

INPUT DATA

Strokes per minute: 7.0 Fluid level
 Run time (hrs/day): 24.0 (ft from surface): 2300
 Tubing pres. (psi): 150.0 (ft over pump): 0
 Casing pres. (psi): 50.0 Stuf.box fr. (lbs): 100

Fluid properties

Water cut: 80%
 Water sp. gravity: 1.05
 Oil API gravity: 42.0
 Fluid sp. gravity: 1.003

Motor & power meter

Power meter: Detent
 Electr. cost: \$.06/KWH
 Type: NEMA D

Unit: American "The Producer"; SN CONTAINS: "3TC"

API size: C-228-143-144 (unit ID: CAP59)

Crank hole #2 (out of 3)
 Calculated stroke length (in): 122.3
 Rotation with well to right: CCW
 Max. CB moment (M in-lbs): Unknown
 Structural unbalance (lbs): -1150
 Crank offset angle (deg): 0.0

Tubing and pump information

Tubing O.D. (in): 2.375 Rod-tub. frict.: 0.54 (up)
 Tubing I.D. (in): 1.995 0.54 (dn)

Pump depth (ft): 2300.0 Tubing is not anchored
 Pump condition: Full Pump load adj. (lbs): 0
 Pump type: Insert Pump vol. efficiency: 85%
 Plunger size (in): 1.5

Rod string design (rod tapers calculated)

Diameter (inches)	Rod Grade	Length (ft)	Tensile Strength (psi)
0.75	Morris78	2300	130000

CALCULATED RESULTS

Peak pol. rod load (lbs): 6849 Balanced minimum
 Min. pol. rod load (lbs): 2359 required motor HP: 8.8
 System eff. (Motor->Pump): 39% Polished rod HP: 5.3
 Fluid load on pump (lbs): 1942 Unit struct. loading: 48%
 Buoyant rod weight (lbs): 3501 W/No': 0.066, Fo/SKR: 0.033
 Production rate (BFPD): 183

Required prime mover size
 (speed var. not included)

BALANCED

NEMA D motor: 10 HP
 Single/double cyl. engine: 10 HP
 Multicylinder engine: 10 HP

Torque analysis and
 electricity consumption

BALANCED

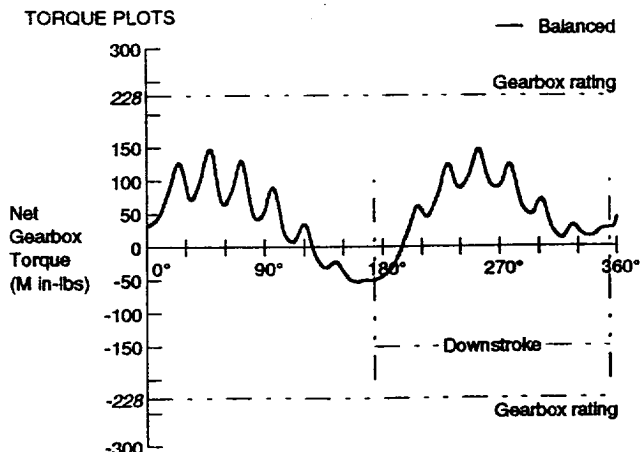
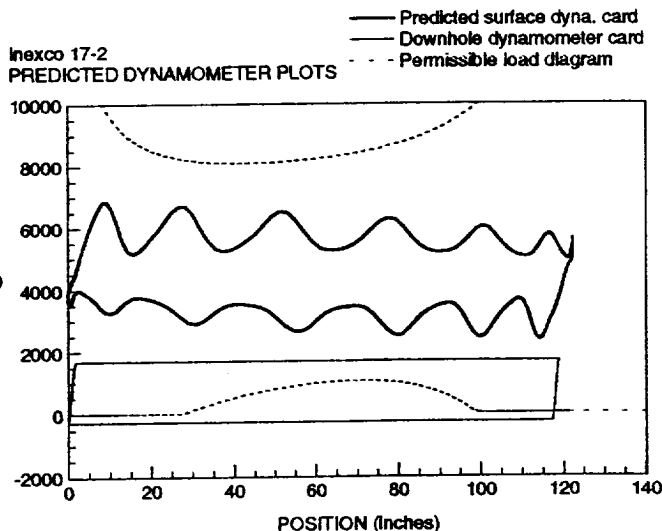
Peak g'box torq. (M in-lbs): 147
 Gearbox loading: 65%
 Cyclic load factor: 1.51
 Max. CB moment (M in-lbs): 355.60
 Counterbalance effect (lbs): 4901
 Daily electr. use (KWH/day): 143
 Monthly electric bill: \$262
 Electr. cost per bbl. fluid: \$0.047
 Electr. cost per bbl. oil: \$0.235

