# Appendix A

# Groundwater-Monitoring Well Logs

# Appendix A
# Groundwater-Monitoring Well Logs

The following pages include the lithology and construction details for the Operable Unit 7-13/14 groundwater-monitoring wells.

Additional information can be found in the following wells:

- Wells M1SA, M3S, M4D, M6S, M7S, and M10S contain the vertical correction
- Wells OW-2 and A11A31 contain well modifications
- Wells M11S, M12S, M13S, M15S, M16S, and M17S contain natural gamma-ray logs
- Wells M11S, M12S, M13S, and M14S contain neutron logs
- Wells M11S, M12S, M13S, and M14S contain gamma gamma logs
- Wells M11S, M12S, M13S, M15S, M16S, and M17S contain caliper logs
- Wells M15S and M16S contain video logs

The notation in the lower right corner of the individual video logs of Wells M15S and M16S indicates the well depth in feet.

RWMC-MON-A-013 **Well Modification Log**

WELL NAME RWMC A11A31 START DATE 9-22-00 END DATE 9-25-00

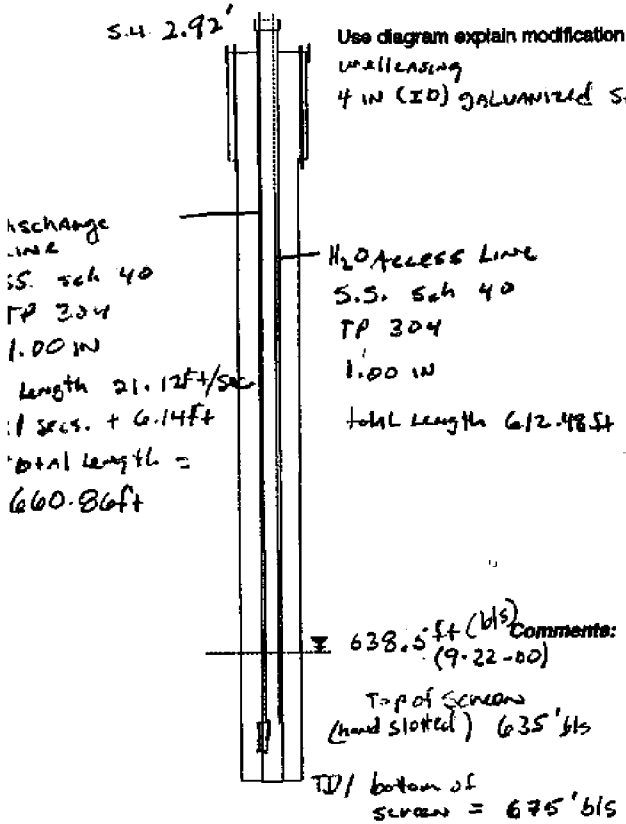
PROJECT NAME Well Maint., Repair, Replacement INSTALLATION TEAM Dynatec

Reason for modification: Ground water monitoring

Installed new pump

Is this a pump replacement? [ ] yes [X] no If yes was pump returned to original depth? [ ] yes [ ] no Elevation of brass cap? ____

Are measurements from top of casing or land surface? TOP of CASING Stick up of well casing? / Locking plate 2.92' ALS




**Pump Modification**

| | |
|---|---|
| Type | SS9 10C -450 |
| Manufacturer | Grundfos |
| Model # | A P1 0017 |
| Top of pump | 657.94' (bls) |
| Bottom of pump | 661.22' (bls) |
| Inlet depth | 659.44' (bls) |
| Horse power | 1C |
| Flow rate | |
| Head | |
| Volts, Amps, Kw | 230V 11.1A 2.0KW |
| Phase | 1Ø |
| pump length | 3.28 ft |
| | |
| | |
| | |

**Discharge Line Modification**

| | |
|---|---|
| Type | 304 |
| Material | Stainless Steel |
| Diameter | 1.00 IN. / Sch 40 |
| total length | 660.86 ft |
| weepole (18) @ | 8.1 ft |

**Water Level Access Line Modification**

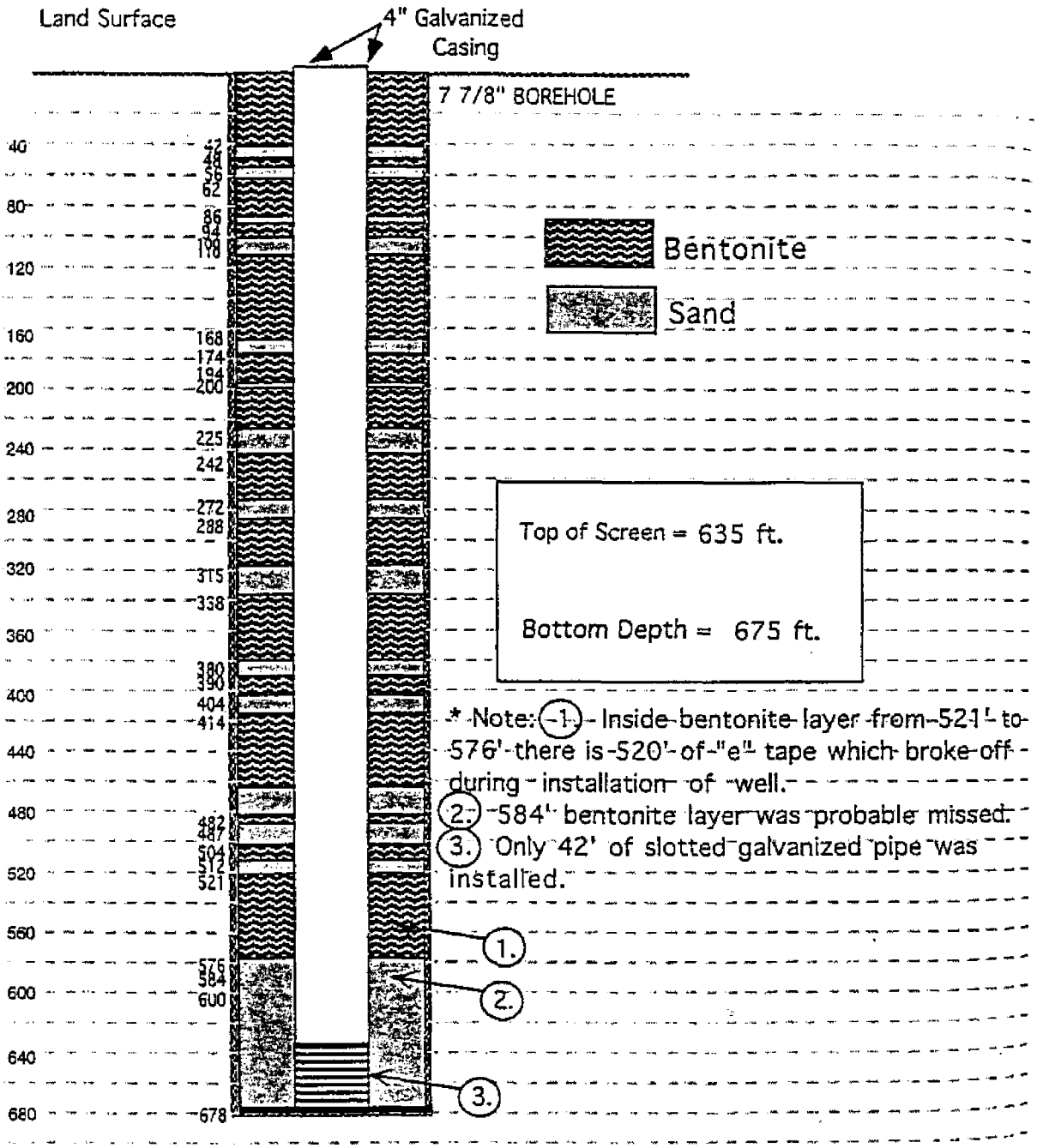
| | |
|---|---|
| Type | 304 |
| Material | Stainless Steel |
| Depth | 609.56 (bls) |
| | |
| | |

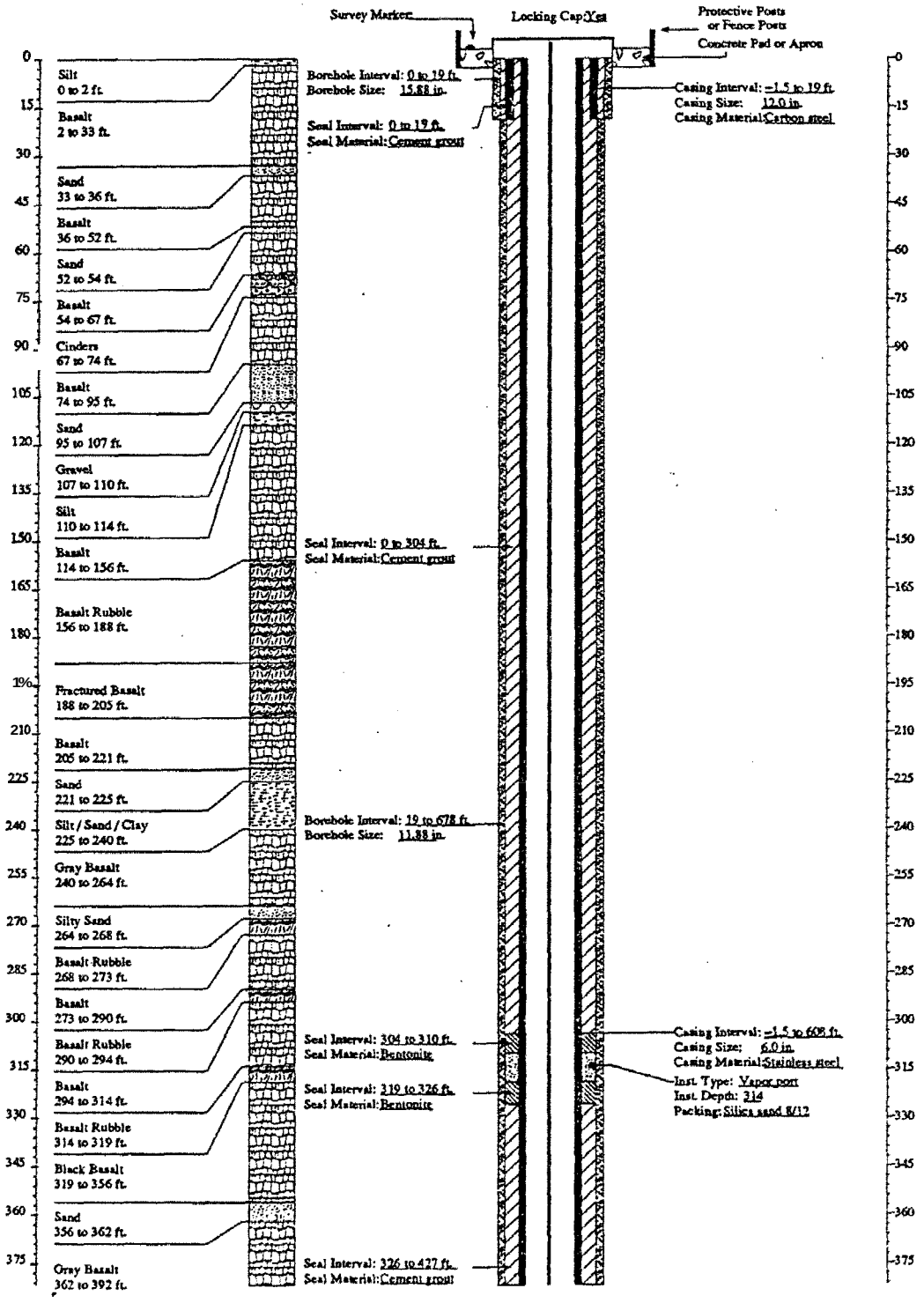
Comments: Note: 8 AWG (3 wires) 600V Submersible cable

Signature and date: 9-25-00 [signature]

RWMC - MON - A - ai3 (RF 1791)

WELL COMPLETION DIAGRAM: WELL # A11A31 - MA Date 11/18/93



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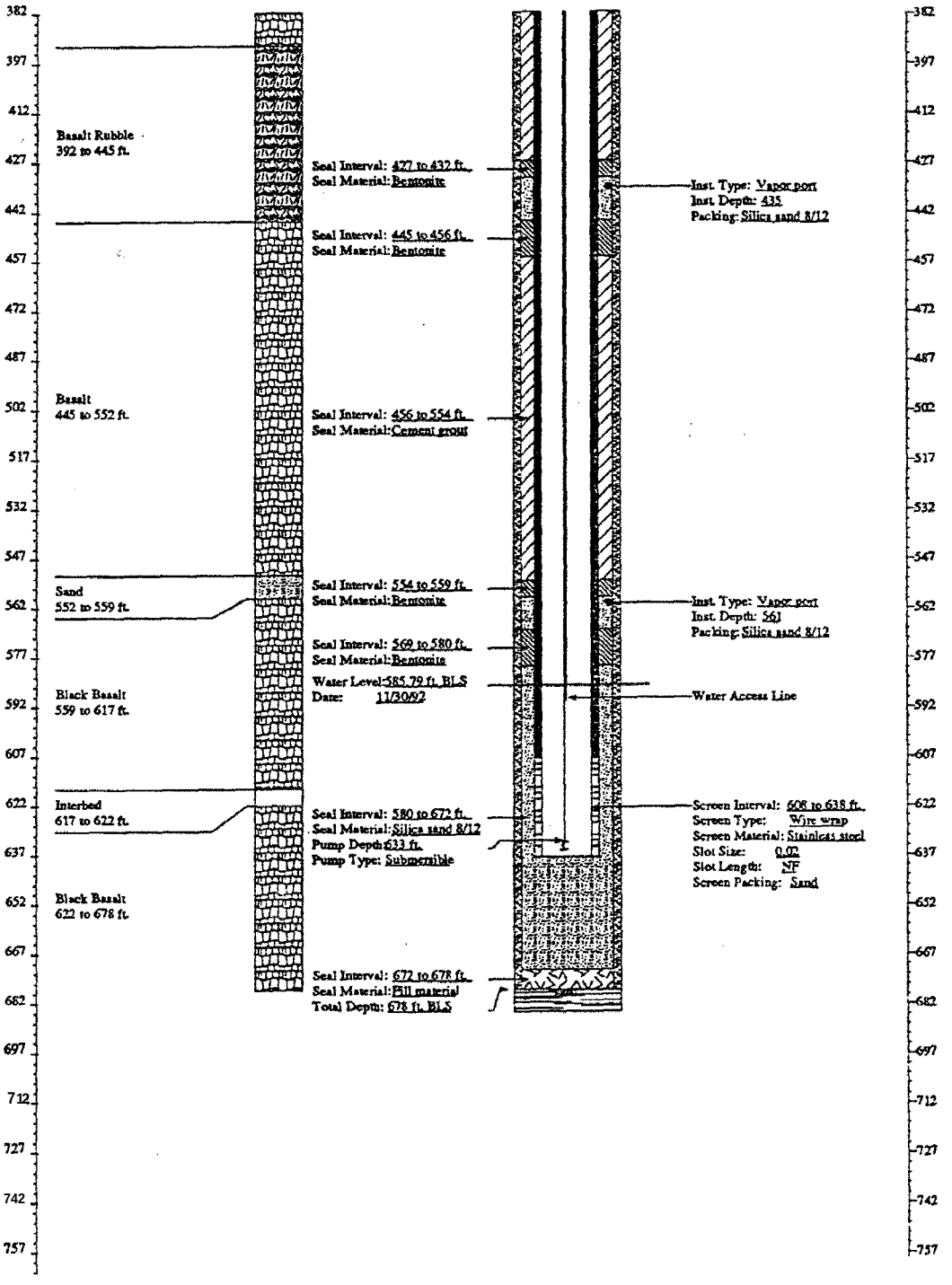
Well M1SA

