

CONFIDENTIAL

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

ORIGINAL

Form ACO-1
September 1999
Form Must Be Typed

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

10/22/09

Operator: License # 3293
 Name: RUSSELL OIL INC
 Address: PO BOX 1469
 City/State/Zip: PLAINFIELD, IL 60544
 Purchaser: NA
 Operator Contact Person: IVAN LEROY HOLT II
 Phone: (815) 609-7000
 Contractor: Name: H2 DRILLING
 License: 33793
 Wellsite Geologist: STEVE ANGLE
 Designate Type of Completion:
 New Well Re-Entry Workover
 Oil SWD SLOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSW, Expl. Cathodic, 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./SWD
 Plug Back Plug Back Total Depth
 Commingled Docket No. _____
 Dual Completion Docket No. _____
 Other (SWD or Enhr.?) Docket No. _____

<u>7/9/2008</u>	<u>7/19/2008</u>	<u>7/20/2008</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 109-20816-0000
 County: LOGAN
SE SE NW SW Sec. 35 Twp. 15 S. R. 34 East West
1560 feet from S / N (circle one) Line of Section
1140 feet from W / E (circle one) Line of Section
 Footages Calculated from Nearest Outside Section Corner:
 (circle one) NE SE NW SW
 Lease Name: MCDANIEL PP Well #: 1-35
 Field Name: WILDCAT
 Producing Formation: _____
 Elevation: Ground: 3041' Kelly Bushing: 3054'
 Total Depth: 4945' Plug Back Total Depth: NA
 Amount of Surface Pipe Set and Cemented at 227 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 DANH 1-709
 (Data must be collected from the Reserve Pit)
 Chloride content 24000 ppm Fluid volume 800 bbls
 Dewatering method used EVAPORATION
 Location of fluid disposal if hauled offsite: _____
 Operator Name: _____
 Lease Name: _____ License No.: _____
 Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West
 County: _____ Docket No.: _____

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.

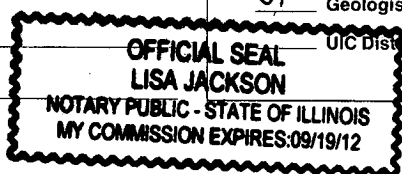
All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature: [Signature]
 Title: EXECUTIVE ASSISTANT Date: 10/9/2008
 Subscribed and sworn to before me this 9th day of OCTOBER,
2008.
 Notary Public: [Signature]
 Date Commission Expires: 9/19/12

KCC Office Use ONLY

Letter of Confidentiality Received
 If Denied, Yes Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution

RECEIVED
 KANSAS CORPORATION COMMISSION
OCT 27 2008
 CONSERVATION DIVISION
 WICHITA, KS



Operator Name: RUSSELL OIL INC Lease Name: MCDANIEL PP Well #: 1-35
 Sec. 35 Twp. 15 S. R. 34 East West County: LOGAN

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 copy of all Electric Wireline Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken Yes No
 (Attach Additional Sheets)
 Samples Sent to Geological Survey Yes No
 Cores Taken Yes No
 Electric Log Run Yes No
 (Submit Copy)
 List All E. Logs Run:

Log Formation (Top), Depth and Datum Sample
 Name Top Datum
 SEE ATTACHED GEOLOGICAL REPORT

COMPUTER PROCESSED INTERPRETATION;BOREHOLE
 COMPENSATED SONIC;DUAL COMPENSATED
 POROSITY; DUAL INDUCTION & MICROSENSITIVITY

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
SURFACE	121/4"	8 5/8"	23#	227'	COMMON	175	2%GEL;3%CC

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
___ Perforate				
___ Protect Casing				
___ Plug Back TD				
___ 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
		CONFIDENTIAL OCT 22 2008	
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		KCC OCT 27 2008	

TUBING RECORD	Size	Set At	Packer At	Liner Run <input type="checkbox"/> Yes <input type="checkbox"/> No

Date of First, Resumerd Production, SWD or Enhr. _____ Producing Method Flowing Pumping Gas Lift Other (Explain) _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

Disposition of Gas _____ METHOD OF COMPLETION _____ Production Interval _____
 Vented Sold Used on Lease Open Hole Perf. Dually Comp. Commingled _____
 (If vented, Submit ACO-18.) Other (Specify) _____

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 WICHITA, KS

Wesley
10/29/08

ALLIED CEMENTING CO., LLC. 31720

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:

Oakley

RECEIVED

DATE <u>7-20-08</u>	SEC. <u>35</u>	TWP. <u>15s</u>	RANGE <u>34W</u>	CALLED OUT <u>08:00 AM 29 2008</u>	ON LOCATION <u>11:30 AM</u>	JOB START <u>4:00 PM</u>	JOB FINISH <u>5:30 PM</u>
LEASE <u>McDaniels</u>		WELL # <u>1-35</u>	LOCATION <u>23.5s 4.5w 2s</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>
OLD OR <input checked="" type="radio"/> NEW (Circle one)			SW 1s SW 2 1/2s SE into				

CONTRACTOR H2 Drilling Rig 2

TYPE OF JOB PTA

HOLE SIZE 7 7/8 T.D. 4950'

CASING SIZE _____ DEPTH _____

TUBING SIZE _____ DEPTH _____

DRILL PIPE 4 1/2 DEPTH 2435'

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS. _____

DISPLACEMENT _____

OWNER same

CEMENT

AMOUNT ORDERED 190 sks 60/40

40 gel 1/4" Flo-seal

EQUIPMENT

PUMP TRUCK # 423-281 CEMENTER Andrew
HELPER ALVIN

BULK TRUCK # 377 DRIVER Jerry

BULK TRUCK # _____ DRIVER _____

COMMON	<u>115 sks</u>	@	<u>15.45</u>	<u>1776.75</u>
POZMIX	<u>25 sks</u>	@	<u>8.00</u>	<u>600.00</u>
GEL	<u>7 sks</u>	@	<u>20.80</u>	<u>145.60</u>
CHLORIDE		@		
ASC		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<u>199 sks</u>	@	<u>2.40</u>	<u>477.60</u>
MILEAGE	<u>10 1/2 sk/mile</u>			<u>825.60</u>

REMARKS:

25 sks @ 24.35'
100 sks @ 12.41'
40 sks @ 280'
10 sks @ 40'
15 sks Rat hole

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CONSERVATION DIVISION
WICHITA, KS

SERVICE

DEPTH OF JOB	<u>2435'</u>		
PUMP TRUCK CHARGE			<u>1185.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>44 miles</u>	@	<u>7.00 308.00</u>
MANIFOLD		@	
		@	
		@	

Thank you

CHARGE TO: Russell oil

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL 1493.00

PLUG & FLOAT EQUIPMENT

<u>8 5/8</u>			
<u>1 dry hole plug</u>	@		<u>40.00</u>
	@		
	@		
	@		

TOTAL 40.00

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS _____

PRINTED NAME Wesley Pass

SIGNATURE [Signature]

*McQuinn
12/28/08*

ALLIED CEMENTING CO., LLC. 31551

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

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JUL 18 2008

SERVICE POINT:
Oakley, KS

DATE <i>7/10/08</i>	SEC. <i>35</i>	TWP. <i>15</i>	RANGE <i>34</i>	CALLED OUT BY: _____	ON LOCATION _____	JOB START <i>8:45</i>	JOB FINISH <i>6:15</i>
LEASE <i>McQuinn's PP</i>	WELL # <i>1-35</i>	LOCATION <i>Oakley S. To Fairleigh Ranch sign</i>			COUNTY <i>Logan</i>	STATE <i>KS</i>	
OLD OR NEW (Circle one)		<i>in to rd 325 S. 1/2 mile EoS into</i>					

