5

# STATE OF OREGON
# WATER WELL REPORT
(as required by ORS 537.765)

UMAT 5735

4N/28E/11ca

(START CARD) # 32007

**(1) OWNER:** Well Number New Well #2

Name City of Hermiston

Address 180 NE 2nd St.

City Hermiston State OR Zip 97838

**(2) TYPE OF WORK:**

[X] New Well [ ] Deepen [ ] Recondition [ ] Abandon

**(3) DRILL METHOD:**

[X] Rotary Air [ ] Rotary Mud [X] Cable

[X] Other reverse circulation rotary

**(4) PROPOSED USE:**

[ ] Domestic [X] Community [ ] Industrial [ ] Irrigation

[ ] Thermal [X] Injection [ ] Other

**(5) BORE HOLE CONSTRUCTION:**

Special Construction approval [XX] Yes [ ] No Depth of Completed Well 1206 ft.

Explosives used [ ] Yes [X] No Type Amount

| HOLE Diameter | From | To | SEAL Material | From | To | Amount sacks or pounds |
|---|---|---|---|---|---|---|
| 24 | 0 | 45 | cement | +1 | 152 | 146 sacks |
| 23 | 45 | 521 | cement | 470 | 521 | 100 sacks |
| 14.75 | 521 | 1206 | | | | |

How was seal placed: Method [ ] A [ ] B [XX] C [ ] D [ ] E

[ ] Other

Backfill placed from ft. to ft. Material

Gravel placed from 152 ft. to 470 ft. Size of gravel 3/8 pea

**(6) CASING/LINER:**

| | Diameter | From | To | Gauge | Steel | Plastic | Welded | Threaded |
|---|---|---|---|---|---|---|---|---|
| Casing: | 24 | +1 | 45 | .375 | [X] | [ ] | [X] | [ ] |
| | * 20 | +2 | 521 | .375 | [XX] | [ ] | [XX] | [ ] |
| | | | | | [ ] | [ ] | [ ] | [ ] |
| | *except at screens | | | | [ ] | [ ] | [ ] | [ ] |
| Liner: | | | | | [ ] | [ ] | [ ] | [ ] |
| | | | | | [ ] | [ ] | [ ] | [ ] |

Final location of shoe(s) 45

**(7) PERFORATIONS/SCREENS:**

[ ] Perforations Method

[X] Screens Type Vshape wire wrap Material 304SS

| From | To | Slot size | Number | Diameter | Tele/pipe size | Casing | Liner |
|---|---|---|---|---|---|---|---|
| 190 | 200 | .130 | | 20 | PS | [ ] | [ ] |
| 260 | 270 | .130 | | 20 | PS | [ ] | [ ] |
| | | | | | | [ ] | [ ] |
| | | | | | | [ ] | [ ] |
| | | | | | | [ ] | [ ] |

**(8) WELL TESTS: Minimum testing time is 1 hour**

[X] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

| Yield gal/min | Drawdown | Drill stem at | Time |
|---|---|---|---|
| see attached plots | | | 1 hr. |
| | | | |
| | | | |
| | | | |

Temperature of Water 72°F Depth Artesian Flow Found

Was a water analysis done? [X] Yes By whom owner

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other

Depth of strata: SEI 9224

**(9) LOCATION OF WELL by legal description:**

County Umatilla Latitude Longitude

Township 4N N or S. Range 28E E or W. WM.

Section 11 NE ¼ of SW ¼

Tax Lot Lot Block Subdivision

Street Address of Well (or nearest address) Newport Park, corner of 5th & Newport, Hermiston, OR 97838

**(10) STATIC WATER LEVEL:**

87 ft. below land surface. Date 6/16/92

Artesian pressure lb. per square inch. Date

**(11) WATER BEARING ZONES:**

Depth at which water was first found 1

| From | To | Estimated Flow Rate | SWL |
|---|---|---|---|
| Attached log is marked 'WB' | | Individual zone SWL & | |
| next to believed significant | | flow are indeterminate | |
| water bearing | zones. | if not otherwise noted | |
| | | on formation log. | |

**(12) WELL LOG:**

Ground elevation approx 445

| Material | From | To | SWL |
|---|---|---|---|
| see attached log | | | |

SEP 10 1992

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 8/13/91 Completed 7/15/92

**(unbonded) Water Well Constructor Certification:**

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed David Donald WWC Number 806

