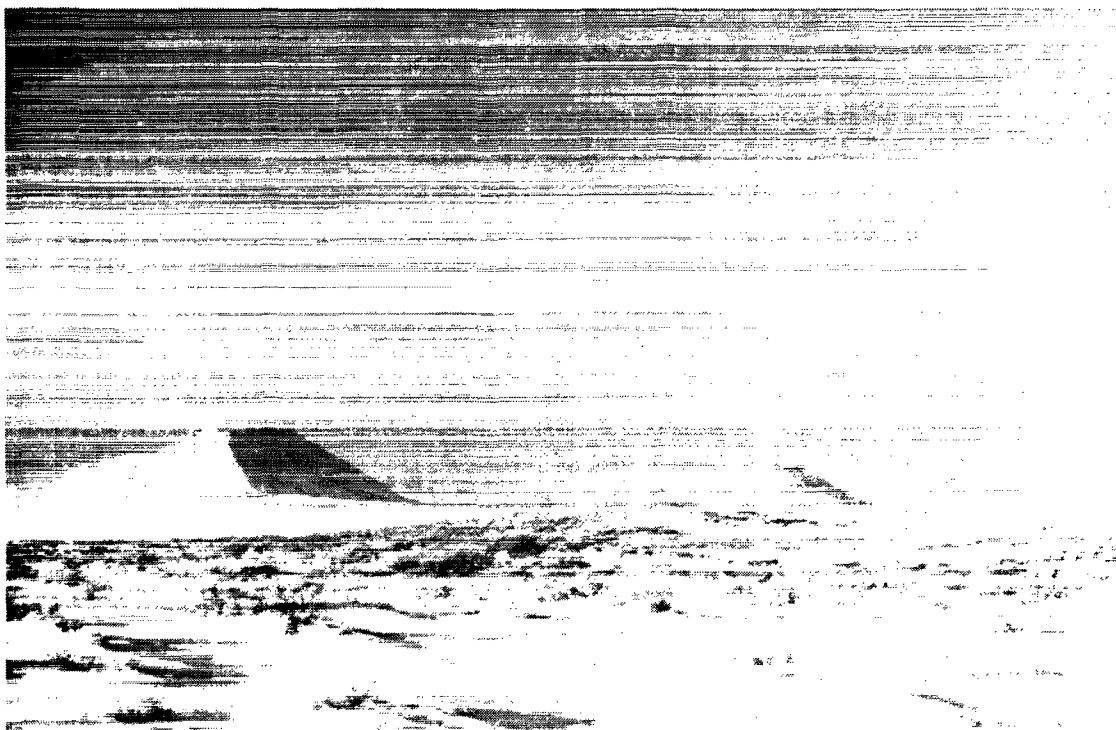




Thickness of Surficial Sediment at and near the Idaho National Engineering Laboratory, Idaho

U.S. Geological Survey
Open-File Report 96-330

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**Cover: From left, East Butte, Middle Butte, and Big Southern Butte, Idaho
National Engineering Laboratory**

**Photograph courtesy of T.D. Reynolds, formerly with U.S. Department
of Energy, Environmental Sciences Branch**

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by S.R. Anderson, Michael J. Liszewski, and Daniel J. Ackerman

U.S. GEOLOGICAL SURVEY
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Idaho Falls, Idaho
June 1996



U.S. DEPARTMENT OF THE INTERIOR

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CONVERSION FACTORS

| Multiply | By | To Obtain |
|--------------------------------|--------|------------------|
| foot (ft) | 0.3048 | meter |
| square mile (mi ²) | 2.590 | square kilometer |



Thickness of Surficial Sediment at and near the Idaho National Engineering Laboratory, Idaho

by S.R. Anderson, Michael J. Liszewski, and Daniel J. Ackerman

Abstract

Thickness of surficial sediment was determined from natural-gamma logs in 333 wells at and near the Idaho National Engineering Laboratory in eastern Idaho to provide reconnaissance data for future site-characterization studies. Surficial sediment, which is defined as the unconsolidated clay, silt, sand, and gravel that overlie the uppermost basalt flow at each well, ranges in thickness from 0 feet in seven wells drilled through basalt outcrops east of the Idaho Chemical Processing Plant to 313 feet in well Site 14 southeast of the Big Lost River sinks. Surficial sediment includes alluvial, lacustrine, eolian, and colluvial deposits that generally accumulated during the past 200 thousand years. Additional thickness data, not included in this report, are available from numerous auger holes and foundation borings at and near most facilities.

INTRODUCTION

The Idaho National Engineering Laboratory (INEL) is operated by the U.S. Department of Energy (DOE) and covers about 890 mi² of the eastern Snake River Plain in eastern Idaho (fig. 1). Facilities at the INEL are used in the development of peacetime atomic-energy applications, nuclear safety research, defense programs, and advanced energy concepts. Liquid radionuclide and chemical wastes generated at these facilities have been discharged to onsite infiltration ponds and disposal wells since 1952. Liquid-waste disposal has resulted in detectable concentrations of several waste constituents in water in the Snake River Plain aquifer underlying the INEL (Orr and Cecil, 1991).

Concern about the potential for migration of radioactive and chemical wastes in the unsaturated zone and aquifer has resulted in

numerous studies of the subsurface at the INEL. In 1988, the U.S. Geological Survey (USGS) in cooperation with the DOE, began a study of the stratigraphy of basalt and sediment underlying the INEL to determine stratigraphic relations that might affect the movement of wastes. Three earlier reports, Anderson and Lewis (1989), Anderson (1991), and Anderson and Bowers (1995), describe stratigraphic relations and their implications regarding the movement of wastes at the Radioactive Waste Management Complex (RWMC), the Idaho Chemical Processing Plant (ICPP), the Test Reactor Area (TRA), and Test Area North (TAN) (fig. 1). A fourth report, Anderson and others (1996), describes stratigraphic relations in 333 wells at and near the INEL and includes revised relations for the RWMC, ICPP, TRA, and TAN. Each of these reports describes the thickness of surficial sediment; data are contoured at the RWMC, ICPP, TRA, and TAN, and Anderson and others (1996) subdivide the sediment into stratigraphic units.

Purpose and Scope

This report describes the thickness of surficial sediment determined from natural-gamma logs in 333 wells at and near the INEL (figs. 2-5 and table 1, located at back of this report). Surficial sediment, disregarding stratigraphic criteria, is defined as the unconsolidated clay, silt, sand, and gravel that overlie the uppermost basalt flow at each well. Surficial sediment includes alluvial, lacustrine, eolian, and colluvial deposits that generally accumulated during the last 200 thousand years.

This report was designed to provide reconnaissance data for future site-characterization studies, such as those that would be required for building sites, storage tanks, pipelines, landfills, and waste ponds. Additional thickness data, not included in

