[redacted] 1362266

Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 3180
Name: Deutsch, Kent A. dba Deutsch Oil Company
Address 1: 8100 E 22ND ST N, BLDG 600
Address 2:
City: WICHITA State: KS Zip: 67226 + __ __ __ __
Contact Person: Kent Deutsch
Phone: (316) 681-3567
CONTRACTOR: License # 5123
Name: Pickrell Drilling Company, Inc.
Wellsite Geologist: Aaron Young
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 #:

04/12/2017	04/18/2017	06/17/2017
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-151-22460-00-00
Spot Description:
__ - NW - NE - SE Sec. 4 Twp. 26 S. R. 11 ☐ East ☑ West
2310 Feet from ☐ North / ☑ South Line of Section
990 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Pratt
Lease Name: ZINK 'B' Well #: 1-4
Field Name:
Producing Formation: Mississippi
Elevation: Ground: 1831 Kelly Bushing: 1838
Total Vertical Depth: 4130 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 297 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: 42000 ppm Fluid volume: 950 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Studer Oil Company
Lease Name: Studer SWDW License #: 9582
Quarter SE Sec. 4 Twp. 27 S. R. 12 ☐ East ☑ West
County: Pratt Permit #: D-24220

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:** Karen Ritter **Date:** 08/04/2017

[redacted]

1362266

Operator Name: Deutsch, Kent A. dba Deutsch Oil Company Lease Name: ZINK 'B' Well #: 1-4

Sec. 4 Twp. 26 S. R. 11 ☐ East ☑ West County: Pratt

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 ☐ Yes ☑ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Dual Induction
Neutron/Density
Micro

☐ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Heebner	3382	1544
Lansing	3594	1756
Mississippi	4020	2182

CASING RECORD ☑ New ☐ 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	10.758	8.625	23	297	commom	400	2% gel,3% cc.,1/4# celflake
Surface	7.875	5.5	15.5	4118	AA2	150	FLA 22, Gilsonite 1%

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	-			
	-			

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 *(Amount and Kind of Material Used)*	Depth
1	4024-4042	1000 gals. 10% MCA, 179,500# sand, 8815 bbls. slick water.	4024-4042

TUBING RECORD: Size: 2.875 Set At: 4004 Packer At: Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 06/17/2017

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	10	0	200		

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☑ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
4024
4042

Form	ACO1 - Well Completion
Operator	Deutsch, Kent A. dba Deutsch Oil Company
Well Name	ZINK 'B' 1-4
Doc ID	1362266

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	10.758	8.625	23	297	commom	400	2% gel,3% cc.,1/4# celflake
Surface	7.875	5.5	15.5	4118	AA2	150	FLA 22, Gilsonite 1%

BASIC energy services, L.P.

TREATMENT REPORT

Customer: Deutch Oil Company	Lease No.	Date: 4/12/2017	
Lease: Zink B	Well #: 1-4		
Field Order #: 14923	Station: Pratt, KS	Casing: 8 5/8	Depth: 300
County: Pratt	State: KS		
Type Job	Formation: TD - 300	Legal Description: 4 - 26s - 11w	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: 8 5/8	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth: 300	Depth	From	To	Pre Pad	Max		5 Min.
Volume: 19	Volume	From	To	Pad	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth: 280	Packer Depth	From	To	Flush: Freshwater	Gas Volume		Total Load

Customer Representative: Mike Kearns | Station Manager: David Scott | Treater: Orin Franklin

Service Units	92911	38113	19520	70859	19862							
Driver Names	Orin	Chet	Chet	Bryan	Bryan							

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
12:30pm					On location / safety meeting
					200sk A Serv Lite, 6% Gel, 3% CC
					Yield Cellflake, 13.3ppg, 1.66 yield, 8.39 water
					200sk Common Cement, 3% CC, 2% Gel
					Yield Cellflake, 15.0ppg, 1.34 yield, 6.13 water
3:00pm	100		3	4 1/2	Pump 3 bbls water
	100		59	4 1/2	Mix 200sk Lead
	100		48	4 1/2	Mix 200sk Tail
	100		17 3/4	4 1/2	Displace 17 3/4 water
3:30pm					Shut in
					Cement did circulate - 10 bbls
					Job Complete / Orin & Crew
					Thank You!!

BASIC energy services, L.P.

