GL04923

Drilling rate from Tower sheets
Depths from GL

	1 Total Depth	2 ft/hr	3	4 Total Depth	5 ft/hr	6	7 Total Depth	8 ft/hr	9
1	2629	8,0		4036	3,8				
2	2707	22,3		4039	1,2 core				
3	2745	9,5		4076	14,8				
4	2760	2,7		4156	11,0				
5	2764	4,0		4192	4,5				
6	2784	3,3		4209	8,5				
7	2800	3,2		4248	4,9				
8	2804	2,0		4289	5,5				
9	2822	5,1		4313	4,0				
10	2875	6,6		4320	4,7				
11	2937	8,9		4345	3,1				
12	2973	6,0		4375	3,8				
13	2978	1,2 core		4439	11,6				
14	2983	2,0 core		4514	10,7				
15	3044	8,7		4557	5,7				
16	3119	10,3		4595	8,4				
17	3187	9,1		4661	8,8				
18	3250	7,9		4717	7,5				
19	3323	10,1		4751	9,7				
20	3366	5,7		4804	15,1				
21	3426	7,5		4823	9,5	TD			
22	3484	7,7							
23	3531	5,9							
24	3569	5,1							
25	3639	8,8							
26	3666	6,0							
27	3723	7,6							
28	3800	10,3							
29	3878	10,4							
30	3953	10,7							
31	4021	9,1							

Drilling rate from tower sheets
Depth from G.L.

	1 Total Depth	2 ft/hr.	3	4 Total Depth	5 ft/hr.	6	7 Total Depth	8 ft/hr.	9
1	46	4.5		169	1.6		1257	10.4	
2	64	2.4		187	2.3		1301	6.3	
3	75	2.0		226	7.1		1346	15.0	
4	84	1.2		268	5.6		1382 - 1360 - 1377	5.7	Cop due to drill's w/intent only
5	93	2.6		294	3.3		1443	33.0	
6	103	1.5		323	3.6		1567	19.1	
7	129	3.25		344	2.6		1659	14.2	
8	162	4.7		358	2.2		1663	4.0	
9	189	3.4		379	3.0		1680	2.3	
10	238	8.9		413	4.3		1683	0.5	core
11	254	4.0		441	3.7		1692	9.0	
12	277	2.9		465	3.0		1737	16.0	
13	319	5.6		473	1.1		1819	10.9	
14	339	2.5		477	0.8		1882	8.4	
15	367	3.5		495	2.4		1902	5.0	
16	420	4.1		505	1.3		1943	5.5	
17	438	6.7		514	1.1		1978	4.7	
18	476	4.8		550	4.5		1990	3.0	
19	491	2.0	casing pad	579	4.1		2018	4.0	
20	493	1.3		582	6.0		2044	5.2	
21	498	3.3		603	4.2		2105	8.1	
22	523	3.1		637	4.3		2169	9.1	
23	563	5.7		655	6.0		2196	7.7	
24	582	3.2		714	8.4		2204	2.0	core
25	34 to 68	4.5		737	2.9		2207	1.2	core
26	78	1.3		780	5.7		2263	7.5	
27	89	1.4		839	7.4		2323	8	
28	96	0.9		882	7.2		2409	11.5	
29	113	2.8		916	6.8		2473	8.5	
30	128	1.9		1069	20.4		2534	10.2	
31	156	3.5		1184	17.7		2573	6.0	

Opens hole. 12 1/4 to 17 1/2

EFFICIENCY® LINE No. 2636 AMPAD

1-day

KB-21'

DAILY DRILLING REPORT

DATE Sept 2-1977 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Rock HOLE SIZE 12¼

PRESENT T.D. 68' DRILLED FROM 0 FT. TO 68 KB. FT. MADE 12 FT OF HOLE

IN 4 HOURS: TRIPS — HOURS: SERVICE RIG — HOURS: HOLE SURVEY — HOURS:

OTHER DOWNTIME — HOURS: REASON

CIRCULATING TEMPERATURES: IN-HIGH °F @ DEPTH: LOW °F @ DEPTH

OUT-HIGH °F @ DEPTH: LOW °F @ DEPTH

BOTTOM HOLE TEMPERATURE: °F @ DEPTH: °F @ DEPTH: °F @ DEPTH

HOLE DEVIATION: DEPTH ANGLE ° DIRECTION : DEPTH ANGLE °

DIRECTION : DEPTH ANGLE ° DIRECTION

REMARKS:

Moved in Drilling Equipment, Rigged up

Spudded in w/ 12¼ Bit @ 4:00 AM - 9-2-77

68 68 KB

56 21 21

12 47 35

56

DRILLING INFORMATION: ROTARY RPM 80. PUMP PRESSURE 250# DRILLING FLUID Gel & water

CIRCULATING RATE 350 gal. WEIGHT ON BIT 5,000# TORQUE — NR. DRILL COLLARS IN USE 1

O.D. 7 5/4 I.D.

BIT INFORMATION: PRESENT BIT # 1 DEPTH IN 0 MAKE TYPE Smith DTJ

JET NOZZLES 3- 12 LAST BIT RUN # MAKE

TYPE DEPTH OUT FOOTAGE HOURS RUN

2 days

K.B. 21'

DAILY DRILLING REPORT

DATE Sept 2 - 1977 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12 1/4"

PRESENT T.D. 106 DRILLED FROM 68 FT. TO 106 FT. MADE 38 FT OF HOLE

IN 22 3/4 HOURS: TRIPS 1/4 HOURS: SERVICE RIG 3/4 HOURS: HOLE SURVEY 1/4 HOURS:

OTHER DOWNTIME — HOURS: REASON —

CIRCULATING TEMPERATURES: IN-HIGH 0 °F @ 106 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 100 °F @ 106 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 106 ANGLE 1 ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: ____

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 250 DRILLING FLUID Well water

CIRCULATING RATE 350 Gal WEIGHT ON BIT 8000 TORQUE — NR. DRILL COLLARS IN USE 2

O.D. 7-5/16 I.D. ____

BIT INFORMATION: PRESENT BIT # 1 DEPTH IN 0 MAKE Smith TYPE DTJ

JET NOZZLES 3 - 1/2" LAST BIT RUN # ____ MAKE ____

TYPE ____ DEPTH OUT ____ FOOTAGE ____ HOURS RUN ____

3 days.

DAILY DRILLING REPORT

DATE Sept 4, 1977 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12¼"

PRESENT T.D. 151 DRILLED FROM 106 FT. TO 151 FT. MADE 45 FT OF HOLE

IN 18½ HOURS: TRIPS 1 HOURS: SERVICE RIG ¾ HOURS: HOLE SURVEY ½ HOURS:

OTHER DOWNTIME 3.15 HOURS: REASON Mixing Mud for Lost Circulation

CIRCULATING TEMPERATURES: IN-HIGH 50 °F @ 151 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 100 °F @ 151 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 148 #150 °F @ 123 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

Lost 250 barrels of mud 135' to 138'

Having some lost circulation problems.

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 250 DRILLING FLUID Gel & Water

CIRCULATING RATE 350 WEIGHT ON BIT 1400 TORQUE — NR. DRILL COLLARS IN USE 3

O.D. 7 5/4" I.D. 2"

BIT INFORMATION: PRESENT BIT # 2 DEPTH IN 106 MAKE Smith TYPE J22H

JET NOZZLES 3 - ½" LAST BIT RUN # 1 MAKE Smith

TYPE DTJ DEPTH OUT 106 FOOTAGE 39 HOURS RUN 22¼

4 days.

DAILY DRILLING REPORT

DATE 9/5/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Mixing Mud ROCK TYPE Granite HOLE SIZE 12¼"

PRESENT T.D. 260 DRILLED FROM 151 FT. TO 260 FT. MADE 109 FT OF HOLE

IN 18½ HOURS: TRIPS 1 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ½ HOURS:

OTHER DOWNTIME 4 HOURS: REASON Mixing Mud & trying to regain Circulation

CIRCULATING TEMPERATURES: IN-HIGH 80 °F @ 260 DEPTH: LOW — °F @ — DEPTH

OUT-HIGH 100 °F @ 260 DEPTH: LOW — °F @ — DEPTH

BOTTOM HOLE TEMPERATURE: 94 °F @ 216 DEPTH: — °F @ — DEPTH: — °F @ — DEPTH

HOLE DEVIATION: DEPTH 216 ANGLE 1 ° DIRECTION —: DEPTH — ANGLE — °

DIRECTION —: DEPTH — ANGLE — ° DIRECTION —

REMARKS:

Lost circulation 245'–255'–& 260'

Mixing Mud & lost circulation Material to regain Circulation

4 hours

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Gel & Water

CIRCULATING RATE 350 WEIGHT ON BIT 15/20,000 TORQUE — NR. DRILL COLLARS IN USE 7

O.D. 7 5/8 I.D. 2-5/8"

BIT INFORMATION: PRESENT BIT # 3 DEPTH IN 184' MAKE Smith TYPE DG

JET NOZZLES 3–½" LAST BIT RUN # 2 MAKE Smith

TYPE V2H DEPTH OUT 184 FOOTAGE 76' HOURS RUN 24½ – T-4–B-6

5 days

K.B. 21'

DAILY DRILLING REPORT

DATE 9/6/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12¼

PRESENT T.D. 341 DRILLED FROM 260 FT. TO 341 FT. MADE 81 FT OF HOLE

IN 18½ HOURS: TRIPS 1 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ½ HOURS:

OTHER DOWNTIME 5 HOURS: REASON Mixing Mud to Improve Circulation

CIRCULATING TEMPERATURES: IN-HIGH 97 °F @ 341 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 100 °F @ 341 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 95/96 °F @ 301 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 301 ANGLE 2 ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: 4 hours mixing mud.

~~Loosing~~ Hole taking a little mud

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 500 DRILLING FLUID Gel & Water

CIRCULATING RATE 350 WEIGHT ON BIT 30,000 TORQUE — NR. DRILL COLLARS IN USE 9

O.D. 7¾ I.D. 2-5/8

BIT INFORMATION: PRESENT BIT # 4 DEPTH IN 301 MAKE Reed TYPE S21

JET NOZZLES 3 - 11/32 LAST BIT RUN # 3 MAKE Smith

TYPE DG. DEPTH OUT 301 FOOTAGE 119 HOURS RUN 22

DAILY DRILLING REPORT

DATE 9/7/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION drilling ROCK TYPE granite HOLE SIZE 12 1/4

PRESENT T.D. 420 DRILLED FROM 341 FT. TO 420 FT. MADE 79 FT OF HOLE

IN 23 1/2 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH 100 °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 100 °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 105 °F @ 391 DEPTH: 106 °F @ 391 DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 391 ANGLE 1 1/2 ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: _____

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 500 DRILLING FLUID gel & water

CIRCULATING RATE 358 WEIGHT ON BIT 35000 TORQUE _____ NR. DRILL COLLARS IN USE 9

O.D. 7 5/16 I.D. 2 5/8

BIT INFORMATION: PRESENT BIT # 4 DEPTH IN 301 MAKE Reed TYPE S21

JET NOZZLES 3 1/2" LAST BIT RUN # 3 MAKE Smith

TYPE DG DEPTH OUT 301 FOOTAGE 119 HOURS RUN 27

DAILY DRILLING REPORT

ATE 9/8/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

RESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12¼"

RESENT T.D. 511 DRILLED FROM 420 FT. TO 511 FT. MADE 91 FT OF HOLE

21 HOURS: TRIPS 1½ HOURS: SERVICE RIG 1 HOURS: HOLE SURVEY ½ HOURS:

HER DOWNTIME — HOURS: REASON —

RCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 107 °F @ 511 DEPTH: LOW ____ °F @ ____ DEPTH

TTOM HOLE TEMPERATURE: 110-112 °F @ 511 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

LE DEVIATION: DEPTH 511 ANGLE 1°45 ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

EMARKS:

Lost 15 barrels of mud 423 to 425

Mud 68/63/8.4cc/2/32/trace of sand

Pulling Last Nye

12¼ Bit, 9" shock sub, 9 Collars & 6 pt H.W. Drill Pipe

LLING INFORMATION: ROTARY RPM 60 . PUMP PRESSURE 500 DRILLING FLUID Gel/Water

CIRCULATING RATE 350 WEIGHT ON BIT 25/30,000 TORQUE — NR. DRILL COLLARS IN USE 9

O.D. 7⅝ I.D. 2 13/16

INFORMATION: PRESENT BIT # 5 DEPTH IN 430 MAKE Security TYPE M4NC

JET NOZZLES 3 - ½" LAST BIT RUN # 4 MAKE Reed

TYPE S21 DEPTH OUT 430 FOOTAGE 129 HOURS RUN 31½ T.2- B 5

DAILY DRILLING REPORT

E 9/9/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

SENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12 1/4

SENT T.D. 545 DRILLED FROM 511 FT. TO 545 FT. MADE 34 FT OF HOLE

7 1/2 HOURS: TRIPS 4 HOURS: SERVICE RIG 1/2 HOURS: HOLE SURVEY _____ HOURS:

ER DOWNTIME 7 HOURS: REASON Fishing

CULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 107 °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

E DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

MARKS: Twisted off Power sub in Kelly left bit, shock sub, 9 collars, 5 jts HW pipe in hole Top fish 70' ran socket & recovered fish

2x: Granite & Granodiorite; Epidote cuttings increasing.

LING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 500 DRILLING FLUID gel & H-O

IRCULATING RATE 350 WEIGHT ON BIT 30,000 TORQUE _____ NR. DRILL COLLARS IN USE 9

.D. 7 5/16 I.D. 2 5/16

INFORMATION: PRESENT BIT # 6 DEPTH IN 515 MAKE Smith TYPE V2H

ET NOZZLES 3 - 1/2" LAST BIT RUN # 5 MAKE Sec

YPE M4N6 DEPTH OUT 515 FOOTAGE 85 HOURS RUN 21 1/4

DAILY DRILLING REPORT

E 9/10/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

SENT OPERATION Prep to pull bit 17½ ROCK TYPE Granite HOLE SIZE 12¼

SENT T.D. 604 DRILLED FROM 545 FT. TO 604 FT. MADE 59 FT OF HOLE

19 HOURS: TRIPS 1½ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 3½ HOURS:

ER DOWNTIME ____ HOURS: REASON ____

CULATING TEMPERATURES: IN-HIGH ____°F @ ____ DEPTH: LOW ____°F @ ____ DEPTH

OUT-HIGH ____°F @ ____ DEPTH: LOW ____°F @ ____ DEPTH

TOM HOLE TEMPERATURE: ____°F @ ____ DEPTH: ____°F @ ____ DEPTH: ____°F @ ____ DEPTH

E DEVIATION: DEPTH ____ ANGLE ____° DIRECTION ____: DEPTH ____ ANGLE ____°

DIRECTION ____: DEPTH ____ ANGLE ____° DIRECTION ____

MARKS: Drilled 12¼" hole to 575'. Pulled & measured bit. OK'
hed up Monel Collar & new bit. Pulled from 575' to 604.

