



KANSAS CORPORATION COMMISSION 1162576  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

Confidentiality Requested:

Yes  No

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or      Date Reached TD      Completion Date or  
Recompletion Date           Recompletion Date

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1162576

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7395

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-4-13	16	7	22	Leitcham	KS		7:15 p.m.
				Location <u>Reg 24 4w 310 4U PV 1w 210</u>			

Lease	Well No.	Owner
Worcester	7	To Quality Oilwell Cementing, Inc.
Contractor	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Landmark Drilling		
Type Job	Charge To	
Surface	Worth Exploration	
Hole Size	T.D.	
12 1/4	225	
Csg.	Depth	
8 5/8	218	
Tbg. Size	Depth	
Tool	Depth	
Cement Left in Csg.	Shoe Joint	Cement Amount Ordered
15		2000m 3/CC 2/CEL
Meas Line	Displace	4#F70
	133L	

EQUIPMENT			Common
Pumptrk	No.	Cementor/Helper	200
15		Chad	
Bulktrk	No.	Driver	Poz. Mix
		Mike	Gel. 4
Bulktrk	No.	Driver	Calcium 7
0/4		Chad	

JOB SERVICES & REMARKS		
Remarks:		Hulls
Rat Hole		Salt
Mouse Hole		Flowseal 50#
Centralizers		Koi-Seal
Baskets		Mud CLR 48
D/V or Port Collar		CFL-117 or CD110 CAF 38
8 5/8 in bottom E25 + Circulation Mix 2000m		Sand
*Displace		Handling 211
		Mileage

FLOAT EQUIPMENT		
Cement + Circulation 4		Guide Shoe
		Centralizer 8 5/8 Sauge
		Baskets
		AFU Inserts
		Float Shoe
		Latch Down
		Pumptrk Charge Surface
		Mileage 43

	Tax	
	Discount	
	Total Charge	

X  
Signature



**OPERATOR**

Company: WERTH EXPLORATION TRUST  
 Address: 1308 SCHWALLER AVE  
 HAYS, KANSAS 67601

Contact Geologist: ANDY WERTH  
 Contact Phone Nbr: (785) 625-4968  
 Well Name: WERTH-WORCESTER NW #7  
 Location: SW SE SW NW Sec. 16-7S-22W  
 Pool: API: 15-065-23,967-00-00  
 State: KANSAS Field: ALDA  
 Country: USA

## Scale 1:240 Imperial

Well Name: WERTH-WORCESTER NW #7  
 Surface Location: SW SE SW NW Sec. 16-7S-22W  
 Bottom Location:  
 API: 15-065-23,967-00-00  
 License Number: 30259  
 Spud Date: 10/3/2013 Time: 10:00 AM  
 Region: GRAHAM COUNTY  
 Drilling Completed: 10/10/2013 Time: 6:00 AM  
 Surface Coordinates: 2851' FSL & 4418' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2325.00ft  
 K.B. Elevation: 2330.00ft  
 Logged Interval: 3200.00ft To: 3930.00ft  
 Total Depth: 3930.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -99.7857145 Latitude: 39.4451189  
 N/S Co-ord: 2851' FSL  
 E/W Co-ord: 4418' FEL

**LOGGED BY**

Company: SOLUTIONS CONSULTING, INC  
 Address: 108 W 35TH  
 HAYS, KS 67601

Phone Nbr: (785) 639-1337  
 Logged By: Geologist Name: CHRIS NEELEY

**CONTRACTOR**

Contractor: LANDMARK DRILLING  
 Rig #: 5  
 Rig Type: MUD ROTARY  
 Spud Date: 10/3/2013 Time: 10:00 AM  
 TD Date: 10/10/2013 Time: 6:00 AM  
 Rig Release: 10/10/2013 Time: 10:00 PM