CONTRACTOR *H2 Drilling*

TYPE OF JOB *Surface Job*

HOLE SIZE *12 1/4* T.D. *230*

CASING SIZE *8 7/8* DEPTH *227*

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. *15'*

PERFS. _____

DISPLACEMENT *13.5 bbl*

OWNER *Sg me*

CEMENT AMOUNT ORDERED *175 S/KS COM*

270 gel 270 CC

COMMON	<i>175</i>	@ <i>15.15</i>	<i>2703.75</i>
POZMIX		@	
GEL	<i>3</i>	@ <i>21.00</i>	<i>62.40</i>
CHLORIDE	<i>6</i>	@ <i>58.00</i>	<i>348.00</i>
ASC		@	

EQUIPMENT

PUMP TRUCK CEMENTER *Alan*

422 HELPER *Wayne*

BULK TRUCK DRIVER *Wil*

377 DRIVER _____

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WICHITA, KS

HANDLING	<i>184 S/KS</i>	@ <i>2.40</i>	<i>441.60</i>
MILEAGE	<i>10.5 S/K/mile</i>	@	<i>809.00</i>
TOTAL			<i>4366.32</i>

REMARKS:

Cement Circulated

SERVICE

DEPTH OF JOB	<i>227</i>		
PUMP TRUCK CHARGE			<i>1018.00</i>
EXTRA FOOTAGE		@	
MILEAGE	<i>44</i>	@ <i>7.00</i>	<i>308.00</i>
MANIFOLD		@	

CHARGE TO: *Russell Oil*

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL *1326.00*

PLUG & FLOAT EQUIPMENT

<i>8 5/8 Wood Ply</i>	@	<i>68.00</i>
TOTAL		<i>68.00</i>

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS

PRINTED NAME *Wesley Pfaff*

SIGNATURE *Wesley Pfaff*

GEOLOGICAL REPORT

RUSSELL OIL, INC.

MCDANIEL "PP" NO. 1-35

1560' FSL; 1140' FEL

35-15S-34W

LOGAN COUNTY, KANSAS

API NO. 15-109-20816-0000

Commenced: July 9, 2008

Completed: July 19, 2008

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OCT 27 2008

CONSERVATION DIVISION
WICHITA, KS

Russell Oil, Inc.
P.O. Box 1469
Plainfield, Il. 60544

Re: Russell Oil, Inc.
McDaniel "PP" No. 1-35
1560' FSL; 1140' FEL
35-15S-34W
Logan, County, Kansas

Dear Sir:

The following is a Geological Report with a Time Log attached on the above captioned well.

Drilling was supervised from 2600' to 4950', rotary total depth. Samples were examined from 2600' to 4950', rotary total depth.

All formation tops, zones of interest, porosity and staining are based on rotary bushing measurements. Any corrections in measurements during the drilling of this well have been incorporated into this report.

Elevation 3041 GL -- 3054 KB

Log Tops

Anhydrite -----	2415'	to	2489'	+ 639	to	+565
Herington -----			2787'	+ 267		
Winfield -----			2831'	+ 223		
Florence -----			2930'	+ 124		
Wreford -----			3047'	+ 7		
Neva -----			3258'	- 204		
Red Eagle -----			3319'	- 265		
Tarkio Lime -----			3581'	- 473		
Howard -----			3690'	- 636		
Topeka -----			3720'	- 666		
Heebner -----			3954'	- 900		
Toronto -----			3974'	- 920		
Lansing/Kansas City -----			4001'	- 947		
Stark Shale -----			4331'	-1277		
Base/Kansas City -----			4390'	-1336		
Marmaton -----			4412'	-1358		
Pawnee -----			4500'	-1446		
Myric Station -----			4536'	-1482		
Fort Scott -----			4551'	-1497		
Cherokee Shale -----			4584'	-1530		
Basal Pennsylvanian Sand -----			4704'	-1653		
Mississippi -----			4900'	-1846		
Rotary Total Depth -----			4945'	-1891		
Log Total Depth -----			4950'	-1896		

(continued)

Russell Oil, Inc.
P.O. Box 1469
Plainfield, Il. 60544

Re: Russell Oil, Inc.
McDaniel "PP" No. 1-35
1560' FSL; 1140' FEL
35-15S-34W
Logan, County, Kansas

Structurally, on top of the Lansing/Kansas City, the Russell Oil, McDaniel "PP" No. 1-35 ran 68 feet low to the Cities Service, McDaniel "B" No. 1 located approximately 2 miles to the northwest.

On top of the Cherokee Shale, the Russell Oil, Inc., McDaniel "PP" ran 77 feet to the Cities Service McDaniel "B" No. 1.

Russell Oil, Inc.
P.O. Box 1469
Plainfield, Il. 60544

Re: Russell Oil, Inc.
McDaniel "PP" No. 1-35
1560' FSL; 1140' FEL
35-15S-34W
Logan, County, Kansas

Log-Tech logs of Borehole Compensated Sonic, Dual Compensated Porosity, Dual Induction, and Microresistivity.

Due to the low structural position and negative drill stem tests, the Russell Oil, Inc. McDaniel "PP" No. 1-35 was plugged and abandoned a dry hole.

Sincerely

A handwritten signature in black ink that reads "Steven D. Angle". The signature is written in a cursive style with a large, prominent initial "S".

Steven D. Angle

Russell Oil, Inc.
P.O. Box 1469
Plainfield, Il. 60544

McDaniel "EP" No. 1-35
1560' FSL; 1140' FEL
35-15S-34W
Logan County, Kansas

ZONES OF INTEREST

Note: All oil shows and odors are denoted with an asterisk (*). Samples only showing florescence are not.

2623 to 2639	Red shales, scattered dark grey, pale green shales. A few white and tan dolomitic limes.
2639 to 2646	Red shales, sandy black shales and tan dolomitic limes.
2646 to 2658	Red, black and grey shales and scattered white and light grey dolomitic limes.
2658 to 2670	Red, grey, pale green shales and scattered white and tan dolomitic limes.
2670 to 2679	Red, grey shales and white chalk.
2679 to 2688	Red, light green shales and white frosted quartz.
2688 to 2695	Same shales as above with white redish and light grey dolomitic limes.
2695 to 2705	Same as above.
2705 to 2712	Same as above with a few light tan fossiliferous limes.
2712 to 2723	Scattered red and brown shales and white to light tan fine crystalline sucrosic dolomitic limes.
2723 to 2737	Red, charcoal black and light grey shales and white and light grey crystalline dolomitized limes.
2737 to 2748	Red shales, sluffing and white and light grey dolomitic limes.
2748 to 2756	Red and brown shales - sluff - and white and grey dolomitic limes.

2756 to 2766	Red, grey and light green shales and white and tan dolomitic limes.
2766 to 2787	Red firm shales and white and light grey dense, firm chalk and light tan dolomitic lime.
<u>HERINGTON (Top @ 2787)</u>	
2787 to 2800	Red and grey shales and light grey dolomitic limes.
2800 to 2810	Red and grey shales and off white dolomitic limes.
2810 to 2820	Red, dark grey shales and white sucrosic dolomitic limes and hard white clays.
2820 to 2828	Red and brown shales and white and tan slightly sandy clays.
<u>WINFIELD (Top @ 2831)</u>	
2831 to 2835	Red and brown shales and white and grey clays.
2835 to 2843	Red, brown and grey shales and white, grey hard clays.
2843 to 2858	Same as above.
2858 to 2865	Red shales and scattered black and grey shales. White and grey hard clays and scattered white dolomitic limes.
2865 to 2872	Red, brown and light pale green shales and white hard clays.
2872 to 2880	Red and brown shales, grey shaley, sandy dolomitic limes and white quartz.
2880 to 2885	Red and light grey shales and tan clays and white weathered quartz.
2885 to 2898	Red and brown shales and white quartz and tan dolomitic limes.
2898 to 2910	Red and brown shales, white quartz and tan and white clays.
2910 to 2929	Brown shales, slightly large crystalline, wuggy tan dolomitic limes and tan fine crystalline cherts.