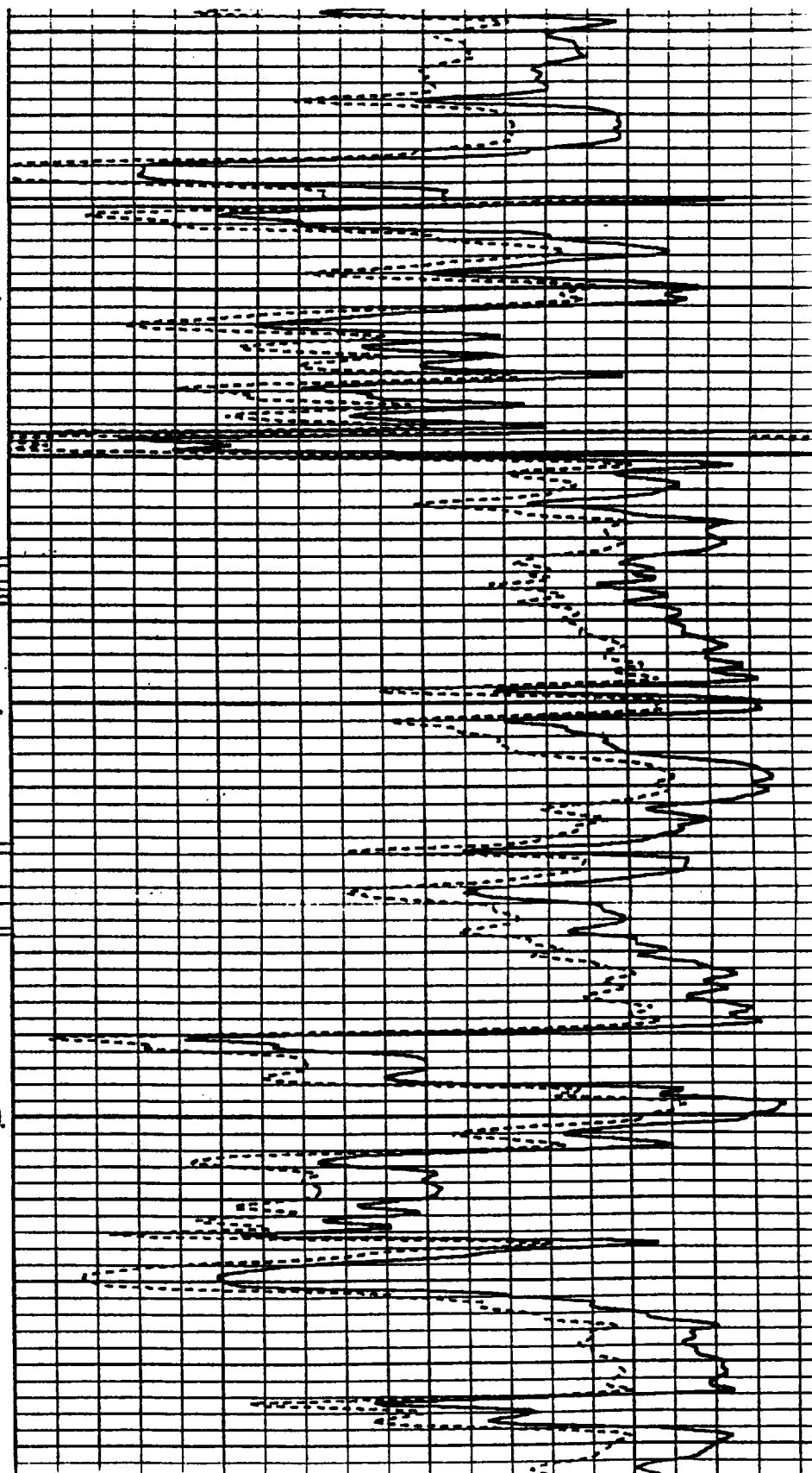
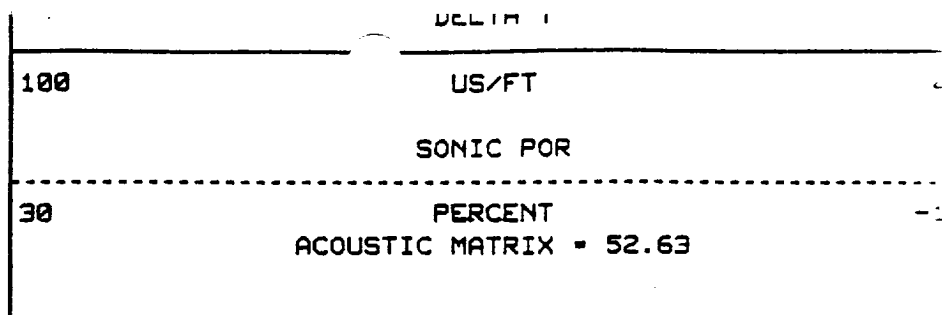