TREATMENT REPORT

Customer: Deutsch Oil Company	Lease No.		Date: 4/19/17		
Lease: Zink B	Well #: 1-4				
Field Order #: 15040 A	Station: Pratt KS	Casing: 5 1/2	Depth	County: Pratt	State: KS
Type Job: 5 1/2 Long String 2 42	Formation		Legal Description: Sec 4 Twp 26S R 11W		

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: 5 1/2 15.5	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth: 4418.10	Depth	From	To	Pre Pad	Max		5 Min.
Volume: 98.0107	Volume	From	To	Pad	Min		10 Min.
Max Press: 2000	Max Press	From	To	Frac	Avg		15 Min.
Well Connection: 5 1/2	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load

Customer Representative: Mike Keen | Station Manager: Justin Westerman | Treater: Scott G.

Service Units	8950	78982	86779	84980	19860						
Driver Names	Scott	Shaw	—	Clymer	—						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
12:50					On Location Safety meeting Rig up
3:00					Run Float Equipment Basket #6
					Turbo's 1,3,5,7,9,11
4:50					Break Circulation Start Rotating
5:45	150			4	Pump H2O Spacer
5:46	150		5	4	Pump 500 gallons Mud Flush
5:49	200		12	4	Pump H2O Spacer
5:51	300		5	5	Mix 150 sks AA2 15.3 ppg
6:00	0		36.4	0	Shut down
6:01					Wash pump + lines clean
6:03					Release Plug
6:04	150			6	Start Displacement
6:17	350		67	6	Lift Pressure
6:20	550		20	3.3	Reduce Rate Stop Rotating
6:23	650		10.5	3.3	Plug landed
6:23	1500			3.3	Pressure up on Plug Held
6:25	0				Release Pressure NO Returns
6:28	40			3	Plug Rat hole 30 sks 60/40 POZ
6:30			7.5		Shut down
6:35					Wash up Equipment
6:50					Job Complete

Fracture Start Date/Time:	**6/2/17 12:25**
Fracture End Date/Time:	**6/2/17 14:09**
State:	**Kansas**
County:	**Pratt**
API Number:	
Operator Number:	
Well Name:	**Zink B #1-4**
Federal Well:	**Yes**
Tribal Well:	**No**
Longitude:	**0.1111**
Latitude:	**0.1111**
Long/Lat Projection:	**NAD27**
True Vertical Depth (TVD):	
Total Clean Fluid Volume* (gal):	**357,376**

(e.g. XX-XXX-XXXXX-0000)

Additive	*Specific Gravity*	*Additive Quantity*
WATER	1.00	**357,376**
Sand	2.65	**179,500**
Pexcide P5	0.96	**40**
Plexcide P5	0.96	**40**
Plexslick 957	1.11	**259**
Clayplex 650	1.15	**185**
Plexgel Breaker XPA	1.03	**73**
Plexsurf 580 ME	1.04	**93**
Plexsurf 580 ME	1.04	**93**

Ingredients Section:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Mass per Component (LBS)
Water	Operator	Carrier/Base Fluid	Water	7732-18-5	100.00%	***2,982,303***
Sand	Superior Silica Sand	Proppant	Crystalline Silica in the form of quartz	14808-60-7	100.00%	***179,500***
Plexcide P5	Chemplex	Biocide	Tributyl Tetradecyl Phosphonium Chloride	81741-28-8	5.00%	***16***
Plexcide P5	Chemplex	Biocide	Methanol	67-56-1	20.00%	***64***
Plexslick 957	Chemplex	Friction Reducer	Petroleum Hydrotreated Light Distillate	64742-47-8	25.00%	***600***
Chemplex 650	Chemplex	Clay Control	Ethanaminium 2-hydroxyN, N, N-trimethyl Chloride	81741-28-8	35.00%	***621***
Plexgel Breaker XPA	Chemplex	Slickwater Breaker	Hydrogen Peroxide	7722-84-1	7.00%	***44***
Plexsurf 580 ME	Chemplex	Surfactant	Methyl Alcohol	67-56-1	25.00%	***202***
Plexsurf 580 ME	Chemplex	Surfactant	2-Butoxyethanol	111-76-2	50.00%	***404***

*Total Water Volume sources may include fresh water, produced water, and/or recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%
All component information

Mass (lbs)	
2,982,303	*gal*
179,500	*lb*
320	*gal*
320	*gal*
2,399	*gal*
1,775	*gal*
627	*gal*
807	*gal*
807	*gal*
	gal
	gal
	gal
	gal
	gal
	gal
	gal
	gal
	gal
	gal
Total Slurry Mass (Lbs) *3,168,860*	

Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments	Claimant Company	Claimant First Name	Claimant Last Name	Claimant Email	Claimant Phone (nnn-nnn-nnnn)
94.11280%						
5.66450%						
0.00051%						
0.00202%						
0.01893%						
0.01961%						
0.00139%						
0.00637%						
0.01274%