

# Geolog



## FORMATION EVALUATION LOG

Scale: 2" = 100'

COMPANY: **TRIO PETROLEUM LLC.**

WELL: **Hangman Hollow #4**

FIELD: **McCool Ranch**

COUNTY: **Monterey, CA**

Location: Sec. 23, T22S-R10E; MDB&M  
 Coordinates: 78' North and 3203' West  
 from the SE corner of Sec.23  
 N: 1886431.787 E: 6011000.613

API No.: 04-053-22305-00-00

Spud Date: 11/21/13

Total Depth: 3812'

Elevation: K.B. 728'

G.L. 718'

Company Geologist: Stan Eschner

Company Engineer: Charlie Horace

Company Pusher: Gary Horace

Directional Engineer: SDI

Mud Company: GEO Drilling Fluids, Inc

Mud Engineer: Mitch Simmons

Drilling Contractor: Ensign US Drilling (CA)

Rig Pusher: R. Higgins/J. Case

Rig No.: 509

Geolog Unit No.: 401

Logging Geologists: Steve Bruce

Philip Price

### LOG INTERVAL

DATES: 11/21/13 TO

TO

DEPTHS: 50' TO

TO

### MUD TYPES

Spud Mud TO

GEOZAN+3%KCL TO

TO

### MUD PUMPS

PUMP #1: Bomco 1000 10" x 6-1/2"

PUMP #2:

### TOTAL DEPTH

MEASURED:

TRUE VERTICAL:

### HOLE SIZE

11" TO

7-7/8" TO

TO

### CASING DATA

8-5/8" AT 2592'

5-1/2" AT

AT

### LEGEND

BG - Background Gas  
 CB - Core Bit  
 CG - Connection Gas  
 CK - Filter Cake  
 CKF - Check for Flow  
 CL - Salinity, ppm Cl  
 CR - Circulate Returns  
 DB - Diamond Bit  
 DC - Depth Correction  
 DCB - Diamond Core Bit  
 DF - Derrick Floor  
 DG - Drilling Gas  
 DS - Directional Survey  
 DST - Drill Stem Test  
 EL - Electric Log  
 E.M.A. - Equivalent Methane  
 in Air, 1% = 50 Units  
 F - Filtrate, API cc's  
 F/T - Flowline Temperature  
 GCM - Gas Cut Mud

GCW - Gas Cut Water  
 G & OCM - Gas and Oil Cut Mud  
 GL - Ground Level  
 KB - Kelly Bushing  
 LAT - Logged After Trip  
 NB - New Bit  
 NCB - New Core Bit  
 NR - No Returns  
 PDC - Polycrystalline Diamond  
 Compact Bit  
 LC - Lost Circulation  
 PPM - Parts Per Million  
 PR - Poor Returns  
 PP - Pump Pressure  
 PV - Plastic Viscosity  
 RM - Mud Resistivity, Ohm-Meter  
 RMC - Mud Cake Resistivity,  
 Ohm-Meter

RMF - Mid-Filtrate Resistivity,  
 Ohm-Meter  
 RPM - Revolutions Per Minute  
 RRB - Rerun Bit  
 RT - Rotary Table  
 SD - Sand %  
 SO - Show of Oil  
 SOL - Solids %  
 SPM - Strokes Per Minute  
 STG - Short Trip Gas  
 SWG - Swab Gas  
 SVG - Survey Gas  
 S/T - Suction Temperature  
 T.D. - Total Depth  
 TCL - Trip Chlorides  
 TG - Trip Gas  
 TVD - True Vertical Depth  
 V - Viscosity, API seconds  
 W - Weight of Mud, ppg/pcf  
 WOB - Weight on Bit

