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DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

DEC 07 2005

RECEIVED
DEC 2005
NMED Hazardous Waste Bureau

Mr. James P. Bearzi, Chief
NMED-Hazardous Waste Bureau
2905 Rodeo Park Drive East,
Building 1
Santa Fe, NM 87505-6303

Dear Mr. Bearzi:

Subject: Final Fact Sheet for Regional Well 27

Enclosed are two copies of the Fact Sheet for Regional Well 27, which was recently completed by Kleinfelder and Associates for the Department of Energy. If you have any questions regarding this report, please contact me at (505)606-0397, or Tom Whitacre at (505)665-5042.

Sincerely,

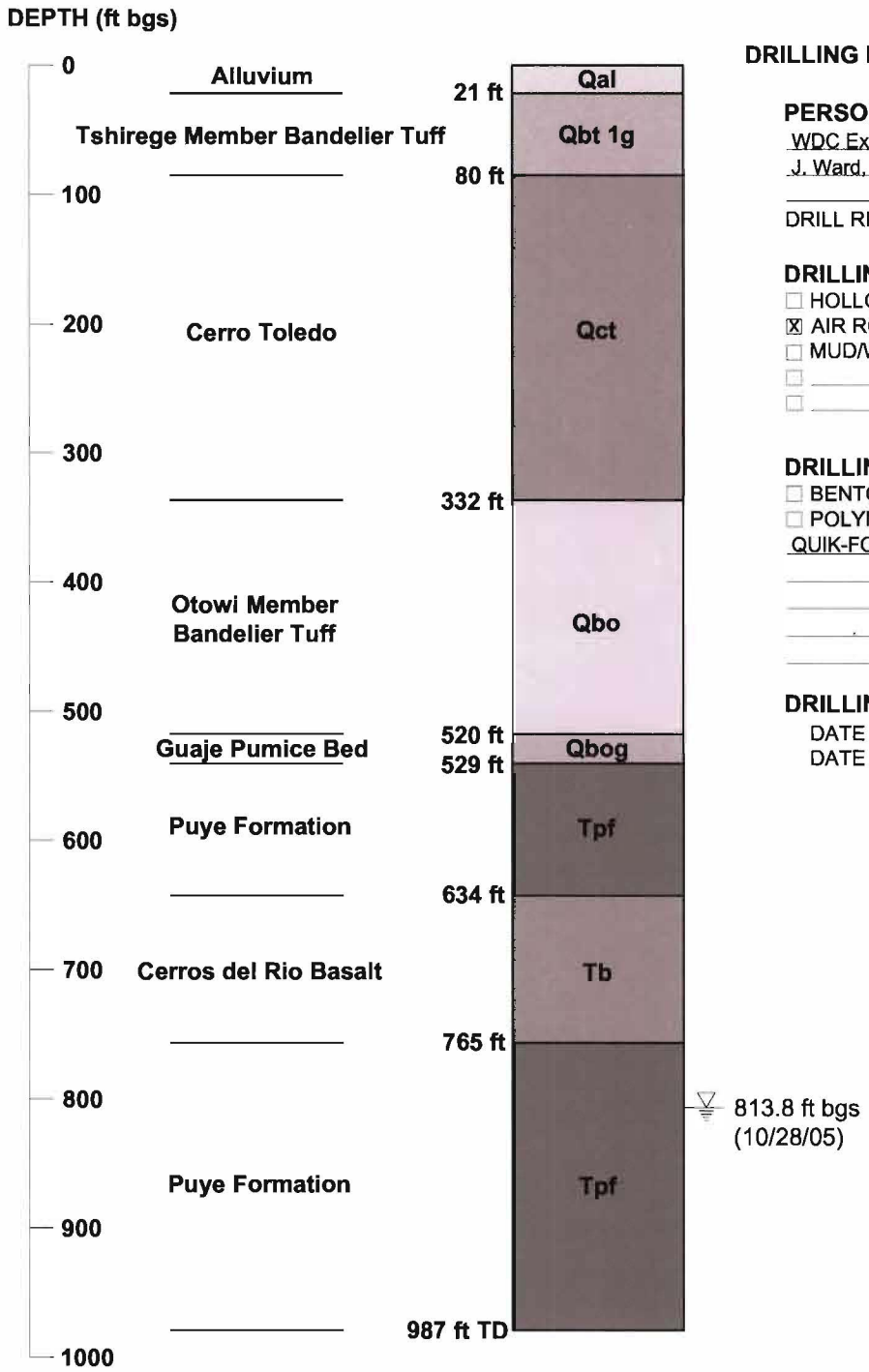
John C. Ordaz, P.E.
Assistant Manager
Office of Environmental Stewardship