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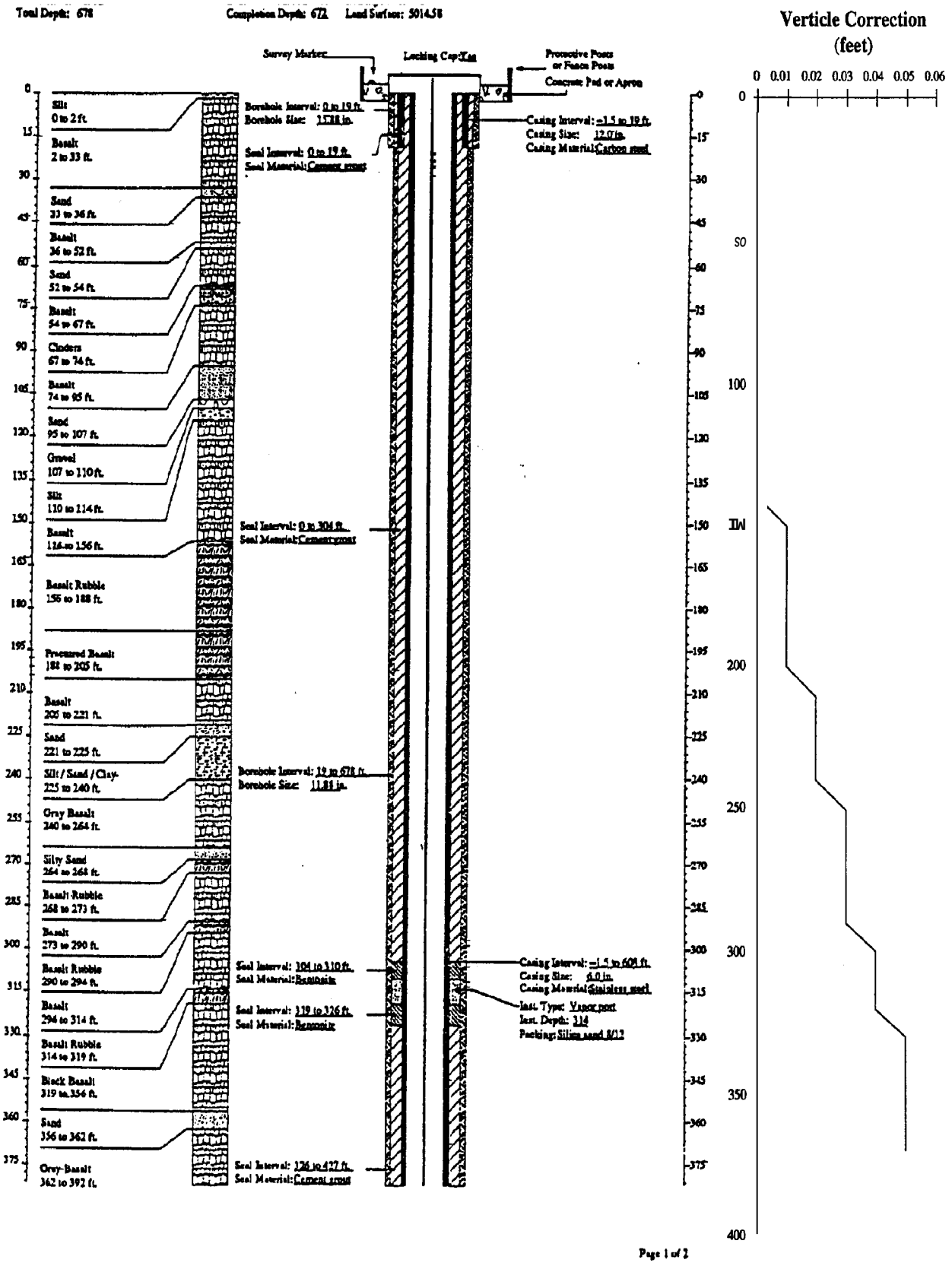
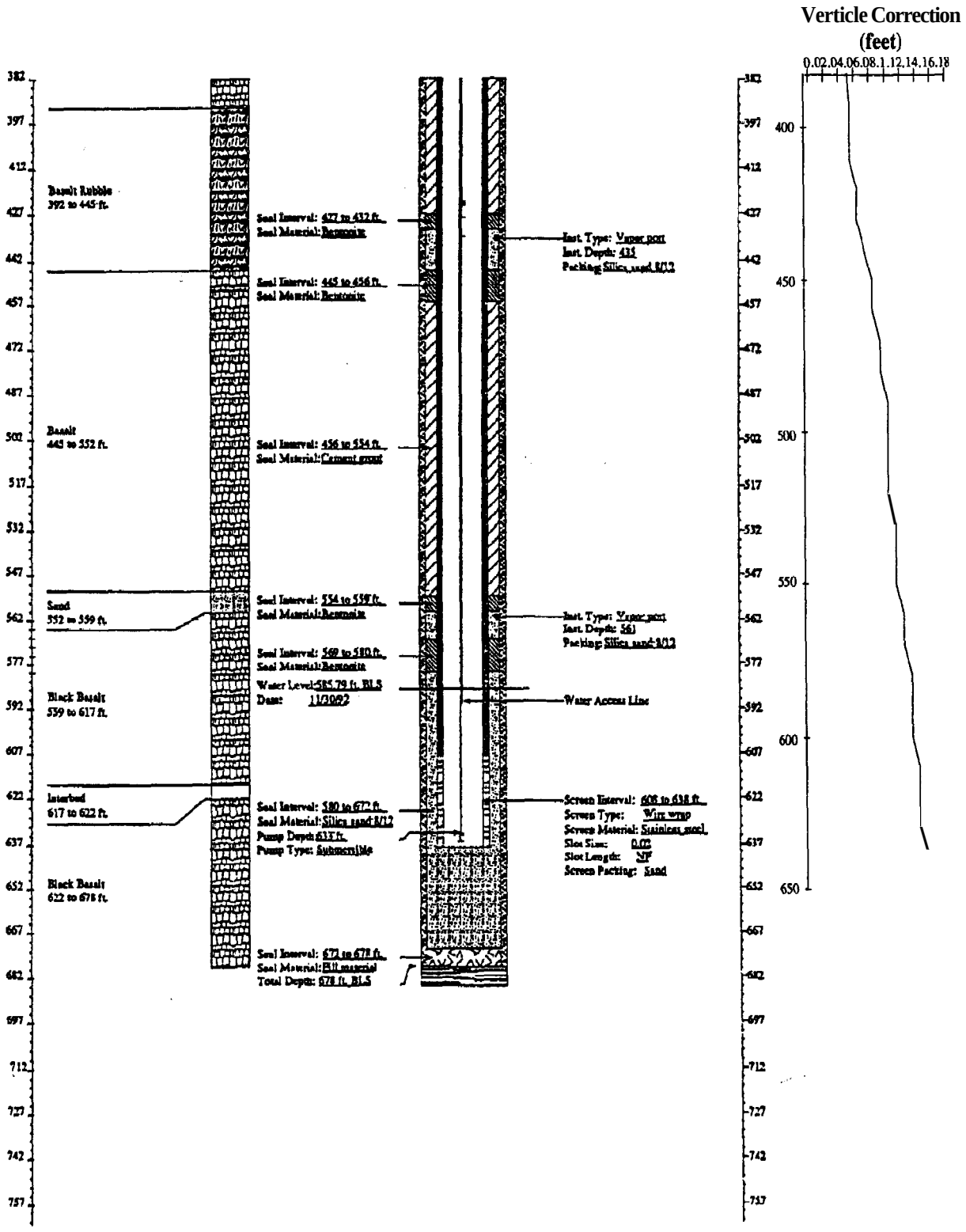
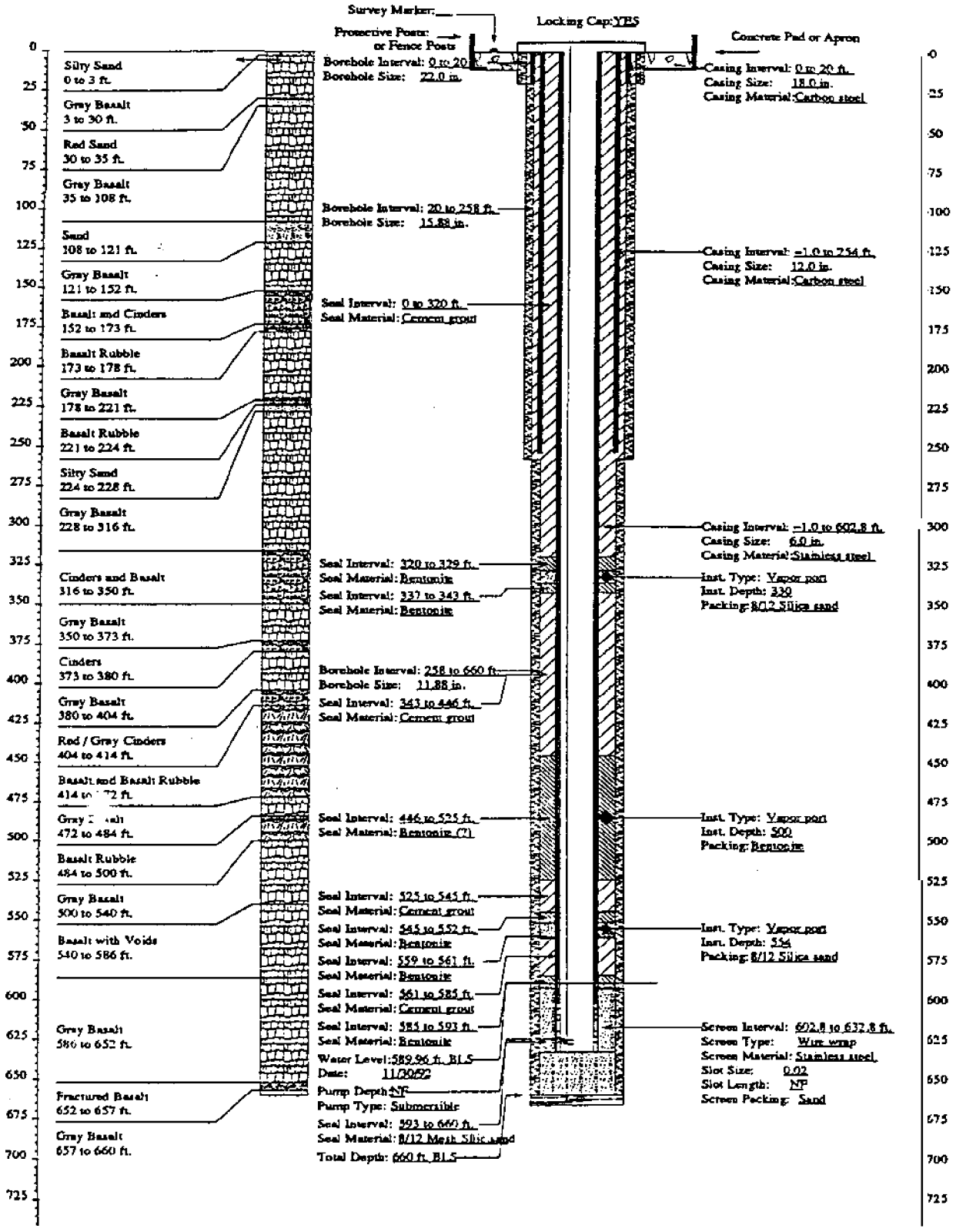
Well M 1**SA** (continued)


Total Depth: 678
Completion Depth: 672
Land Surface: 5014.58
Verticle Correction (feet)
0 0.01 0.02 0.03 0.04 0.05 0.06
Survey Marker
Locking Cap
Protective Posts or Fence Posts
Concrete Pad or Apron
Silt 0 to 2 ft.
Basalt 2 to 33 ft.
Sand 33 to 36 ft.
Basalt 36 to 52 ft.
Sand 52 to 54 ft.
Basalt 54 to 67 ft.
Cinders 67 to 74 ft.
Basalt 74 to 95 ft.
Sand 95 to 107 ft.
Gravel 107 to 110 ft.
Silt 110 to 114 ft.
Basalt 116 to 156 ft.
Basalt Rubble 156 to 188 ft.
Fractured Basalt 188 to 205 ft.
Basalt 205 to 221 ft.
Sand 221 to 225 ft.
Silt / Sand / Clay 225 to 240 ft.
Gray Basalt 240 to 264 ft.
Silty Sand 264 to 268 ft.
Basalt Rubble 268 to 273 ft.
Basalt 273 to 290 ft.
Basalt Rubble 290 to 294 ft.
Basalt 294 to 314 ft.
Basalt Rubble 314 to 319 ft.
Black Basalt 319 to 356 ft.
Sand 356 to 362 ft.
Gray Basalt 362 to 392 ft.
Borehole Interval: 0 to 19 ft.
Borehole Size: 15.38 in.
Seal Interval: 0 to 19 ft.
Seal Material: Cement grout
Seal Interval: 0 to 304 ft.
Seal Material: Cement grout
Borehole Interval: 19 to 678 ft.
Borehole Size: 11.81 in.
Seal Interval: 104 to 110 ft.
Seal Material: Bentonite
Seal Interval: 119 to 126 ft.
Seal Material: Bentonite
Seal Interval: 126 to 427 ft.
Seal Material: Cement grout
Casing Interval: -1.5 to 19 ft.
Casing Size: 12.0 in.
Casing Material: Carbon steel
Casing Interval: -1.5 to 604 ft.
Casing Size: 6.0 in.
Casing Material: Stainless steel
Inst. Type: Vapor port
Inst. Depth: 314
Packing: Silica sand 8/12
Page 1 of 2