Date 8/14/92

**(bonded) Water Well Constructor Certification:**

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 649

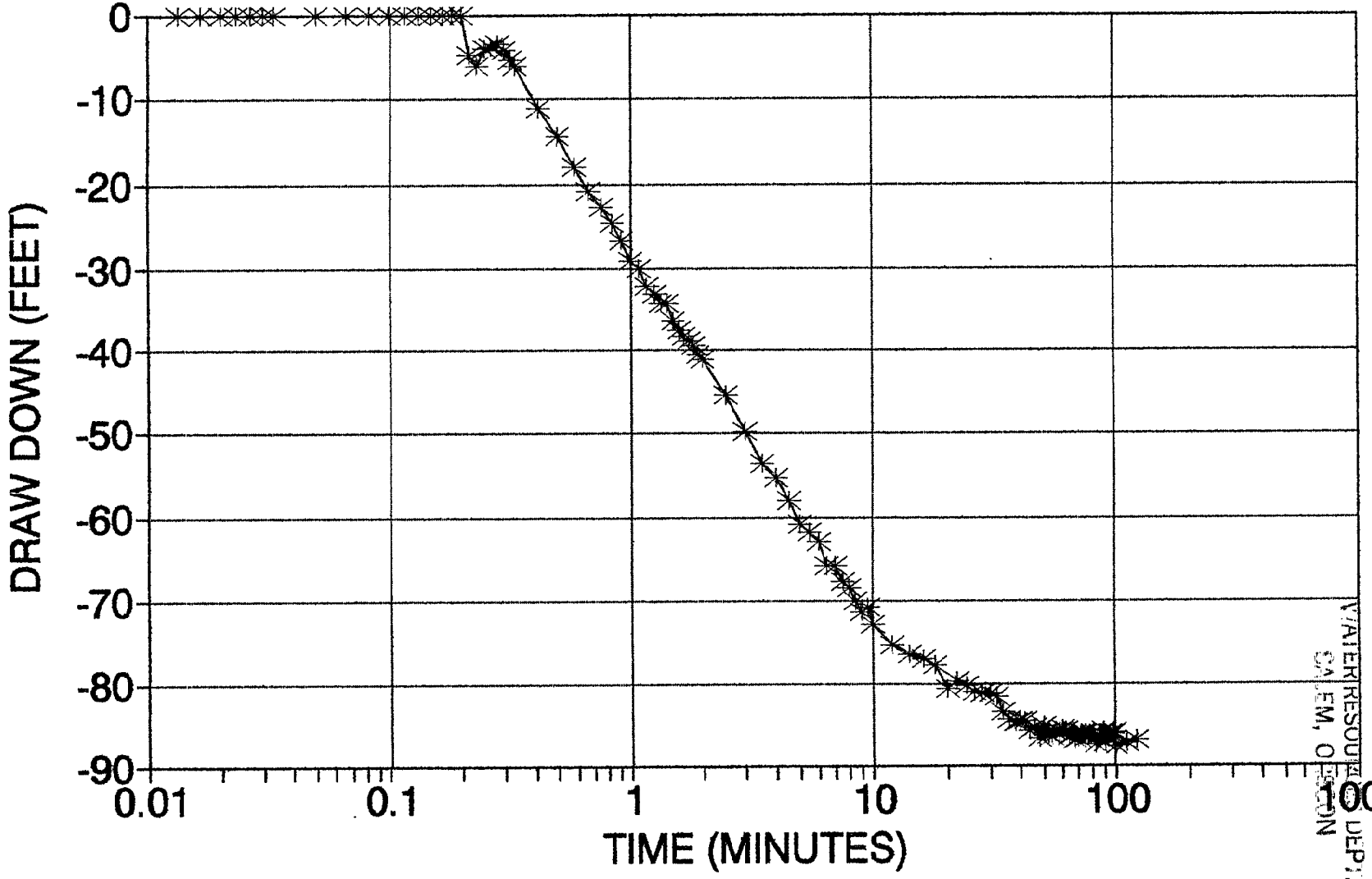
Signed Stephen Schneider Date 8/14/92

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER 9809C 10/91

