EPOCH WELL LOGGING, INC.

COMPANY	NAVARRO & WEASANT ENERGY CO.
WELL	L. F. 13-35-65
FIELD	WEST
LOCATION	North 00°25'27" E East 2224.06', South 89°34'33" E East 1195.39', from SW corner of Sec 35, T6S, R5W W.M.M.
COUNTY, STATE	COLUMBIA, OREGON
API WELL INDEX NO.	36-009-00232
ELEVATION	654.19' G.L. 665.69 K.B.
DATES	FROM 11/11/90 TO 11/15/90
DEPTHS	FROM 35' TO 2150'
SPUD DATE	11/11/90
DRILLING CONTRACTOR	TAYLOR DRILLING INC., RIG NO. 5
MUD COMPANY	BEAVER MUD CO.
LOGGING GEOLOGISTS	CRAIG ANDERSON CRAIG SILVA

ABBREVIATIONS

NB	BIT	MW	MUD WEIGHT
RNB	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 REVMIN	NR	NO RETURNS
PP	PUMP PRESSURE	PR	POOR RETURNS
SPM	STROKES/MIN	MUD TYPE	LC

CASING RECORD

16" Cond.	AT	20'
8 5/8"	AT	442'
	AT	
	AT	
	AT	

HOLE SIZE

12¼"	AT	442'
7 7/8"	AT	2150'
	AT	
	AT	

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.

NOTES: - The "Munsell Rock Color Chart" is the reference used for lithology color determinations.
- All EPOCH well logging equipment is calibrated to API standards.
- Reported samples are based on a 100-mesh screen unless otherwise indicated.
- Trip Gas is reported as the observed total amount. All other gas(connection, survey, wiper, carbon) are reported as the amount above the ambient background gas.

NOTES: - Modifiers used in the ACCESSORY MINERAL COLUMN are determined by counting the number of accessory grains or fragments observed in the area of a standard sample tray, and then referencing that number to the chart giving ranges of frequency of abundance and corresponding modifying terms.

ACCESSORY MINERAL COLUMN	MODIFIER	ABUNDANCE	CHAMPIONSHIP BUCKETFUL
	Rare	1-5 counts	FF 0
	Occasional	6-10 counts	F 5
	Common	10+ counts	C 0
	Abundant	present throughout	A 0

PENETRATION

EPOCH WELL LOGGING
DRILL RATE (FT/HR)
drilling data

ANALYSIS OF RETURNS

DEPTH · LITHOLOGY · TRACE STRONG TRACE STRONG SHOW

OIL

GAS — UNITS

DITCH — TOTAL GAS

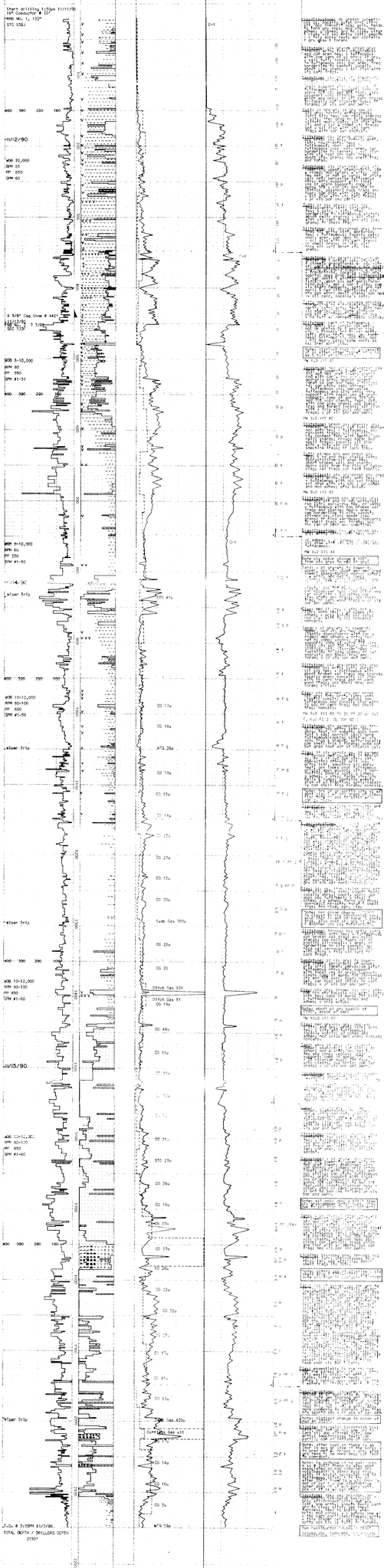
CUTTINGS GAS

CALIBRATION 100 units = 2% methane by volume

CHROMATOGRAPH — PPM

METHANE, C-1, ____
ETHANE, C-2, ____
PROPANE, C-3, ____
BUTANES, C-4, ____
PENTANES, C-5, ____

ACCESSORY MINERAL COLUMN

REMARKS

LITHOLOGIC DESCRIPTION
MUD PROPERTIES
SURVEYS, OTHER TEST DATA