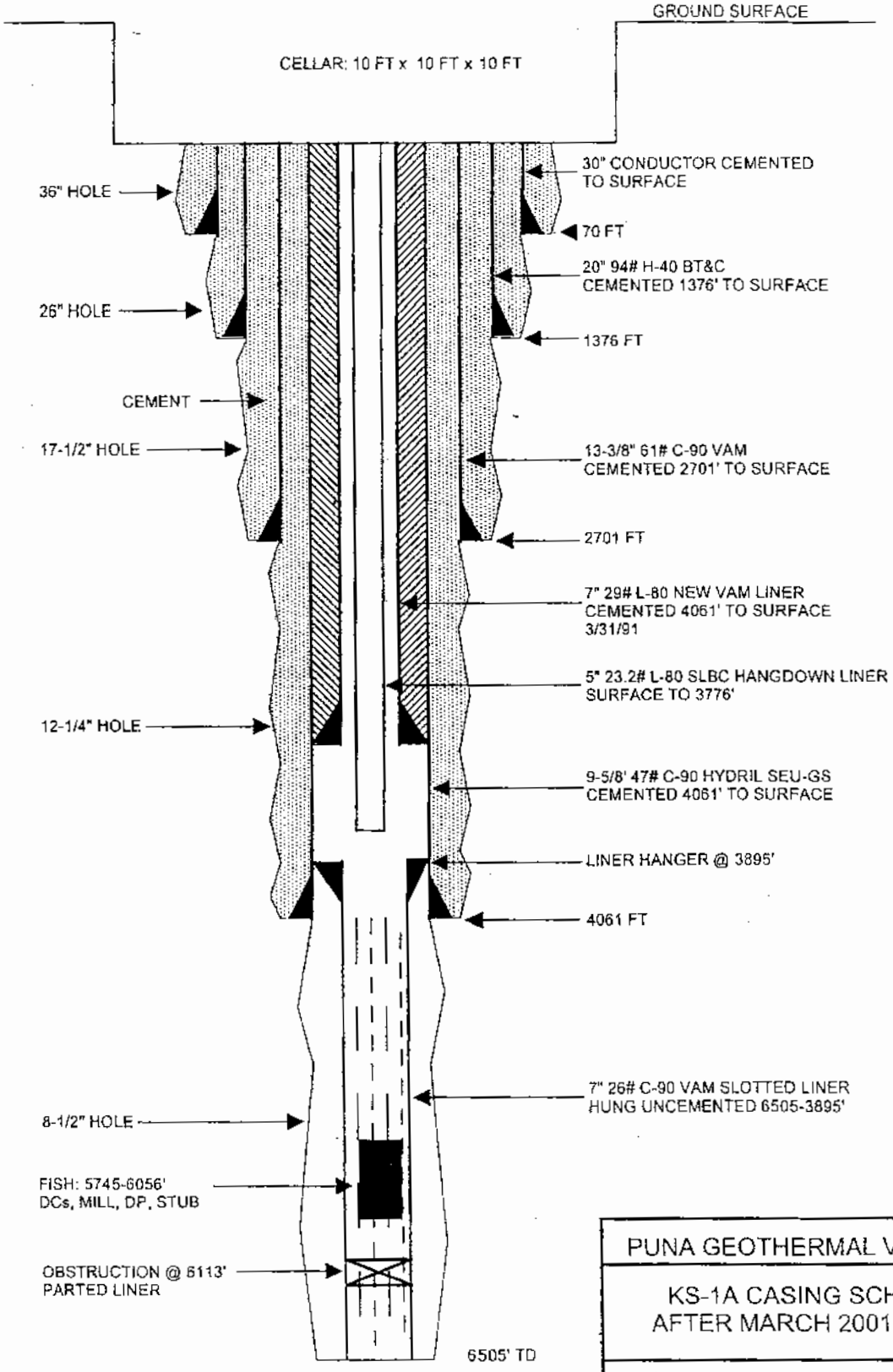
FIGURE 1



PUNA GEOTHERMAL VENTURE

KS-1A CASING SCHEMATIC AFTER MARCH 2001 REWORK

R. H. DENTON 9/15/01

FIGURE 2

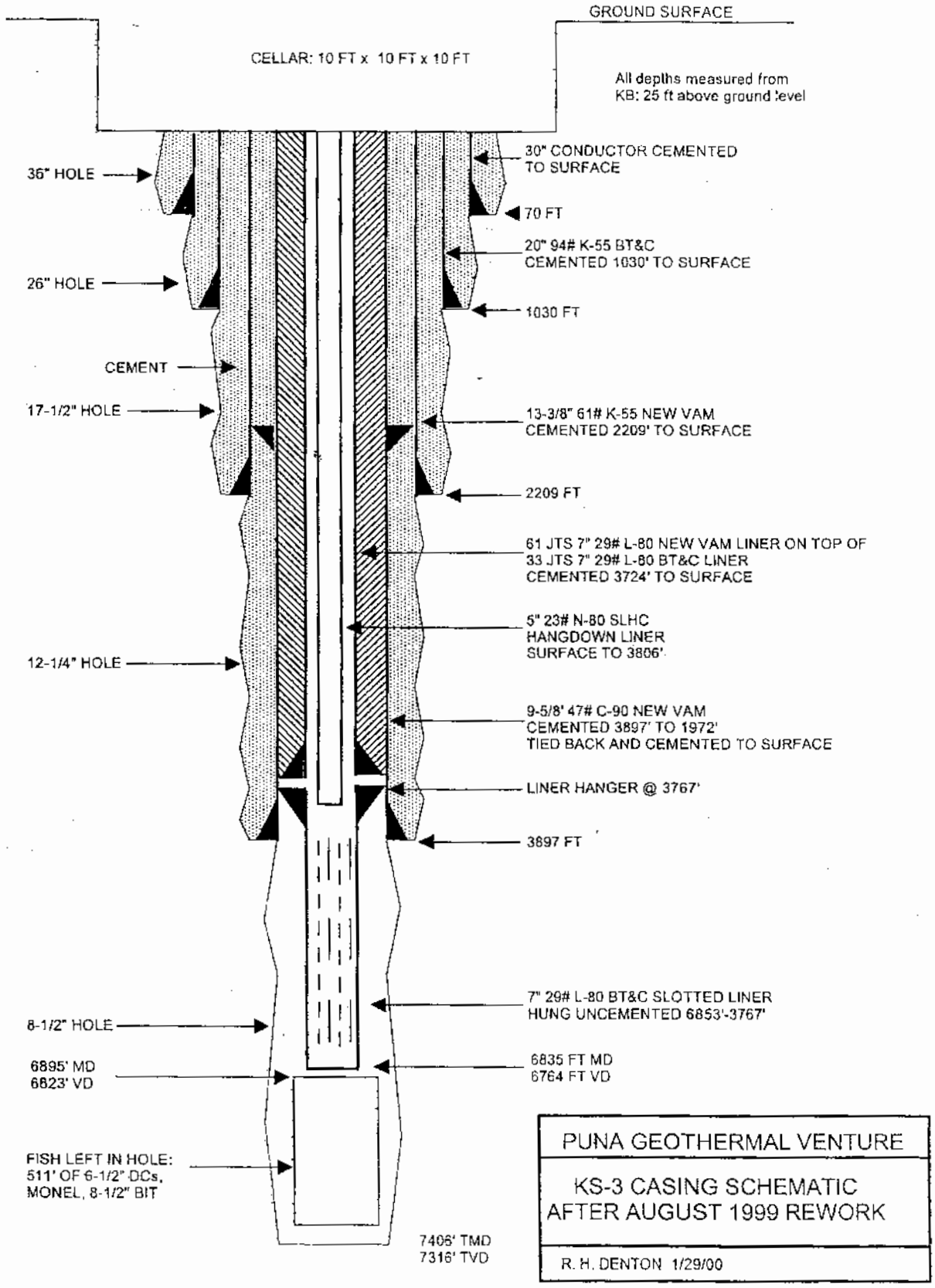

GROUND SURFACE
CELLAR: 10 FT x 10 FT x 10 FT
All depths measured from
KB: 25 ft above ground level
36" HOLE
30" CONDUCTOR CEMENTED
TO SURFACE
70 FT
20" 94# K-55 BT&C
CEMENTED 1030' TO SURFACE
26" HOLE
1030 FT
CEMENT
17-1/2" HOLE
13-3/8" 61# K-55 NEW VAM
CEMENTED 2209' TO SURFACE
2209 FT
61 JTS 7" 29# L-80 NEW VAM LINER ON TOP OF
33 JTS 7" 29# L-80 BT&C LINER
CEMENTED 3724' TO SURFACE
5" 23# N-80 SLHC
HANGDOWN LINER
SURFACE TO 3806'
12-1/4" HOLE
9-5/8' 47# C-90 NEW VAM
CEMENTED 3897' TO 1972'
TIED BACK AND CEMENTED TO SURFACE
LINER HANGER @ 3767'
3897 FT
7" 29# L-80 BT&C SLOTTED LINER
HUNG UNCEMENTED 6853'-3767'
8-1/2" HOLE
6895' MD
6823' VD
6835 FT MD
6764 FT VD
FISH LEFT IN HOLE:
511' OF 6-1/2" DCs,
MONEL, 8-1/2" BIT
7406' TMD
7316' TVD
PUNA GEOTHERMAL VENTURE
KS-3 CASING SCHEMATIC
AFTER AUGUST 1999 REWORK
R. H. DENTON 1/29/00