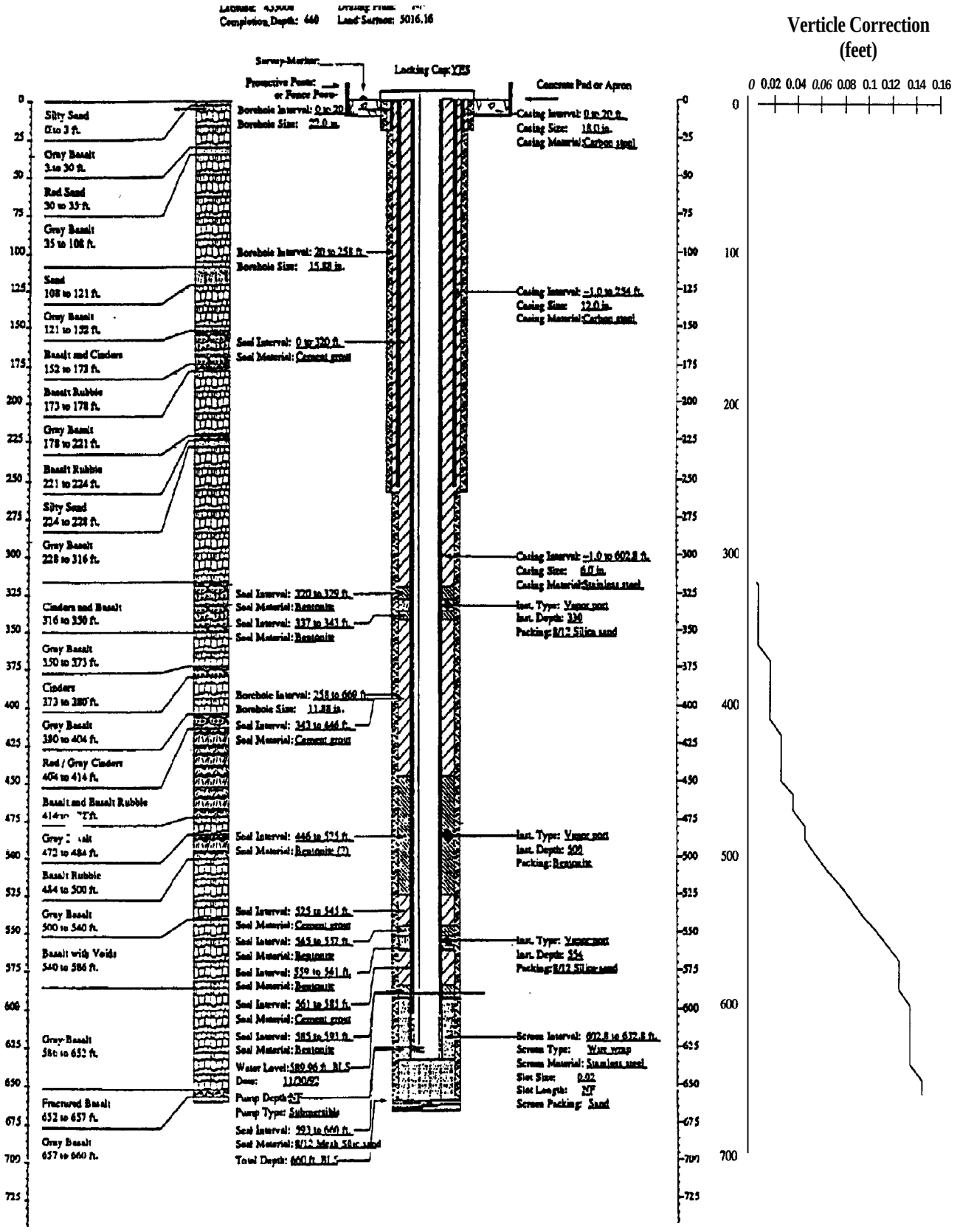
Well M1SA



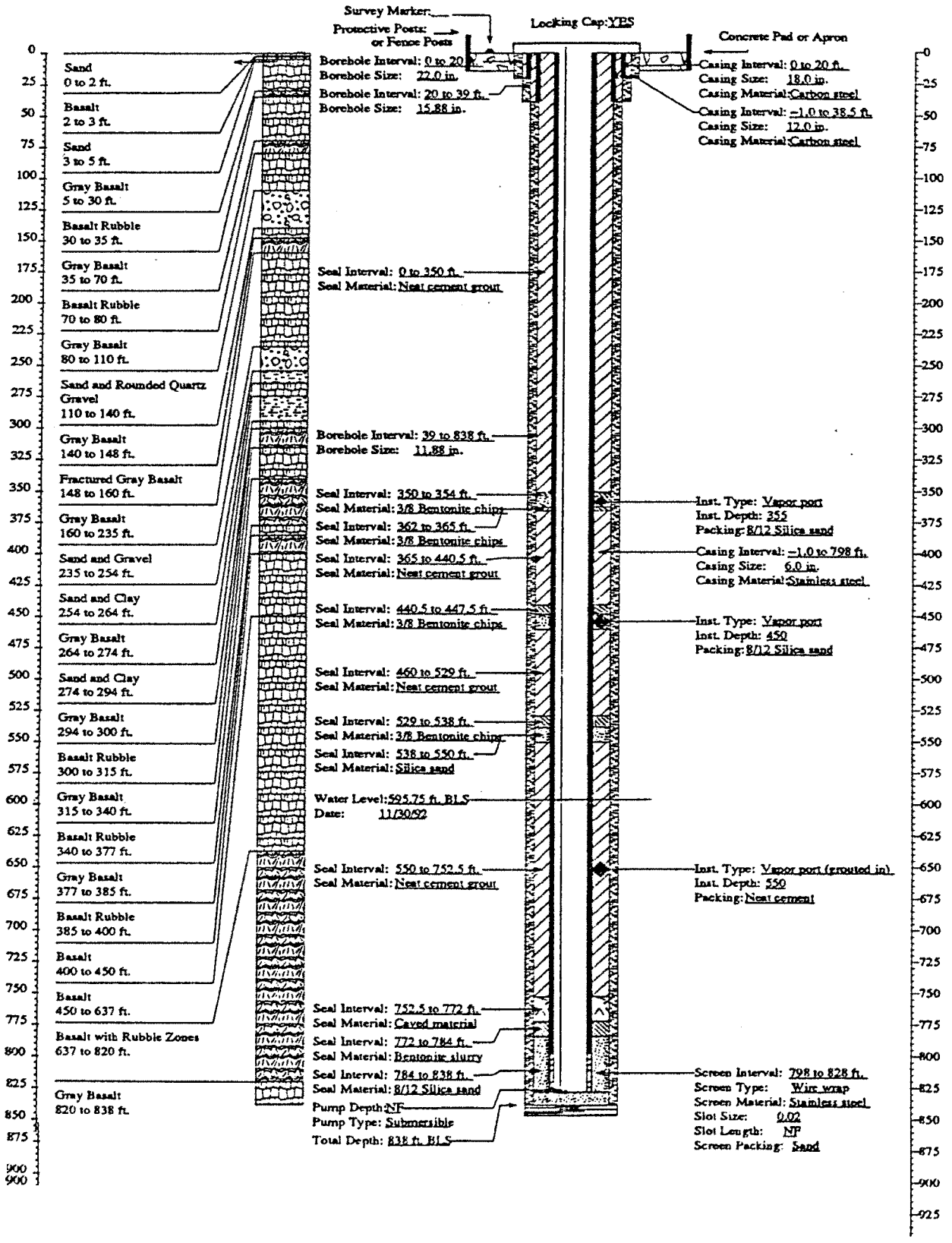

Well M1SA (continued)


Survey Marker:
Locking Cap: YES
Protective Posts: or Fence Posts
Concrete Pad or Apron
Silty Sand 0 to 3 ft.
Gray Basalt 3 to 30 ft.
Red Sand 30 to 35 ft.
Gray Basalt 35 to 108 ft.
Sand 108 to 121 ft.
Gray Basalt 121 to 152 ft.
Basalt and Cinders 152 to 173 ft.
Basalt Rubble 173 to 178 ft.
Gray Basalt 178 to 221 ft.
Basalt Rubble 221 to 224 ft.
Silty Sand 224 to 228 ft.
Gray Basalt 228 to 316 ft.
Cinders and Basalt 316 to 350 ft.
Gray Basalt 350 to 373 ft.
Cinders 373 to 380 ft.
Gray Basalt 380 to 404 ft.
Red / Gray Cinders 404 to 414 ft.
Basalt and Basalt Rubble 414 to 472 ft.
Gray Basalt 472 to 484 ft.
Basalt Rubble 484 to 500 ft.
Gray Basalt 500 to 540 ft.
Basalt with Voids 540 to 586 ft.
Gray Basalt 586 to 652 ft.
Fractured Basalt 652 to 657 ft.
Gray Basalt 657 to 660 ft.
Borehole Interval: 0 to 20 ft.
Borehole Size: 22.0 in.
Borehole Interval: 20 to 258 ft.
Borehole Size: 15.88 in.
Seal Interval: 0 to 320 ft.
Seal Material: Cement grout
Seal Interval: 320 to 329 ft.
Seal Material: Bentonite
Seal Interval: 337 to 343 ft.
Seal Material: Bentonite
Borehole Interval: 258 to 660 ft.
Borehole Size: 11.88 in.
Seal Interval: 343 to 446 ft.
Seal Material: Cement grout
Seal Interval: 446 to 525 ft.
Seal Material: Bentonite (?)
Seal Interval: 525 to 545 ft.
Seal Material: Cement grout
Seal Interval: 545 to 552 ft.
Seal Material: Bentonite
Seal Interval: 559 to 561 ft.
Seal Material: Bentonite
Seal Interval: 561 to 585 ft.
Seal Material: Cement grout
Seal Interval: 585 to 593 ft.
Seal Material: Bentonite
Water Level: 589.96 ft. BLS
Date: 11/30/92
Pump Depth: NF
Pump Type: Submersible
Seal Interval: 593 to 660 ft.
Seal Material: 8/12 Mesh Silica sand
Total Depth: 660 ft. BLS
Casing Interval: 0 to 20 ft.
Casing Size: 18.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 254 ft.
Casing Size: 12.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 602.8 ft.
Casing Size: 6.0 in.
Casing Material: Stainless steel
Inst. Type: Vapor port
Inst. Depth: 339
Packing: 8/12 Silica sand
Inst. Type: Vapor port
Inst. Depth: 500
Packing: Bentonite
Inst. Type: Vapor port
Inst. Depth: 554
Packing: 8/12 Silica sand
Screen Interval: 602.8 to 632.8 ft.
Screen Type: Wire wrap
Screen Material: Stainless steel
Slot Size: 0.02
Slot Length: NF
Screen Packing: Sand

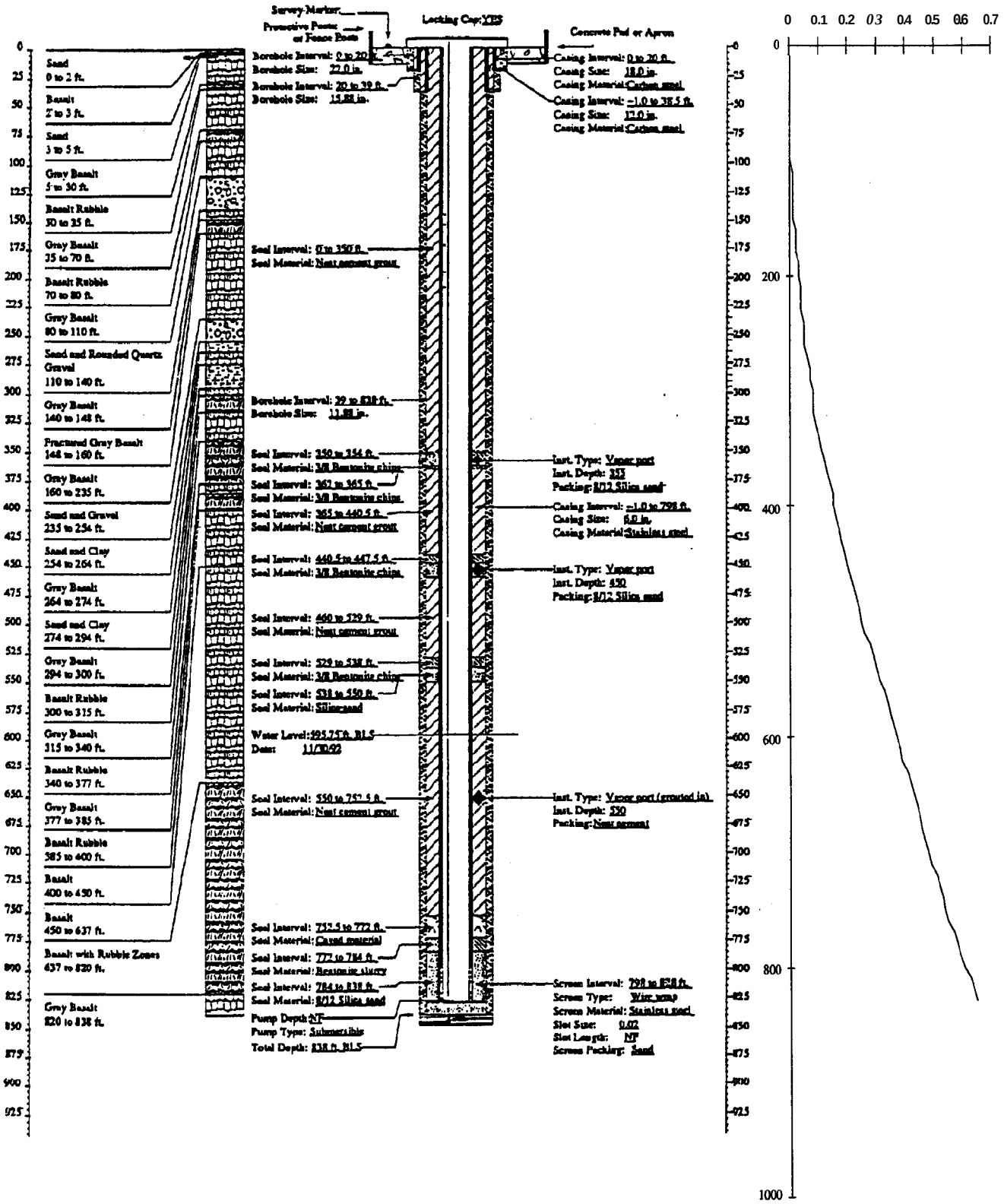
Well M3S



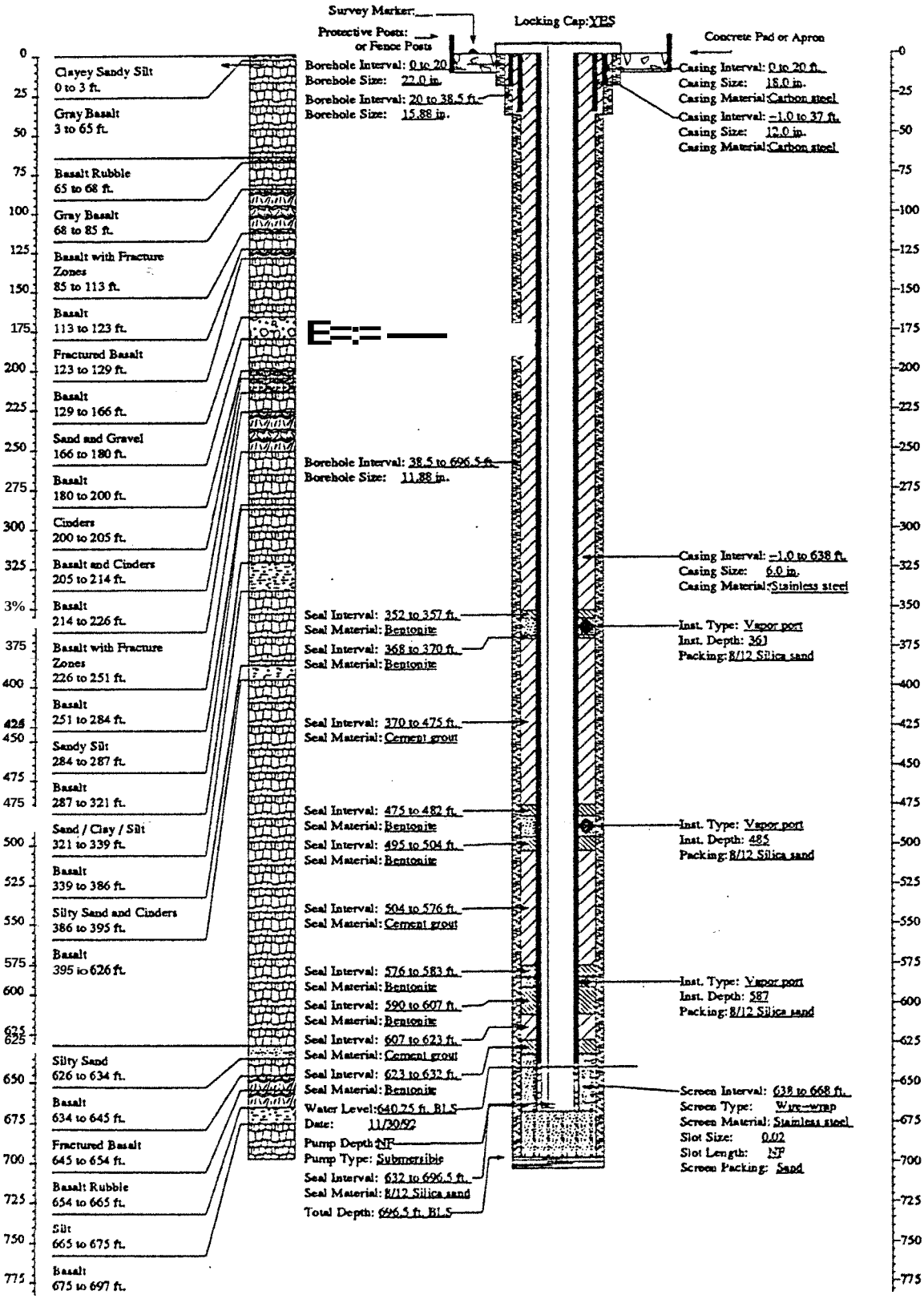

Well **M3S** (continued)


