Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1198802

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 # 34339
Name: D & Z Exploration, Inc.
Address 1: 900 N ELM ST.
Address 2: PO BOX 159
City: ST ELMO State: IL Zip: 62458 + ____
Contact Person: Nina Belden
Phone: (618) 829-3274
CONTRACTOR: License # 33715
Name: Town Oilfield Service
Wellsite Geologist: none
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 #: _____

03/14/2014	03/18/2014	03/18/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-091-24278-00-00
Spot Description: _____
SE - NW - NW - NE Sec. 28 Twp. 14 S. R. 22 ☑ East ☐ West
4633 Feet from ☐ North / ☑ South Line of Section
2261 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: Johnson
Lease Name: Donovan Well #: #I-21
Field Name: _____
Producing Formation: Bartlesville
Elevation: Ground: 1051 Kelly Bushing: 0
Total Vertical Depth: 980 Plug Back Total Depth: 919
Amount of Surface Pipe Set and Cemented at: 20 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: _____ Feet
If Alternate II completion, cement circulated from: 20
feet depth to: 0 w/ 10 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 0 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated

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: 04/09/2014
☑ **Confidential Release Date:** 04/08/2016
☐ **Wireline Log Received**
☐ **Geologist Report Received**
☑ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 04/09/2014

[redacted] 1198802

Operator Name: D & Z Exploration, Inc. Lease Name: Donovan Well #: #I-21

Sec. 28 Twp. 14 S. R. 22 ☑ East ☐ West County: Johnson

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:

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

Name	Top	Datum
Bartlesville	873	

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	9.825	7	20	20	Portland	10	none
Production	5.625	2.825	6.2	919	50/50 poz	132	none

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

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

Date of First, Resumed 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: ☐ 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:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	D & Z Exploration, Inc.
Well Name	Donovan #I-21
Doc ID	1198802

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	9.825	7	20	20	Portland	10	none
Production	5.625	2.825	6.2	919	50/50 poz	132	none

CONSOLIDATED
Oil Well Services, LLC

REMIT TO
FINV
Consolidated Oil Well Services, LLC
Dept. 970
P.O. Box 4346
Houston, TX 77210-4346

MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

INVOICE Invoice # 266684

Invoice Date: 03/20/2014 Terms: 0/30/10,n/30 Page 1

D & Z EXPLORATION
901 N. ELM ST.
P.O. BOX 159
ST. ELMO IL 62458
(618)829-3274

DONOVAN I-21
42721
NE 28-14-22
03-18-2014
KS

Part Number	Description	Qty	Unit Price	Total
1124	50/50 POZ CEMENT MIX	132.00	11.5000	1518.00
1118B	PREMIUM GEL / BENTONITE	322.00	.2200	70.84
1111	SODIUM CHLORIDE (GRANULA	255.00	.3900	99.45
1110A	KOL SEAL (50# BAG)	660.00	.4600	303.60
4402	2 1/2" RUBBER PLUG	1.00	29.5000	29.50

Sublet Performed	Description	Total
9996-120	CEMENT MATERIAL DISCOUNT	-597.57

	Description	Hours	Unit Price	Total
495	CEMENT PUMP	1.00	1085.00	1085.00
495	EQUIPMENT MILEAGE (ONE WAY)	30.00	4.20	126.00
495	CASING FOOTAGE	919.50	.00	.00
558	MIN. BULK DELIVERY	1.00	368.00	368.00
675	80 BBL VACUUM TRUCK (CEMENT)	2.00	100.00	200.00

Amount Due 3949.46 if paid after 03/30/2014

Parts:	2021.39	Freight:	.00	Tax:	105.00	AR	3307.82
Labor:	.00	Misc:	.00	Total:	3307.82		
Sublt:	-597.57	Supplies:	.00	Change:	.00		

Signed _____ Date _____

CONSOLIDATED
Oil Well Services, LLC

2666684

TICKET NUMBER 42721
LOCATION Ottawa KS
FOREMAN Fred Mader

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
3.18.14	3392	Donovan I-21	NE 28	14	22	Jo.

