G02380 OGC # 21777 CONFIDENTIAL

CORNISH

WIRELINE SERVICES, INC.
P.O. DRAWER H
CHANUTE, KANSAS
PHONE 431-9308

CEMENT BOND — VARIABLE DENSITY

RUNG NO.

COMPANY CARMEL ENERGY, INC.
WELL DISSH NO. ES-N10L
FIELD Spring
COUNTY VERNON STATE MISSOURI

RECEIVED
MAR 20 1985
MO. OIL & GAS COUNCIL

LOCATION 2565.13' E TO E/L
2396.05' S TO S/L
Sec. 33 Twp. 35N Rge. 33W

OTHER SERVICES:
GR/N: 3-25-85

Permanent Datum: GROUND LEVEL Elev. 792.6'
Log Measured from TOP OF FLANGE Ft. Above Perm. Datum
Drilling Measured From G.L.

Elev.: K.B. D.F. G.L. 792.6'

Date	3-25-85	Type Fluid in Hole	WATER/FULL
Run No.	1 NW	Dens. / Visc.	
Depth—Driller		Max. Rec. Temp.	
Depth—Logger	145.8'	Est. Cement Top	
Btm. Log Interval	140.0'	Equip. / Location	105 C.A. KS
Top Log Interval	8'	Recorded By	LYNCH, L.
Open Hole Size		Witnessed By	STUESSE, G.

CASING REC.	Size	Wt/Ft	Grade	Type Joint	Top	Bottom
Surface String						
Prot. String						
Prod. String	4½"				0	T.D.
Liner						

PRIMARY CEMENTING DATA

STRING	Surface	Protection	Production	Liner
Vol. of cement				
Type of cement				
Additive				
Additive by %				
Retarder				
Retarder by %				
Wt. of slurry				
Water loss				
Drill. mud type				
Drilling mud wt.				

FOLD HERE

COMPRESSIVE STRENGTH (p.s.i. | Curing Temp.)

Time Elapsed	Surface		Protective		Production		Liner	
24 hrs.		°F		°F		°F		°F
48 hrs.		°F		°F		°F		°F
72 hrs.		°F		°F		°F		°F

PRIMARY CEMENTING PROCEDURE

	Hour — date	Hours from start of operation
Started pumping cement		
Plug on bottom		
Release pressure		
Start Cement Bond Log		
Finish Cement Bond Log		

Equipment Data
Type standoff
Logging speed
Bias: Max.
Cartridge No.
Spacing

Preceding fluid _____ Volume _____ bbls.
Returns: Full _____ Partial _____ None _____

Pipe reciprocated during Pumping: Yes _____ No _____
Pipe reciprocated after plug down: Yes _____ min., No _____

CASING BOND	DEPTH	TRANSIT TIME	VARIABLE DENSITY
BOND INCREASES ← 100% 0%		640 140 MICROSECONDS	200 1000 MICROSECONDS
		CASING COLLARS	

DISSH NO. ES-N10L

CARMEL ENERGY, INC.

VERNON COUNTY, MISSOURI

MARCH 25, 1985

BOND/MSG

33/35N/33W