ENERGYLOG

COMPANY	CALPINE GEYSERS PLANT SERVICES
WELL	"Aidlin" No. 5, Redrill No. 1
FIELD	Aidlin Power Plant
LOCATION	Sec. 32, T12N-R7W, MDB&M Fr 98 ~~ 1525'N, 590'W
COUNTY	Sonoma STATE CA
ELEVATION	1996' (GL), 29' (RK)
API WELL INDEX NO.	097-00296
SPUD DATE	TIME
TD DATE	9/5/91 TIME 7:10PM
TOTAL DEPTH: MD	11001' TVD
BOTTOM HOLE LOC	
MUD DRILLING	8947' - 9192'
AIR DRILLING	9192' - 11,001'
AERATED DRILLING	
CO. GEOLOGIST	Tom Box
CO. ENGINEER	Mark Steffen
CO. PUSHER	Tim Smith, Manuel Crumb
ENERGYLOG UNIT	1064
LOGGING GEOLOGISTS	Alfred Worcester Bill Mitchell, Bill Crawfield
LOG DATES	19 Aug 91 TO 6 Sept 91
LOG DEPTHS (MD)	9040' TO 11001'
DRILLING CO.	Nab-ra-Gofland Drilling Co.
RIG_25 PUSHER	Clarence Keams
PUMPS: No. 1	Emco D-1000 7 x 18
No. 2	Emco D-1000 7 x 18
MUD COMPANY	Enterprise Drilling Fluids, Inc.
MUD ENGINEER	Russ Pittman
MUD TYPE	Gel-Benlonite-Dispac
AIR COMPANY	M.I. Air Drilling Co.
COMPRESSOR	
DIRECT. CO.	Eastman Christensen
DIRECT. ENGR.	Rick Nickels
DIRECT. K.O.P.	8974'

WELL LOGGING SERVICE

LITHOLOGY SYMBOLS

BASALT OR GREENSTONE · CHERT · RED PHYLLITE · ANDESITE · PERIDOTITE · SERPENTINE · SCHIST · ACID VOLCANICS

GRAYWACKES

SANDSTONE · SILTSTONE · CONGLOMERATE · SHALE · MARL · METAMORPHIC

ASSOCIATED/GRAYWACKE

- 1 QUARTZ
- 2 FELDSPAR
- 3 PYRITE
- 4 EPIDOTE
- 5 CHLORITE
- 6 ASPHALTE
- 7 PRENITE
- 8 ACTINOLITE
- 9 MISCELLANEOUS

MUD DATA

w	WEIGHT
v	VISCOSITY
pv	PLASTIC
fc	FILTER CAKE
sd	SAND % VOL
sol	SOLIDS % VOL
s	SALINITY ppm Cl⁻
ca	CALCIUM ppm
T	TEMPERATURE °F
Rm	RESISTIVITY OF MUD AT 75°F
Rf	RESISTIVITY OF MUD FILTRATE AT 75°F

LIVE OIL IN MUD OR CUTTINGS

- --- SLIGHT TRACE
- --- TRACE
- --- FAIR
- --- GOOD
- --- EXCELLENT

DRILLING DATA

RBB	BIT BREAK
RBB	RERUN BIT
RTB	RETIP BIT
RBB	REBUILT BIT
CB	CORE BIT
WOB	WOB WEIGHT ON BIT (lbs)
RPM	ROTARY REVS/MIN
Pp	PUMP PRESSURE (psi)
SPM	PUMP STROKES/MIN
CFM	CUBIC FT/MIN

OTHER DATA

TG	TRIP GAS
STG	SHORT TRIP GAS
SVG	SURVEY GAS
CG	CONNECTION GAS
NR	NO RETURNS
NR	NO RETURNS BIT
LAT	LOGGED AFTER TRIP
C	CARBIDE TEST
DST	DRILL STEM TEST

ENGINEERING SYMBOLS

- CASING POINT
- CORED INTERVAL
- DST INTERVAL
- LOST CIRCULATION ZONE
- DIRECTIONAL DRILLING
- CEMENT PLUG
- TRIP
- WATER ENTRY
- STEAM ENTRY
- ORIFICE FLOW TEST

HOLE SIZE			CASING SIZE		
12 1/4"	TO	4650'	10 3/4"	TO	4650'
12 1/4"	TO	8939'	9 5/8"	TO	8939'
8 1/2"	TO	11001'		TO	
	TO			TO	
	TO			TO	
	TO			TO	

REMARKS

OIL based on live oil in unwashed cuttings, mud and % staining of washed cuttings.
GAS detector calibration records 100 units with a mixture of 2% (20,000 ppm) by volume methane in air.
CHROMATOGRAPH values at parts per million (ppm)
DEPTHS derived from drillers pipe measurements at kelly bushing.