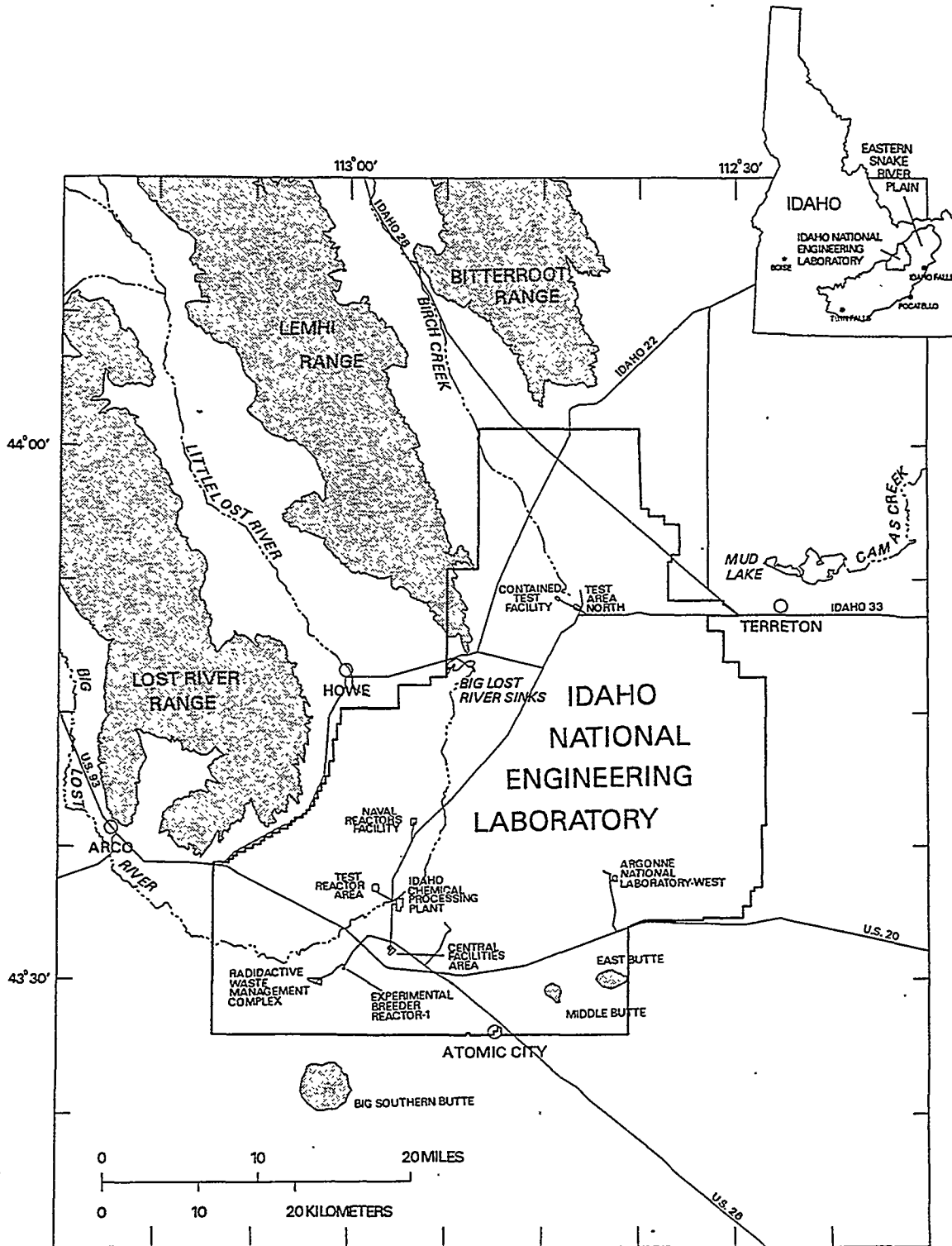


Figure 1. Location of the Idaho National Engineering Laboratory and selected facilities.

this report, are available from numerous auger holes and foundation borings at and near most facilities. Distribution of surficial sediment is described by Kuntz and others (1994). Mineralogy and grain size of surficial sediment and selected sedimentary interbeds are described by Bartholomay and others (1989), Bartholomay (1990), and Reed and Bartholomay (1994).

THICKNESS OF SURFICIAL SEDIMENT

Surficial sediment covers much of the INEL and adjacent areas, but is thickest in a zone that extends northeastward from the Central Facilities Area (CFA) to Mud Lake (fig. 6, located at the back of this report) (Kuntz and others, 1994). Areas inside this zone are covered by alluvial, lacustrine, and eolian deposits derived from the Big Lost River, Little Lost River, Birch Creek, Camas Creek, Mud Lake, and ancient Lake Terreton. Areas outside of this zone are covered mainly by basalt and a veneer of wind-blown sediment and colluvium. Facilities inside the zone of thickest sediment accumulation include the CFA, ICPP, TRA, and TAN; the Contained Test Facility (CTF) and Naval Reactors Facility (NRF) also lie within this zone (fig. 1). Facilities that overlie shallow basalt include the RWMC, the Experimental Breeder Reactor-1 (EBR-1), and Argonne National Laboratory-West (ANL-W).

Thickness of surficial sediment ranges from 0 feet in wells NPR Test, NPR WO-2, PBF #2, PBF(CW), PBF(WW), Sdd-1, and Sdd-2 that were drilled through basalt outcrops east of the ICPP to 313 ft in well Site 14, southeast of the Big Lost River sinks (fig. 1; and figs. 6-9 and table 1, located at the back of this report). Thickness of sediment in wells ranges from about 10 to 30 ft at the CFA and NRF, about 20 to 60 ft at the CTF and TAN, and about 20 to 70 ft at the ICPP and TRA. Facilities where sediment thickness is least include the RWMC, EBR-1, and ANL-W; thickness of sediment in wells ranges from about 5 to 20 ft at the RWMC and EBR-1 and is less than 10 ft at ANL-W. Areas of thickest sediment accumulation occur near and southeast of the Big Lost River sinks and near Terreton, southwest of Mud Lake; thickness of sediment ranges from 177 to 313 ft in wells DH1B, DH2A,

DH3, and Site 14 and from 68 to 132 ft in wells USGS 27, Ashcraft, Barney North, Barney South, Callaway, and Cope. Most surficial sediment at and near the INEL accumulated during the last 200 thousand years, although deposits are younger than about 100 thousand years in the northern part of the RWMC and are about 470 thousand years old in the area of thickest accumulation near and southeast of the Big Lost River sinks (Anderson and others, 1996).

SUMMARY

Thickness of surficial sediment was determined from natural-gamma logs in 333 wells at and near the INEL to provide reconnaissance data for future site-characterization studies. Thickness of surficial sediment ranges from 0 feet in seven wells drilled through basalt outcrops east of the ICPP to 313 ft in well Site 14, southeast of the Big Lost River sinks. In general, sediment thickness in wells ranges from about 5 to 20 ft at the RWMC and EBR-1, about 10 to 30 ft at the CFA and NRF, about 20 to 60 ft at the CTF and TAN, and about 20 to 70 ft at the ICPP and TRA; sediment thickness is less than 10 ft at ANL-W. Sediment thickness ranges from 177 to 313 ft in four wells near and southeast of the Big Lost River sinks and from 68 to 132 ft in six wells southwest of Mud Lake near Terreton. Most surficial sediment was deposited during the last 200 thousand years, although sediment is younger than about 100 thousand years in the northern part of the RWMC and as old as about 470 thousand years in the area of thickest accumulation. Additional thickness data, not included in this report, are available from numerous auger holes and foundation borings at and near most facilities.

REFERENCES CITED

- Anderson, S.R., 1991, Stratigraphy of the unsaturated zone and uppermost part of the Snake River Plain aquifer at the Idaho Chemical Processing Plant and Test Reactors Area, Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 91-4010 (DOE/ID-22095), 71 p.

- Anderson, S.R., Ackerman, D.J., Liszewski, M.J., and Freiburger, R.M., 1996, Stratigraphic data for wells at and near the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 96-248, (DOE/ID-22127) 27 p., 1 diskette.
- Anderson, S.R., and Bowers, B., 1995, Stratigraphy of the unsaturated zone and uppermost part of the Snake River Plain aquifer at Test Area North, Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 95-4130, (DOE/ID-22122) 47 p.
- Anderson, S.R. and Lewis, B.D., 1989, Stratigraphy of the unsaturated zone at the Radioactive Waste Management Complex, Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 89-4065 (DOE/ID-22080), 54 p.
- Bartholomay, R.C., 1990, Mineralogical correlation of surficial sediment from area drainages with selected sedimentary interbeds at the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 90-4147 (DOE/ID-22092), 18 p.
- Bartholomay, R.C., Knobel, L.L., and Davis, L.C., 1989, Mineralogy and grain size of surficial sediment from the Big Lost River drainage and vicinity, with chemical and physical characteristics of geologic materials from selected sites at the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 89-384 (DOE/ID-22081), 74 p.
- Kuntz, M.A., Skipp, Betty, Lanphere, M.A., Scott, W.E., Pierce, K.L., Dalrymple, G.B., Champion, D.E., Embree, G.F., Page, W.R., Morgan, L.A., Smith, R.P., Hackett, W.R., and Rodgers, D.W., 1994, Geologic map of the Idaho National Engineering Laboratory and adjoining areas, eastern Idaho: U.S. Geological Survey Miscellaneous Investigations Map I-2330, scale 1:100,000.
- Orr, B.R., and Cecil, L.D., 1991, Hydrologic conditions and distribution of selected chemical constituents in water, Snake River Plain aquifer, Idaho National Engineering Laboratory, Idaho, 1986 to 1988: U.S. Geological Survey Water-Resources Investigations Report 91-4047 (DOE/ID-22096), 56 p.
- Reed, Michael F., and Bartholomay, R.C., 1994, Mineralogy of selected sedimentary interbeds at or near the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 94-374 (DOE/ID-22116), 19 p.

