District I 1625 N. French Dr., Hobbs, NM 88240

Title:

Date:

1/18/18

Regulatory Analyst E-mail Address:

sdavis@concho.com

Phone:

575-748-6946

State of New Mexico Minerals & Natural Resources Form C-104

1625 N. French	Dr., Hobb	s, NM 88240	Е	nergy.]	Minerals &	Natural Re	sour	ces			Revised August 1, 2011		
District II 811 S. First St.,	Artesia, N	M 88210	L	11016), 1	VIIIIOIUIS CC	i tutuitii itt	bour			vi to onne	consists District Office		
District III 1000 Rio Brazos	Rd Azte	c NM 87410		Oi	l Conservati	on Division	n	Submit	one cop	by to appr	opriate District Office		
District IV				122	20 South St.	Francis D	r.				AMENDED REPORT		
1220 S. St. Franc	cis Dr., Sa	inta Fe, NM	37505		Santa Fe, N	M 87505				_			
	I.	REQU	EST FO	OR ALI	LOWABLE	AND AU	ГНО	RIZATION	TO	TRANS	PORT		
¹ Operator n								² OGRID Nu	nber				
COG OI								2		229137			
2208 W. Artesia,								³ Reason for	Filing C	ode/ Effec NW	ctive Date		
⁴ API Numbe			ol Name						6 Po	ool Code			
30 - 015				Cott	onwood Draw	; Bone Spri	ng				97494		
⁷ Property C	ode	8 Pro	perty Nar	ne					9 W	ell Numb	er		
316				R	oad Runner F	ederal Com					12H		
II. 10 Sun		_											
Ul or lot no.	Section 25	Township 25S	Range 26E	Lot Idn	Feet from the 210	North/South South		Feet from the 1995		West line	County		
0					210	South 1995 East				Last	Eddy		
		ole Locati		T . T .	E 46 41	N 41/0 41	Y .	E 46 41	TD 40	W/ 4 N*	C		
Ul or lot no.	Section 24	Township 25S	Range 26E	Lot Idn	Feet from the 201	North/South North		2317		West line East	County Eddy		
12 Lse Code		cing Method		onnection	¹⁵ C-129 Peri	5.05.5.5.5		C-129 Effective			29 Expiration Date		
F		Code	D	ate	C-129 FeII	int Number		-129 Effective	Date	C-1.	29 Expiration Date		
		F		2/17									
		s Transpo	rters		10 —						20		
18 Transpor OGRID	ter				19 Transpor						²⁰ O/G/W		
OGRID		and Address									0		
	Alpha Crude Connector										0		
	Inplie of the connector												
											G		
					CHICAGO CONTRACTOR CON	•							
						MV	OIL (CONSERVA	MOIT				
								ESIA DISTRICT					
							JA	N 2 2 2018		ALC: UNIVERSITY OF			
						1	R	ECEIVED					
						1							
IV. Well				,									
²¹ Spud Da	te	22 Ready			²³ TD	24 PBTI		²⁵ Perforat			²⁶ DHC, MC		
8/16/17		12/21			17898' /18/			7950-176	198′				
27 Ho	le Size		²⁸ Casing	g & Tubin	ig Size	²⁹ De	pth Se	et		30 Sack	ss Cement		
17	1/2"		1	13 3/8"		2	90'			4	500		
12	1/4"			9 5/8"		24	100'			1	.025		
8 3	3/4"			5 1/2"		17	890'			3	6605		
				. = 1011									
				2 7/8"		73	372'						
V. Well	Test Da	nta											
31 Date New		32 Gas Deliv	-	1	Test Date	³⁴ Test		h 35 Th	g. Press	sure	³⁶ Csg. Pressure		
12/22/17		12/22		12	2/22/17	24]	Hrs		600#				
37 Choke Si	ze	³⁸ O		1	Water	40 (41 Test Method		
34/64"		213			2386	46	68				Flowing		
⁴² I hereby cert								OIL CONSER	VATION	DIVISIO	N		
been complied complete to the					is true and								
Signature:	Dest Of I	ily knowled	se and bell	C1.		Approved by:)	no C	21			
2/8		100	and a				1	aproud 100/05/	11	Doda	my		
Printed name:					-	Γitle:	/	1	7/				
Stormi Davi	S						0	700/051	5+				

Approval Date:

1-26-2018

Pending BLM approvals will

subsequently be reviewed

and scanned

Form 3160-4 (August 2007)

