.033) BZ [0.0]
0.205S (0) PCE [0.0]
13,300 (3626.1) GRO [7.0]
12.5 (7.252) BZ [7.0]
48.5 (18.131) EBZ [7.0]
10.137S (0) PCE [7.0]
29.9 (18.131) TOLUENE [7.0]
496J (18.131) XYLENES-TOT [7.0]

ST005_GP029
0.047S (0) PCE [19.0]

ST005_GP030
2,160 (327.6) GRO [4.0]
3.027S (0) PCE [4.0]
0.0851 (0.023) BZ [40.0]
4,530 (235.6) DRO [4.0]
3.65 (3.287) BZ [4.0]
24.4J (8.218) TOLUENE [4.0]
23.4J (8.218) XYLENES-TOT [4.0]

ST005_GP027
5,720 (123.5) DRO [4.0]
10,400 (7807.9) GRO [4.0]
79.1 (15.616) BZ [4.0]
95.5 (39.039) EBZ [4.0]
269 (39.039) TOLUENE [4.0]
364 (39.039) XYLENES-TOT [4.0]
1,430 (50.3) DRO [7.0]
0.0412 (0.034) BZ [7.0]
0.0653 (0.027) BZ [28.0]
0.268 (0.025) BZ [40.0]

ST005_GP025
655 (59.6) DRO [28.0]
1,780 (1345.1) GRO [28.0]
3.1 (2.69) BZ [28.0]
9.51 (6.726) TOLUENE [28.0]
84.7 (6.726) XYLENES-TOT [28.0]
2,820 (120.2) DRO [32.0]
14,600 (5758.4) GRO [32.0]
157 (11.517) BZ [32.0]
96 (28.792) EBZ [32.0]
547 (28.792) TOLUENE [32.0]
366 (28.792) XYLENES-TOT [32.0]
0.55 (0.024) BZ [40.0]

ST005_GP028
5,770 (118.7) DRO [0.0]
7,060 (1320) GRO [0.0]
38.8 (2.64) BZ [0.0]
72.5 (6.6) EBZ [0.0]
197 (6.6) TOLUENE [0.0]
301 (6.6) XYLENES-TOT [0.0]
2,510 (117.8) DRO [4.0]
0.722 (0.043) BZ [4.0]
0.0496 (0.028) BZ [7.0]
0.147 (0.026) BZ [19.0]
0.352 (0.028) BZ [28.0]
0.29 (0.022) BZ [40.0]

Stepout in soil
Collect pipeline boring to 20 ft bgs

Stepout in soil
Collect pipeline boring to 20 ft bgs

Stepout in soil
Collect pipeline boring to 20 ft bgs

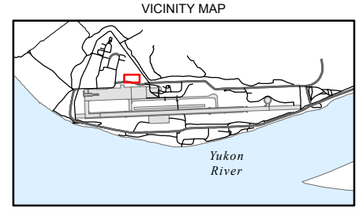
05-SS-06
05-SS-10
05-SS-05
05-MW-07
MB-SS-14
05-SS-15

LEGEND
- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Source Area
- Fence
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour
- Former Fuel Line
- Abandoned Fuel Line (1952)
- Abandoned Fuel Line (1962)
- Fuel Line

Underground Utility Locates - 2010
- Electrical Line
- Communications Line
- Potable Water Main
- Fuel/Gas Line

- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

VICINITY MAP



0 20 40
Feet

N

Notes:
1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   S - The sample results are unvalidated and should be used for screening purposes only.
2. Only exceedences shown.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
6. SL = Screening Level
7. Depth shown is the TOP depth of the sample.
8. 2010 utilities shown are underground only.

Site Name: ST005; Source Areas G and H
Investigation Type: SC
Analytes: All Exceedences
Media: Soil
SLs: Soil Extent
Data Range: 2011

CH2MHILL

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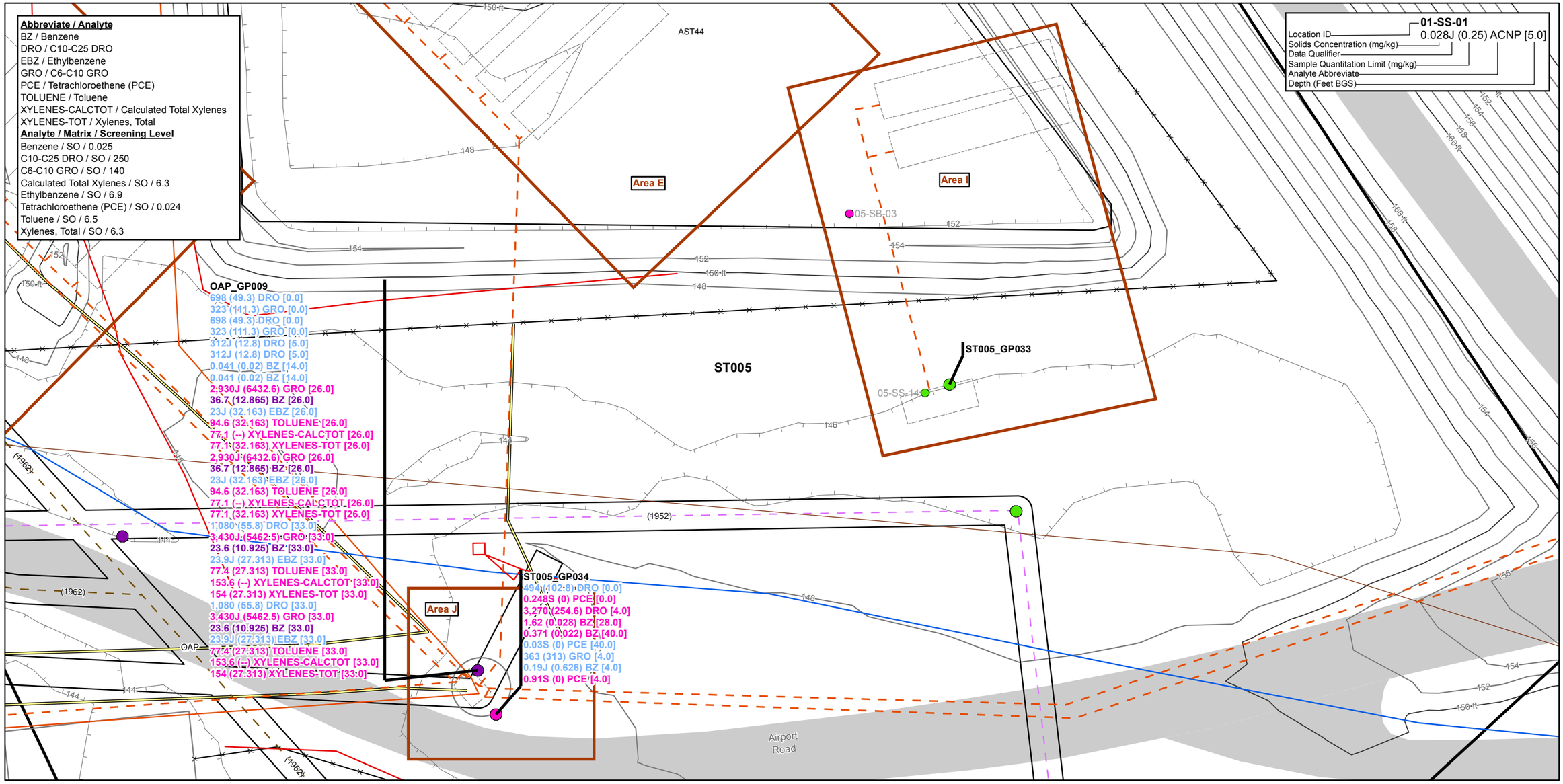


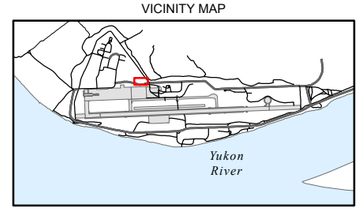
LEGEND

- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Source Area
- Fence
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour
- Former Fuel Line
- Abandoned Fuel Line (1952)
- Abandoned Fuel Line (1962)
- Fuel Line

Underground Utility Locates - 2010

- Electrical Line
- Communications Line
- Potable Water Main
- Fuel/Gas Line
- Electrical Transformer
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

VICINITY MAP



0 17.5 35
Feet

N

Notes:
1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   S - The sample results are unvalidated and should be used for screening purposes only.
2. Only exceedences shown.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level
8. Depth shown is the TOP depth of the sample.
9. 2010 utilities shown are underground only.

Site Name: ST005; Source Areas I and J
Investigation Type: SC
Analytes: All Exceedences
Media: Soil
SLs: Soil Extent
Data Range: 2011

CH2MHILL

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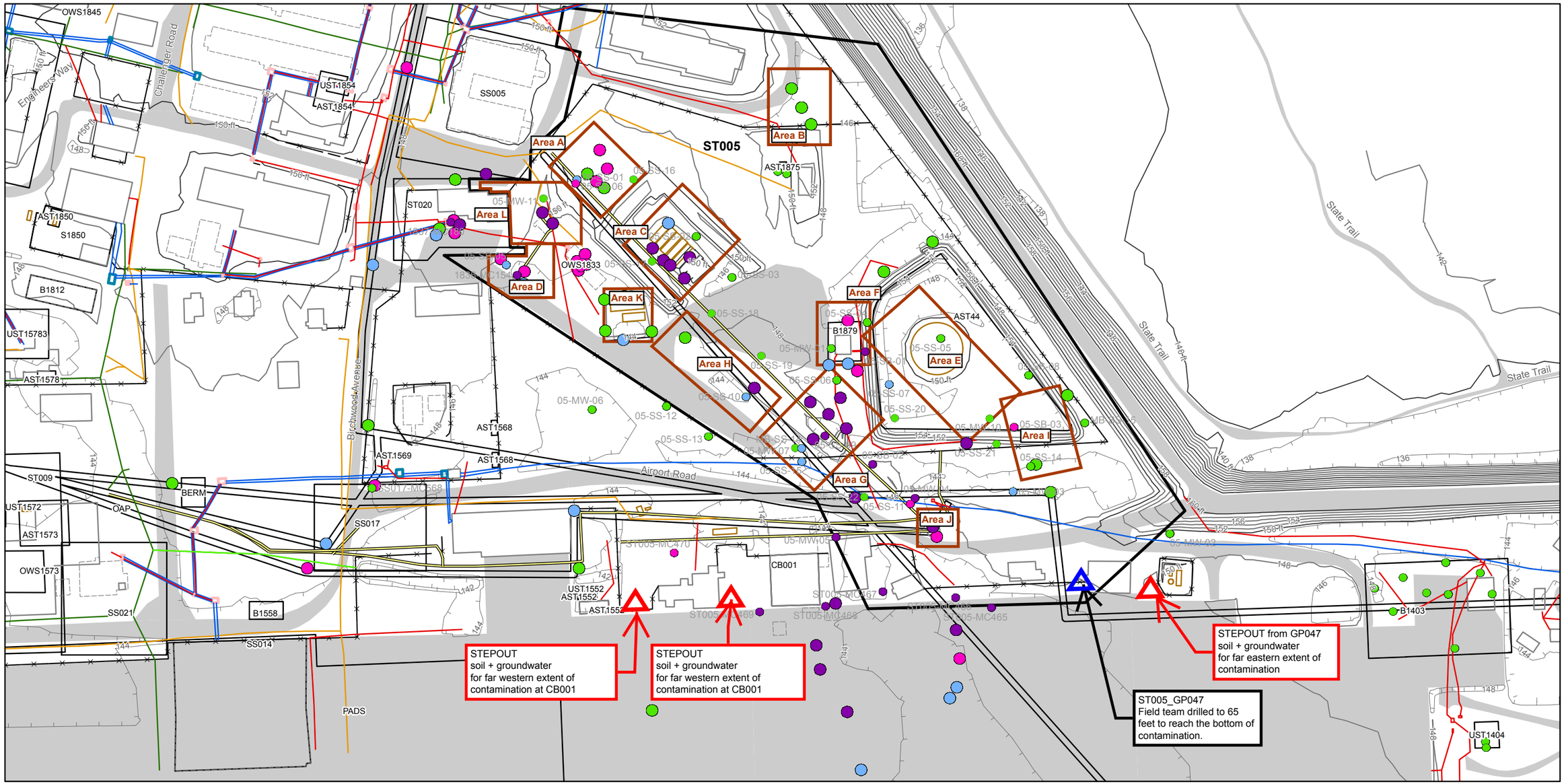


LEGEND

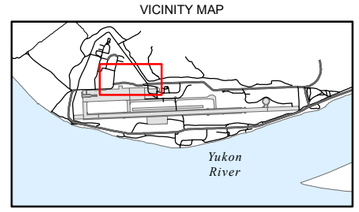
- ST005
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Airfield Surface or Road
- Source Area
- Fence
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour

Underground Utility Locates - 2010

- Electrical Line
- Storm Drain
- Communications Line
- Sanitary Sewer Main
- Potable Water Main
- Fuel/Gas Line
- Utility Vault
- Electrical Transformer
- Concrete Pad

- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

VICINITY MAP



0 80 160
Feet

N

Site Name: ST005
Investigation Type: SC
Analytes: All Exceedences
Media: Soil
SLs: Soil Extent
Data Range: 2011