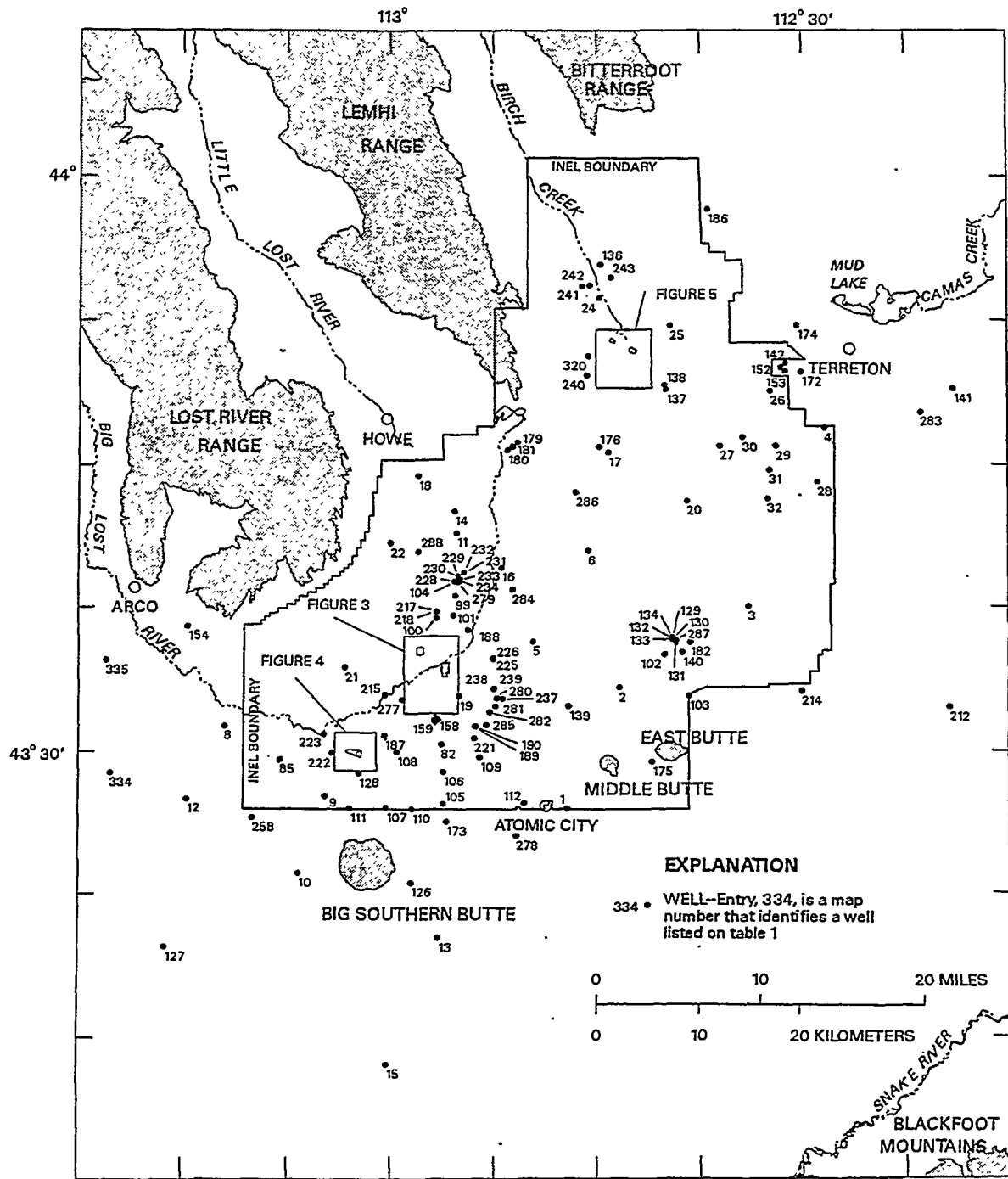


Figure 2. Locations of wells used to determine thickness of surficial sediment at and near the Idaho National Engineering Laboratory.

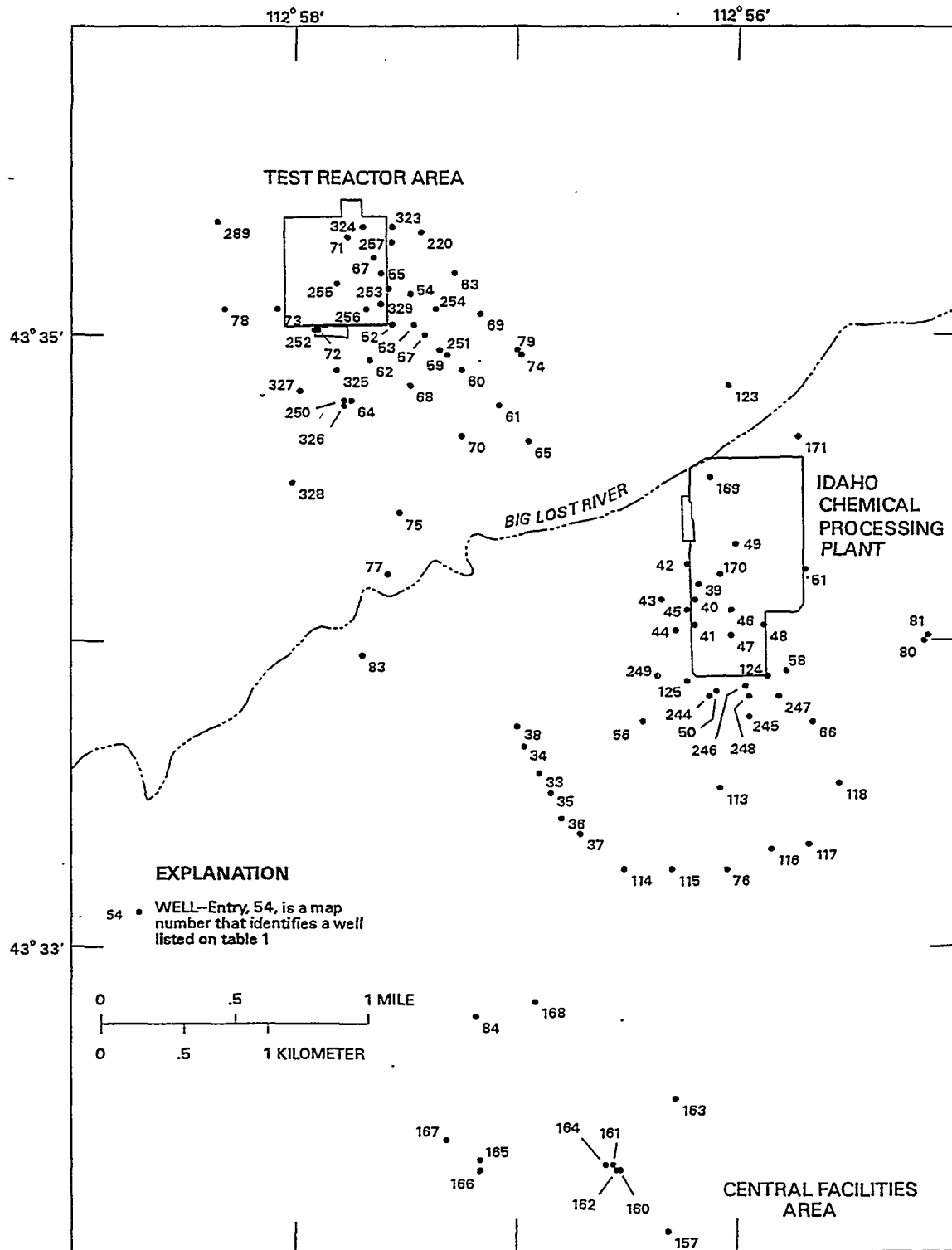


Figure 3. Locations of wells used to determine thickness of surficial sediment at and near the Idaho Chemical Processing Plant, Test Reactor Area, and Central Facilities Area (area keyed to figure 2).