- CEMENT
- GYPSUM
- LIMESTONE
- DOLOMITE
- FORAMINITE

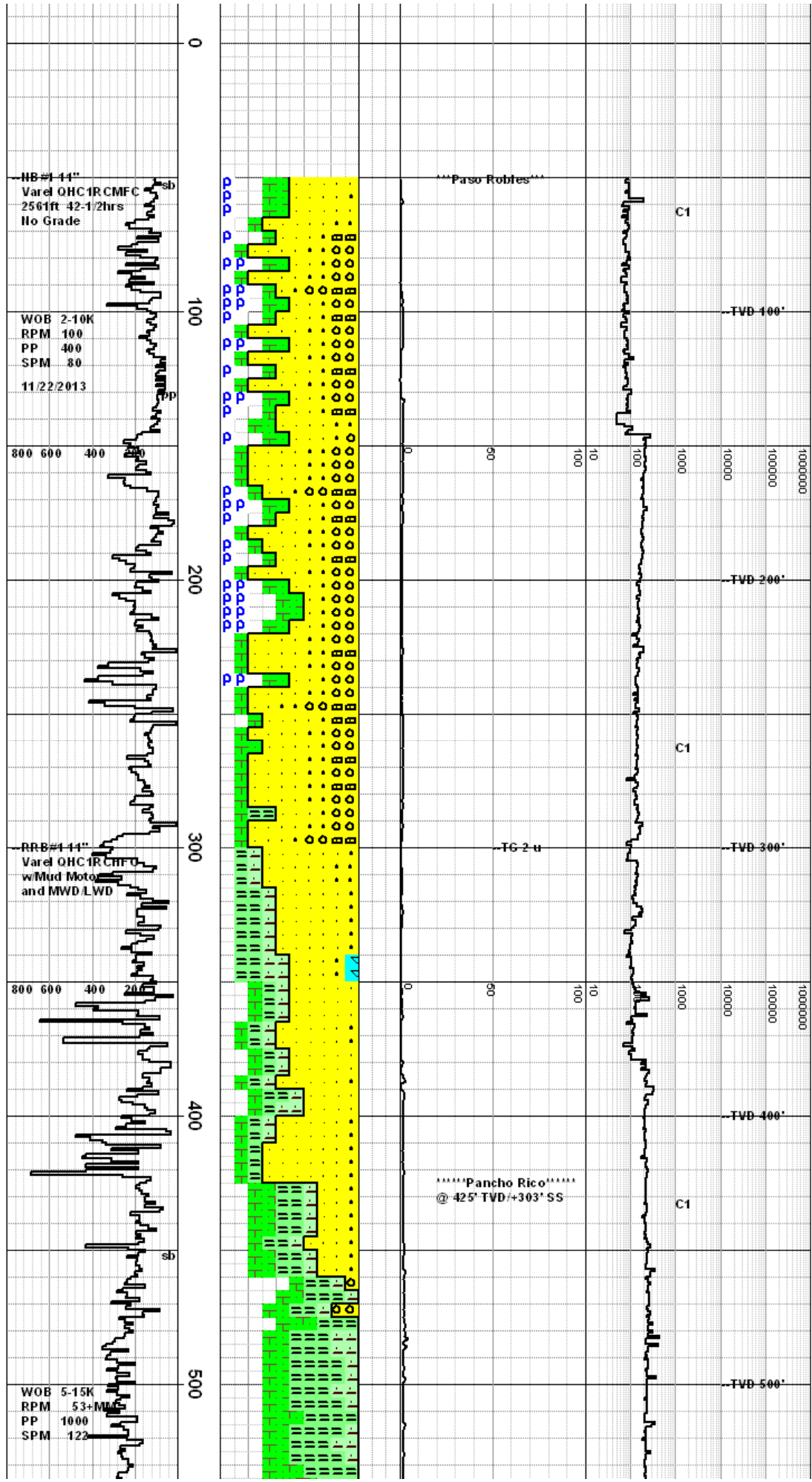
- DIATOMITE
- PORCELANITE
- CHERT
- CHERT - TIGER STRIPE
- COAL & LIGNITE

- CLAY
- MARL
- CLAYSTONE
- PORCELANEOUS CLAYSTONE
- SHALE

- SILTSTONE
- SANDY SILTSTONE
- SAND
- SANDSTONE
- CONGLOMERATE

- KAOLINITE
- TUFF
- VOLCANIC
- IGNEOUS
- METAMORPHIC

DRILL RATE ft/hr Backup Scale - x10	DEPTH	CUTTINGS LITHOLOGY %	OIL TRACE FAIR GOOD	TOTAL GAS	CHROMATOGRAPH C1 C2 C3 C4 C5 ppm	LITHOLOGY DESCRIPTIONS & REMARKS
				Ditch Cuttings units		
				< 1000 < 100		
800 600 400 200				< 1000 < 100	10 100 1K 10K 100K 1M	
Started Logging at 9:30PM on 11.21.13						16" Conductor set at 50'. Drill ahead w/ 11" bit.



Chromatograph Calibrated to 1% C1 thru nC4 and Total Gas Calibrated to 50 units Okay

Sand: vfn-cong, ang-srnd, dr, cldy, wht, gry, opa, frsty, trnsct qtz, red volcs, mlitcol lith frags, occ abnd porc, cren muskovite, org, tan, gry, sft, stky to mod frm, vsol-sol clys & dlystns

MW8.4 Vis 44

Conglomerate Sand: wht, clr, lit org, med org, tan, drk brn, transl, opa, qtz and lithic w com porcelanite, ang to sub ang, fn to coarse grans w comm pebbles, predom med gm, poorly sorted, frosted to glassy text, poorly spherical with ocomm platy grns, predom unconsol w rare consol sandstone, rare drk gry siltstone,

Color change: @ 250' samples overall color changes from lit tan org to lit/med gry, accompanied by porcelanite dropping out of samples