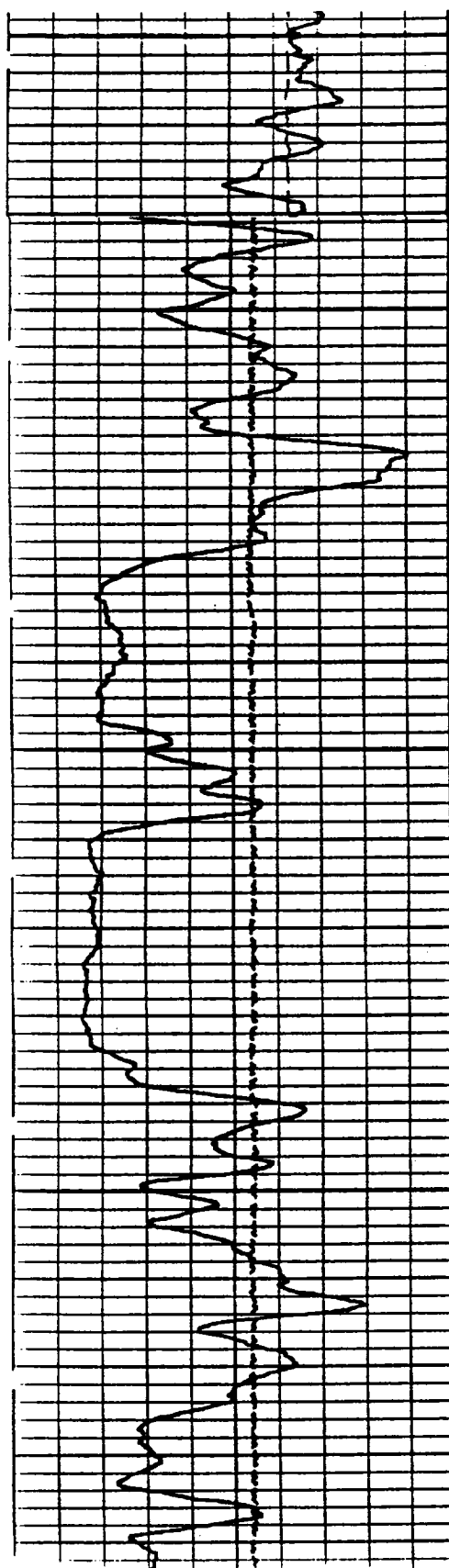
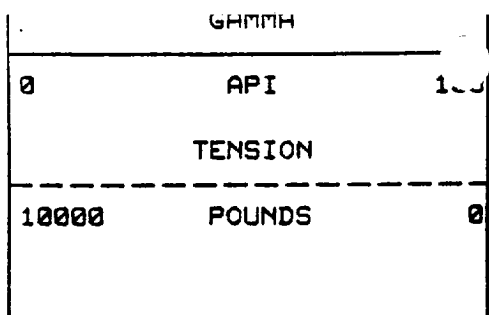
Tubing, pump and plunger calculations