Survey Pictures:

	OBSERVED	CORRECTED
S @ 604' - 2° N53W - Temp 112°	N68°W	N53W
507 - 1°30 N39W - Temp 112 - 112	N54°W	N39W
410 - 1°30 - N25W - Temp 112 - 110	N40°W	N25W
312 1°45 N11E - Temp 106	N4°W	N11E
214 - 1°45 - N6E - Temp 106 - 104	N9°W	N6E
114 - 1°05 N20W - Temp 104	N35°W	N20W

117

ARE THESE CORRECTED?

LING INFORMATION: ROTARY RPM 50. PUMP PRESSURE 500 DRILLING FLUID Mud & Water

IRCULATING RATE 350 WEIGHT ON BIT 30,000 TORQUE ____ NR. DRILL COLLARS IN USE 9

.D. 7¾" I.D. 2 5/8

INFORMATION: PRESENT BIT # 7 DEPTH IN 575 MAKE Sec. TYPE M4NJ

ET NOZZLES 3-½ LAST BIT RUN # 6 MAKE Smith

YPE V2 H DEPTH OUT 575 FOOTAGE 60 HOURS RUN 16½

Rx to 550' KB are granitics and diorites; epidote present

Days

DAILY DRILLING REPORT

E 9/11/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

SENT OPERATION Opening hole 17½" ROCK TYPE Granite HOLE SIZE 17½

SENT T.D. 111 DRILLED FROM 0 FT. TO 111 FT. MADE 55 FT OF HOLE

23½ HOURS: TRIPS ____ HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ____ HOURS:

ER DOWNTIME ____ HOURS: REASON ____

CULATING TEMPERATURES: IN-HIGH ____°F @ ____ DEPTH: LOW ____°F @ ____ DEPTH

OUT-HIGH ____°F @ ____ DEPTH: LOW ____°F @ ____ DEPTH

TOM HOLE TEMPERATURE: ____°F @ ____ DEPTH: ____°F @ ____ DEPTH: ____°F @ ____ DEPTH

E DEVIATION: DEPTH ____ ANGLE ____° DIRECTION ____: DEPTH ____ ANGLE ____°

DIRECTION ____: DEPTH ____ ANGLE ____° DIRECTION ____

MARKS: Total depth 604'. Opening 12½" hole to 17½" @ 111'.

LING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 100 DRILLING FLUID Fill of Hole

IRCULATING RATE 350 WEIGHT ON BIT 10000 TORQUE ____ NR. DRILL COLLARS IN USE 2

.D. 10" I.D. 2½"

INFORMATION: PRESENT BIT # 1 H.O DEPTH IN 0 MAKE Smith TYPE H.O.

ET NOZZLES 3 — 16 LAST BIT RUN # 7 MAKE Sec

YPE M4NJ DEPTH OUT 604 FOOTAGE 29 HOURS RUN 6

days Geologists R.B. 21

DAILY DRILLING REPORT

TE 9/12/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

ESENT OPERATION Opening hole to 17½" ROCK TYPE Granite HOLE SIZE 17½"

ESENT T.D. 150' DRILLED FROM 111 FT. TO 150 FT. MADE 39 FT OF HOLE

22½ HOURS: TRIPS 1½ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

ER DOWNTIME ____ HOURS: REASON ____

CULATING TEMPERATURES: IN-HIGH ____°F @ ____ DEPTH: LOW ____°F @ ____ DEPTH

OUT-HIGH ____°F @ ____ DEPTH: LOW ____°F @ ____ DEPTH

TOM HOLE TEMPERATURE: ____°F @ ____ DEPTH: ____°F @ ____ DEPTH: ____°F @ ____ DEPTH

LE DEVIATION: DEPTH ____ ANGLE ____° DIRECTION ____: DEPTH ____ ANGLE ____°

DIRECTION ____: DEPTH ____ ANGLE ____° DIRECTION ____

EMARKS: Pulled out and changed 17½" hole opener and shock sub. Shock sub washed out and leaking

Biotite gneiss; hard, fresh

Mud weight ± 8.9 PPG

LLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 100 DRILLING FLUID Polymer

CIRCULATING RATE 350 WEIGHT ON BIT 20,000 TORQUE ____ NR. DRILL COLLARS IN USE 3

O.D. 10" I.D. 2½"

INFORMATION: PRESENT BIT # 2 H.O DEPTH IN 123 MAKE Smith TYPE H.O.

JET NOZZLES 3-16 LAST BIT RUN # 1 H.O MAKE Smith

TYPE H.O. DEPTH OUT 123 FOOTAGE 67 HOURS RUN 35½

Date 9/13/77 CGEH #1 Location Cosotheat Springs Area Calif
Present operation opening hole to 17½" Rock type granite Hole size 17½
Present TD 209 KB Drilled from 150 ft to 209 ft. made 59 ft of hole
in 23.5 hrs

Remarks Opening hole from 12¼ to 17½"

Drilling information Rotary RPM 40 Pump pressure 100 Drilling fluid Gel + water
Circulating rate 350 weight on bit 25,000 torque ____ Drill collars in use 5
OD 10" ID 2.5

Bit information: Present bit H.O 2 Depth in 123 Make Smiths type HO
Jet size 3-16 Last Bit run # HO 1 Make Smith
Type HO depth out 123 footage 67 hours run 35.5

DAILY DRILLING REPORT

DATE 7/14/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Reaming 17½" ROCK TYPE Granite HOLE SIZE 17½"

PRESENT T.D. 316' DRILLED FROM 209 FT. TO 316 FT. MADE 107 FT OF HOLE

IN 9½ HOURS: TRIPS 2 HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______: DEPTH ______ ANGLE ______ °

DIRECTION ______: DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: No Lost Circulation

Mud:

Weight 15 - [illegible] - Vis 50 - Wt. 9.6 cc - Cake 2/32 - [illegible] - PH 9

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 150 DRILLING FLUID [illegible]

CIRCULATING RATE 50 WEIGHT ON BIT 5,000 TORQUE ______ NR. DRILL COLLARS IN USE 6

O.D. 10" I.D. 2¼

BIT INFORMATION: PRESENT BIT # H.O. 3 DEPTH IN 214 MAKE Smith TYPE H.O.

JET NOZZLES 3-16 LAST BIT RUN # H.O. 2 MAKE Smith

TYPE H.O. DEPTH OUT 214 FOOTAGE 21 HOURS RUN 35½

DAILY DRILLING REPORT

DATE 9/15/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling 17½ ROCK TYPE Granite HOLE SIZE 17½"

PRESENT T.D. 280 DRILLED FROM 216 FT. TO 280 FT. MADE 64 FT OF HOLE

IN 23½ HOURS: TRIPS ____ HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____ : DEPTH ____ ANGLE ____ °

DIRECTION ____ : DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: 9:00 Lost Circulation

Mud:

Weight 68# - 71# [illegible] 42/[illegible] 9cc/2/32 [illegible]

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 150 DRILLING FLUID [illegible]

CIRCULATING RATE 350 WEIGHT ON BIT [illegible] TORQUE ____ NR. DRILL COLLARS IN USE 6

O.D. 10" I.D. 3½ - Plus 5 - 7" Collars

BIT INFORMATION: PRESENT BIT # H.O. 3 DEPTH IN 214 MAKE [illegible] TYPE H.C

JET NOZZLES 3 - 11 LAST BIT RUN # H.C 2 MAKE [illegible]

TYPE H.C DEPTH OUT 214 FOOTAGE 91 HOURS RUN 25½

DAILY DRILLING REPORT

DATE 9/4/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling 17½" ROCK TYPE Granite HOLE SIZE 17½"

PRESENT T.D. 463 DRILLED FROM 380 FT. TO 463 FT. MADE 83 FT OF HOLE

IN 22½ HOURS: TRIPS 1 HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______ : DEPTH ______ ANGLE ______ °

DIRECTION ______ : DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: No fluid lost.

Mud:

Weight [illegible] Gel / Vis: 42 / W.L. [illegible] / PH [illegible] / [illegible]

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 150 DRILLING FLUID [illegible]

CIRCULATING RATE 350 WEIGHT ON BIT 25,000 TORQUE ______ NR. DRILL COLLARS IN USE 6

O.D. 10" I.D. 3¼"

BIT INFORMATION: PRESENT BIT # H.O. 4 DEPTH IN 380 MAKE [illegible] TYPE H.O.

JET NOZZLES 3-16 LAST BIT RUN # H.O. 3 MAKE [illegible]

TYPE H.O. DEPTH OUT 380 FOOTAGE 166 HOURS RUN 92¼

DAILY DRILLING REPORT

DATE 9/17/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Opening hole 17½ ROCK TYPE Granite HOLE SIZE 17½

PRESENT T.D. 498' DRILLED FROM 463 FT. TO 498 FT. MADE 35 FT OF HOLE

IN 21 HOURS: TRIPS 2½ HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: No lost circulation

Mud:

Weight 67# or 9.0# gal / Vis 46 / Water loss 4cc / [illegible] / P.H. 7.5 / [illegible]

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 127 DRILLING FLUID [illegible]

CIRCULATING RATE 350 WEIGHT ON BIT 5000 TORQUE ____ NR. DRILL COLLARS IN USE 6

O.D. 10" I.D. 2½" – plus 9 – 7" collars.

BIT INFORMATION: PRESENT BIT # 5 (H.O.) DEPTH IN 495 MAKE Sec TYPE H.O.

JET NOZZLES 3-11 LAST BIT RUN # 4 MAKE Sec

TYPE H.O. DEPTH OUT 495 FOOTAGE 115 HOURS RUN 37½

DAILY DRILLING REPORT

DATE 9/18/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling 17½ ROCK TYPE Granite HOLE SIZE 17½"

PRESENT T.D. 536 DRILLED FROM 498 FT. TO 536 FT. MADE 38 FT OF HOLE

IN 23½ HOURS: TRIPS ______ HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______: DEPTH ______ ANGLE ______ ° DIRECTION ______: DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: No Lost Circulation.

Mud:

Weight [illegible] / [illegible] / W.L. [illegible] / [illegible] / PH 9.5 / [illegible]

DRILLING INFORMATION: ROTARY RPM 54. PUMP PRESSURE 150 DRILLING FLUID [illegible]

CIRCULATING RATE 350 WEIGHT ON BIT [illegible] TORQUE ______ NR. DRILL COLLARS IN USE 6

O.D. [illegible] I.D. 2¾"

BIT INFORMATION: PRESENT BIT # 5 DEPTH IN 495 MAKE [illegible] TYPE [illegible]

JET NOZZLES 3-16 LAST BIT RUN # 4 MAKE [illegible]

TYPE [illegible] DEPTH OUT 495 FOOTAGE 115 HOURS RUN 37½

DAILY DRILLING REPORT

DATE 9/19/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Running 13⅜ Csg ROCK TYPE Granite HOLE SIZE 17½

PRESENT T.D. 601 DRILLED FROM 536 FT. TO 601 FT. MADE 65 FT OF HOLE

IN 16 HOURS: TRIPS ____ HOURS: SERVICE RIG ½ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 7½ HOURS: REASON Run logs, rigging up 13⅜ Casing

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____ : DEPTH ____ ANGLE ____ °

DIRECTION ____ : DEPTH ____ ANGLE ____ ° DIRECTION ____

R E M A R K S: No Lost Circulation

Mud:

Weight 67# to 90#/ Vis 46/ W.L. 9cc/ 2/32/ P.H. 9.5/ Sd 1%

Run Dresser Atlas induction log, temperature log and hole caliper. Now running 13⅜" Casing

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 800 DRILLING FLUID [illegible]

CIRCULATING RATE 350 WEIGHT ON BIT 3,000 TORQUE ____ NR. DRILL COLLARS IN USE 6

O.D. 10" I.D. 2¾"

BIT INFORMATION: PRESENT BIT # H.C. 5 DEPTH IN 495 MAKE Sec TYPE H.C

JET NOZZLES 3-11 LAST BIT RUN # H.C. 3 MAKE Sec

TYPE H.C DEPTH OUT 601 FOOTAGE 106 HOURS RUN 44

DAILY DRILLING REPORT

DATE 9/20/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Testing BOPs ROCK TYPE Granite HOLE SIZE 17½

PRESENT T.D. 601 DRILLED FROM ______ FT. TO ______ FT. MADE ______ FT OF HOLE

IN ______ HOURS: TRIPS ______ HOURS: SERVICE RIG ______ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______ : DEPTH ______ ANGLE ______ °

DIRECTION ______ : DEPTH ______ ANGLE ______ ° DIRECTION ______

R E M A R K S: Ran 14 Jts 13⅜", 54.5#, K55, Buttress thd Casing to 601. Casing equipped w/ Guide Shoe, Baffle Plate and 7 Centralizers. Used Dowell cementers.

Cemented w/ 832 cubic ft slurry, Class G cement premixed w/ 4% Perlite, 40% Silica Flour, 2% Gel and 0.5% friction reducer. Good cement returns to surface. 200 cubic ft ±. Cement in place @ 9:30 A.M. 9/19/77.

Landed 13⅜" Casing and installed BOPs. Tested BOPs w/ 1000#. Weld failed to hold. Taking out BOPs to reweld.

DRILLING INFORMATION: ROTARY RPM ______. PUMP PRESSURE ______ DRILLING FLUID ______

CIRCULATING RATE ______ WEIGHT ON BIT ______ TORQUE ______ NR. DRILL COLLARS IN USE ______

O.D. ______ I.D. ______

BIT INFORMATION: PRESENT BIT # ______ DEPTH IN ______ MAKE ______ TYPE ______

JET NOZZLES ______ LAST BIT RUN # ______ MAKE ______

TYPE ______ DEPTH OUT ______ FOOTAGE ______ HOURS RUN ______

DAILY DRILLING REPORT

DATE 9-21-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12 1/4

PRESENT T.D. 656 DRILLED FROM 604 FT. TO 656 FT. MADE 52 FT OF HOLE

IN 12 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 12 HOURS: REASON Tested BOP's, Pulled Cement & Shoe

CIRCULATING TEMPERATURES: IN-HIGH — °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 110 °F @ 656 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Rewelded Flange on Spool. Tested piping & BOP stack under blind Rams To 1000psi, pressure held. Test witnessed by NWC. Laid down 10" drill Collars. Ran 12 1/4" bit & Stabilizer on 7" drill Collars & drill pipe. Tested casing & BOP stack under pipe rams & HYDRIL to 1000psi, pressure held. Commenced drilling @ 1800 hrs. Drilled Baffle collar, cement, & casing shoe, commenced drilling formation 1845 hrs at 604 ft. Mud wgt 67#, 9.0#/g / vis 40 / W.L. 10.4cc / 2/32 / pH 10 / Sd 1/4%

Held safety meeting conducted by Malone & Towell of NWC Fire Dept: 19 men attending (10 drilling crew, 5 Air Compressor Crew, Mud Man, 3 Supervisors), demonstrate use of Scott Air Packs, Flynn Resuscitator, Bail out bottles, demonstrate use of ABC Fire Extinguishers on actual fire. 1 hr Total Time.