FLORENCE (Top @ 2930)

2930 to 2945

Light grey limes and light grey dolomitic limes.
Red and brown shales.

2945 to 2951

Scattered red and dark brown shales. Grey with
black fossiliferous limes and light tan dolomitic
limes.

2951 to 2958

Red shales, tan, fine, slightly crystalline
dolomitic limes.

2958 to 2973

Red shales and white quartz and tan firm clays.

2973 to 2987

Red and dark grey shales, tan clays and brown with
black fossil cherts and scattered white
and tan dolomitic limes.

2987 to 2992

Red, dark grey and tan shales. Tan, slightly vuggy
dolomitic limes and tan cherty with black
fossiliferous dolomitic limes.

2992 to 3005

Tan with black fossils dolomitic limes, tan fine
crystalline dolomitic limes and tan, slightly
fossiliferous dolomitic limes.

3005 to 3008

Same as above.

3008 to 3011

Tan and white fossiliferous dolomitic limes and
tan and off white fine crystalline dolomitic
limes.

3011 to 3018

Same as above with scattered large rounded, frosted
quartz grains and scattered white sand clusters.

3018 to 3047

Same as above.

WREFORD (Top @ 3047)

3047 to 3059

Tan fossiliferous and tan sucrosic crystalline
dolomitic limes.

3059 to 3067

Tan and grey with black fossils, dolomitic limes
and tan and light dolomitic limes.

3067 to 3074

Red and pale green shales and scattered grey
and light brown fossiliferous dolomitic limes.

3074 to 3078 Brown sucrosic dolomitic limes and tan with black fossils limes and red and pale green shales.

3078 to 3089 Scattered large and rounded grained quartz and fine crystalline white dolomitic limes and brown sandy dolomitic limes, multi-colored shales.

3089 to 3102 Varied colored dolomitic limes and grey with black fossilied dolomitic limes.

3102 to 3111 Light grey and tan sucrosic dolomitic limes.

3111 to 3124 Same as above.

3124 to 3130 Red, dark grey and pale green shales, tan, slightly fossiliferous, crystalline dolomitic limes and scattered tan, black fossilied, cherty dolomitic limes.

3130 to 3136 Red and varied colored shales. White and brown sandy dolomitic limes.

3136 to 3150 Tan and grey black fossilied dolomitic limes, scattered light tan and grey fossiliferous, cherty dolomitic limes.

3150 to 3159 Red, brown and tan shales and a few scattered light tan fine crystalline dolomitic limes.

3159 to 3164 Scattered sub-rounded, large frosted white quartz grains and brown and tan sandy dolomitic limes. Red, blackish to brownish shales.

3164 to 3185 Red, brown and grey shales.

3185 to 3203 Same with scattered light tan and grey crystalline dolomitic limes. A few scattered frosted quartz grains and dark brown fossiliferous, cherty limes.

3203 to 3210 Multi-colored shales.

3210 to 3220 Scattered tan and buff crystalline to cherty dolomitic limes.

3220 to 3233 Scattered tan and grey fine crystalline to tan fossiliferous dolomitic limes.

3233 to 3244	Tan crystalline to cherty dolomitic limes.
3244 to 3253	Red and blackish shales and tan dense and fine crystalline dolomitic limes.
<u>NEVA (Top @ 3258)</u> 3258 to 3265	Scattered tan and light grey, fine crystalline, dolomitic limes.
3265 to 3274	Red, brown and turquoise green shales and tan fine crystalline dolomitic limes.
3274 to 3280	Tan, cherty crystalline and tan crystalline dolomitic limes.
3280 to 3296	White to light tan crystalline to sucrosic dolomitic limes.
3296 to 3304	Tan, light grey to white dense to fine crystalline dolomitic limes and scattered brown dolomite.
3304 to 3314	Light tan, fossiliferous, dolomitic lime and tan to light brown, crystalline dolomite.
<u>RED EAGLE (Top @ 3319)</u> 3319 to 3326	White, brown and tan dense and fine crystalline dolomitic limes.
3326 to 3331	White and tan dense and fossiliferous dolomitic limes.
3331 to 3349	White, light tan, light grey dense and lightly crystalline dolomitic limes.
3349 to 3358	White, weathered, tan fossiliferous, dolomitic limes and scattered dark grey fossiliferous, cherty dolomitic limes.
3358 to 3368	White and tan crystalline and large crystalline dolomitic limes.
3368 to 3376	Red, grey and brown shales and white, buff to off white dolomitic crystalline limes.
3376 to 3384	Scattered white and light grey sandy dolomitic limes and tan crystalline and tan cherty dolomitic limes.
3384 to 3398	Light tan, vuggy dolomitic limes and tan dense and crystalline dolomitic limes.

3398 to 3408	Light tan dense to fossiliferous dolomitic limes.
3408 to 3418	Tan dense and fine crystalline dolomitic limes and tan crystalline limes.
3418 to 3427	White, tan, dense and fossiliferous dolomitic limes.
3437 to 3446	Same as above with tan dolomitic limes.
3446 to 3455	White dense to tan silty fossiliferous dolomitic limes.
3455 to 3460	A few scattered jet black shales and buff, silty, fossiliferous dolomitic limes and a few light grey sand clusters.
3460 to 3468	Light grey fine crystalline to dense dolomitic limes.
3468 to 3497	Light tan and tan fine crystalline to dense dolomitic limes.
3497 to 3505	Tan, weathered, slightly vugular with dolomitic limes with pinpoint porosity and white dense and sandy dolomitic limes.
3505 to 3516	Light tan, sucrosic, dolomitic, weathered limes.
3516 to 3536	White and tan dense and tan weathered sucrosic dolomitic limes.
3536 to 3543	Scattered pale green soft shales, tan and light grey well developed fossiliferous limes.
3543 to 3550	Multi-colored shales.
3550 to 3559	Multi-colored shales and scattered tan and white well developed fossiliferous dolomitic limes.
3559 to 3571	Light grey and grey shales.
3571 to 3580	Light grey and black shales.
<u>TARKIO LIME (Top @ 3581)</u> 3581 to 3590	A few scattered light tan dense limes.

3590 to 3599	Multi-colored shales.
3599 to 3616	Multi-colored shales.
3616 to 3626	Light grey and dark grey shales and scattered light grey oolitic clays.
3626 to 3634	Light and dark grey shales and light brown dolomitic lime.
3638 to 3650	Multi-colored shales and clays.
3671 to 3678	Light tan, fine crystalline dolomitic limes and tan fossiliferous, weathered dolomitic limes.
3681 to 3687	Light tan dolomitic limes.
<u>HOWARD (Top @ 3690)</u> 3690 to 3710	Light grey dense limes.
<u>TOPEKA (Top @ 3720)</u> 3720 to 3734	Scattered light tan to buff fossiliferous limes.
3736 to 3750	Light tan dense limes and fossiliferous limes.
3754 to 3762	Tan, slightly weathered to weathered fossiliferous limes.
3762 to 3772	Tan, slightly silty, friable fossiliferous limes.
3772 to 3786	Buff to light tan fossiliferous limes and dense limes.
3791 to 3897	Tan crystalline to dense to fossiliferous, fairly friable limes.
3797 to 3806	Tan, slightly silty fossiliferous friable lime.
3806 to 3815	Same as above.
3818 to 3830	Light tan, crystalline to dense to fossiliferous limes.
3833 to 3840	Light tan, fine crystalline to dense limes.
3842 to 3848	Tan, slightly sandy to fine crystalline to dense limes.