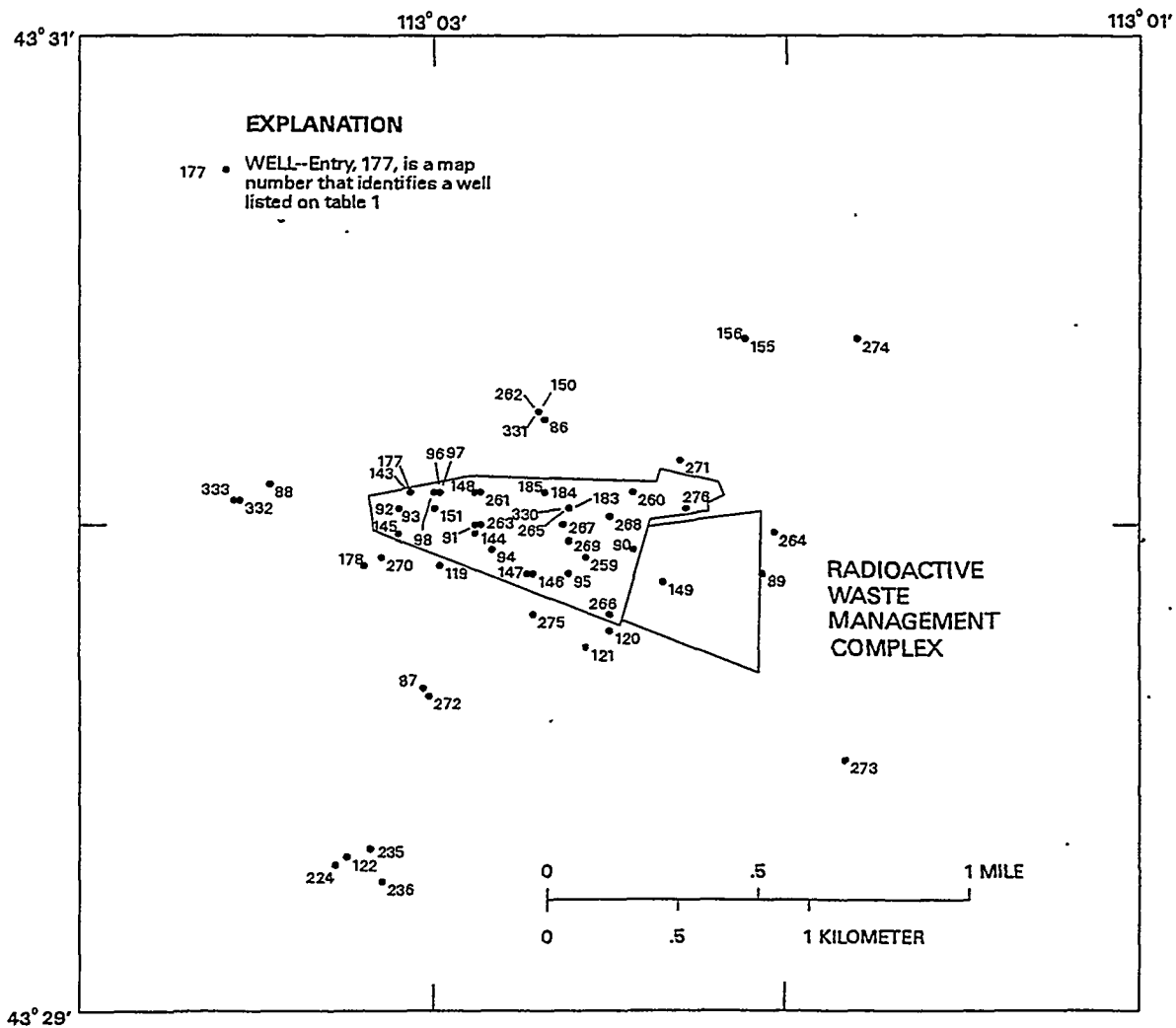


Figure 4. Locations of wells used to determine thickness of surficial sediment at and near the Radioactive Waste Management Complex (area keyed to figure 2).

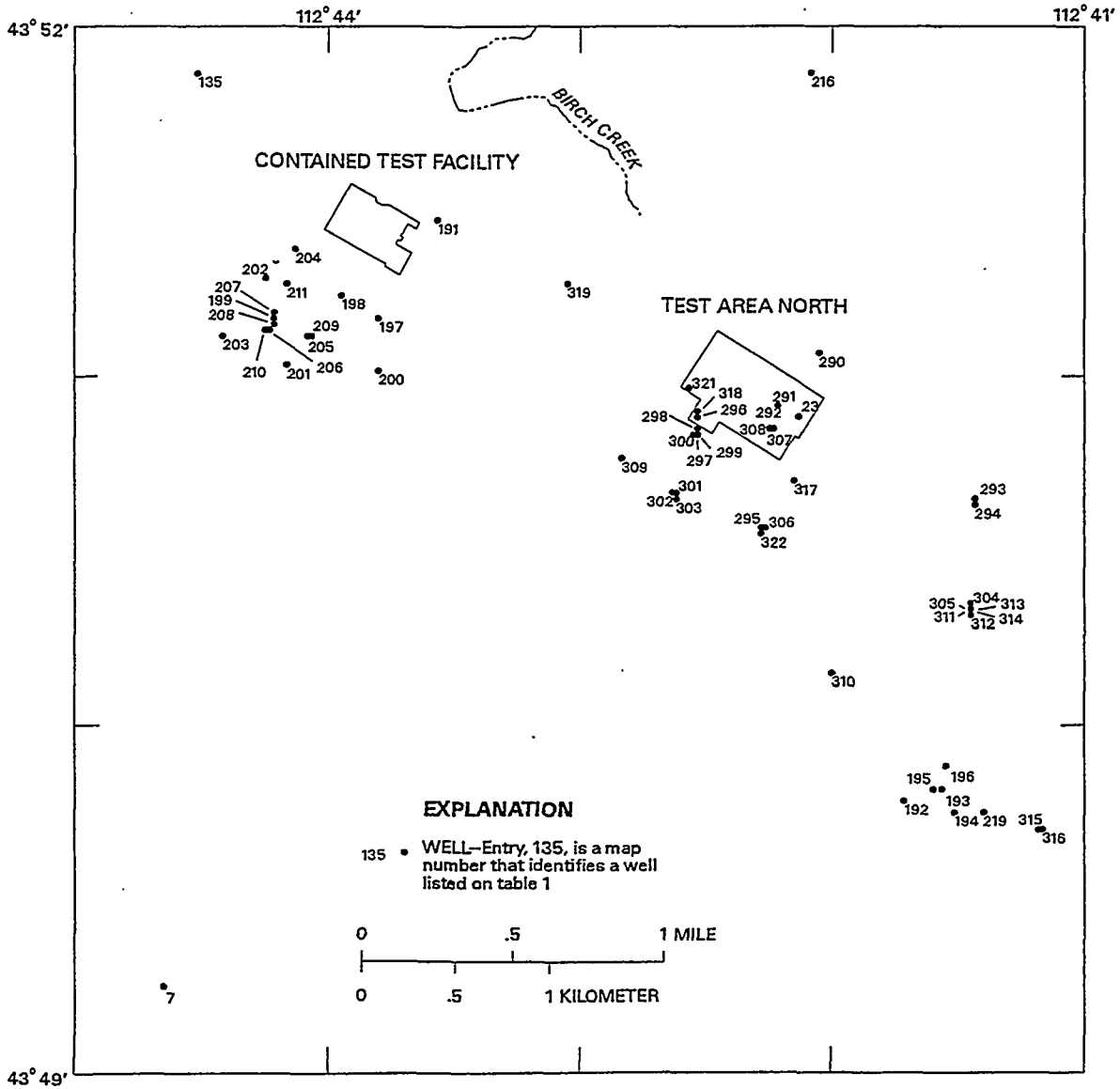


Figure 5. Locations of wells used to determine thickness of surficial sediment at and near the Contained Test Facility and Test Area North (area keyed to figure 2).

Table 1. Thickness of surficial sediment in wells at and near the Idaho National Engineering Laboratory

[Map number: Entries, 1 through 335, identify the locations of wells on maps; numbers in parentheses, 2, 3, 4, and 5, correspond to figure numbers of maps. Thickness: Entries, 0 through 313, indicate the thickness of surficial sediment, in feet; numbers in parentheses indicate that data are posted on figures 6, 7, 8, or 9. Map numbers from Anderson and others (1996); map numbers 213 and 227 not used]