CH2MHILL

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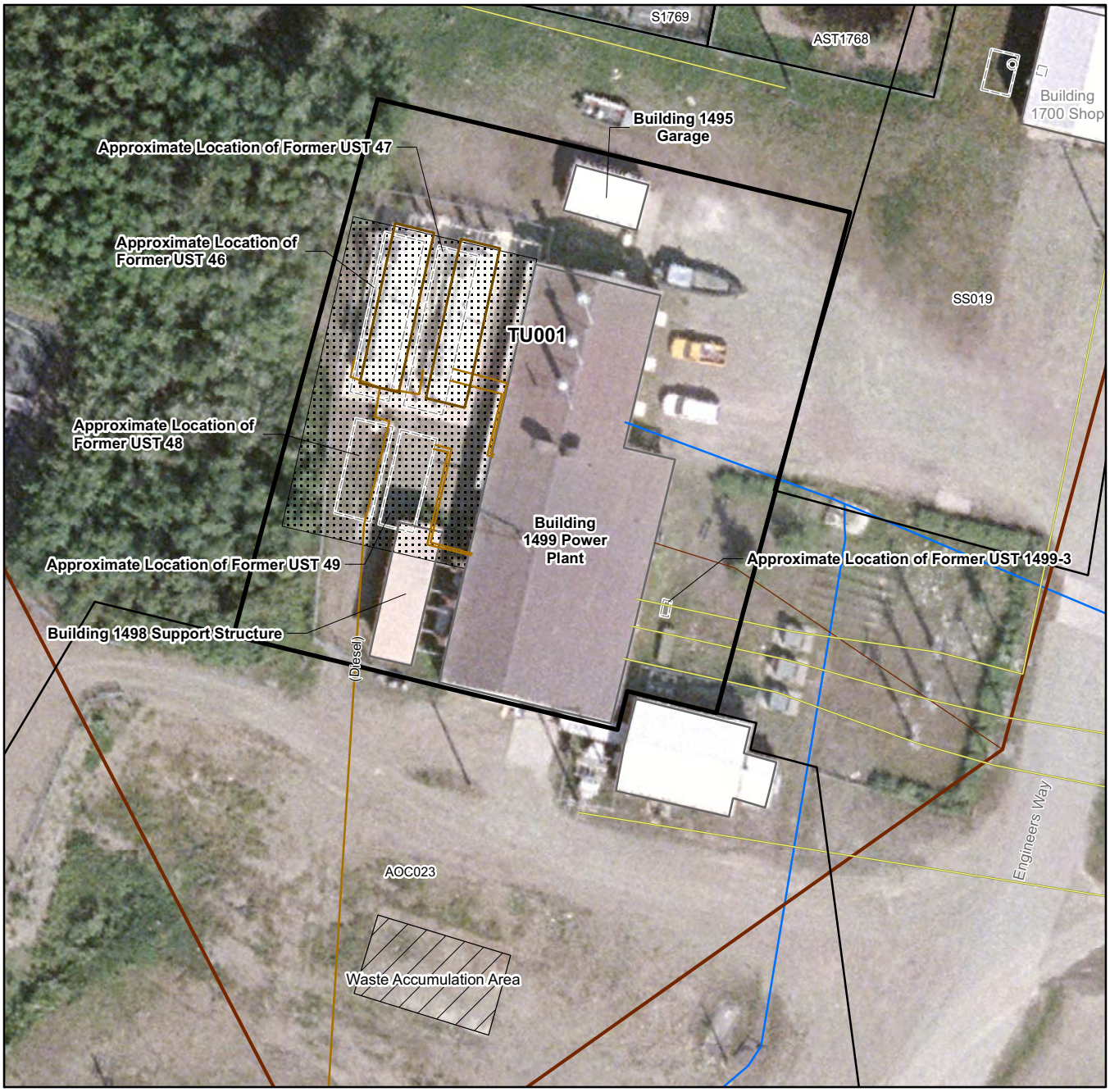
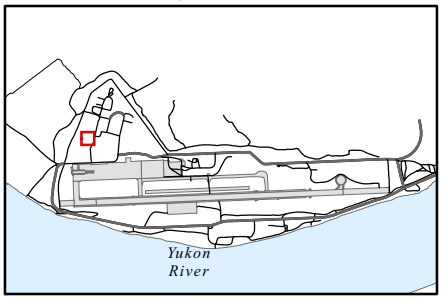


LEGEND

- TU001
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Approximate Extent of 1997 Excavation
- Concrete Drum Storage Pad
- Service Fuel Line
- Electrical Line
- Main Wastewater Line
- Water Line
- Fuel Tank

Note:
1. Aerial photography and CAD drawing file vector themes courtesy Alaska Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs. July 7, 2009. Aerial photography pixel size 6-inch.

VICINITY MAP



N

0 25 50
Feet

FIGURE D1-TU001
Site Layout

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

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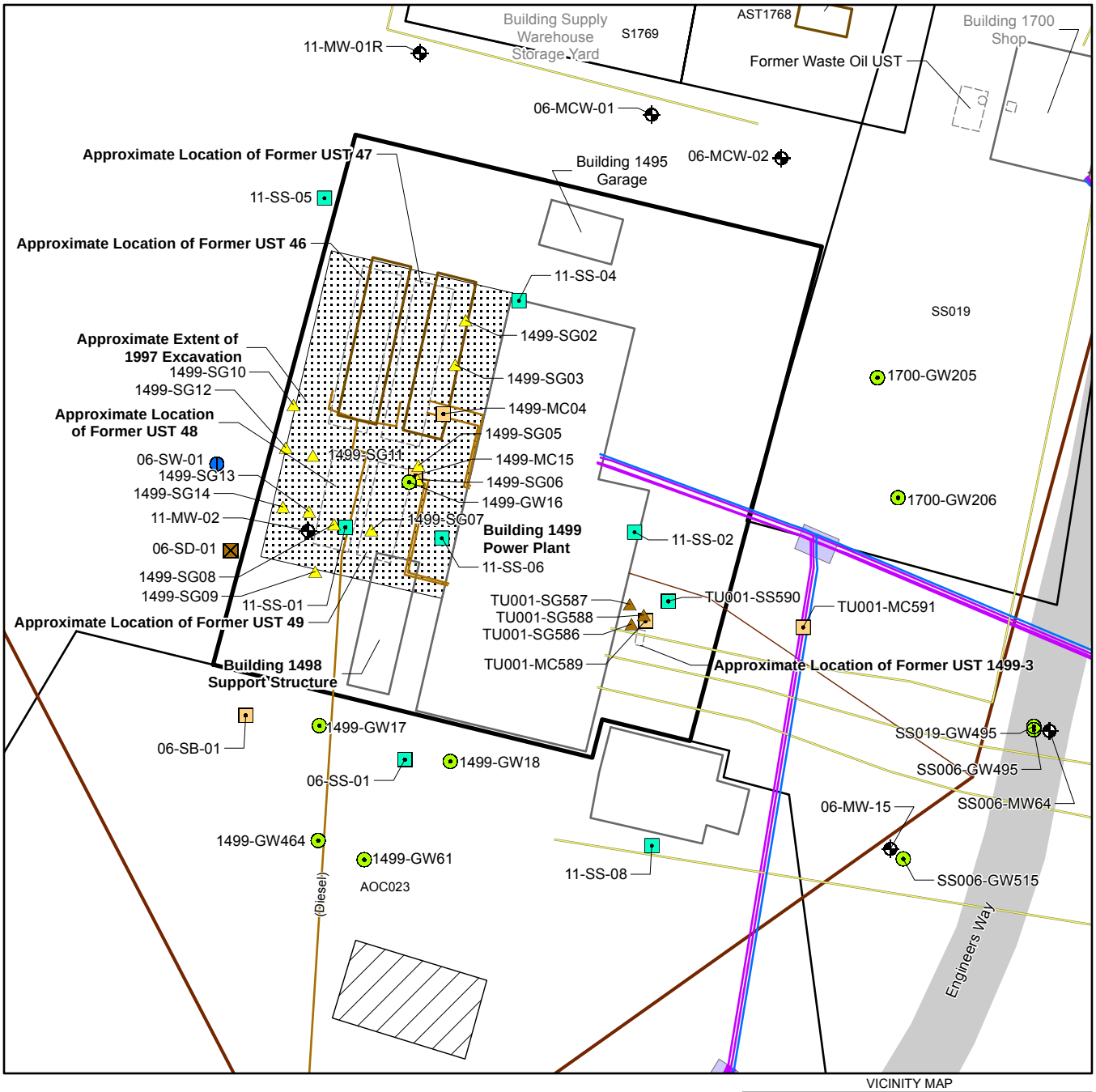
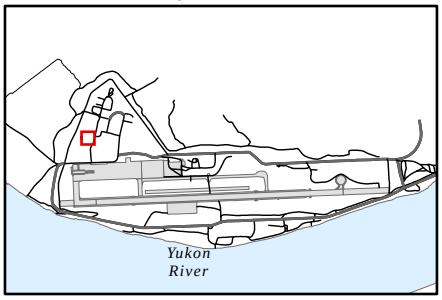


VICINITY MAP



LEGEND

- TU001
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Concrete Drum Storage Pad
- Approximate Extent of 1997 Excavation
- Electrical Line
- Heating/Cooling Line
- Main Wastewater Line
- Service Fuel Line
- Water Line
- Fuel Tank
- Valve Pit

Historical Sample Location

- Sediment Sample
- Soil Boring
- Surface Soil Sample
- Monitoring Well
- Hydro Punch
- Abandoned Monitoring Well
- Surface Water Sample
- Bioventing System Well
- Vapor Monitoring Point
- Soil Vapor Sample

N

0 25 50
Feet

Note:
1. Shows soil gas samples from 2007 and 2009; soil samples from 1992, 1993, 2007, and 2009; groundwater samples from 1992 to 2010; and surface water and sediment samples from 1992.

FIGURE D4-TU001
Historical Sample Locations

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

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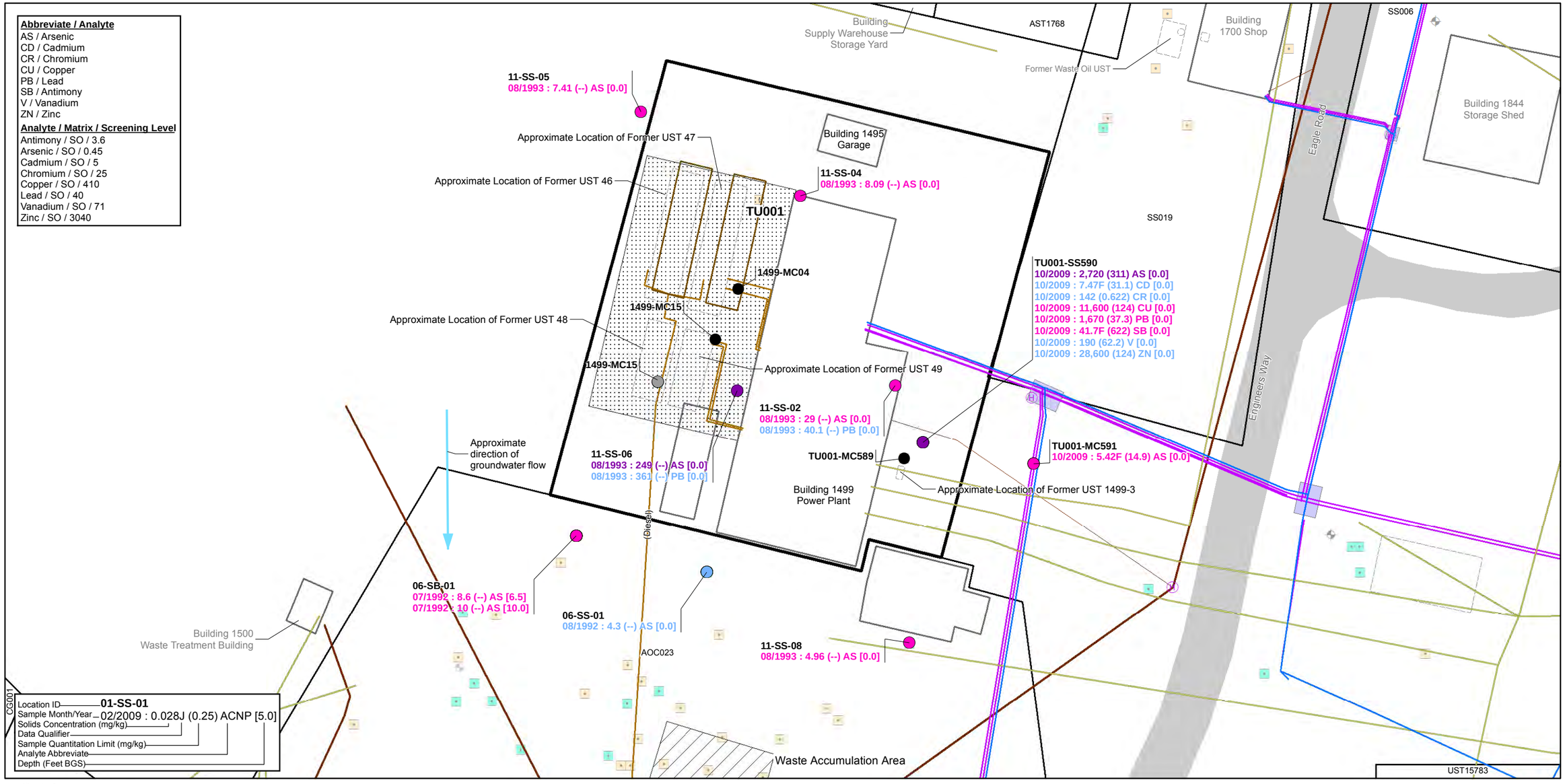
Abbreviate / Analyte
AS / Arsenic
CD / Cadmium
CR / Chromium
CU / Copper
PB / Lead
SB / Antimony
V / Vanadium
ZN / Zinc

Analyte / Matrix / Screening Level
Antimony / SO / 3.6
Arsenic / SO / 0.45
Cadmium / SO / 5
Chromium / SO / 25
Copper / SO / 410
Lead / SO / 40
Vanadium / SO / 71
Zinc / SO / 3040



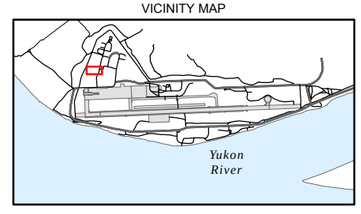
LEGEND

- TU001
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Electrical Line
- Concrete Drum Storage Pad
- Approximate Extent of 1997 Excavation
- Heating/Cooling Line
- Main Wastewater Line
- Service Fuel Line
- Water Line
- Fuel Tank
- Valve Pit
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- All Records are Non-Detect
- Sample Was Not Analyzed for Target Analyte

Historical Sample Location

- Abandoned Monitoring Well
- Monitoring Well
- Excavation Sample
- Soil Boring
- Surface Soil Sample

VICINITY MAP



0 20 40
Feet

N

Notes:
1. F - The analyte was positively identified by the lab: the associated numerical value is the approximate concentration of the analyte in the sample.
2. (--) = Limit of Quantitation not available.
3. Only exceedances shown, non-detects excluded.
4. Screening levels are presented in units of mg/kg for SO (soil) samples.
5. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Exceedances determined using soil data from 1992, 1993, 2007, and 2009