DRILLING INFORMATION: ROTARY RPM 50/60. PUMP PRESSURE 550 DRILLING FLUID ____

CIRCULATING RATE 350 WEIGHT ON BIT 25/30 TORQUE ____ NR. DRILL COLLARS IN USE 9

O.D. 7 I.D. 2 3/4 plus 10 - 6" x 2 3/4 drill Collars.

BIT INFORMATION: PRESENT BIT # RR#7 DEPTH IN 604 MAKE Sec TYPE M4N

JET NOZZLES 3 - 1/2" LAST BIT RUN # 7 MAKE Sec

TYPE M4N DEPTH OUT 604 FOOTAGE 29 HOURS RUN 6

DAILY DRILLING REPORT

DATE 9-22-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12 1/4

PRESENT T.D. 759 DRILLED FROM 656 FT. TO 759 FT. MADE 103 FT OF HOLE

IN 15 HOURS: TRIPS 1 HOURS: SERVICE RIG 1/2 HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 7 HOURS: REASON Laying down drill collars, Picking up Newer D.C.

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 100 °F @ 689 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 689 ANGLE 2°30' DIRECTION S89W: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: No Lost Circulation

Mud Wgt 67#, 9.0 #/g / Vis 42 / WL 11 / FC 2/32 / pH 9.6 / Sd 3/4 %

Stabilizer & Shock Sub; Stabilizer 60' above bit

DRILLING INFORMATION: ROTARY RPM 45. PUMP PRESSURE 550 DRILLING FLUID Gel-Water

CIRCULATING RATE 350 WEIGHT ON BIT 40/45 TORQUE ____ NR. DRILL COLLARS IN USE 7

O.D. 7" I.D. 2 3/4" plus 16-6" Drill Collars

BIT INFORMATION: PRESENT BIT # 8 DEPTH IN 677 MAKE Hughes TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 7 MAKE Soc. R.R.

TYPE HAWS DEPTH OUT 677 FOOTAGE 102 HOURS RUN 25

TOTAL Run on BIT # 7: 131 ft in 31 hrs

DAILY DRILLING REPORT

DATE 9-23-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 12 1/4

PRESENT T.D. 904 DRILLED FROM 759 FT. TO 904 FT. MADE 145 FT OF HOLE

IN 23 1/2 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 110 °F @ 880 DEPTH: 110 °F @ 788 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 788 ANGLE 2°45' DIRECTION N75W: DEPTH 880 ANGLE 2°30'

DIRECTION N65W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: No Lost Circulation

Mud Wgt 67 pcf, 9 ppg / Vis 42 / WL 11 / FC 2/32 / pH 9.6 / Sd 3/4%

Prep To pull out of hole to check drill collars

Unloaded 9 5/8" casing

DRILLING INFORMATION: ROTARY RPM 45. PUMP PRESSURE 550 DRILLING FLUID Gel & Wtr

CIRCULATING RATE 350 WEIGHT ON BIT 40/45 TORQUE ____ NR. DRILL COLLARS IN USE 7

O.D. 7" I.D. 2 3/4 + 21 - 6" x 2 3/4" drill Collars

BIT INFORMATION: PRESENT BIT # 8 DEPTH IN 679 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 7 MAKE Sec RR

TYPE M4NJ DEPTH OUT 677 FOOTAGE 102 HOURS RUN 25

DAILY DRILLING REPORT

DATE 9-24-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION DRILLING ROCK TYPE Granite HOLE SIZE 12¼"

PRESENT T.D. 1190 DRILLED FROM 904 FT. TO 1190 FT. MADE 286 FT OF HOLE

IN 19½ HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1½ HOURS:

OTHER DOWNTIME 3 HOURS: REASON Checking drill Collars & Temp. Survey

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: see Note ① (126 °F @ 874' DEPTH; 124 °F @ 1092 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 992 ANGLE 2°30' DIRECTION N76W: DEPTH 1092 ANGLE 2°30'

DIRECTION N75W: DEPTH ____ ANGLE ____° DIRECTION ____

REMARKS: Pulled out of hole. Check. Drill Collar connections, laid Stabilizer down, Ran back in hole, measured BH static temperature.

No lost CIRCULATION

Mud WBT 69 pcf, 9.2 ppg / vis 41 / WL 8.8 / pH 9.5 / Sd ¾ %

① 4½ hr. static BH Temperature after Checking drill Collars

DRILLING INFORMATION: ROTARY RPM 45. PUMP PRESSURE 550 DRILLING FLUID Gel & Water

CIRCULATING RATE 350 WEIGHT ON BIT 40/45 TORQUE ____ NR. DRILL COLLARS IN USE 7

O.D. 7" I.D. 2¾ + 21 - 6" x 2¾" Drill Collars

BIT INFORMATION: PRESENT BIT # 8 DEPTH IN 679 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 7 MAKE Sec RR

TYPE MWJ DEPTH OUT 677 FOOTAGE 102 HOURS RUN 25

DAILY DRILLING REPORT

DATE 9-25-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Prep to log ROCK TYPE Granite & Clay HOLE SIZE 12¼

PRESENT T.D. 1368 DRILLED FROM 1190 FT. TO 1368 FT. MADE 178 FT OF HOLE

IN 18½ HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 3½ HOURS:

OTHER DOWNTIME 2 HOURS: REASON Wiped hole 1368-1603, circulated for loss

CIRCULATING TEMPERATURES: IN-HIGH 120 °F @ 1250 DEPTH: LOW 126 °F @ 1265 DEPTH

OUT-HIGH 130 °F @ 1250 DEPTH: LOW 132 °F @ 1265 DEPTH

BOTTOM HOLE TEMPERATURE: 124 °F @ 1090 DEPTH: 134 °F @ 1279 DEPTH: 1368 °F @ 136° DEPTH

HOLE DEVIATION: DEPTH 1186 ANGLE 4°30' DIRECTION N75W: DEPTH 1216 ANGLE 4°30'

DIRECTION W: DEPTH 1279 ANGLE 4°30' DIRECTION N88W 136 see #3 & #4

REMARKS: Reduced WOB at 1190' to 15-20000, & RPM to 70.

Survey No. 4: 1368', 4°30' - N88W, Temp 136°

Slight loss of drilling fluid at 1368', Recovered full circulation.

Mud Wgt. 68 pcf, 9.0 ppg / vis 48 / WL 7.2 / FC 2/32 / pH 9.5

Sand ¾%

Geology: Xenolith; metasediments & diorite dikes

Rhyolite 1100'-1220', fault zone 990'-1250'

DRILLING INFORMATION: ROTARY RPM 40/70. PUMP PRESSURE 550 DRILLING FLUID Gel-water

CIRCULATING RATE 350 WEIGHT ON BIT 15000 TORQUE ____ NR. DRILL COLLARS IN USE 7

O.D. 7" I.D. 2¾" + 21 - 6" x 2¾"

BIT INFORMATION: PRESENT BIT # 8 DEPTH IN 677 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 7 MAKE Sec RR

TYPE HWJ DEPTH OUT 677 FOOTAGE 102 HOURS RUN 25

DAILY DRILLING REPORT

DATE 9-26-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION INSTALLING BOE ROCK TYPE Granite & Clay HOLE SIZE 12 1/4

PRESENT T.D. 1368 DRILLED FROM ______ FT. TO ______ FT. MADE ______ FT OF HOLE

IN ______ HOURS: TRIPS 4 HOURS: SERVICE RIG ______ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON 6 hrs logging 3 hrs csg & cement 11 hours WOC & install csg hd

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: 136 °F @ 1368 DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______ : DEPTH ______ ANGLE ______ °

DIRECTION ______ : DEPTH ______ ANGLE ______ ° DIRECTION ______

R E M A R K S: Circulated for logs, pulled out of hole. GO International, Inc. ran IES-GR-SNP-CDL-CALIPER-& TEMP. GRADIENT Logs in open hole. Log TD 1362 = D.P. Strap 1368, Max. Temp. of Temp log 221°F, MAX MUD OUT 155°F.

Ran 32 jts (1374') 9 5/8", 36#, K55 buttress thrd. Cmtd at 1368' w/ 790 ft³ Class G 1:1 perlite, 40% SF, 3% gel, .5% friction reducer, .1% D13 retarder - wt 103#/ft³. Used 100 ft³ lead slurry as above but wt. 90#/ft³. Started mixing 8:10 PM. Displaced cmt with 575 ft³ mud. Bumped plugs with 1000#. CIP 8:33 PM. Had 95 ft³ of main cement slurry returns to surface.

Used Baker guide shoe. Dowell self fill insert with flopper on top of shoe jt. 10 centralizers - two at middle of bottom two jts and one every other collar and at 400'. Four scratchers on each of bottom two jts

Tested WKM flange to 3000# OK

DRILLING INFORMATION: ROTARY RPM ______. PUMP PRESSURE ______ DRILLING FLUID ______

CIRCULATING RATE ______ WEIGHT ON BIT ______ TORQUE ______ NR. DRILL COLLARS IN USE ______

O.D. ______ I.D. ______

BIT INFORMATION: PRESENT BIT # ______ DEPTH IN ______ MAKE ______ TYPE ______

JET NOZZLES ______ LAST BIT RUN # 8 MAKE HTC

TYPE J33 DEPTH OUT 1368 FOOTAGE 691 HOURS RUN ______

Geol.

DAILY DRILLING REPORT

DATE 9/27/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Logging down 7" liner ROCK TYPE 9 5/8" csg at 1368' HOLE SIZE _____

PRESENT T.D. 1368 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON 1/2 hr Navy downtime

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Installed 10" B.O.E. stack, mud tee and part of blooie line to sump. Pressure tested blind rams and casing to 1000 psi - OK. Test witnessed and approved by ERDA & NWC.

Evacuated site at 0730 hrs for Navy Weapons test.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ___

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 9/26/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Moving in Muffler, Off loading 7" collars ROCK TYPE _____ HOLE SIZE 8 3/4

PRESENT T.D. 1382 DRILLED FROM 1368 FT. TO 1382 FT. MADE 14 FT OF HOLE

IN 1/2 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 23 1/2 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 285 °F @ 1307 DEPTH: after 40 hrs without circulation _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Off site for limit of weapons test (1 hr)
Finished laying down 7" collars. Ran max reading thermometer to 1307. Pressure tested pipe rams + casing to 1000 #. Test witnessed + approved by NWC. Changed over from mud to water. Drilled out hard cement below flapper and shoe and formation to 1382. Ran 4 pt Dril Cement bond log. Hydro fluxed collars OK

1/2 hr Navy safety meeting

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE _____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # 9 DEPTH IN 1312 MAKE Reed TYPE _____

JET NOZZLES 3-16 LAST BIT RUN # 8 MAKE Hughes

TYPE J33 DEPTH OUT 1368 FOOTAGE 691 HOURS RUN 73 1/2

DAILY DRILLING REPORT

DATE 9/29/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Weapons test + prep to recover tools ROCK TYPE _____ HOLE SIZE 8 3/4

PRESENT T.D. 1382 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: _____

Installing muffler + blooie line.
Ran Sp. Dens. & Temperature logs
Ran Birdwell Density & Cement Bond logs
Birdwell Cement bond sonde parted while running
after log calibrations at 20'. Left 6' of sonde in
hole
Evacuated drill site for weapons test at
7:30 AM

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ___

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 9/30/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Repair mud valve ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 1399 DRILLED FROM 1382 FT. TO 1399 FT. MADE 17 FT OF HOLE

IN 3 1/2 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 21 1/2 HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Off site for weapon test (1 1/2 hrs)
Ran Sm Joan junk basket - washed over fish - did not recover. Ran bit and drilled up fish to 1399.
P.O. and changed bit and drilling assembly.
Ran in to 500' and blew hole dry at 1445 w/ 2" to 450 psi
Ran in to 1399 and blew hole dry. At 1455 to 450 psi
Repairing mud valve on tee from blooie line to shaker.

Geothermal gradient from 9/28/77 Temps. running as 263°C/KM (763°F/mile)

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Water

CIRCULATING RATE 350 WEIGHT ON BIT 20-30 TORQUE ____ NR. DRILL COLLARS IN USE 21

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 11 DEPTH IN 1399 MAKE HTC TYPE J33

JET NOZZLES 3 - 16 LAST BIT RUN # 10 MAKE Reed

TYPE 36J DEPTH OUT 1399 FOOTAGE 17 HOURS RUN 3 1/2

DAILY DRILLING REPORT

DATE 10/1/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE fractured granite, gouge clay HOLE SIZE 8 3/4

PRESENT T.D. 1681 DRILLED FROM 1399 FT. TO 1681 FT. MADE 282 FT OF HOLE

IN 17 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME 6 HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

AIR OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 212 °F @ 1455 DEPTH: 209 °F @ 1549 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 1455 ANGLE 3 1/2 ° DIRECTION S 1/2 67W: DEPTH 1549 ANGLE 3 1/2 °

DIRECTION S 1/2 65W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Repaired mud valve + cut pipe trough for bottom of mufflers. Shut down for one hour to test for water entry. Blew out 2.2 bbls. Water to sump increased to 15-20 Bbl/hr gradually from 1399 to 1681. Rate of penetration averaged about 20'/hr except for gouge zones (100'+/hr). Had fill after connection after 1500' and single shots after 1500'.

leucocratic 1400-1500, xenolith melasediment 1500-1680, gouge 1560-70, 1610-40

DRILLING INFORMATION: ROTARY RPM 46. PUMP PRESSURE ____ DRILLING FLUID AIR

130#, 2550 cfm, 140° + about

CIRCULATING RATE ____ WEIGHT ON BIT 30-40 TORQUE ____ NR. DRILL COLLARS IN USE 21

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 11 DEPTH IN 1399 MAKE HTC TYPE J33

JET NOZZLES none LAST BIT RUN # 10 MAKE Reed

TYPE 36J DEPTH OUT 1399 FOOTAGE 17 HOURS RUN 3 1/2

DAILY DRILLING REPORT

DATE 10/2/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION ~~Drilling~~ Trip to core ROCK TYPE granite HOLE SIZE 8 3/4