3856 to 3869 Tan fossiliferous, weathered to slightly vuggy limes.

3872 to 3880 Same as above with scattered dense limes.

3882 to 3888 Tan weathered fossiliferous limes.

3902 to 3912 Hard, light tan, fossiliferous lime.

3914 to 3922 Tan dense to scattered tan fossiliferous limes.

3936 to 3954 Buff, dense to crystalline to slightly sandy limes.

3954 to 3966 Light, tan, slightly sandy, weathered limes and scattered lightly grey dense limes.

3966 to 3971 Tan and light grey, slightly junky and fossiliferous limes.

3971 to 3976 Light grey fossiliferous firm limes.

3976 to 3994 Light tan, slightly junky and fossiliferous limes. A few scattered grey fresh sharp cherts.

3994 to 4001 Light tan dense and tan slightly fossiliferous limes.

4001 to 4007 Light tan sandy limes and slightly vuggy limes and tan dense limes.

4007 to 4024 Light tan crystalline to slightly cherty, weathered and scattered fossiliferous limes.

4024 to 4037 White fossiliferous, friable and light tan dense limes.

4037 to 4043 White to light tan slightly crystalline and dense limes.

4043 to 4051 Light tan, firm, slightly crystalline, limes and a few scattered fossiliferous hard limes.

4051 to 4062 Same as above.

4062 to 4072 White dense to crystalline limes.

4072 to 4085 Light tan crystalline fossiliferous friable limes.

4085 to 4097 Light tan crystalline limes.

4097 to 4107 Light tan, fairly hard, crystalline, fossiliferous limes.

4107 to 4115 White and light tan crystalline limes and scattered fossiliferous limes.

4115 to 4125 Same as above with scattered pyrited limes.

4125 to 4134 Same as above.

4134 to 4144 White to light tan crystalline dense fossiliferous limes.

4144 to 4154 Same as above.

4154 to 4162 Light tan, fossiliferous hard limes and white crystalline fairly friable limes.

4162 to 4175 Buff and tan dense limes and scattered crystalline fossiliferous limes.

4175 to 4187 A few pieces of light grey cherts and white dense and crystalline limes.

4187 to 4196 Tan fossiliferous limes and white dense and crystalline limes.

4196 to 4202* A very, very faint odor. One piece of weathered lime with a few specks of dead oil. Scattered grey chert like limes and dense crystalline and fossiliferous limes.

4202 to 4216 Scattered grey junky fossiliferous limes and white dense crystalline limes.

4216 to 4228 White, fossiliferous limes and grey fossiliferous limes. Scattered light grey friable cherts.

4228 to 4236 Tan, grey and white fossiliferous limes and white and tan dense and crystalline limes.

4236 to 4246 Scattered grey fresh cherts and tan dense limes.

4246 to 4254 Well formed white fossiliferous limes and a few light grey cherts and dense limes.

- 4254 to 4257 Light tan fine to medium crystalline limes and scattered tan fossiliferous limes.
- 4257 to 4266 Tan dense and tan slightly silty fossiliferous limes.
- 4266 to 4283 Scattered, well developed tan fossiliferous limes and scattered fairly well developed oolitic limes.
- 4283 to 4290 Light tan fairly well developed oolitic and oolitic limes and tan crystalline limes with slight vugginess.
- 4290 to 4297* Scattered black shales and scattered buff crystalline fossiliferous limes with scattered vugginess, Light tan, fairly well developed oolitic limes, no show of free oil, scattered fine crystalline limes with scattered pinpoint porosity with a trace of light oil staining with a faint odor.
- 4297 to 4309 Tan dense to crystalline dense limes and a few scattered light tan slightly fossiliferous limes, scattered black shales.
- 4309 to 4323 Soft silty white limes and lightly silty white crystalline limes.
- STARK SHALE (Top @ 4331)
- 4331 to 4338 Scattered tan crystalline, slightly vuggy to poorly developed oolitic limes and tan dense limes.
- 4338 to 4347* Light green fairly soft dolomitic lime with a small show of free oil and a fair odor.
(Included in DST No. 1)
- 4347 to 4364 Tan crystalline and buff crystalline limes and a few scattered fossiliferous limes and a few pieces of tan limes with scattered oolitic casts.
- 4364 to 4365 Tan and grey hard cherty well developed fossiliferous limes and light tan silty to slightly crystalline to dense limes.
- 4365 to 4376 Tan crystalline to grey fossiliferous to dense limes.

4376 to 4387

Tan to grey slightly weathered crystalline to dense to fossiliferous to well developed fossiliferous limes.

4387 to 4390

Tan to grey crystalline limes and fossiliferous limes to scattered fossil cast with a show of florescence.

BASE/KANSAS CITY (Top @ 4390)

CFS @ 4402

DRILL STEM TEST NO. 1

4327 to 4402

TEST: 60-30-60-30, Strong blow off bottom of 5 gallon bucket in 3-1/2 minutes.
Shut In 30 minutes. No blow back.
Strong blow off bottom of 5 gallon bucket in 25 minutes.
Shut In 30 minutes. No blow back.
Recovered: 40' of slightly water cut mud, 762' of slightly mud cut water and 248' of mud cut water.
Pressures: 66-332, 337-438, 1188-1146 Bbps.
2157-2137 hydrostatic pressures.

4402 to 4420

White, tan, light grey dense to slightly crystalline limes and scattered white fossiliferous limes.

4420 to 4428

Light tan crystalline to white chalky to tan dense to scattered tan fossiliferous limes.

4428 to 4439

Light tan to brown crystalline fossiliferous limes.

4439 to 4450

Same as above.

4450 to 4457

Light tan and grey crystalline and fossiliferous limes.

4457 to 4471

Scattered white, fine sandy limes, chalky limes and light grey fossiliferous limes.

4471 to 4480

Brown and black shales. Grey soft gummy shales. Scattered light tan and tan dense fossiliferous limes.

4480 to 4484

Brown, grey, greenish shales and grey soft gummy shales. White silty, dense to chalky limes.

CFS @ 4484

4484 to 4500*

Light tan fossiliferous limes. Light grey limes. One piece of light tan slightly weathered lime with a small show of dead oil flakes and one piece of white, slightly silty to crystalline lime with a small show of gilsonite. No odor.

PAWNEE (Top @ 4500)

4500 to 4510*

One piece of sandy, white lime with a trace of dead oil flakes, very small show of gilsonite. Remainder of sample was white to tan dense to crystalline to fossiliferous limes.

4510 to 4520

Off white to greyish dense to crystalline lime and scattered fossiliferous limes.

4520 to 4536

Light tan to grey crystalline to dense limes.

MYRIC STATION (Top @ 4536)

4536 to 4547

White dense and crystalline and light tan and grey fossiliferous limes.

4547 to 4551

Black shales and scattered light grey dense to crystalline limes.

FORT SCOTT (Top @ 4451)

4551 to 4564

Light grey and black shales and brownish to light tan fossiliferous limes.

4564 to 4568

Black and light grey shales and light grey to tan dense fossiliferous limes.

CFS @ 4568

4568 to 4579

Scattered tan, fresh sharp cherts. Grey, greenish and black shales and scattered slightly greenish sandy shales.

