

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

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ORIGINAL

SEP 20 2010

Form ACO-1  
June 2009  
Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE KGC WICHITA

OPERATOR: License # 33823  
Name: Sentinel Petroleum, Inc.  
Address 1: 101 N. Robinson, Suite 910  
Address 2: \_\_\_\_\_  
City: Oklahoma City State: OK Zip: 73102 + \_\_\_\_\_  
Contact Person: Suzanne Rogers  
Phone: (405) 239-2150 ext 15  
CONTRACTOR: License # 31548  
Name: Discovery Drilling  
Wellsite Geologist: Tim Lauer  
Purchaser: NCRA

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  
 Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled      Permit #: \_\_\_\_\_  
 Dual Completion      Permit #: \_\_\_\_\_  
 SWD      Permit #: \_\_\_\_\_  
 ENHR      Permit #: \_\_\_\_\_  
 GSW      Permit #: \_\_\_\_\_

7-10-10      7-16-10      8-26-10  
Spud Date or      Date Reached TD      Completion Date or  
Recompletion Date           Recompletion Date

API No. 15 - 065-23652 ~0000

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

SE NE SE Sec. 26 Twp. 9 S. R. 23  East  West  
1,720 Feet from  North /  South Line of Section  
330 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

County: Graham

Lease Name: Hill City High School Well #: 10

Field Name: Vesper

Producing Formation: Lansing/Kansas City

Elevation: Ground: 2419' Kelly Bushing: 2428'

Total Depth: 3990' Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: 253.8 Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: 2006 Feet

If Alternate II completion, cement circulated from: 2006

feet depth to: surface w/ 185 sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: 1500 ppm Fluid volume: 240 bbls

Dewatering method used: evaporation

Location of fluid disposal if hauled offsite: \_\_\_\_\_

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

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

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

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

**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature: Suzanne Rogers

Title: Operations Manager Date: 9-15-10

KCC Office Use ONLY

- Letter of Confidentiality Received  
Date: \_\_\_\_\_  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: DG Date: 9/25/10

Operator Name: Sentinel Petroleum, Inc. Lease Name: Hill City High School Well #: 10  
 Sec. 26 Twp. 9 S. R. 23  East  West County: Graham

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: Dual Induction, Density/Neutron, Borehole Sonic, Microlog, Fracfinder	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:70%;">Name</td> <td style="width:15%;">Top</td> <td style="width:15%;">Datum</td> </tr> <tr> <td>Anhydrite</td> <td>2002</td> <td>+426</td> </tr> <tr> <td>Topeka</td> <td>3458</td> <td>-1030</td> </tr> <tr> <td>Heebner</td> <td>3678</td> <td>-1250</td> </tr> <tr> <td>Toronto</td> <td>3699</td> <td>-1271</td> </tr> <tr> <td>Lansing</td> <td>3713</td> <td>-1285</td> </tr> <tr> <td>Base of Kansas City</td> <td>3983</td> <td>-1514</td> </tr> </table>	Name	Top	Datum	Anhydrite	2002	+426	Topeka	3458	-1030	Heebner	3678	-1250	Toronto	3699	-1271	Lansing	3713	-1285	Base of Kansas City	3983	-1514
Name	Top	Datum																				
Anhydrite	2002	+426																				
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Toronto	3699	-1271																				
Lansing	3713	-1285																				
Base of Kansas City	3983	-1514																				

CASING RECORD <input checked="" 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
Surface	12 1/4"	8 5/8"	23	253.8	common	165	3% CC, 2% gel
Production	7 7/8"	5 1/2"	15.50	3989	STD EA-2	150	
top stage cement					SMD	225	

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				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4 spf	3870-3878	250 gals 15% MCA; 750 gals 15% MCA	
4 spf	3884-3892	250 gals 15% MCA; 1500 gals 15% NE	
4 spf	3908-3918	250 gals 15% MCA	