NM OIL CONSERVATION

DEPARTMENT OF THE INTERIOR
BURFALLOE LAND TAXABLE PROPERTY OF LAND TAXA BUREAU OF LAND MANAGEMENT JAN 2 2 2018

FORM APPROVED OMB No. 1004-0137 Expires: July 31, 2010

5. Lease Serial No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

														INIVIN	W1129	107	
1a. Type of	f Well	Oil Well	Gas '	Well			Oth		REC	EIVE	D		6.	If India	an, Allo	ottee or	r Tribe Name
b. Type of	f Completion	Othe	lew Well er	□ Wo	ork Ov	er [] Deep	en 🗆	Plug	Back	☐ Dif	f. Resv		Unit or	CA A	greeme	ent Name and No.
2. Name of COG O	Operator PERATING	LLC	E	-Mail:	sdavis	Contac @con		RMI DAV	/IS				8.	Lease ROAL			ell No. FEDERAL COM 121
3. Address	2208 WES							3a. Phor Ph: 575		o. (include 3-6946	e area co	de)	9.	API W	ell No.		30-015-44148
Location At surfa		T25S R	ion clearly ar 26E Mer NI 1995FEL		cordar	ice with	Federa	l requirem	ents)	*				COTT	MNO	OOD	Exploratory DRAW; BONE SPR
	rod interval i												111	or Are	a Sec	M., or	Block and Survey 25S R26E Mer NMF
At total	Sec	24 T255	R26E Mer NL 2317FE										12	2. Coun EDDY		arish	13. State NM
14. Date Spudded 08/16/2017 15. Date T.D. Reached 09/04/2017 16. Date Completed □ D & A ■ Ready to Prod. 12/21/2017										. 17	7. Eleva	tions (1 324	DF, KE 48 GL	3, RT, GL)*			
18. Total D	epth:	MD TVD	17898 7812	3	19.	Plug Ba	ck T.D	.: MI			785 15	20	. Depth	Bridge I	'lug Se	:t:]	MD 17785 TVD 7815
21. Type E NONE	lectric & Oth	er Mecha	nical Logs R	un (Sub	omit co	ppy of e	ach)				22. W W Di	as well as DST rection	cored? run? al Surve	Ø N Ø N ∨? □ N	lo I	☐ Yes	s (Submit analysis) s (Submit analysis) s (Submit analysis)
23. Casing ar	nd Liner Reco	ord (Repo	ort all strings	set in v	well)												(
Hole Size	Size/G	rade	Wt. (#/ft.)	To (M		Botto (MI		tage Ceme Depth	enter		of Sks. &		Slurry Vo (BBL)	l. Ce	ement 7	Гор*	Amount Pulled
17.500	13.	375 J55	54.5		0		290					500				0	
12.250	9.	625 J55	40.0		0	2	2400				10)25				0	
8.750	5.5	00 P110	17.0		0	17	7890				36	305				0	
				_			\rightarrow					+		_		-	
							\rightarrow		_			+		+		-	
24. Tubing	Record																
Size	Depth Set (M		acker Depth		Siz	ze	Depth S	Set (MD)	P	acker Dep	pth (MD) !	Size	Depth S	Set (MI	D)	Packer Depth (MD)
2.875 25. Produci		7372		7363			26 Pe	erforation	Reco	rd							
	ormation		Тор		Bo	ttom	20.1		_	Interval		5	Size	No. H	loles		Perf. Status
A)	BONE SPI	RING		7950	Do	17760		1 CHOI		7950 TC	17698		0.430	140.11		OPEN	
B)										7750 TC		_	01100			OPEN	
C)																	
D)																	
27. Acid, Fr	racture, Treat	ment, Cer	nent Squeeze	e, Etc.													
1	Depth Interva								Ar	nount and	d Type o	f Mate	rial				
	795	0 TO 17	698 SEE AT	TACHE	.D				_								
			_														
28. Producti	ion - Interval	A															
Date First	Test	Hours	Test	Oil		Gas	Wat		Oil Gr		Ga		Pro	duction Me	thod		
Produced 12/22/2017	Date 12/22/2017	Tested 24	Production	BBL 213		MCF 468.0	BBI	2386.0	Corr. A	API	Gr	avity			FLOV	VS FRC	OM WELL
Choke	Tbg. Press.	Csg.	24 Hr.	Oil		Gas	Wat		Gas:O	il	W	ell Status					To the Charles and the Charles
Size 34/64	Flwg. 600 SI	Press.	Rate	BBL 21:	- 1	MCF 468	BBI	2386	Ratio			POW	/				
28a. Produc	tion - Interva	ıl B															_
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL		Gas MCF	Wat BBI		Oil Gr. Corr. A		Ga	s. Dendi	ing BL	M app	rova	ls wi	11
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL		Gas MCF	Wat BBI		Gas:O	il		subs	ing BLI equen scann	tly be	IEVIC	_/	
<i>(G</i> • 1	SI										\perp	and	scamin	1-	26-	.18	
Can Instruct	ione and ar -	age for al	ditional data	OH HOLL	arec at	dal							-	, ,			