# HERMISTON WELL No. 32007

## PUMP TEST 6/12/92 STEP 1:Q= 978 AVG GPM

SWL 84 FT AT START OF STEP TEST

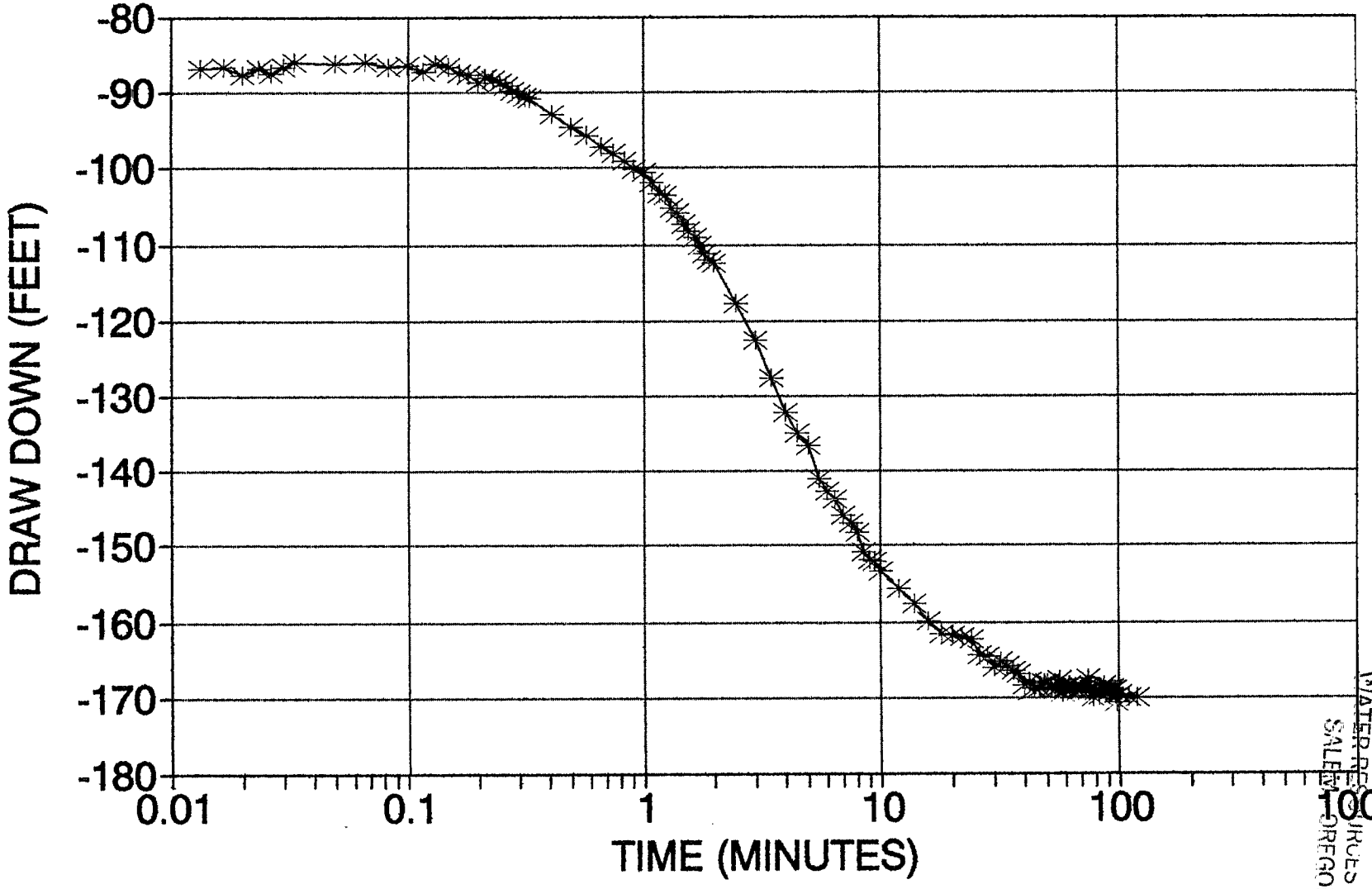



by Schneider Drilling Co.

# HERMISTION WELL No. 32007

## PUMP TEST 6/12/92 STEP 2:Q=1502 AVG GPM

SWL 84 FT AT START OF STEP TEST

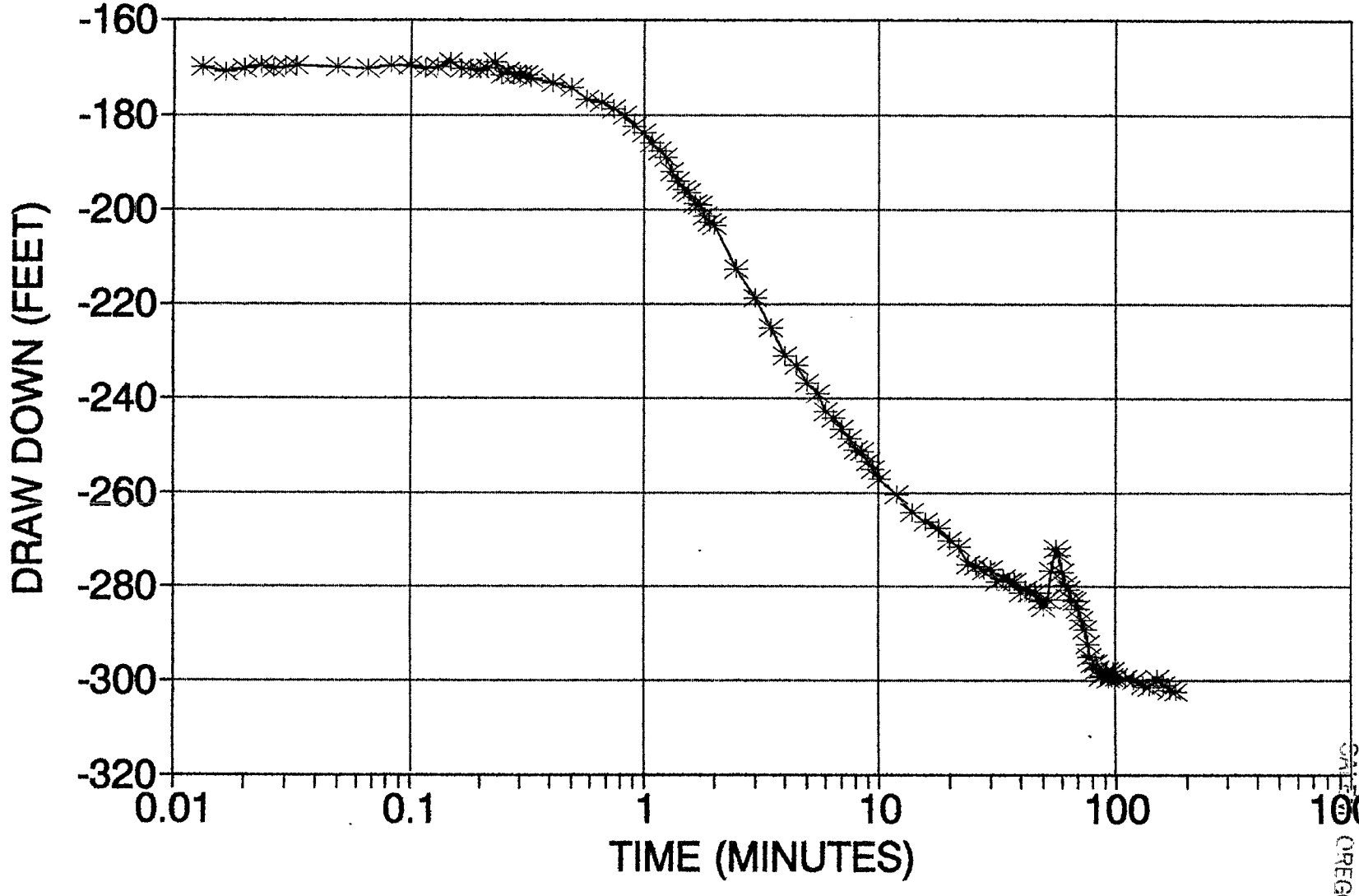



by Schneider Drilling Co.