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TUBING RECORD: Size: <u>2 7/8"</u> Set At: <u>3931'</u> Packer At: <u>N/A</u> Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Date of First, Resumed Production, SWD or ENHR. <u>9-13-10</u>	Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____										
Estimated Production Per 24 Hours	<table style="width:100%; border-collapse: collapse;"> <tr> <td>Oil Bbls.</td> <td>Gas Mcf</td> <td>Water Bbls.</td> <td>Gas-Oil Ratio</td> <td>Gravity</td> </tr> <tr> <td style="text-align: center;">25</td> <td></td> <td style="text-align: center;">3</td> <td></td> <td style="text-align: center;">35.5</td> </tr> </table>	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity	25		3		35.5
Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity							
25		3		35.5							

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <u>Lansing/Kansas City I, J &amp; K</u>
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CHARGE TO: SENTINEL PETROLEUM  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET  
18035

PAGE 1 OF 2

SERVICE LOCATIONS: 1. HAYS WELL/PROJECT NO. 10 LEASE HILL CITY HIGH SCHOOL COUNTY/PARISH GRAHAM STATE KS CITY DATE 07-16-10 OWNER  
 2. NESS TICKET TYPE  SERVICE CONTRACTOR RIG NAME/NO. DISCOVERY DOLL #1 SHIPPED VIA CIT DELIVERED TO RED WEA HILL CITY 1/2E 1/4 ORDER NO.  
 3. WELL TYPE OIL WELL CATEGORY DEVELOP JOB PURPOSE 2-STAGE WELL PERMIT NO. 15-065-23652 WELL LOCATION S26 T9 R23  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE		AMOUNT	
		LOC	ACCT	DF									
575		1			MILEAGE #112	50		mi		5.00		250	00
579		1			Ramp SERVICE	1		EA		1750.00		1750	00
580		1			ADDITIONAL HOURS CIRCULAR	2		HR		200.00		400	00
221		1			LIQUID OIL	4		GAL		25.00		100	00
281		1			MUD FLUSH	500		GAZ		1.00		500	00
290		1			DAIR	2		GAZ		35.00		70	00
402		1			CENTRALIZER	8		EA	5 1/2 in	55.00		440	00
403		1			CMT BASKET	2		EA	5 1/2 in	200.00		400	00
407		1			INSERT FLOAT SHADE w/ AUTO FILL	1		EA	5 1/2 in	275.00		275	00
408		1			D.V. TOOL & PLUG	1		CA	5 1/2 in	2600.00		2600	00
7		1			D.V. LATHE DOWN PLUG & BATTLE	1		EA	5 1/2 in	200.00		200	00

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LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS  
 DATE SIGNED 07-16-10 TIME SIGNED 0500  A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE		
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				Pg. 1	6985 00
WE UNDERSTOOD AND MET YOUR NEEDS?				Pg. 2	7434 10
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				sub TOTAL	14419 10
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				Graham TAX 7.55%	793 01
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO		TOTAL	15,212 11
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					



JOB LOG

SWIFT Services, Inc.

DATE 07-16-10 PAGE NO. 1

CUSTOMER SENTINEL PETROLEUM WELL NO. 10 LEASE HILLCITY HIGH SCHOOL JOB TYPE 2-STAGE TICKET NO. 18035

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0500							ON LOCATION CMT: BOTTOM STAGE 150 STD EA-2 TOP STAGE 225 STD - RH30, MH 15, DOWNHOLE 180 R20 390 SET PIPE 3983, SJ 42.68, TUBING 3940 5 1/2 IS S NEW, DIV. ON TOP #48, 203 FT CENT 2,3,4,5,6,7,9,47 BASINS 10,48
	0600							START C&B FLOATED W
	0715							TAG BOTTOM, PICK UP OFF BOTTOM. DROP BALL
	0730							BREAK CIRC 1/2 RIG CIRC 1 HR.
	0830	5.5	12				200	MUD FLUSH 500 GALS
			20					WCL FLUSH 2%
	0842		36.5					STD EA-2 CMT 150 SWS DROP L.D. PLUG, WASH OUT PL
	0845	6.5	0				200	START DISP 1/2 H2O
			46.0				200	" " 1/2 PK MUD
			58.2				300	CMT ON BOTTOM
			85.0				500	
			90.0				250	
	0900		93.8				1500	LAND PLUG, RELEASE WRY
	0905							DROP DIV, OPEN WCL JARY - 0913
	0915						1050	OPEN DIV, CIRC. 2 HRS 1/2 RIG
	1110		7.5					PLUG RH 30, MH 15
	1115	6.0	20.0				250	WCL FLUSH 2%, GOOD CIRCULATION
		6.0	97.0				5	STD CMT 180 SWS DROP DIV, CLOSING PLUG
		6.2	0				250	START DISP
							450	CIRCULATED, CMT 220 SWS
	1145		47.9				1400	LAND PLUG, CLOSE DIV.
	1045							JOB COMPLETE THANK YOU! DAVE, JIM, B. JOHN