| Well identifier | Map number (Figure number) | Thickness (Figure number) | Well identifier | Map number (Figure number) | Thickness (Figure number) |
|-----------------|----------------------------------|---------------------------------|-----------------|----------------------------------|---------------------------------|
| USGS 1 | 1 (2) | 6 (6) | USGS 44 | 43 (3) | 35 (7) |
| USGS 2 | 2 (2) | 6 (6) | USGS 45 | 44 (3) | 53 (7) |
| USGS 3A | 3 (2) | 13 (6) | USGS 46 | 45 (3) | 41 (7) |
| USGS 4 | 4 (2) | 22 (6) | USGS 47 | 46 (3) | 40 (7) |
| USGS 5 | 5 (2) | 7 (6) | USGS 48 | 47 (3) | 32 (7) |
| USGS 6 | 6 (2) | 8 (6) | USGS 49 | 48 (3) | 27 (7) |
| USGS 7 | 7 (5) | 123 (9) | USGS 50 | 49 (3) | 46 (7) |
| USGS 8 | 8 (2) | 6 (6) | USGS 51 | 50 (3) | 31 (7) |
| USGS 9 | 9 (2) | 9 (6) | USGS 52 | 51 (3) | 43 (7) |
| USGS 11 | 10 (2) | 3 (6) | USGS 53 | 52 (3) | 45 (7) |
| USGS 12 | 11 (2) | 49 (6) | USGS 54 | 53 (3) | 60 (7) |
| USGS 13 | 12 (2) | 13 (6) | USGS 55 | 54 (3) | 42 (7) |
| USGS 14 | 13 (2) | 7 (6) | USGS 56 | 55 (3) | 55 (7) |
| USGS 15 | 14 (2) | 41 (6) | USGS 57 | 56 (3) | 49 (7) |
| USGS 16 | 15 (2) | 0 (6) | USGS 58 | 57 (3) | 46 (7) |
| USGS 17 | 16 (2) | 18 (6) | USGS 59 | 58 (3) | 22 (7) |
| USGS 18 | 17 (2) | 6 (6) | USGS 60 | 59 (3) | 50 (7) |
| USGS 19 | 18 (2) | 8 (6) | USGS 61 | 60 (3) | 60 (7) |
| USGS 20 | 19 (2) | 21 (6) | USGS 62 | 61 (3) | 53 (7) |
| USGS 21 | 20 (2) | 7 (6) | USGS 63 | 62 (3) | 56 (7) |
| USGS 22 | 21 (2) | 10 (6) | USGS 64 | 63 (3) | 42 (7) |
| USGS 23 | 22 (2) | 5 (6) | USGS 65 | 64 (3) | 51 (7) |
| USGS 24 | 23 (5) | 57 (9) | USGS 66 | 65 (3) | 49 (7) |
| USGS 25 | 24 (2) | 35 (6) | USGS 67 | 66 (3) | 23 (7) |
| USGS 26 | 25 (2) | 24 (6) | USGS 68 | 67 (3) | 45 (7) |
| USGS 27 | 26 (2) | 132 (6) | USGS 69 | 68 (3) | 50 (7) |
| USGS 28 | 27 (2) | 8 (6) | USGS 70 | 69 (3) | 44 (7) |
| USGS 29 | 28 (2) | 8 (6) | USGS 71 | 70 (3) | 55 (7) |
| USGS 30A | 29 (2) | 15 (6) | USGS 72 | 71 (3) | 36 (7) |
| USGS 31 | 30 (2) | 18 (6) | USGS 73 | 72 (3) | 56 (7) |
| USGS 32 | 31 (2) | 17 (6) | USGS 74 | 73 (3) | 32 (7) |
| USGS 33 | 32 (2) | 11 (6) | USGS 75 | 74 (3) | 43 (7) |
| USGS 34 | 33 (3) | 32 (7) | USGS 76 | 75 (3) | 73 (7) |
| USGS 35 | 34 (3) | 33 (7) | USGS 77 | 76 (3) | 13 (7) |
| USGS 36 | 35 (3) | 30 (7) | USGS 78 | 77 (3) | 67 (7) |
| USGS 37 | 36 (3) | 37 (7) | USGS 79 | 78 (3) | 14 (7) |
| USGS 38 | 37 (3) | 22 (7) | USGS 80 | 79 (3) | 41 (7) |
| USGS 39 | 38 (3) | 33 (7) | USGS 81 | 80 (3) | 2 (7) |
| USGS 40 | 39 (3) | 55 (7) | USGS 82 | 81 (3) | 3 (7) |
| USGS 41 | 40 (3) | 44 (7) | USGS 83 | 82 (2) | 10 (6) |
| USGS 42 | 41 (3) | 32 (7) | USGS 84 | 83 (3) | 58 (7) |
| USGS 43 | 42 (3) | 52 (7) | USGS 85 | 84 (3) | 26 (7) |

Table 1. Thickness of surficial sediment in wells at and near the Idaho National Engineering Laboratory—Continued

| Well identifier | Map number (Figure number) | Thickness (Figure number) | Well identifier | Map number (Figure number) | Thickness (Figure number) |
|-----------------|----------------------------------|---------------------------------|-----------------|----------------------------------|---------------------------------|
| USGS 86 | 85 (2) | 34 (6) | ANL-IWP-M2 | 130 (2) | 9 (6) |
| USGS 87 | 86 (4) | 3 (8) | ANL-IWP-M3 | 131 (2) | 7 (6) |
| USGS 88 | 87 (4) | 5 (8) | ANL-IWP-M4 | 132 (2) | 5 (6) |
| USGS 89 | 88 (4) | 10 (8) | ANL-IWP-M5 | 133 (2) | 8 (6) |
| USGS 90 | 89 (4) | 5 (8) | ANL-IWP-M6 | 134 (2) | 5 (6) |
| USGS 91 | 90 (4) | 9 (8) | ANP #6 | 135 (5) | 35 (9) |
| USGS 92 | 91 (4) | 19 (8) | ANP #7 | 136 (2) | 4 (6) |
| USGS 93 | 92 (4) | 13 (8) | ANP #9 | 137 (2) | 76 (6) |
| USGS 93A | 93 (4) | 11 (8) | ANP #10 | 138 (2) | 61 (6) |
| USGS 94 | 94 (4) | 12 (8) | AREA II | 139 (2) | 6 (6) |
| USGS 95 | 95 (4) | 23 (8) | Arbor Test 1 | 140 (2) | 2 (6) |
| USGS 96 | 96 (4) | 13 (8) | R. Archer | 141 (2) | 6 (6) |
| USGS 96A | 97 (4) | 13 (8) | Ashcraft | 142 (2) | 110 (6) |
| USGS 96B | 98 (4) | 14 (8) | BG-76-1 | 143 (4) | 7 (8) |
| USGS 97 | 99 (2) | 38 (6) | BG-76-2 | 144 (4) | 12 (8) |
| USGS 98 | 100 (2) | 6 (6) | BG-76-3 | 145 (4) | 18 (8) |
| USGS 99 | 101 (2) | 32 (6) | BG-76-4 | 146 (4) | 7 (8) |
| USGS 100 | 102 (2) | 4 (6) | BG-76-4A | 147 (4) | 2 (8) |
| USGS 101 | 103 (2) | 3 (6) | BG-76-5 | 148 (4) | 11 (8) |
| USGS 102 | 104 (2) | 19 (6) | BG-76-6 | 149 (4) | 4 (8) |
| USGS 103 | 105 (2) | 22 (6) | BG-77-1 | 150 (4) | 4 (8) |
| USGS 104 | 106 (2) | 3 (6) | BG-77-2 | 151 (4) | 18 (8) |
| USGS 105 | 107 (2) | 15 (6) | Barney North | 152 (2) | 88 (6) |
| USGS 106 | 108 (2) | 3 (6) | Barney South | 153 (2) | 74 (6) |
| USGS 107 | 109 (2) | 10 (6) | Butte City #2 | 154 (2) | 86 (6) |
| USGS 108 | 110 (2) | 7 (6) | C-1 | 155 (4) | 2 (8) |
| USGS 109 | 111 (2) | 1 (6) | C-1A | 156 (4) | 4 (8) |
| USGS 110 | 112 (2) | 2 (6) | CFA 1 | 157 (3) | 26 (7) |
| USGS 111 | 113 (3) | 8 (7) | CFA 2 | 158 (2) | 10 (6) |
| USGS 112 | 114 (3) | 24 (7) | CFA 4 | 159 (2) | 7 (6) |
| USGS 113 | 115 (3) | 20 (7) | CFA LF 2-8 | 160 (3) | 26 (7) |
| USGS 114 | 116 (3) | 16 (7) | CFA LF 2-9 | 161 (3) | 27 (7) |
| USGS 115 | 117 (3) | 20 (7) | CFA LF 2-10 | 162 (3) | 26 (7) |
| USGS 116 | 118 (3) | 24 (7) | CFA LF 2-11 | 163 (3) | 25 (7) |
| USGS 117 | 119 (4) | 14 (8) | CFA LF 2-12 | 164 (3) | 22 (7) |
| USGS 118 | 120 (4) | 14 (8) | CFA LF 3-8 | 165 (3) | 13 (7) |
| USGS 119 | 121 (4) | 3 (8) | CFA LF 3-9 | 166 (3) | 8 (7) |
| USGS 120 | 122 (4) | 12 (8) | CFA LF 3-10 | 167 (3) | 26 (7) |
| USGS 121 | 123 (3) | 29 (7) | CFA LF 3-11 | 168 (3) | 16 (7) |
| USGS 122 | 124 (3) | 24 (7) | CPP 2 | 169 (3) | 35 (7) |
| USGS 123 | 125 (3) | 31 (7) | CPP Disp. | 170 (3) | 47 (7) |
| USGS 124 | 126 (2) | 4 (6) | CPP 4 | 171 (3) | 34 (7) |
| 1-27-14 | 127 (2) | 5 (6) | Callaway | 172 (2) | 68 (6) |
| A11A31 | 128 (2) | 3 (6) | Cerro Grande | 173 (2) | 3 (6) |
| ANL-IWP-M1 | 129 (2) | 8 (6) | Cope | 174 (2) | 100 (6) |