MW 8.8 V 44 PV 16 YP 14  
 Gels 4/8 pH 8 F7.4 Ck 2  
 Sol 3.5 sd .25 Cl 300ppm  
 Oil Nil Temp 92°

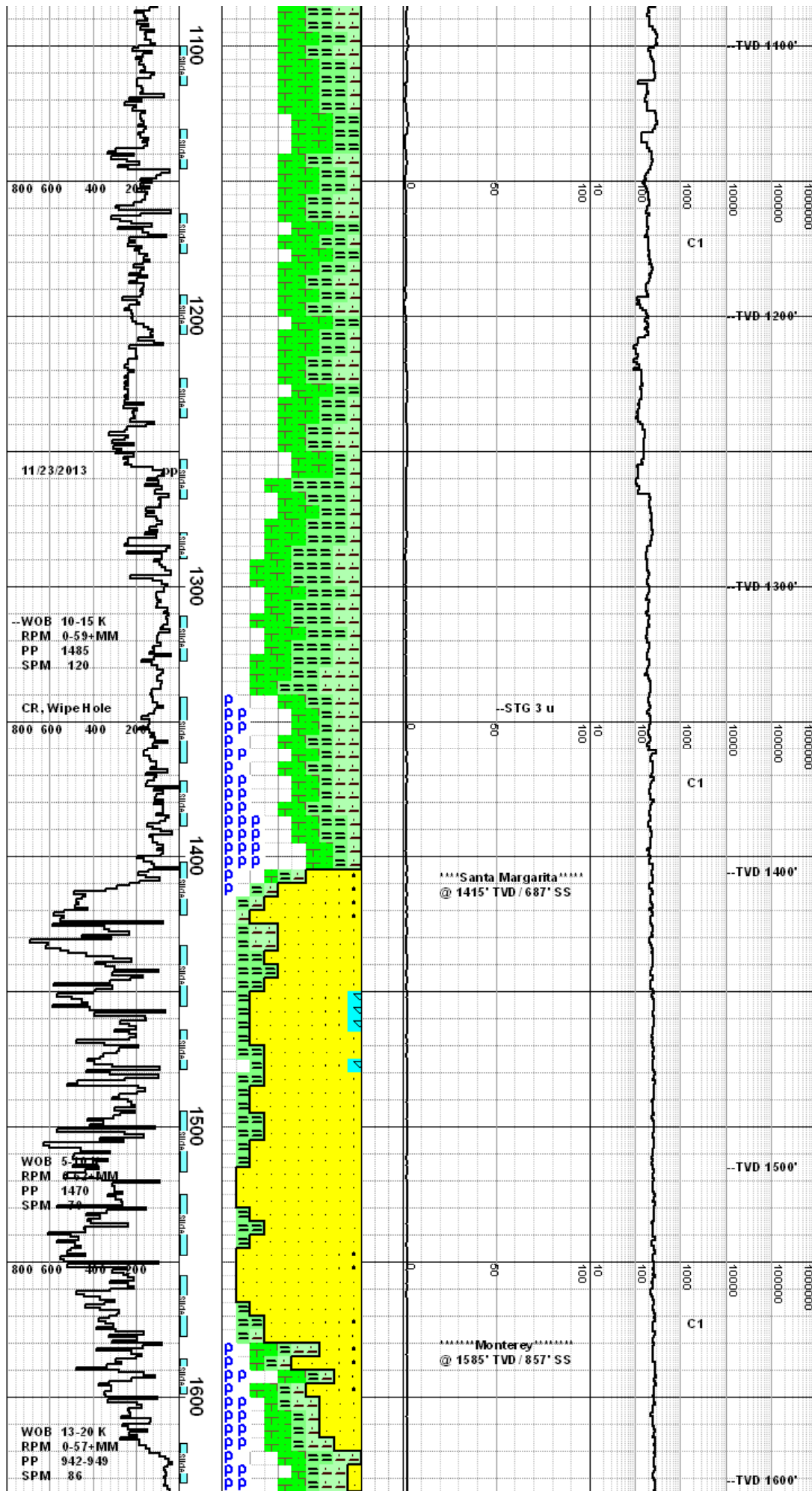
Sand: lit gry, drk gry, drk brn, wht, clr, opa, predom fn to med w occ coarse and pebbles, poorly sited, ang to sub ang, frosted text, unconsol, poor sphericity, occ platy and elongated grns, argilaceous, mod amnts of drk brn to drk gry silt stone, mod amnt of lit olv gn claystone

Survey 416' Incl. 0.10°  
 288.20° Az TVD 416.00'  
 N 0.10' W 1.04'

Siltstone: lt gry, sft-fria, argil, tab ctgs habit, earthy lust, cleye to gritty tex, occ abnt fossil frags, fn to occ crs, clr, cldy, qtz & litic snd, mnr lig, tr sdstn