**ELEVATIONS**

K.B. Elevation: 2330.00ft Ground Elevation: 2325.00ft  
 K.B. to Ground: 5.00ft

**NOTES**

RECOMMENDATION TO PLUG AND ABANDONED WELL BASED ON LOW STRUCTURE TO OFFSET PRODUCERS AND LOG ANALYSIS

OPEN HOLE LOGGING BY NABORS COMPLETION AND PRODUCTION SERVICES COMPANY: COMPENSATED DENSITY/NEUTRON LOG, DUAL INDUCTION LOG

NO DRILL STEM TESTS PERFORMED

**SUMMARY OF FORMATION TOPS**

FORMATION	WERTH-WORCESTER NW #7				GATEWAY RESOURCES, LLC WORCESTER #1-17			MURFIN DRILLING CO. WORCESTER #1			YOST OIL OPERATIONS WORCESTER G #16		
	LOG TOPS		SAMPLE TOPS		DENS/NEU LOGS		LOG	COMP. REPORT		LOG	RAD GUARD LOG		LOG
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	DEPTH	DATUM	CORR.	DEPTH	DATUM	CORR.
ANHYDRITE	1963	+370	1959	+374	1951	+382	-12	1944	+377	-7	1949	+382	-12
ANHYDRITE BASE	1994	+339	1989	+344	1984	+349	-10				1980	+351	-12
TOPEKA	3321	-988	3307	-974	3310	-977	-11	3303	-982	-6	3314	-983	-5
HEEBNER	3523	-1190	3518	-1185	3507	-1174	-16	3502	-1181	-9	3515	-1184	-6
TORONTO	3545	-1212	3539	-1206	3533	-1200	-12	3526	-1205	-7	3539	-1208	-4
LANSING K.C.	3563	-1230	3557	-1224	3550	-1217	-13	3542	-1221	-9	3556	-1225	-5
STARK SHALE	3729	-1396	3723	-1390	3720	-1387	-9				3726	-1395	-1
K.C. BASE	3755	-1422	3750	-1417	3746	-1413	-9	3742	-1421	-1	3751	-1420	-2
MARMATON	3801	-1468	3796	-1463	3792	-1459	-9				3795	-1464	-4
ARBUCKLE			3862	-1529	3857	-1524	-12	3842	-1521	-15			
RTD	3930	-1597			3918	-1585		3851	-1530		3900	-1569	
LTD	3936	-1603											

**Daily Activity Report**

for

**Werth-Worcester NW #7**











SW, SE, SW, NW Section 16, Township 7 South, Range 22 West

10/02/13

Rig #

10/03/13	Rig-up
10/04/13	Spud: 10:00 am, Slope: 1° @ 225', Wait on welder: 40 min, 8 5/8" set: 218' w/200 sxs common 2% gel/2% cc, Plug down: 7:00 pm
10/05/13	800' drilling
10/06/13	1800' drilling
10/07/13	2550' drilling
10/08/13	2966' drilling, CFS: 3496', Short trip: 20 stands/look for hole in pipe, Condition mud, CCH: 2hrs
10/09/13	3555' drilling, CFS: 1 hr. at 3570', drilling, CCH: 30 min, Mini trip: 10 stands, RTD: 6:00 am
10/10/13	3930' CCH, Slope: 5°, Trip out for logs, Logging: Dual Induction, Neutron/Density


**ROCK TYPES**

 Clystgy	 Lmst fw7>	 shale, gry	 Shcol
 Dolprim	 Lscongl	 Carbon Sh	
 Lmst fw<7	 shale, grn	 shale, red	

**ACCESSORIES**

<b>MINERAL</b>	<b>FOSSIL</b>
▲ Chert, dark	∩ Bioclastic or Fragmental
∩ Glauconite	∩ Bryozoa
P Pyrite	○ Crinoids
△ Chert White	X Sponge Spicules
	⊕ Fossilinid