Survey Marker:
Protective Posts: or Fence Posts
Locking Cap: YES
Concrete Pad or Apron
Sand 0 to 2 ft.
Basalt 2 to 3 ft.
Sand 3 to 5 ft.
Gray Basalt 5 to 30 ft.
Basalt Rubble 30 to 35 ft.
Gray Basalt 35 to 70 ft.
Basalt Rubble 70 to 80 ft.
Gray Basalt 80 to 110 ft.
Sand and Rounded Quartz Gravel 110 to 140 ft.
Gray Basalt 140 to 148 ft.
Fractured Gray Basalt 148 to 160 ft.
Gray Basalt 160 to 235 ft.
Sand and Gravel 235 to 254 ft.
Sand and Clay 254 to 264 ft.
Gray Basalt 264 to 274 ft.
Sand and Clay 274 to 294 ft.
Gray Basalt 294 to 300 ft.
Basalt Rubble 300 to 315 ft.
Gray Basalt 315 to 340 ft.
Basalt Rubble 340 to 377 ft.
Gray Basalt 377 to 385 ft.
Basalt Rubble 385 to 400 ft.
Basalt 400 to 450 ft.
Basalt 450 to 637 ft.
Basalt with Rubble Zones 637 to 820 ft.
Gray Basalt 820 to 838 ft.
Borehole Interval: 0 to 20 ft.
Borehole Size: 22.0 in.
Borehole Interval: 20 to 39 ft.
Borehole Size: 15.88 in.
Seal Interval: 0 to 350 ft.
Seal Material: Neat cement grout
Borehole Interval: 39 to 838 ft.
Borehole Size: 11.88 in.
Seal Interval: 350 to 354 ft.
Seal Material: 3/8 Bentonite chips
Seal Interval: 362 to 365 ft.
Seal Material: 3/8 Bentonite chips
Seal Interval: 365 to 440.5 ft.
Seal Material: Neat cement grout
Seal Interval: 440.5 to 447.5 ft.
Seal Material: 3/8 Bentonite chips
Seal Interval: 460 to 529 ft.
Seal Material: Neat cement grout
Seal Interval: 529 to 538 ft.
Seal Material: 3/8 Bentonite chips
Seal Interval: 538 to 550 ft.
Seal Material: Silica sand
Water Level: 595.75 ft. BLS
Date: 11/30/92
Seal Interval: 550 to 752.5 ft.
Seal Material: Neat cement grout
Seal Interval: 752.5 to 772 ft.
Seal Material: Caved material
Seal Interval: 772 to 784 ft.
Seal Material: Bentonite slurry
Seal Interval: 784 to 838 ft.
Seal Material: 8/12 Silica sand
Pump Depth: NF
Pump Type: Submersible
Total Depth: 838 ft. BLS
Casing Interval: 0 to 20 ft.
Casing Size: 18.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 38.5 ft.
Casing Size: 12.0 in.
Casing Material: Carbon steel
Inst. Type: Vapor port
Inst. Depth: 355
Packing: 8/12 Silica sand
Casing Interval: -1.0 to 798 ft.
Casing Size: 6.0 in.
Casing Material: Stainless steel
Inst. Type: Vapor port
Inst. Depth: 450
Packing: 8/12 Silica sand
Inst. Type: Vapor port (grouted in)
Inst. Depth: 550
Packing: Neat cement
Screen Interval: 798 to 828 ft.
Screen Type: Wire wrap
Screen Material: Stainless steel
Slot Size: 0.02
Slot Length: NF
Screen Packing: Sand

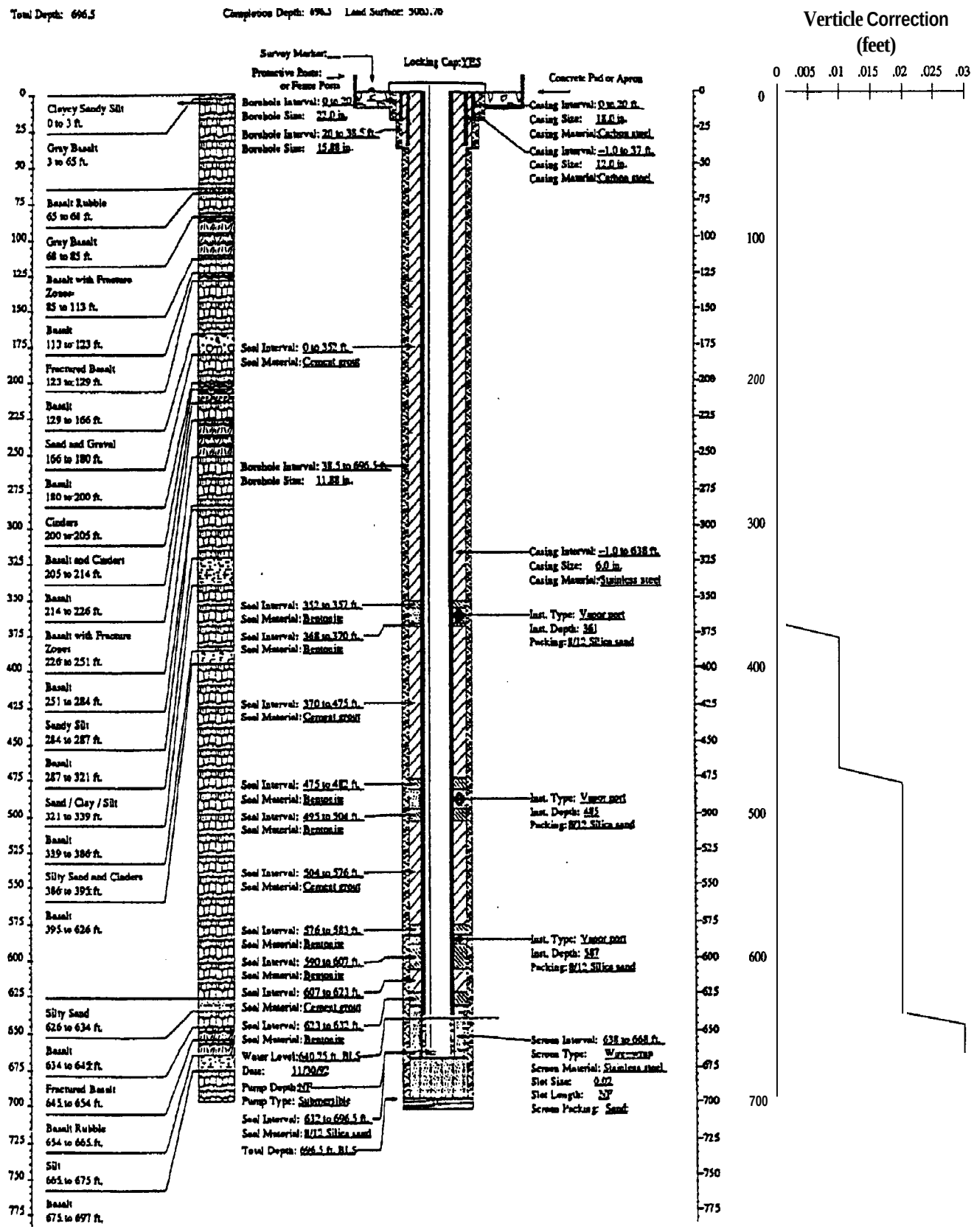
Well M4D



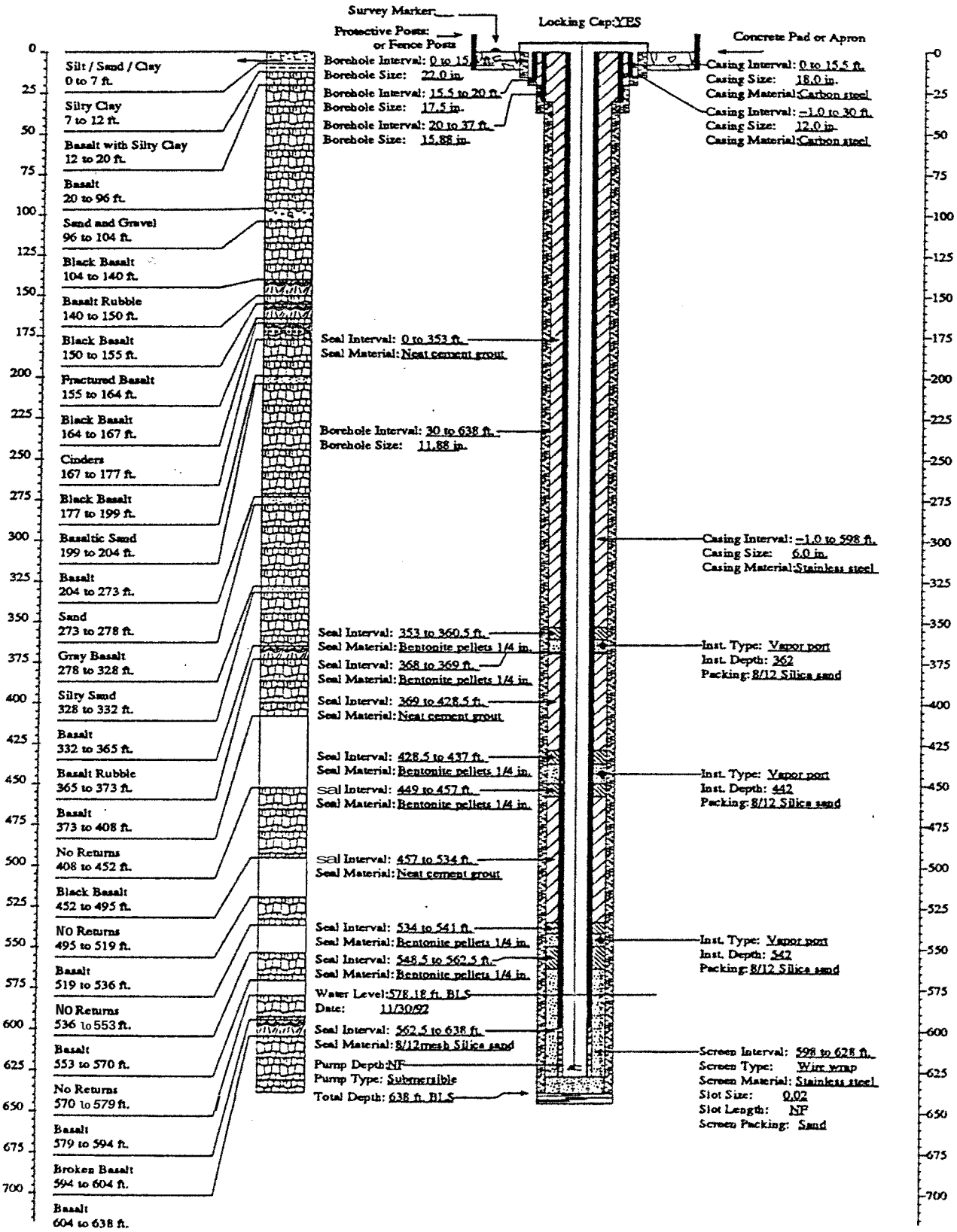

Well M4D (continued)


Survey Marker:
Protective Posts: or Fence Posts
Locking Cap: YES
Concrete Pad or Apron
Clayey Sandy Silt 0 to 3 ft.
Gray Basalt 3 to 65 ft.
Basalt Rubble 65 to 68 ft.
Gray Basalt 68 to 85 ft.
Basalt with Fracture Zones 85 to 113 ft.
Basalt 113 to 123 ft.
Fractured Basalt 123 to 129 ft.
Basalt 129 to 166 ft.
Sand and Gravel 166 to 180 ft.
Basalt 180 to 200 ft.
Cinders 200 to 205 ft.
Basalt and Cinders 205 to 214 ft.
Basalt 214 to 226 ft.
Basalt with Fracture Zones 226 to 251 ft.
Basalt 251 to 284 ft.
Sandy Silt 284 to 287 ft.
Basalt 287 to 321 ft.
Sand / Clay / Silt 321 to 339 ft.
Basalt 339 to 386 ft.
Silty Sand and Cinders 386 to 395 ft.
Basalt 395 to 626 ft.
Silty Sand 626 to 634 ft.
Basalt 634 to 645 ft.
Fractured Basalt 645 to 654 ft.
Basalt Rubble 654 to 665 ft.
Silt 665 to 675 ft.
Basalt 675 to 697 ft.
Borehole Interval: 0 to 20
Borehole Size: 22.0 in.
Borehole Interval: 20 to 38.5 ft.
Borehole Size: 15.88 in.
Borehole Interval: 38.5 to 696.5 ft.
Borehole Size: 11.88 in.
Seal Interval: 352 to 357 ft.
Seal Material: Bentonite
Seal Interval: 368 to 370 ft.
Seal Material: Bentonite
Seal Interval: 370 to 475 ft.
Seal Material: Cement grout
Seal Interval: 475 to 482 ft.
Seal Material: Bentonite
Seal Interval: 495 to 504 ft.
Seal Material: Bentonite
Seal Interval: 504 to 576 ft.
Seal Material: Cement grout
Seal Interval: 576 to 583 ft.
Seal Material: Bentonite
Seal Interval: 590 to 607 ft.
Seal Material: Bentonite
Seal Interval: 607 to 623 ft.
Seal Material: Cement grout
Seal Interval: 623 to 632 ft.
Seal Material: Bentonite
Water Level: 640.25 ft. BLS
Date: 11/30/92
Pump Depth: NF
Pump Type: Submersible
Seal Interval: 632 to 696.5 ft.
Seal Material: 8/12 Silica sand
Total Depth: 696.5 ft. BLS
Casing Interval: 0 to 20 ft.
Casing Size: 18.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 37 ft.
Casing Size: 12.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 638 ft.
Casing Size: 6.0 in.
Casing Material: Stainless steel
Inst. Type: Vapor port
Inst. Depth: 363
Packing: 8/12 Silica sand
Inst. Type: Vapor port
Inst. Depth: 485
Packing: 8/12 Silica sand
Inst. Type: Vapor port
Inst. Depth: 587
Packing: 8/12 Silica sand
Screen Interval: 638 to 668 ft.
Screen Type: Wire-wrap
Screen Material: Stainless steel
Slot Size: 0.02
Slot Length: NF
Screen Packing: Sand