4579 to 4584

Scattered lightly grey fresh sharp cherts, brownish, firm, well developed fossiliferous limes and slightly shaley, loose, slightly dolomitic crystals and fine sand grains.

CHEROKEE SHALE (Top @ 4584)

4586 to 4593 Light grey and charcoal black shales and off white to brownish fossiliferous limes.

4593 to 4600 Charcoal black and grey shales and a few tan fossiliferous well developed limes and light tan crystalline limes.

4600 to 4614 Tan to dark tan crystalline, dense limes and scattered tan fossiliferous limes.

4614 to 4620 Light tan, hard, cherty fossiliferous limes and tan junky fossiliferous limes.

4620 to 4629* Tan and white silty limes and off white and tan dense limes. Sample had a very faint odor. (Included in DST No. 2)

4629 to 4639 A few scattered light grey and greenish, fine grained, sandy shale and off white dense and tan fossiliferous junky limes.

4639 to 4648 A piece of very fine grey shaley sand cluster and a cluster of clear sub-angular loosely bonded sand clusters. A few brown sharp fresh cherts and black green and dark red shales.

4648 to 4658 Poorly sorted, clear quartz sand clusters and a few pieces of red, brown and yellow cherts, tan and grey dense and slightly crystalline limes.

4658 to 4667 A few tan fresh cherts and tan to brown fossiliferous limes.

4667 to 4677 Light tan and tan crystalline to junky limes. Tan dense limes and a few scattered brown fresh cherts.

4677 to 4688 Tan crystalline limes, dark grey junky limes.

4688 to 4696 A few pieces of brownish translucent fresh cherts, tan dense to crystalline to scattered fossiliferous limes.

4696 to 4700 Light tan to tan dense limes and light grey fossiliferous limes.

CFS @ 4700

4700 to 4702

Light tan and light grey firm limes.

4702 to 4710

Few scattered sand clusters and glauconitic sand clusters.

CFS @ 4710

4710 to 4720

Scattered white sand clusters composed of poorly sorted fine clear sub-rounded quartz sand grains. No reaction when acidized.

4720 to 4723

Light grey and off white sand clusters, same as above.

CFS @ 4723

4723 to 4733

Same as above.

CFS @ 4733

4733 to 4741

Green to grey shales and clear sand clusters.

CFS @ 4741

4741 to 4747

Grey shales and scattered sandy dark greenish shales, scattered light tan dense to crystalline to fossiliferous limes and clear sand clusters.

4747 to 4751*

Grey shales, scattered dark brown shales, one cluster of dark green shaly clear quartz sand and a few pieces of tan dense to fossiliferous limes. Very faint odor in this sample.

CFS @ 4751

DRILL STEM TEST NO. 2

4614 to 4751

TEST: 60-30-60-30, Built to 1-3/4" blow dying back to 1-1/2" blow throughout.
Shut In 30 minutes. No blow back.
No blow. Flushed tool at 20 minutes and had surface blow for 4 minutes.
Shut In 30 minutes. No blow back.
Recovered: 103' of slightly water cut mud and 62' of water cut mud.
Pressures: 34-81, 80-92, 958-940 Bhps.
2358-2246 hydrostatic pressures.

4754 to 4780*

Dark grey to black shales and fair amount of clear quartz sand clusters that had no reaction in acid, scattered white fine grained sand clusters with glauconitic crystals and a small amount of iron pyrite. This sample had a very, very, faint odor. (Included in Dst's 3 & 4).

CFS @ 4780

4780 to 4790

Blackish shales and fair amount of varied types of sand. White sand clusters with rounded clear quartz grains and a couple of clusters with calcite bonding of poorly sorted clear to frosted medium sized quartz grains and a couple of rounded frosted orangish quartz pebbles.

CFS @ 4790

4790 to 4795

Grey and dark grey shales and white sand clusters of fairly loose to firm in construction. Some large crystals cemented with dolomitic calcite. A few pieces of large angular fractured quartzite with pyrite.

4795 to 4805

Grey and brown shales. Scattered white sand clusters of fairly fine clear quartz and light grey sand clusters.

CFS @ 4805

4805 to 4813

Black and dark grey shales and scattered white, fairly well bonded sand, limey, very fine quartz sand clusters which would react to acid.

4813 to 4820

Black and grey shales, very fine grey with almost conglomerated black shales with feldspar crystals and a few scattered white sand clusters.

4820 to 4822

Scattered tan, yellowish and orange fresh, hard, sharp cherts. Scattered black and dark brown shales. Varied sand clusters, white with medium sized rounded grains. Dark grey and blackish sand clusters and white, fairly fine sand with glauconitic crystals.

4822 to 4832

Black and gray shales, yellow, orange and tan fresh cherts. Fairly large amount of free iron pyrite. Scattered fine grey sand clusters and fairly large frosted quartz sand clusters.

4832 to 4847

Black and gray shales, scattered tan and orange fresh cherts, scattered white and clear, fairly loose sand clusters and gray to black hard sand clusters.

4847 to 4853

Gray and blackish shales, scattered light tan, light gray fresh cherts and scattered varied grained fine to medium sand clusters.

4853 to 4859*

Scattered black and gray shales. Scattered loose iron pyrite and a few scattered light fresh cherts. Scattered fine to medium quartz sand clusters. Sample did have a faint odor. A 50 count hydrocarbon detection @ 4856. No show of oil. (Included in Dst's 3 & 4).

4859 to 4877

Fair amount of iron pyrite, scattered blackish shales and scattered light gray and white sand clusters.

4877 to 4885

Black shales, light tan dense and crystalline limes. Scattered light gray fresh cherts and fine grained sand clusters and iron pyrite.

CFS @ 4885

4885 to 4892

White, orange and gray fresh sharp cherts. Scattered white and light tan sand clusters and fair amount of iron pyrite.

4892 to 4900*

Light tan, gray and white fresh cherts. A few scattered yellow and orange fresh cherts, sub rounded medium to large frosted quartz grains. Scattered light tan sand clusters and black to dark grey shales. Sample had a faint odor.

CFS @ 4900

MISSISSIPPI (Top @ 4900)

4900 to 4903

Fair amount of loose iron pyrite and loose rounded and sub-rounded large frosted quartz grains. Scattered tan and grey fresh cherts and tan dense limes and fossiliferous limes. A few white and tan sand clusters.

4903 to 4907*

Tan dense and crystalline fossiliferous limes. scattered black shales and dark green shales. Sample had a very faint odor.

4907 to 4916*

Tan dense to crystalline limes and scattered black shales and scattered cherts and large loose quartz sand grains. Sample had a very faint odor when shaken.

4916 to 4924*

Tan slightly silty to slightly crystalline to fossiliferous limes. Sample had a faint odor when shaken.

4924 to 4932

Few pale green shales and dark grey shales. Tan to brown dense limes to white chalky limes. Brown fossiliferous limes and a few black shales.

4932 to 4943

Tan dense to fine crystalline to slightly fossiliferous limes.

4943 to 4960

Brown fossiliferous limes and junky limes.

ROTARY TOTAL DEPTH @ 4950

DRILL STEM TEST NO. 3

4742 to 4950

MISSRUN - PACKER FAILURE.

DRILL STEM TEST NO 4

4722 to 4870

STRADDLE TEST

TEST: 60-30-60-30, Strong blow off bottom of 5 gallon bucket in 30 seconds.

Shut In 30 minutes. Blow back of surface blow for 2 minutes.

Very weak blow building to 3/4".

Shut In. No blow back.

Recovered: 90' of mud, 1560' of mud cut water and 930' of slightly water cut mud.

Pressures: 672-1246, 1258-1261, 1259-1263 Bhps.

