SPOCA WELL LOGGING, INC.

COMPANY	ARCO OIL and GAS Co.
WELL	C.E.R. 41-16-64
FIELD	WIST
LOCATION	272.27' South and 798.34' West of the NE corner of Section 16, T8S, R4W, W.M.Bl.
COUNTY, STATE	Columbia, Oregon
API WELL INDEX NO.	
ELEVATION	1596.54' L.L., 1628.64' K.B.
DATES FROM	9-5-89 TO 9-11-89
DEPTHS FROM	1074.0. TO 2107'M.D.
SPUD DATE	8-31-89
DRILLING CONTRACTOR	Taylor Drilling, Rig #5
MUD COMPANY	Baroid
LOGGING GEOLOGISTS	Craig Anderson Gary Sandstrom

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 (ml/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 RPM/MIN	NR	NO RETURNS
PP	PUMP PRESSURE	PR	POOR RETURNS
SPM	STROKES/MIN	MUD TYPE	Lo Mud (Polymer mud)

CASING RECORD

13 3/8" conc.	AT	50'	
9 5/8"	AT	516'	
"	AT	1164'	
"	AT		

HOLE SIZE

17 1/2"	AT	50'	
12 1/4"	AT	1164'	
8 1/2"	AT	1555'	
6 1/4"	AT	2107'	

JB SAND/SANDSTONE; CLAY; X LIMESTONE; T TUFF; ▬ LIGNITE; SHALE; MUDSTONE; Z DOLOMITE; F FOSSIL; G GLAUCONITE; SILTSTONE; CONGLOMERATE; BASALT/ANDESITE; M MICA; P PYRITE

OIL SHOW OR LIVE OIL IN UNPLUGGED CUTTINGS AND PRESENT STAINING AND FLUORESCENCE OF WASHED SAMPLES.

PENETRATION

SPOCA WELL LOGGING, INC.

DRILL RATE (FT/HR)

drilling data

ANALYSIS OF RETURNS

DEPTH

<-DEPTH->

TRACE FLUORESCENCE

TRACE STAINING SHOW

OIL — GAS — UNITS

DITCH — TOTAL GAS

CUTTINGS GAS

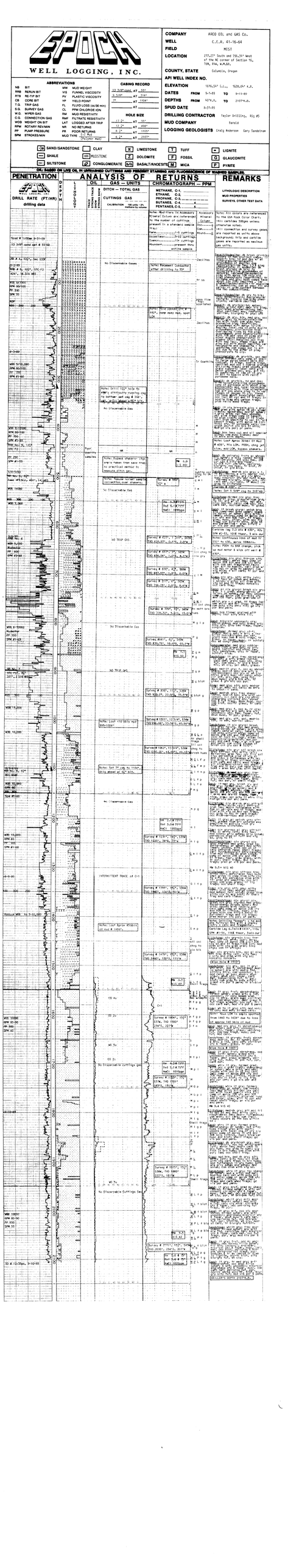
CALIBRATION 100 units = 2%

CHROMATOGRAPH — PPM

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

REMARKS

LITHOLOGIC DESCRIPTION

MUD PROPERTIES

SURVEYS, OTHER TEST DATA