ES: 2TW-016

Enclosures

cc w/enclosures:
John Young
NMED-Hazardous Waste Bureau
2905 Rodeo Park Drive East,
Building 1
Santa Fe, NM 87505-6303

Tom Whitacre, ES, LASO
Mat Johansen, ES. LASO
David Gregory, ES, LASO
Jean Dewart, ENV-GP, LANL, MS-M992
David McInroy, ENV-RS, LANL, MS-M992
Mark Everett, ENV-GP, LANL, MS-M992
Steve Pearson, ENV-WQH, LANL, MS-M992
File



DRILLING INFORMATION

PERSONNEL

WDC Exploration & Wells
J. Ward, M. Tycksen, Q. Stevens, M. Daniel

DRILL RIG Speedstar 50k

DRILLING METHOD

- ☐ HOLLOW-STEM AUGER
- ☒ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐
- ☐

DRILLING FLUID TYPE

- ☐ BENTONITE
- ☐ POLYMER
- ☒ WATER
- ☒ AIR

QUIK-FOAM®

DRILLING START / FINISH

DATE 10/05/05 TIME 22:50
DATE 10/20/05 TIME 22:53

Note:
Geologic contacts are preliminary and subject to change.

▽ Depth to water prior to geophysical logging

KLEINFELDER		BOREHOLE SUMMARY DATA SHEET **Characterization Well R-27** Water Canyon Los Alamos, New Mexico	FIGURE **1**
Drawn By: C. Bhongir	Date: November 2005		
Project No.: 49436	Filename: 49436_01_0.dwg		
Scale: not-to-scale	Revision: –		

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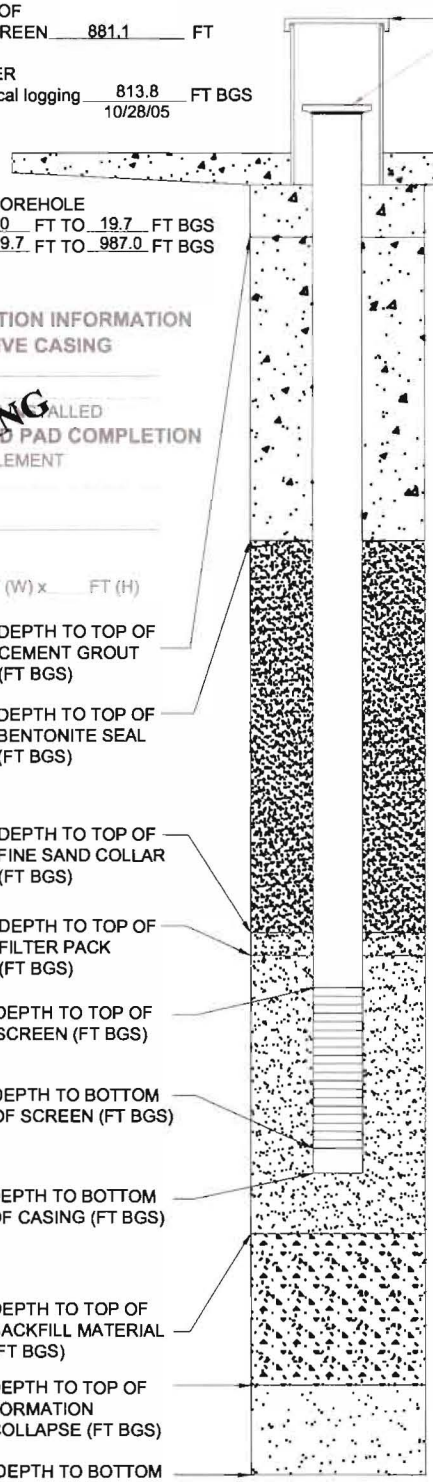
TOTAL LENGTH OF CASING AND SCREEN 881.1 FT

DEPTH TO WATER
Prior to Geophysical logging 813.8 FT BGS
10/28/05

DIAMETER OF BOREHOLE
16" FROM 0 FT TO 19.7 FT BGS
12.3" FROM 19.7 FT TO 987.0 FT BGS

SURFACE COMPLETION INFORMATION
TYPE OF PROTECTIVE CASING
☐ STEEL SIZE
☐
☐ PROTECTIVE POSTS INSTALLED
SURFACE SEAL AND PAD COMPLETION
☐ CHECKED FOR SETTLEMENT
MATERIAL USED:
REINFORCED
☐ YES:
☐ NO
PAD DIMENSIONS
FT (L) x FT (W) x FT (H)