Tubing stretch (in): 1.3
 Prod. loss due to tubing stretch (BFPD): 2
 Gross pump stroke (in): 119
 Pump spacing (in. from bottom): 6.9
 Minimum pump length (ft): 14.0
 Recommended plunger length (ft): 2.0

Rod string stress analysis (service factor: 1.0)

Stress Load %	Top Maximum Stress (psi)	Top Minimum Stress (psi)	Bot. Minimum Stress (psi)	Stress Calc. Method
32%	15276	5566	-1224	API MG





SELMAN AND ASSOCIATES INC.

GEOLOGICAL HYDROCARBON LOGGING SERVICES
P O BOX 50304
MIDLAND TEXAS 79710
OFFICE 915/561-9808
24 HOURS 915/563-8851

COMPANY: BARBARA FASKEN
WELL: INEXCO FED. 17 NO.2
COUNTY: EDDY
LOCATION: 2300' FSL & 1800' FEL SEC 17, T-21-S-R-26-E.
LOGGER: J. COOK J.
INTERVAL: -2112
DATE: 2/9/94
UNIT: 3
WELL: 790

FIELD: CATCLAW DRAW-MORROW
STATE: NEW MEXICO

TO: -11368 KELLY BUSHING: 3299
TO: 3/21/94 GROUND LEVEL: 3260
PHONE: 915 557 4821

☒ AMMUNITION ☒ CONGLOMERATE ☒ GRANITE WASH ☒ SHALE
☒ CHERT ☒ DOLOMITE ☒ LIMESTONE
☒ COAL ☒ GRANITE ☒ SALT ☒ SILTSTONE

POROSITY-CUT-FLUOR
☒ TRACE ☒ FAIR ☒ GOOD

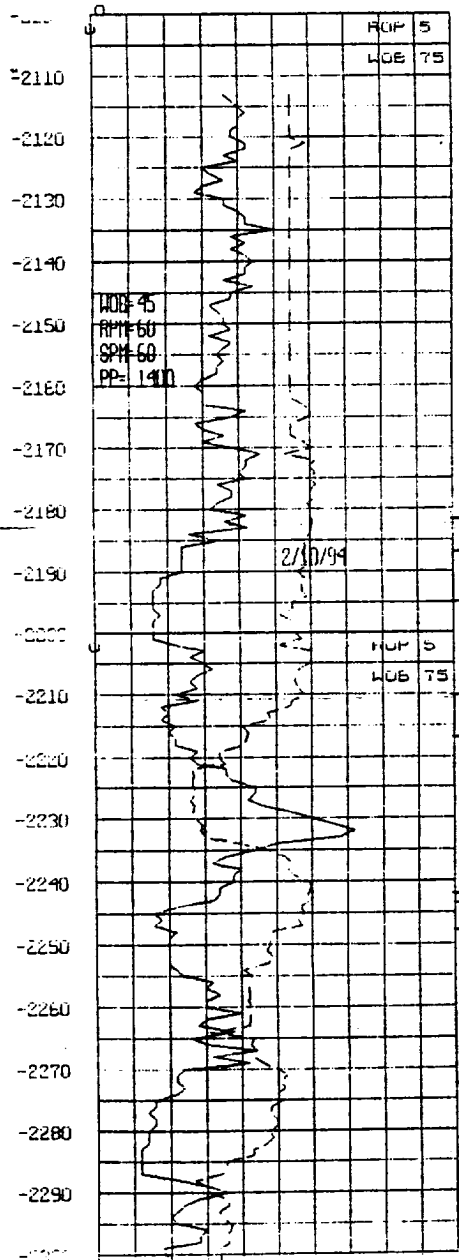
C-2 ETH (GREEN)
C-3 PROP (BLUE)
C-4 BUT (BROWN)
C-5 PENT (ORANGE)