2564-2395 hydrostatic pressure.

LOG TOTAL DEPTH @ 4945

DRILLING INFORMATION ON THE MCDANIEL "PP" NO. 1-35

Drilling Contractor: H2 Drilling Company, Rig 2. Drillers: J. Coleman
Tool Pusher: Wes Pfaff A. Pfaff
J. Durr

Spud Date: July 9, 2008

Date of RTD: July 18, 2008

Surface Pipe: New 8-5/8" set @ 230', Cement did circulate.

Status: Dry and Abandoned.

Production Casing: None.

Drilling Mud: Mud-Co, Engineer, Reid Atkins.

Drill Stem Testing: Trilobite Testing, Tester: Brandon Domsch.
Tests Ran: Four, none positive.

Cementing: Surface Pipe, Allied Cementing Co.

Electric Logging: Log-Tech, Engineer: B. Becker.
Logs Ran: Borehole Compensated Sonic, Dual Compensated Porosity,
Dual Induction and Microresistivity.

Hydrocarbon Detection & Well Management: Geocertified, LLC; Engineer: Kevin J.
Bailey.

TOTAL FOOTAGE DRILLED PER DAY
Spudded on July 7, 2008

Under Surface On July 10, 2008

300	Feet	At	7:00 A.M.	On	7-10-08
715	"	"	"	"	7-11-08
3160	"	"	"	"	7-12-08
3770	"	"	"	"	7-13-08
4320	"	"	"	"	7-14-08
4402	"	"	"	"	7-15-08
4568	"	"	"	"	7-16-08
4751	"	"	"	"	7-17-08
4833	"	"	"	"	7-18 08
4950	Feet	At	11:30 P.M.	On	7-18-08

MUD RECORD

Pre-Mix Tank Used and steel pits.

Surface - 70 sx gel, 20 sx hulls.

2558' - 91 sx gel, 21 sx hulls, 1 sx multi-seal, 1 sx soda ash.
 3370' - 4 sx gel.
 3990' - 303 sx gel, 24 sx caustic soda, 10 sx lignite, 2-1/2 sx drispac, 26 sx hulls, 12 sx multi-seal.
 4320' - 30 sx gel, 2 sx caustic soda, 3 sx soda ash, 1 sx lignite, 5 sx hulls, 2 sx multi-seal, 1/2 sx of dynamac.
 4723' - 10 sx gel, 2 sx caustic soda, 3 sx soda ash, 1/2 sx drispac, 2 sx hulls, 2 sx multi-seal. sx hulls.
 4780' - 20 sx hulls.
 4930' - 18 sx gel, 2 sx soda ash, 2 sx caustic soda, 1/2 sx lignite, 1 sx drispac, 5 sx hulls.

BIT RECORD

	<u>Size</u>	<u>Type</u>	<u>In</u>	<u>Out</u>	<u>Jet Sizes</u>	<u>Pump Pressure Ran</u>
Surface -	12-1/4"	Vare	0'	230'	N/A	
Smith	- 7-7/8"	FHI24Y	230'	- 4950'	3 - 13's	1250#

DRILLERS TIME LOG

RUSSELL OIL COMPANY
McDaniel "PP" No. 1-35

1560' FNL & 1140' FEL
35-15S-34W Logan County, Kansas

ELEVATION: 3041 GL
3054 KB

DEPTH	MINUTES	REMARKS
Note: 1/3" made 1/4".		
1 foot drilling time		
2600 to 2610	1-1-1-1-1-1-1/2-1/2-1/2-1	
2620	1/2-1/2-1/2-1/2-1/2-1/2-1/2-1/2-1/2	
2630	1/2-1/2-1/2-1/2-1/2-1-1-1-1-1	
2640	1/2-1-1-1-1/2-1-1/2-1-1-1	
2650	1-1 1/2-1 1/2-1-1-1-1 1/2-1 1/2-1 1/2-1	
2660	1 1/2-1-1 1/2-1 1/2-1/2-1-2-1/2-1-1/2	
2670	1/2-1/2-1-1-1-1-1-1 1/2-1-1-1	
2680	1 1/2-1 1/2-1-1-2-1 1/2-1 1/2-1-2-2	
2690	1-1 1/2-1 1/2-1 1/2-1-1-1/2-1-1/2-1 1/2	
2700	1 1/2-1-1-1 1/2-1 1/2-1/2-1-1-1-1 1/2	
2700 to 2710	1 1/2-1-1-1-1-1-1-1 1/2-1 1/2-1	
2720	1-1-1-1-1-1-1/2-1/2-1 1/2-1-1	
2730	1/2-1-1-1-1-1-1-1-1 1/2-1 1/2-1 1/2	
2740	1-1-1/2-1/2-1-1/2-1/2-1/2-1-1	
2750	1-1-1-1-1-1-1-1 1/2-1-2-1	
2760	1-1-1-1-1-1 1/2-1 1/2-1 1/2-2-2	
2770	1 1/2-1 1/2-1-1 1/2-1 1/2-1-1-1-1-1	
2780	1-1-1-1-1-1-1-1-1-1-1 1/2	
2790	1-1 1/2-1-1-1 1/2-1 1/2-1-1-1 1/2-1 1/2	
2800	1-1-1 1/2-1 1/2-1 1/2-1 1/2-2-1-1 1/2-1	
2800 to 2810	1 1/2-1 1/2-1-1 1/2-1 1/2-1 1/2-2-1 1/2-1 1/2-2 1/2	
2820	1-1 1/2-1 1/2-1 1/2-1 1/2-1-1 1/2-1 1/2-1	
2830	1 1/2-1 1/2-1-1 1/2-1 1/2-1 1/2-1 1/2-1 1/2-1	
2840	1 1/2-1 1/2-1 1/2-1 1/2-1-1 1/2-2 1/2-1 1/2-1 1/2	
2850	1-1-1 1/2-1-1/2-1-1/2-1-1-1/2	
2860	1/2-1/2-1-1/2-1-1 1/2-1-1 1/2-1-1 1/2	
2870	1-1-1-2-1-2-1-1 1/2-1 1/2-1 1/2	
2880	1-1-1 1/2-1-1 1/2-1 1/2-1 1/2-1 1/2-1	
2890	1 1/2-1-1-1-1-1/2-1/2-1/2-1/2-1	
2900	1-1/2-1/2-1/2-1-1-1 1/2-1 1/2-1 1/2-1	