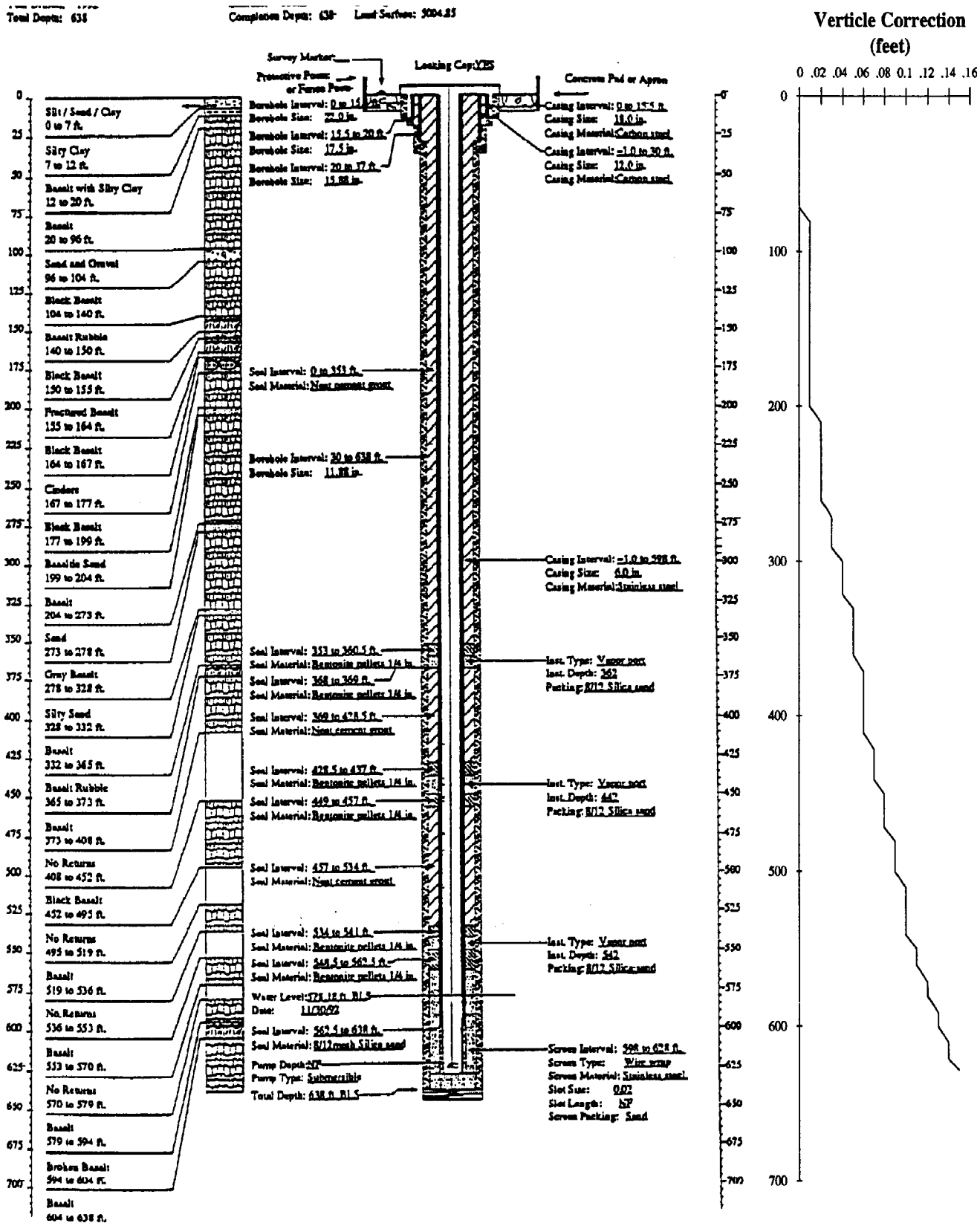
Well **M6S**



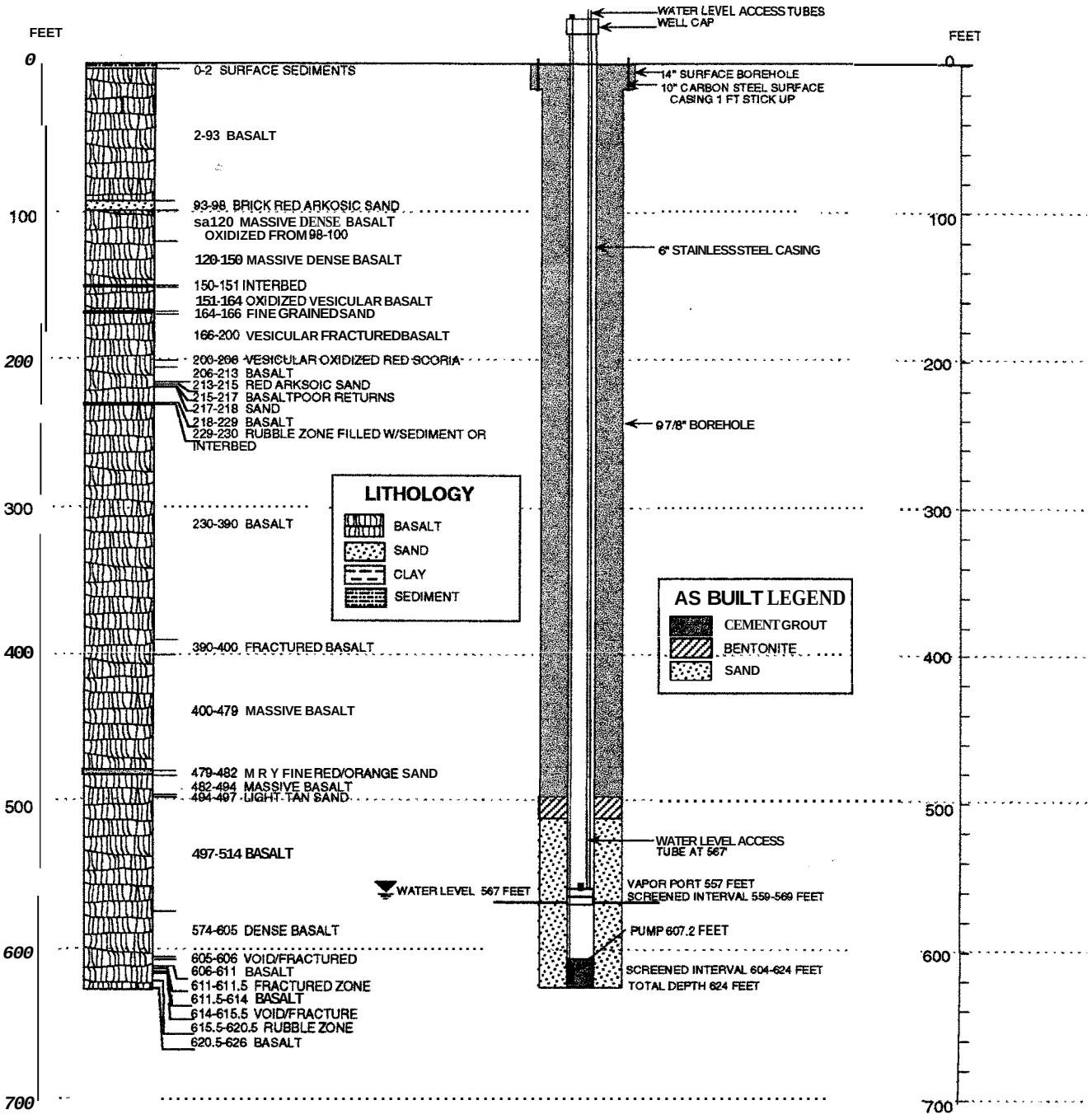

Well **M6S** (continued)


Survey Marker:
Protective Posts: or Fence Posts
Locking Cap:YES
Concrete Pad or Apron
Silt / Sand / Clay 0 to 7 ft.
Silty Clay 7 to 12 ft.
Basalt with Silty Clay 12 to 20 ft.
Basalt 20 to 96 ft.
Sand and Gravel 96 to 104 ft.
Black Basalt 104 to 140 ft.
Basalt Rubble 140 to 150 ft.
Black Basalt 150 to 155 ft.
Fractured Basalt 155 to 164 ft.
Black Basalt 164 to 167 ft.
Cinders 167 to 177 ft.
Black Basalt 177 to 199 ft.
Basaltic Sand 199 to 204 ft.
Basalt 204 to 273 ft.
Sand 273 to 278 ft.
Gray Basalt 278 to 328 ft.
Silty Sand 328 to 332 ft.
Basalt 332 to 365 ft.
Basalt Rubble 365 to 373 ft.
Basalt 373 to 408 ft.
No Returns 408 to 452 ft.
Black Basalt 452 to 495 ft.
NO Returns 495 to 519 ft.
Basalt 519 to 536 ft.
NO Returns 536 to 553 ft.
Basalt 553 to 570 ft.
No Returns 570 to 579 ft.
Basalt 579 to 594 ft.
Broken Basalt 594 to 604 ft.
Basalt 604 to 638 ft.
Borehole Interval: 0 to 15.5 ft.
Borehole Size: 22.0 in.
Borehole Interval: 15.5 to 20 ft.
Borehole Size: 17.5 in.
Borehole Interval: 20 to 37 ft.
Borehole Size: 15.88 in.
Seal Interval: 0 to 353 ft.
Seal Material: Neat cement grout
Borehole Interval: 30 to 638 ft.
Borehole Size: 11.88 in.
Seal Interval: 353 to 360.5 ft.
Seal Material: Bentonite pellets 1/4 in.
Seal Interval: 368 to 369 ft.
Seal Material: Bentonite pellets 1/4 in.
Seal Interval: 369 to 428.5 ft.
Seal Material: Neat cement grout
Seal Interval: 428.5 to 437 ft.
Seal Material: Bentonite pellets 1/4 in.
sal Interval: 449 to 457 ft.
Seal Material: Bentonite pellets 1/4 in.
sal Interval: 457 to 534 ft.
Seal Material: Neat cement grout
Seal Interval: 534 to 541 ft.
Seal Material: Bentonite pellets 1/4 in.
Seal Interval: 548.5 to 562.5 ft.
Seal Material: Bentonite pellets 1/4 in.
Water Level: 578.18 ft. BLS
Date: 11/30/92
Seal Interval: 562.5 to 638 ft.
Seal Material: 8/12mesh Silica sand
Pump Depth: NF
Pump Type: Submersible
Total Depth: 638 ft. BLS
Casing Interval: 0 to 15.5 ft.
Casing Size: 18.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 30 ft.
Casing Size: 12.0 in.
Casing Material: Carbon steel
Casing Interval: -1.0 to 598 ft.
Casing Size: 6.0 in.
Casing Material: Stainless steel
Inst. Type: Vapor port
Inst. Depth: 362
Packing: 8/12 Silica sand
Inst. Type: Vapor port
Inst. Depth: 442
Packing: 8/12 Silica sand
Inst. Type: Vapor port
Inst. Depth: 542
Packing: 8/12 Silica sand
Screen Interval: 598 to 628 ft.
Screen Type: Wire wrap
Screen Material: Stainless steel
Slot Size: 0.02
Slot Length: NF
Screen Packing: Sand
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
450
475
500
525
550
575
600
625
650
675
700

Well M7S

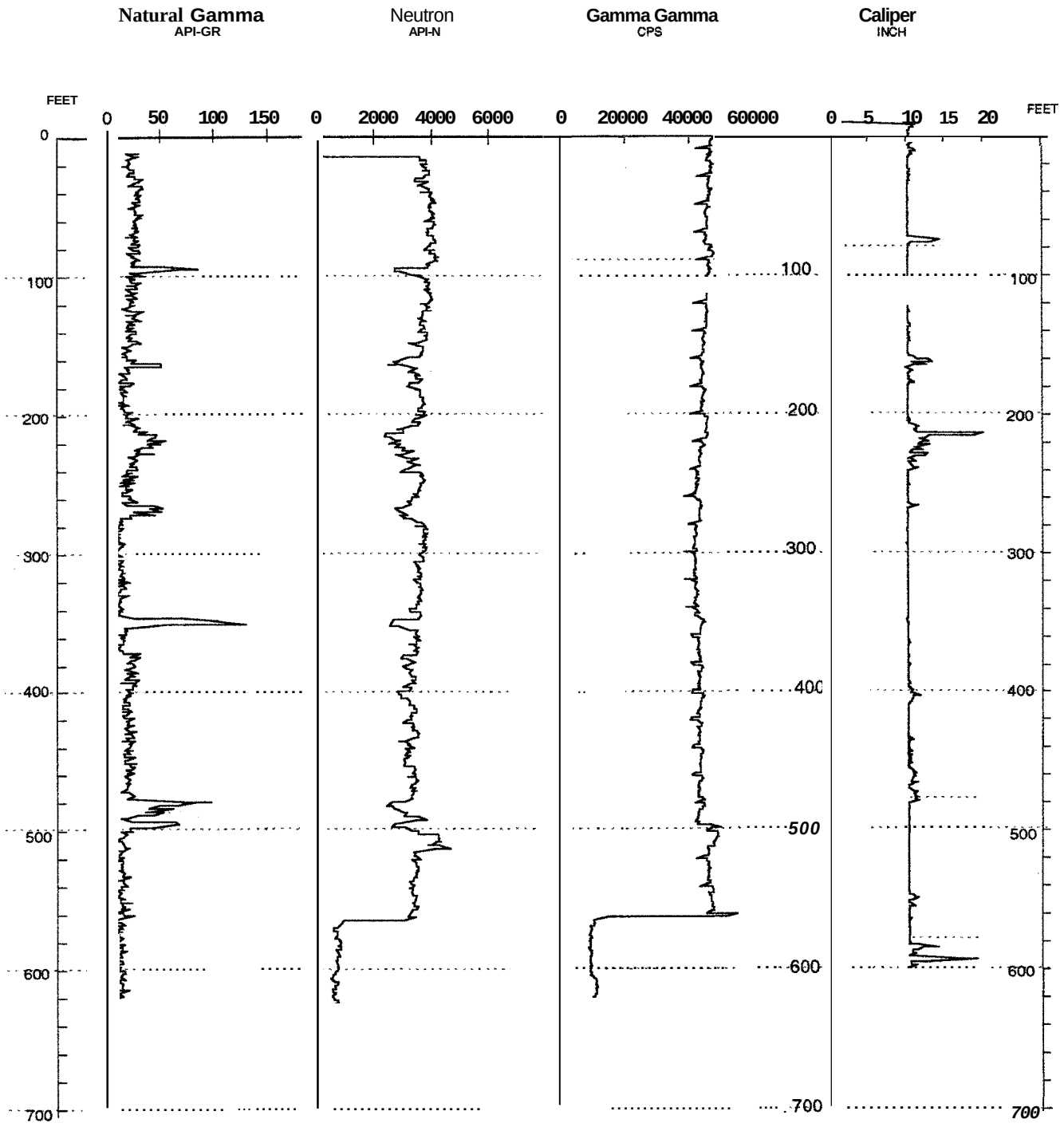



Well M7S (continued)

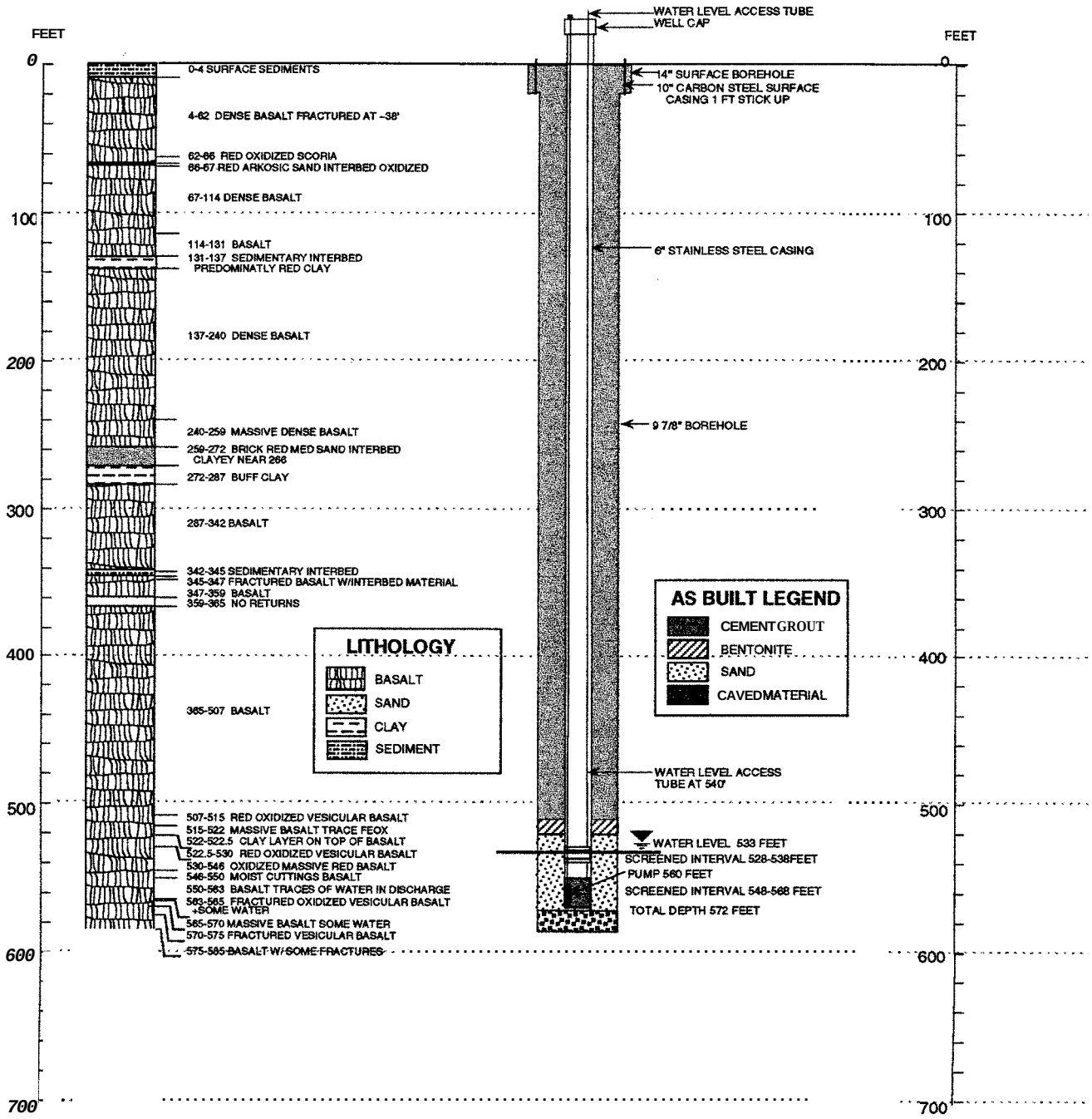



Well M11S (South-MON-A-001)

M11S(South-MON-A-001)