# HERMISTON WELL No. 32007

## PUMP TEST 6/12/92 STEP 3:Q=1982 AVG GPM

SWL 84 FT AT START OF STEP TEST

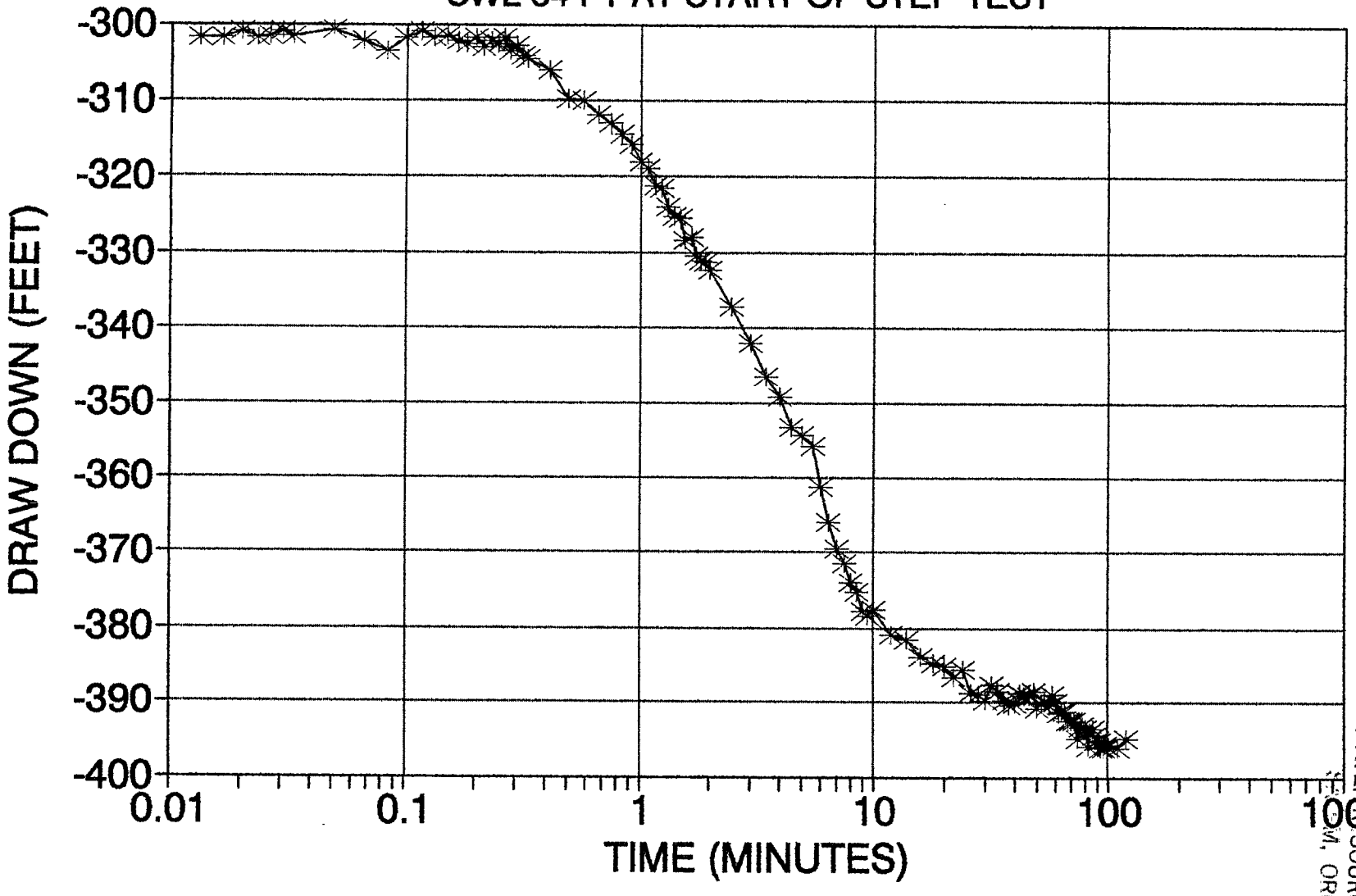



by Schneider Drilling Co.

