

30-c15-33139

Full Diameter Core Analysis Report

Company : Perenco LLC
 File No. : 04215
 Well : Thames 31 Fed #1
 Location :

Field:
 Formation: Abo
 County : Eddy County, New Mexico

Sample Number	Depth	N-S Perm	E-W Perm	Kv Perm	Por	Grain Density	Sw	So	Fluorescence	Sample Description
	ft	mD	mD	mD	%	g/cc	%	%	%	Desc
21	4,932.0	0.022	0.016	<0.001	2.91	2.81	38.1	0.0	0	Calc/Dol:dkbrn nvp frac peld foss xfg xln
22	4,933.0	0.008	0.039	0.016	15.59	2.89	35.1	0.0	0	Dol:tn intxn por cht nod sm pyr xfg xln
23	4,934.0	0.033	0.031	<0.001	17.34	2.91	41.3	0.0	0	Dol:tn nvp sm anhy sl pyr xfg xln
24	4,935.0	0.022	0.035	<0.001	2.07	2.75	56.7	0.0	0	Ls:brn nvp sl pyr sl anhy peld xln foss
25	4,936.0	0.028	0.248(frac)	<0.001	8.87	2.85	55.4	0.0	0	Ls:brn sl intxn por foss sm pyr xfg xln
26	4,937.0	0.036	0.064	<0.001	4.83	2.81	55.8	0.0	0	Ls:brn frac por peld sm pyr sl anhy xfg xln
27	4,938.0	0.023	0.031	<0.001	8.91	2.86	52.1	0.0	0	Dol:brn frac por sm anhy sl pyr xfg xln peld
28	4,939.0	0.041	0.121	<0.001	9.37	2.84	36.6	0.0	0	Dol:ltbrn intxn por peld sm cht xfg xln
29	4,940.0	0.013	0.014	<0.001	3.56	2.81	47.9	0.0	0	Dol:brn intxn por styl foss peld xfg xln
30	4,941.0	0.025	0.018	<0.001	8.44	2.83	26.8	0.0	0	Dol:tn intxn por sm anhy sl pyr sm peld xfg xln
31	4,942.0	0.025	0.019	<0.001	6.62	2.85	26.8	0.0	0	Dol:brn intxn por peld frac sl cht sl anhy xfg xln
32	4,943.0	1.41	0.838	0.936(frac)	21.55	2.85	43.2	0.0	0	Dol:tn intxn por sm cht sm anhy sl pyr xfg xln
33	4,944.0	0.882	1.040	0.115	15.12	2.85	44.2	0.0	0	Dol:tn intxn por sm cht sm anhy sl pyr frac xfg xln
34	4,945.0	0.468	0.130	0.625(frac)	6.38	2.83	61.5	0.0	tr	Brt yl Dol:tn frac por sm cht sm anhy xfg xln
35	4,946.0	0.900(frac)	0.135(frac)	<0.001	2.63	2.79	56.6	0.0	0	Calc/Dol:brn intxn por sm cht sm anhy sm pyr foss frac xfg xln
36	4,947.0	0.084(frac)	0.687(frac)	<0.001	2.80	2.79	53.8	0.0	0	Calc/Dol:brn intxn por foss chty xfg xln
37	4,948.0	0.072(frac)	0.746(frac)	<0.001	2.92	2.80	49.7	0.0	0	Calc/Dol:brn intxn por chty foss peld frac sl pyr xfg xln
38	4,949.0	0.237(frac)	0.586(frac)	0.001	4.11	2.79	58.5	0.0	0	Calc/Dol:brn intxn por chty sm pyr peld xfg xln
39	4,950.0	0.015	0.236(frac)	<0.001	2.77	2.79	55.6	0.0	0	Calc/Dol:brn sm intxn por sm cht foss sl pyr xfg xln
40	4,951.0	0.019	0.009	<0.001	1.51	2.76	46.8	0.0	tr	Brt yl Ls:brn sl intxn por sm pyr foss sl cht xln
41	4,952.0	0.067(frac)	0.478(frac)	ovf	1.28	2.72	54.0	0.0	0	Lsbrn nvp frac foss peld chty sl pyr xln

Full Diameter Core Analysis Report

Company : Perenco LLC
 File No. : 04215
 Well : Thames 31 Fed #1
 Location :

