

EPOCH

WELL LOGGING, INC.

COMPANY NORTHWEST NATURAL GAS COMPANY
WELL 1W33AC-3
FIELD MIST
LOCATION 1469.94' North & 1706.40' West of SE corner of Sec 3, T6N, R5W W8M
COUNTY, STATE COLUMBIA, OREGON
API WELL INDEX NO. 36-009-00268

ABBREVIATIONS		CASING RECORD	
NB BIT	MW MUD WEIGHT	20" Cond AT 24'	
RRB RE-RUN BIT	VIS FLUNNEL VISCOSITY	13 3/8" AT 272'	
RTB RE-TRIP BIT	PV PLYSTIC VISCOSITY	5 5/8" AT 2623'	
CB CORE BIT	YL FLY 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		
RP ROTARY REV/MIN	NR NO RETURNS		
PP PUMP PRESSURE	PR POOR RETURNS		
SPM STROKES/MIN	MUD TYPE 57		

ELEVATION 1075.19' G.L., 1086.69' K.B.
DATES FROM 11/19/90 TO 12/03/90
DEPTHS FROM 80' B.V. TO 2897'
SPUD DATE 11/19/90
DRILLING CONTRACTOR TAYLOR DRILLING INC. RIG #5
MUD COMPANY BEAVER MUD CO.
LOGGING GEOLOGISTS CRAIG ANDERSON, CRAIG SILVA

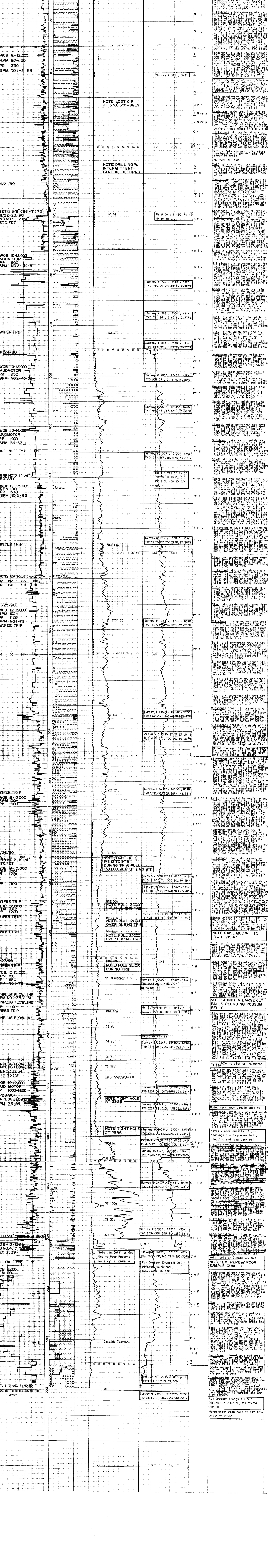
<input type="checkbox"/> SAND/SANDSTONE	<input type="checkbox"/> CLAY	<input type="checkbox"/> LIMESTONE	<input type="checkbox"/> TUFF	<input type="checkbox"/> LIGNITE
<input type="checkbox"/> SHALE	<input type="checkbox"/> DIATOMITE	<input type="checkbox"/> DOLOMITE	<input type="checkbox"/> FOSSIL	<input type="checkbox"/> GLAUCONITE
<input type="checkbox"/> SLTSTONE	<input type="checkbox"/> CONGLOMERATE	<input type="checkbox"/> TRUFF	<input type="checkbox"/> M	<input type="checkbox"/> PYRITE

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

NOTE: - The G.S.A. ROCK COLOR CHART is used as a reference for lithology color determinations.
 - All well logging equipment used by EPOCH is calibrated to S.P.W.L.A. standards.
 - All reported carboxides are based on a 500 gram amount unless otherwise indicated.
 - Trip and Wiper Trip Gas are recorded as the total gas amount.
 - Connection, Survey and Carboxide Gas are recorded as the gas amount above the estimated background gas.
 NOTE: - The Incidence of abundance, which is based on a count of the observed number of accessory grains or minerals in the area of a standard sieve tray, is used to determine modifying symbols in the ACCESSORY MINERAL COLUMN.
 - The proper descriptive modifier is obtained by using the ACCESSORY MINERAL COLUMN CHART as a reference.

ACCESSORY MINERAL COLUMN CHART:

MODIFIER	ABUNDANCE	EXAMPLE (Glaucconite)
Rare	1-5 counts	rr g
Occasional	6-10 counts	g
Common	10+ counts	G
Abundant	present throughout	G



DATE: 6-5130AM 12/03/90
 TOTAL DEPTH - DRILLERS DEPTH: 2897'