

EXLOG R.F. SMITH CORP. SMITH GEOTHERMAL DATA LOG

HOLE SIZE 17 1/2" to 36" 12 1/2" at 36'
 12 1/2" to 418' 9 5/8" at 402'
 8 1/2" to 3703' _____ at _____
 _____ to _____ at _____
 _____ to _____ at _____

CASING RECORD

LITHOLOGY SYMBOLS

Breccia	Tuff and tuff-breccia	Conglom.
Graywacke	Sandstone	Siltstone
Claystone	Limestone	Chert
Argillite	Dolomite	
Solution Deposit	Mineralized Zone	Granitic Rock
Intermed. Igneous	Basic Igneous	Peridotite
Acidic Volcanic	Intermed. Volcanic	Basic Volcanic
Porphyry	Serpentine	Schist
Tuff		Gneiss

COMPANY Grace Geothermal Corporation
 WELL Grace 45-14
 FIELD Baltzor Hot Springs
 COUNTY Humboldt STATE Nevada
 LOCATION Sec 14 T46N R28E
 ELEVATION 4310' KB DF CL
 CONTRACTOR/RIG Calvert Rig 5
 SPUD DATE 9/24/82 TD DATE 1/17/83
 TD 3703' TRUE VERT DEPTH _____
 BOTTOM HOLE LOCATION _____
 WELL STATUS _____
 COMPANY REPRESENTATIVE Gordon Gollan

ENTRIES-WATER/STEAM

750' (290 GPH)

2584' (80 bbbls)

3550' (80 bbbls)

SECONDARY MINERALS

Q = QUARTZ
 C = CALCITE
 P = PYRITE
 E = EPIDOTE / Chlor

H = Hematite

NO NEW BIT
 RRB RE-RUN BIT
 CB CORE BIT
 WOB WEIGHT ON BIT
 RPM REVS PER MINUTE
 SPM STROKES PER MINUTE
 CFM CUBIC FT PER MINUTE
 NR NO RETURNS
 C CARBIDE TEST
 LAT LOGGED AFTER TRIP
 BHT BOTTOM HOLE TEMPERATURE
 TC TIME SINCE CIRCULATION

W MUD DENSITY
 V FUNNEL VISCOSITY
 PV PLASTIC VISCOSITY
 YP YIELD POINT
 F FILTERATE API
 FC FILTER CAKE
 S SOLIDS-%
 SD SAND CONTENT-%
 S SALINITY-PPM Cl
 CA CALCIUM-PPM Ca
 RM MUD RESISTIVITY
 WIRELINE LOG RUN

CASING SHOES
 CORED-INTERVAL
 NO RECOVERY

DRIFTE/FLOW TEST

LOG INTERVAL

DATE LOGGED 1/7/83 to 1/17/83
 DEPTH LOGGED 2540' to 3703'
 MUD DRILLING Surface to 3703'
 AIR DRILLING _____
 TEMPERATURE INSTRUMENT TYPE T Thermocouple
 PRESSURE INSTRUMENT TYPE _____
 GAS TRAP-AGITATOR ELEC AIR
 LOG SCALE 1:600 UNIT NO. 334
 LOG PREPARED BY Harry Briggs
 George Cunning

LOST CIRCULATION ZONES

2584' (80 bbbls)

3550' (80 bbbls)

MISC. REMARKS

DEPTH	LITHOLOGY	TEMPERATURE °C	TEMPERATURE °F	H ₂ S ppm	CO ₂ ppm	METHANE ppm	ETHANE ppm	RESISTIVITY Ω-M	LITHOLOGY DESCRIPTION AND REMARKS
2500	NS								BEGIN LOGGING @ 2540'
2540	NS								Note: Lost Circulation @ 2584'. Loss of approx 80 bbbls. Add LCM.
2584	NS								NOTE: No samples taken due to bypassing of the shaker.
2600	NS								Andesitic Basalt: gry-grn, occ rd-tan, porphyroitic, sm schistose-phyllitic tex, occ in-bdd wh-tan Tuff, tr-mar spec hem, tr qtz frac fill, sm altd fldsp, femags altd sl.
2700	NS								W 9.0 Vis 58 YP 13 pH 9.5 FC 1/32 Cl- 375ppm Ca+ 9ppm Snd 1.5% Sol 2%
2800	NS								Andesitic Basalt: grn, grygrn, v dk grn, hd, blkyl-sl pty, porphyritic, fm-med gr gndms, chloritized appr, sm-com vn calcite, r hem.
2900	NS								W 8.9 Vis 53 YP 11 pH 10 FC 1/32 Cl- 650ppm Ca+ 3ppm Snd 1.5% Sol 2.5%
3000	NS								Basalt: grn, grygrn, dk gry, mod hd, brttl fn gr, chloritized, sm phyllitic and schistose tex, sm vn calcite wh-transluc, sm wh vn qtz, tr hem.
3100	NS								NOTE: Mud circulating over shakers.
3200	NS								Basalt: gry, grygrn, mod hd, blkyl-sl pty, brttl fn gr gndms, sm wh-clr qtz vn, sm wh calc vn, tr-sm micro spec hem(%).
3300	NS								Basalt: pred grn-gry grn, mod hd, blkyl-pty, v fn gr/alt felds vug occ frac fil calc, sm qtz vn, tr hem, intdb Weld Tuff, pred wht, occ hem stn, mod sft-sft, m gr, clasts rd basalt bio, qtz, v aug.
3400	NS								Basalt: dk grn-gry, mod hd, brttl, blkyl-sl pty abnt chlorite, sm lr-gry qtz vns w/micro dissm hem or sphal, sm vn Calcite.
3500	NS								W 8.9 Vis 43 YP 7 pH 9.0 FC 1/32 Cl- 900ppm Ca+ 15ppm Snd 1.5% Sol 3.5%
3550	NS								Basalt: pred gry-grn, dk grn, occ blk & red, fn gr, mod hd, blkyl-pty schistose tex-phyllitic, com-abnt epidote, r hem stn, com vn calc & qtz, com alt felds.
3600	NS								Welded Tuff: pred buff wht-redstn-blv grn, m gr, ang-sub aug, mod hd-firm, red basalt clasts
3700	NS								Basalt: med-dk grn, grn-gry, tr bk, mod hd, blkyl-sl pty, occ-com schist & phyllitic tex, pred fn gr gndms, r phenocrysts, abnt chlorite, sm yelgrn fn gr epidote, sm wh speckles on/in cuttings, trns-l-clr qtz vn w/micro inclusions, wh vn calcite.
3703	NS								Note: Lost Circulation @ 3550'. Add LCM. Bypassing shakers.
3703	NS								Note: Run E logs.
3800	NS								TD 3703' - 1/17/83
3900	NS								
4000	NS								