Field:
 Formation: Abo
 County : Eddy County, New Mexico

Sample Number	Depth	N-S Perm	E-W Perm	Kv Perm	Por	Grain Density	Sw	So	Fluorescence	Sample Description
	ft	mD	mD	mD	%	g/cc	%	%	%	Desc
42	4,953.0	0.015	0.030	0.001	2.15	2.80	45.5	0.0	0	Dol:brn nvp frac peld sm calc sm cht xfg xln
43	4,954.0	0.123	0.114	<0.001	1.45	2.79	71.5	0.0	0	Dol:brn nvp frac peld sm calc sm pyr xfg xln
44	4,955.0	0.014	0.147	<0.001	2.22	2.78	81.1	0.0	0	Dol:brn intxn por frac cht sl anhy sm pyr xfg xln
45	4,956.0	0.210	0.307	0.001	7.31	2.84	54.8	0.0	0	Dol:ltbrn intxn por frac sm pyr xfg xln
46	4,957.0	0.006	0.005	<0.001	1.53	2.75	42.1	0.0	0	Ls:dkbrn nvp foss sm cht xfg xln
47	4,958.0	0.020	0.013	<0.001	1.52	2.75	48.0	0.0	0	Ls:brn nvp foss xfg xln
48	4,959.0	0.052	0.016	<0.001	3.51	2.77	57.0	0.0	0	Dol:brn intxn por foss sm calc sm cht xfg xln
49	4,960.0	0.136(frac)	0.161(frac)	<0.001	3.87	2.78	56.1	0.0	0	Calc/Dol:brn intxn por foss sm pyr sl cht xfg xln
50	4,961.0	2.14(frac)	0.193(frac)	0.019	0.22	2.82	76.4	0.0	0	Dol:tn nvp frac sm pyr xfg xln
51	4,962.0	0.053	0.164	<0.001	2.41	2.77	64.0	0.0	0	Ls:ltbrn frac por sm pyr xfg xln
52	4,963.0	0.792(frac)	0.200	0.103	2.20	2.76	67.3	0.0	0	Ls:brn intxn por foss sm pyr chty xfg xln
53	4,964.0	0.064	0.088	<0.001	1.96	2.75	80.9	0.0	0	Ls:brn nvp frac chty foss sm pyr xfg xln
54	4,965.0	0.055	0.043	<0.001	0.96	2.72	76.4	0.0	0	Ls:brn nvp frac peld sm anhy sm pyr sl chty xfg xln
55	4,966.0	0.016	0.026	<0.001	1.00	2.71	43.5	0.0	0	Ls:brn nvp frac peld sm pyr chty xfg xln
56	4,967.0	0.010	0.112(frac)	<0.001	1.92	2.72	43.2	0.0	0	Ls:brn intxn por peld chty sm pyr xfg xln
57	4,968.0	0.021	0.025	<0.001	1.63	2.72	34.7	0.0	0	Ls:brn intxn por foss sm chty sm pyr xfg xln
58	4,969.0	0.019	0.004	<0.001	1.55	2.72	40.0	0.0	tr	Brk yl Ls:brn intxn por peld foss sm pyr chty xfg xln
59	4,970.0	0.036	0.027	<0.001	2.45	2.72	57.3	0.0	tr	Brk yl Ls:brn intxn por foss peld sm pyr styl xfg xln
60	4,971.0	0.050	0.042	<0.001	1.12	2.72	32.5	0.0	0	Ls:brn intxn por chty peld sm pyr xln

Note: All permeability values are Klinkenberg corrected

Full Diameter Core Analysis Report

Company : Perenco LLC
 File No. : 04215
 Well : Thames 31 Fed #1
 Location :