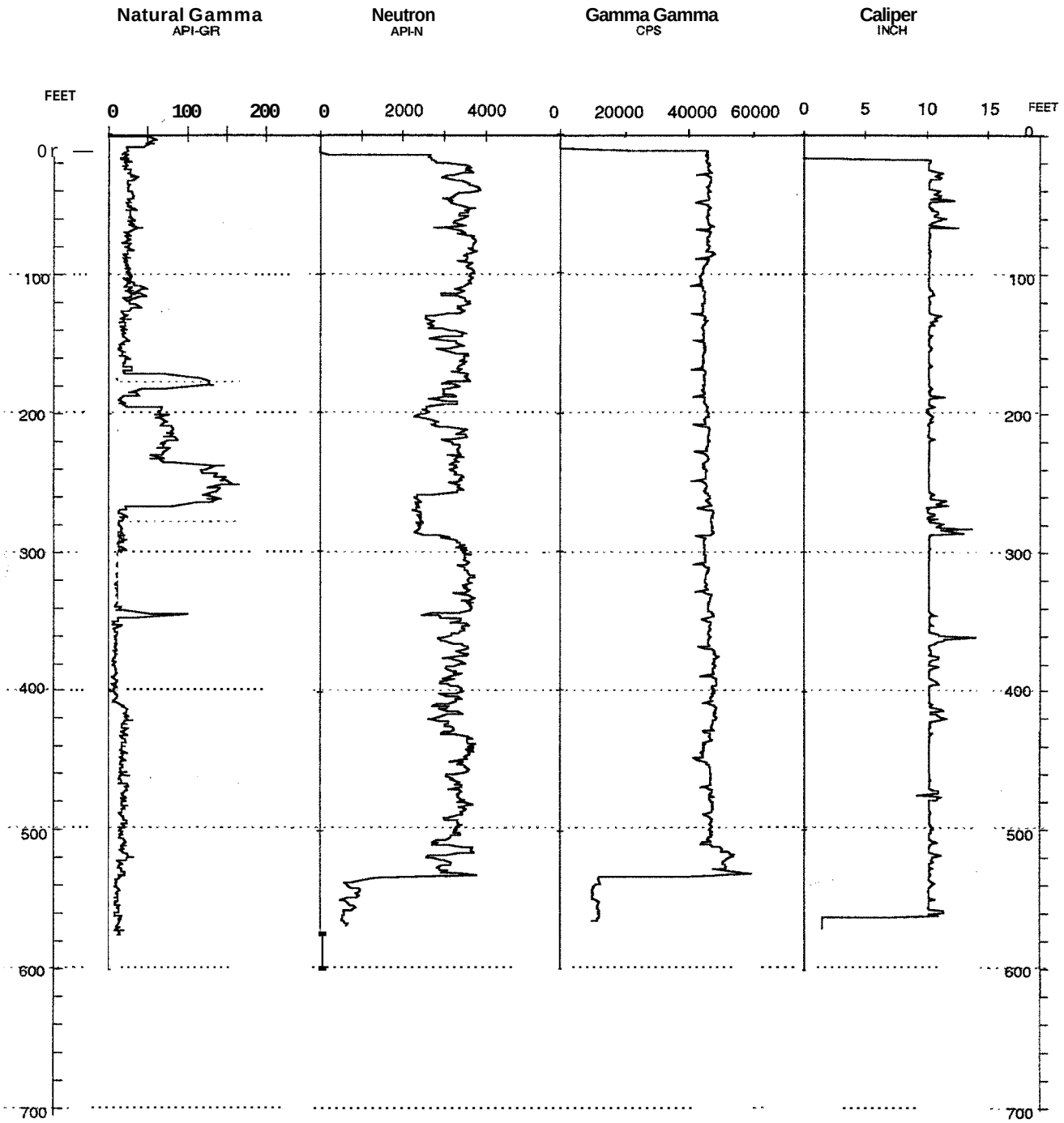



Well M11S (South-MON-A-001) (continued)

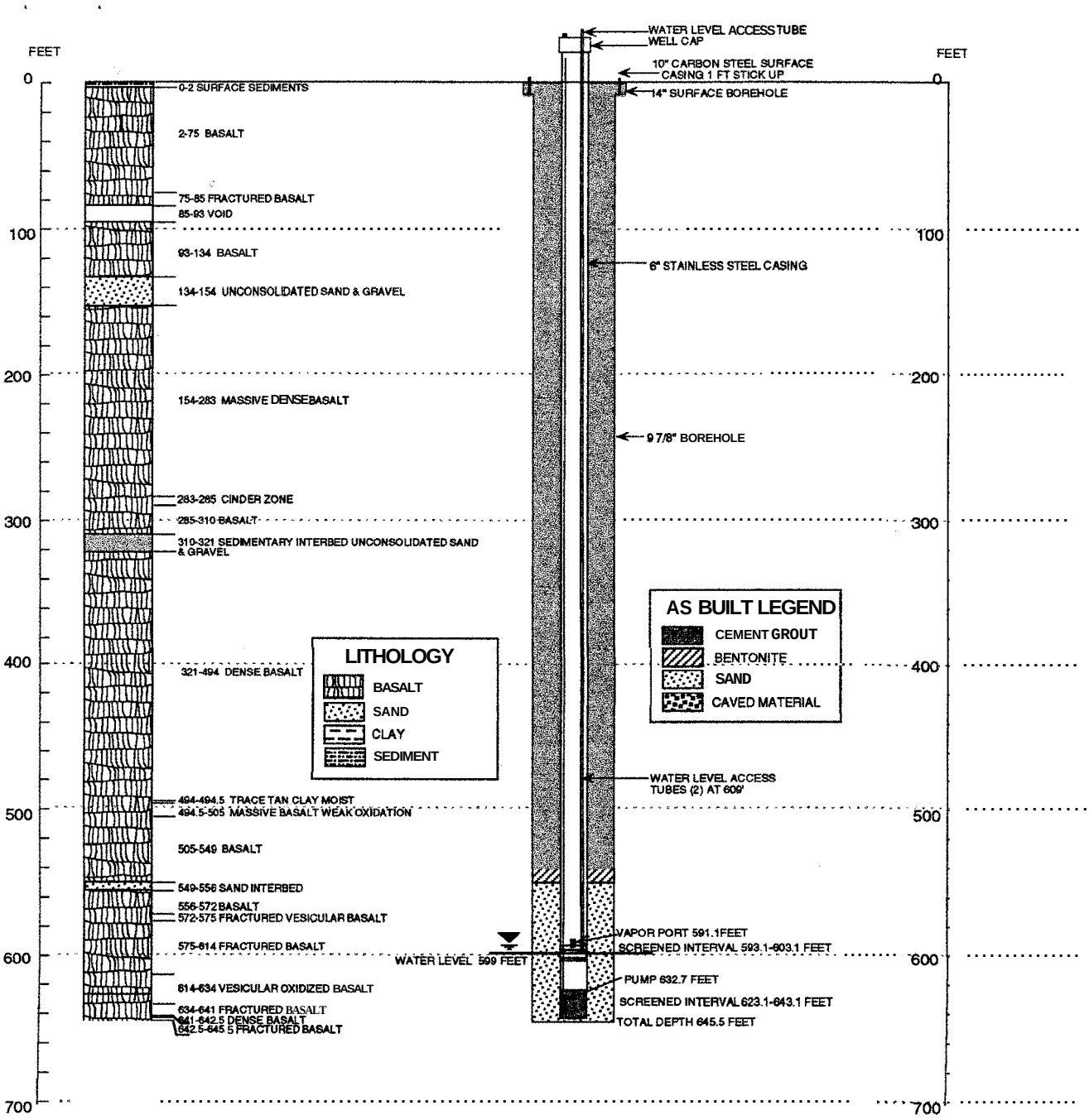



Well M12S (South-MON-A-002)

M12S(South-MON-A-002)

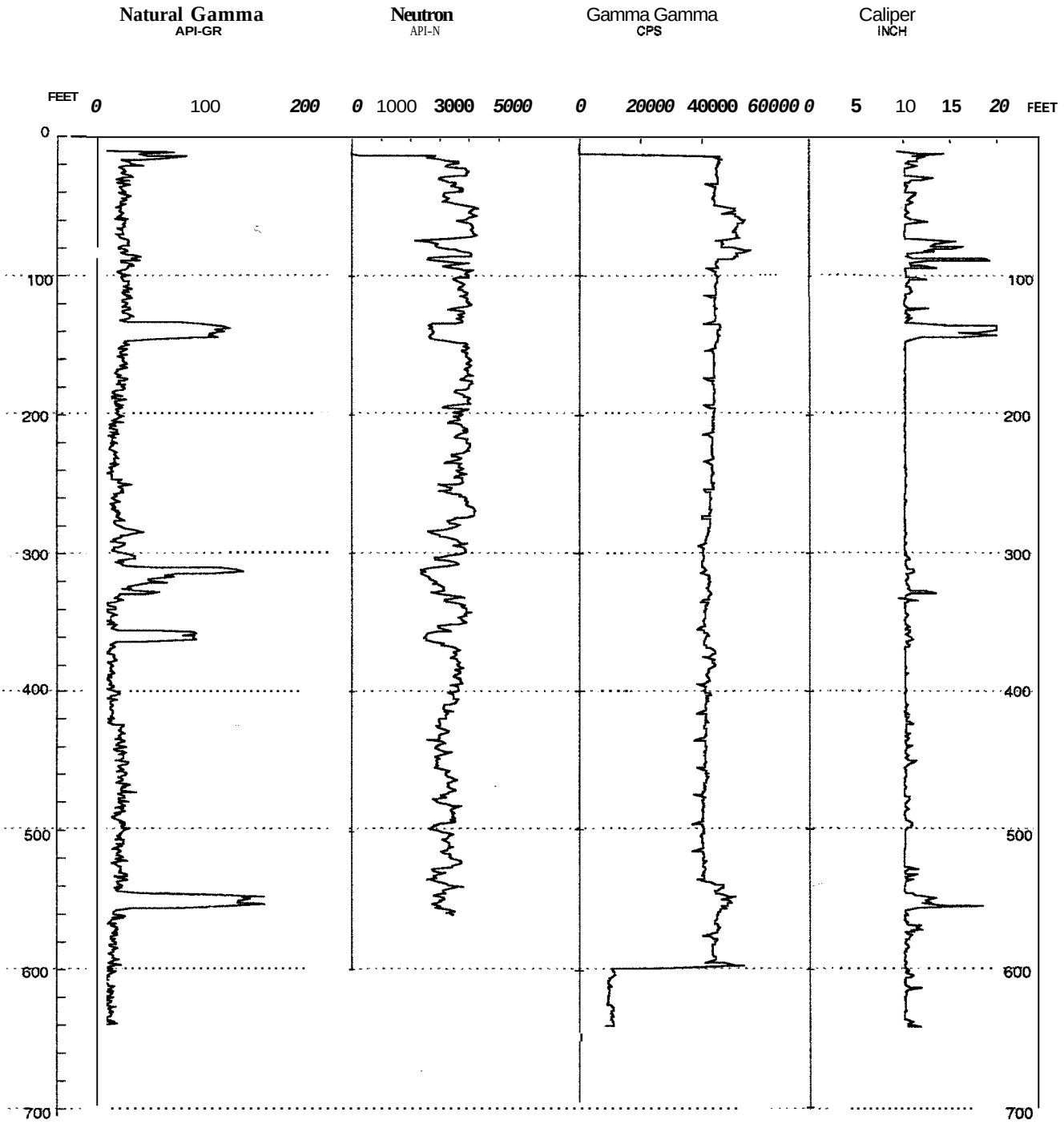



Well M12S (South-MON-A-002) (continued)

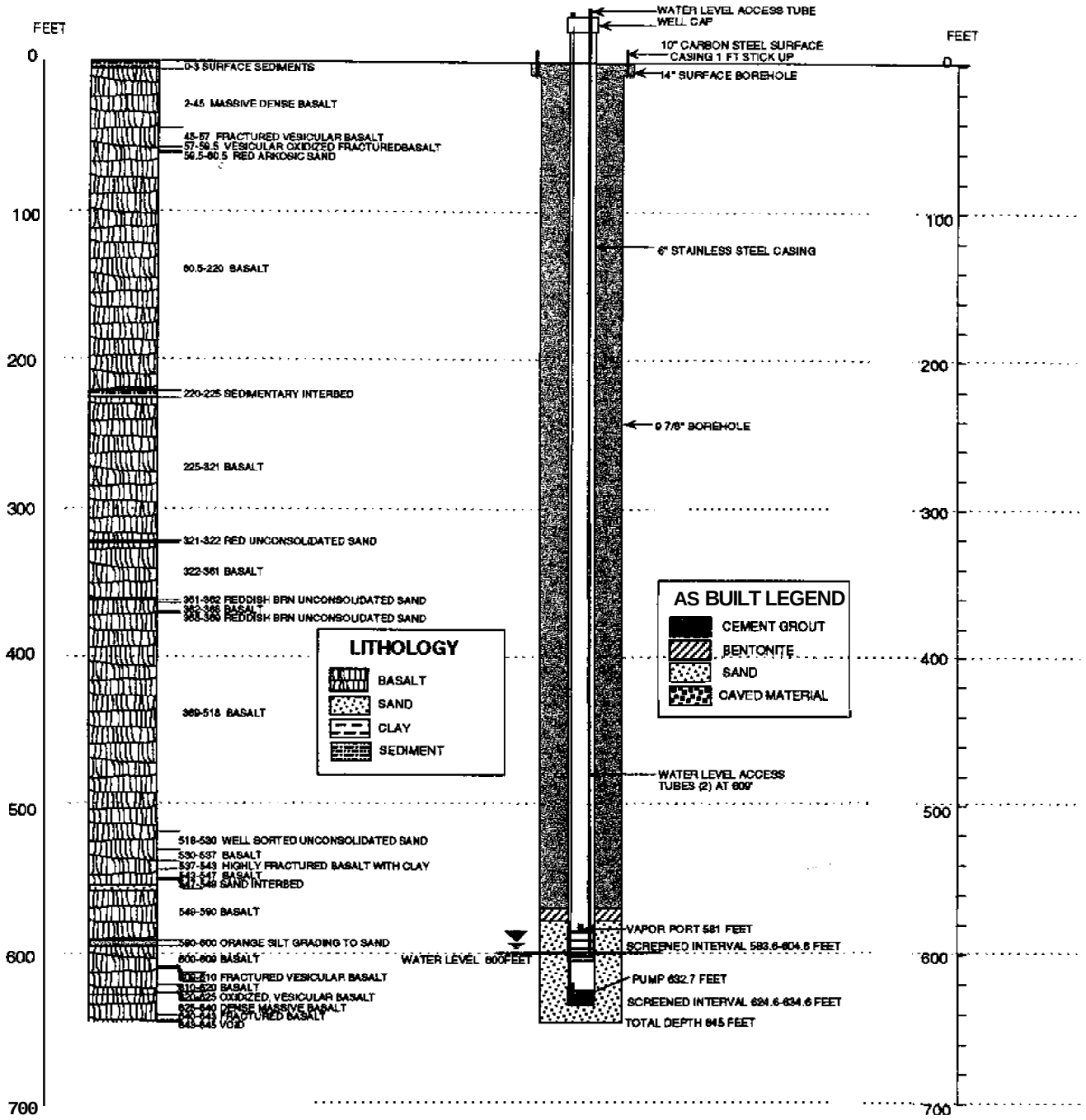



Well M13S (South-MON-A-003)

M13S(South-MON-A-003)

