

Report Date: 10/17/2018

**Bedrock Aquifer Evaluation Determination Tool**

**Denver Basin Aquifer - Specific Location Determination Tool**

**Applicant:** PDC - State Peterson  
41-16 (API 123-20710)

**Receipt No:**

**Evaluated By:**

**Location:** NE 1/4 of NE 1/4 of Sec. 16, T.5N, R.63W. ( 651 NSL, 662 ESL)

**Basin Designation:** Location is within the UNKNOWN Designated Ground Water Basin.

**Ground Surface Elevation:** 4700 Feet **Number of Acres:** 160

Warning! The depth intervals estimated in this area may vary from actual conditions due to lack of data and/or structural complexity.

Aquifer	Elevation (ft)		Net Sand	DEPTH (ft)		ANNUAL APPROP. (A-F)	STATUS
	Bot	Top		Bot	Top		
Upper Dawson	--	--	--	--	--	--	--
Lower Dawson	--	--	--	--	--	--	--
Denver	--	--	--	--	--	--	--
Upper Arapahoe	--	--	--	--	--	--	--
Lower Arapahoe	--	--	--	--	--	--	--
Laramie-Fox Hills	--	--	--	--	--	--	--

NOTE: 'E' indicates a location is at an aquifer boundary and the values may be more approximate.

**Plug and Abandon Surface Casing Check**

Operator	PDC
API or Doc #	State Peterson 1-16 (API 123-20710)
SB5 Base of Fox Hills	NA
Deepest Water Well Within One Mile / number of wells	400' / 7
Deepest Water Well Within Two Miles / number of wells	400' / 22
Sussex / Shannon Production within one mile	N / N
Operator Existing Surface Casing Depth	400'
Production Casing to be pulled	1700'

# Water Wells Selected From Map

Filter Results by Depth

WELL DESCRIPTION	LOCATION	WELL INFORMATION			
		Depth	Top Perf	Bottom Perf	Aquifer
Receipt=0918784, Permit=0000000-- GREELEY CITY OF	SE NW 3 5 N-63W		0	0	0 GW
Receipt=0918783, Permit=0000000-- GREELEY CITY OF	SW NE 4 5 N-63W		0	0	0 GW
Receipt=0918781, Permit=0000000-- GREELEY CITY OF	SE NE 5 5 N-63W		0	0	0 GW
Receipt=0918782, Permit=0000000-- GREELEY CITY OF	NE NE 8 5 N-63W		0	0	0 GW
Receipt=0918792, Permit=0000000-- GREELEY CITY OF	SW NE 9 5 N-63W		0	0	0 GW
Receipt=0918787, Permit=0000000-- GREELEY CITY OF	NE SW 9 5 N-63W		0	0	0 GW
Receipt=0918785, Permit=0000000-- GREELEY CITY OF	SE NE 10 5 N-63W		0	0	0 GW
Receipt=0918786, Permit=0000000-- GREELEY CITY OF	NE SW 11 5 N-63W		0	0	0 GW
Receipt=9059082, Permit=0003738-- HOLMAN J	NW SW 11 5 N-63W	50	0	0	0 GW
Receipt=0918790, Permit=0000000-- GREELEY CITY OF	SE NE 14 5 N-63W		0	0	0 GW
Receipt=3665550, Permit=0295201-- WELLS RANCH	NE NW 15 5 N-63W		0	0	0 KLF
Receipt=0918793, Permit=0000000-- GREELEY CITY OF	NW SW 15 5 N-63W		0	0	0 GW
Receipt=3653736C, Permit=0287429-- WELLS STEVE	SE SW 15 5 N-63W	400	42	380	KLF
Receipt=0918794, Permit=0000000-- GREELEY CITY OF	NE NE 17 5 N-63W		0	0	0 GW
Receipt=9061284, Permit=0012751-R- 70 RANCH LLC	NW SW 20 5 N-63W	40	0	0	0 GW
Receipt=9061285, Permit=0012752-R- 70 RANCH LLC	NW SW 20 5 N-63W	40	0	0	0 GW
Receipt=9062589, Permit=0019244-- RIVERSIDE IRRIGAT	SW SW 20 5 N-63W	44	0	0	0 GW
Receipt=3616428A, Permit=0274078-- 70 RANCH INVESTMENT TRUST	SW SW 22 5 N-63W	50	0	0	0 QAL
Receipt=3629340B, Permit=0274078--A 70 RANCH INVESTMENT TRUST	SW SW 22 5 N-63W		0	0	0 GW
Receipt=0525978, Permit=0258972-- 70 RANCH LLC	NW SW 23 5 N-63W	95	30	95	GW