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# CONVENTIONAL FULL DIAMETER ANALYSIS

**Sentinel Petroleum**  
**#10 Hill City High School**  
**NA Field**  
**Graham County, Kansas**

**CL File No.: 57181-19756**

**Date: August 10, 2010**

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This report is based entirely upon the core samples, soils, solids, liquids, or gases, together with related observational data, provided solely by the client. The conclusions, inferences, deductions and opinions rendered herein reflect the examination, study, and testing of these items, and represent the best judgement of Core Laboratories. Any reliance on the information contained herein concerning the profitability or productivity of any well, sand, or drilling activity is at the sole risk of the client, and Core Laboratories, neither extends nor makes any warranty or representation whatsoever with respect to same. This report has been prepared for the exclusive and confidential use of the client and no other party.





Sentinel Petroleum  
 #10 Hill City High School  
 Sec 26, T 9S, R 23W  
 Graham County, Kansas

Field: NA  
 Formation: NA  
 Coring Fluid: NA  
 Elevation: NA

CL File No.: 57181-19756  
 Date: August 6, 2010  
 API Number: NA  
 Analyst(s): MB, JS

**CONVENTIONAL FULL DIAMETER ANALYSIS**

Sample Number	Top Depth (ft)	Bottom Depth (ft)	Net Confining Stress (psig)	Porosity (%)	Air Permeability			Oil Sat %pv	Water Sat %pv	Grain Density (g/cm3)	Description	Footnote
					K(maximum)	K(90)	K(vertical)					
					(md)	(md)	(md)					
1	3868	3869	400	3.4	0.34	0.18	-999.00	1.4	98.0	2.71	Lim, brec, sl cly mtb, tr% yel flu	1
2	3869	3870	0	9.4	-999.00	0.28	-999.00	5.9	92.8	2.70	Lim, brec, cly mtb, 20% yel flu	1, 3
3	3870	3871	400	3.0	0.11	0.09	0.02	17.4	76.8	2.72	Lim, brec, sl cly mtb, 20% yel flu	
4	3871	3872	400	4.4	0.22	0.19	0.03	18.8	36.9	2.70	Lim, brec, tr cly mtb, sli moldic, 40% yel flu	
5	3872	3873	400	6.1	12.2	10.1	0.15	16.0	33.3	2.71	Lim, brec, sli pp moldic, 35% yel flu	
6	3873	3874	400	1.8	0.89	0.32	1.00	9.0	90.1	2.70	Lim, sl sh lam, tr frac, 5% yel flu	
7	3874	3875	400	2.9	1.07	0.17	0.66	10.1	81.0	2.72	Lim, brec, sl cly mtb, sli frac, 20% yel flu	
8	3875	3876	400	3.7	2.07	0.99	2.12	1.2	97.4	2.73	Lim, sli sh lam, tr% yel flu	
9	3876	3877	400	4.5	-999.00	0.02	-999.00	4.4	88.9	2.73	Lim, brec, sli cly mtb, tr% yel flu	1, 2

Footnotes :

- (1) : -999 denote no measurement due to sample condition or plug sample.
- (2) : Plug sample due to unsuitable full diameter sampling.
- (3) : Denotes probe tip permeability only available due to sample condition.

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**Sentinel Petroleum**  
#10 Hill City High School  
Sec 26, T 9S, R 23W  
Graham County, Kansas

Field: NA  
Formation: NA  
Coring Fluid: NA  
Elevation: NA

CL File No.: 57181-19756  
Date: August 6, 2010  
API Number: NA  
Analyst(s): MB, JS

## CONVENTIONAL FULL DIAMETER ANALYSIS PROTOCOL

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### Sample Preparation

4.0" full diameter samples were trimmed into right cylinders using water as the lubricant with a diamond-blade table saw.