2900 to 2910	1½-1-1-2-1-1-1-1-1-½
2920	½-½-½-½-½-1-½-½-1-½
2930	½-1-1-1-1-1-1-1-1-2
2940	1½-1-1-1½-1½-1½-1½-1-1½-1
2950	1½-1-1-1-2-2-1-2-2-2
2960	2-2½-2-2½-2-2-2½-1½-2-2
2970	½-½-½-3-2-½-2-½-3-2
2980	1½-1½-2-1-2-2-1-2-2-2
2990	2-2-1-2-1-1-2-2-2-2
3000	2-1½-2½-1-½-1-1-2-1½-2
3000 to 3010	2-2-2-2-2-2-2-2-2-2
3020	3-2-2-2½-2½-2-1-1-2-1
3030	½-½-½-½-½-½-½-½-½-½
3040	1-½-½-½-½-½-½-½-½-1
3050	1-1-1-2-2-2-1-1½-2-2½
3060	1-2½-3-4-3-4-3½-2-3-3
3070	3½-3½-3-2-3-2-3-2½-3-2½
3080	3-2-2-2-2-2-2-3-2-3
3090	2-2-2-2-1-1-1-2-1-1
3100	1-1-1-1-1-1-1-1-1-1
3100 to 3110	3-1½-2½-2-2-2-1-2-1-2
3120	2-2-2-2-2-2-2-1-1-1
3130	1-2-2-2-1-2-2-2-2-2
3140	1-2-1-2-2-3½-3-2-2-2
3150	1½-1-1-1-1-1-1-1-1-1
3160	1-1-1-1½-1½-1-1½-½-1-1
3170	1-1½-1½-2-2-2-2-1-1-½
3180	½-½-½-½-½-½-½-½-½-1
3190	1-1-2-1-1-2-1-1-½-½
3200	½-½-½-½-½-½-1-1-1-1
3200 to 3210	1½-1½-3-2-1½-2½-3-2-2-2
3220	2-1-2-1-2-1½-1½-2-2-1½
3230	3½-1½-1½-1-1-2-1-1-1-2
3240	1-1½-1½-2-1½-1½-2-1-2-2
3250	1-6-½-1½-2-2-2-2-2-2½
3260	2-1½-3-2-3-2-2½-2-2-1½
3270	2-2-2-1½-1½-2-2-2-1-1½
3280	1½-2½-3½-2½-2½-3-2-2-2½-2½
3290	3-2½-2½-2-1½-2½-2-1½-1½-½
3300	½-½-½-1-2½-2½-3-2-2-2
3300 to 3310	4-1-2-3-1½-3½-3-2-2-2
3320	2-1-2-2-2-2-2-2-2-2
3330	2-2½-2½-1-1-2-3-2-2½-2½
3340	3-2-3-3-3½-2½-2-1-2-1
3350	1-1-1-1-1-1-1-1-½-3-3
3360	2-3-3-3-3-3-3-3-4-3
3370	4-3-3-3½-2-2½-3-3-2-3
3380	3-3-3-3-3-2½-3-3-3-3½
3390	3-2½-3-2-3-3-2½-2½-2½-1½
3400	2½-1½-1-1½-2-2½-2½-3-2½-3

3400 to 3410	$2\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}-3-2\frac{1}{2}-3-2\frac{1}{2}-3-3-3$
3420	$3-3\frac{1}{2}-3-3-3-2\frac{1}{2}-3-3\frac{1}{2}-3-3$
3430	$3-3-3-3-3-3-3-3-3-3\frac{1}{2}$
3440	$3\frac{1}{2}-2\frac{1}{2}-2-3-2\frac{1}{2}-3-3\frac{1}{2}-2\frac{1}{2}-3-2\frac{1}{2}$
3450	$3-2\frac{1}{2}-3-3-3-2\frac{1}{2}-3-2\frac{1}{2}-3-2\frac{1}{2}$
3460	$2-2\frac{1}{2}-2\frac{1}{2}-3-3\frac{1}{2}-3\frac{1}{2}-2\frac{1}{2}-2-2\frac{1}{2}-2\frac{1}{2}$
3470	$3-1-1\frac{1}{2}-2-2-2-2\frac{1}{2}-3\frac{1}{2}-3-1$
3480	$\frac{1}{2}-1-1-\frac{1}{2}-1\frac{1}{2}-2-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}$
3490	$1\frac{1}{2}-1-1\frac{1}{2}-1\frac{1}{2}-1-2-1-2\frac{1}{2}-2\frac{1}{2}-2$
3500	$1-3-3-3\frac{1}{2}-3-3-2\frac{1}{2}-2\frac{1}{2}-3-3$
3500 to 3510	$2-3-3-3-3-3-3-3-3-3$
3520	$3-3-2-2-1\frac{1}{2}-2\frac{1}{2}-2-2-3-2$
3530	$3-4-3-2\frac{1}{2}-3-2\frac{1}{2}-2\frac{1}{2}-3-1-3$
3540	$3-2-2-2\frac{1}{2}-2\frac{1}{2}-2-2-1-2-3$
3550	$3-2-2\frac{1}{2}-2-3-2\frac{1}{2}-3-3-2-3$
3560	$2-3-2-3-2-1\frac{1}{2}-2\frac{1}{2}-\frac{1}{2}-\frac{1}{2}-2$
3570	$1-1-2-2-1-2-1\frac{1}{2}-2\frac{1}{2}-3$
3580	$2-1\frac{1}{2}-1\frac{1}{2}-2\frac{1}{2}-2-2-2-1\frac{1}{2}-2-2$
3590	$2-2\frac{1}{2}-1\frac{1}{2}-1-2-1\frac{1}{2}-2\frac{1}{2}-2-2-2$
3600	$2\frac{1}{2}-2\frac{1}{2}-2-2-2-2-3-1\frac{1}{2}-2\frac{1}{2}-1\frac{1}{2}$
3600 to 3610	$2-\frac{1}{2}-1\frac{1}{2}-1-2-1\frac{1}{2}-2-1-2-1$
3620	$1-2-2-2-2-2-2-2\frac{1}{2}-2-3$
3630	$3-2\frac{1}{2}-3-2\frac{1}{2}-3-2\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}$
3640	$3\frac{1}{2}-3-3-3-3-3-3-2-2-2$
3650	$2-2-2-2\frac{1}{2}-1\frac{1}{2}-2\frac{1}{2}-1\frac{1}{2}-2-2-2$
3660	$2\frac{1}{2}-2-1\frac{1}{2}-2-2-\frac{1}{2}-1\frac{1}{2}-\frac{1}{2}-1-2\frac{1}{2}$
3670	$2-2-\frac{1}{2}-1\frac{1}{2}-2-1-\frac{1}{2}-\frac{1}{2}-1-1$
3680	$1-1-1-2-3-2-3-3-2\frac{1}{2}-2\frac{1}{2}$
3690	$2-1-1\frac{1}{2}-1-1-2-2-1-1-1$
3700	$1-1-1-1-3-2-3-3-2\frac{1}{2}-2\frac{1}{2}$
3700 to 3710	$2-1\frac{1}{2}-2-1\frac{1}{2}-2-2-2-2-2-2$
3720	$2-3-1\frac{1}{2}-2\frac{1}{2}-2-2-2-2-1\frac{1}{2}-2\frac{1}{2}$
3730	$2-1\frac{1}{2}-2-2-1-3-2-1\frac{1}{2}-2\frac{1}{2}-2$
3740	$3-2\frac{1}{2}-3-2\frac{1}{2}-3-3-4-1-2-2$
3750	$1-1-1-1-1-2-2-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}$
3760	$1\frac{1}{2}-1\frac{1}{2}-2-2\frac{1}{2}-3-2-2-2-1\frac{1}{2}-2\frac{1}{2}$
3770	$2\frac{1}{2}-1-1-1-2-1\frac{1}{2}-2-1\frac{1}{2}-1-2-2$
3780	$2-1-1\frac{1}{2}-1\frac{1}{2}-2-2\frac{1}{2}-2-3-2-2\frac{1}{2}$
3790	$2-2-2-2-2-2-1\frac{1}{2}-2-1\frac{1}{2}-1$
3800	$1-1-1\frac{1}{2}-1\frac{1}{2}-2-1\frac{1}{2}-2-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}$
3800 to 3810	$1-\frac{1}{2}-\frac{1}{2}-2-1-2-1-1-3-2$
3820	$3-1-2-2-1-2-2-1-2-2\frac{1}{2}$
3830	$1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}-1-\frac{1}{2}-1-1$
3840	$1\frac{1}{2}-1-1\frac{1}{2}-2\frac{1}{2}-3-2-2-2-2-2$
3850	$2-1\frac{1}{2}-2-2-2-2-1-2-1-2$
3860	$1\frac{1}{2}-1\frac{1}{2}-2-2-2-2-3\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}-2$
3870	$1\frac{1}{2}-1\frac{1}{2}-3-1-1\frac{1}{2}-1-1-2-1-2$
3880	$2-2-2\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}-2\frac{1}{2}-2-3-1\frac{1}{2}-3\frac{1}{2}$
3890	$2-2-3-2-3-2-2-3-3-3$
3900	$2-3-2-2-2-2-1-1-1-2$

