EPOCH WELL LOGGING, INC.

COMPANY	ARCO OIL AND GAS CO.
WELL	[illegible] 24-9-64
FIELD	MIST
LOCATION	[illegible] from the [illegible] of Sec. 9, T6N, R4W
COUNTY, STATE	Columbia, Oregon
API WELL INDEX NO.	
ELEVATION	[illegible] K.B.
DATES FROM	[illegible] TO [illegible]
DEPTHS FROM	[illegible] TO [illegible]
SPUD DATE	[illegible]
DRILLING CONTRACTOR	[illegible] Rig [illegible]
MUD COMPANY	[illegible]
LOGGING GEOLOGISTS	[illegible], [illegible] Eastes

ABBREVIATIONS

NB	BIT	MW	MUD WEIGHT
RRB	RERUN BIT	VIS	FUNNEL VISCOSITY
RTB	RE-TIP BIT	PV	PLASTIC VISCOSITY
CB	CORE BIT	YP	YIELD POINT
T.G.	TRIP GAS	FL	FLUID LOSS (cc/30 min)
S.G.	SURVEY GAS	CL	PPM CHLORIDE ION
W.G.	WIPER GAS	RM	MUD RESISTIVITY
C.G.	CONNECTION GAS	RMF	FILTRATE RESISTIVITY
WOB	WEIGHT ON BIT	LAT	LOGGED AFTER TRIP
RPM	ROTARY REV MIN	NR	NO RETURNS
PP	PUMP PRESSURE	PR	POOR RETURNS
SPM	STROKES/MIN	MUD TYPE	[illegible] Mud

CASING RECORD

13 3/8" AT [illegible]

7" AT [illegible]

HOLE SIZE

[illegible] AT [illegible]

[illegible] AT [illegible]

SAND/SANDSTONE · CLAY · LIMESTONE · TUFF · LIGNITE

SHALE · DIATOMITE · DOLOMITE · FOSSIL · GLAUCONITE

SILTSTONE · CONGLOMERATE · BASALT · MICA · PYRITE

OIL: BASED ON LIVE OIL IN UNWASHED CUTTINGS AND PERCENT STAINING AND FLUORESCENCE OF WASHED SAMPLES.

PENETRATION — ANALYSIS OF RETURNS — REMARKS

DRILL RATE (FT HR) drilling data · DEPTH · LITHOLOGY · OIL (TRACE, STRONG TRACE, SHOW, STRONG SHOW) · GAS — UNITS: DITCH — TOTAL GAS, CUTTINGS GAS, CALIBRATION 100 units = 2% methane by volume · CHROMATOGRAPH — PPM: METHANE C-1, ETHANE C-2, PROPANE C-3, BUTANES C-4, PENTANES C-5 · LITHOLOGIC DESCRIPTION, MUD PROPERTIES, SURVEYS, OTHER TEST DATA

NOTE: ALL DEPTHS ARE K.B.

Note: All cartides 500gm unless otherwise noted.

Note: All lith colors referenced to the GSA Rock Color Chart.

Note: Modifiers in Accessory Mineral Column are referenced to the number of cuttings present in a standard sample tray:

Rare..............1-5 cuttings

Occasional........5-10 cuttings

Common............10+ cuttings

Abundant..........present thru entire sample.

Spud @ 9:30am, 8-28-88

13 3/8" cond cg 30'K.B.

RRB No.1, 12¼"

Rm 1.10

Rmf 0.90

Sal 6,200ppm