PRESENT T.D. 1700 DRILLED FROM 1681 FT. TO 1700 FT. MADE 19 FT OF HOLE

IN 9 HOURS: TRIPS 1 1/2 HOURS: SERVICE RIG 1/2 HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 13 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 134 °F @ 1700 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Hole has running sand, gravel. Making 15-70 bbls H2O / hr. Added foaming agent to air. Hole is tight. Pulled up to shoe, ran back and found 106' fill. Conditioned mud, in pit ~~changed~~ started changing over from air to mud at 9 PM. Reamed to bottom and conditioned mud (7 hrs). Drilled to 1700

M.W. 69#/ft³ (9.0 #/gal) VIS 45

DRILLING INFORMATION: ROTARY RPM 45. PUMP PRESSURE 800 DRILLING FLUID Mud

CIRCULATING RATE 356 WEIGHT ON BIT 30000 TORQUE _____ NR. DRILL COLLARS IN USE 21

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 11 DEPTH IN 1399 MAKE HTC TYPE J33

JET NOZZLES none LAST BIT RUN # 10 MAKE Reed

TYPE 36J DEPTH OUT 1399 FOOTAGE 17 HOURS RUN 3 1/2

DAILY DRILLING REPORT

DATE 10/3/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION ~~Rig up~~ Loggers ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 1702 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS 4 HOURS: SERVICE RIG 1 HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 19 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Pulled up to 1642, circ. & cond. mud. Ran to bottom. Tight from 1680-1702. Wiper trip 1702-1368 5' fill. Ran 6 3/4 core bbl. & Reaming Tight hole at 397 - twisted off pin in DC top of fish 1102'. Ran Am Logan fishing tools, recovered fish. Ran 8 3/4" bit to 1702 and circ. hole clean. Pulled out to run caliper, temp & IES. & Loggers

Mud. 67# (9.6#/gal) Vis 66

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID Clay base

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE _____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # 12 DEPTH IN 1702 MAKE Smith TYPE DG

JET NOZZLES 3 16 LAST BIT RUN # 10 MAKE HTC

TYPE J33 DEPTH OUT 1702 FOOTAGE 203 HOURS RUN 23 1/4

INCOMPLETE

DAILY DRILLING REPORT

DATE 10/4/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling out cement at 1500 ROCK TYPE _____ HOLE SIZE 8 3/4

PRESENT T.D. 1702 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Ran Sta Dnt. Caliper, Temperature, IES and Gamma ray logs. Caliper showed large wash out 20" to 32" from 1534 to 1555. Ran open end 5" dp to 580 and circ with 200 ft³ of Class "G" cmt. with 0.6% HR-7 retarder. Displ. with 130 ft³ mud. Pulled up to 1130 closed rams and squeezed with 6 ft³ to 1200 psi. After 6 hours found hard cmt at 1173. Drilled out hard cmt from 1173 to 1500

Mud 67# (9.0 #/gal) Vis 50

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 900 DRILLING FLUID Clay Treat

CIRCULATING RATE 350 WEIGHT ON BIT 15-20 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # RR 12 DEPTH IN 1173 MAKE Smith TYPE DGJ

JET NOZZLES 3-16 LAST BIT RUN # 11 MAKE HTC

TYPE J33 DEPTH OUT 1702 FOOTAGE 203 HOURS RUN 23 1/4

Incomplete

DAILY DRILLING REPORT

DATE 10/5/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION ~~CORING~~ PULLING OUT CORE BBL ROCK TYPE GRANITE HOLE SIZE 8 3/4

PRESENT T.D. 1707 CORED DRILLED FROM 1702 FT. TO 1707 FT. MADE 5 FT OF HOLE

IN 6½ HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 17½ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Drilled out hard cement 1500 to 1580 and ran to bottom at 1702'. Had some gravel returns from 1545'. Ran 6¾" core bbl, 8½ core head, one stabilizer 8 13/32" above CH. Reamed with core head tight hole 1398-1702. (8 hrs). Cored 1702-1707. Pulling out to check core head condition.

Mud. 67#/ft³ (9.0#/gal) 43 vis

DRILLING INFORMATION: ROTARY RPM 65. PUMP PRESSURE 550-650 DRILLING FLUID Clay tone

CIRCULATING RATE 310 WEIGHT ON BIT 20 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2¾

BIT INFORMATION: PRESENT BIT # CH#2 DEPTH IN 1702 MAKE Chris TYPE MC 23

JET NOZZLES ____ LAST BIT RUN # 11 MAKE HTC

TYPE J33 DEPTH OUT 1702 FOOTAGE 703 HOURS RUN 23¼

Incomplete

DAILY DRILLING REPORT

DATE 10/6/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 1840 DRILLED FROM 1707 FT. TO 1840 FT. MADE 133 FT OF HOLE

IN 10½ HOURS: TRIPS 2 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ½ HOURS:

OTHER DOWNTIME 11 HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 165 °F @ 1818 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 211 °F @ 1800 DEPTH: 210 °F @ 1800 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Pulled out coring assembly. Recovered 3.3 Xenolith metasediment (hornblende hornf). Ran drilling assembly. Reamed 1702-07. Changed over from mud to water to air. Drilling 10 to 15'/hr. Making about 9 bbls/hr water

DRILLING INFORMATION: ROTARY RPM 40/45. PUMP PRESSURE ____ DRILLING FLUID AIR

100# 2550 cfm; 165°F AIN OUT

CIRCULATING RATE ____ WEIGHT ON BIT 10/40 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2¾

BIT INFORMATION: PRESENT BIT # 13 DEPTH IN 1707 MAKE Smith TYPE F3

JET NOZZLES none LAST BIT RUN # 12 MAKE Smith

TYPE DG DEPTH OUT 1702 FOOTAGE cmt HOURS RUN 8

DAILY DRILLING REPORT

DATE 10/7/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Clay - Granite HOLE SIZE 8 3/4

PRESENT T.D. 1965 DRILLED FROM 1840 FT. TO 1965 FT. MADE 125 FT OF HOLE

IN 19½ HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ½ HOURS:

OTHER DOWNTIME 4 HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 210 °F @ 1873 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 1873 ANGLE 7½ ° DIRECTION S50W: DEPTH 1954 ANGLE 9¼ °

DIRECTION S50W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Air drilled to 1914'. Had clay and fine grain sand like material from 1875 to 1914. Making about 80-90 bbls H2O/hr at 1914. Pulled up to 1507. Changed from air to mud. Cleaned out bridge from 1547 to 1642

Air out at 1905' was 165°F

Flow line Temp at 1965 was 135°

Mud: 67 #/ft³ (9.0 lb/gal) Vis 45

DRILLING INFORMATION: ROTARY RPM 60/70. PUMP PRESSURE 300 DRILLING FLUID Clay free

CIRCULATING RATE 350 WEIGHT ON BIT 10/15 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2¾

BIT INFORMATION: PRESENT BIT # 13 DEPTH IN 1707 MAKE Smith TYPE F3

JET NOZZLES none LAST BIT RUN # 12 MAKE Smith

TYPE J6 DEPTH OUT 1707 FOOTAGE cored HOURS RUN 8

DAILY DRILLING REPORT

DATE 10/8/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Trip ROCK TYPE Granite HOLE SIZE 8 3/4"

PRESENT T.D. 1965 DRILLED FROM — FT. TO ____ FT. MADE — FT OF HOLE

IN — HOURS: TRIPS 7 1/2 HOURS: SERVICE RIG 1/2 HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 19 1/2 HOURS: REASON Reaming from 1460 – 1965

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 1965 ANGLE 8 45 ° DIRECTION S50W: DEPTH ____ ANGLE ____ °

DIRECTION ____ : DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Reamed from 1460' to 1965'

Lost 150 barrels of mud when making trip from 1460

Mud Weight: 67 or 90# / Vis 45 / 2/32 / P.H. 9.8 / W.L. 14

Reaming set up:

8 3/4" Bit, Reamer, Shock Sub, Monel Collar, 1 Steel Collar, Stablizer,

18 Collars, drill pipe.

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 400 DRILLING FLUID Bentonite

CIRCULATING RATE 250 WEIGHT ON BIT 15/20 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6" I.D. 2 3/4"

BIT INFORMATION: PRESENT BIT # 14 DEPTH IN 1965 MAKE Smith TYPE DGT

JET NOZZLES 3-16 LAST BIT RUN # 13 MAKE Smith

TYPE F3 DEPTH OUT 1965 FOOTAGE 158 HOURS RUN 31 1/2

DAILY DRILLING REPORT

DATE 9-9-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite/Gp HOLE SIZE 8 3/4

PRESENT T.D. 2032 DRILLED FROM 1965 FT. TO 2032 FT. MADE 67 FT OF HOLE

IN 16 1/2 HOURS: TRIPS 4 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1 1/2 HOURS:

OTHER DOWNTIME 2 HOURS: REASON Reaming hole 1965'-2000'

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 145 °F @ 2000 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 151 °F @ 2000 DEPTH: 149 °F @ 2030 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 2000 ANGLE 8°45' DIRECTION S52W: DEPTH ~~1030~~ 2020 ANGLE 8°30' DEPTH

DIRECTION ~~N45W~~ S49W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Lost approx 75 bbls fluid last 24 hrs

Mud wgt 68 (9.1 #/g), vis 46, FL 14.6, FC 2/32, pH 9.5, Sd 1%

Geol. Rept: Volcanics, metasediments, Granodiorite to 2000', weak to moderate chlorite alteration 1800'-2000'.

DRILLING INFORMATION: ROTARY RPM 40. PUMP PRESSURE 600 DRILLING FLUID Gel & Wtr

CIRCULATING RATE 350 WEIGHT ON BIT 25/30 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6" I.D. 2 3/4"

BIT INFORMATION: PRESENT BIT # 15 DEPTH IN 2000 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 14 MAKE Smith

TYPE DGJ DEPTH OUT 2000 FOOTAGE 35 HOURS RUN 1 1/2 Bit 1-1-6 1/2"

DAILY DRILLING REPORT

DATE 10-10-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 2186 DRILLED FROM 2032 FT. TO 2186 FT. MADE 154 FT OF HOLE

IN 20 1/2 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 3 HOURS: REASON Lost Circulation - Building Mud Volume

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 120 °F @ 2080 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 152 °F @ 2080 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 2080 ANGLE 8°30' DIRECTION S45W: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Lost Circulation 2060', Lost 600 bbls Drilling Mud. Mixed Mud & LC material, regain circulation. Mixed Sawdust, Cottonseed hulls & quick-Seal. Lost small volume Fluid thruout 2150, bypassing Shaker.

Mud wgt 67 pcf, 9.0 ppg; Vis 44; FC 2/32; WL 12.6; pH 9.5; Sd 1¼%

Geol. Rept: Granodiorite, metasediments, 2000-2070, Shearing, fracturing, quartz veining 1990 Thru 2070.

DRILLING INFORMATION: ROTARY RPM 50. PUMP PRESSURE 600 DRILLING FLUID Gel-Wtr

CIRCULATING RATE 350 WEIGHT ON BIT 20/30 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6" I.D. 2 3/4"

BIT INFORMATION: PRESENT BIT # 15 DEPTH IN 2000 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 10-11-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Prep to log ROCK TYPE GRANITE HOLE SIZE 7 7/8" C.H.

PRESENT T.D. 2229 DRILLED FROM 2186 FT. TO 2229 FT. MADE 43 FT OF HOLE

IN 9 1/2 HOURS: TRIPS 1 1/2 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 13 HOURS: REASON Servicing Core bbl, waiting on loggers

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 138 °F @ 2216' DEPTH: LOW 120 °F @ 2150 DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 2180 ANGLE 7°45' DIRECTION S34W: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Drilled 8 3/4" hole to 2219', pulled out of hole, made up core barrel with 7 7/8" core head, cored from 2219' to 2229', cored & recovered 10'. 5 3/4" x 3 1/2" core bbl. Prep to run caliper & Temp Logs (GO International). Formation taking fluid, lost 300± bbls mud last 24 hrs. Hole took 90 bbls to fill after survey at 2180', 60 bbls to fill for coring at 2219'.

Mud Wt 6 lb/gal, 8.9 ppg; Vis 47; FL 13.8; FC 2/32; pH 9.2; Sd ½%

Geol. Rept: Metasediments 2000-2120', White granite 2120-2229, cored 2219-2229 Rec 10'.

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 800 DRILLING FLUID Gel-Lignite

CIRCULATING RATE 350 WEIGHT ON BIT 20 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # DIAMOND #2 DEPTH IN 2219 MAKE CDP TYPE DIAMOND CH

JET NOZZLES — LAST BIT RUN # 15 MAKE HTC

TYPE J33 DEPTH OUT 2219 FOOTAGE 219 HOURS RUN 34 1/2 Incomplete

DAILY DRILLING REPORT

DATE 10/12/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4"

PRESENT T.D. 2285 DRILLED FROM 2229' FT. TO 2285' FT. MADE 56 FT OF HOLE

IN 8 HOURS: TRIPS 1/2 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 1/4 HOURS: REASON Logging, Caliper Log & Temp. Log.

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

Running — 2056 - 2229'

OUT-HIGH 150° °F @ 2265 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 196 & 202 °F @ 2278 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 2278 ANGLE 7°30 ° DIRECTION S 3W: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Ran hole caliper & temp log.

Made up drilling assembly and ran to bottom from 2056' to 2229'

Opened 7 7/8" core hole from 2229' - 2229'.

Drilling.

Mud Weight 65# 8.7 Vis 41 Wtr. Loss/FC 2/32, pH 9.0 Lbs. 1/4 %

Drilling Assembly:

Bit, Reamer, Shock Sub, Stabilizer, Monel & Drill Collar, Stabilizer, 18 Monel & Drill Pipe.

DRILLING INFORMATION: ROTARY RPM 45. PUMP PRESSURE 600 DRILLING FLUID Water

CIRCULATING RATE 350 WEIGHT ON BIT 29/40 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6" ____ I.D. 2 3/4"

BIT INFORMATION: PRESENT BIT # 15 R.R. DEPTH IN 2000 MAKE Htc TYPE J33

JET NOZZLES 3-11s LAST BIT RUN # ____ MAKE ____

TYPE ____ DEPTH OUT ____ FOOTAGE ____ HOURS RUN ____

DAILY DRILLING REPORT

DATE 10-13-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION 2282' ROCK TYPE Granite HOLE SIZE 8 3/4"

PRESENT T.D. 2495' DRILLED FROM 2282 FT. TO 2495 FT. MADE 213 FT OF HOLE

IN 21 3/4 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 2 1/4 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 150 °F @ 2495 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 196 °F @ 2375 DEPTH: 210 °F @ 2459 DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 2375 ANGLE 7°30' DIRECTION S18W: DEPTH 2459 ANGLE 8 °

DIRECTION S23W: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: _____

Mud Wgt 65 pcf, 8.7 ppg; Vis 46; FL 13.2; FC 2/32; pH 9.0; Sd 1/4%

Geol. Report: Fresh white granite 2229-2300; granodiorite 2300-2320, granite 2320-2495'.