PENDING



2.0 DEPTH TO TOP OF CEMENT GROUT (FT BGS)

78.0 DEPTH TO TOP OF BENTONITE SEAL (FT BGS)

840.5 DEPTH TO TOP OF FINE SAND COLLAR (FT BGS)

842.0 DEPTH TO TOP OF FILTER PACK (FT BGS)

852.0 DEPTH TO TOP OF SCREEN (FT BGS)

875.0 DEPTH TO BOTTOM OF SCREEN (FT BGS)

878.7 DEPTH TO BOTTOM OF CASING (FT BGS)

885.0 DEPTH TO TOP OF BACKFILL MATERIAL (FT BGS)

925.0 DEPTH TO TOP OF FORMATION COLLAPSE (FT BGS)

987.0 DEPTH TO BOTTOM OF BORING (FT BGS)

LOCKING COVER
WELL CAP
ELEVATION OF PROTECTIVE CASING
ELEVATION OF TOP OF WELL CASING (FT AMSL)
GROUND SURFACE ELEVATION (FT AMSL)
MONUMENT MARKER ELEVATION (FT AMSL)

PENDING

SLOPED CONCRETE PAD / SURFACE SEAL

☒ **GROUT FORMULA (PROPORTION OF EACH)**
CEMENT 55.7% BENTONITE 3.8%
WATER 40.5% OTHER
ACTUAL VOLUME 43.0 ft^3
CALCULATED VOLUME 108.0 ft^3
METHOD INSTALLED
☐ TREMIE ☐
☒ POURED ☐ NOT USED

BENTONITE SEAL
☐ PELLETS ☐ SLURRY
☐ POWDER/GRANULAR ☒ Chips
ACTUAL VOLUME 730.4 ft^3
CALCULATED VOLUME 525.6 ft^3
METHOD INSTALLED
☒ TREMIE (78.0 - 627.0) ☒ Pumped (627.0 - 840.5)
☐ POURED ☐ NOT USED

FINE SAND COLLAR
SIZE / TYPE 20/40 Silica Sand
ACTUAL VOLUME 1.4 ft^3
CALCULATED VOLUME 1.4 ft^3
METHOD INSTALLED
☒ TREMIE

FILTER PACK
SAND SIZE 10/20 Silica Sand
ACTUAL VOLUME 32.5 ft^3
CALCULATED VOLUME 30.1 ft^3
MATERIAL Silica Sand
METHOD INSTALLED
☒ TREMIE

BACKFILL MATERIAL
☒ MATERIAL: Bentonite / 10/20 Sand (50% / 50%)
ACTUAL VOLUME 128.8 ft^3
CALCULATED VOLUME 36.9 ft^3
METHOD INSTALLED
☒ TREMIE

FORMATION COLLAPSE
☒ Slough - Puye Formation

CENTRALIZERS USED
☒ YES AT: 728.3, 846.9, 864.1, 877.4 FT BGS
☒ STAINLESS STEEL

TYPE OF CASING
☒ STAINLESS STEEL CASING DIAMETER
☐ SCHEDULE 40 PVC INSIDE 4.5 in.
☐ SCHEDULE 80 PVC OUTSIDE 5.0 in.
JOINT TYPE API L/T

TYPE OF SCREEN
☒ STAINLESS STEEL SCREEN DIAMETER
☐ SCHEDULE 40 PVC INSIDE 4.5 in.
☐ SCHEDULE 80 PVC OUTSIDE 5.2 in.
SLOT SIZE 0.020 in., rod based wire wrapped
JOINT TYPE API L/T (threaded collars)

WELL DEVELOPMENT INFORMATION

WELL COMPLETION BEGAN
DATE 10/30/05 TIME 09:12
WELL COMPLETION FINISHED
DATE 11/07/05 TIME 08:48
WELL DEVELOPMENT BEGAN
DATE 11/09/05 TIME 06:30
WELL DEVELOPMENT FINISHED
DATE 11/14/05 TIME 16:23

DEVELOPMENT METHOD
☒ SWABBING ☒ BAILING
☒ PUMPING
TOTAL PURGE VOLUME 38,792.5 GALLONS

PARAMETER MEASUREMENTS (11/14/05)
pH 8.31
TEMPERATURE 17.2 °C
SPECIFIC CONDUCTANCE 118 µS
TURBIDITY 3.1 NTU

KLEINFELDER		WELL SUMMARY DATA SHEET **Characterization Well R-27** Water Canyon Los Alamos, New Mexico	FIGURE **2**
Drawn By: C. Bhongir	Date: November 2005		
Project No.: 49436	Filename: 49436_02_0.dwg		
Scale: not-to-scale	Revision: –		