# Oil and Gas Wells Selected

## Filter Results by Formation

WELL DESCRIPTION	LOCATION ID	LOCATION	WELL INFORMATION			
05-123-20147, NAT'L HOG FARM 14-9 PDC ENERGY INC	331096	SWSW 9 5N -63W (6) 40.406940, -104.450390	Sidetrack	TD	Formation	Status
			0	6970	CODL	SI
05-123-20921, NHF 13-9 PDC ENERGY INC	331573	NWSW 9 5N -63W (6) 40.412310, -104.448810	Sidetrack	TD	Formation	Status
			0	6975	CODL	CM
			0	6975	NB-CD	PR
			0	6975	NBRR	CM
05-123-20923, NHF 24-9 PDC ENERGY INC	331575	SESW 9 5N -63W (6) 40.408080, -104.443610	Sidetrack	TD	Formation	Status
			0	6983	CODL	CM
			0	6983	NB-CD	PR
			0	6983	NBRR	CM
05-123-21012, NATIONAL HOG FARMS 44-9 UNITED STATES EXPLORATION INC	409638	SESE 9 5N -63W (6) 40.408666, -104.434491	Sidetrack	TD	Formation	Status
						AL
05-123-23998, 70 RANCH 41-9 NOBLE ENERGY INC	306107	NENE 9 5N -63W (6) 40.419367, -104.434884	Sidetrack	TD	Formation	Status
			0	7366	CODL	CM
			0	7366	JSND	AB
			0	7366	NB-CD	AB
			0	7366	NBRR	CM
05-123-23999, 70 RANCH 44-9 NOBLE ENERGY INC	306108	SESE 9 5N -63W (6) 40.408640, -104.434840	Sidetrack	TD	Formation	Status
			0	7320	CODL	CM
			0	7320	NB-CD	SI
			0	7320	NBRR	CM
05-123-28072, 70 RANCH USX BB 09-07 NOBLE ENERGY INC	302277	SWNE 9 5N -63W (6) 40.415861, -104.439578	Sidetrack	TD	Formation	Status
			0	6899	CODL	CM
			0	6899	NB-CD	SI
			0	6899	NBRR	CM
05-123-28073, 70 RANCH USX BB 09-08 NOBLE ENERGY INC	302278	SENE 9 5N -63W (6) 40.415755, -104.434864	Sidetrack	TD	Formation	Status
			0	6895	CODL	CM
			0	6895	NB-CD	SI
			0	6895	NBRR	CM
05-123-28074, 70 RANCH USX BB 09-11 NOBLE ENERGY INC	302279	NESW 9 5N -63W (6) 40.412058, -104.444178	Sidetrack	TD	Formation	Status
			0	6916	CODL	CM
			0	6916	NB-CD	SI
			0	6916	NBRR	CM
05-123-28075, 70 RANCH USX BB 09-10 NOBLE ENERGY INC	302280	NWSE 9 5N -63W (6) 40.412198, -104.439574	Sidetrack	TD	Formation	Status
			0	6986	CODL	CM
			0	6986	NB-CD	SI
			0	6986	NBRR	CM
05-123-28076, 70 RANCH USX BB 09-09 NOBLE ENERGY INC	302281	NESE 9 5N -63W (6) 40.412008, -104.434869	Sidetrack	TD	Formation	Status
			0	6869	CODL	CM
			0	6869	NB-CD	SI
			0	6869	NBRR	CM
05-123-28084, 70 RANCH USX BB 09-15 NOBLE ENERGY INC	302289	SWSE 9 5N -63W (6) 40.407929, -104.440271	Sidetrack	TD	Formation	Status
			0	6896	CODL	CM
			0	6896	NB-CD	SI
			0	6896	NBRR	CM
05-123-29960, 70 RANCH 31-9 NOBLE ENERGY INC	302873	NWNE 9 5N -63W (6) 40.418945, -104.440238	Sidetrack	TD	Formation	Status
			0	7355	CODL	CM
			0	7355	JSND	AB
			0	7355	NB-CD	AB