FIGURE D5-TU001
Exceedances of Extent Screening Level in Soil - Metals
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

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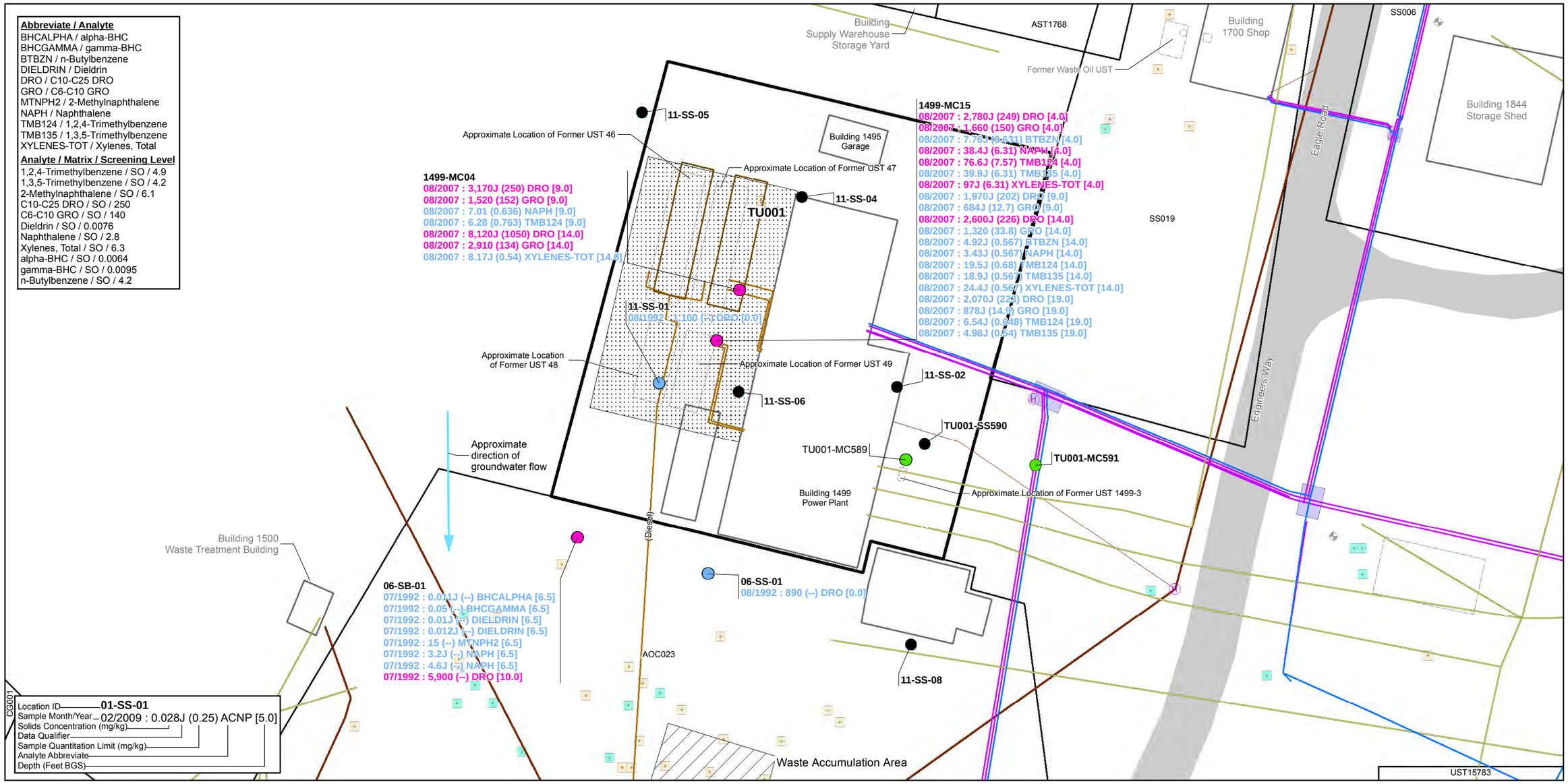


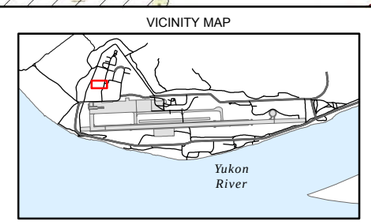
LEGEND

- TU001
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Concrete Drum Storage Pad
- Approximate Extent of 1997 Excavation
- Electrical Line
- Heating/Cooling Line
- Main Wastewater Line
- Service Fuel Line
- Water Line
- Fuel Tank
- Valve Pit
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Sample Was Not Analyzed for Target Analyte

Historical Sample Location

- Abandoned Monitoring Well
- Monitoring Well
- Excavation Sample
- Soil Boring
- Surface Soil Sample

VICINITY MAP



0 20 40
Feet

N

Notes:
1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. (--) = Limit of Quantitation not available.
3. Only exceedances shown, non-detects excluded.
4. Screening levels are presented in units of mg/kg for SO (soil) samples.
5. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Exceedances were determined using soil data from 1992, 1993, 2007, and 2009.

FIGURE D6-TU001
Exceedances of Extent Screening Level in Soil - Non-Metals
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

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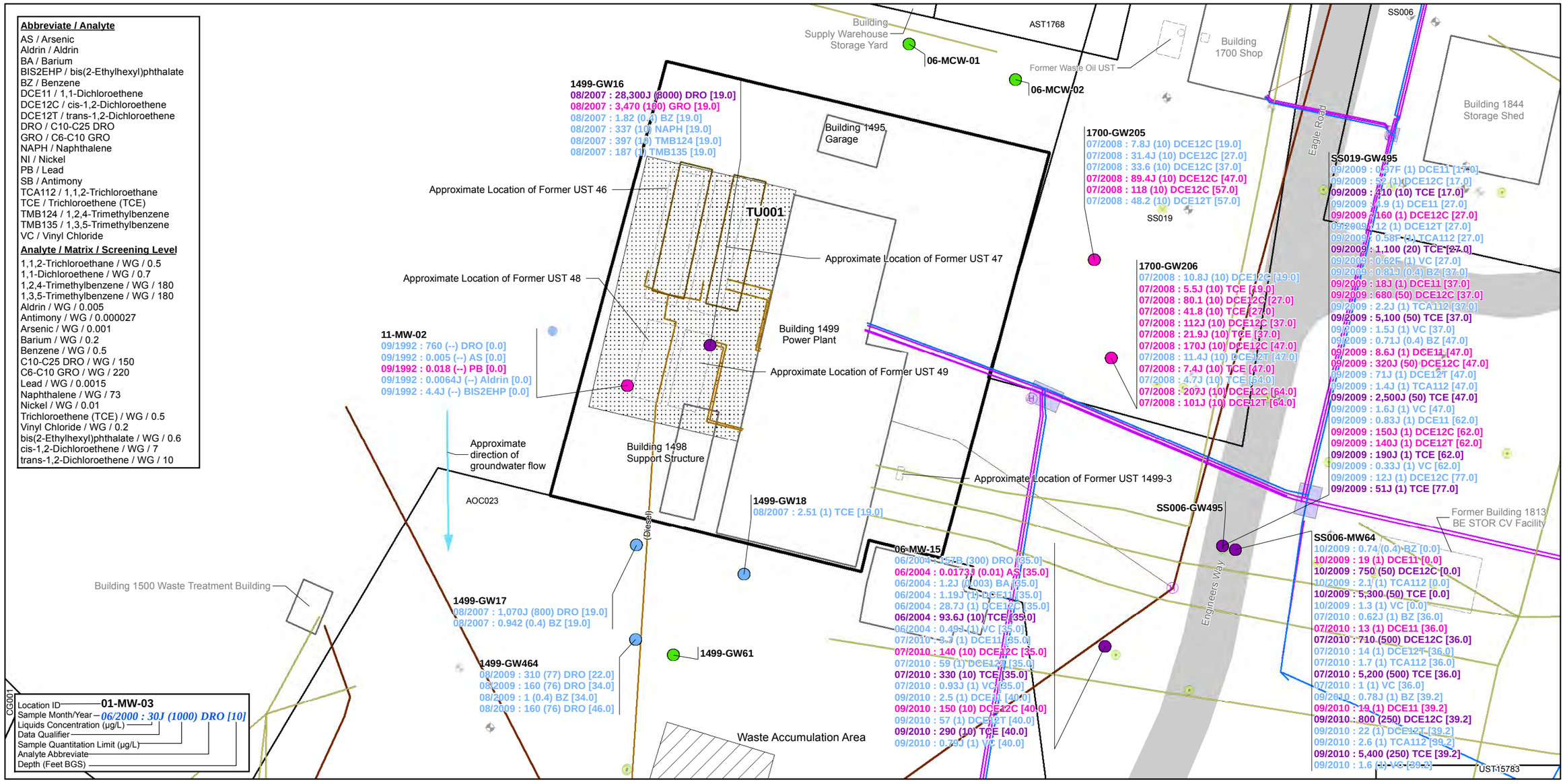
Abbreviate / Analyte

AS / Arsenic
Aldrin / Aldrin
BA / Barium
BIS2EHP / bis(2-Ethylhexyl)phthalate
BZ / Benzene
DCE11 / 1,1-Dichloroethene
DCE12C / cis-1,2-Dichloroethene
DCE12T / trans-1,2-Dichloroethene
DRO / C10-C25 DRO
GRO / C6-C10 GRO
NAPH / Naphthalene
NI / Nickel
PB / Lead
SB / Antimony
TCA112 / 1,1,2-Trichloroethane
TCE / Trichloroethene (TCE)
TMB124 / 1,2,4-Trimethylbenzene
TMB135 / 1,3,5-Trimethylbenzene
VC / Vinyl Chloride

Analyte / Matrix / Screening Level

1,1,2-Trichloroethane / WG / 0.5
1,1-Dichloroethene / WG / 0.7
1,2,4-Trimethylbenzene / WG / 180
1,3,5-Trimethylbenzene / WG / 180
Aldrin / WG / 0.005
Antimony / WG / 0.000027
Arsenic / WG / 0.001
Barium / WG / 0.2
Benzene / WG / 0.5
C10-C25 DRO / WG / 150
C6-C10 GRO / WG / 220
Lead / WG / 0.0015
Naphthalene / WG / 73
Nickel / WG / 0.01
Trichloroethene (TCE) / WG / 0.5
Vinyl Chloride / WG / 0.2
bis(2-Ethylhexyl)phthalate / WG / 0.6
cis-1,2-Dichloroethene / WG / 7
trans-1,2-Dichloroethene / WG / 10



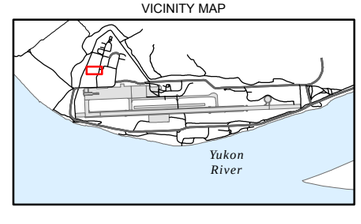
LEGEND

- TU001
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Concrete Drum Storage Pad
- Approximate Extent of 1997 Excavation
- Electrical Line
- Heating/Cooling Line
- Main Wastewater Line
- Service Fuel Line
- Water Line
- Fuel Tank
- Valve Pit
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- All Records are Non-Detect

Historical Sample Location

- Abandoned Monitoring Well
- Monitoring Well
- Hydro Punch
- Surface Water Sample

VICINITY MAP



0 20 40
Feet

N

Notes:

1. B - The analyte was detected in the associated method and/or calibration blank.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   F - The analyte was positively identified by the lab: the associated numerical value is the approximate concentration of the analyte in the sample.
2. (--) = Limit of Quantitation not available.
3. Only exceedances shown, non-detects excluded.
4. Screening levels are presented in units of ug/L for WG (groundwater) samples.
5. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Exceedances determined using groundwater data from 1992 to 2010

FIGURE D7-TU001
Exceedances of Screening Levels in Groundwater

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

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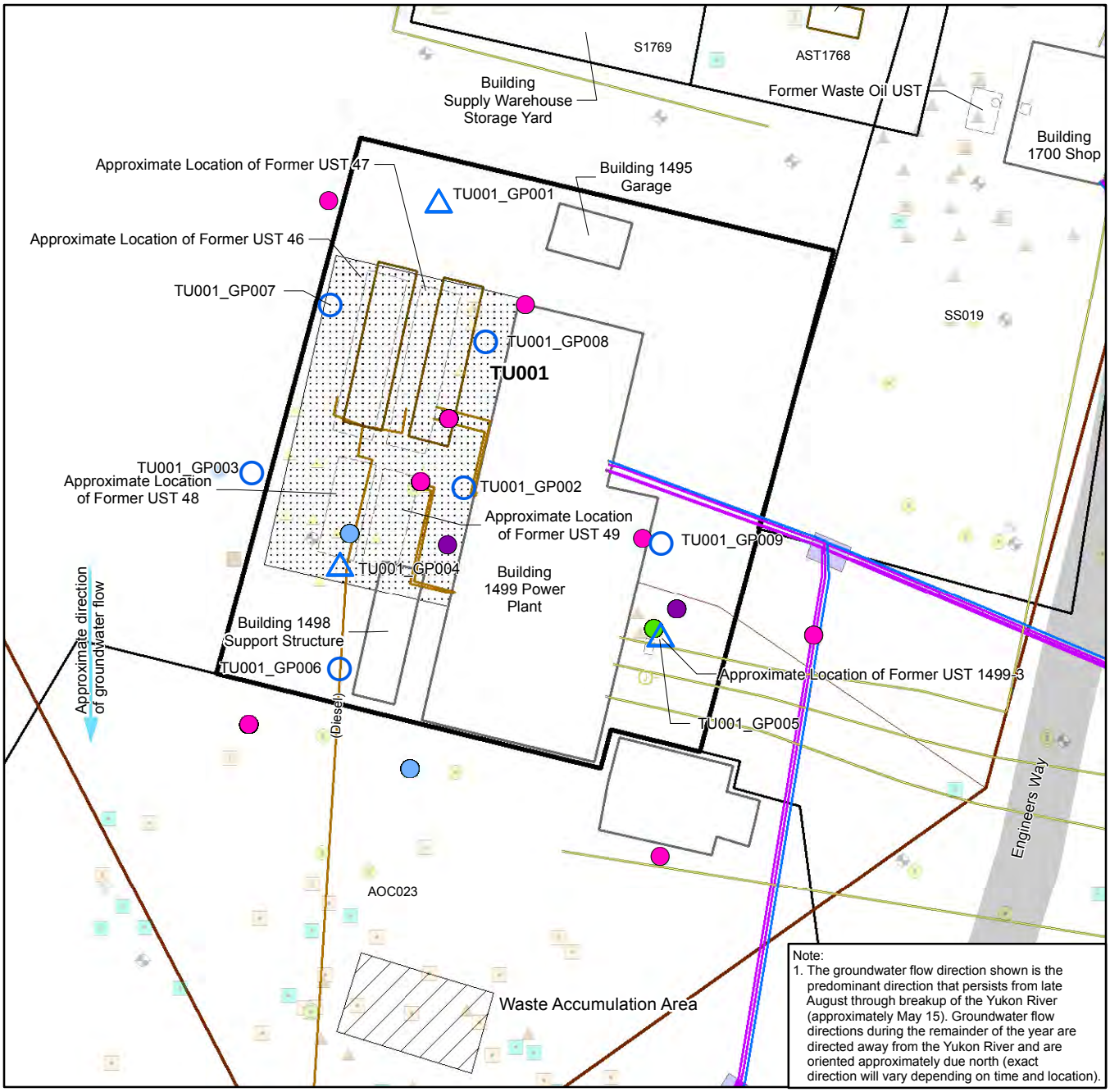
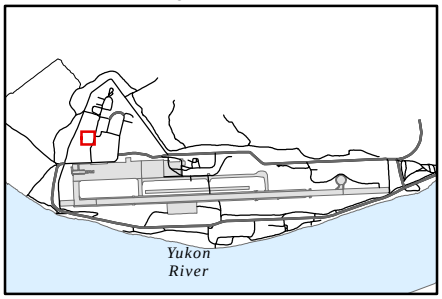


Note:
1. The groundwater flow direction shown is the predominant direction that persists from late August through breakup of the Yukon River (approximately May 15). Groundwater flow directions during the remainder of the year are directed away from the Yukon River and are oriented approximately due north (exact direction will vary depending on time and location).