Siltstone: med gry to olv brn, mod v fn gn sndy, micro-mica, sft to sl hard, sblky to wdglike ctgs habit, earthy lust, silty to sl gritty tex, tr fn gn high calc cem sdstn, tr med gry clystn, com fossil frags

Survey 1215' Incl. 8.76°  
290.02° Az TVD 1213.96'  
N 5.05' W 18.73'

Clay/Siltstone: lt to med grybrn, sndy, soft to eas fria, tab ctgs habit, earthy lust, clyey to gritty tex, lt-med gry mod frm-fri occ sndy sltstns, mn fossil shell frags, occ fn to crs predom clr qtz

Survey 1276' Incl. 10.99°  
286.67° Az TVD 1274.04'  
N 8.38' W 28.72'

Claystone/Sandy Siltstone: drk to med gry, firm fri to sft, smooth to silty tex, irrg fract, earthy luster, w com lit gry sandy siltstone w comm fn gn sands interbed, no vis oil indicators

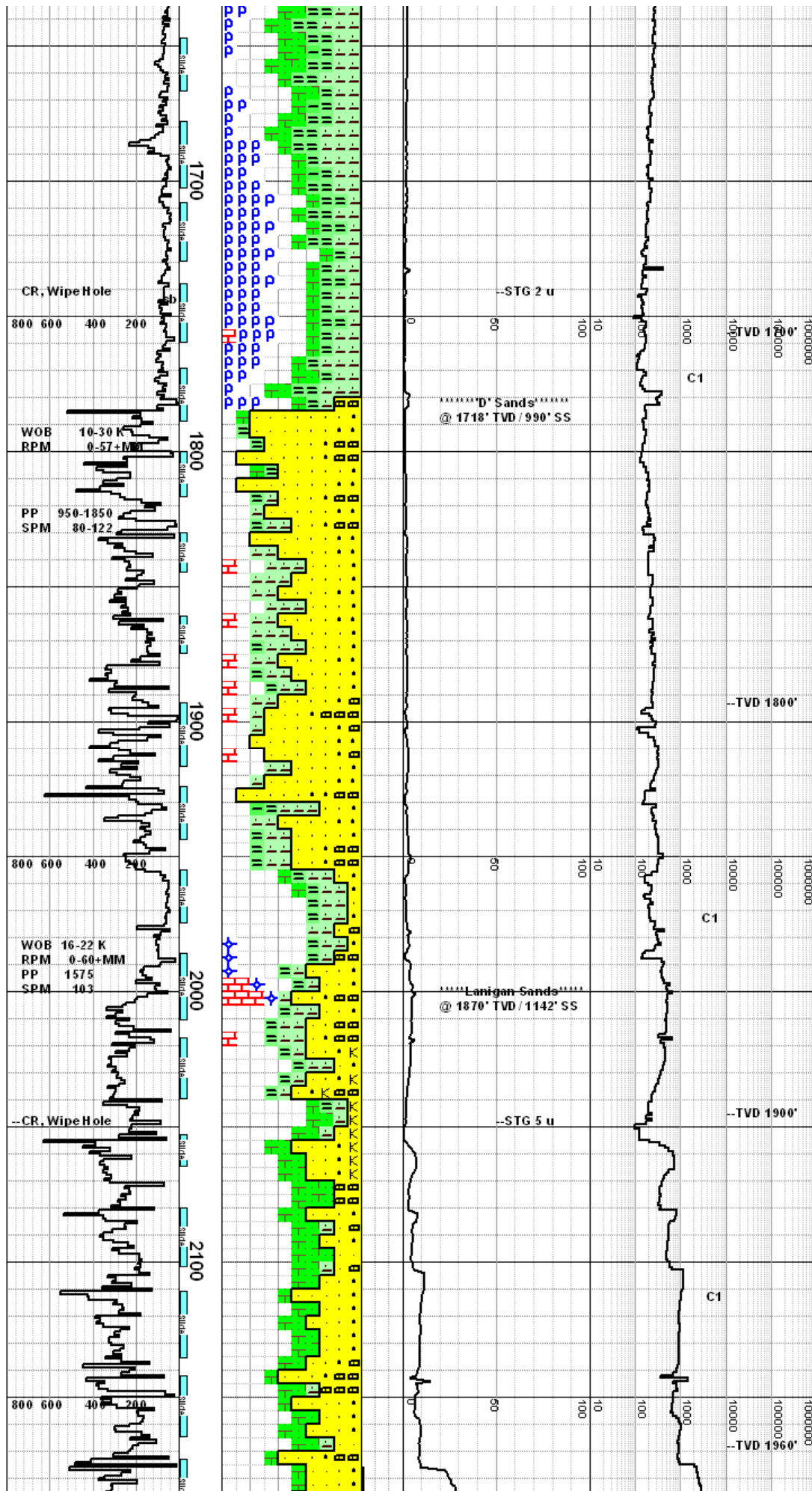
Survey 1368' Incl. 16.44°  
280.54° Az TVD 1363.54'  
N 13.13' W 49.32'