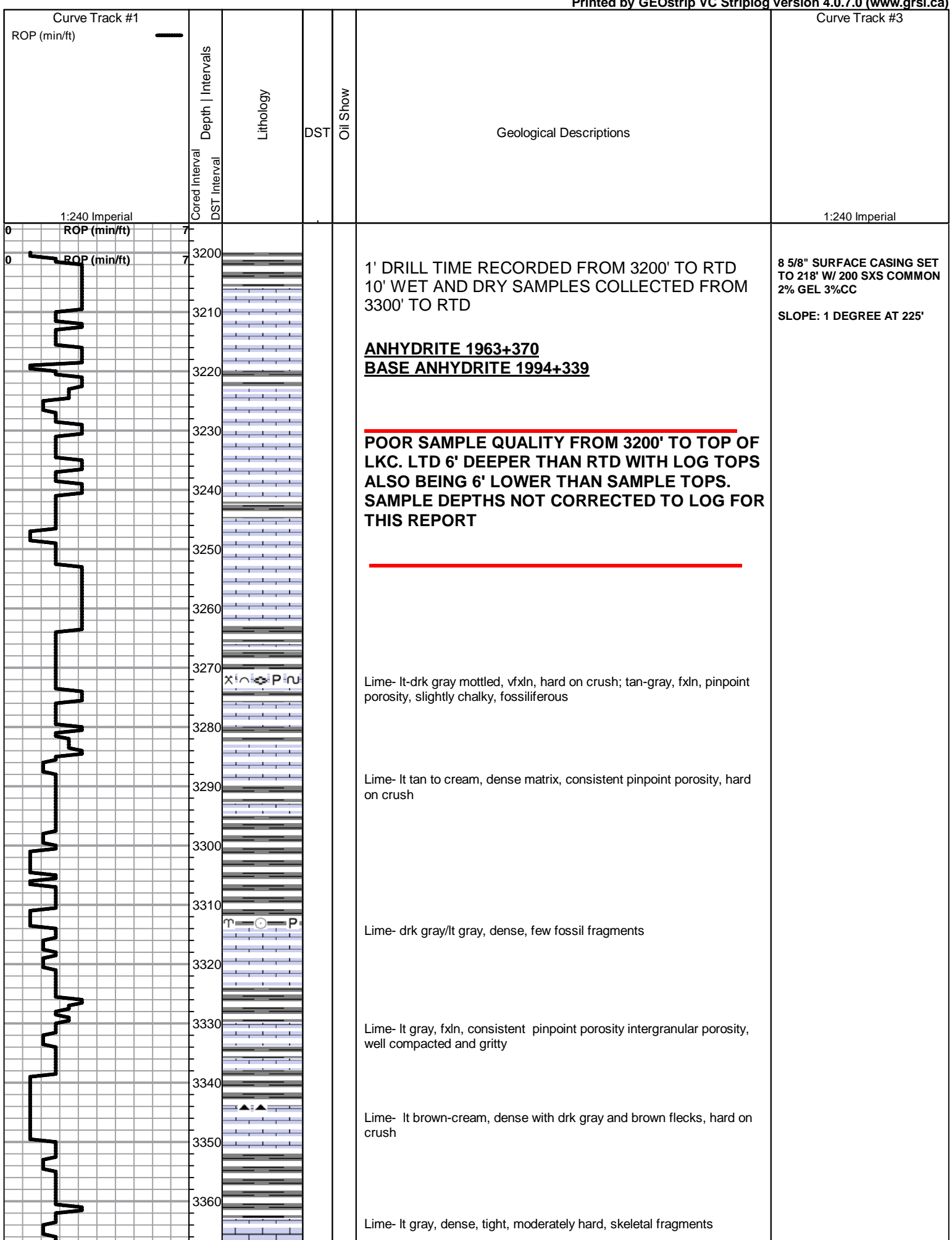
**OTHER SYMBOLS**

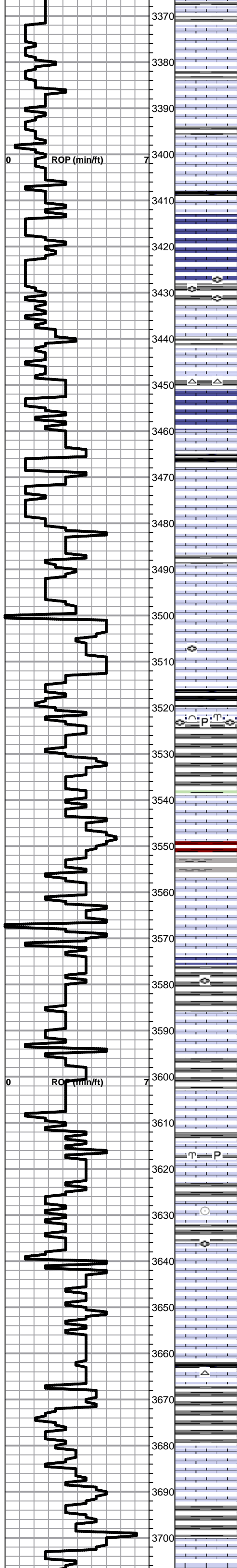
**DST**

■ DST Int

■ DST alt

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Lime- white, vfxln, slightly sucrosic, chalky soft on crush

Lime, med gray, vfxln, scattered fossil fragments

Lime- cream, vfxkn, chalky, moderate pinpoint porosity, soft on crush

Lime- dark gray to faintly brown in part, dense, flaky texture, brittle and hard

Shale- black carbonaceous shale, hard

Lime- cream, fxl, good pinpoint porosity, scattered dissolution porosity, slightly chalky matrix, brittle

Chert- white, smoky

Shale, black, hard, carbonaceous

Lime- cream, vfxln, sparry calcite backfill of pores, chalky in part, scattered vsmall ooids, brittle

**GEOLOGRAPH DISENGAGED AFTER CONNECTION**

Lime- blue-gray to cream, vfxln, brittle, scattered fossil fragments

**HEEBNER SHALE 3518 (-1185)**

Shale- increased amount of black shale A/A

Lime- drk to lt gray to lt brown, dense, fossiliferous, significant pyrite inclusions

Shale- drk gray, hard, slick

**TORONTO 3539 (-1206)**

Lime- lt tan, mud-supported, oolitic to slightly moldic, fair intergranular porosity, some surface stain, minimal show on crush

CFS: increases in oomoldic porosity, and then grades into dense with slightly chalky margins

**LANSING-KC 3557 (-1224)**

Lime- lt gray, vfxln, to drk gray and dense

Lime- tan-gray, dense, no visible porosity

Lime- med gray, vfxln, dense, fossiliferous, dark flecks, hard and brittle

Lime, tan, oolitic to oomoldic, intergranular to vuggy porosity, medxl to dense, fair wet streaming cut, pale white fluorescence, no show of free oil, some sasaturated stain, good odor

Shale- drk gray, red-brown, black

Chert- clear to smoky blue-gray, spiculitic

Lime- cream, chalky on crush, mealy in part, very faint stn on a few chips

Shale- sea green and red, sticky; drk gray and brown, platy, hard

Lime- drk gray, gritty, fxl to dense, hard and brittle, no development, minor fossil inclusions

Lime- cream w/ drk spots, vfxln, mealy to pinpoint porosity, sparry replacement of fusulinids, soft chalky oolitic packstone in part, intergranular porosity with lt stain

Lime- white, chalky vfxln to sucrosic, consistent pinpoint porosity in some chips

Lime- tan-cream, vfxln, bedded w/ white chert, chaotic bedding, fossiliferous in part