VICINITY MAP



LEGEND

- TU001
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Concrete Drum Storage Pad
- Approximate Extent of 1997 Excavation
- Electrical Line
- Heating/Cooling Line
- Main Wastewater Line
- Service Fuel Line
- Water Line
- Fuel Tank
- Valve Pit

Historical Sample Location

- Sediment Sample
- Excavation Sample
- Soil Boring
- Surface Soil Sample
- Monitoring Well
- Hydro Punch
- Abandoned Monitoring Well
- Production Well
- Abandoned Production Well
- Surface Water Sample
- Bioventing System Well
- Vapor Monitoring Point
- Soil Vapor Sample

- Proposed Soil Sample
- Proposed Soil/Groundwater Sample
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level

N

0 25 50
Feet

FIGURE D11-TU001
Proposed Sample Locations

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

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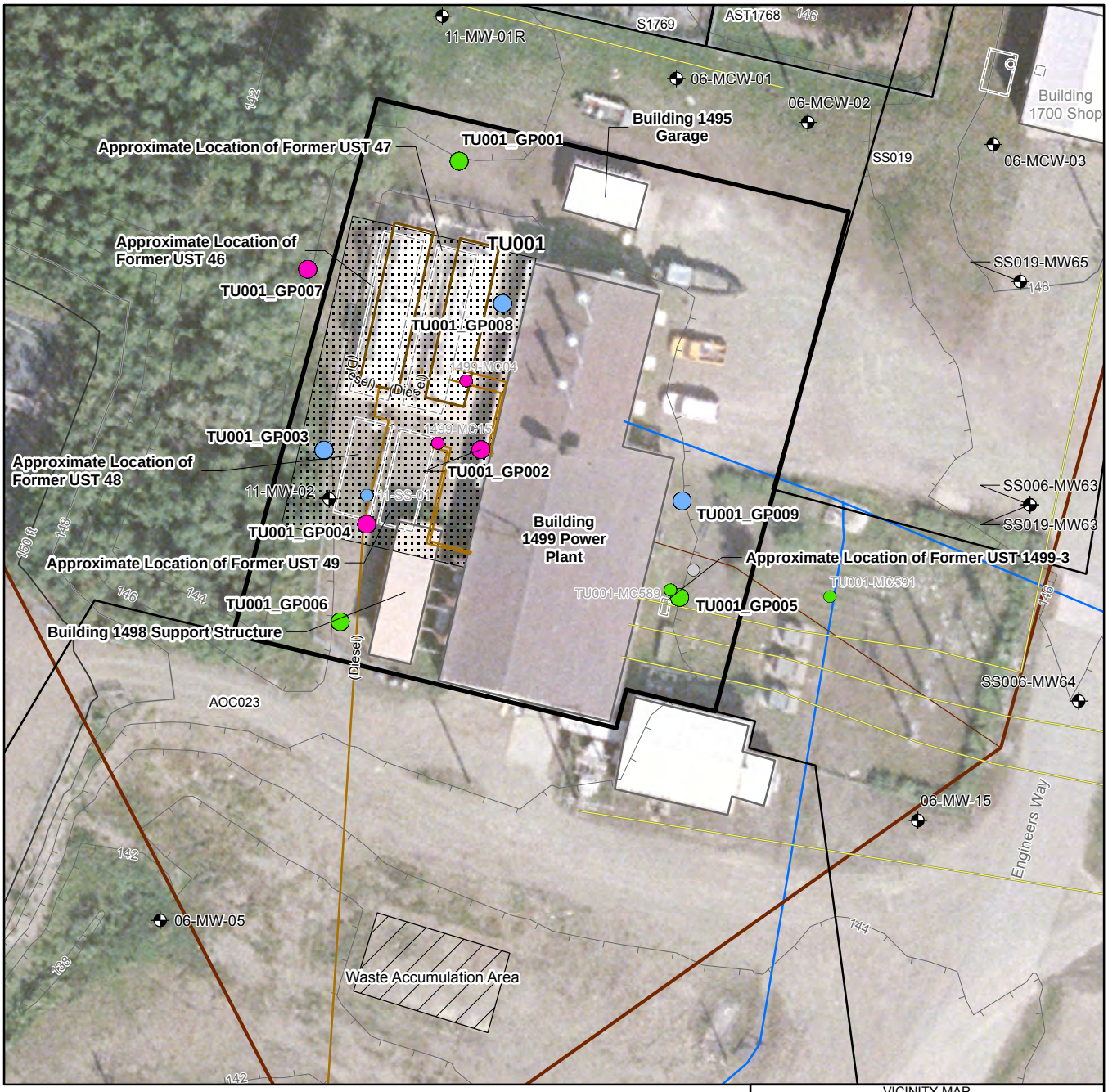

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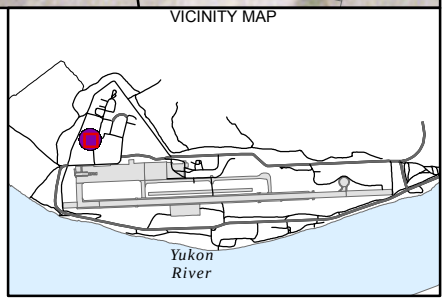

LEGEND

- TU001
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Approximate Extent of 1997 Excavation
- Concrete Drum Storage Pad
- Service Fuel Line
- Electrical Line
- Main Wastewater Line
- Water Line
- Fuel Tank

- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

Historical Sample Location

- Monitoring Well

Note:
1. Aerial photography and CAD drawing file vector themes courtesy Alaska Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs. July 7, 2009. Aerial photography pixel size 6-inch.

N

0 25 50
Feet

FIGURE D1-TU001
Site Layout
Former Galena Forward Operating Location, Alaska

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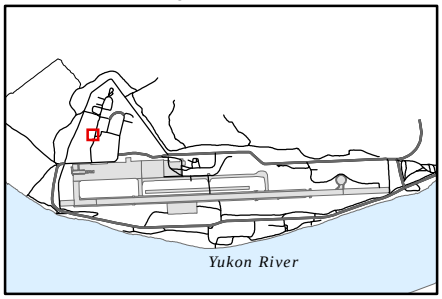
LEGEND

- SS019
- Adjacent Site
- Approximate Location of Former Feature
- Former Dry Well
- Electrical Line
- Heating/Cooling Line
- Main Storm Sewer Line
- Abandoned Wastewater Line
- Main Wastewater Line
- Service Wastewater Line
- Water Line
- Fuel Tank
- Valve Pit

Note:
1. Aerial photography courtesy Alaska Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs. July 10, 2009. Pixel size 6 inch.

VICINITY MAP



N

0 20 40
Feet

FIGURE D1-SS019
Site Layout

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

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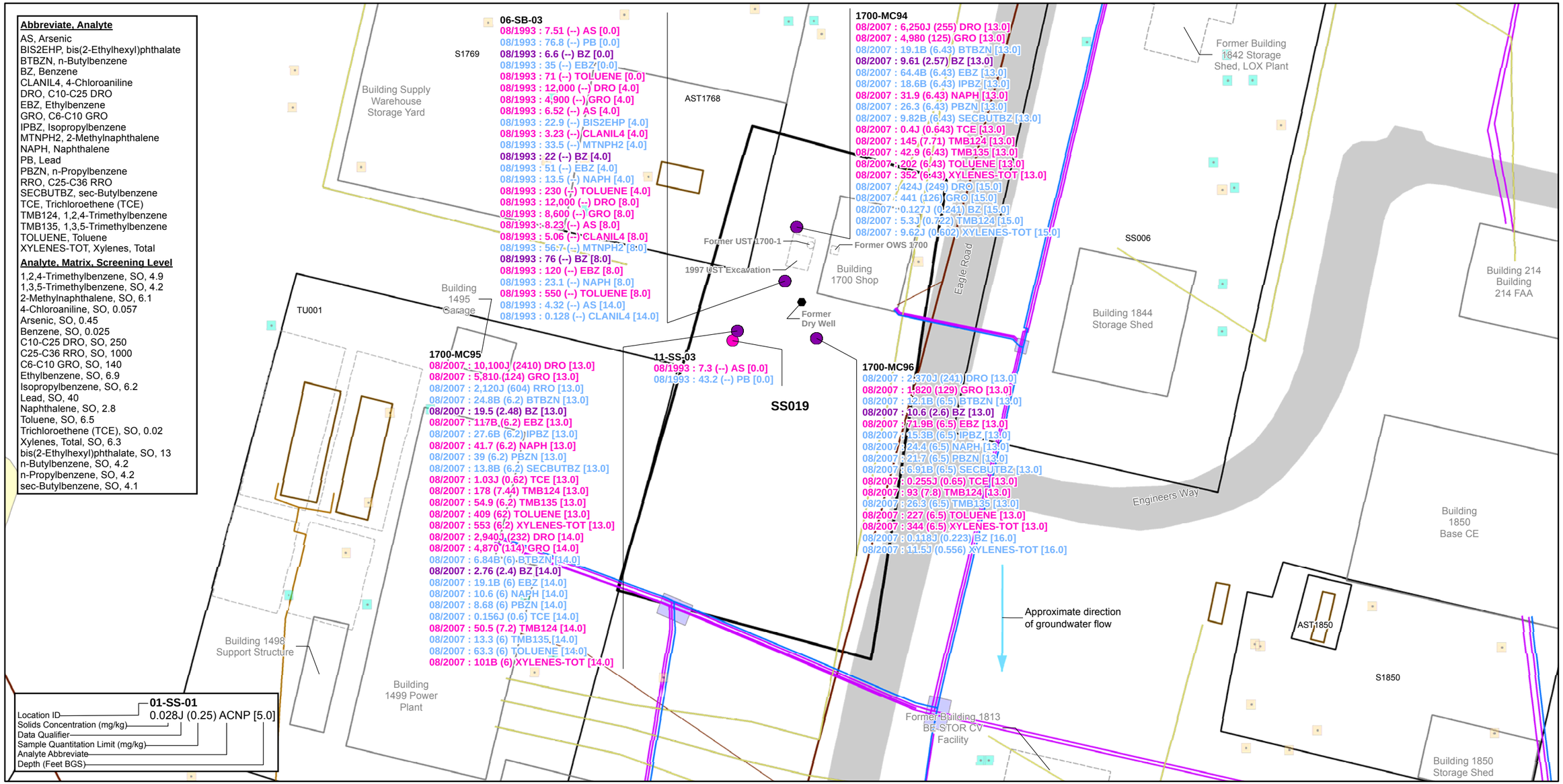


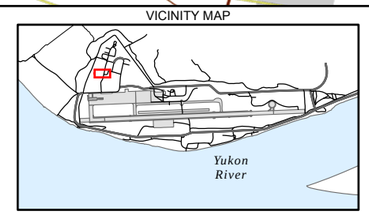
LEGEND

- SS019
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Road
- Electrical Line
- Service Fuel Line
- Heating/Cooling Line
- Main Storm Sewer Line
- Main Wastewater Line
- Service Wastewater Line
- Abandoned Wastewater Line
- Water Line
- Valve Pit
- Fuel Tank
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)

Historical Sample Location

- Excavation Sample
- Soil Boring
- Surface Soil Sample
- Former Dry Well

VICINITY MAP



0 20 40
Feet

N

Notes:

1. B - The analyte was detected in the associated method and/or calibration blank.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. Only exceedances shown, nondetects excluded.
3. Screening levels are presented in units of mg/kg for SO (soil) samples.
4. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level
8. Exceedances determined using soil data from 1993 and 2007.
9. Data for 11-SS-03 will not be used because location could not be confirmed.