FIGURE 3

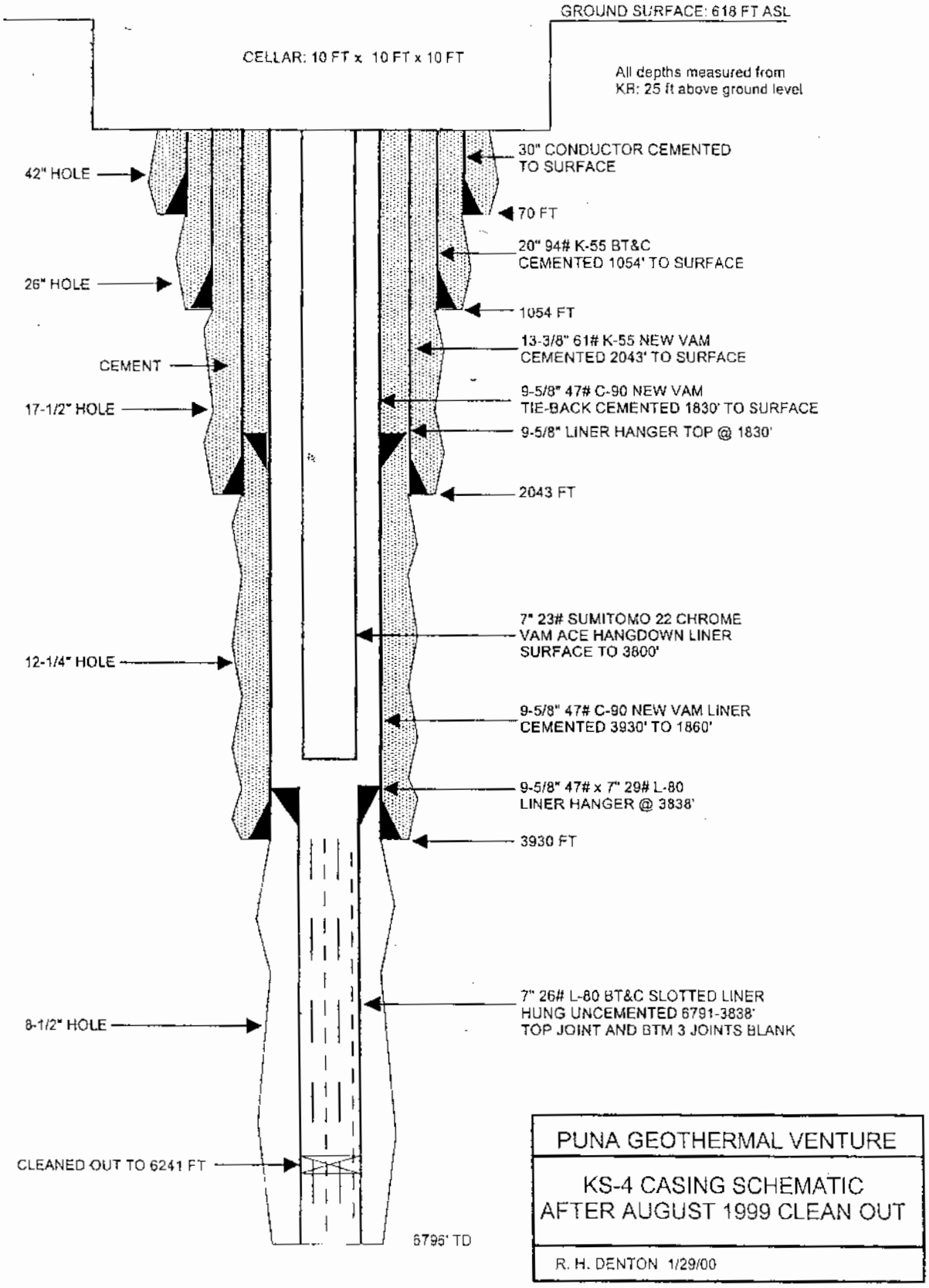
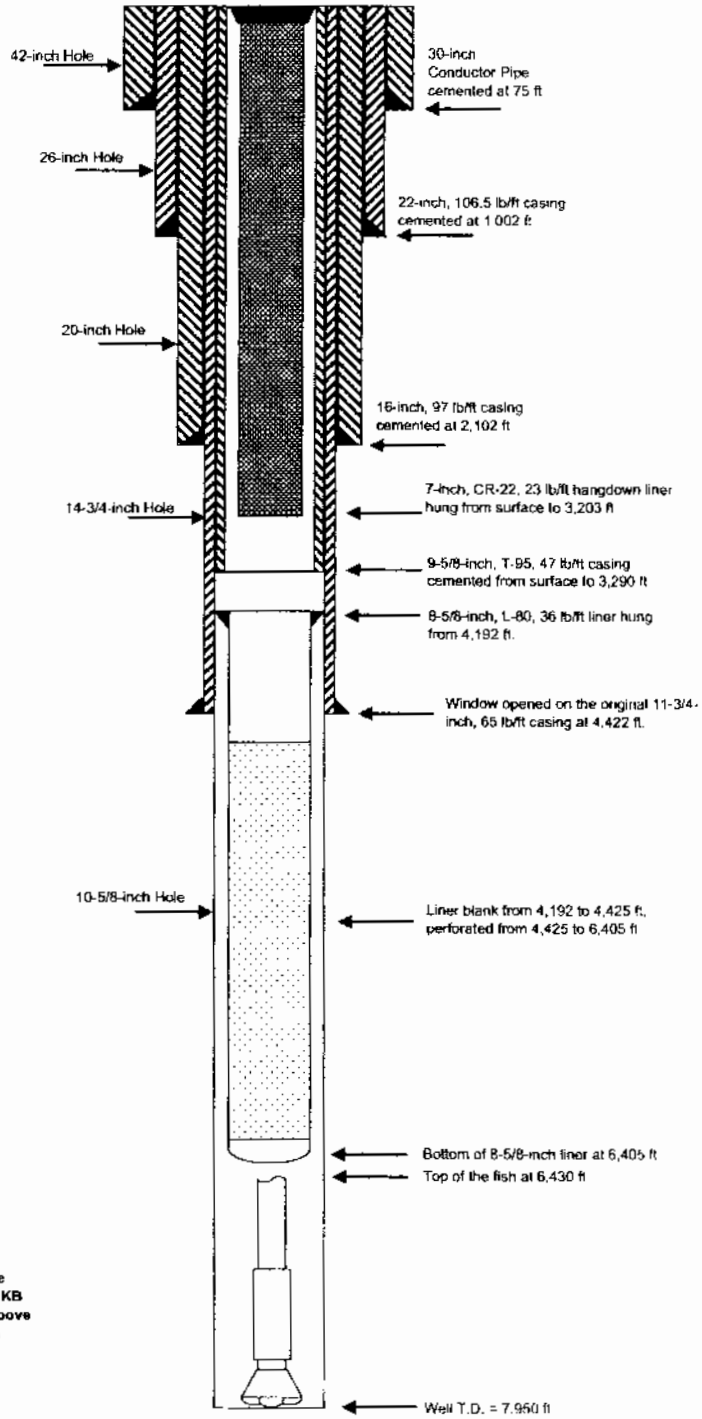