Table 1. Thickness of surficial sediment in wells at and near the Idaho National Engineering Laboratory—Continued

| Well identifier | Map number (Figure number) | Thickness (Figure number) | Well identifier | Map number (Figure number) | Thickness (Figure number) |
|--------------------------|----------------------------------|---------------------------------|-----------------------------|----------------------------------|---------------------------------|
| Corehole 1 | 175 (2) | 8 (6) | Main Gate Well | 221 (2) | 11 (6) |
| Corehole 2A | 176 (2) | 4 (6) | NA 89-1 | 222 (2) | 2 (6) |
| D-10 | 177 (4) | 9 (8) | NA 89-2 | 223 (2) | 12 (6) |
| D-15 | 178 (4) | 2 (8) | NA 89-3 | 224 (4) | 1 (8) |
| DH1B | 179 (2) | 210 (6) | NPR Test | 225 (2) | 0 (6) |
| DH2A | 180 (2) | 177 (6) | NPR WO-2 | 226 (2) | 0 (6) |
| DH3 | 181 (2) | >203 (6) | NRF #4 | 228 (2) | 33 (6) |
| DH-50 | 182 (2) | 6 (6) | NRF #6 | 229 (2) | 8 (6) |
| DO-2 | 183 (4) | 15 (8) | NRF #6P | 230 (2) | 12 (6) |
| DO-6 | 184 (4) | 3 (8) | NRF #7 | 231 (2) | 23 (6) |
| DO-6A | 185 (4) | 2 (8) | NRF #7P | 232 (2) | 25 (6) |
| Dahle | 186 (2) | 6 (6) | NRF 89-04 | 233 (2) | 21 (6) |
| EBR I | 187 (2) | 11 (6) | NRF 89-05 | 234 (2) | 21 (6) |
| EFS Well | 188 (2) | 18 (6) | OW-1 | 235 (4) | 5 (8) |
| EOCR | 189 (2) | 3 (6) | OW-2 | 236 (4) | 7 (8) |
| EOCR (Disp) | 190 (2) | 17 (6) | PBF#2 | 237 (2) | 0 (6) |
| FET-Disp-1 | 191 (5) | 40 (9) | PBF (CW) | 238 (2) | 0 (6) |
| GIN #1 | 192 (5) | 45 (9) | PBF (WW) | 239 (2) | 0 (6) |
| GIN #2 | 193 (5) | 36 (9) | PSTF Test | 240 (2) | 55 (6) |
| GIN #3 | 194 (5) | 32 (9) | P & W #1 | 241 (2) | 33 (6) |
| GIN #4 | 195 (5) | 36 (9) | P & W #2 | 242 (2) | 57 (6) |
| GIN #5 | 196 (5) | 26 (9) | P & W #3 | 243 (2) | 115 (6) |
| GIN #6 | 197 (5) | 57 (9) | PW-1 | 244 (3) | 31 (7) |
| GIN #7 | 198 (5) | 33 (9) | PW-2 | 245 (3) | 17 (7) |
| GIN #8 | 199 (5) | 50 (9) | PW-3 | 246 (3) | 27 (7) |
| GIN #9 | 200 (5) | 49 (9) | PW-4 | 247 (3) | 31 (7) |
| GIN #10 | 201 (5) | 45 (9) | PW-5 | 248 (3) | 30 (7) |
| GIN #11 | 202 (5) | 47 (9) | PW-6 | 249 (3) | 37 (7) |
| GIN #12 | 203 (5) | 47 (9) | PW-7 | 250 (3) | 50 (7) |
| GIN #13 | 204 (5) | 6 (9) | PW-8 | 251 (3) | 56 (7) |
| GIN #14 | 205 (5) | 49 (9) | PW-9 | 252 (3) | 49 (7) |
| GIN #15 | 206 (5) | 50 (9) | PW-10 | 253 (3) | 48 (7) |
| GIN #16 | 207 (5) | 38 (9) | PW-11 | 254 (3) | 42 (7) |
| GIN #17 | 208 (5) | 43 (9) | PW-12 | 255 (3) | 35 (7) |
| GIN #18 | 209 (5) | 48 (9) | PW-13 | 256 (3) | 39 (7) |
| GIN #19 | 210 (5) | 48 (9) | PW-14 | 257 (3) | 34 (7) |
| GIN #20 | 211 (5) | 8 (9) | Quaking Aspen Butte Well | 258 (2) | 11 (6) |
| Highway #1 (piezo. A) | 212 (2) | 6 (6) | RWMC-78-1 | 259 (4) | 15 (8) |
| Highway #2 | 214 (2) | 14 (6) | RWMC-78-2 | 260 (4) | 2 (8) |
| Highway #3 | 215 (2) | 35 (6) | RWMC-78-3 | 261 (4) | 4 (8) |
| IET Disp. | 216 (5) | 8 (9) | RWMC-78-4 | 262 (4) | 2 (8) |
| INEL #1 | 217 (2) | 12 (6) | RWMC-78-5 | 263 (4) | 12 (8) |
| Water Supply for INEL #1 | 218 (2) | 12 (6) | RWMC-79-1 | 264 (4) | 5 (8) |
| LPTF Disposal | 219 (5) | 34 (9) | RWMC-79-2 | 265 (4) | 13 (8) |
| MTR Test | 220 (3) | 49 (7) | | | |

Table 1. Thickness of surficial sediment in wells at and near the Idaho National Engineering Laboratory—Continued

| Well identifier | Map number (Figure number) | Thickness (Figure number) | Well identifier | Map number (Figure number) | Thickness (Figure number) |
|-------------------|----------------------------------|---------------------------------|----------------------|----------------------------------|---------------------------------|
| RWMC-79-3 | 266 (4) | 13 (8) | TAN #13 | 301 (5) | 40 (9) |
| RWMC-88-1D | 267 (4) | 18 (8) | TAN #13A | 302 (5) | 39 (9) |
| RWMC-88-02D | 268 (4) | 6 (8) | TAN #14 | 303 (5) | 39 (9) |
| RWMC-89-01D | 269 (4) | 22 (8) | TAN #15 | 304 (5) | 16 (9) |
| RWMC M1SA | 270 (4) | 7 (8) | TAN #16 | 305 (5) | 17 (9) |
| RWMC M3S | 271 (4) | 5 (8) | TAN #17 | 306 (5) | 41 (9) |
| RWMC M4D | 272 (4) | 8 (8) | TAN #18 | 307 (5) | 48 (9) |
| RWMC M6S | 273 (4) | 7 (8) | TAN #19 | 308 (5) | 47 (9) |
| RWMC M7S | 274 (4) | 9 (8) | TAN #20 | 309 (5) | 46 (9) |
| RWMC M10S | 275 (4) | 6 (8) | TAN #21 | 310 (5) | 39 (9) |
| RWMC Prod. | 276 (4) | 7 (8) | TAN #22 | 311 (5) | 18 (9) |
| Rifle Range Well | 277 (2) | 29 (6) | TAN #22A | 312 (5) | 18 (9) |
| Leo Roger's #1 | 278 (2) | 3 (6) | TAN #23 | 313 (5) | 20 (9) |
| S5G Test (NRF #5) | 279 (2) | 37 (6) | TAN #23A | 314 (5) | 18 (9) |
| Sdd-1 | 280 (2) | 0 (6) | TAN #24 | 315 (5) | 24 (9) |
| Sdd-2 | 281 (2) | 0 (6) | TAN #24A | 316 (5) | 22 (9) |
| Sdd-3 | 282 (2) | 8 (6) | TAN Drainage Disp.#1 | 317 (5) | 27 (9) |
| Siddoway | 283 (2) | 72 (6) | TAN Drainage Disp.#2 | 318 (5) | 24 (9) |
| Site 6 | 284 (2) | 22 (6) | TAN Drainage Disp.#3 | 319 (5) | 49 (9) |
| Site 9 | 285 (2) | 59 (6) | TAN Exploratory Well | 320 (2) | 13 (6) |
| Site 14 | 286 (2) | 313 (6) | TCH #1 | 321 (5) | 44 (9) |
| Site 16 | 287 (2) | 9 (6) | TCH #2 Piezo A | 322 (5) | 40 (9) |
| Site 17 | 288 (2) | 8 (6) | TRA #3 | 323 (3) | 53 (7) |
| Site 19 | 289 (3) | 49 (7) | TRA #4 | 324 (3) | 40 (7) |
| TAN #3 | 290 (5) | 54 (9) | TRA 05/PZ1 | 325 (3) | 70 (7) |
| TAN #4 | 291 (5) | 63 (9) | TRA 06A | 326 (3) | 43 (7) |
| TAN #5 | 292 (5) | 59 (9) | TRA 07 | 327 (3) | 43 (7) |
| TAN #6 | 293 (5) | 50 (9) | TRA 08 | 328 (3) | 57 (7) |
| TAN #7 | 294 (5) | 38 (9) | TRA Disp. | 329 (3) | 42 (7) |
| TAN #8 | 295 (5) | 43 (9) | TW-1 | 330 (4) | 14 (8) |
| TAN #9 | 296 (5) | 26 (9) | VZT-1 | 331 (4) | 4 (8) |
| TAN #10 | 297 (5) | 36 (9) | WWW#1 | 332 (4) | 5 (8) |
| TAN #10A | 298 (5) | 36 (9) | WWW#2 | 333 (4) | 3 (8) |
| TAN #11 | 299 (5) | 36 (9) | Water table | 334 (2) | 3 (6) |
| TAN #12 | 300 (5) | 40 (9) | Weaver and Lowe | 335 (2) | 30 (6) |