DRILLING INFORMATION: ROTARY RPM 40/55. PUMP PRESSURE 600 DRILLING FLUID Gel+Wtr+LCM

CIRCULATING RATE 350 WEIGHT ON BIT 40 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 15RR DEPTH IN 2229 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 10-14-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 2646' DRILLED FROM 2495 FT. TO 2646 FT. MADE 151' FT OF HOLE

IN 19 3/4 HOURS: TRIPS 2 3/4 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1 1/2 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 155 °F @ 2646 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 220 °F @ 2640 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 2551 ANGLE 8°30' DIRECTION S25W: DEPTH 2640 ANGLE 7°45' DIRECTION S1E: DEPTH _____ ANGLE _____° DIRECTION _____

REMARKS: Mud Wgt 65 pcf, 8.7 ppg; Vis 40; WL 14.4; FC 2/32; pH 9.0; Sd Tr

Pulled out of hole, changed bits at 2556', laid down reamer and one stabilizer. Now have one stabilizer 60' up.

DRILLING INFORMATION: ROTARY RPM 40/55. PUMP PRESSURE 600 DRILLING FLUID Gel-Wtr-LCM

CIRCULATING RATE 350 WEIGHT ON BIT 40 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6" I.D. 2 3/4"

BIT INFORMATION: PRESENT BIT # 11RR DEPTH IN 2556 MAKE HTC TYPE J33

JET NOZZLES 3-1/2" LAST BIT RUN # 15 MAKE HTC

TYPE J33 DEPTH OUT 2556 FOOTAGE 556' HOURS RUN 74 Gauge out 1/16"

DAILY DRILLING REPORT

DATE 10-15-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 2782 DRILLED FROM 2646 FT. TO 2782 FT. MADE 136 FT OF HOLE

IN 12 1/2 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 5 HOURS: REASON Navy weapons test
6 hours lost circulation, mixing mud to regain circ.

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 2700 ANGLE 8 ° DIRECTION S20W: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Pulled up into casing and made up secure for Navy weapons test, evacuated location for 5 hrs. Lost circulation at 2767', lost 600 bbls mud. Mixed mud, filled pits to regain circulation.

Mud wgt 65 pcf, 8.7 ppg; Vis 41; FL 12.8; FC 2/32; pH 9.0; Sd Tr

Geol. Report: fractured white granite

DRILLING INFORMATION: ROTARY RPM 55. PUMP PRESSURE 150 DRILLING FLUID Gel-Wtr-LCM

CIRCULATING RATE 350 WEIGHT ON BIT 20 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 11 RR DEPTH IN 2556 MAKE HTC TYPE J33

JET NOZZLES 3-12 LAST BIT RUN # ____ MAKE ____

TYPE ____ DEPTH OUT ____ FOOTAGE ____ HOURS RUN ____

DAILY DRILLING REPORT

DATE 11/16/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Mixing Mud ROCK TYPE Granite HOLE SIZE 8 3/4"

PRESENT T.D. 2822 DRILLED FROM 2782 FT. TO 2822 FT. MADE 40 FT OF HOLE

IN 10 1/2 HOURS: TRIPS 1 1/2 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 12 HOURS: REASON Mixing Mud & L.C.M. for Circulation

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 90 °F @ 2822 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Drlg 50-75% returns while drilling @ 2786'+
Pulled up in casing & rebuild volume & enhanced LCM.
Got approx 500 bbls. Built 600 bbls 20-25% LCM.
Good returns for about 30 min. Drilling, losing 25-50%
returns. Mixing mud & L.C.M. to keep up volume.
Have total 1500 bbls drilling fluid. Not able
to regain full circulation w/ 2 pumps.
Pulled back up into casing to rebuild volume
Mixing Mud.
Geol Rpt: 2710-2770 white metaquartzite; 2780-
2822 white granite.

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 150 DRILLING FLUID Gel-Wtr-LCM

CIRCULATING RATE 100 WEIGHT ON BIT 15/20 TORQUE ____ NR. DRILL COLLARS IN USE 12

O.D. 6" I.D. 2 1/4"

BIT INFORMATION: PRESENT BIT # 11 R.R. DEPTH IN 2556 MAKE Hite TYPE J33

JET NOZZLES 3 - 1/2" LAST BIT RUN # ____ MAKE ____

TYPE ____ DEPTH OUT ____ FOOTAGE ____ HOURS RUN ____

DAILY DRILLING REPORT

DATE 10-17-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION WOC ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 2822' DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON Temperature logging, setting cement plugs

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 322 °F @ 2822 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Pulled out of hole, mixed mud & increased Delmag. Ran temperature gradient log (Production Data Inc.) from surface to 2822', max temp observed 322°F after 1 hr on bottom, lost circulation zone 2760-TD. Ran 5" drill pipe open ended to 2778', set 100 cu ft. plug of Class G Cement -40% Silica flour with 0.5% CFR-2 and 0.2% HR7 retarder, cement in place at 8:45 pm. WOC 6 hrs. Ran bit on drill pipe, tagged top of plug at 2616'. Set drill pipe open ended at 2660', set 100 cu ft cement as above, filled hole and established good circulation. Cement in place 7:15 AM. WOC. Prep to magnaflux drill collars.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # 11 RR DEPTH IN 2556 MAKE HTC TYPE J33

JET NOZZLES 3-1/2" LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 10-18-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 2837 DRILLED FROM 2822 FT. TO 2837 FT. MADE 15 FT OF HOLE

IN 3 1/2 HOURS: TRIPS 5 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 15 1/2 HOURS: REASON WOC, Magnaflux drill Collars, reaming & drilling cement

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 175 °F @ 2837 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 2826 ANGLE 7°15' DIRECTION S23W: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Magnaflux'ed drill Collars, found one bad collar.
Drilled cement from 2495-2822
Made trip, reamed hole from 2762-2822
Good circulation

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Gel-WH-LCM

CIRCULATING RATE 350 WEIGHT ON BIT 25 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 17 DEPTH IN 2826 MAKE Smith TYPE F3

JET NOZZLES 3-1/2" LAST BIT RUN # 16 MAKE Smith

TYPE DGTH DEPTH OUT 2826 FOOTAGE 4 HOURS RUN 2

325' Cement in 5 hrs
Case out 1/4"

DAILY DRILLING REPORT

DATE 10/19/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Conditioning hole for core ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 2995 DRILLED FROM 2837 FT. TO 2995 FT. MADE 158 FT OF HOLE

IN 21 1/2 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 1 1/2 HOURS: REASON circulate & cond. for core

CIRCULATING TEMPERATURES: IN-HIGH 171 °F @ 2966 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 171 °F @ 2966 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 184 °F @ 2923 DEPTH: 176 °F @ 2990 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 2990 ANGLE 4 1/2 ° DIRECTION S64W: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

Geology 2830 - 2990 fractured white granite

Mud 64 #/ft³ 85 #/gal 36 VIS

DRILLING INFORMATION: ROTARY RPM 50. PUMP PRESSURE 500 DRILLING FLUID Baybrso

CIRCULATING RATE 310 WEIGHT ON BIT 25/30 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 17 DEPTH IN 2826 MAKE Smith TYPE F-3

JET NOZZLES 3 16th LAST BIT RUN # 16 MAKE Smith

TYPE D6 DEPTH OUT 2826 FOOTAGE 4 HOURS RUN 2

DAILY DRILLING REPORT

DATE 10/20/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Coring Core Hole ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3005 Feet DRILLED FROM 2995 FT. TO 3005 FT. MADE 10 FT OF Hole

IN 7 1/2 HOURS: TRIPS 1 1/2 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 15 HOURS: REASON Servicing top drive, Repairing hole slipped during trip

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 179 °F @ 2997 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

Cored 2995 - 3005 recovered 10'

Mud 66#/ft³ 8.6#/gal VIS 38

Found 60' fill on bottom after coring

Good circulation

Fractured white granite

DRILLING INFORMATION: ROTARY RPM 60/70. PUMP PRESSURE 1000 DRILLING FLUID Gel water

CIRCULATING RATE 350 WEIGHT ON BIT 15/25 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 18 DEPTH IN 2995 MAKE Smith TYPE F3

JET NOZZLES 3 - 16 LAST BIT RUN # 17 MAKE Smith

TYPE F3 DEPTH OUT 2995 FOOTAGE 169 HOURS RUN 24 3/4

1/4" out of gauge

DAILY DRILLING REPORT

DATE 10/21/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3209 DRILLED FROM 3005 FT. TO 3209 FT. MADE 204 FT OF HOLE

IN 22 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME 1 HOURS: REASON opening core hole

CIRCULATING TEMPERATURES: IN-HIGH 157 °F @ 3200 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 170 °F @ 3200 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 218°/232° °F @ 3085 DEPTH: 181°/220° °F @ 3195 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 3085 ANGLE 4 1/2 ° DIRECTION S84W: DEPTH 3195 ANGLE 5 1/2 °

DIRECTION N75W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

Installed wood baffle at mud tank for cooling

Good circulation

Mud 66#/ft³ 86#/gal VIS 37

Geology - white granite

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 550 DRILLING FLUID Clay base

CIRCULATING RATE 325 WEIGHT ON BIT 30/40 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 18 DEPTH IN 2995 MAKE Smith TYPE F3

JET NOZZLES 3-16 LAST BIT RUN # 17 MAKE Smith

TYPE F3 DEPTH OUT 2995 FOOTAGE 169 HOURS RUN 24 3/4

1/4" out of gage

corrected

DAILY DRILLING REPORT

DATE 10/22/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3388 DRILLED FROM 3209 FT. TO 3388 FT. MADE 179 FT OF HOLE

IN 23 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH 157 °F @ 3250 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 172 °F @ 3250 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 394 °F @ 222 DEPTH: 376 °F @ 180 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 3294 ANGLE 4 1/2 ° DIRECTION N64W: DEPTH 3376 ANGLE 5 15 °

DIRECTION N69W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: losing mud 3260-3388 lost 2000 bbls

Building mud volume and adding LCM

Circulation approx 95-100% 7 AM

Mud 66#/ft³ & 6# bar VIS 41

Mainly white granite 3260-70 Granodiorite

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 950 DRILLING FLUID LCM

CIRCULATING RATE 325 WEIGHT ON BIT 30/40 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 16 DEPTH IN 2995 MAKE S TYPE F3

JET NOZZLES 3-16 LAST BIT RUN # 17 MAKE S

TYPE F3 DEPTH OUT 2995 FOOTAGE 169 HOURS RUN 24 3/4

1/2° out gage

DAILY DRILLING REPORT

DATE 10/22/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 6 3/4

PRESENT T.D. 3406 DRILLED FROM 3209 FT. TO 3406 FT. MADE 197 FT OF HOLE

IN 23 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH 157 °F @ 3250 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 172 °F @ 3250 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 3294 °F @ 222° DEPTH: 3376 °F @ 180° DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 3294 ANGLE 4 1/2 ° DIRECTION N64W: DEPTH 3376 ANGLE 5 1/2 °

DIRECTION N69W: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: foamy mud 3260 – 3406. Lost 2000 bbls. Building mud volume and adding LCM. Circulation approx 95-100% at 7 AM.

Mud 66#/ft³ 8.6#/gal VIS 41

Geology - 3260-70 Granodiorite, remainder was white granite

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 950 DRILLING FLUID Clay base

CIRCULATING RATE 325 WEIGHT ON BIT 30/40 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 18 DEPTH IN 2995 MAKE Smith TYPE F3

JET NOZZLES 3-16 LAST BIT RUN # 17 MAKE Smith

TYPE F3 DEPTH OUT 2995 FOOTAGE 169 HOURS RUN 24 3/4

1/4" out of gage

DAILY DRILLING REPORT

DATE 10/23/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3553 DRILLED FROM 3388 FT. TO 3553 FT. MADE 165 FT OF HOLE

IN 23 1/2 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH 161 °F @ 3553 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 174 °F @ 3553 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION 347E: DEPTH 545 ANGLE N50W ° DIRECTION _____

REMARKS: _____

Lost 10-15 bbls/hr 3388-3553 (300 bbls)

Mud 66 #/ft³ 8.6 #/gal VIS 38

Had to grout

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 550 DRILLING FLUID Air foam

CIRCULATING RATE 325 WEIGHT ON BIT 40 TORQUE _____ NR. DRILL COLLARS IN USE 12

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 18 DEPTH IN 2995 MAKE Smith TYPE F3

JET NOZZLES 3-16 LAST BIT RUN # 17 MAKE Smith

TYPE F3 DEPTH OUT 2995 FOOTAGE 169 HOURS RUN 24 1/2

1/2 out gage

DAILY DRILLING REPORT

DATE 10/24/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Reaming ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3661 DRILLED FROM 3553 FT. TO 3661 FT. MADE 108 FT OF HOLE

IN 16 HOURS: TRIPS 3 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME 4 HOURS: REASON Reaming to bottom

CIRCULATING TEMPERATURES: IN-HIGH 160 °F @ 3661 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 170 °F @ 3661 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 3570 °F @ 206° DEPTH: 3661 °F @ 210° DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 3570 ANGLE 5 15 ° DIRECTION N45W: DEPTH 3661 ANGLE 5° °

DIRECTION N45W: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Installing cooling tower.

Lost approx 566 bbl in 3553-3661

Reamed 1605-1645, ran in to 2794 reamed

to 2534, ran to 2975 reaming w/ bit.

Prep to pull out and run reamer

Mud 66#/ft³ 8.6#/gal VIS 37

Geology - white quartz to 3500, Rhyodacite to 3600

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 600 DRILLING FLUID Chemtrol

CIRCULATING RATE 330 WEIGHT ON BIT 40 TORQUE _____ NR. DRILL COLLARS IN USE 14

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 19 DEPTH IN 3661 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 18 MAKE Smith

TYPE F3 DEPTH OUT 3661 FOOTAGE 666 HOURS RUN 84 1/2

T3, B5, 1/4" out gage

DAILY DRILLING REPORT

DATE 10-25-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3741 DRILLED FROM 3661 FT. TO 3741 FT. MADE 80 FT OF HOLE

IN 11 1/2 HOURS: TRIPS 2 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 10 HOURS: REASON Reaming Tight Hole 2986-3661

CIRCULATING TEMPERATURES: IN-HIGH 135 °F @ 3735 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 149 °F @ 3735 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 210 °F @ 3661 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 3661 ANGLE 5 ° DIRECTION S45W: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Mud Wt 66 pcf, 8.9 ppg; FL 12.6; FC 2/32; pH 10.0; Sd Tr

Drilling Assembly: Bit, Reamer, Shock Sub, Stabilizer, Monel Collar, Drill Collar, Stabilizer, 18 drill collars, & 5" drill pipe.