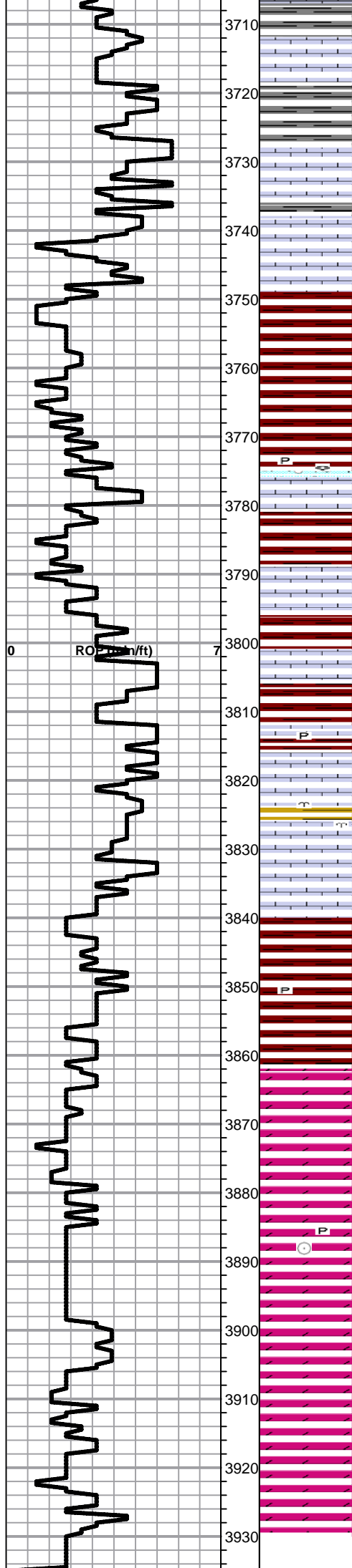
Shale- black, carbonaceous, hard; variagated

Lime- lt gray-tan, sucrosic, many dark inclusions

Lime- cream, fxl, some scattered vuggy/intergranular porosity grading into skeletal packstone, stain in porosity, very lt oil on crush, few small drops in tray, no odor

Lime- white, fxl, chalky, soft on crush, minimal visible porosity; cream, packstone, vfxln matrix, some development with minor stain

Lime- cream to faintly green near shale boundary, vfxln, brittle, sucrosic in part, few chips of packstone with drusy calcite filled vugs



Lime- cream, fxlN to medxlN, some subhedral, hard, scattered pinpoint to vuggy porosity with fair staining

Lime- cream, lt tan, slight blue tint, dense, slightly cherty in part

Lime- tan, dense, few fractures filled with calcite

Lime- cream to white, chalky, vfxln, consistent shallow pinpoint porosity

Lime- lt tan, vfxln, hard on crush, fossiliferous in part

**BASE KC 3750 (-1417)**

Shale- mint and sea green, brick red, and gray

Lime- cream to light gray to lightly tinted at shale boundary, dense, brittle, conchoidal fracture

○ Lime- very small chips, tan/cream, slight surface stain in vuggy pores

Lime- tan to cream, vfxln to fxlN, brittle; white, chalky/white chalk

Lime- cream, slight red tint in part, cherty, oolitic/pisolitic packstone, weathered, friable, slightly chaotic and trashy

Chert- orange translucent to clear to pinkish opaque,  
Shale- variagated; turquoise

Lime- cream, vfxln, consistent microporosity, slightly chalky in part

Lime- lt tan, vfxln, calcite secondary mineralization, pinpoint porosity in part, dense and compact in part

Shale- deep red with clear quartz grains

**ARBUCKLE 3862 (-1529)**

● Dol- lt brown, f-medxlN, sucrosic, very brittle, clean

Dol- cream medxlN, subhedral, good intergranular porosity, saturated with very dark brown to black, heavy, tarry oil, no odor, some drops lighter and more lively

Dol, crm, med xlN, subhedral, granular

Dol- decrease in ratio of chips with oil show to those without

Dol- lt tan to cream, medxlN, subhedral to vfxln and tight

Dol- as above

Dol, as above

**RTD 3930-1597 LTD 3936-1603**

**SLOPE: 5 DEGREES AT RTD**