TOTAL GAS
CUTTINGS (PURPLE)
MOTHIRE (RED)

DEPTH DRILL RATE (MIN) WOB (1000')

CUTTINGS FLOW LITHOLOGY

GAS ANALYSIS (UNIT) CUT GAS..



NO SAMPLES GOING THROUGH FLOW SCREEN

START TWO MAN OPERATION AT
2112' SET SURFACE @ 5/8" AT
2112' BIT IN 3 HIC AT 350
DRILLING FRESH WATER
PETERSON DRILLING RIG 1

SANDSTONE: CLR LTGY TN VFGR
CONS TO LOOSE SUBANG TO
SUBRND WELL SORTED WELL
CEMENT SLT CALG CEMENT
SM FRIABLE SM NO FLUOR
HARDER SM LOOSE IN LITHO
GIL SM 35% BRT COLD FLUOR
MILY CUT TRAC POROSITY

SANDSTONE: LTGY CLR TN BUFF
VFGR CONS SM LOOSE SUBANG
SUBRND SM FRIABLE WELL
SORTED SLT CALG TO 402
DHT YELL FLUOR FAST TR
MILY CUT TRAC POROSITY
INTERGRAN

SANDSTONE: LTGY TN CLR SM
WHT VFGR CONS SM LOOSE
SUBANG SUBRND WELL CEMENT
MOD SORTED CLR SM TN LITHO
STH 35% BRT COLD FLUOR
MILY CUT WET TRAC POROSITY
INTERGRAN

SILTSTONE: OFFHHT LTGY BY
MOTT PLATY SFT TO FHM
SM SMOY IP SM SLT GRITTY
SM CARB INCLU

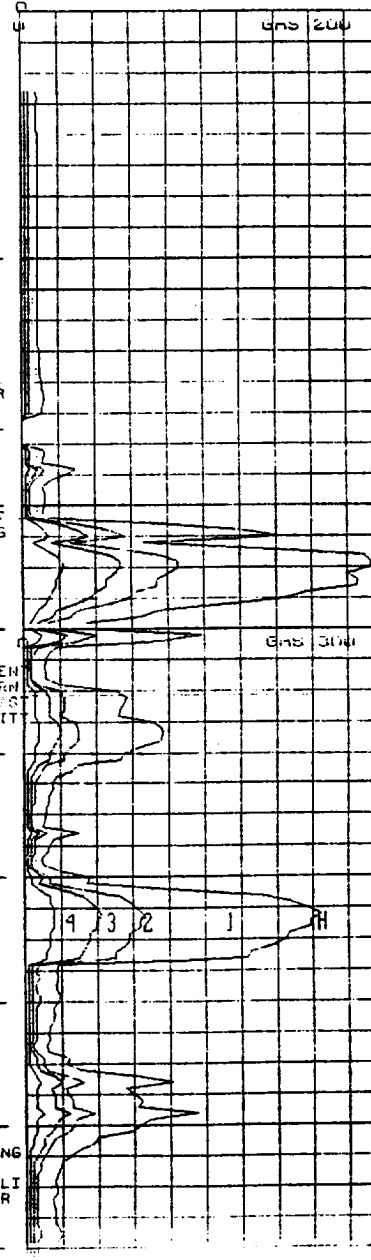
SANDSTONE: LTGY CLR TN
CONS LOOSE SUBANG SUBRND
FRIABLE CLR NO FLUOR
NO CUT WELL CEMENT