# HERMISTON WELL No. 32007

## PUMP TEST 6/12/92 STEP 4:Q=2374 AVG GPM

SWL 84 FT AT START OF STEP TEST

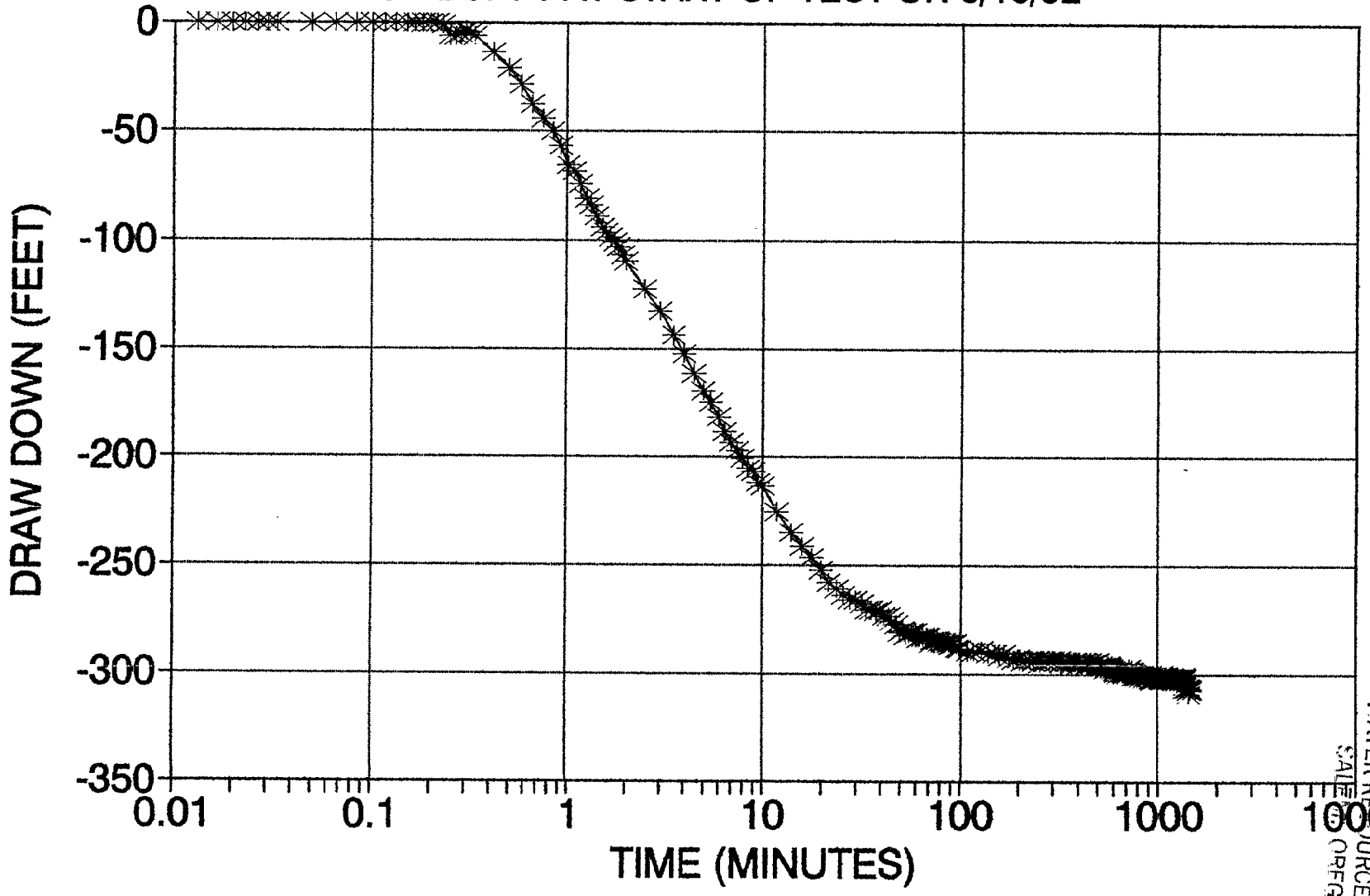



by Schneider Drilling Co.