Geol. Rep't: 3600-3660 White Granite

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 550 DRILLING FLUID Gel & Wtr

CIRCULATING RATE 350 WEIGHT ON BIT 40 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 19 DEPTH IN 3661 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # 18 MAKE Smith

TYPE F3 DEPTH OUT 3661 FOOTAGE 656 HOURS RUN 84 1/2 T3-B5-G 1/4

DAILY DRILLING REPORT

DATE 10-26-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 3975 DRILLED FROM 3741 FT. TO 3975 FT. MADE 234 FT OF HOLE

IN 23 HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH 110 °F @ 3975 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 125 °F @ 3975 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 212 °F @ 3960 DEPTH: 204 °F @ 3765 DEPTH: 204 °F @ 3855 DEPTH

HOLE DEVIATION: DEPTH 3765 ANGLE 4°45' DIRECTION N60W: DEPTH 3855 ANGLE 4°30' DIRECTION N55W: DEPTH 3960 ANGLE 5°30' DIRECTION N60W

REMARKS: lost 500 bbls drilling mud overnight, using full 2" stream of water to hold volume while drilling. Mud Wgt. 66 p.c.f., 8.8 ppg; Vis 39; WL ___; FC 2/32; pH 10.5; Sd 1/2%

Correction: Hole deviation at 3661', 5°, N45W

Geol. Rept.: 3660-3750 white granite, 3750-3830 granodiorite

DRILLING INFORMATION: ROTARY RPM 40/50. PUMP PRESSURE 550 DRILLING FLUID Gel-Wtr

CIRCULATING RATE 350 WEIGHT ON BIT 40 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 19 DEPTH IN 3661 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 10-27-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION LOGGING ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4043' DRILLED FROM 3975 FT. TO 4043 FT. MADE 68 FT OF HOLE

IN 7 1/4 HOURS: TRIPS 2 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 14 HOURS: REASON Circulate 1/2 hr, Running Logs 13 1/2 hrs

CIRCULATING TEMPERATURES: IN-HIGH 111 °F @ 4000 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 127 °F @ 4000 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 206 °F @ 4043 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 4043 ANGLE 6°45' DIRECTION N72W: DEPTH ____ ANGLE ____ °

DIRECTION ____: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Drilled to 4043', good circulation at end, lost 150 bbls mud. Circulated hole to clean up, ran survey, pulled out of hole. Dresser Atlas ran Temperature Survey, IES, Variable Density Velocity, Caliper, Gamma Ray - Neutron - Density Logs. GO International running Temperature gradient Surveys.

Geol. Rept: Granodiorite 3830-4010, White Granite 4010-4030, Granodiorite 4030-4040.

DRILLING INFORMATION: ROTARY RPM 60/50. PUMP PRESSURE 550 DRILLING FLUID Gel-Wtr

CIRCULATING RATE 350 WEIGHT ON BIT 40 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # ____ DEPTH IN ____ MAKE ____ TYPE ____

JET NOZZLES ____ LAST BIT RUN # 19 MAKE HTC

TYPE J33 DEPTH OUT 4043 FOOTAGE 382 HOURS RUN 42

DAILY DRILLING REPORT

DATE 10-28-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION RUNNING LOGS ROCK TYPE GRANITE HOLE SIZE 8 3/4

PRESENT T.D. 4043 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Completed Dresser Atlas open hole logs. GO International made first temperature gradient run at 1000 hrs, tool failed. Changed tools made runs at 1200 hrs & 1800 hrs, and 0600 hrs. Max. Temp. observed 284°F at 1206 hrs. 300°F at 1820 hrs, and 316°F at 0720 hrs. Tool hung out while on bottom at 0720 hrs. Will make run at 1800 hrs with high temperature tool.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 10-29-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION ON TRIP ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4058 DRILLED FROM 4043 FT. TO 4058 FT. MADE 15 FT OF HOLE

IN 4 HOURS: TRIPS 2 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 18 HOURS: REASON Condition mud 2 hrs. Logging, Reaming

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Evacuated location 0900-1100 for weapons test.
Vaqua flowed drill collars & drilling tools.

Ran GO International temperature gradient survey, corrected 1930 hrs, max. Temp. observed 348°F at TD, increase to 360°F after 10 min on bottom.
Ran millstone bit to drill up Thermometer case in hole, reamed mudcake 3878-4040, conditioned mud. Drilled 15 ft. Prep to pick up core barrel and diamond core bit.
Mud wgt 64-66 pcf, 86-88 pcf; vis 120 deca +40, FL 8.2, FC 2/32, pH 9.5, Sand 1/2

DRILLING INFORMATION: ROTARY RPM 65. PUMP PRESSURE 700 DRILLING FLUID Gel-Water

CIRCULATING RATE 350 WEIGHT ON BIT 35 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 20 DEPTH IN 4043 MAKE Reed TYPE S21GJ

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 10/30/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4073 DRILLED FROM 4061 FT. TO 4073 FT. MADE 12 FT OF HOLE

IN 1 1/2 HOURS: TRIPS 9 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 14 1/2 HOURS: REASON Coring & Reaming

CIRCULATING TEMPERATURES: IN-HIGH 140 °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 161 °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Cored 4058-61, recovered 3', granodiorite in 2 1/2 hrs

Got Reamed to bottom & Started coring 5 1/2 hrs

* Time change

Mud 64#/ft³ 85# qal Vis 44

DRILLING INFORMATION: ROTARY RPM 65. PUMP PRESSURE 600 DRILLING FLUID Clay base

CIRCULATING RATE 350 WEIGHT ON BIT 35 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 21 DEPTH IN 4058 MAKE Smith TYPE F-4

JET NOZZLES 3-16 LAST BIT RUN # 20 MAKE Reed

TYPE S216J DEPTH OUT 4058 FOOTAGE 15 HOURS RUN 4

DAILY DRILLING REPORT

DATE 4/13/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Tripping ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4227 DRILLED FROM 4073 FT. TO 4227 FT. MADE 154 FT OF HOLE

IN 20 HOURS: TRIPS 2 1/2 HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1 1/2 HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH 136 °F @ 4214 DEPTH: LOW ____ °F @ ____ DEPTH

H2O circulates → then cooling tower.

OUT-HIGH 150 °F @ 4214 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 204 241 °F @ 4120 DEPTH: 208 °F @ 4224 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 4120 ANGLE 7 1/2 ° DIRECTION N82W: DEPTH 4224 ANGLE 7 3/4 °

DIRECTION N85W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

Tripping to take off bottom two stabilizers to control angle. Will run bit #19 - J33 to attempt an increase in ROP.

Lost approximately 100 bbls mud 4184'-4216'

Geology: Rhyolite to 4130-50 then to Granite

Mud 64 #/ft³ 8.5 #/gal Vis 41

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Lignosol

CIRCULATING RATE 350 WEIGHT ON BIT 30/20 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # ____ DEPTH IN ____ MAKE ____ TYPE ____

JET NOZZLES ____ LAST BIT RUN # 18 MAKE Smith

TYPE F4 DEPTH OUT 4227 FOOTAGE 169 HOURS RUN 22

Accepted

DAILY DRILLING REPORT

DATE 11/11/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Andesite HOLE SIZE 8 3/4

PRESENT T.D. 4335 DRILLED FROM 4227 FT. TO 4335 FT. MADE 108 FT OF HOLE

IN 22 1/2 HOURS: TRIPS 1 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH 145 °F @ 4335 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 160 °F @ 4335 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 203 °F @ 4298 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 4298 ANGLE 8 1/2 ° DIRECTION N87W: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Took 63 bbl. to fill pits. Rec'd 4200-27 lost approx 63 bbls mud 4310-4335.

Prep to pull out of hole, change bit and secure rig for blow out test

Mud 64 # /ft³ 8.5 #/gal VIS 44

Rheology White paint

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Clay base

CIRCULATING RATE 350 WEIGHT ON BIT 20/25 TORQUE _____ NR. DRILL COLLARS IN USE 14

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 8RR19 DEPTH IN 4227 MAKE H+C TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/2/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4388 DRILLED FROM 4335 FT. TO 4388 FT. MADE 53 FT OF HOLE

IN 15 1/2 HOURS: TRIPS 4 1/2 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 4 HOURS: REASON Navy test 0700 - 1100 hrs

CIRCULATING TEMPERATURES: IN-HIGH 152 ~~140~~ °F @ 4388 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 167 ~~170~~ °F @ 4388 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS:

BHA: bit, shock sub, monel collar, stab collar, stab collar, 18 std collars, 5" dp. Foot approx. 130 bbls mud 4335-4388

Pay 1, take single shot. Will increase weight on bit if hole angle not building.

Geology: Granite - Diorite

Mud: 64 #/ft³, 8.5 #/gal VIS 39

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Clay base

CIRCULATING RATE 350 WEIGHT ON BIT 15/20 TORQUE _____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 22 DEPTH IN 4335 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # RR19 MAKE HTC

TYPE J33 DEPTH OUT 4335 FOOTAGE 3853 = 435' HOURS RUN 6 + 1/2 (42 + 22 1/2 = 64 1/2)

DAILY DRILLING REPORT

DATE 11/3/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Drilling ROCK TYPE Rhyolite HOLE SIZE 8 3/4

PRESENT T.D. 4567 DRILLED FROM 4388 FT. TO 4567 FT. MADE 179 FT OF HOLE

IN 21 1/2 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 2 1/2 HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH 150 °F @ 4567 DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 167 °F @ 4567 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 189/189 °F @ 4401 DEPTH: 192/192 °F @ 4461 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 4401 ANGLE 9 1/2 ° DIRECTION S76W: DEPTH 4461 ANGLE 9 3/4 °

DIRECTION S70W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

BHA: bit, stock sub, monel collar, steel collar, stabilizer, 18 steel collars, 5" drill pipe

Lost approximately 350 bbls mud 4388 - 4567

Prep to take single shot

Navy hauled water, topped off all tanks and piped sump with arrangements for new water source are made.

Mud: 64 #/ft³ 8.5 #/gal VIS 39

Geology: Granophyre 4390 - 4400, 4410 - 4420; White granite 4400 - 10'; Mixed Granophyre & white granite 4430 - 90, 4420 - 60.

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Clay base

CIRCULATING RATE 350 WEIGHT ON BIT 30 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 22 DEPTH IN 4335 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # RR19 MAKE HTC

TYPE J33 DEPTH OUT 4335 FOOTAGE 435 HOURS RUN 64 1/2

DAILY DRILLING REPORT

DATE 11/4/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION 4727 Drilling ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4727 DRILLED FROM 4567 FT. TO 4727 FT. MADE 160 FT OF HOLE

IN 19 HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME 4 HOURS: REASON Nuke Test

CIRCULATING TEMPERATURES: IN-HIGH 155 °F @ 471' DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH 171 °F @ 4717 DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 202 °F @ 4567 DEPTH: 204 °F @ 4638 DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH 4567 ANGLE 10½ ° DIRECTION S57W: DEPTH 4638 ANGLE 10¾ °

DIRECTION S45W: DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS:

BHA: bit, shock sub, monel collar, steel collar, stabilizer, 18 steel collars 5" drill pipe

Pulled up 10 stands, secured hole and my vacated drill site 1000 hrs - 1200 for weapons test.

Lost approx. 200 bbls mud 4567-4727

Geology: (white granite 4460-70, 4710-4550 Absolute (pink granite) 4550-4570 Hyper granodiorite and white granite

Mud: 64 #/ft³ F.5"/qt VIS 40

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Clay base

CIRCULATING RATE 350 WEIGHT ON BIT 30 TORQUE ____ NR. DRILL COLLARS IN USE 19

O.D. 6 I.D. 2¾

BIT INFORMATION: PRESENT BIT # 22 DEPTH IN 4335 MAKE HTC TYPE J33

JET NOZZLES 3-16 LAST BIT RUN # RR19 MAKE HTC

TYPE J33 DEPTH OUT 4335 FOOTAGE 435 HOURS RUN 64½

DAILY DRILLING REPORT

DATE 11/5/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Conditioning Mud ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM 4727 FT. TO 4845 FT. MADE _____ FT OF HOLE

IN 10 HOURS: TRIPS 3 1/2 HOURS: SERVICE RIG 1/2 HOURS: HOLE SURVEY 1/2 HOURS:

OTHER DOWNTIME 9 1/2 HOURS: REASON Conditioning Mud

CIRCULATING TEMPERATURES: IN-HIGH 150 °F @ 4773 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 164 °F @ 4773 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 204 °F @ 4739 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 4739 ANGLE 11 1/2° DIRECTION S 43W: DEPTH _____ ANGLE _____°

DIRECTION _____: DEPTH _____ ANGLE _____° DIRECTION _____

REMARKS: BHA: bit, shock sub, monel, stabilizer, 8 drill collars, 18 stabilizer, 5 drill collars, jars, 20 drill pipe. Lost approx 70 bbls mud 4727 - 4826 Lost circulation at 4826' pulled up to shoe mixed mud and built to 4845 stopped circulating at 4845 with approx 75% returns lost 140 bbls 4826 - 4845 Geology: Hot mud 4600-4640, 4670-4680, 4760-4770 Rhyolite 4650-4660, 4700-4770 Mixed cottonseed hulls, mica, sawdust walnut hulls 20 sks Mud Wt 11 lbs/ft³ VIS 56 at 4:30 AM

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 600 DRILLING FLUID Gel base

CIRCULATING RATE 350 WEIGHT ON BIT 30 TORQUE _____ NR. DRILL COLLARS IN USE 14

O.D. 6 I.D. 2 3/4

BIT INFORMATION: PRESENT BIT # 23 DEPTH IN 4739 MAKE Smith TYPE F4

JET NOZZLES 3-16 LAST BIT RUN # 22 MAKE HTC

TYPE J33 DEPTH OUT 4739 FOOTAGE 164 HOURS RUN 59

5-5- [illegible]

DAILY DRILLING REPORT

DATE 11/6/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION WOC ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY 1 HOURS:

OTHER DOWNTIME 23 HOURS: REASON Pull out of hole cmtg, WOC

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 186 °F @ 4845 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH 4845 ANGLE 12¾ ° DIRECTION S46W: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Pulled out, stood back collars, picked up drill pipe. W.C. Halliburton Ran in open ended to 4813 and placed 43 sx 0-20 cmt plug at 930 PM. Found top at 4754 Cmtd with 50 sx Class G 1:1 perlite, 4% gel, 0.5% HR7 at 4773 Disp w/ 64.47 ft³ mud + 10 ft³ H-O. Mixed at 11PM CIP 11¹² — Cmtd with 60 ft³ cmt as above at 3639 Mixed 11⁵⁵ CIP 12⁰⁵ disp 325 mud + 10 H-O WOC to pull for top cmt. Prep to unload casing.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # 23 MAKE Smith

TYPE F4 DEPTH OUT 4845 FOOTAGE 106 HOURS RUN 9

DAILY DRILLING REPORT

DATE 11/7/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION cleaning out ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: _____

unloaded 7" casing. Shut down for high winds 0900 - 1400. Found top cmt. 3405 (not tag to 3499). Laid plugs with same slurry mix as follows: 3300' - 3180 calc, 50 ft³

2809 - 2675 calc, 60 ft³

2102 - 1934 calc, 70 ft³

1577 - 1409 calc, 70 ft³ CIP 4:25 PM

WOC 9 hrs drilled external cmt at 1690-1710 tag firm at 2060-2140, 2731 - Circ'd at 2809 w/ GA

NOTE! 1690-1710 may have been a stringer and the plug at 1577 is the first true plug.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE _____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # 24 DEPTH IN _____ MAKE Smith TYPE SVH

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/8/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION W.O. Dia Jog ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

6AM OUT-HIGH 150 °F @ 3500 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: BHA: bit, stabilizer, 2 steel collars, stabilizer, 17 steel collars, 5" dp.