FIGURE D7-SS019
Exceedances of Extent Screening Levels in Soil
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL

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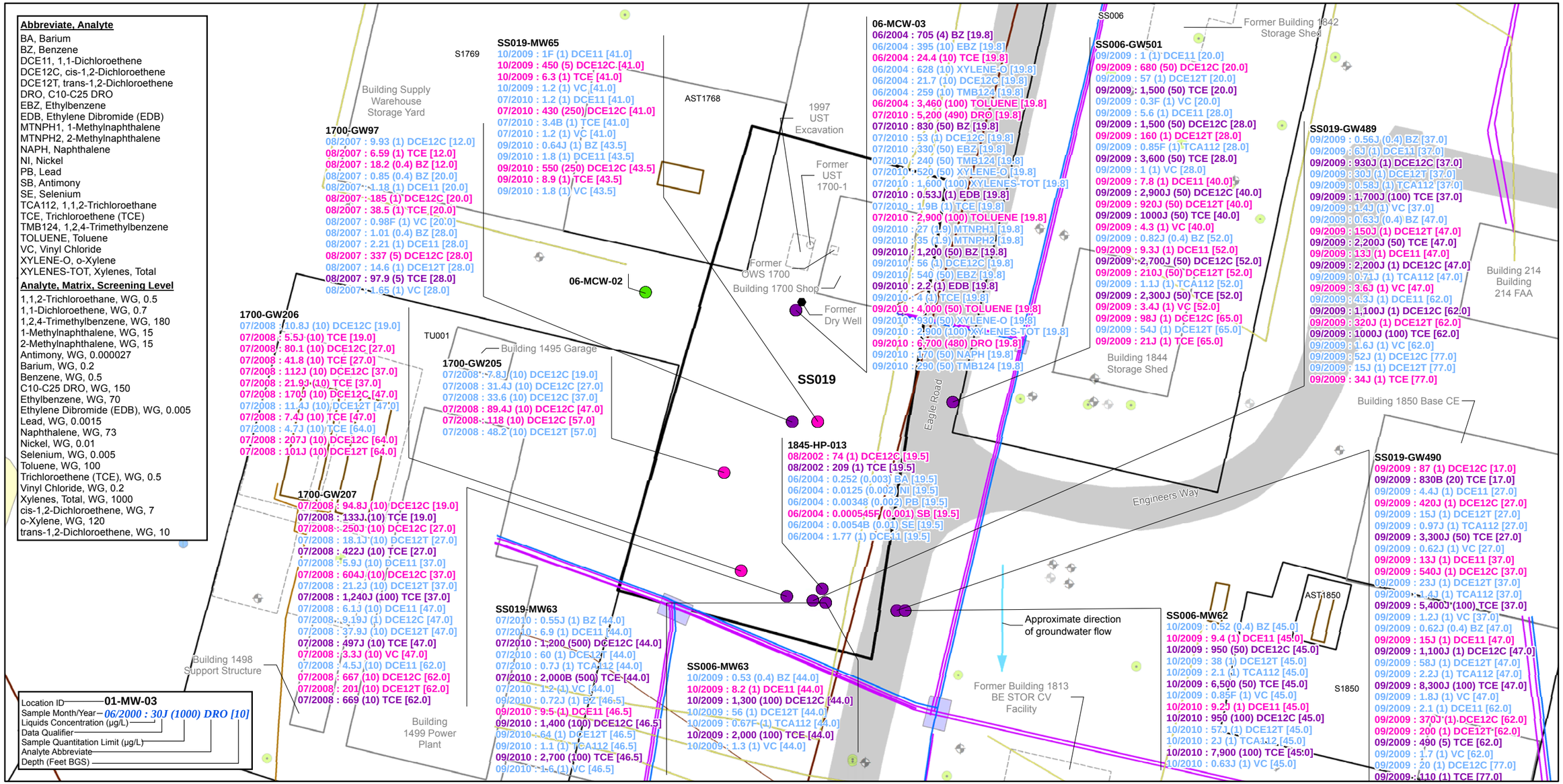


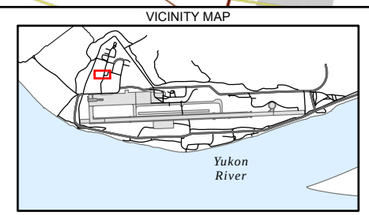
LEGEND

- SS019
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Road
- Electrical Line
- Service Fuel Line
- Heating/Cooling Line
- Main Storm Sewer Line
- Main Wastewater Line
- Service Wastewater Line
- Abandoned Wastewater Line
- Water Line
- Valve Pit
- Fuel Tank
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Does Not Exceed Screening Level

Historical Sample Location

- Hydro Punch
- Monitoring Well
- Abandoned Monitoring Well
- Surface Water Sample

VICINITY MAP



0 20 40
Feet

Notes:

1. B - The analyte was detected in the associated method and/or calibration blank.
   F - The analyte was positively identified by the lab: the associated numerical value is the approximate concentration of the analyte in the sample.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. Only exceedances shown, nondetects excluded.
3. Screening levels are presented in units of µg/L for WG (groundwater) samples.
4. Purple Label = Sample Exceeds Screening Level (Greater than 100X analyte SL)
5. Scarlet Label = Sample Exceeds Screening Level (Greater than 10X analyte SL)
6. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
7. SL = Screening Level
8. Exceedances determined using groundwater data from 1992 to 2010.

FIGURE D8-SS019
Exceedances of Screening Levels in Groundwater
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL

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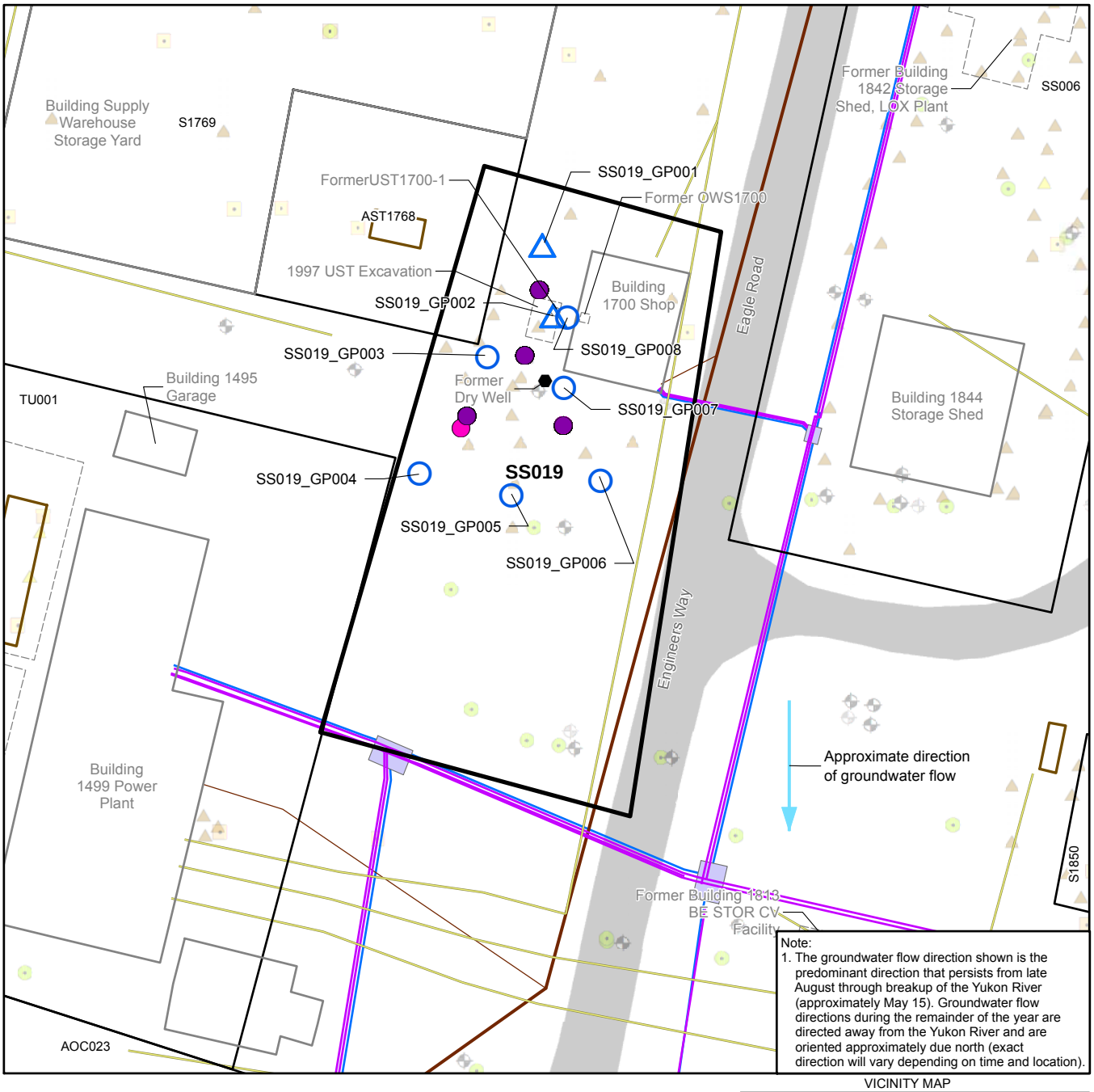
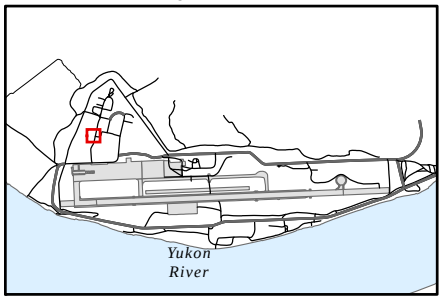


VICINITY MAP



LEGEND

- SS019
- Adjacent Site
- Structure
- Road
- Electrical Line
- Heating/Cooling Line
- Main Storm Sewer Line
- Main Wastewater Line
- Service Wastewater Line
- Water Line
- Valve Pit
- Fuel Tank
- Proposed Soil Sample
- Proposed Soil/Groundwater Sample

Historical Soil Exceedance

- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)

Historical Sample Location

- Soil Boring
- Hydro Punch
- Monitoring Well
- Abandoned Monitoring Well
- Soil Vapor Sample
- Vapor Monitoring Point

N

0 25 50
Feet

FIGURE D10-SS019
Proposed Sample Locations

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

CH2MHILL

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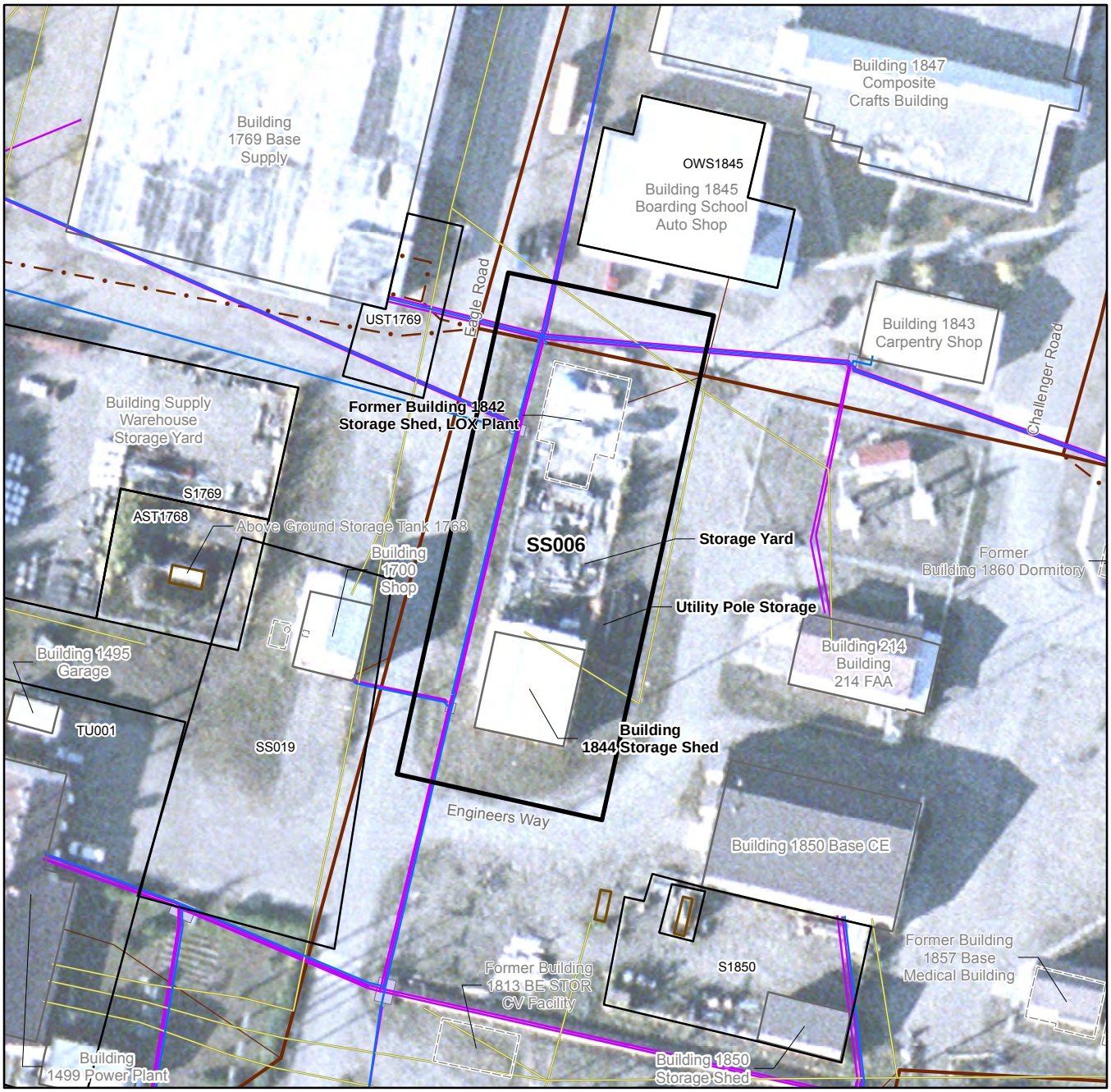

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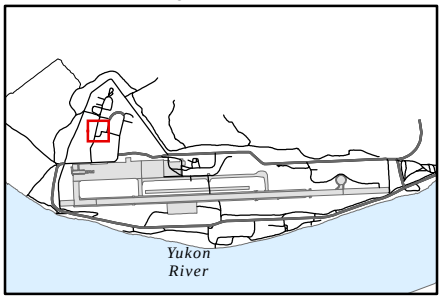

LEGEND

- SS006
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Electrical Line
- Heating/Cooling Line
- Service Fuel Line
- Abandoned Wastewater Line
- Main Wastewater Line
- Water Line
- Utility Valve Pit
- Fuel Tank

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meter.