# HERMISTON WELL No. 32007

## PUMP TEST 6/16-17/92 Q=1982 AVG GPM

SWL 87 FT AT START OF TEST ON 6/16/92

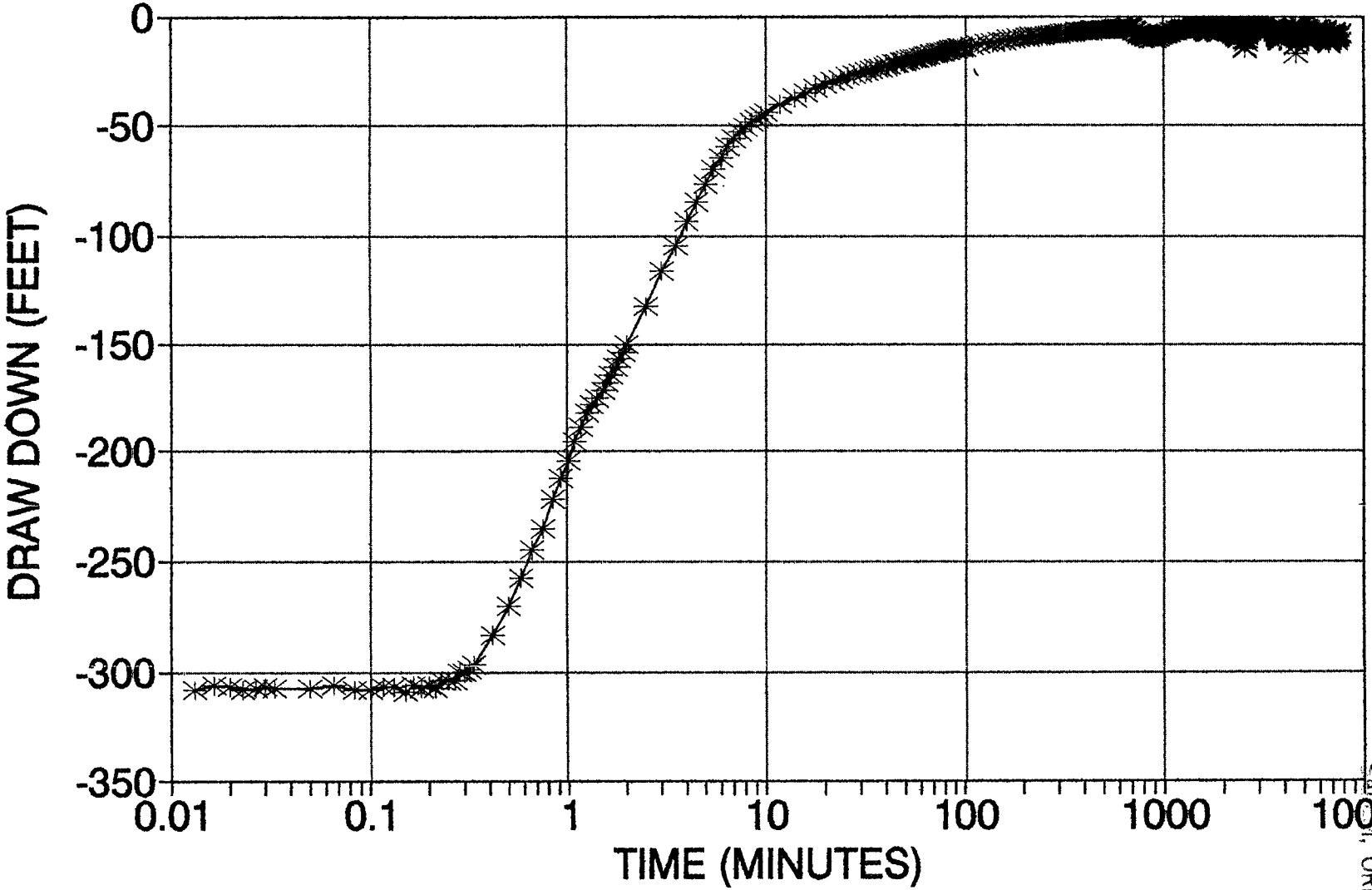



by Schneider Drilling Co.

# HERMISTON WELL No. 32007

## RECOVERY TEST 6/17-22/92 Q=1982 AVG GPM

SWL 87 FT AT START OF TEST ON 6/16/92




by Schneider Drilling Co.

Oregon

WATER
RESOURCES
DEPARTMENT

Watermaster

rec'd 7/29/92 SEF.

07/23/92

Steve Schneider
21881 River Rd N.E.
St. Paul, Oregon 97137

RE: Special Standards for Hermistons new well #2; SC#32007

RECEIVED
SEP 10 1992
WATER RESOURCES DEPT.
SALEM, OREGON

Dear Steve,

This is written conformation approving the special standards granted to you by phone on July 10, 1992 by Brian Mayer.

This standard is granted upon the condition that the well be completed as detailed in your letter dated July 07, 1992, a copy of which is attached.

Granting this special standard does not relieve the constructor and owner of the well from any future liability, in case the construction method provides an avenue for pollution the groundwater body.

Sincerly,

Michael Ladd
NC Regional Manager

cc: Dude Woodward - City of Hermiston

PH. 503-276-7111
3920 Westgate
Pendleton, OR 97801

WELL DRILLING
IRRIGATION
CONTROL SYSTEMS

SCHNEIDER
EQUIPMENT, INC.
AND DRILLING CO.

PUMPS
ENGINEERED WATER SYSTEMS
SALES AND SERVICE

FAX (503) 633-2668

21881 River Road N.E. St. Paul, Oregon 97137 (503) 633-2666

July 7, 1992



Water Resources Department
North Central Region
3920 Westgate
Pendleton, OR 97801
Attn: Brian Mayer

RE: City of Hermiston New Well No. 2; SC#32007

Dear Brian,

Pursuant to our phone conversation yesterday, this letter is our request for special standards on the above referenced well.

A formation log of the well is attached along with a sketch of the as-built to date. As you can see, a 24" diameter casing was driven as the upper borehole was drilled with cable tool to 45'. The casing was then cut at 34' on August 28, 1991, to aid in future removal during grouting. Subsequently, the rest of the well was constructed during which much vibration occurred along with substantial ground surface loading around the 24" casing. We have now been attempting to extract the 24" upper casing in order to simultaneously place a grout seal around the 20" casing. Our exhaustive efforts have failed even though we have utilized jacks exceeding a half million pounds of pull along with vibration from a down hole hammer. We have taxed/exceeded normal water well technology standards.

No additional water resource protection will be gained by extracting, or attempting to extract the 24" casing. The only alluvial water bearing within the depth of the 24" casing is that which is exposed to the surface and only extends to 15'. This shallow formation would not benefit from a standard 18' surface seal since it is directly connected to ground surface. Disturbing the 24" casing will only damage an otherwise very pronounced bond (seal) to the natural formation. We therefore

propose to leave the 24" casing in place and pump a cement grout seal full depth from the top of the pea gravel (150') to the surface, around the 20" casing. This will provide more than standard protection for the waters in the basalt. Will this meet with your approval?

Thank you for your prompt review of this abnormal situation.

