KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

Form ACO-1 September 1999 Form Must Be Typed

WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

Operator: License #_33325	API No. 15 - 023-20648-00-00
Name: Petroleum Development Corporation	County: Cheyene
Address: 103 East Main Street	C_NW_NESec. 21 Twp. 5 S. R. 42 ☐ East ✓ West
City/State/Zip: Bridgeport, WV 26330	661 feet from S /(N)(circle one) Line of Section
Purchaser:	2013 feet from (E) W (circle one) Line of Section
Operator Contact Person: Al Smith	Footages Calculated from Nearest Outside Section Corner:
- 304 942,6256	
Contractor: Name: ADT LLC License: 33532 Wellsite Geologist: Nathan Anderson	(circle one) NE SE NW SW Lease Name: Armknecht Well #: 31-21
Contractor: Name:	Field Name: Cherry Creek
Wellsite Geologist: Nathan Anderson Designate Type of Completion:	Producing Formation: None Dry Hole
Wellsite Geologist: Tradition visite Geologist:	Producing Formation: 3700' 3721'
Designate Type of Completion:	Elevation: Ground: 3709' Kelly Bushing: 3721'
New Well Re-Entry Workover	Total Depth: 1685' Plug Back Total Depth: 0'
Oil SWD SIOWTemp. Abd.	Amount of Surface Pipe Set and Cemented at 350' Feet
Gas ENHR SIGW	Multiple Stage Cementing Collar Used?
Dry Other (Core, WSW, Expl., Cathodic, etc)	If yes, show depth setFeet
if Workover/Re-entry: Old Well Info as follows:	If Alternate II completion, cement circulated from
Operator:	feet depth tosx cmt.
Well Name:	Patter Field Manager 1 5
Original Comp. Date: Original Total Depth:	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit) ALT T With 3-8-0
Deepening Re-perf Conv. to Enhr./SWD	Chloride content 4000 ppm Fluid volume 200 bbls
Plug BackPlug Back Total Depth	Dewatering method used haul to farmers field
Commingled Docket No	Dewatering method used ricar to farmers field
Dual Completion Docket No	Location of fluid disposal if hauled offsite:
•	Operator Name: ADT LLC
Other (SWD or Enhr.?) Docket No	Lease Name: Armknecht License No.: 33532
12/20/05 12/26/05 /2-27-05	Quarter_NWNE_Sec. 21 Twp. 5 S. R. 42 East V West
Spud Date or Date Reached TD Completion Date or Recompletion Date	County: Cheyene Docket No.:
•	Docket No.:
Kansas 67202, within 120 days of the spud date, recompletion, workov- Information of side two of this form will be held confidential for a period of 107 for confidentiality in excess of 12 months). One copy of all wireline logs TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells	
All requirements of the statutes, rules and regulations promulgated to regulations are complete and correct to the best of my knowledge.	ate the oil and gas industry have been fully complied with and the statements
Signature:	KCC Office Use ONLY
Geologist 3/31/06	g g
Title: Geologist Date: 3/31/06	Letter of Confidentiality Received
Subscribed and sworn to before me this Tth day of HPRIL	If Denied, Yes Date:
20 06.	Wireline Log Received
Notary Public: Hary W. Fordly	Geologist Report Received UIC Distribution
Date Commission Expires: OFFICIAL SEA NOTARY PUBLIC, STATE OF GARY W. FRIDLI PETROLEUM DEVELOPM PO BOX 26, BRIDGEPOR MY COMMISSION EXPIRES	WEST VIRGINIA EY MENT CORP. TWV 26385