CUSTOMER: D & Z Exploration
MAILING ADDRESS: 901 N. Elm St
CITY: St Elmo | STATE: IL | ZIP CODE: 62458

TRUCK #	DRIVER	TRUCK #	DRIVER
712	Fre Mad		
495	Har Bec		
675	Ki Dek		
558	Mat Coe		

JOB TYPE Longstring | HOLE SIZE 5 7/8 | HOLE DEPTH 980' | CASING SIZE & WEIGHT 2 7/8 EUE
CASING DEPTH 919.5 | DRILL PIPE | TUBING | OTHER
SLURRY WEIGHT | SLURRY VOL | WATER gal/sk | CEMENT LEFT in CASING 2½" Plug
DISPLACEMENT 5.34 | DISPLACEMENT PSI | MIX PSI | RATE 5 BPM

REMARKS: Hold crew safety meting. Establish pump rate. Mix + Pump 100# Gel Flush. Mix + Pump 132 sks 50/50 Poz Mix Cement 2% Gel 5% Salt 5# Kol Seal/sk. Cement to Surface. Flush pump + lines clean. Displace 2½" Rubber plug to casing TD. Pressure to 800# PSI. Hold + Monitor Pressure for 30 Min MIT. Release pressure to set Float Valve. Shut in Casing

TOS Drilling. Chad Weaver — Fred Mader

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT		UNIT PRICE	TOTAL
5401	1	PUMP CHARGE	495		1085.00
5406	30mi	MILEAGE	495		126.00
5402	919.5	Casing Footage			N/C
5407	Minimum	Ton Miles	558		368.00
5502C	2 hr	80 BBL Vac Truck	675		200.00
1124	132 sks	50/50 Poz Mix Cement		1518.00	
1118B	322#	Premium Gel		70.51	
1111	255#	Granulated Salt		99.45	
1110A	1660#	Kol Seal		303.60	
		Material		1991.89	
		less -30%		-597.57	
		Sub Total		1394.32	1394.32
4402	1	2½" Rubber Plug			25.00
				3800.39	
			7.375%	SALES TAX	105.00
				ESTIMATED TOTAL	3307.82

completed

Ravin 3737

AUTHORIZTION Don Beckwith TITLE DATE

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form

Johnson County, KS
Well:Donovan I-21
Lease Owner:D and Z

Town Oilfield Service, Inc.
(913) 837-8400

Commenced Spudding:
03/13/2014

WELL LOG

Thickness of Strata	Formation	Total Depth
5	soil/clay	5
15	sand stone	20
48	shale	68
23	lime	91
9	shale	100
8	lime	108
9	sandy shale	117
18	lime	135
12	shale	147
8	sand and sandy shale	154
17	lime	171
9	shale	180
56	lime	236
21	shale	257
10	lime	267
17	shale	284
7	lime	291
5	shale	296
9	lime	305
34	shale	339
1	lime	340
11	shale	351
24	lime	375
8	shale	383
24	lime	407
4	shale	411
4	lime	415
5	shale	420
6	lime	426
6	shale	432
18	sandy shale	450
7	shale	457
21	sandy shale	478
62	shale	5240
7	sand	547
48	shale	595
11	lime	606
7	shale	613
5	lime	618
17	shale	635

Johnson County, KS
Well:Donovan I-21
Lease Owner:D and Z

Town Oilfield Service, Inc.
(913) 837-8400

Commenced Spudding:
03/13/2014

2	lime	637
6	shale	643
6	lime	649
4	shale	653
3	lime	656
102	shale	758
11	broken sand	769
4	sandy shale	773
101	shale	874
2	sandy lime	876
1	sandy lime	877
1	sand	878
1	sand	879
2	sand	881
1	sand	882
2	broken sand	884
3	sandy shale	887
53	shale	940
23	sand	963
17	shale	980-TD

Short Cuts

TANK CAPACITY

BBLS. (42 gal.) equals D^2x.14xh
D equals diameter in feet.
h equals height in feet.