05-123-29972, 70 RANCH 22-9 NOBLE ENERGY INC	302882 SENW 9 5N -63W (6) 40.416175, -104.444101	Sidetrack	0 7355 NBRR TD Formation	CM Status
05-123-29974, 70 RANCH 34-9 NOBLE ENERGY INC	410044 SWSE 9 5N -63W (6) 40.407760, -104.440240	Sidetrack	0 7649 CODL 0 7649 NB-CD 0 7649 NBRR TD Formation	CM SI CM Status
05-123-33556, 70 RANCH USX BB09-63HN NOBLE ENERGY INC	423310 NESE 9 5N -63W (6) 40.410740, -104.433040	Sidetrack	TD Formation	Status
05-123-14315, WELLS RANCH 34-10 PDC ENERGY INC	327208 SWSE 10 5N -63W (6) 40.408970, -104.419750	Sidetrack	0 10902 NBRR TD Formation	SI Status
05-123-20698, WELLS RANCH 14-10 PDC ENERGY INC	409597 SWSW 10 5N -63W (6) 40.408500, -104.430440	Sidetrack	0 6825 NB-CD TD Formation	AB Status
05-123-20699, WELLS RANCH 24-10 PDC ENERGY INC	409598 SESW 10 5N -63W (6) 40.408500, -104.424810	Sidetrack	0 6853 CODL 0 6853 NB-CD 0 6853 NBRR TD Formation	CM SI CM Status
05-123-20940, WELLS RANCH 33-10 PDC ENERGY INC	331586 NWSE 10 5N -63W (6) 40.411920, -104.420640	Sidetrack	0 6845 CODL 0 6845 NB-CD 0 6845 NBRR TD Formation	CM SI CM Status
05-123-25906, WELLS RANCH 10A PDC ENERGY INC	310099 NENW 10 5N -63W (6) 40.417530, -104.427780	Sidetrack	0 7327 CODL 0 7327 JSND TD Formation	SI AB Status
05-123-25907, WELLS RANCH 12-10 PDC ENERGY INC	310100 SWNW 10 5N -63W (6) 40.415220, -104.429780	Sidetrack	0 7365 JSND 0 7365 NBRR TD Formation	AB SI Status
05-123-25910, WELLS RANCH 22-10 PDC ENERGY INC	310103 SENW 10 5N -63W (6) 40.415940, -104.425470	Sidetrack	0 6851 NB-CD TD Formation	SI Status
05-123-25911, WELLS RANCH 10B PDC ENERGY INC	310104 SESW 10 5N -63W (6) 40.409920, -104.427360	Sidetrack	0 6856 NB-CD TD Formation	SI Status
05-123-25912, WELLS RANCH 13-10 PDC ENERGY INC	310105 NWSW 10 5N -63W (6) 40.411830, -104.430420	Sidetrack	0 7641 NB-CD TD Formation	PR Status
05-123-25913, WELLS RANCH 23-10 PDC ENERGY INC	310106 NESW 10 5N -63W (6) 40.411640, -104.425610	Sidetrack	0 6854 CODL 0 6854 NB-CD 0 6854 NBRR TD Formation	CM SI CM Status
05-123-31361, Wells Ranch 10H PDC ENERGY INC	416384 SWSW 10 5N -63W (6) 40.410140, -104.431920	Sidetrack	0 6790 NB-CD TD Formation	SI Status
05-123-31370, Wells Ranch 10K PDC ENERGY INC	416390 NESW 10 5N -63W (6) 40.413560, -104.427250	Sidetrack	0 6832 NB-CD TD Formation	SI Status
05-123-31408, Wells Ranch 10F PDC ENERGY INC	416546 SWNW 10 5N -63W (6) 40.417280, -104.431970	Sidetrack	0 6830 NB-CD TD Formation	SI Status
05-123-20762, WELLS 15-14 UNITED STATES EXPLORATION INC	409606 SWSW 15 5N -63W (6) 40.393916, -104.429451	Sidetrack	0 6879 NB-CD TD Formation	SI Status
05-123-20884, WELLS 31-15 NOBLE ENERGY INC	331545 NWNE 15 5N -63W (6) 40.404930, -104.420430	Sidetrack	TD Formation	AL Status
05-123-20885, WELLS 11-15 UNITED STATES EXPLORATION INC	306700 NWNW 15 5N -63W (6) 40.404976, -104.429711	Sidetrack	0 7495 JSND 0 7495 NB-CD 0 7495 NBRR TD Formation	AB AB CM Status
05-123-20887, WELLS 24-15 UNITED STATES EXPLORATION INC	409630 SESW 15 5N -63W (6) 40.393886, -104.425141	Sidetrack	TD Formation	AL Status