SANDSTONE: TN BUFF OFFHHT
LTGY VFGR CONS LOOSE
WELL SORTED SUBANG TO
SUBRND MOD CEMENT
FRIABLE CLR SLT FROSTED
DTZ GRN 35% BRT COLD
FLUOR SLT TRAC MILY CUT
TRAC POROSITY INTERGRAN

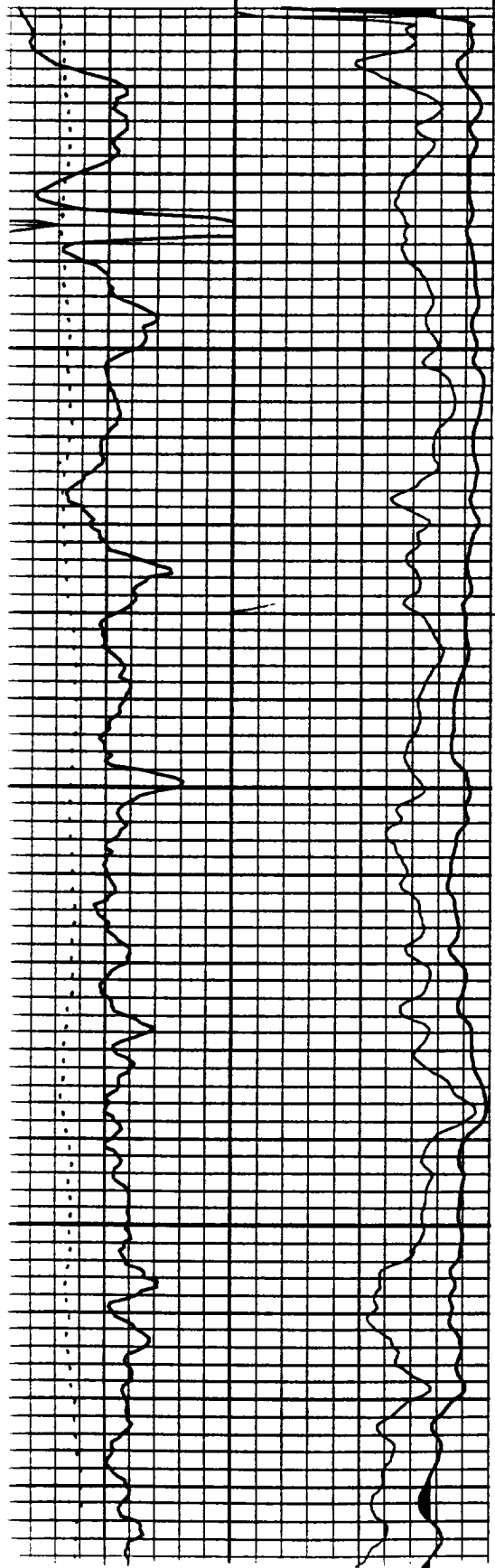
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SM CARB INCLU

SANDSTONE: LTGY CLR TN
CONS LOOSE SUBANG SUBRND
FRIABLE CLR NO FLUOR
NO CUT WELL CEMENT

SANDSTONE: BY LTGY BUFF TN
CLR VFGR CONS LOOSE SUBANG
TO SUBRND WELL SORTED
MOD CEMENT FRIABLE CLR SLT
FROSTED DTZ GRNS NO FLUOR
NO CUT WET OR DRY



correlation		Saturation	
GR		S _w HES	
(GAPI)	100.0 1.0	(Equation)	0.0
CALJ		bvwHES	
(IN)	16.0 0.4	(Equation)	0.0
DEPTH		BVW > 9%	
(ft)	0.0		



2150

2200

2250

resistivity		porosity	
HDRS		DPHI	
(OHMM)	2000.0 0.3	(DECP)	-0.1
HMRS		NPHI	
(OHMM)	2000.0 0.3	(DECP)	-0.1
DFL		PHIX	
(OHMM)	2000.0 0.3	(DECP)	-0.1
		Poro. > 14%	