GEOTHERMAL WELL DATA

TEMPERATURES (°F)
IN
OUT
COMPRESSOR PRESS (PSI)
IN

CH_4 (PPM)
H_2S (PPM)
CO_2 (PPM)
H_2 (PPM)

ENGR. DATA

DRILL RATE (FT/HR) AND DATA	LITH.	SECONDARY MINERALS	ENGR. DATA	DEPTH	EXPLANATION
			Drilled off plug at 8974'	PB	
			9115' 21°45' S60°W	D	GRAYWACKE:prd dk gry ct-dk gr,dist gm bound dt qtz sd,sbang-sr,sp,sbsph,mod so p bound,v alt arg mtrx, mor ARGILLITE:dk gry-blk, sft-fria & sopy,v dist of fn grnd qtz frac fill,r pyr,calc
			9192' Losing 200 bbls/hr.	LM	No trip gas.
			9197' Lay down kelly & pick up bit-drlg steam in hole, wash fr 8974 - 9192'; 33 jts.		ASH:prd lt-m gry ctgs dist sd,sbang-sr,sp,sbsph,v dist of bound,prd wrdl frags,mod abnd-equished, tr amp,clr qtz & shmg wh sh fgpritl tcnal-sp m gry mtrx
			9203' 23°00' S60°W		
			9236' 23°00' S62°W		
			Torque on bit 9266' 23°00' S63°W		
			9293' L/D 41-jts DP, Ream 9293'-9293'		
			Chg. BHA, 21 jts		
			9316' 23°45' S64°W		ARGLT:dk gry-blk,mica tex com pity frac occ biksytc pyr,v dist of bound,prd wrdl frags,mod abnd-equished, tr amp,clr qtz & shmg wh sh fgpritl tcnal-sp m gry mtrx
			9350' 24°30' S64°W		
			Slag hole.		
			Torque on bit 9374' 24°00' S64°W		
			9414' MD&TD. Chg BHA. L/D 2 jts DP, Ream fr 9306'-9351', 9385'-9414'.		
			22 hrs.		
			9552' 25°15' S65°W		
			Note scale changes for gases.		
			Torque on bit fr 9640'-9647'		
			9676' 26°15' S73°W		
			9708' 26°00' S68°W		
			Adjust mist.		
			9912' 28°00' S66°W		
			10% cement contamination		
			9944' MD&TD. Prep for redrill. Ream fr 9944',10 1/2 hrs.		
			Slag hole.		
			(0,03)' 29°00' S68°W		
			Adjusting mist.		
			Adjust mists. (0,55)' 30°50' S68°W		
			Gas detection equipment malfunction fr (0,135)'-(0,660)'.		
			Slag hole. (0,811)' 31°00' S68°W		
			Chg BHA. L/D 22 jts slick DP, Ream 9978'-10,214'. 22 hrs.		
			Torque on bit (0,915)'-(1,345)'. Incr water to choke line pressure fr (0,1,345)'-(1,375)'.		
			(1,411)' 32°00' S67°W		
			10,495' MD&TD. Chg BHA. L/D 2 jts slick DP, Chg rub. Ream fr (0,1,384)'-(1,495)'.		
			(1,495)' 32°00' S67°W		
			10,663' 42°00' S70°W		
			10,668'. Shut down to repair wire spool. MD&TD. Chg BHA. Chg out rub. Ream fr 10,568'-10,668'. 20 hrs.		
			Slag hole.		
			TOTAL DEPTH: 11,001'		

CH4 34,000 H2 22,000
CO2 130,000 H2S 2,000

CH4 72,000 H2 20,000
CO2 252,000 H2S 1,900

CH4 80,000 H2 35,000
CO2 350,000 H2S 900

CALPINE GEYSERS INC. Aidlin No. 8 w.o./RD-1 Sec. 32, T12N-R7W MDB&M · Co., OLOG, GEO-MST 10-2056