Sand: lit gry, clr, opa, translu, predom fn gn w com med, fairly w srtd, pred qtz, slightly argillaceous, sub md to sub ang, mod to poor sphericity, com platy and elongated grains, unconsol, w com drk brn siltstone and wht to tan calcarious fragments rxing strongly to HCl. no vis oil indicators

Survey 1490' Incl. 24.23°  
282.5° Az TVD 1477.45'  
N 22.46' W 91.72'

MW 9.0 V 47 PV 18 YP 17  
Gels 5/8 pH 8 F 7.5.7 Ck 2  
Sol 5.0 sd .5 Cl 550ppm  
Oil Nil Temp 103°

Siltstone/Claystone: med to drk brnsh gry, sft to frm, silty tex w occ v fn sd interbed,



Survey 1673' Incl. 36.34°  
 289.16° Az TVD 1634.37'  
 N 46.45' W 182.05'

Siltstone: drk brn to med brn, silty to gritty text w com sd embedded, frm to eas fri, irreg frac, earthy luster, w comm amnts of lit brn to drk brn ,smooth, firm, porcellanite w ang cutting habit

Survey 1828' Incl. 43.78°  
 308.56° Az TVD 1753.85'  
 N 96.29' W 266.49'

Sand: clr, cldy, frsty, trnsclt, tr wht, sang-srnd qtz, slty argil, mod well srted, predom med gm, micacious, w/ med brn-grybrn frm sblky clystns & med gry-grybrn sft sndy to frm-fri sltstn, occ vfn-fn grnd calc cmntd sdstn &/or dense beige/tan lmstn stngrs

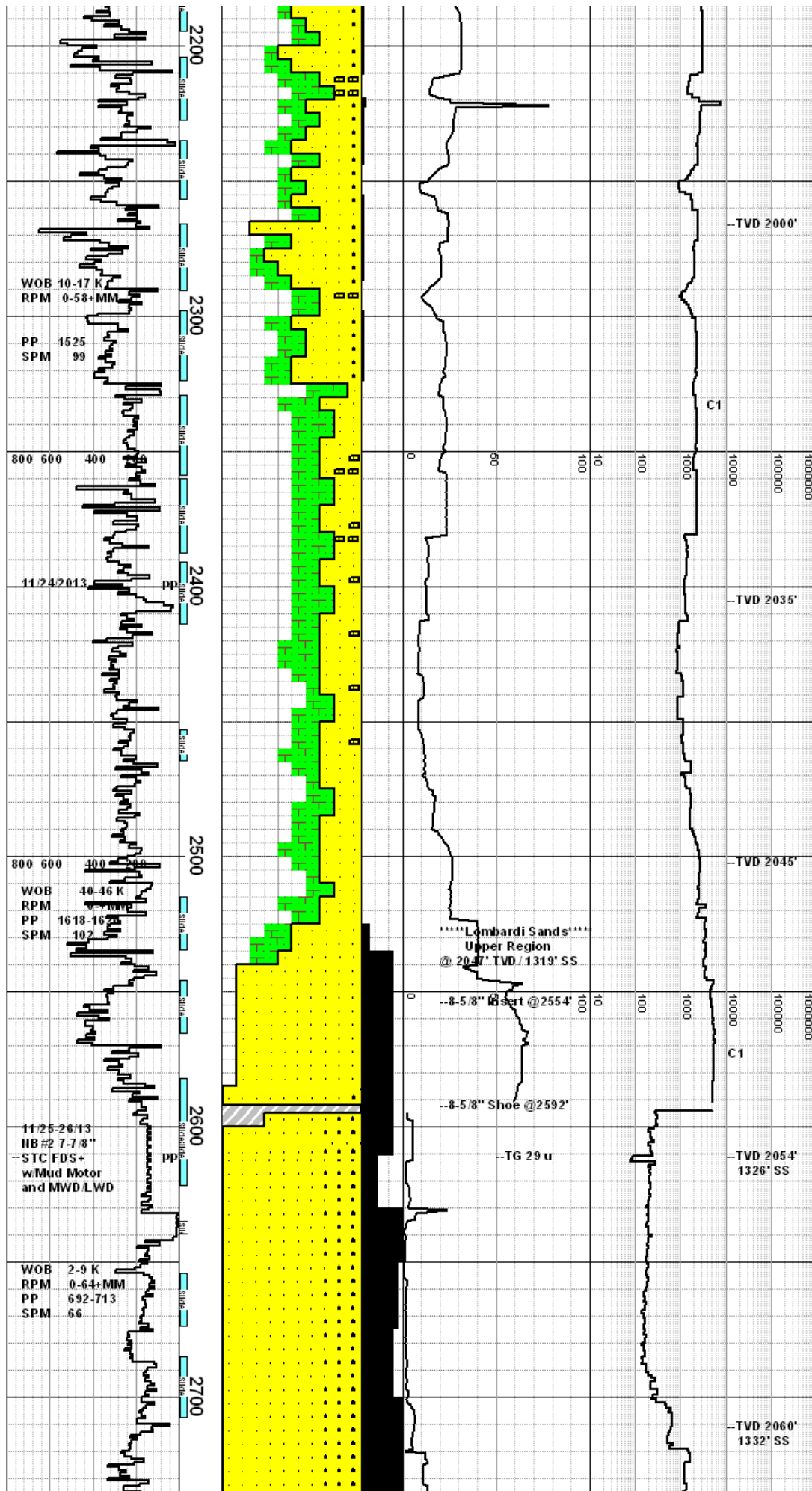
Survey 1921' Incl. 47.04°  
 14.02° Az TVD 1818.90'  
 N 139.93' W 316.56'