N

0 40 80
Feet

FIGURE D1-SS006
Site Layout

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

CH2MHILL

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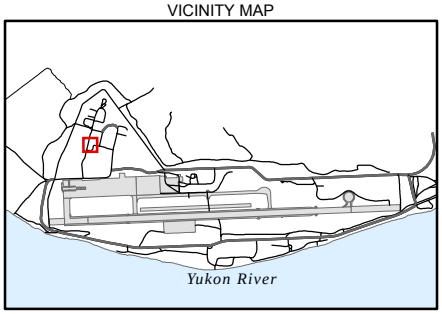
LEGEND

SS006

Notes:
1. Photography date 9-4-1963, georeferenced
2. Photography date 5-30-1978, georeferenced
3. Imagery August 2002 Pixel size 0.075 meter
4. Imagery September 4, 2009. Pixel size 0.25 meter

VICINITY MAP



N

0 50 100
Feet

FIGURE D3-SS006
Historical Aerial Photography
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL

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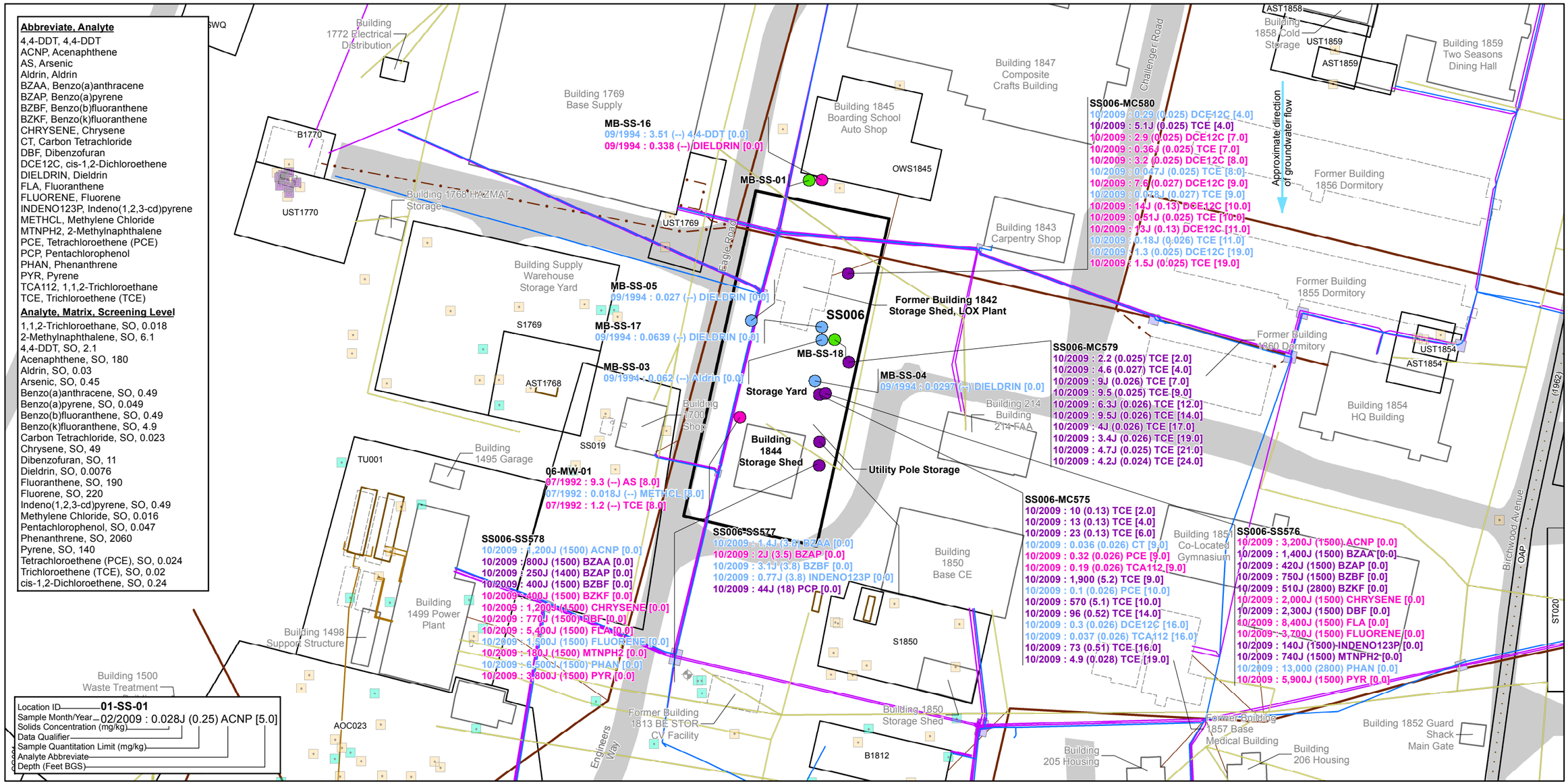


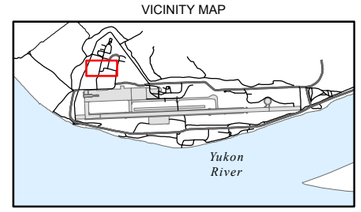
LEGEND

- SS006
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Electrical Line
- Heating/Cooling Line
- Abandoned Wastewater Line
- Main Wastewater Line
- Water Line
- Service Fuel Line
- Fuel Tank
- Utility Valve Pit
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level

Historical Sample Location

- Soil Boring
- Surface Soil Sample
- Monitoring Well

VICINITY MAP



0 40 80
Feet

N

Notes:

1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. (--) = Limit of Quantitation not available.
3. Only exceedances shown, non-detects excluded.
4. Screening levels are presented in units of mg/kg for SO (soil) samples.
5. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Includes soil data from 1992, 1994, and 2009.

FIGURE D7-SS006
Exceedances of Extent Screening Levels in Soil
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL

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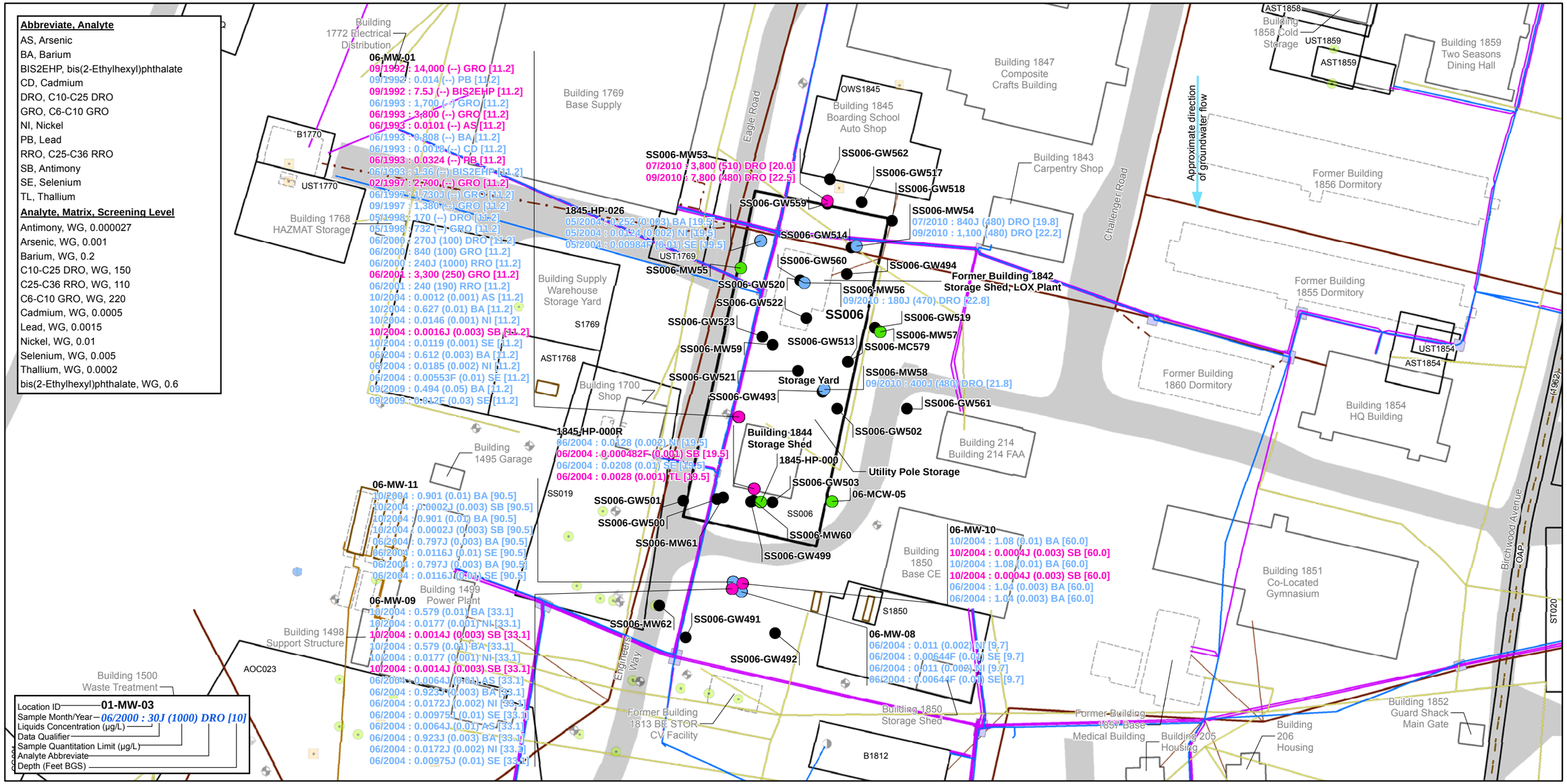


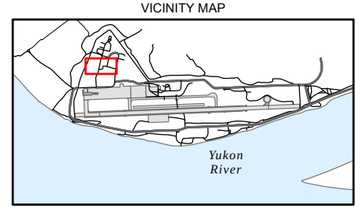
LEGEND

- SS006
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Electrical Line
- Heating/Cooling Line
- Abandoned Wastewater Line
- Main Wastewater Line
- Water Line
- Service Fuel Line
- Fuel Tank
- Utility Valve Pit
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Sample Was Not Analyzed for Target Analyte

Historical Sample Location

- Monitoring Well
- Hydro Punch
- Abandoned Monitoring Well
- Production Well
- Surface Water Sample

VICINITY MAP



0 40 80
Feet

N

Notes:

1. F - The analyte was positively identified by the lab: the associated numerical value is the approximate concentration of the analyte in the sample.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. (--) = Limit of Quantitation not available.
3. Only exceedances shown, non-detects excluded.
4. Screening levels are presented in units of ug/L for WG (groundwater) samples and mg/kg for SO (soil) samples.
5. Purple Label = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. Scarlet Label = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Includes groundwater data 1992 through 2010.

FIGURE D8-SS006
Exceedances of Screening Levels in Groundwater - Non-Volatile Organic Compounds

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

CH2MHILL

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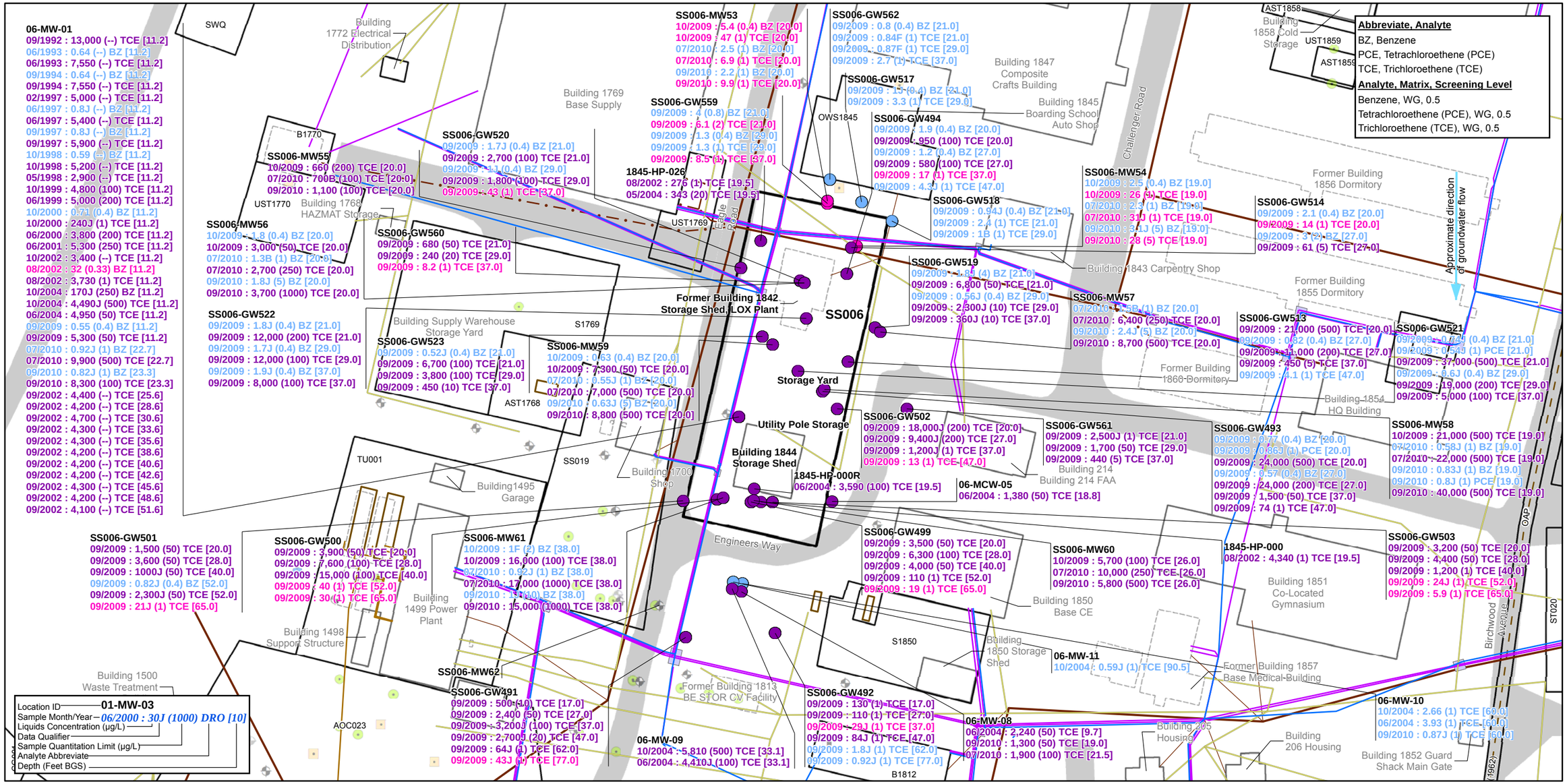


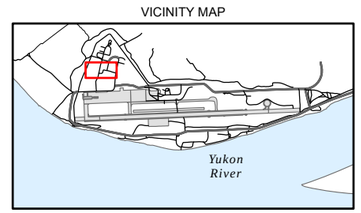
LEGEND

- SS006
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Electrical Line
- Heating/Cooling Line
- Abandoned Wastewater Line
- Main Wastewater Line
- Water Line
- Service Fuel Line
- Fuel Tank
- Utility Valve Pit
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)

Historical Sample Location

- Monitoring Well
- Hydro Punch
- Abandoned Monitoring Well
- Production Well
- Surface Water Sample

VICINITY MAP



0 40 80
Feet

N

Notes:

1. B - The analyte was detected in the associated method and/or calibration blank.
   F - The analyte was positively identified by the lab: the associated numerical value is the approximate concentration of the analyte in the sample.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. (--) = Limit of Quantitation not available.
3. Only exceedances shown, non-detects excluded.
4. Screening levels are presented in units of ug/L for WG (groundwater) samples and mg/kg for SO (soil) samples.
5. Purple Label = Sample Exceeds Screening Level (Greater than 100X analyte SL)
6. Scarlet Label = Sample Exceeds Screening Level (Greater than 10X analyte SL)
7. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
8. SL = Screening Level
9. Results shown for selected VOCs only (see Abbreviate and Analyte Box)
10. Includes groundwater data 1992 through 2010.