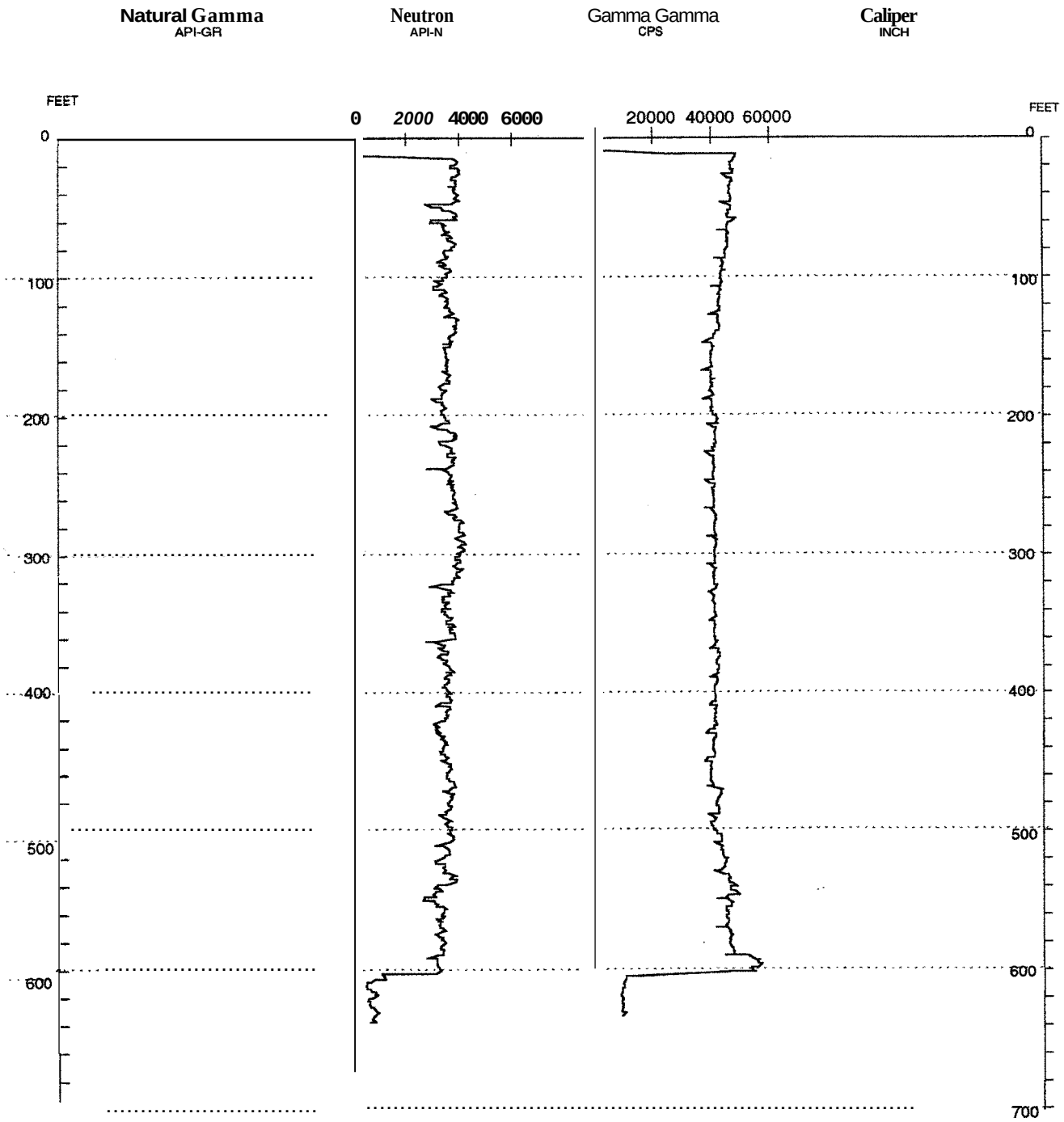



Well M13S (South-MON-A-003) (continued)



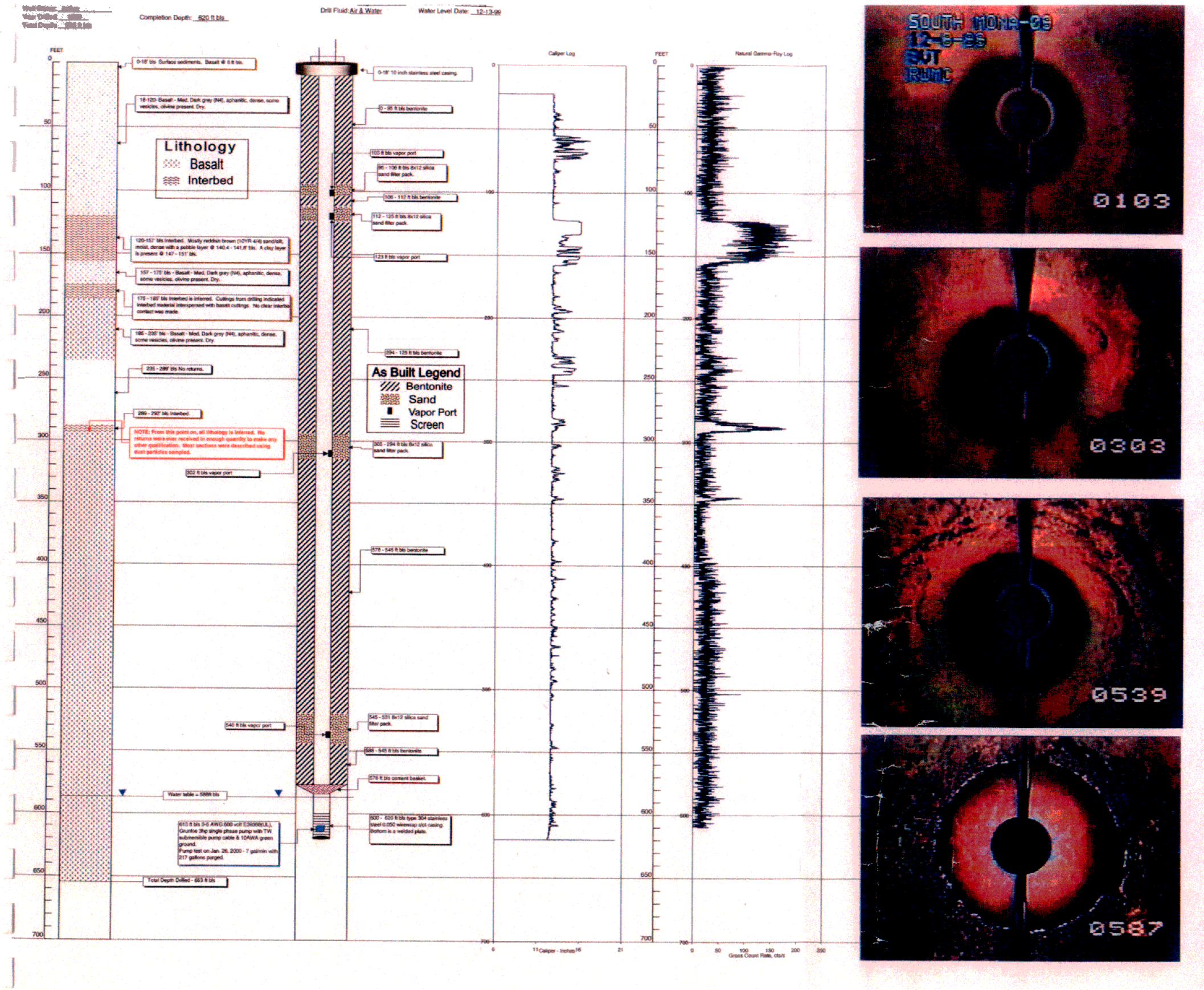

Well M14S (South-MON-A-004)

**M14S(South-MON-A-004)**

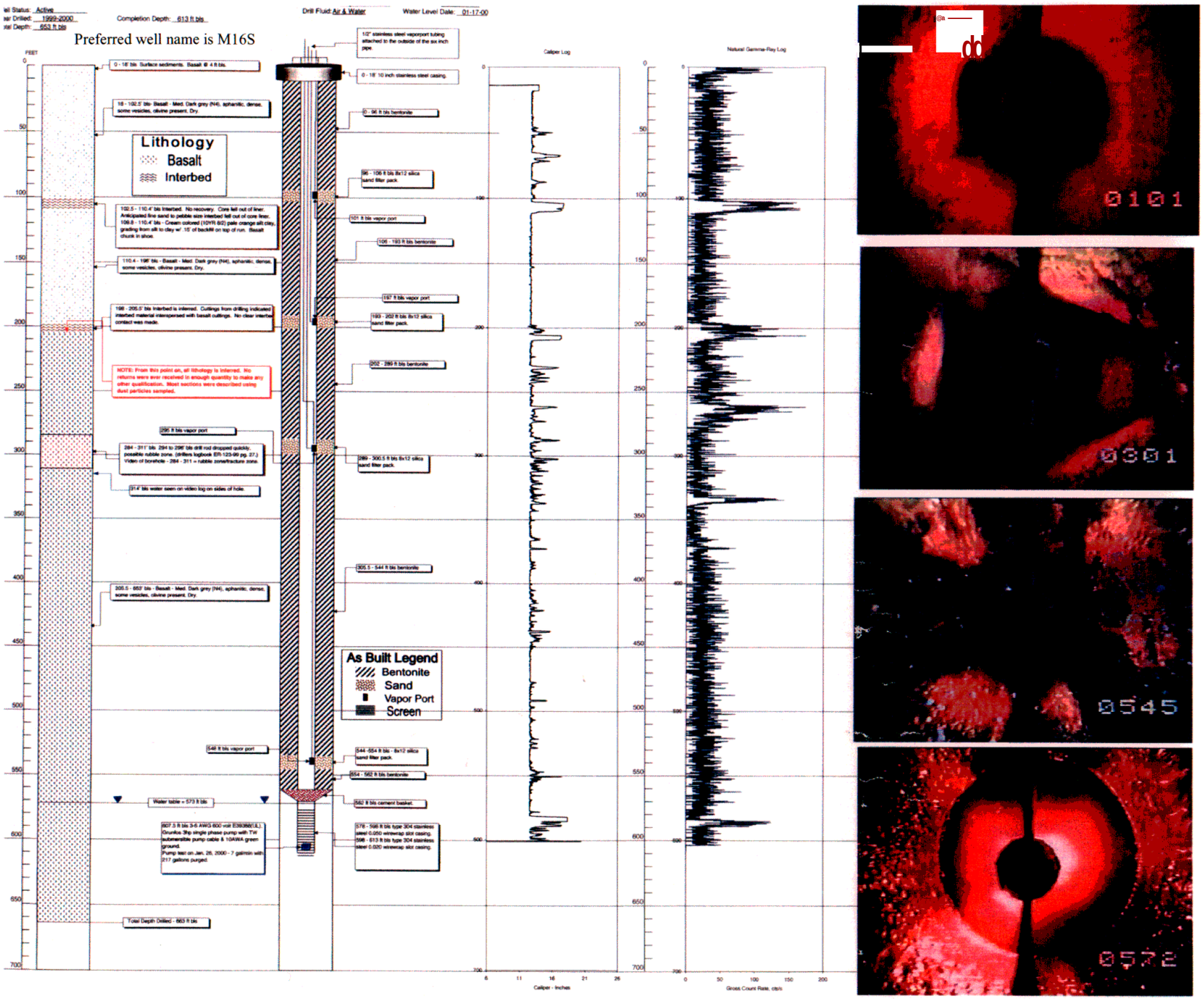



Well M14S (South-MON-A-004) (continued)

Well name: **M15S**




Well M15S (South-MON-A-090)















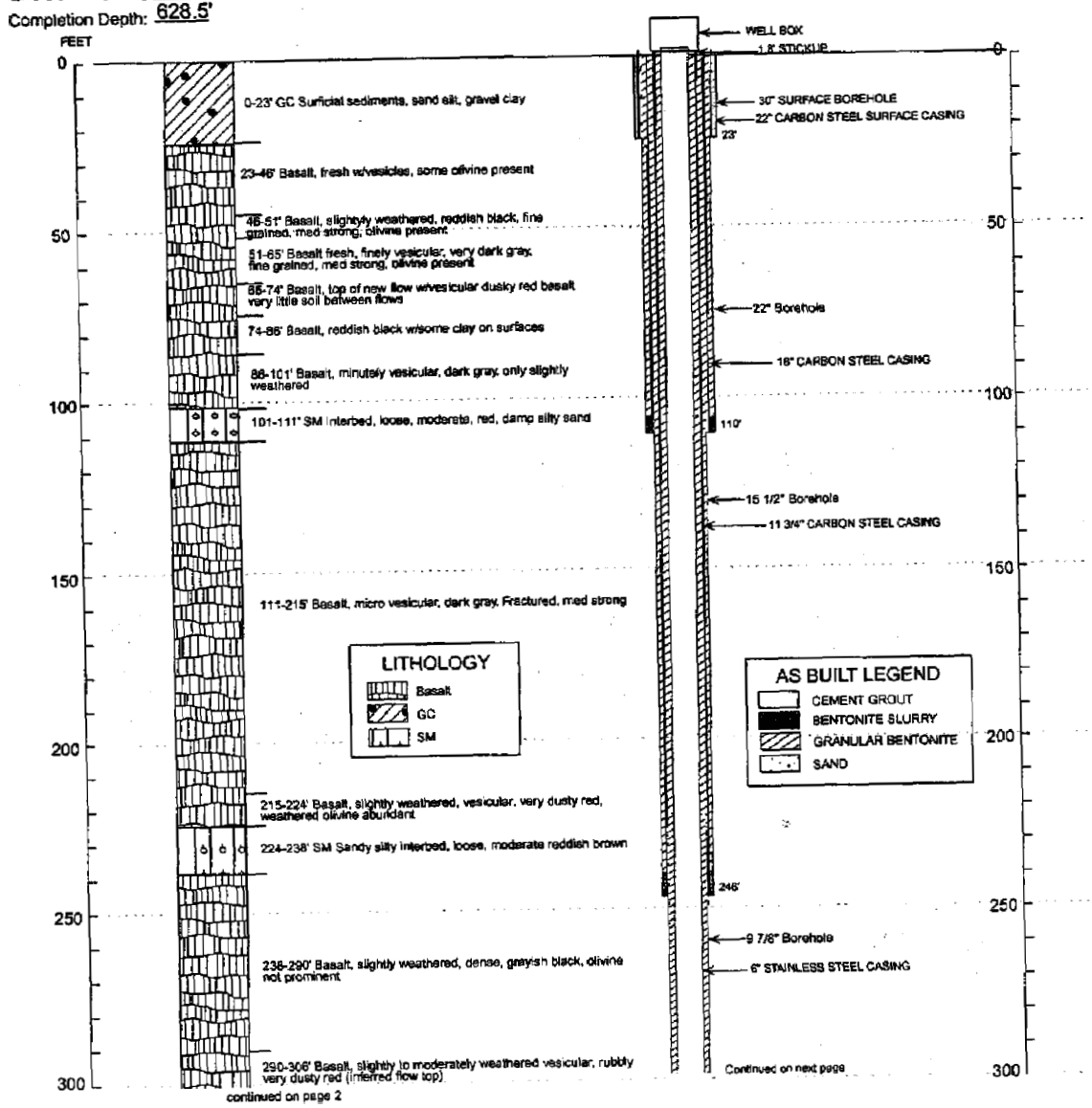

Well M16S (South-MON-A-010)