### Core Extraction

Full Diameter and plug selected for routine core analysis were placed into CO<sub>2</sub>-Toluene extraction cycling.

### Sample Drying

Samples were oven dried at 240° F to weight equilibrium (+/- 0.1 g).

### Porosity

Porosity was determined using Boyle's Law technique by measuring grain volume at ambient conditions.

### Grain Density

Grain density values were calculated by direct measurement of grain volume and weight on dried plug samples.  
Grain volume was measured by Boyle's Law technique.

### Permeability

Permeability to air was measured on each sample using steady state method at indicated NCS.

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*Core Inventory*

Company:	<b>Sentinel Petroleum</b>	Field:	<b>Vesper</b>
Well Name:	<b>#10 Hill City High School</b>	Formation:	<b>Lansing-Kansas City</b>
Location:	<b>Sec 26, T 9S, R 23W</b>	Coring Fluid:	<b>NA</b>
Co. & St.:	<b>Graham County, Kansas</b>	Elevation:	<b>NA</b>

Core Number	Top Depth ft	Bottom Depth ft	Cut ft	Recovered ft
1	3866.0	3878.6	13.0	12.6

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Sentinel Petroleum  
#10 Hill City High School  
Sec 26, T 9S, R 23W  
Graham County, Kansas  
Vesper  
Lansing-Kansas City Lime

Depth	Total Gamma	Core Number	corrected Raw
3866.08	62.76	1	62.76
3866.25	65.75	1	65.75
3866.42	71	1	71.00
3866.58	74.78	1	74.78
3866.75	81.99	1	81.99
3866.92	90.5	1	90.50
3867.08	89.29	1	89.29
3867.25	89.47	1	89.47
3867.42	88.86	1	88.86
3867.58	81.08	1	81.08
3867.75	72.11	1	72.11
3867.92	66	1	66.00
3868.08	56.97	1	56.97
3868.25	49.57	1	49.57
3868.42	41.55	1	41.55
3868.58	32.12	1	32.12
3868.75	26.52	1	26.52
3868.92	22.76	1	22.76
3869.08	19.72	1	19.72
3869.25	16.65	1	16.65
3869.42	17.27	1	17.27
3869.58	14.23	1	14.23
3869.75	13.54	1	13.54
3869.92	10.18	1	10.18
3870.08	9.85	1	9.85
3870.25	10.34	1	10.34
3870.42	6.5	1	6.50
3870.58	8.83	1	8.83
3870.75	12.04	1	12.04
3870.92	11.05	1	11.05
3871.08	11.21	1	11.21
3871.25	9.27	1	9.27
3871.42	10.11	1	10.11
3871.58	7.65	1	7.65
3871.75	10.47	1	10.47
3871.92	10.58	1	10.58

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#10 Hill City High School  
Sec 26, T 9S, R 23W  
Graham County, Kansas  
Vesper  
Lansing-Kansas City Lime

3872.08	12.99	1	12.99
3872.25	15.71	1	15.71
3872.42	15.26	1	15.26
3872.58	15.7	1	15.70
3872.75	13.75	1	13.75
3872.92	12.54	1	12.54
3873.08	10.54	1	10.54
3873.25	8.27	1	8.27
3873.42	9.2	1	9.20
3873.58	11.11	1	11.11
3873.75	10.68	1	10.68
3873.92	11.1	1	11.10
3874.08	11.72	1	11.72
3874.25	14.03	1	14.03
3874.42	13.61	1	13.61
3874.58	12.24	1	12.24
3874.75	10.89	1	10.89
3874.92	15.02	1	15.02
3875.08	13.97	1	13.97
3875.25	11.16	1	11.16
3875.42	14.6	1	14.60
3875.58	15.9	1	15.90
3875.75	18.42	1	18.42
3875.92	18.23	1	18.23
3876.08	21.71	1	21.71