FIGURE D9-SS006
Exceedances of Screening Levels in Groundwater - Volatile Organic Compounds

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

CH2MHILL

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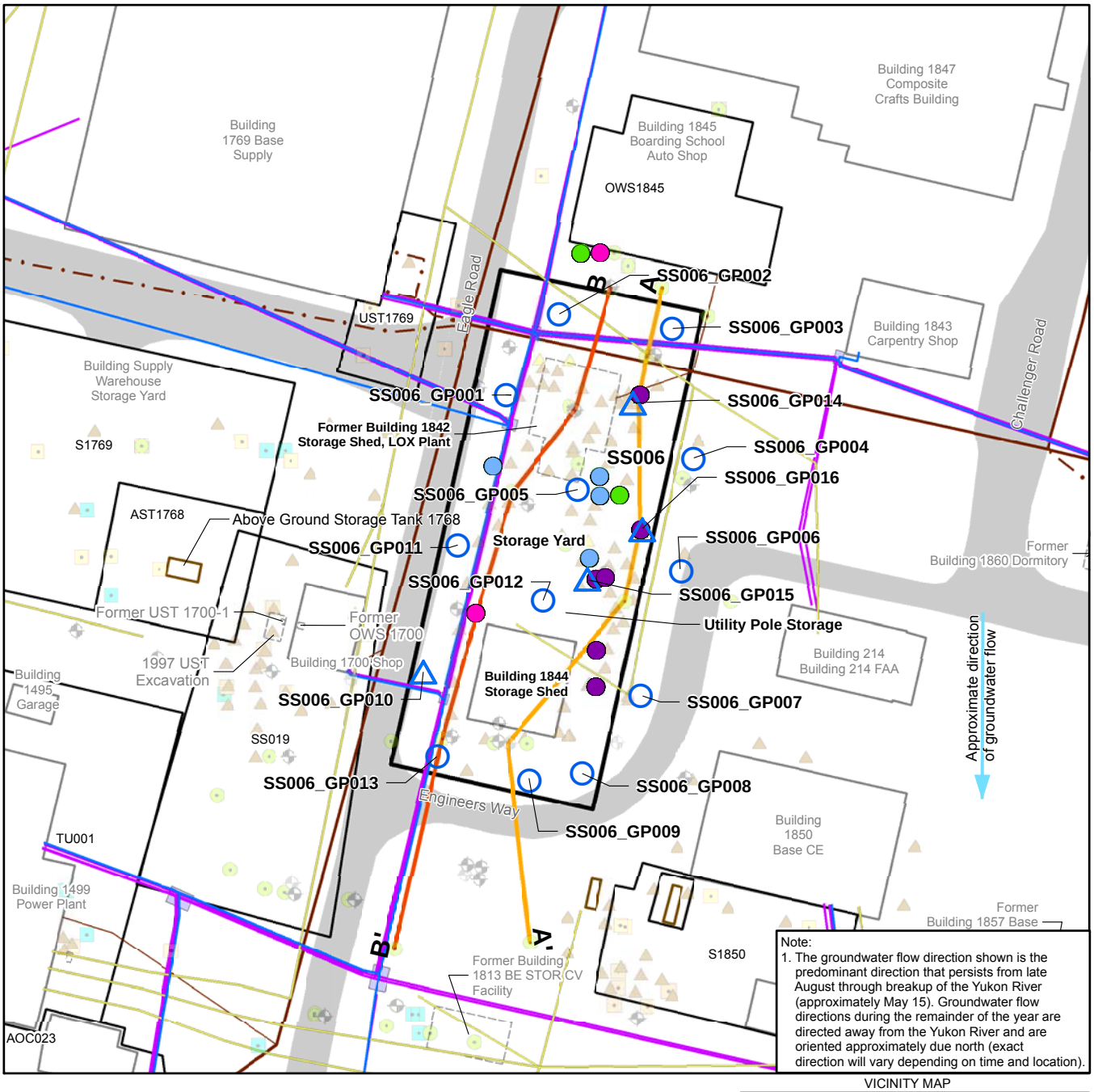
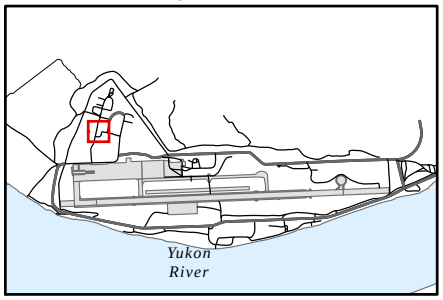


VICINITY MAP



LEGEND

- SS006
- Adjacent Site
- Road
- Structure
- Approximate Location of Former Feature
- Electrical Line
- Heating/Cooling Line
- Abandoned Wastewater Line
- Main Wastewater Line
- Water Line
- Valve Pit
- Cross Section A
- Cross Section B

- Proposed Soil Sample
- Proposed Soil/Groundwater Sample
- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level

Historical Sample Location

- Soil Boring
- Surface Soil Sample
- Abandoned Monitoring Well
- Monitoring Well
- Hydro Punch
- Vapor Monitoring Point
- Soil Vapor Sample

0 40 80
Feet

N

FIGURE D11-SS006
Proposed Sample Locations

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

CH2MHILL

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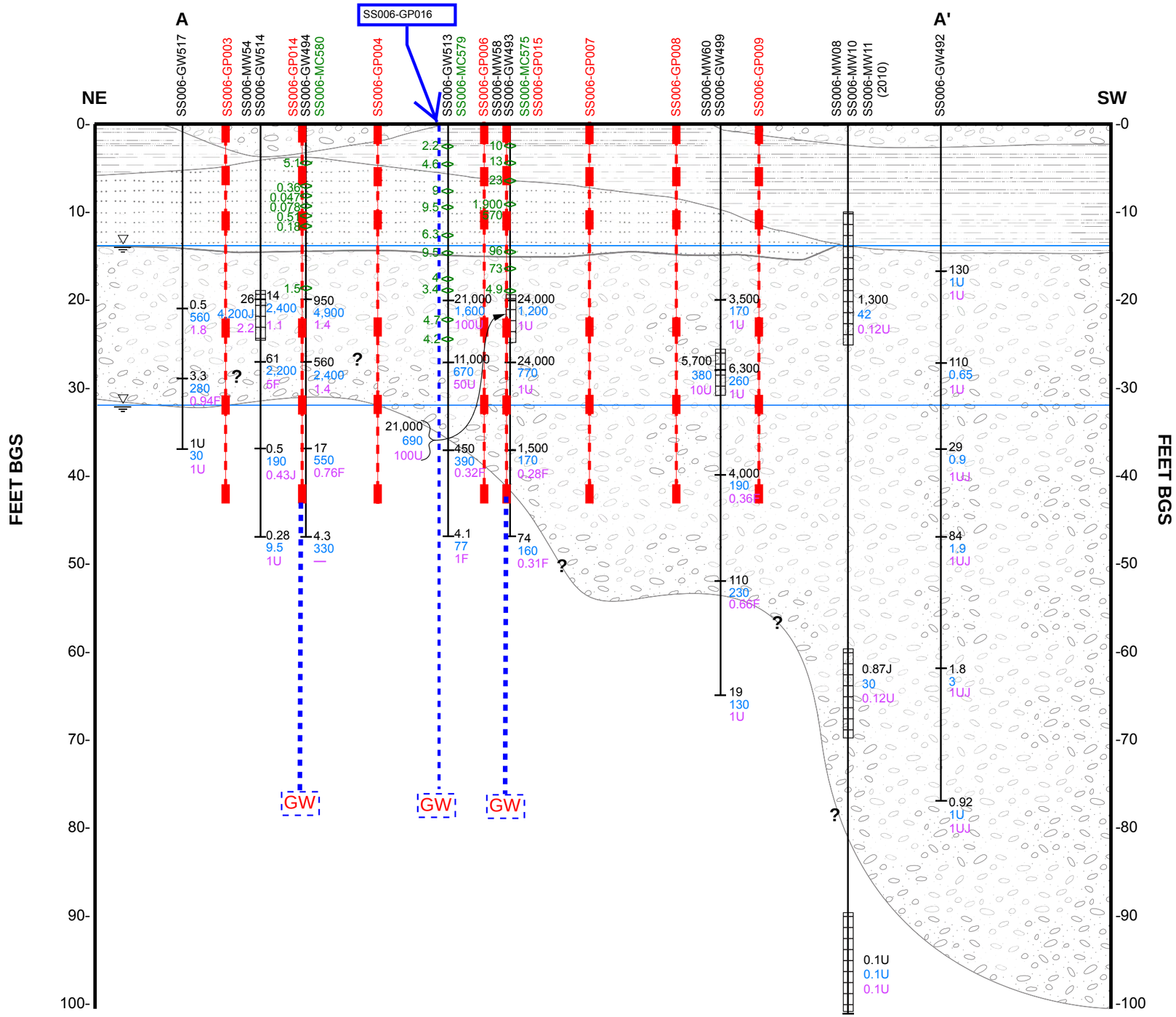


NOTES:

BGS	=	BELOW GROUND SURFACE
J	=	THE ANALYTE WAS POSITIVELY IDENTIFIED, THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE
F	=	THE ANALYTE WAS POSITIVELY IDENTIFIED BY THE LAB, THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE
U	=	THE ANALYTE WAS NOT DETECTED
µg/L	=	MICROGRAMS PER LITER
mg/kg	=	MILLIGRAMS PER KILOGRAM

LEGEND

- SILT, CLAY
- SILTY SAND, SANDY SILT
- SAND, GRAVELLY SAND
- APPROXIMATE MINIMUM AND MAXIMUM WATER LEVEL
- MONITORING WELL SCREEN
- GROUNDWATER SAMPLE (2009)
  - 6.1 — TCE CONCENTRATION (µg/L)
  - 1,200 — cis DCE CONCENTRATION (µg/L)
  - 1.6 — VC CONCENTRATION (µg/L)
- SOIL SAMPLE
  - 1.2 — TCE CONCENTRATION (mg/kg)
- PROPOSED SOIL SAMPLE LOCATION
- PROPOSED SAMPLE DEPTH

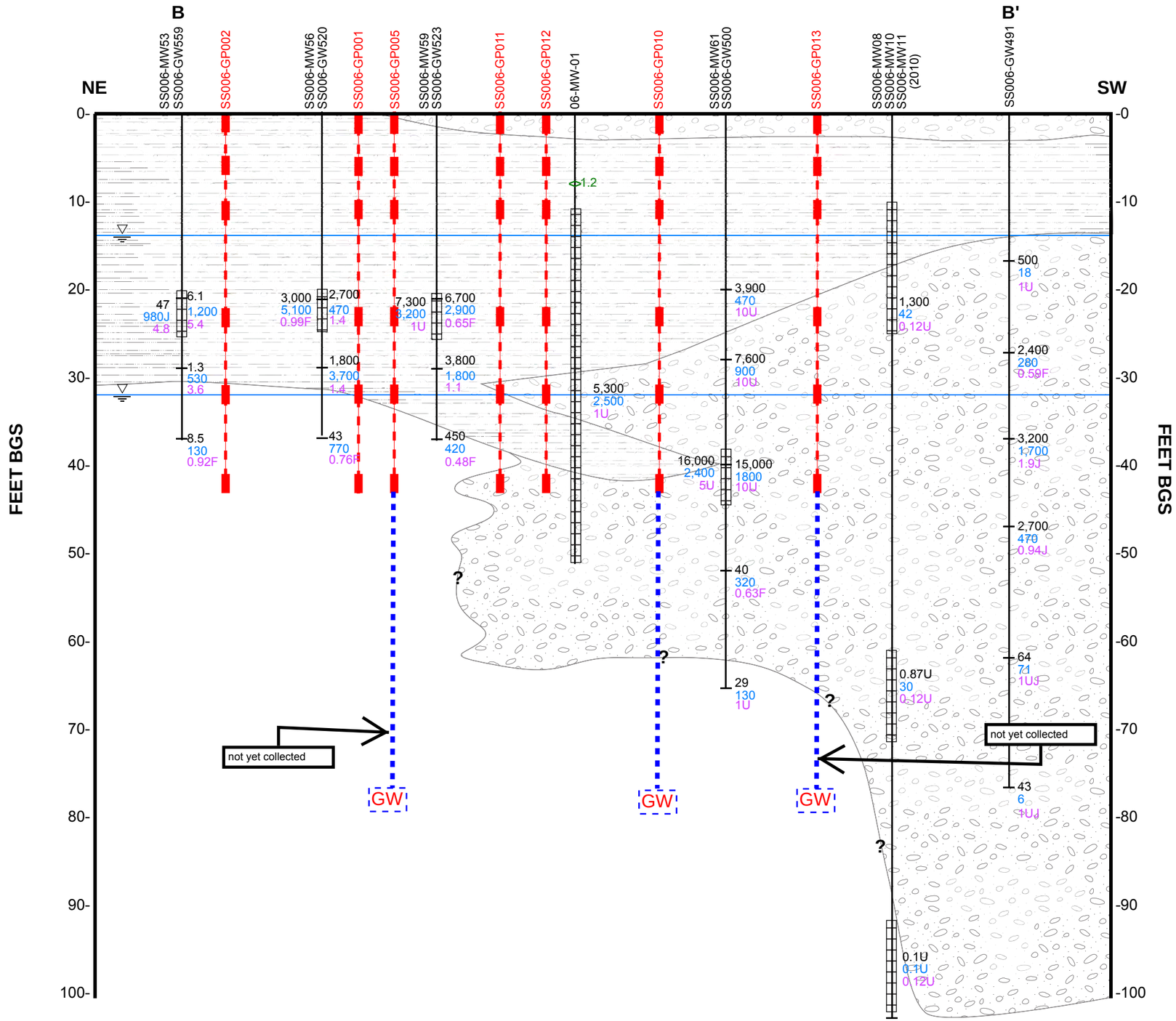
0 25 50 FEET
SCALE IS APPROXIMATE

VERTICAL EXAGGERATION = 4

New boring/sample depth added based on ADEC comments

Figure D12A-SS006
Cross Section A-A'
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL®