3900 to 3910	1-1-1-1-1-1-1-1-1-2
3920	2-2-2-2-2-2-2-2-3-2
3930	3-3-2-3-1-1-1-1-1-2
3940	2-1-2-1-1-1-1-2-1-1
3950	2-1-1-2-2-1-1-1-1-1
3960	1-1-1-2-2-2-3-2-1-1-2
3970	2-2-2-2-3-3-3-3-3-3
3980	3-2-3-3-4-3-3-3-1-2
3990	1-1-2-1-2-1-1-1-1-2
4000	2-2-1-1-1-1-1-2-2-2
4010	3-4-4-4-3-2-2-2-1-1
4020	1-2-2-2-2-2-1-1-1-2
4030	2-1-1-1-1-1-1-2-1-1-3
4040	3-3-2-1-2-3-3-4-3-4
4050	4-3-3-4-4-3-2-2-2-2
4060	2-2-1-1-2-2-2-2-2-2
4070	2-3-4-3-3-2-2-2-2-2
4080	2-2-2-3-2-2-2-2-2-2
4090	1-1-3-3-3-3-2-2-2-3
4100	2-2-2-2-4-4-3-3-3-3
4110	3-2-4-3-3-4-3-3-2-1
4120	3-3-3-4-5-3-3-4-3-3
4130	3-2-2-2-2-2-2-2-1-2-1
4140	3-3-4-4-4-3-4-3-2-2
4150	2-2-1-2-2-3-4-3-3-2-2
4160	3-1-2-2-2-3-2-3-3-3
4170	3-2-4-2-2-3-1-3-2-2
4180	2-2-2-2-2-2-2-2-2-3
4190	1-3-3-4-3-3-2-3-2-3
4200	3-3-3-3-4-3-3-4-4-3
4210	3-3-4-3-3-2-2-2-2-2
4220	1-1-1-2-3-2-3-3-3-2
4230	3-2-2-4-3-4-3-2-4-3
4240	4-4-3-4-3-3-4-3-4-4
4250	3-4-2-2-2-3-3-3-3-3
4260	2-3-2-3-4-3-4-5-4-3
4270	2-1-1-1-1-1-1-1-1-1
4280	1-1-1-1-1-2-3-3-2
4290	2-3-3-3-2-2-2-2-2-2
4300	3-2-1-3-3-3-3-3-3-3
4310	2-1-1-1-1-2-2-2-1-1
4320	1-1-1-1-2-2-3-2-3
4330	3-2-3-3-2-3-2-2-2-2
4340	2-1-3-3-3-3-3-2-4-3
4350	3-3-5-4-4-4-3-3-3-4
4360	4-4-4-3-3-5-4-3-2-3
4370	3-3-2-2-3-3-3-3-1-1
4380	1-2-3-4-4-4-4-3-4-2
4390	3-2-3-3-2-3-4-5-4-5
4400	5-4-4-4-4-4-2-2-2-2

4400 to 4410	2-1½-1-1-1-1-2-2-1-1	CFS @ 4402. DST #1, 4327-4402.
4420	2-2½-2½-3½-3½-5-4-4-3½-4½	
4430	4-3-4½-3½-5-6½-5½-5-4-4½	
4440	3½-3-4-4-4½-4-4-4½-5-4	
4450	5-3-4-5-5-4-4-4-6-4	
4460	5-6-6-5½-5½-5-4-3½-4½-4	
4470	5-3-1-4-3-5-4-2½-3½-3	
4480	4-4-5-6-5-5-6-5-5½-4½	
4490	4-3-3½-3½-3-3-3½-4-3-4	CFS @ 4484.
4500	2½-3-3-3-2-3½-3½-3½-4½-3	
4500 to 4510	4½-3-3½-6½-6-6-4½-4½-5-6½	
4520	6-5-4½-5-4½-3½-4½-5-5-5	
4530	5½-5½-5-5-3½-4-3-4½-4½-4½	
4540	4½-4½-4½-4½-5½-5-4½-4½-3½-3	
4550	4½-4½-5-6-6-5-4-3-3-4½	
4560	4½-4½-3½-3½-3-4-3-3-3½-5	
4570	5-5-5-5-5½-5-5-4½-5-5	CFS @ 4568.
4580	4½-4-3½-4½-5-4½-4-4-5-5	
4590	5-3½-5½-4½-4½-3-4½-4½-5-4	
4600	3-3-5-6-5-3-1-1½-1-½	
4600 to 4610	1-½-1½-3½-3½-3-4-4½-4½-4	
4620	4-4-3½-4½-5-5-5-4-4-4	
4630	5-5-5-4-5-5½-3½-4-5-5½	
4640	4½-5-4-4-4-4½-4½-4½-4½-5	
4650	5-4½-4½-5-6½-3½-4-4-4-4	
4660	4½-5-4½-5-4½-4-4-3½-3½-4	
4670	3½-5-4-4½-4-3½-4-3½-4-4½	
4680	3½-4½-3½-4-4-4-4½-4-3-3	
4690	4-4½-3½-4-4-3½-4-3½-4-4½	
4700	4-3½-4-4-4-4-3½-4½-4-4	CFS @ 4700.
4700 to 4710	2½-3½-4-3-4-2-2-2-2-1½	CFS @ 4710.
4720	2½-1½-1-1-½-1-1-2-1-1	
4730	1-1-½-1-1-2-2½-5-3½-4½	CFS @ 4723 & 4733.
4740	4½-4-4-3-3-1½-2-2½-2-2	
4750	4½-4-4-3-3-1½-2-2½-2-2	CFS @ 4741.
4760	3-3-3-2-1-4-2½-1½-1½-2½	CFS @ 4751. DST #2, 4614-4751.
4770	1½-2½-2-2-1-1-1½-½-2-3	
4780	1-2-2-2-2-2-1-2-2½-2	CFS @ 4780.
4790	2-2-2-4½-4½-3½-2-2-1½-2	
4800	1-½-½-½-3-2-4½-½-1-4	CFS @ 4795.
4800 to 4810	2-2-3-½-2½-2-3½-3½-3-2½	CFS @ 4805.
4820	3-3-2-2-2½-3½-3½-2-2-2½	CFS @ 4820.
4830	2-2-2-2½-2½-2-1½-2-1½-1½	
4840	4-4-4-4-4-3-3-4-2½-1½	
4850	2½-1½-1-3-3-3-2½-2½-2-3	
4860	4-4-3½-4-4½-5-3-5-4-5	SR @ 4860.
4870	2½-1½-4-2½-2-2-3-1-1-3	
4880	2-2½-1½-1½-2½-3-2½-2½-2-2	
4890	3-2-2-3-2½-2-3-2-3-2	CFS @ 4885.
4900	2-2-2-3-2-2-2-2½-1½-3½	CFS @ 4900.

4900 to 4910
4920
4930
4940
4950

3-3½-3½-4-3-4-4-5-4-3
4-3-2-3-4-3-4-4-2-4
3-3½-3½-3-4-3½-3½-4-4-3
4½-4½-3½-4½-4½-2-1½-2-1-3
3-3-2-2½-2-4-2½-3½-3½-4

CFS @ 4950. DST #3, 4742-4950.
DST #4, 4722-4870, straddle.
RTD @ 4950.