(See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #401479 VERIFIED BY THE BLM WELL INFORMATION SYSTEM
** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** O

.. UN-SUBMITTED **

28b. Prod	luction - Inter	val C						-			
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravi	ity	Production Method	• .
Choke	Tbg. Press.	Csg.	24 Hr.	Oil	Gas	Water	Gas:Oil	Weil	Status	<u>. </u>	······································
Size	Flwg. SI	Press.	Rate	BBL	MCF	BBL	Ratio				
28c. Prod	luction - Inter	val D				-					
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravi	ty	Production Method	
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well	Status		··
29. Dispo	sition of Gas	Sold, used	for fuel, vent	ed, etc.)	<u> </u>		_1				
	nary of Porou	s Zones (In	iclude Aquife	rs):					31. For	mation (Log) Markers	
tests,	all important including dep ecoveries.	zones of p th interval	orosity and c tested, cushic	ontents ther on used, tim	eof: Corec e tool ope	d intervals and on, flowing an	d all drill-stem d shut-in pressure	es			
	Formation		Тор	Bottom		Descript	ions, Contents, etc).		Name	Top Meas. Depth
LAMAR 1964 2003 BELL CANYON 2004 2853 CHERRY CANYON 2854 3919 BRUSHY CANYON 3920 5513 BONE SPRING LM 5514 6442 1ST BONE SPRING 6443 7184 2ND BONE SPRING 7185 7822								RU TO BC LA BE BE BR BC	31 304 1765 1964 2004 2854 3920 5514		
Surve Addit 1st B	tional remarks eys and Perf tional Tops: lone Spring: Bone Spring:	s/Stimulat	lugging proceion are attac	edure): ched.							
l. Ele	e enclosed atta ectrical/Mech undry Notice f	anical Logs		-		2. Geologi 6. Core Ai	-		DST Re	port 4. Direction	onal Survey
34. I here	by certify tha	t the forego	_	ronic Subm	ission #4(01479 Verific	orrect as determined by the BLM V	Vell Inforn	nation Sy	e records (see attached instruct	ions):
Name	c(please print	STORMI	I DAVIS				·	REPARE			
Signa	iture	(Electron	nic Submissi	on)			Date <u>0</u>	1/18/2018	3		

ROAD RUNNER FEDERAL COM #12H (30-015-44148)

NOAD	MOINING I EDENAL CO) V #12 (30°0	13-44140)
<u>Perfs</u>	7 1/2% Acid (Gal)	Sand (#)	Fluid (Gal)
	4022	242746	200450
1	4032	312746	388458
2	2982	290590	333984
3	2982	313499	359100
4	3150	313684	368928
5	3024	314234	350154
6	2226	312003	351666
7	2940	311491	370188
8	3024	312937	355866
9	3024	311864	354564
10	2898	312165	354396
11	2940	313369	360570
12	3024	312056	347214
13	2772	311786	341712
14	2646	312066	341124
15	2772	311364	341040
16	2730	313323	343224
17	2730	312005	339024
18	2730	312900	342636
19	2688	312302	342636
20	3024	312918	339654
21	3024	313207	338520
22	3066	314203	312858
23	2898	312901	325920
24	2898	313911	326676
25	2898	307842	321174
26	3024	313686	308994
27	2982	310386	311220
28	3024	311134	315504
29	3024	311495	289464
30	3024	313533	290724
31	3024	313554	285810
32	3192	312731	285894
33	3024	315465	287826
34	3024	313252	286440
35	3066	312597	283794
36	3024	313442	282534
37	3024	310489	285222
38	2940	312834	283542
39	2940	312321	282534
40	2940	313236	296688
41	3024	312397	288078
42	3024	311988	282576
43	3066	313495	287994
44	3024	313019	297906
45	2898	312623	309246
46	3024	313184	283668
47	2982	313059	283206
48	3024	313470	298662
49	3024	314837	288876
50	3108	315457	300006
51	3024	312432	278670
52	2520	311502	282828
53	2772	312429	295218
54	2982	313542	276948
55	3150	313300	283542
56	3024	314321	279342
57	3024	312327	286776
58	3024	312983	279594
59	3024	310192	280728
60	3024	313959	305760
61	2982	309906	273966
62	3150	313315	277116
63			
64	3024 3654	308659	305004
04	3654	316606	349188
Totals	190,974	19,990,523	20,002,374
	•	•	