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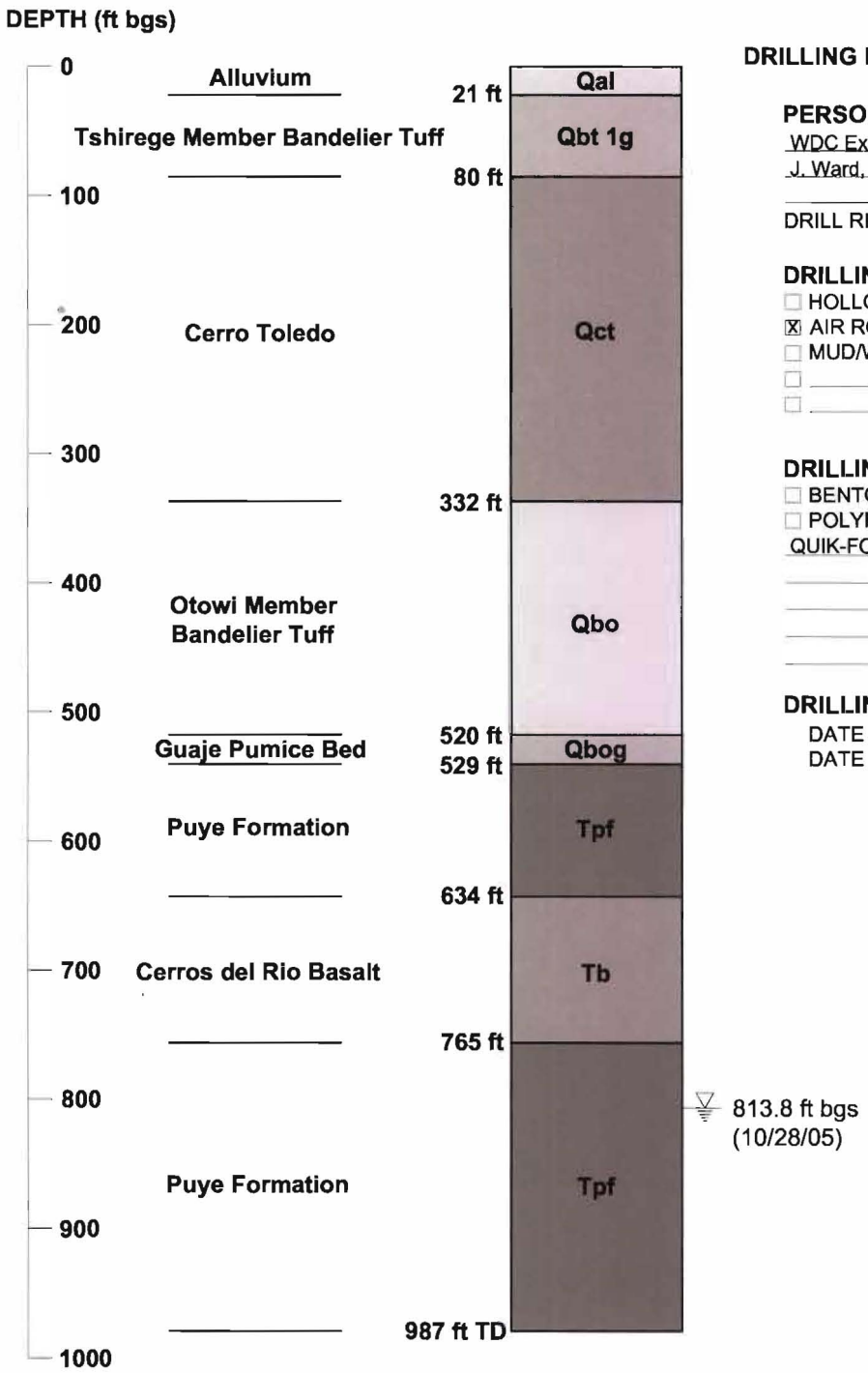

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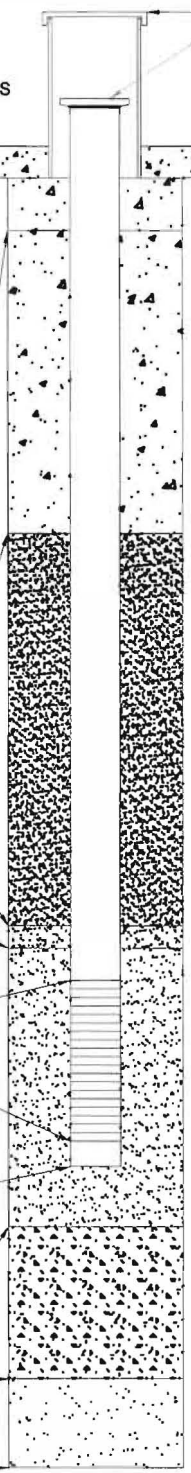

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WELL SUMMARY DATA SHEET
Characterization Well R-27
Water Canyon
Los Alamos, New Mexico

FIGURE
2

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