05-123-20888, WELLS 33-15 NOBLE ENERGY INC	331547 NWSE 15 5N -63W (6) 40.398185, -104.420148	Sidetrack			
05-123-20889, WELLS 22-15 NOBLE ENERGY INC	331548 SENW 15 5N -63W (6) 40.401540, -104.424810	Sidetrack			
05-123-20892, WELLS 13-15 UNITED STATES EXPLORATION INC	409631 NWSW 15 5N -63W (6) 40.397546, -104.429741	Sidetrack			
05-123-25131, WELLS RANCH USX BB 15-25 NOBLE ENERGY INC	306699 NESW 15 5N -63W (6) 40.396064, -104.426800	Sidetrack			
05-123-25132, WELLS - USX BB 15-4 NOBLE ENERGY INC	306700 NWNW 15 5N -63W (6) 40.405010, -104.429740	Sidetrack			
05-123-26176, WELLS RANCH USX BB 15-13 NOBLE ENERGY INC	310285 SWSW 15 5N -63W (6) 40.394461, -104.428385	Sidetrack			
05-123-26501, WELLS RANCH - USX BB 15-5 NOBLE ENERGY INC	310502 SWNW 15 5N -63W (6) 40.401363, -104.429663	Sidetrack			
05-123-26502, WELLS RANCH - USX BB 15-3 NOBLE ENERGY INC	310503 NENW 15 5N -63W (6) 40.404951, -104.424937	Sidetrack			
05-123-26523, WELLS RANCH - USX BB 15-17 NOBLE ENERGY INC	310517 NWNE 15 5N -63W (6) 40.403100, -104.418650	Sidetrack			
05-123-26534, WELLS RANCH - USX BB 15-12 NOBLE ENERGY INC	310525 NWSW 15 5N -63W (6) 40.397289, -104.429287	Sidetrack			
05-123-26535, WELLS RANCH - USX BB 15-7 NOBLE ENERGY INC	310526 SWNE 15 5N -63W (6) 40.401437, -104.420340	Sidetrack			
05-123-26551, WELLS RANCH - USX BB 15-14 NOBLE ENERGY INC	310535 SESW 15 5N -63W (6) 40.393721, -104.424836	Sidetrack			
05-123-26559, WELLS RANCH - USX BB 15-19 NOBLE ENERGY INC	310541 NENW 15 5N -63W (6) 40.403070, -104.426880	Sidetrack			
05-123-26560, WELLS RANCH -USX BB 15-11 NOBLE ENERGY INC	310542 NESW 15 5N -63W (6) 40.397827, -104.425085	Sidetrack			
05-123-33100, Wells Ranch USX BB15-65HN NOBLE ENERGY INC	421875 SWNW 15 5N -63W (6) 40.401500, -104.431220	Sidetrack			