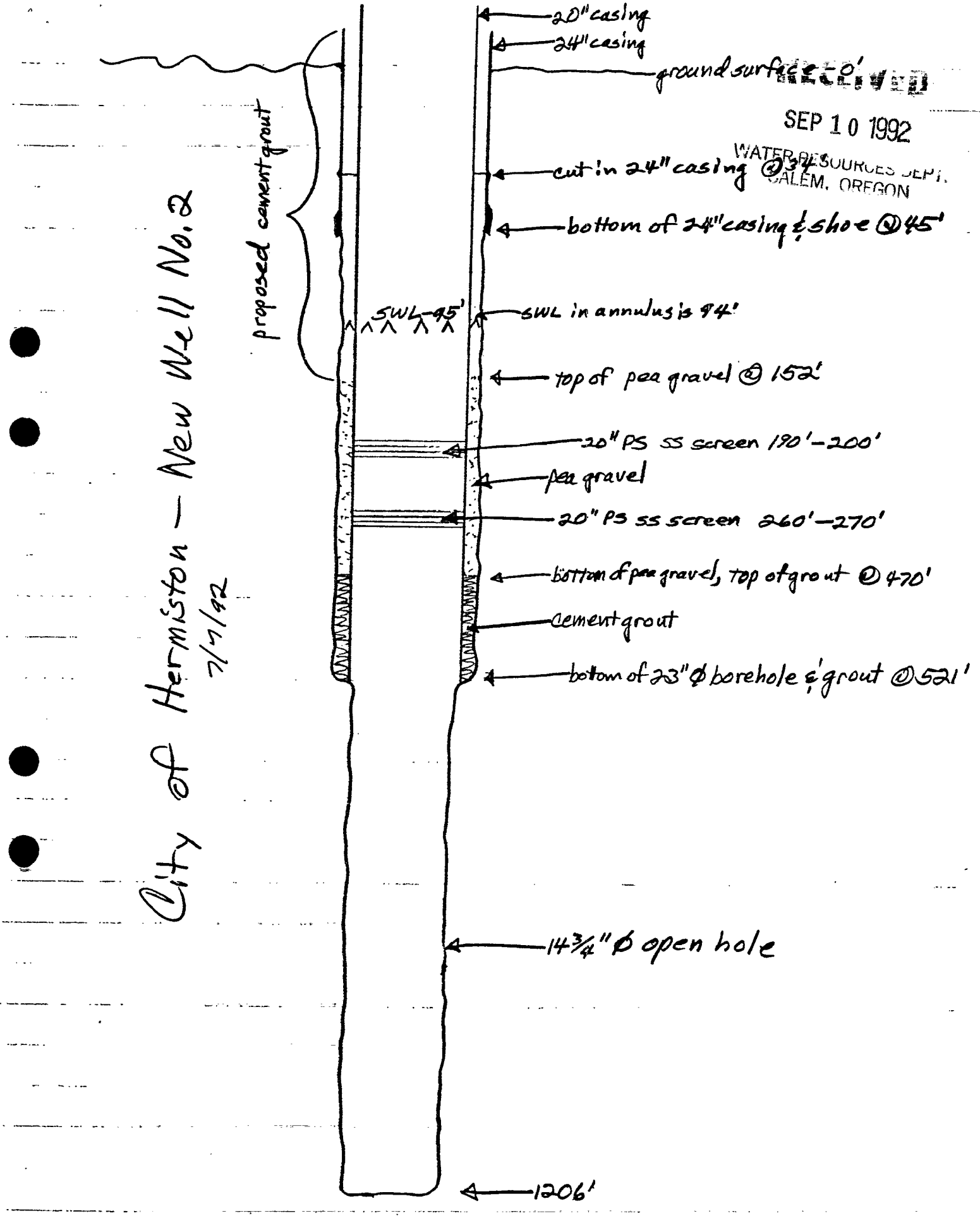


Sincerely,

Stephen J. Schneider
VP-Drill Operations

SJS/kss
L1022.COH

cc: Stan Wallulis, Wallulis & Assoc.
Dude Woodward, City of Hermiston


City of Hermiston – New Well No. 2
7/7/92
proposed cement grout
20" casing
24" casing
ground surface @ 0'
SEP 10 1992
WATER RESOURCES DEPT.
SALEM, OREGON
cut in 24" casing @ 34'
bottom of 24" casing & shoe @ 45'
SWL 95'
SWL in annulus is 94'
top of pea gravel @ 152'
20" PS SS screen 190'–200'
pea gravel
20" PS SS screen 260'–270'
bottom of pea gravel, top of grout @ 470'
cement grout
bottom of 23" ϕ borehole & grout @ 521'
14¾" ϕ open hole
1206'