Field:
 Formation: Abo
 County : Eddy County, New Mexico

Sample Number	Depth	N-S Perm	E-W Perm	Kv Perm	Por	Grain Density	Sw	So	Fluorescence	Sample Description
	ft	mD	mD	mD	%	g/cc	%	%	%	Desc
1	4,912.0	0.186	0.153	0.007	6.68	2.87	28.4	0.0	0	Dol:tn sm ppp anhy xln
2	4,913.0	0.037	0.033	0.004	1.86	2.86	36.2	0.0	0	Dol:brn nvp sm anhy peld xfg xln
3	4,914.0	0.057	0.025	0.001	5.86	2.89	49.0	0.0	0	Dol:tn intxn por anhy xfg xln
4	4,915.0	0.020	0.015	0.001	3.75	2.86	39.9	0.0	0	Dol:brn nvp frac sm anhy xfg xln
5	4,916.0	0.018	0.024	0.519(frac)	7.05	2.87	36.1	0.0	0	Dol:brn nvp frac sm pyr sm anhy xfg xln
6	4,917.0	0.024	0.026	0.003	9.61	2.89	39.4	0.0	0	Dol:brn intxn por sm anhy peld xfg xln
7	4,918.0	0.032	0.019	0.004	10.18	2.89	50.1	0.0	0	Dol:brn intxn por frac sm anhy sm cht xfg xln
8	4,919.0	0.028	0.013	0.002	3.40	2.84	54.4	0.0	tr	Brt yl Dol:dkbrn intxn por sm anhy sm cht xfg xln
9	4,920.0	0.028	0.013	<0.001	2.20	2.80	37.2	0.0	tr	Brt yl Dol/Ls:intxn por frac sl anhy xfg xln
10	4,921.0	0.005	0.004	<0.001	0.95	2.72	37.2	0.0	0	Ls:brn nvp foss frac sm anhy sl xln
11	4,922.0	0.062	0.012	<0.001	1.46	2.73	32.4	0.0	0	Ls:brn nvp frac foss peld sm anhy sl xln
12	4,923.0	0.019	0.020	<0.001	1.32	2.74	43.3	0.0	0	Ls:brn nvp foss peld sm anhy sl xln
13	4,924.0	0.014	0.014	0.008	1.46	2.77	37.4	0.0	0	Ls:brn nvp frac peld cht sm anhy sl pyr xln
14	4,925.0	0.022	0.014	0.005	1.34	2.78	40.9	0.0	0	Ls:brn nvp frac peld anhy sm cht xln
15	4,926.0	0.038	0.029	0.003	1.46	2.82	35.4	0.0	0	Ls:brn nvp anhy peld xln
16	4,927.0	0.270(frac)	0.272(frac)	<0.001	14.57	2.87	28.3	0.0	0	Dol:tn intxn por sm ppp sm anhy sm peld xfg xln
17	4,928.0	0.010	0.005	<0.001	5.10	2.87	29.1	0.0	0	Dol:ltbrn intxn por sm anhy sm peld xfg xln
18	4,929.0	0.019	0.009	<0.001	1.81	2.78	39.4	0.0	0	Dol/Ls:brn nvp peld xfg xln
19	4,930.0	0.007	0.006	<0.001	1.59	2.74	31.6	0.0	0	Ls:dkbrn nvp peld xfg xln
20	4,931.0	0.009	0.015	0.003	1.12	2.75	40.8	0.0	0	Ls:brn nvp peld foss sl anhy xln

Core Description Abbreviations

ang	angular	grn	green	sbang	subangular
anhy	anhydrite	grst	grainstone	sc	surface contamination
ark	arkosic	gry	gray	sh	shale
arg	argillaceous	gyp	gypsum	strgr	stringer
bl	blue	h/frac	horizontally fractured	sbrnd	subround
bldgg	bleeding gas	hal	halite	scat	scattered
bldgo	bleeding oil	incl	inclusion	sd(y)	sand(y)
blk	black	intrgr	intergranular	sh	shale
blky	blocky	intrxn	intercrystalline	shy	shaley
brn	brown	ip	in part	sil	siliceous
brt	bright	lam	lamina(-ated)	sl	slight(ly)
bf	buff	ls	limestone	silty	silty
calc	calcareous	lt	light	sm	some
carb	carbonaceous	md	medium	sml	small
cem	cement	mf	mineral fluorescence	sp	spotty
cg	coarse grain	mg	medium grain	ss	sandstone
cgl	conglomerate	micr	micritic	siltst	siltstone
chky	chalky	mod	moderate	srt	sorted
chrt	cherty	mott	mottled	strks	streaks
com	common	mdst	mudstone	styl	stylolite
conch	conchoidal	n/a	not available	suc	sucrosic
cnsl	consolidated	n/r	not recovered	tbfa	too broken for analysis
crm	cream	nod	nodules	tn	tan
csit	coarse siltstone	nvp	no visible porosity	tr	trace
dk	dark	o	oil	v	very
dns	dense	ool	oolitic	vis	visible
dol	dolomite	orng	orange	vtfrac	vertically fractured
dolic	dolomitic	peld	peloid	vfg	very fine grain
dru	drusy	pisol	pisolitic	vug	vug(gy)
dul	dull	pk	pink	w/	with
fg	fine grain	pkst	packstone	wht	white
fiss	fissile	por	porosity	wk(-ly)	weak(-ly)
foss	fossiliferous	poss	possible	wkst	wackestone
frac	fractured	ppp	pinpoint porosity	wl	well
fri	friable	pr(-ly)	poor(-ly)	xln	crystalline
gil	gilsonite	ptg	parting	xfg	extremely fine grained
glauc	glauconite	pyr	pyrite	xl	crystal
		rnd	round	yl	yellow