Drilled out cement 2500 - 2804, 3181 - 3295 and 3405 - 3520. Conditioned mud. Closed rams and made differential mud to proposed cement gradient test. Hole took 3 bbls/min at 325 psi (95/8" shoe ΔP) and 6 bbls/min at 575 psi (halfway from 95/8" shoe to T.D. ΔP) Bled to 50 psi in 1/2 min and held. Stuck pipe at 3500' at 7PM. Worked pipe and waiting on Dia Jog (9hrs)

Mud 64 #/ft³ Vis 38

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # 24 DEPTH IN _____ MAKE Smith TYPE SVH

JET NOZZLES 3-16 LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/9/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Fishing ROCK TYPE _____ HOLE SIZE 8 3/4

PRESENT T.D. 4645 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Rigged up Dia Log 0900 hrs. Ran free point, Encountered stk 1120-1400 hrs for Navel tool. Backed off fish at 2558 at 1505 hrs. Bottom of fish at 3500

Fish: bit, sub, stabilizer, 2 steel collars, stabilizer, 16 steel collars, 3 jts H.W 5" dp, 9 jts 5" dp.

Washed over fish 2558-2782 200'

Going in with tri cone fishing tool at 0600

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ___

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/16/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Fishing ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Ran Fan Joggus / fishing tools and attempted unsuccessfully to screw into fish at 2588'. Rat mouse latched on to fish could not work or pull fish free. Ran free point tool, top fish 2588 and point below at 2618 free. Could not work bumper subs. Pulled out free point tool. LCM material and cement over shakers. Addition to hole: 75 sx wt 4.0' jars 6.36, bumper sub 6.96, 15 drill collars 406.38' Accelerator bumper sub 10.20' (X) 1.32, 5' dp. Total tools + collars above 2588 — 435.76'.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE _____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

Stuck rpg also at or above accelerator bumper sub. Waiting on Halliburton to spot diesel with Pipe Line crew 2588 — 1365'.

DAILY DRILLING REPORT

DATE 11/11/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Pulling out with fish ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. _____ DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 166 °F @ 3500 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Mixed 1 1/4 gal of Pipe Release per bbl of diesel. Used 137 bbls of treatment (displacement of the drill pipe and mon. 258f - 136f) Mix was in place at 0930. Moved diesel worked pipe till hrs when upper fish could move. Backed off at 258f and pulled out fish. Ran in with fishing tools and screwed into fish at 258f Conditioned mud. Mixed 75 bbls of Pipe Release treatment and displaced 350' th 258f and half the drill pipe. In place at 0130 hrs. ~~Worked~~ worked pipe. Pipe free at 0135 hrs. Pulling out

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

cutter / hole with fish

DAILY DRILLING REPORT

DATE 11/12/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION WOC ROCK TYPE _____ HOLE SIZE 8 3/4"

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

OUT-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____°F @ _____ DEPTH: _____°F @ _____ DEPTH: _____°F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____° DIRECTION _____: DEPTH _____ ANGLE _____°

DIRECTION _____: DEPTH _____ ANGLE _____° DIRECTION _____

REMARKS: Laid down wash pipe and released Sam Joaquin fishing tool Co. - Picked up bit - ran into 3520 and conditioned hole - Ran GO X-4 caliper from 3520 to 250' - Rigged up Halliburton and tested hole - slight volume loss of 250 psi - pumped in to formation at 1BPM at 400 psi. Filled D.P. and ended @ 2749 and set cement plugs as follows: 2749-2530 - 100 FT³ slurry; 2440-2200 100 FT³ slurry; 2009-1800 - 100 FT³ slurry; 1762-1600 70 FT³ slurry - Started at 0150 - last Plug balanced at 0310. P.O.H. - WOC. Slurry was Class G w/ 1.1 Perlite, 4% Gel, & .4% HR-7

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/13/75 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION WOC ROCK TYPE _____ HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Attempted to Tag Top plug @ 1670' - Circulated on onset cement. - Conditioned hole to run Top plug - Set 200 FT³ Cement from 1557' to 1340' Pulled up to 500' and squared w/ 500 psi - squeezed less than 1 bbl. shut well in with 500 psi - WOC - Same slurry as other plugs except .3% HR-7 WOC 16 hrs. Tagged firm cement at 1258' - Drld hard cement to 1582 Tagged next Plug at 1640 - Pressured to 500 psi held okay Drilled next Plug - Set cement from 1640' to 1792' Tagged

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ___

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # RR 2 DEPTH IN _____ MAKE _____ TYPE SDT

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

next Plug at 1822 FT. Pulled up to 1540 and pressure tested - pressured in at 1 bbl/min @ 500 psi.

DAILY DRILLING REPORT

DATE 11/14/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION WOC ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. _____ DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Run 100 Ft³ Plug from 1824 ± 1600' could not get 500 psi squeeze - Slurry-#30 Ft³ WOC 1½ hrs pressured to 500 psi - bled off - Ran 70 Ft³ Plug WOC 10 hrs - Tagged cmnt Top at 1700' reversed out & ran 70 ft³ stuck plug from 1700 to ~1550 plug balanced at 0405 pulled up to shoe and squeezed w/ 500 psi WOC

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ___

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/15/72 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Making Trip ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM 1529 (cement) FT. TO 1785 FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: WOC - came out of hole picked up bit and ran in hole - Tagged Top plug at 1529' after 10 hrs WOC - drilled green cement to 1569' - pulled up and circulated for 2 hrs to let plug harden. Drilled medium hard to hard cement 1559' to 1735', no cement 1735' to 1807', tagged T/plug 1807'. Pulled up to 1302', pressured up to 400 psi, pressure decreased to 200 psi in 2 min, test comp. 1855 hrs. POH, laid down bit, shock collars, rack. Set DP open ended at 1743', pump 30 cuft wtr, 100 cuft Cmt Slurry - Class G 1:1 Perlite, 4% gel, 0.3% HR-7, displace w/ 10 cuft wtr & 140 cuft mud. Comp 2109 hrs. Set DP at 1239', pressured up to 400 psi w/ 5 cuft mud, down to 200 psi.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # RR24 DEPTH IN _____ MAKE Smith TYPE SVH

JET NOZZLES 3-16's LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

WOC 8 hrs. in 5 min, Squeeze w/ 3 stages at 5 min intervals, Shut down 2147 hrs. At 0545 hrs, filled hole & pressured to 400 psi with 6½ cuft mud, down to 300 psi in 6 min. Repressured w/ ½ cuft. POH to run wt & DC.

DAILY DRILLING REPORT

DATE 11-16-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION On TRIP ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845' DRILLED FROM 1615 FT. TO 2427 FT. MADE — FT OF HOLE

565' CEMENT

IN 4 HOURS: TRIPS 9 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 11 HOURS: REASON Naval WEAPONS TEST, Circulating, Testing, Cementing

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Pulled cement 1615-1795', pulled to shoe, pressure tested to 400 psi, pressure decr to 240 in 5 min, repressure with < 1 cu ft mud. Went in hole, drilled soft cement 1826-2021', tagged T/next plug at 237, circ hole, pulled to shoe & pressure tested, pressure decr 400 to 190 psi in 5 min, repressured w/ 2 cu ft mud. Went in hole, drilled very soft cmt 2237-2427, tagged T/next plug 2547', circ. ½ hr, pulled to shoe, pressured to 400 psi, decr to 150 psi in 5 min, repressure to 400 psi w/ 2½ cu ft, pumping in at 440, & took 5½ cu ft to 500 psi. Pulled out of hole, set open ended DP 2533', set 100 cu ft cement plug 2533-2300', pulled to shoe, cement in place 0205 hrs, attempted to squeeze, pumped in at slow rate at 325 psi, 2 cu ft/min at 400 psi, WOC 3½ hrs.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ___

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

Now on trip to pick up bit and tag T/plug. Prep to Test and Set cement plugs.

DAILY DRILLING REPORT

DATE 11-17-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Circ-Prep to Test ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM 1939 (371' Cement) FT. TO 2320 FT. MADE _____ FT OF HOLE

IN 6 1/2 HOURS: TRIPS 3 1/2 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 14 HOURS: REASON Cementing, Circulating, Testing, WOC

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Tagged T/plug 2331', pressure Tested to 500 psi, pump in at slow rate. Pulled out of hole, ran in open ended, set DP 2318' circ hole clean, set 100 sx of cement plug 1:1 Class G-Perlite, 4% sel 10 NR-T at 2318-2079 with 30 cu ft water ahead, displace wt 10 ppg water & 192 cf mud, cmt in place 240 psi. Set DP 2041' set 100 sx cement plug as above 2041-1802', displace wt 164 cf mud, cmt in place 1300 psi, pull to above DP at 1301', squeeze plug in 5 stages, start 1324 psi, complete 1700 psi, final pressure 500 psi, used 80 cu ft mud displacement. WOC 4 hrs. Pressure tested plug to 550 psi pumping 1½ cfm taking some fluid but pressure increasing. WOC 4 hrs, went in hole with drilling assembly, tagged T/plug 1939', pulled Stringers had Cmt 1939-2016, had cement 2016-2046, had Cmt 2046-2056, had cement 2056-2320. Circulating hole, prep to test.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11-18-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION logging, rigging up ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM 2334 (426' cement) FT. TO 2760 FT. MADE _____ FT OF HOLE

IN 4 1/2 HOURS: TRIPS 6 1/2 HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 13 HOURS: REASON Testing, circulating, conditioning mud, logging out

CIRCULATING TEMPERATURES: IN-HIGH 175 °F @ 3520 DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 154 °F @ 2771 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Circulated hole at 2334', pulled to shoe & pressure tested to 400 psi. Ran back in hole, drilled medium hard cement 2334-2540, circulated hole, pulled to shoe pressure tested to 500 psi, taking mud at 450 at 5 cfm. Ran back in hole, drilled very soft cmt 2547-2710, hard cmt 2710-2760 circulated hole clean from 2771. Pulled to shoe & tested, taking fluid at 4 cfm at 400 psi, broke to 350 increase to 440 psi at 6 cfm. Ran in hole to 3520, circulated hole clean & conditioned mud, pulled out of hole removed drlg assembly, ran in hole open ended to ~~3520~~ 1301'. Rigged up GO International, ran tracer log 0100-0400 hrs. Shut down to mix mud & build volume, running temperature log.

DRILLING INFORMATION: ROTARY RPM 50. PUMP PRESSURE 400 DRILLING FLUID Gel-water

CIRCULATING RATE 350 WEIGHT ON BIT 10/15 TORQUE _____ NR. DRILL COLLARS IN USE 6

O.D. 6" I.D. 2 3/4"

BIT INFORMATION: PRESENT BIT # RR24 DEPTH IN _____ MAKE Smith TYPE SVH

JET NOZZLES 3-16's LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11-19-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION ON TRIP ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON logging, fishing, circulating

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH 187 °F @ 2830 DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: 305 °F @ 2830 DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: PBTD 3520. Running RA Trace Survey in open hole through DP set at 1301'. Initial pump rate 9 cfm for survey at 1400' and 2000' full rate measured pressure near 500 psi. Decreased rate to 6 cfm at 360 psi for survey at 2500'. Full flow rate measured, pressure increased to 500 psi. Decreased rate to 4 cfm for survey at 2800' — Fluid loss 2830-2840. Tool hung at 2830', worked line & attempted to free. Called out cut & thread equipment ran in open ended dull pipe, stripped over line, hooked tool & recovered at surface. Circulated hole from 2831. Pulled out of hole, ran in with bit & drill collars. Circulated hole at TD and conditioned mud. Now pulling out prepare to log.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

Navy safety officer checked radiation during circulation, none detected in mud. Released 60 International @ 2000 hrs.

DAILY DRILLING REPORT

DATE 11-20-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Pulling out of hole ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM 557' (cement) 2641 FT. TO 3398 FT. MADE ______ FT OF HOLE

IN 6 HOURS: TRIPS 5 1/2 HOURS: SERVICE RIG ______ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME 12 1/2 HOURS: REASON Cementing, WOC, Circulating, Conditioning Mud

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______ : DEPTH ______ ANGLE ______ °

DIRECTION ______ : DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: Ran in open ended, set drill pipe 3390. Set 100 cu ft cement plug 3390-3150 w/ 30 cu ft water ahead, 100 cu ft slurry Class G 1:1 Perlite 4% gel, 0.3% HR-7, 10 cu ft water behind, displace w/ 298 cu ft mud, cement in place 214 hrs. Pulled 4 stds & single, set DP 2992, set plug as above 2992-2753 displaced w/ 258 cu ft mud, cement in place 1243 hrs. Pulled 3 stds, set DP 2716, set plug as above 2716-2558 w/ 60 cu ft cement slurry, displaced w/ 241 cu ft mud, cement in place 1306 hrs. Squeezed at 200 psi, 5 cfm displacement rate pumped 22 cu ft slurry complete 1400 hrs. At 1506 hrs pumped 2? cu ft mud, max pressure 160. At 1618 hrs, pumped 23 cu ft, max press 160. Released Halliburton 1630 hrs, laid down 15 drill collars. WOC 8 hrs. Went in hole w/ drilling assembly, drilled medium hard cement 2641-2728,

DRILLING INFORMATION: ROTARY RPM ______. PUMP PRESSURE ______ DRILLING FLUID ______

CIRCULATING RATE ______ WEIGHT ON BIT ______ TORQUE ______ NR. DRILL COLLARS IN USE ______

O.D. ______ I.D. ______

BIT INFORMATION: PRESENT BIT # ______ DEPTH IN ______ MAKE ______ TYPE ______

JET NOZZLES ______ LAST BIT RUN # ______ MAKE ______

TYPE ______ DEPTH OUT ______ FOOTAGE ______ HOURS RUN ______

2748-3025, and 3205-3398. Circulated & conditioned mud, cleaned out 5' fill 3515-3520. Pulling out of hole, prep to run casing.