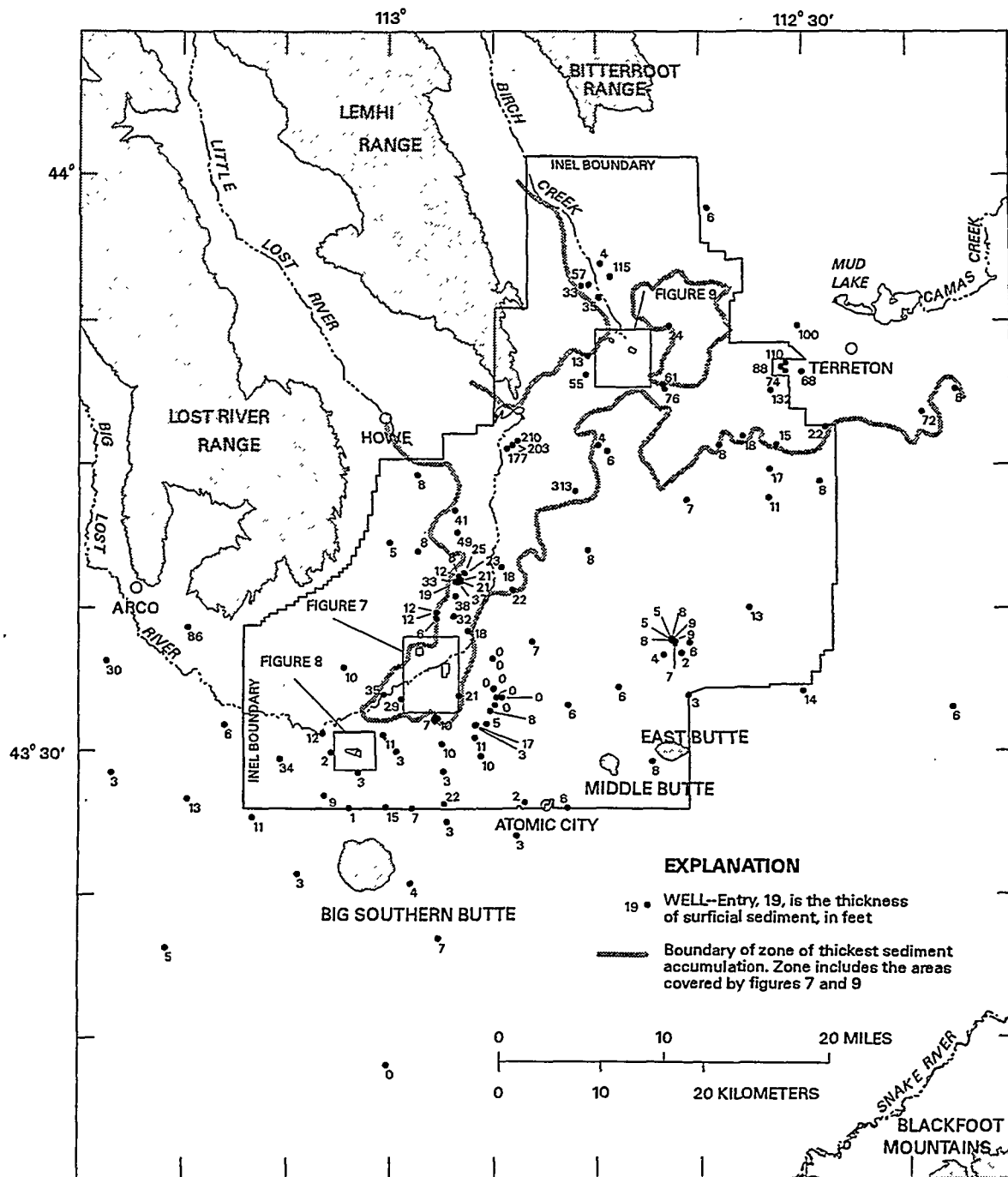


Figure 6. Thickness of surficial sediment in wells at and near the Idaho National Engineering Laboratory

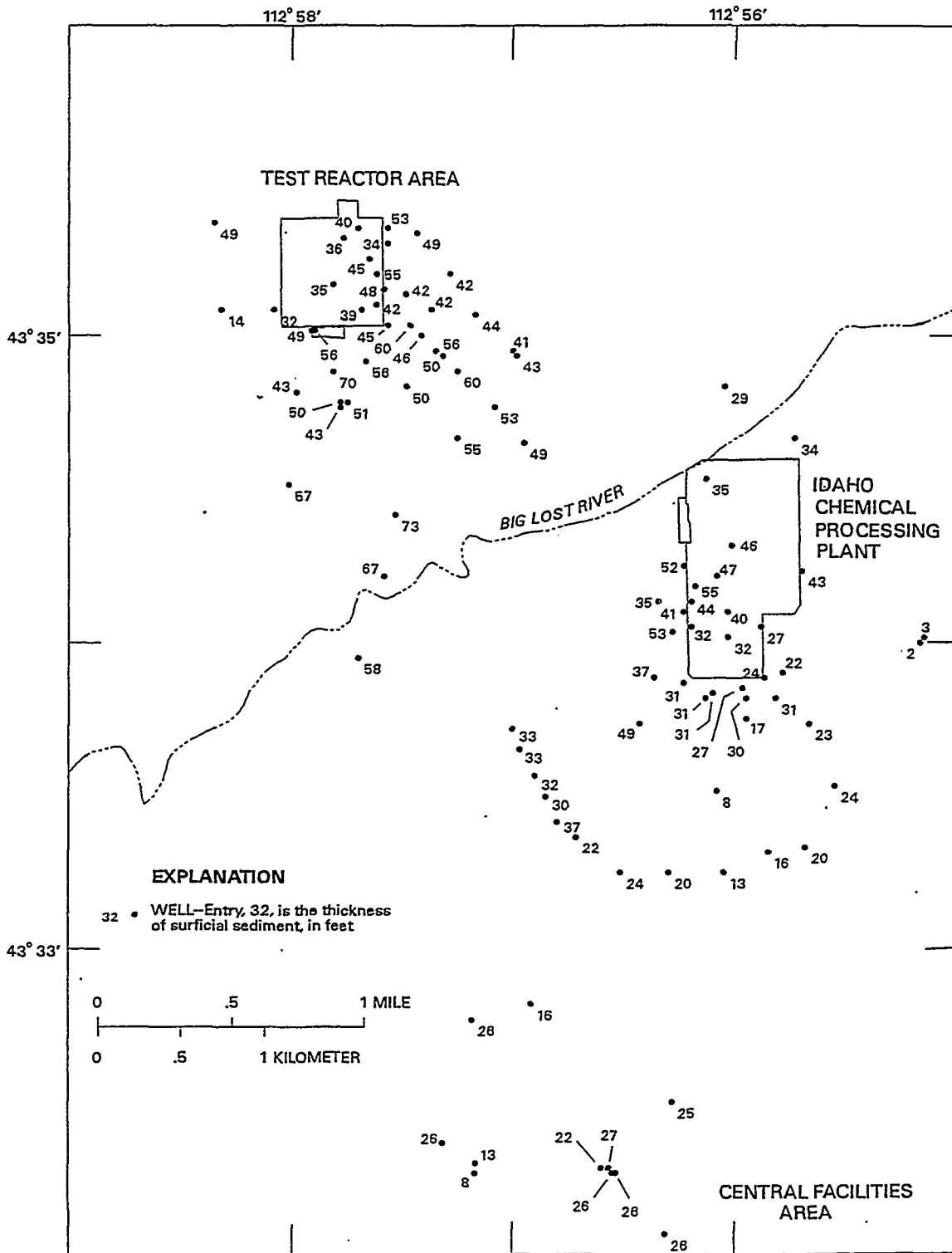


Figure 7. Thickness of surficial sediment in wells at and near the Idaho Chemical Processing Plant, Test Reactor Area, and Central Facilities Area (area keyed to figure 6).