GROUND SURFACE: 618 FT ASL
CELLAR: 10 FT x 10 FT x 10 FT
All depths measured from
KR: 25 ft above ground level
42" HOLE
30" CONDUCTOR CEMENTED
TO SURFACE
70 FT
20" 94# K-55 BT&C
CEMENTED 1054' TO SURFACE
26" HOLE
1054 FT
13-3/8" 61# K-55 NEW VAM
CEMENTED 2043' TO SURFACE
CEMENT
9-5/8" 47# C-90 NEW VAM
TIE-BACK CEMENTED 1830' TO SURFACE
17-1/2" HOLE
9-5/8" LINER HANGER TOP @ 1830'
2043 FT
7" 23# SUMITOMO 22 CHROME
VAM ACE HANGDOWN LINER
SURFACE TO 3800'
12-1/4" HOLE
9-5/8" 47# C-90 NEW VAM LINER
CEMENTED 3930' TO 1860'
9-5/8" 47# x 7" 29# L-80
LINER HANGER @ 3838'
3930 FT
7" 26# L-80 BT&C SLOTTED LINER
HUNG UNCEMENTED 6791-3838'
TOP JOINT AND BTM 3 JOINTS BLANK
8-1/2" HOLE
CLEANED OUT TO 6241 FT
6795' TD
PUNA GEOTHERMAL VENTURE
KS-4 CASING SCHEMATIC
AFTER AUGUST 1999 CLEAN OUT
R. H. DENTON 1/29/00

FIGURE 4

Puna Geothermal Venture
Well KS-11 RD
Schematic of Well Completion After Workover



All depths are measured from KB elevation, 27 ft above ground level

Richmond Energy Services, Inc.
May, 2004