DAILY DRILLING REPORT

DATE 11-21-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION GOING IN HOLE ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845' DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON Setting Casing Head & BOP's

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Circulated & conditioned mud, pulled out of hole. Set Baker 9 5/8" Lok-Set Bridge plug at 90' in 9 5/8" casing. Powered BOP-Rotating Head Stack & Pump off under substructure took out rig floor & rotary table. Cut off 10" WKH Casing head welded in 9 5/8" WKH tapered bore casing head. 9 1/2" Lucas Set 12" x 900 GK Hydril BOP and mud riser. Installed floor & rotary table. Pulled 9 5/8" bridge plug. Peep to go in hole to TD. Condition mud, peep to drill out casing.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11-22-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION WOC ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON Circulate & condition mud, Rig & Cement Casing

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Ran in hole to 3517' circulated & conditioned mud. Pull out of hole laying down 5" drill pipe & 6" Drill Collars. Rig up casing tools, ran 84 jts 3510.15', 7" 23# K55 Buttress Casing. Set at 3507' KB. Used Halliburton casing shoe, insert float valve w/ differential fill, & 15 centralizers. Circulated casing one hr w/ rig pump. Cemented casing, Dropped bottom plug 0203, ran 30 bbl H with 200 cu ft scavenger cement Class G 1:1 Pozmix A 4% gel 0.5% CFR-2 0.2% HR-12 mixed at 85 pcf; 495 cu ft Class G 2:1 Perlite 40% Silica Flour 2% gel 0.5% CFR-2 0.2% HR-12 mixed at 81 pcf & 540 cu ft Class G 1:1 Perlite 40% Silica Flour 2% gel 0.5% CFR2 0.2% HR-12 mixed at 88-94 pcf. Dropped top plug 0233, displaced w/ 76 bbl mud. Started 40 bbl per min at 300 psi pumped 650 sacks cement to place at 350 psi pumped pressure 900 psi bled back to 500 psi at 500 psi pressure decr to 200 psi. Regained partial returns 650 cf, incr to ½ returns at end, max press 1200 psi. Bumped plug 0257, 1100 psi, held back, float held. Pick up GK Hydril, & 11 CKU centralizer. Job complete 0340. WOC.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE _____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11-23-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Setting BOP's ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM ____ FT. TO ____ FT. MADE ____ FT OF HOLE

IN ____ HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON WOC, logging, installing BOP's

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: 285 °F @ 1652 DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____ : DEPTH ____ ANGLE ____ °

DIRECTION ____ : DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: WOC 14 hrs. Moved out 5" drill pipe & 6" drill collars, moved in 3½" DP, 4¾" drill collars, & Kelly. Ran Birdwell NAI log. Filled annulus with water, took about 3 bbls, slacked off on casing, no discernable slackoff in pipe. Cement top in annulus presumed to be less than 100' down. Log showed good cement from 1652 to near surface, could not define T/cement* on log. Ran thermometer on wire line on last log run. Pulled rotary table, laid down drilling nipple & 3K hydril, cut off casing 29" above CH flange, installed 54" adapter spool w/ bit guide, set in BOP stack & rotating head. Now flanging up bloee line.

DRILLING INFORMATION: ROTARY RPM ____. PUMP PRESSURE ____ DRILLING FLUID ____

CIRCULATING RATE ____ WEIGHT ON BIT ____ TORQUE ____ NR. DRILL COLLARS IN USE ____

O.D. ____ I.D. ____

BIT INFORMATION: PRESENT BIT # ____ DEPTH IN ____ MAKE ____ TYPE ____

JET NOZZLES ____ LAST BIT RUN # ____ MAKE ____

TYPE ____ DEPTH OUT ____ FOOTAGE ____ HOURS RUN ____

* Note: Cemt. top picked at 107' below G.L. by DOE/NV.

DAILY DRILLING REPORT

DATE 11-24-77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Testing BOP's ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845' DRILLED FROM _____ FT. TO _____ FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME 24 HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

OUT-HIGH _____ °F @ _____ DEPTH: LOW _____ °F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH: _____ °F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____ ° DIRECTION _____: DEPTH _____ ANGLE _____ °

DIRECTION _____: DEPTH _____ ANGLE _____ ° DIRECTION _____

REMARKS: Nipple up BOP's. Service 3½ bus for weapons tool. Lay out 5" DP unload 3½" DP & Kelly. Set in rotary. Valve & Hose. Change out type saver. Lay down 6" Kelly. Change Kelly adapter. Pick up 4" Kelly. Tested blind rams to 1000 psi for ½ hr. Successful. Build Wash on top blind rams.

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE _____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/25/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION [illegible] Bottom ROCK TYPE Granite HOLE SIZE 8 3/4"

PRESENT T.D. 4845 DRILLED FROM ____ FT. TO ____ FT. MADE ____ FT OF HOLE

IN ____ HOURS: TRIPS ____ HOURS: SERVICE RIG ____ HOURS: HOLE SURVEY ____ HOURS:

OTHER DOWNTIME ____ HOURS: REASON ____

CIRCULATING TEMPERATURES: IN-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

OUT-HIGH ____ °F @ ____ DEPTH: LOW ____ °F @ ____ DEPTH

BOTTOM HOLE TEMPERATURE: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH: ____ °F @ ____ DEPTH

HOLE DEVIATION: DEPTH ____ ANGLE ____ ° DIRECTION ____ : DEPTH ____ ANGLE ____ °

DIRECTION ____ : DEPTH ____ ANGLE ____ ° DIRECTION ____

REMARKS: Finished installing floor and Rotary Table.
Picked up Drill Collars, H.W. Drill Pipe and drill pipe.
Found top of plug @ 2452'. Pressured tested casing &
pipe rams to 1000 psi OK. Drilled out plug @ 2452 &
cement and shoe @ 2550'. Pulled out, rigged up to [illegible]
[illegible]. Ran in [illegible] @ 700, 1200, 1700, 2200, 2700
& 2550. Cleaned out cement to 2600.
[illegible]
6" Bit, [illegible] 9-4 3/4" Collars, 30-3 1/2" H.W. Drill pipe &
2 7/8" drill pipe.

DRILLING INFORMATION: ROTARY RPM 60. PUMP PRESSURE 500 DRILLING FLUID [illegible]

CIRCULATING RATE 350 WEIGHT ON BIT 2-5 TORQUE ____ NR. DRILL COLLARS IN USE 9

O.D. 4 3/4 I.D. ____

BIT INFORMATION: PRESENT BIT # 6 DEPTH IN 2550 MAKE [illegible] TYPE [illegible]

JET NOZZLES [illegible] LAST BIT RUN # [illegible] MAKE [illegible]

TYPE DT-1 DEPTH OUT 2550 FOOTAGE — HOURS RUN [illegible] [illegible]

DAILY DRILLING REPORT

DATE _____ HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION _____ ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. _____ DRILLED FROM _____FT. TO _____FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

OUT-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____°F @ _____ DEPTH: _____°F @ _____DEPTH: _____°F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____° DIRECTION _____: DEPTH _____ ANGLE _____°

DIRECTION _____: DEPTH _____ ANGLE _____° DIRECTION _____

R E M A R K S: _____

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____. DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE 11/27/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Cleaning out hole ROCK TYPE Granite HOLE SIZE 8 3/4

PRESENT T.D. 4845 DRILLED FROM ______ FT. TO ______ FT. MADE ______ FT OF HOLE

IN ______ HOURS: TRIPS ______ HOURS: SERVICE RIG ______ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______: DEPTH ______ ANGLE ______ °

DIRECTION ______: DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: Stopping rock towards bottom from 7" shoe. Circulated out fine sand from 4650 to 4791. Hole packed off. Worked pipe free. Reamed to 4791. Hole packed off. Worked stuck pipe to 4765. Stuck at 0445 hrs. Now working stuck pipe at 4765

Circulating Air Pressure 600-900 psi

DRILLING INFORMATION: ROTARY RPM ______. PUMP PRESSURE ______ DRILLING FLUID ______

CIRCULATING RATE ______ WEIGHT ON BIT ______ TORQUE ______ NR. DRILL COLLARS IN USE ______

O.D. ______ I.D. ______

BIT INFORMATION: PRESENT BIT # 26 DEPTH IN 3550 MAKE Smith TYPE F3

JET NOZZLES none LAST BIT RUN # 25 MAKE Smith

TYPE DT-J DEPTH OUT 3550 FOOTAGE ______ HOURS RUN 3 1/2

[illegible] 1 - 7 [illegible]

DAILY DRILLING REPORT

DATE 11/28/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Cleaning hole ROCK TYPE ______ HOLE SIZE ______

PRESENT T.D. 4845 DRILLED FROM ______ FT. TO ______ FT. MADE ______ FT OF HOLE

IN ______ HOURS: TRIPS ______ HOURS: SERVICE RIG ______ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______ : DEPTH ______ ANGLE ______ °

DIRECTION ______ : DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: Worked stuck pipe free at 4765'. Pulled up to 3485'. Circulated out 170°F water at 130 bbl/hr rate for 2 hrs. Air pressure was 300 psi. Pulled up to 500' and stopped to determine water level. Found water at 1000'. Rigged up to use aerated water. Staged in hole. Reamed and cleaned out to 4780 at 6 AM

Air - on compressor + booster 600 psi. Rig pump ~ 200 psi. Water out 160°F

DRILLING INFORMATION: ROTARY RPM ______. PUMP PRESSURE ______ DRILLING FLUID ______

CIRCULATING RATE ______ WEIGHT ON BIT ______ TORQUE ______ NR. DRILL COLLARS IN USE ______

O.D. ______ I.D. ______

BIT INFORMATION: PRESENT BIT # 26 DEPTH IN 3556 MAKE Smith TYPE F3

JET NOZZLES none LAST BIT RUN # ______ MAKE ______

TYPE ______ DEPTH OUT ______ FOOTAGE ______ HOURS RUN ______

DAILY DRILLING REPORT

DATE 11/30/77 HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION Cleaning hole ROCK TYPE ______ HOLE SIZE ______

PRESENT T.D. 4545 DRILLED FROM ______ FT. TO ______ FT. MADE ______ FT OF HOLE

IN ______ HOURS: TRIPS ______ HOURS: SERVICE RIG ______ HOURS: HOLE SURVEY ______ HOURS:

OTHER DOWNTIME ______ HOURS: REASON ______

CIRCULATING TEMPERATURES: IN-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

OUT-HIGH ______ °F @ ______ DEPTH: LOW ______ °F @ ______ DEPTH

BOTTOM HOLE TEMPERATURE: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH: ______ °F @ ______ DEPTH

HOLE DEVIATION: DEPTH ______ ANGLE ______ ° DIRECTION ______ : DEPTH ______ ANGLE ______ °

DIRECTION ______ : DEPTH ______ ANGLE ______ ° DIRECTION ______

REMARKS: Stuck in hole. Tagged fill at 4775' at 0800 hrs. Pulled up and secured rig for Naval weapons test. Started rig up again at 1100 hrs. Cleaned out at 4590 at 1500 hrs — 174° & fine to med. formation, 177° at 1700 hrs. Hole making about 1200 bbl/hr. Circulate & cleanout from 4590 to 4545 at 0600 hrs. Hole making about 150 bbl/hr of 185° water & fine to coarse formation.

Air 500 psi, Rig pump 600 psi

DRILLING INFORMATION: ROTARY RPM ______. PUMP PRESSURE ______ DRILLING FLUID aerated water

CIRCULATING RATE ______ WEIGHT ON BIT ______ TORQUE ______ NR. DRILL COLLARS IN USE ______

O.D. ______ I.D. ______

BIT INFORMATION: PRESENT BIT # 27 DEPTH IN 4545 MAKE Smith TYPE F3

JET NOZZLES none LAST BIT RUN # ______ MAKE ______

TYPE ______ DEPTH OUT ______ FOOTAGE ______ HOURS RUN ______

DAILY DRILLING REPORT

DATE _____ HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION _____ ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. _____ DRILLED FROM _____FT. TO _____FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

OUT-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____°F @ _____ DEPTH: _____°F @ _____DEPTH: _____°F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____° DIRECTION _____: DEPTH _____ ANGLE _____°

DIRECTION _____: DEPTH _____ ANGLE _____° DIRECTION _____

REMARKS: _____

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE _____ HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION _____ ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. _____ DRILLED FROM _____FT. TO _____FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

OUT-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____°F @ _____ DEPTH: _____°F @ _____DEPTH: _____°F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____° DIRECTION _____: DEPTH _____ ANGLE _____°

DIRECTION _____: DEPTH _____ ANGLE _____° DIRECTION _____

R E M A R K S: _____

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____

DAILY DRILLING REPORT

DATE _____ HOLE CGEH # 1 LOCATION COSO HOT SPRINGS AREA, CALIFORNIA

PRESENT OPERATION _____ ROCK TYPE _____ HOLE SIZE _____

PRESENT T.D. _____ DRILLED FROM _____FT. TO _____FT. MADE _____ FT OF HOLE

IN _____ HOURS: TRIPS _____ HOURS: SERVICE RIG _____ HOURS: HOLE SURVEY _____ HOURS:

OTHER DOWNTIME _____ HOURS: REASON _____

CIRCULATING TEMPERATURES: IN-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

OUT-HIGH _____°F @ _____ DEPTH: LOW _____°F @ _____ DEPTH

BOTTOM HOLE TEMPERATURE: _____°F @ _____ DEPTH: _____°F @ _____DEPTH: _____°F @ _____ DEPTH

HOLE DEVIATION: DEPTH _____ ANGLE _____° DIRECTION _____: DEPTH _____ ANGLE _____°

DIRECTION _____: DEPTH _____ ANGLE _____° DIRECTION _____

R E M A R K S: _____

DRILLING INFORMATION: ROTARY RPM _____. PUMP PRESSURE _____ DRILLING FLUID _____

CIRCULATING RATE _____ WEIGHT ON BIT _____ TORQUE _____ NR. DRILL COLLARS IN USE ____

O.D. _____ I.D. _____

BIT INFORMATION: PRESENT BIT # _____ DEPTH IN _____ MAKE _____ TYPE _____

JET NOZZLES _____ LAST BIT RUN # _____ MAKE _____

TYPE _____ DEPTH OUT _____ FOOTAGE _____ HOURS RUN _____