HORIZON
MELL LOGGING

ABBREVIATIONS	
CO	Circulate Out
LAT	Logged After Trip
LAS	Logged After Survey
CO	Connection Gas
KC	Kelly Cut gas
WG	Wiper Gas
TG	Trip Gas
SG	Survey Gas
WR	Wiper Run
CORE	CORE INTERVAL
MOB	(100.000# full scale)
TRIP	

SYMBOLS: PERMEX >2mm, SAND, SANDSTONE, SILTSTONE, MUDSTONE, SHALE, MARL, CLAY, CHERT, DOLOSTONE, LIMESTONE, VOLCANICS, TUFF, BASALT

COMPANY	NARANA & WEAGANT ENERGY CO.
WELL	"CROSS CREEK" JOHNSTON #13-30-65 RD #1
LOCATION	982.7'S and 890.6' E from the NW corner of Section 30, T6S, R5W, W.M.
ELEVATION	633.7' G.L. 643.7' K.B.
FIELD	WILD
COUNTY	Columbia, Oregon
API NUMBER	36-009-00191
SPUD DATE	10-15-93
LOGGING DATES	11-1-93 to 11-5-93
LOGGING DEPTHS	100' to 2811'
GEOLOGIST	Jeff Vaughan
COMPANY MAN	Bill Gacon
CONTRACTOR	Taylor Drilling Inc.
RIG	7
LOGGING GEOLOGISTS	Jim Kesler, Dan Cross
BIT SIZE	7.875" to 2411'
CASING	8.625" to 517'
DRILLING FLUID	Enterprise
MUD ENGINEER	Rick Jones (consultant)
CALIBRATION IN MINUTES	4.00 units

DRILL RATE | LITHOLOGY | MINERAL | GASES | CHROMATOGRAPH | REMARKS

GAS: DITCH GAS, OPYSCALE, CUTTINGS GAS, OPYSCALE

CHROMATOGRAPH: METHANE, ETHANE, PROPANE, BU-ANE, PENTANE

REMARKS: DESCRIPTIONS, SURVEYS, C1 CHECKS, MISCELLANEOUS

Pump Output
#1:11.5BBL/stk
#2:11.5BBL/stk
(.1530BBL/ft = 6.4gal)

9.875" Dig @ 517' K.B.
K.O.P. 560'
RKB #1: 14.00'
GM DF / 7.875": 3-15'W
11-1-93
WOB x.000

ROP SCALE
100 200 300

WOB x.000
RPM 100-200
SPM 20-25

MONITORING

WOB x.000
RPM 100-200
SPM 20-25

WOB 10-15,000
RPM 100-200
SPM 20-25

ROP SCALE

WOB 12-15,000
RPM 100-120
SPM 20-25

Wipe Hole

ROP SCALE
100 200 300

WOB 12-15,000
RPM 100-120
SPM 20-25

*NOTE ROP SCALE CHANGE
100 200 300
150 180 210

Wipe Hole
Reamed
INCR WOB 10-20,000

WOB 10-20,000
RPM 100
SPM 20-25

Wipe Hole

WOB 15-20,000
RPM 100
SPM 20-25

WOB 15-20,000
RPM 100
SPM 20-25

WOB 15-20,000
RPM 100
SPM 20-25

Bit #1
7.875" Dia
Hughes
TS-8mx

WOB 15-20,000
RPM 100-110
SPM 20-25

WOB 17-18,000
RPM 100-110
SPM 20-25

ROP SCALE
100 200 300

WOB 17-18,000
RPM 100-110
SPM 20-25

ROP SCALE
100 200 300

WOB 17-18,000
RPM 100-110
SPM 20-25

WOB 17-18,000
RPM 100-110
SPM 20-25

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WOB 17-18,000
RPM 100-110
SPM 20-25

WOB 17-18,000
RPM 100-110
SPM 20-25

WOB 17-18,000
RPM 100-110
SPM 20-25

WOB 17-18,000
RPM 100-110
SPM 20-25

Bit #2
7.875" Dia
Smith
F2

TD 06:45, 11-05-93, 2811'

MINERAL COLUMN (Highlights)

SAGER CREEK

KEASEY

TD 5a, 28ms

(TVD)

Note: Hole packing off 1710'

TD 10a, 3.25hrs

Note: see through shale drill cuttings, mud density never commenced increasing appearent (?) percentage

TD 12a, 2.58hrs

Wipe Hole to Shoe 7:10PT; 11-05-93

TD 13a, 21.25hrs, Max. TWO 1647', 1917'&, 2811'

TD 14a, 1.8hrs

Wipe Hole to Shoe 7:30PT; 11-05-93

TD 15a, 1.5hrs

Note: Pr Bit quality - Loose cone bearings (Bit Balled Up)

Wipe Hole 1.8hr

Wipe Hole 1.5hr

Note: Cuttings Gas

TD 16a, 1.8hr

Wipe Hole to Shoe 7:30PT; 11-05-93

TD 17a, 1.8hr

Wipe Hole to Shoe 7:30PT; 11-05-93

TD 18a, 1.8hr

Wipe Hole to Shoe 7:30PT; 11-05-93

TD 19a, 1.8hr

Wipe Hole to Shoe 7:30PT; 11-05-93

TD