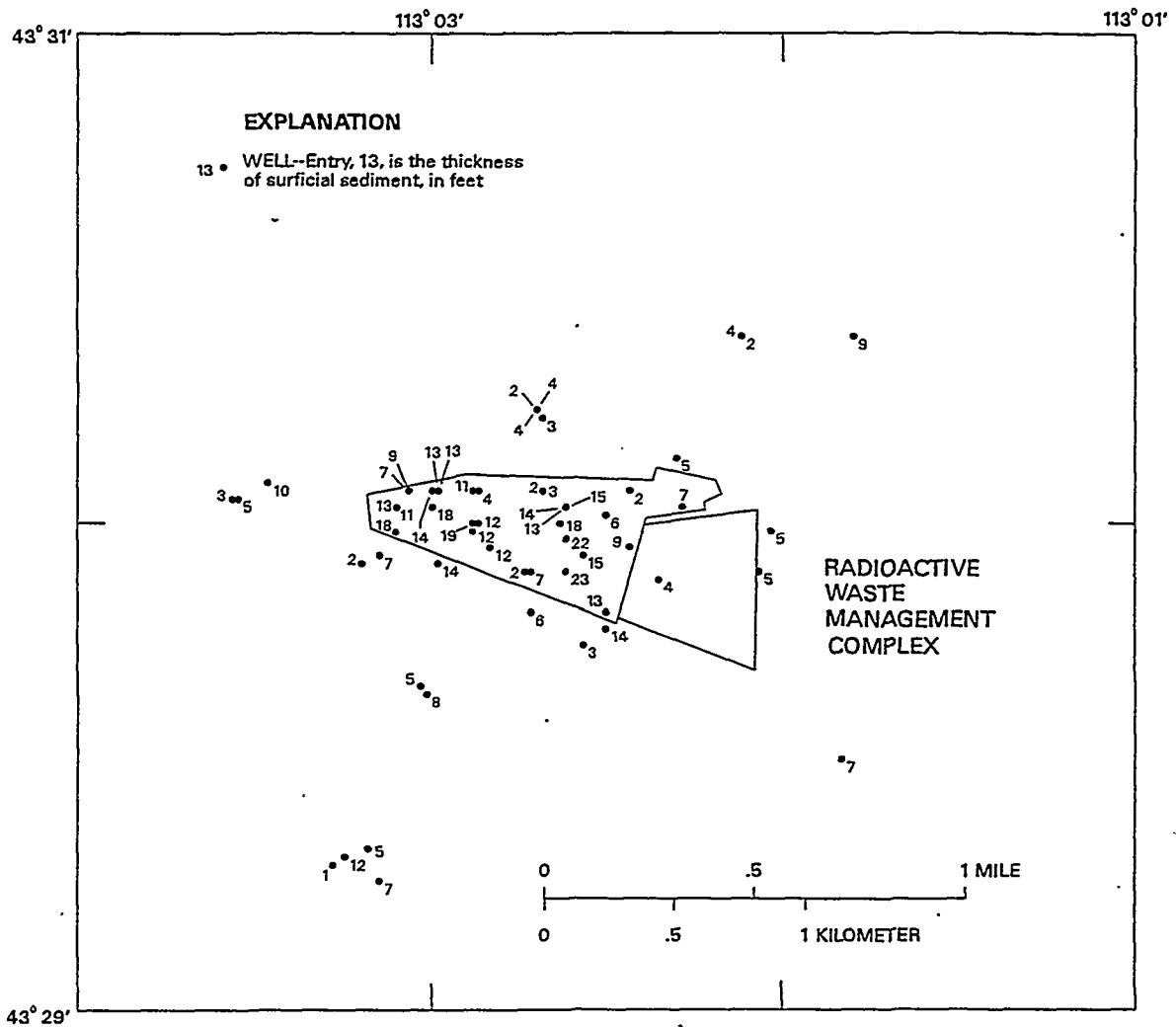


Figure 8. Thickness of surficial sediment in wells at and near the Radioactive Waste Management Complex (area keyed to figure 6).

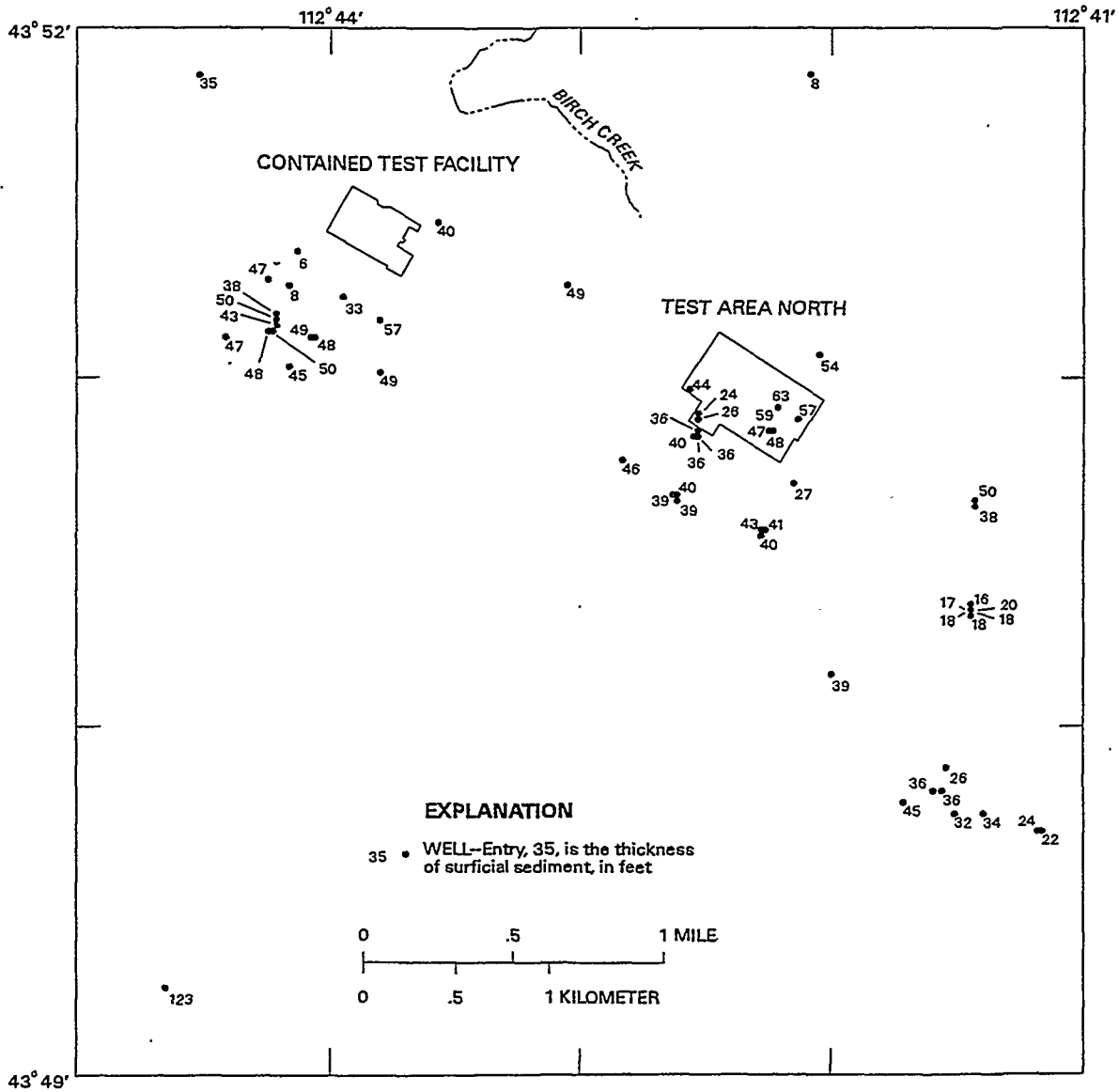


Figure 9. Thickness of surficial sediment in wells at and near the Contained Test Facility and Test Area North (area keyed to figure 6).