BARRELS PER DAY

Multiply gals. per minute x 34.2

HP equals BPH x PSI x .0004
BPH - barrels per hour
PSI - pounds square inch

TO FIGURE PUMP DRIVES

*** D - Diameter of Pump Sheave**
*** d - Diameter of Engine Sheave**
SPM - Strokes per minute
RPM - Engine Speed
R - Gear Box Ratio
***C - Shaft Center Distance**

D - RPMxd over SPMxR
d - SPMxRxD over RPM
SPM - RPMXD over RxD
R - RPMXD over SPMxD

BELT LENGTH - $2C + 1.57(D + d) + \frac{(D-d)^2}{4C}$

* Need these to figure belt length

TO FIGURE AMPS: $\frac{\text{WATTS}}{\text{VOLTS}}$ = AMPS

746 WATTS equal 1 HP

Log Book

Well No. 1-21

Farm Donovan

KS (State) Johnson (County)

28 (Section) 14 (Township) 22 (Range)

For DTE Exploration (Well Owner)

Town Oilfield Services, Inc.
1207 N. 1st East
Louisburg, KS 66053
913-710-5400

Donovan Farm: Johnson County

KS State; Well No. 1-21

Elevation 1052

Commenced Spuding 3-13 20 14

Finished Drilling 3-14 20 14

Driller's Name Chad Weaver

Driller's Name

Driller's Name

Tool Dresser's Name Cole Holcom

Tool Dresser's Name

Tool Dresser's Name

Contractor's Name TOS

28 14 22

(Section) (Township) (Range)

Distance from S line, 4620 ft.

Distance from E line, 2365 ft.

3 - sacks

CASING AND TUBING RECORD

10" Set		10" Pulled	
7⅞" Set	22.3'	8" Pulled	
6¼" Set		6¼" Pulled	
4" Set		4" Pulled	
2"/3 Set	919.50	2" Pulled	

CASIN

Feet					

Thickness of Strata	Formation	Total Depth	Remarks
5	soil/clay	5	
15	sandstone	20	
48	shale	68	with some lime seams
23	Lime	91	
9	shale	100	
8	Lime	108	
9	sandyshale	117	
18	Lime	135	
12	shale	147	
8	sand+sandyshale	154	
17	Lime	171	
9	shale	180	
56	Lime	236	
21	shale	257	
10	Lime	267	
17	shale	284	
7	Lime	291	
5	shale	296	
9	Lime	305	
34	shale	339	
1	Lime	340	
11	shale	351	
24	Lime	375	
8	shale	383	
24	Lime	407	
4	shale	411	
4	Lime	415	

415

Thickness of Strata	Formation	Total Depth	Remarks
5	shale	420	
6	Lime	426	Hertha
6	shale	432	
18	sand, shale	450	
7	shale	457	
21	sandy shale	478	
62	shale	540	
7	sand	547	show, no oil
48	shale	595	
11	Lime	606	
7	shale	613	
5	Lime	618	
17	shale	635	
2	Lime	637	
6	shale	643	
6	Lime	649	
4	shale	653	
3	Lime	656	
102	shale	758	red bed · 660', with some Lime 665'
11	Broken sand	769	little odor, no oil, Brown sand
4	sandy shale	773	
101	shale	874	
2	sandy Lime	876	no oil
1	sandy Lime	877	30% - 40% oil, slight bleeding
1	sand	878	2% - 5% oil
1	sand	879	20% - 40% oil
2	sand	881	60% - 70% oil

881

Thickness of Strata	Formation	Total Depth	Remarks
1	sand	882	<10% - <10% oil
2	Broken sand	884	30% - 40% oil
3	sandy shale	887	no oil
53	shale	940	
23	sand	963	white gray sand, no oil
17	shale	980	TD