Clay: lt-med gry grybrn, sft, hyd, mod stky, vsndy, w/ med brn-grybrn, sft, sndy to mod frm fri sltstn, occ grywht calc cmntd sdstn, tr mica, kaol, & occ pyt

Survey 2015' Incl. 53.26°  
 322.09° Az TVD 1879.57'  
 N 193.28' W 364.44'

Clay/Sand: lt-med grybrn-olv brn, sft, slk-tky, vsol clys w/ med brn-grybrn sft-frm-fri sltstn, tr grybrn dolostn, occ tan/beige lmstn or grywht vfn-fn grnd calc cmntd sdstn intrbdd in vfn-crs, ang-srnd, clr, frsty, trnsclt, opaque qtz sds, book mica, occ pyt clstrs, dull org fluor w/ quick brite wht cut fluor, no petrol odor

Chromatograph Calibrated to 1% C1 thru nC4 and Total Gas  
 Calibrated to 50 units Okay



Sand/Clay: vfn-crs, ang-srnd, clr, frsty, trnslct, opaque qtz & felds w/ lt gry, sft, sol, mod hyd clys & med grybrn frm sbckly clystns, v micacious, occ dull brn free oil drops in smpls, occ oil sheen, dull org fluor, quick brite wht w/ yel-blu edges cut fluor, trace oil show

Survey 2295' Incl. 71.15°  
339.07° Az TVD 2008.70'  
N 409.22' W482.68'

Clay/Claystone: lit gry to med gry, v sft to eas fri, smooth text, sol, mod hyd, sticky, slit micacious, occ free oil in mud w occ sheen, dull yel-org fluor, no petro odor, quick brt wht cut

Survey 2388' Incl. 79.97°  
345.55° Az TVD 2032.37'  
N 494.81' W509.69'

Clay/Claystone: med to lit gry, v sft to eas fri, com smooth text w occ silty sections, mod sol, mod hyd, sticky, malleable, slit micacious, occ free oil in mud w occ sheen, dull yel-org fluor, no petro odor, quick brt wht cut w lit yel edges