NOTES:

BGS	=	BELOW GROUND SURFACE
J	=	THE ANALYTE WAS POSITIVELY IDENTIFIED, THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE
F	=	THE ANALYTE WAS POSITIVELY IDENTIFIED BY THE LAB, THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE
U	=	THE ANALYTE WAS NOT DETECTED
µg/L	=	MICROGRAMS PER LITER
mg/kg	=	MILLIGRAMS PER KILOGRAM

LEGEND

SILTY SAND, SANDY SILT

SAND, GRAVELLY SAND

APPROXIMATE MINIMUM AND MAXIMUM WATER LEVEL

MONITORING WELL SCREEN

GROUNDWATER SAMPLE (2009)
6.1 TCE CONCENTRATION (µg/L)
1,200 cis DCE CONCENTRATION (µg/L)
1.6 VC CONCENTRATION (µg/L)

SOIL SAMPLE
1.2 TCE CONCENTRATION (mg/kg)

PROPOSED SOIL SAMPLE LOCATION

PROPOSED SAMPLE DEPTH

0 25 50 FEET
SCALE IS APPROXIMATE

VERTICAL EXAGGERATION = 4

New boring/sample depth added based on ADEC comments

Figure D12B-SS006
Cross Section B-B'
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

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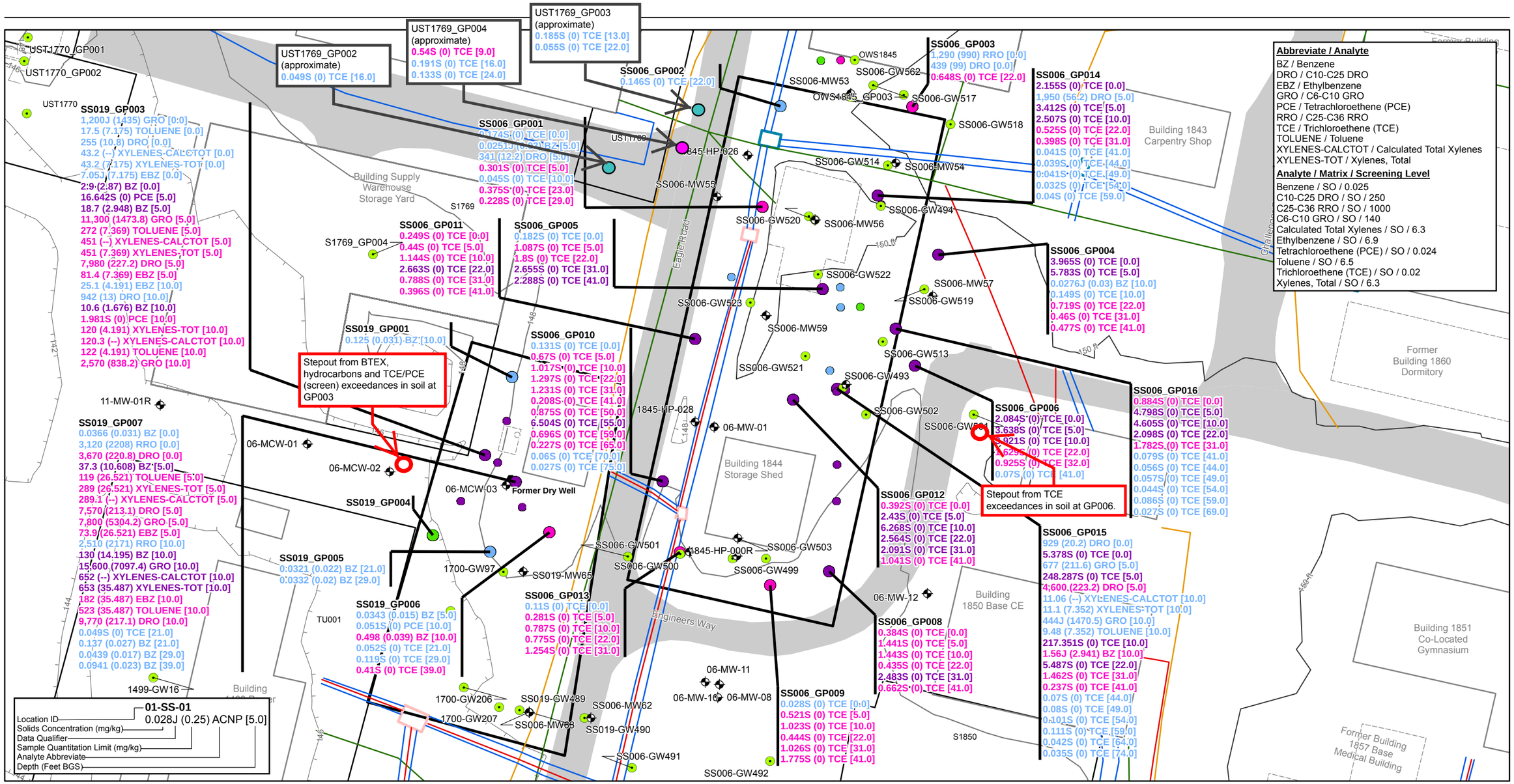


LEGEND

- SS019/SS006
- Adjacent Site
- Road
- Approximate Location of Former Feature
- Structure

Utility Locates - 2010

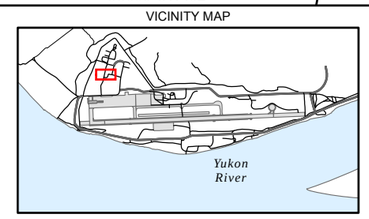
- Communications Line
- Electrical Line
- Potable Water Main
- Sanitary Sewer Main

- Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Exceeds Screening Level (1 to 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (Greater than 100X analyte SL)
- Historical Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

Historical Sample Location

- Hydro Punch
- Monitoring Well

VICINITY MAP



0 25 50
Feet

N

Notes:

1. J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
   S - The sample results are unvalidated and should be used for screening purposes only.
2. Only exceedances shown, non-detects excluded.
3. **Purple Label** = Sample Exceeds Screening Level (Greater than 100X analyte SL)
4. **Scarlet Label** = Sample Exceeds Screening Level (Greater than 10X analyte SL)
5. **Blue Label** = Sample Exceeds Screening Level (1 to 10X analyte SL)
6. SL = Screening Level
7. Depth shown is the TOP depth of the sample.
8. 2010 utilities shown are underground only.

Site Name: SS019/SS006
Investigation Type: SC
Analytes: Exceeds
Media: Soil
SLs: Soil Extent
Data Range: 2011

CH2MHILL

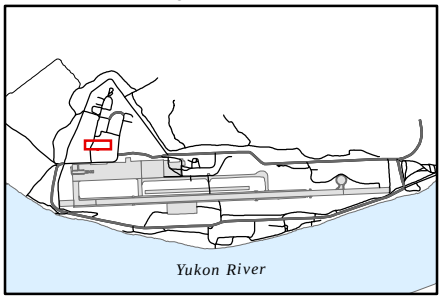
V:\GALENATO184_394439\MAPFILES\TRIAD\SS019\2011\SS019_SS006_2011_SO_RESULTS.MXD TMCBROOM 10/19/2011 10:07:37 AM

LEGEND

UST15783

Notes:
1. Photography date 9-4-1963, georeferenced
2. Photography date 1985, georeferenced
3. Imagery August 2002. Pixel size 0.075 meter

VICINITY MAP

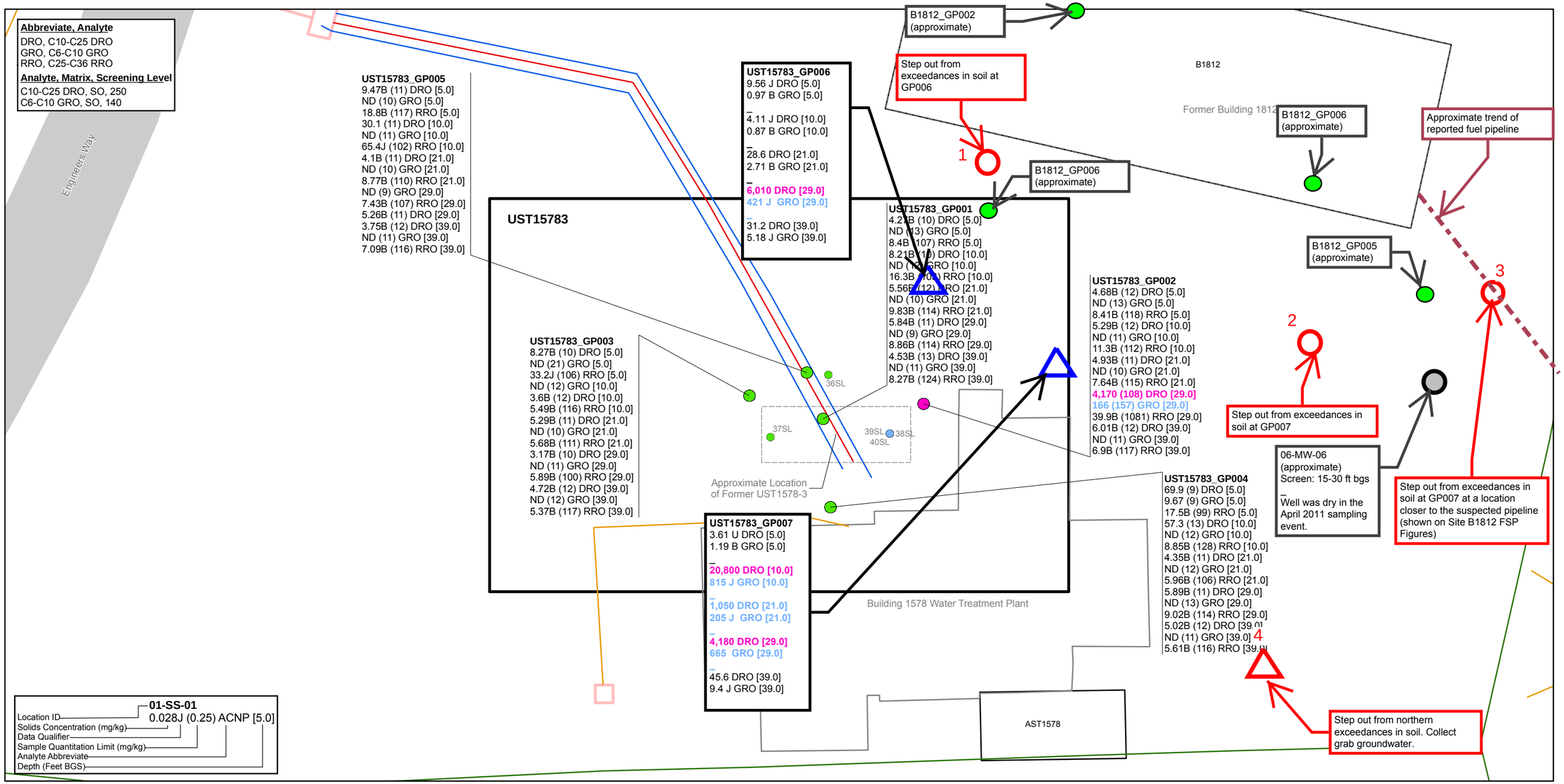


N

0 50 100
Feet

FIGURE D3-UST15783
Historical Aerial Photography
Work Plan for Site Inspection, Remedial Investigation, and Site Characterization
Former Galena Forward Operating Location, Alaska

CH2MHILL



LEGEND

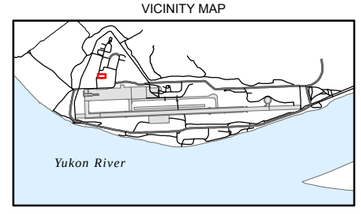
- UST15783
- Adjacent Site
- Road
- Approximate Location of Former Feature
- Structure

Utility Locates - 2010

- Electrical Line
- Communications Line
- Potable Water Main
- Sanitary Sewer Main
- Concrete Pad

- Sample Exceeds Screening Level (Greater than 10X analyte SL)
- Sample Does Not Exceed Screening Level
- Historical Sample Exceeds Screening Level (1 to 10X analyte SL)
- Historical Sample Does Not Exceed Screening Level

VICINITY MAP



Notes:

1. B - The analyte was detected in the associated method and/or calibration blank.
   J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
2. ND = Non-Detect
3. Screening levels are presented in units of ug/L for WG (groundwater) samples and mg/kg for SO (soil) samples.
4. Scarlet Label = Sample Exceeds Screening Level (Greater than 10X analyte SL)
5. Blue Label = Sample Exceeds Screening Level (1 to 10X analyte SL)
6. SL = Screening Level

0 10 20
Feet

N

Site Name: UST15783
Investigation Type: SC
Analytes: Petroleum Hydrocarbons
Media: Soil
SLs: Soil Extent
Data Range: 2010

CH2MHILL

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