05-123-33101, Wells Ranch USX BB15-67HN NOBLE ENERGY INC	421875 SWNW 16 5N -63W (6) 40.401570, -104.431210	Sidetrack	TD	Formation	Status
05-123-14199, PETERSON 24-16 PDC ENERGY INC	327124 SESW 16 5N -63W (6) 40.393310, -104.444250	Sidetrack	0 10931	NBRR	PR
05-123-20613, STATE PETERSON 22-16 PDC ENERGY INC	331395 SENW 16 5N -63W (6) 40.400530, -104.444030	Sidetrack	TD	Formation	Status
05-123-20708, STATE PETERSON 43-16 PDC ENERGY INC	331453 NESE 16 5N -63W (6) 40.397610, -104.433940	Sidetrack	0 7202	CODL	PR
05-123-20709, STATE PETERSON 11-16 PDC ENERGY INC	331454 NWNW 16 5N -63W (6) 40.404330, -104.448500	Sidetrack	0 7202	JSND	AB
05-123-20710, STATE PETERSON 41-16 PDC ENERGY INC	331455 NENE 16 5N -63W (6) 40.405060, -104.434970	Sidetrack	TD	Formation	Status
05-123-20711, STATE PETERSON 44-16 PDC ENERGY INC	331456 SESE 16 5N -63W (6) 40.393780, -104.433860	Sidetrack	0 7553	CODL	CM
05-123-20712, STATE PETERSON 42-16 PDC ENERGY INC	331457 SENE 16 5N -63W (6) 40.401530, -104.434220	Sidetrack	0 7553	JSND	AB
05-123-20713, STATE PETERSON 34-16 PDC ENERGY INC	331458 SWSE 16 5N -63W (6) 40.393690, -104.437970	Sidetrack	0 7553	NB-CD	PR
05-123-20714, STATE PETERSON 33-16 PDC ENERGY INC	331459 NWSE 16 5N -63W (6) 40.397000, -104.439080	Sidetrack	0 7553	NBRR	CM
05-123-20715, STATE PETERSON 12-16 PDC ENERGY INC	331460 SWNW 16 5N -63W (6) 40.400890, -104.448030	Sidetrack	TD	Formation	Status
05-123-20724, STATE PETERSON 21-16 PDC ENERGY INC	331469 NENW 16 5N -63W (6) 40.404500, -104.444030	Sidetrack	0 7562	CODL	AB
05-123-21052, STATE PETERSON 16A PDC ENERGY INC	409644 SE 16 5N -63W (6) 40.395116, -104.437001	Sidetrack	0 7562	JSND	AB
05-123-21057, STATE PETERSON 16D PDC ENERGY INC	409646 NW 16 5N -63W (6) 40.403506, -104.446361	Sidetrack	TD	Formation	Status
05-123-21664, STATE PETERSON 32-16 PDC ENERGY INC	331979 SWNE 16 5N -63W (6) 40.400640, -104.439330	Sidetrack	0 6884	NB-CD	PR
05-123-21676, STATE PETERSON 13-16 PDC ENERGY INC	331986 NWSW 16 5N -63W (6) 40.397140, -104.449000	Sidetrack	TD	Formation	Status
05-123-21677, STATE PETERSON 31-16 PDC ENERGY INC	331987 NWNE 16 5N -63W (6) 40.404190, -104.439780	Sidetrack	0 6882	CODL	SI
05-123-21678, STATE PETERSON 23-16 PDC ENERGY INC	331988 NESW 16 5N -63W (6) 40.397250, -104.444250	Sidetrack	TD	Formation	Status
05-123-41529, 70 Ranch State BB18-681 NOBLE ENERGY INC	441834 NENE 17 5N -63W (6) 40.405140, -104.453610	Sidetrack	0 7518	JSND	PR
05-123-41530, 70 Ranch State BB18-689 NOBLE ENERGY INC	441834 NENE 17 5N -63W (6) 40.405240, -104.453610	Sidetrack	TD	Formation	Status
			0 6873	CODL	SI
			TD	Formation	Status
			0 6925	CODL	PR
			TD	Formation	Status
			0 6900	CODL	PR
			TD	Formation	Status
			0 6920	CODL	SI
			TD	Formation	Status
			0 6889	CODL	PR
			TD	Formation	Status
			0 6983	CODL	SI
			TD	Formation	Status
			0 6920	CODL	CM
			0 6920	NB-CD	PR
			0 6920	NBRR	CM
			TD	Formation	Status
			0 16023	CARL	CM
			0 16023	CODL	CM
			0 16023	FTHYS	CM
			0 16023	N-COM	PR
			0 16023	NBRR	CM
			0 16023	NFCC	PR
			TD	Formation	Status
			0 15845	N-COM	PR

05-123-41532, 70 Ranch State BB18-675  
NOBLE ENERGY INC

441837 SENE 17 5N -63W (6)      Sidetrack  
40.401860, -104.453410

0	15845	NBRR	PR
	TD	Formation	Status
0	15870	N-COM	PR
0	15870	NBRR	PR