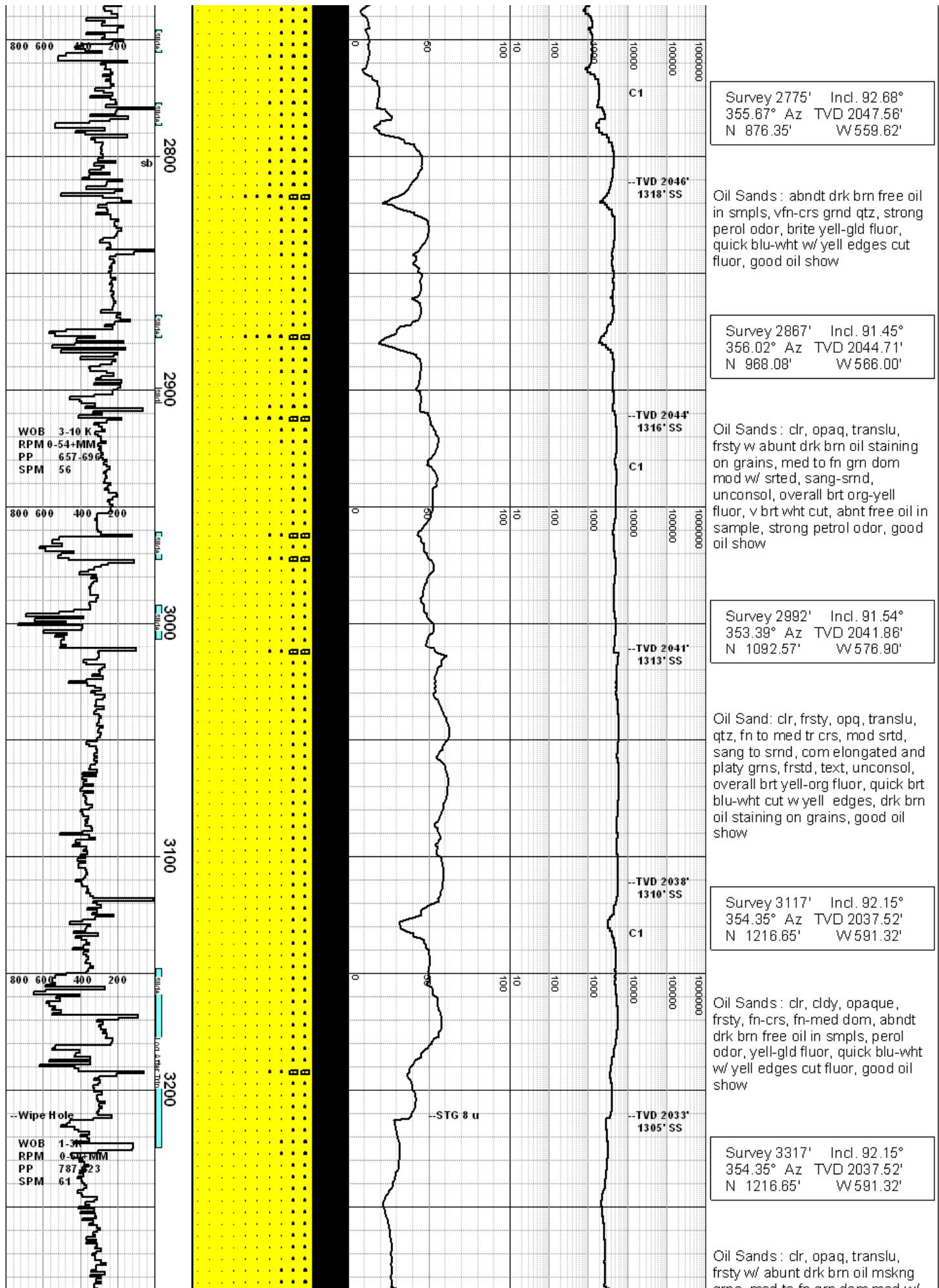
Oil Sands: lit gry, clr, opaq, transl, w abunt drk brn oil staining on grains, med to fn grn, w srtd, sub ang to sub rndd, unconsol, overall brt org-y fluor, v brt wht cut, abnt free oil in sample, strong petro odor, good oil show

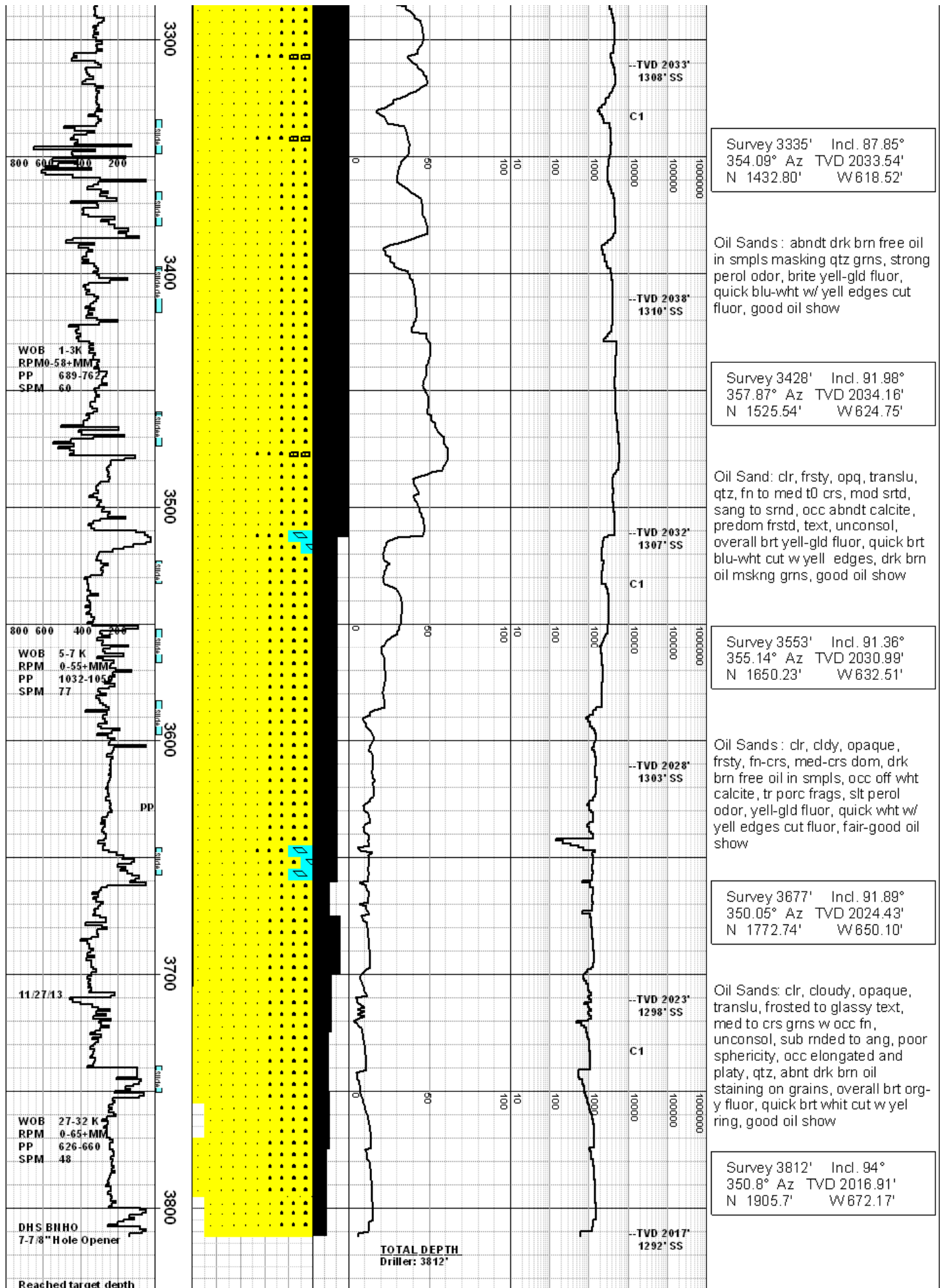
Drilled 11" hole to 2611'. Ran 87 jts 8-5/8", 32#, N-80 Buttress casing set at 2592'. Changed mud over to Geozan+3% KCL. Drilled 7-7/8" horizontal hole w/ "Scientific Drilling International".