Operator Name: Petroleum Development Corp			oration Lease Name: A			Arrnknecht		_ Well #: 31-21		
ec. 21 Twp. 5			✓ West	Count	y: Cheye	ene	- year and the second s			
ISTRUCTIONS: Sho sted, time tool open a mperature, fluid reco lectric Wireline Logs a	and closed, flowing very, and flow rates	and shuts if gas to	-in pressures, surface test, a	whether s long with	hut-in pre	ssure reached	I static level, hydro	static pressure	s, bottom hole	9
Drill Stem Tests Taken			es ✓No ✓L			og Formation (Top), Depth and Datum			Sampl	Sample
Samples Sent to Geological Survey Cores Taken Electric Log Run (Submit Copy)		es 🗸 No		Name			Тор		Datum	
		produced .			Niobrara Ft Hayes		1486 1554		5 7	
ist All E. Logs Run: Compensated Dual Induction	Density, Con	npensa	ted Neutro	on,						
		Repo		RECORD		ew Used ermediate, produ	ction, etc.			
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)			eight ./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Pe Additive	
Surface	9 1/2"	7"		17#		350'	Ready Mix	85		
***************************************		T	ADDITIONAL	CEMENT	ING / SQL	JEEZE RECOF	ID			
Purpose: Perforate	Depth Top Bottom	Type of Cement		#Sacks Used		Type and Percent Additives				
Protect Casing ✓ Plug Back TD Plug Off Zone					Dacotah					
- I lug On Zone	Plug Off Zone 450-264 Class A		4	35			Dacotah			
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						
								R	Sn.	
								APA	<u> </u>	^
								100 W	ECENTE 18206 CHIZ	
		and transfer out of the first of the section of the		anna ann an Aireann					**************************************	
TUBING RECORD	Size	Set At		Packer	At	Liner Run	Yes No		1	
Date of First, Resumerd	Production, SWD or E	Enhr.	Producing Me	thod	Flowing	g Pum	ping Gas Lii	it Oth	er (Explain)	
Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Wate	ər	Bbls. C	Bas-Oil Ratio	Gra	avity
Disposition of Gas	METHOD OF (COMPLETIC	DN		· · · · · · · · · · · · · · · · · · ·	Production Int	erval			***************************************
Vented Sold	Used on Lease		Open Hole	Per	rf. 🗌 [Dually Comp.	Commingled _			

PETROLEUM DEVELOPMENT CORPORATION Well History

(NP-KS-EXP Well #58) Armknecht #31-21 CNWNE 21 5S 42W Cheyenne County, KS Permit #0150232064800 AFE #05459 LS #693800 (PDC)	12/20/2005	Schaal Well Drilling: MIRU. Spud at 9 AM and drill 9 1/2" surface hole to a TD of 353' at 2 PM. Pierre Shale at 230'. TOOH and ran 9 joints of 17#, 7" casing to 350.45' GL. Cement to surface with 85 sacks of ready mix. Plug down at 3:45 PM with 4 bbls cement circulated to the pit. RDMO.
	12/20/2005	Schaal Well Drilling: MIRU. Spud at 9 AM and drill 9 1/2" surface hole to a TD of 353' at 2 PM. Pierre Shale at 230'. TOOH and ran 9 joints of 17#, 7" casing to 350.45' GL. Cement to surface with 85 sacks of ready mix. Plug down at 3:45 PM with 4 bbls cement circulated to the pit. RDMO.
	12/26/2005	ADT Rig #114: MIRU AT 8 PM. PU BHA and RIH with 6 1/8" bit on coil tubing and tag cement at 9 PM. Drill 6 1/8" hole from 363' to 1685' (TD). POOH.
	12/27/2005	ADT Rig #114: LD BHA at 3 AM. Rig up PSI and log hole until 5:30 AM. Decided to plug and abandon based on open hole log.
	12/27/2005	MIRU PSL Ran GR/Caliper/Resistivity/SP logs finding a loggers TD of 1679'. Drillers TD of 1685'. RD release PSL As per approval decision was made to plug hole (poor log showing). MIRU Longhorn Cementing. Waited until 8:00 a.m. central time to get plugging orders from Kansas. Cement properties: Class A Neat Dacotah cement @ 14.8 ppg, 1.32 cf/sx. Mud properties: 8.7 ppg, 35 cP. Set on 35 sack plug across Niobrara and into overlying shale from 1600'-1375' (top of good cement at 1440'), set another 35 sack plug half in half out of surface casing from 450'-264' (top of good cement at 315'), set another 10 sack plug at surface via 54' of 4 ½" csg. Cementing procedure: RIH with coil string and 1 drill collar circulating throughout, Pull up to 1600' pumped 8.3 bbls of cement followed by 9.5 bbls of displacement, began pulling coil while pumping cement and continued with displacement of coil to 17.8 total bbls of coil displacement. Continue pulling coil to 450' circulating, stopped coil, pumped 8.3 bbls of cement followed by 9.5 bbls of displacement, began pulling coil while pumping cement, and finished displacement of coil with a total of 17.8 bbls. Pull coil out of hole, RIH with 54' of 4 ½" csg, RU swage and chicksan, pumped 2.4 bbls of cement at surface, good returns to surface, SD, RD Longhorn from wellhead, pull csg, allowed cement to fall to just below ground level, clean up longhorn to pit. Released rig @ 12:00 p.m. RD ADT move off location, cut surface csg 5' below surface, weld on ½" plate and scribe API number on plate, fill hole in and level. Operationally everything went smooth.
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