**RWMC-MON-A-162**

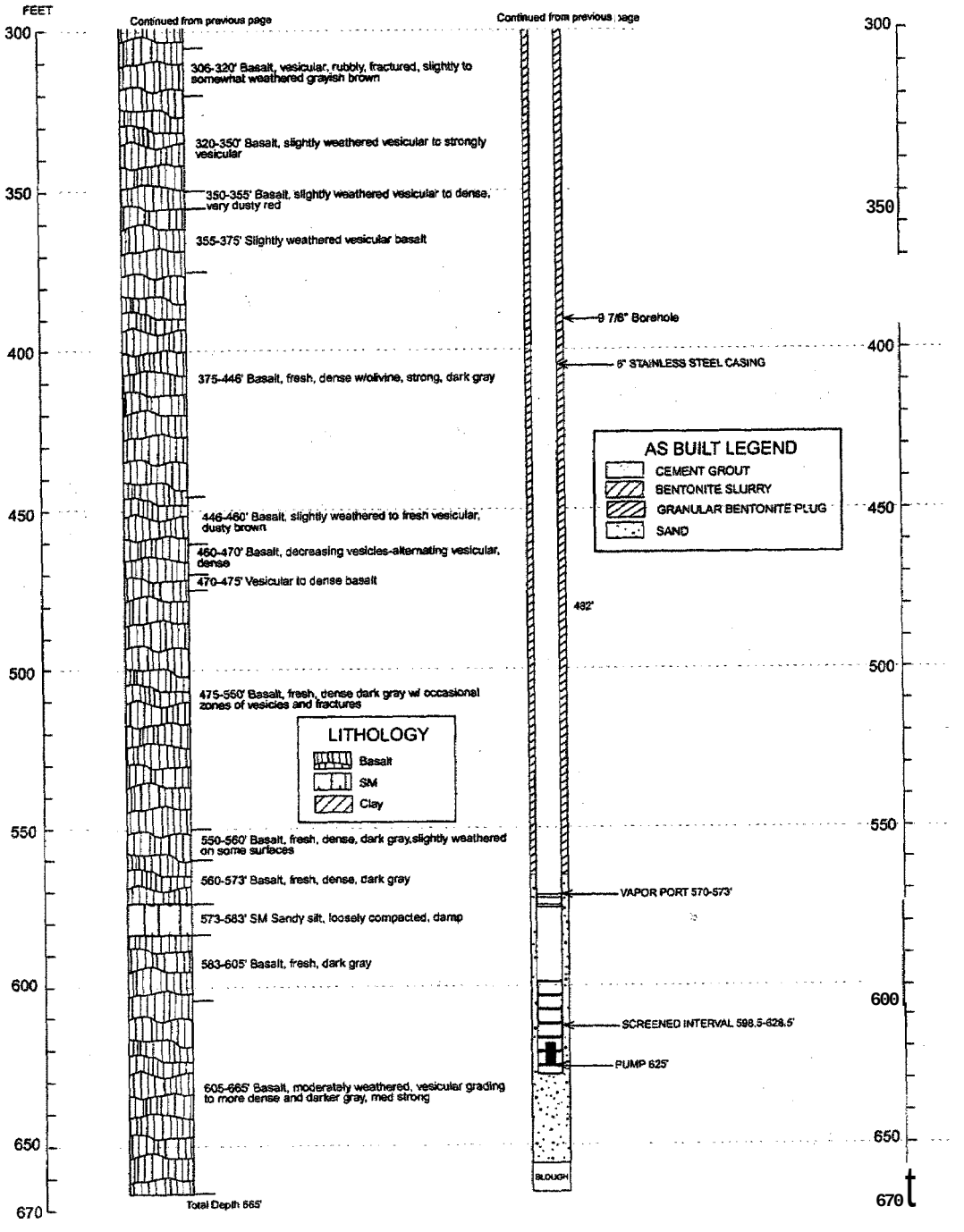
WELL NAME: (M17S)
Facility: RWMC
Well Type: Monitoring
Well Status: Active
Year Drilled: 1999/2000
Total Depth: 665
Start Date: 10/12/99
End Date: 1/5/00
Completion Depth: 628.5'

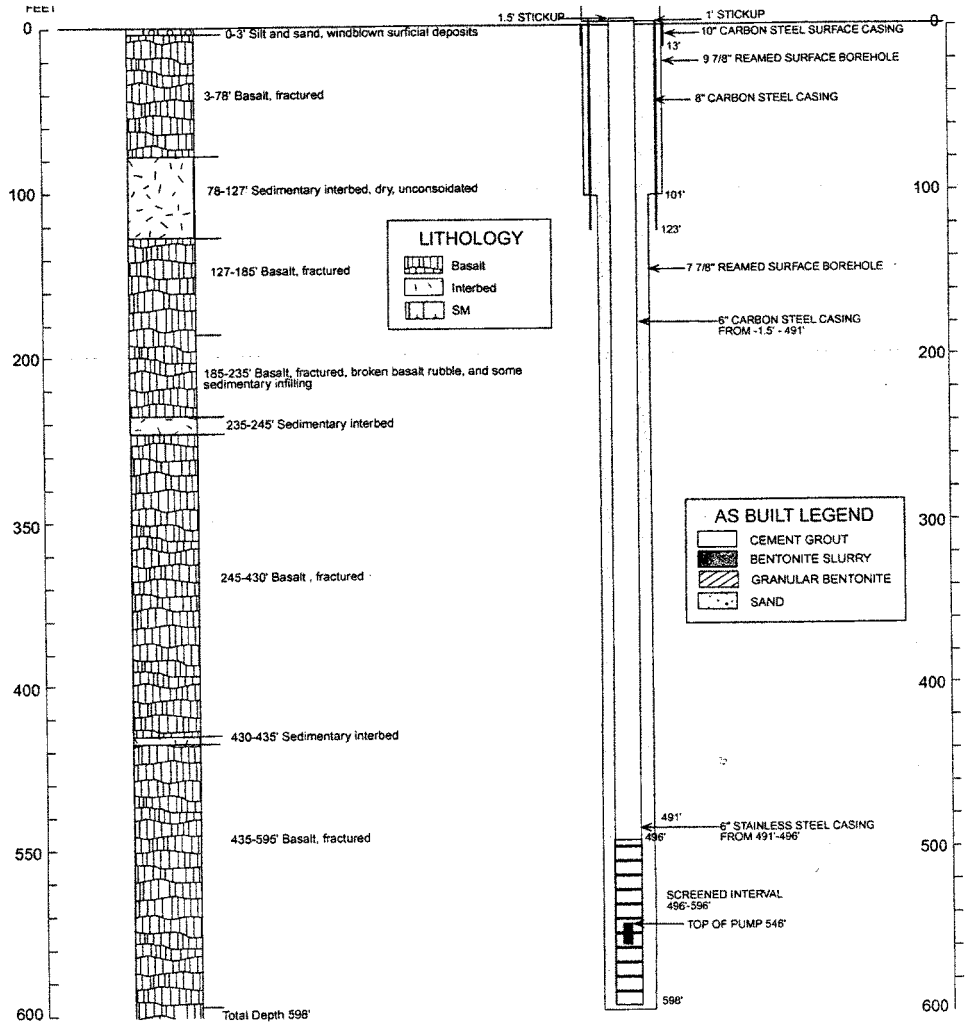
Driller: Dynatec/F. Hight
Geologist: J. Casper
Drill Method: Bucket auger/air rotary
Drill Fluid: Air
Land Surface: 5011.73(29)BC, 5015.21(88)BC, 5013.53(29)MP, 5017.01(88)MP

Todays Date: 2-15-01
Water Level: 578'
Water Level Date: 1/10/00
Water Level Access: n/a



WELL NAME: **RWMC-MON-A-162 (M17S)page 2**






Well M16S (USGS-OBS-A-127)

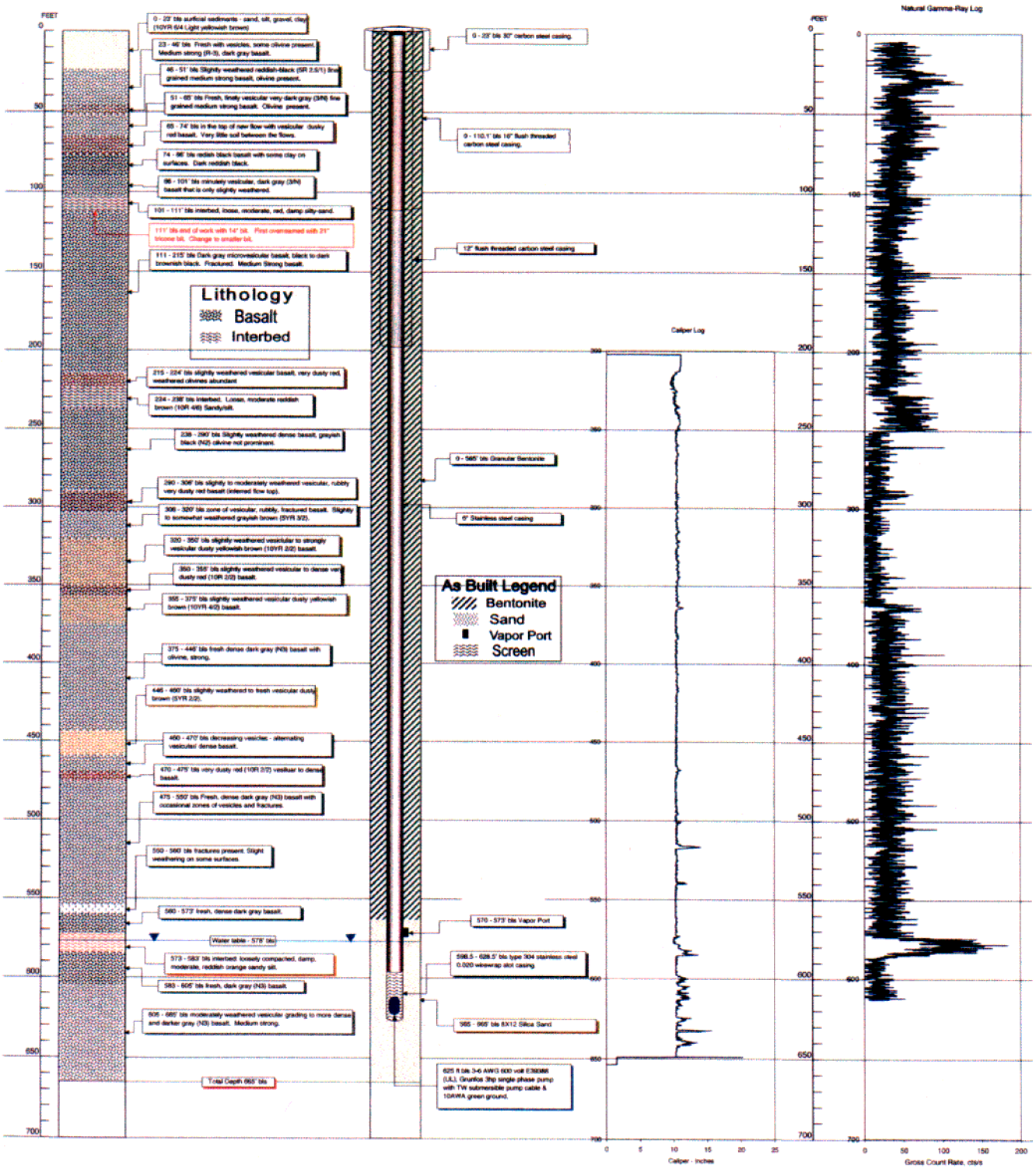
Year Drilled: 1999 - 2000
Total Depth: 665 feet bls

Completion Depth: 628.5 ft bls

Drill Fluid: Air

Water Level Date: 01-10-00

Preferred well name is I-5




Well I-5 (RWMC-SCI-V-162)

# Appendix B

# Sampling-and-Analysis-Plan Tables

Plan Table Number: INEEL-10747-47

# DRAFT



SAP Number: EXT-2000-00029

Sampler: Millward, A. L.

Date: 09/29/2003 Plan Table Revision: 0.0 Project: WAG 7 GROUNDWATER MONITORING - NOVEMBER 2003 Project Manager: SMITH, D. M. SMO Contact: MCGRIFF, T. W.

| Sample Description | | | | | | Sample Location | | | | Enter Analysis Types (AT) and Quantity Requested | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | AT1 | AT2 | AT3 | AT4 | AT5 | AT6 | AT7 | AT8 | AT9 | AT10 | AT11 | AT12 | AT13 | AT14 | AT15 | AT16 | AT17 | AT18 | AT19 | AT20 |
| Sampling Activity | Sample Type | Sample Matrix | Coll Type | Sampling Method | Planned Date | Area | Type of Location | Location | Depth (ft) | AN | B9 | UX | RH | RN | LM | LF | VG | VF | | | | | | | | | | | |
| RISP25 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M1S | 638 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP26 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M3S | 632.8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP27 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M4D | 828 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP28 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M6S | 668 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP29 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M7S | 628 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP30 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M11S | 569 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP31 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M12S | 538 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP32 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M13S | 643.1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP33 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M14S | 634.6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | | | | | | | | | | |
| RISP34 | REG/QC | GROUND WATER | DUP | | 11/17/2003 | RWMC | MONITORING WELL | M15S | 620 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | |
| RISP35 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M16S | 613 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP36 | REG/QC | GROUND WATER | DUP | | 11/17/2003 | RWMC | MONITORING WELL | M17S | 626.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP37 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | USGS-127 | 596 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP38 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | A11A31 | 675 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP39 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | OW-2 | 644 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |

The sampling activity displayed on this table represents the first 6 to 9 characters of the sample identification number. The complete sample identification number will appear on the sample labels.

AT1: Anions
AT2: Bicarbonate
AT3: Iodine-129 (low detection level)
AT4: Radiochemistry - Suite 1
AT5: Radiochemistry - Suite 2
AT6: Total Metals (CLP TAL)
AT7: Total Metals (CLP TAL) - Filtered
AT8: VOCs by GC/MS
AT9: VOCs by GC/MS - MS/MSD
AT10:
AT11:
AT12:
AT13:
AT14:
AT15:
AT16:
AT17:
AT18:
AT19:
AT20:

Comments:
Sr-90 analyses are to be performed only on samples with gross beta activity greater than 5 pCi/l or the analysis detection limit, whichever is higher.

Confirmation Analyses required for Pu, Am, Np results > 2 sigma uncertainty and > the reported MDA.

Analysis Suites:
Radiochemistry - Suite 1: Cl-36, Am-241, Tc-99, Gross Alpha, Gross Beta, Np-237, Gamma Spec, Pu-Iso, U-Iso
Radiochemistry - Suite 2: C-14, Tritium, Iodine-129

Contingencies:
RH - If Gross Beta result is > 5 pCi/l or the analyses detection limit, whichever is higher, then analyze for Sr-90

Plan Table Number: INEEL-10747-47

**DRAFT**

SAP Number: EXT-2000-00029

Sampler: Millward, A. L.

Date: 09/29/2003 Plan Table Revision: 0.0 Project: WAG 7 GROUNDWATER MONITORING - NOVEMBER 2003 Project Manager: SMITH, D. M. SMO Contact: MCGRIFF, T. W.

| Sample Description | | | | | | Sample Location | | | | Enter Analysis Types (AT) and Quantity Requested | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | AT1 | AT2 | AT3 | AT4 | AT5 | AT6 | AT7 | AT8 | AT9 | AT10 | AT11 | AT12 | AT13 | AT14 | AT15 | AT16 | AT17 | AT18 | AT19 | AT20 |
| Sampling Activity | Sample Type | Sample Matrix | Coll Type | Sampling Method | Planned Date | Area | Type of Location | Location | Depth (ft) | AN | B9 | UX | RH | RN | LM | LF | VG | VF | | | | | | | | | | | |
| RISP40 | REG | GROUND WATER | GRAB | | 11/17/2003 | RWMC | MONITORING WELL | M10S-R | 637 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP41 | QC | GROUND WATER | FBLK | | 11/17/2003 | RWMC | MONITORING WELL | M2S | 645 | 1 | 1 | | 1 | | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP42 | QC | GROUND WATER | FBLK | | 11/17/2003 | RWMC | FIELD BLANK | QC | N/A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | |
| RISP43 | QC | GROUND WATER | TBLK | | 11/17/2003 | RWMC | TRIP BLANK | QC | N/A | | | | | | | | 2 | | | | | | | | | | | | |
| RISP44 | QC | GROUND WATER | PEBL | | 11/17/2003 | RWMC | PE BLANK | QC | N/A | | | | 1 | | | | | | | | | | | | | | | | |
| RISP45 | QC | GROUND WATER | RNST | | 11/17/2003 | RWMC | EQPMENT RINSATE | QC | N/A | | | | 1 | | | | 1 | | | | | | | | | | | | |

The sampling activity displayed on this table represents the first 6 to 9 characters of the sample identification number. The complete sample identification number will appear on the sample labels.

AT1: Anions
AT2: Bicarbonate
AT3: Iodine-129 (low detection level)
AT4: Radiochemistry - Suite 1
AT5: Radiochemistry - Suite 2
AT6: Total Metals (CLP TAL)
AT7: Total Metals (CLP TAL) - Filtered
AT8: VOCs by GC/MS
AT9: VOCs by GC/MS - MS/MSD
AT10:
AT11:
AT12:
AT13:
AT14:
AT15:
AT16:
AT17:
AT18:
AT19:
AT20:

Comments:
Sr-90 analyses are to be performed only on samples with gross beta activity greater than 5 pCi/l or the analysis detection limit, whichever is higher.

Confirmation Analyses required for Pu, Am, Np results > 2 sigma uncertainty and > the reported MDA.

The laboratory will use a 25 mL sample aliquot for the analysis of VOCs by method 8260.

Analysis Suites:
Radiochemistry - Suite 1: Cl-36, Am-241, Tc-99, Gross Alpha, Gross Beta, Np-237, Gamma Spec, Pu-Iso, U-Iso
Radiochemistry - Suite 2: C-14, Tritium, Iodine-129

Contingencies:
RH - If Gross Beta result is > 5 pCi/l or the analyses detection limit, whichever is higher, then analyze for Sr-90