City of Hermiston
New Well No. 2
by Schneider Drilling Co.
S.C. #32007



| From | To | | Description |
|---|---|---|---|
| 0 | 1 | | Top soil |
| 1 | 9 | WB | Sand, coarse |
| 9 | 15 | | Boulders, gravel, & sand |
| 15 | 25 | | Clay, greenish brown w/gravel imbedded |
| 25 | 30 | | Clay, blue w/claystone, & some claystone brown |
| 30 | 35 | | Claystone & clay, blue w/some rock pieces |
| 35 | 38 | | CS, blue & clay, blue & basalt, blk, vesicular |
| 38 | 40 | | Basalt, blk, vesicular, w/claystone, blue |
| 40 | 43 | | Basalt, blk, vesicular, w/clay & claystone blue |
| 43 | 46 | | Basalt, blk, vesicular, med |
| 46 | 65 | | Basalt, blk, fractured, med |
| 65 | 155 | | Basalt, blk w/some fractures, med-hard |
| 155 | 160 | | Basalt, blk, fractured w/claystone, hard, gray |
| 160 | 165 | | Basalt, blk, cindery w/clay, blk |
| 165 | 175 | WB | Sandstone, blk & clay, blk |
| 175 | 185 | 50gpm | Sandstone and pea gravel cemented w/clay, blk |
| 185 | 190 | | Basalt, broken, blk w/clay, green |
| 190 | 204 | | Basalt, blk, well fractured |
| 204 | 228 | | Basalt, gray, hard w/some fractures |
| 228 | 233 | | Basalt, blk, fractured |
| 233 | 235 | WB | Basalt, & clay, green |
| 235 | 246 | | Clay & claystone, green |
| 246 | 250 | | Basalt, blk, & claystone, green |
| 250 | 260 | | Basalt, blk, vesicular, broken w/some clay |
| 260 | 265 | WB | Basalt, blk, cindery |
| 265 | 270 | 100gpm | Basalt, blk, broken & clay, green |
| 270 | 279 | | Basalt, red & blk, vesicular, cindery |
| 279 | 288 | | Basalt, gray, fractured, hard |
| 288 | 294 | | Basalt, gray w/some fractures, hard |
| 294 | 303 | | Basalt, gray, well fractured, med-hard |
| 303 | 318 | | Basalt, gray, w/some fractures, hard |
| 318 | 325 | | Basalt, gray, fractured, med-hard |
| 325 | 373 | | Basalt, gray, w/some fractures, hard |
| 373 | 384 | | Basalt, blk, fractured, med-hard |
| 384 | 390 | | Basalt, blk, w/claystone green, soft |
| 390 | 398 | | Basalt, blk, well fractured, vesicular |
| 398 | 404 | | Basalt, blk, fractured, med |
| 404 | 415 | | Basalt, blk w/some claystone, vesicular |
| 415 | 420 | | Basalt, blk, fractured, med-hard |
| 420 | 435 | | Basalt, blk, hard |
| 435 | 439 | | Basalt, blk w/claystone, soft |
| 439 | 455 | | Basalt, blk, fractured, med-hard |
| 455 | 505 | | Basalt, gray w/some fractures, hard |
| 505 | 520 | | Basalt, gray w/fractures, hard |
| 520 | 525 | | Basalt, gray & blk, fractured, med-hard |
| 525 | 528 | | Basalt, gray, very hard, fractured |
| 528 | 553 | | Basalt, gray, hard |

| | | | |
|---|---|---|---|
| 553 | 555 | | Basalt, blk w/green claystone |
| 555 | 559 | | Basalt, blk vesicular |
| 559 | 590 | | Basalt, blk |
| 590 | 592 | WB | Basalt, blk, vesicular |
| 592 | 626 | | Basalt, blk, fractured |
| 626 | 646 | | Basalt, blk, soft |
| 646 | 666 | | Basalt, blk w/green claystone, soft |
| 666 | 670 | | Basalt, blk w/green claystone |
| 670 | 678 | | Basalt, gray w/green claystone |
| 678 | 690 | | Basalt, gray w/green claystone, hard |
| 690 | 745 | | Basalt, blk, med-hard |
| 745 | 760 | | Basalt, gray, med-hard |
| 760 | 762 | | Basalt, blk, med-hard |
| 762 | 785 | | Basalt, blk, med-hard, fractured |
| 785 | 840 | | Basalt, gray, hard, fractured |
| 840 | 847 | | Basalt, blk, soft, vesicular & fractured |
| 847 | 848 | | Basalt, blk, med, vesicular, fractured |
| 848 | 852 | | Basalt, blk, med, fractured w/claystone |
| 852 | 855 | | Basalt, brown & blk, med, vesicular |
| 855 | 860 | WB | Basalt, blk, med, vesicular |
| 860 | 862 | | Basalt, blk, broken, med |
| 862 | 873 | | Basalt, blk, med-hard, fractured |
| 873 | 887 | | Basalt, blk & red, med-soft, fractured, vesicular |
| 887 | 901 | | Basalt, blk, med-hard, fractured w/claystone |
| 901 | 907 | | Basalt, blk, soft, vesicular, broken |
| 907 | 917 | | Basalt, blk, med-hard, fractured |
| 917 | 924 | | Basalt, gray, hard |
| 924 | 929 | | Basalt, blk, med-hard, fractured |
| 929 | 936 | | Basalt, gray, hard |
| 936 | 945 | | Basalt, blk, med, ves, broken, some med gray clay |
| 945 | 954 | | Basalt, blk, med-hard, vesicular |
| 954 | 966 | | Basalt, gray, hard, fractured |
| 966 | 967 | | Basalt, blk, hard, fractured |
| 967 | 979 | | Basalt, blk, med-hard, fractured |
| 979 | 987 | | Basalt, gray, hard |
| 987 | 992 | | Basalt, blk, med-hard, fractured |
| 992 | 1008 | | Basalt, gray, hard, fractured |
| 1008 | 1015 | | Basalt, gray, hard w/brown streaks, fractured |
| 1015 | 1052 | | Basalt, gray, fractured |
| 1052 | 1056 | WB | Basalt, vesicular, blk |
| 1056 | 1060 | | Basalt, vesicular, multi-colored blk, brown, red |
| 1060 | 1110 | | Basalt, gray, med-hard |
| 1110 | 1145 | | Basalt, gray, med-hard, frac, very rough drilling |
| 1145 | 1182- | WB | Basalt, blk & gray, soft, vesicular |
| 1182 | 1206 | | Basalt, blk & gray |



'WB' means the so noted interval is believed to be a significant water bearing zone.

W32020