Start Side Track #1 @ 2630'

Oil Sand: clr, wht, opq, transl, qtz, med to coarse w occ fn, poorly srtd, ang to sub rnd, poor sphericity, com elongated and platy grains, frosted, text, unconsol, overall brt y-org fluor, quick brt whitish blu cut w y ring,







Survey 3335' Incl. 87.85°  
 354.09° Az TVD 2033.54'  
 N 1432.80' W618.52'

Oil Sands : abndt drk brn free oil  
 in smpls masking qtz grns, strong  
 perol odor, brite yell-gld flur,  
 quick blu-wht w/ yell edges cut  
 flur, good oil show

Survey 3428' Incl. 91.98°  
 357.87° Az TVD 2034.16'  
 N 1525.54' W624.75'

Oil Sand: clr, frsty, opq, translu,  
 qtz, fn to med t0 crs, mod srtd,  
 sang to smnd, occ abndt calcite,  
 predom frstd, text, unconsol,  
 overall brt yell-gld flur, quick brt  
 blu-wht cut w yell edges, drk brn  
 oil mskng grns, good oil show

Survey 3553' Incl. 91.36°  
 355.14° Az TVD 2030.99'  
 N 1650.23' W632.51'

Oil Sands : clr, cldy, opaque,  
 frsty, fn-crs, med-crs dom, drk  
 brn free oil in smpls, occ off wht  
 calcite, tr porc frags, slt perol  
 odor, yell-gld flur, quick wht w/  
 yell edges cut flur, fair-good oil  
 show

Survey 3677' Incl. 91.89°  
 350.05° Az TVD 2024.43'  
 N 1772.74' W650.10'

Oil Sands: clr, cloudy, opaque,  
 translu, frosted to glassy text,  
 med to crs grns w occ fn,  
 unconsol, sub rnded to ang, poor  
 sphericity, occ elongated and  
 platy, qtz, abnt drk brn oil  
 staining on grains, overall brt org-  
 y flur, quick brt whit cut w yel  
 ring, good oil show

Survey 3812' Incl. 94°  
 350.8° Az TVD 2016.91'  
 N 1905.7' W672.17'

WOB 1-3K  
 RPM 0-58+MM  
 PP 689-762  
 SPM 60

WOB 5-7 K  
 RPM 0-55+MM  
 PP 1032-105  
 SPM 77

WOB 27-32 K  
 RPM 0-65+MM  
 PP 626-660  
 SPM 48

DHS BHHO  
 7-7/8" Hole Opener

Reached target depth

TOTAL DEPTH  
 Driller: 3812'



at 1:20 A.M. on 11/27/13

3900

Comments:

TRIO PETROLEUM LLC.

Hangman Hollow #4

McCool Ranch

Sec. 23, T22S-R10E; MDB&M



## FORMATION EVALUATION LOG

Scale: 2" = 100'