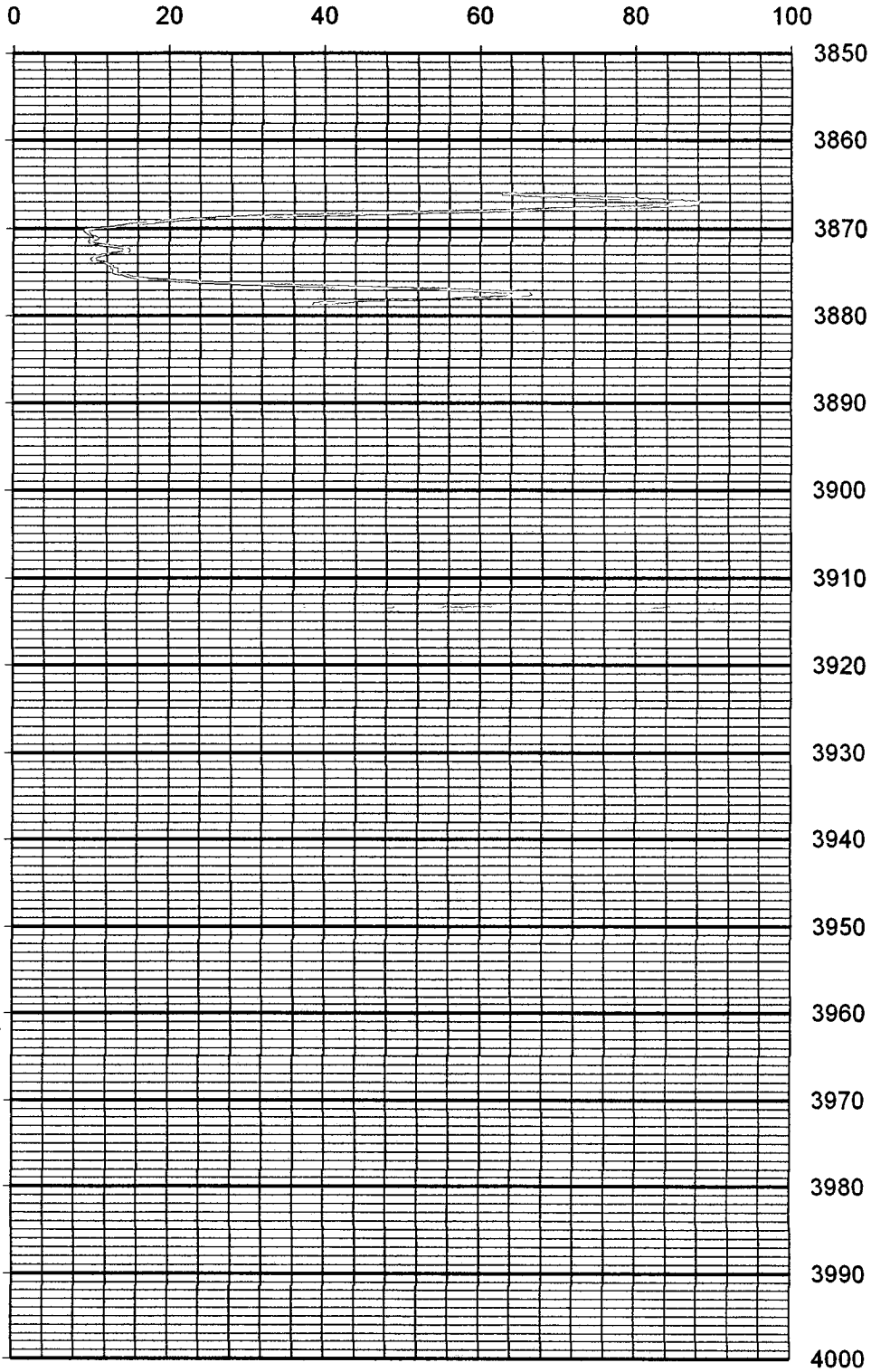
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Sentinel Petroleum  
#10 Hill City High School  
Sec 26, T 9S, R 23W  
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Vesper  
Lansing-Kansas City Lime  
5 in = 100 ft

Smooth Data

— Smoothed Gamma Log



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