- ROAD RUNNER FEDERAL COM 12H

	* NOAD I	UNNER FED													
	Stage 4	Distance	Shots	Store 2	Distance	Shots	Store 2	Distance	Chata	Store 4	Distance	Chata	Stone 5	Distance	Chata
1. 1	Stage 1	Between Perfs	Shots	Stage 2	Between Perfs	Shots	Stage 3	Between Perfs	Shots	Stage 4	Between Perfs	Shots	Stage 5	Between Perfs	Shots
1, 1	17,698	17	6	17,562	19	6	17,405	20	6	17,255	25	6	17,101	22	6
From	17,681	17	6	17,543	19	6	17,391	20	6	17,237	22	6	17,084	19	6
Bottom	17,664 17,647	17 20	6	17,524 17,505	19 19	6	17,371 17,352	19 19	6	17,215 17,199	16 22	6	17,065 17,046	19	6
to Top	17,627	16	6 5	17,486	19	5	17,333	19	5	17,177	16	5	17,046	19	6
	17,611	15	5	17,467	20	5	17,314	19	5	17,161	24	5	17,008	19	5
	17,596	15	5	17,447	22	5	17,295	15	5	17,137	14	5	16,989	21	5
	17,581 Plug to Plug	136	5 44	17,425 Plug to Plug	157	5 44	17,280 Plug to Plug	145	5 44	17,123 Plug to Plug	159	5 44	16,968 Plug to Plug	153	5 44
	Frac Plug	17,708	Total Shots	Frac Plug	17,572	Total Shots	Frac Plug	17,415	Total Shots	Frac Plug	17,270	Total Shots	Frac Plug	17,111	Total Shots
	Stage 6	Distance	Shots	Stage 7	Distance	Shots	Stage 8	Distance	Shots	Stage 9	Distance	Shots	Stage 10	Distance	Shots
		Between Perfs			Between Perfs			Between Perfs			Between Perfs			Between Perfs	
1	16,948	20	6	16,784	30	6	16,644	20	6	16,489	20	6	16,328	30	6
From	16,925 16,912	13 19	6	16,767 16,750	17	6	16,626 16,607	19 19	6	16,475 16,454	21 19	6	16,315 16,301	14	6
Bottom	16,893	19	6	16,733	18	6	16,588	20	6	16,435	19	6	16,282	19	6
to Top	16,874	19	5	16,715	17	5	16,568	19	5	16,416	20	- 5	16,263	19	5
	16,855	19	5	16,698	22	5	16,549	19	5	16,396	19	5	16,244	20	5
	16,836	22	5	16,676	12	5	16,530	21	5	16,377	19	5	16,224	16	5
	16,814 Plug to Plug	164	5 44	16,664 Plug to Plug	140	5 44	16,509	155	5 44	16,358	161	5 44	16,208	140	5 44
_	Frac Plug	16,958	Total Shots	Frac Plug	16,794	Total Shots	Plug to Plug Frac Plug	16,654	Total Shots	Plug to Plug Frac Plug	16,499	Total Shots	Plug to Plug Frac Plug	16,338	Total Shots
1	riacriug	10,030	Total Shots	FracFlug	10,704	Total Shots	FracFlug	10,004	Total Shots	FracFlug	10,400	Total Shots	FracFlug	10,000	Total Shots
		Distance			Distance			Distance			Distance		To Pale To Land	Distance	
	Stage 11	Between Perfs	Shots	Stage 12	Between Perfs	Shots	Stage 13	Between Perfs	Shots	Stage 14	Between Perfs	Shots	Stage 15	Between Perfs	Shots
	16,183	25	6	16,032	20	6	15,876	25	6	15,728	19	6	15,574	20	6
From	16,167	16	6	16,014	19	6	15,861	19	6	15,708	16	6	15,556	20	6
From Bottom	16,151 16,129	19	6	15,995 15,973	22 16	6	15,842 15,823	19 19	6	15,692 15,670	22 16	6	15,536 15,517	19	6
to Top	16,110	19	5	15,957	24	6	15,823	19	5	15,654	17	5	15,498	21	5
	16,091	19	5	15,933	14	5	15,785	19	5	15,637	24	5	15,477	17	5
	16,072	20	5	15,919	18	5	15,766	19	5	15,613	19	5	15,460	18	5
	16,052 Plug to Plug	156	5	15,901 Plug to Plug	156	5	15,747 Plug to Plug	148	5	15,594 Plug to Plug	154	5	15,442 Plug to Plug	157	5
	Plug to Plug Frac Plug	156	44 Total Shots	Plug to Plug Frac Plug	156	44 Total Shots	Plug to Plug Frac Plug	148	44 Total Shots	Plug to Plug Frac Plug	154	44 Total Shots	Plug to Plug Frac Plug	157	44 Total Shots
	1 rae r rag	10,100	Total ollots	Tracting	10,042	Total Gilots	Tracting	10,000	Total Ollots	Tracting	10/100	Total Gilots	Tracting	10,004	Total Gilots
	St 40	Distance	Chata	Steen 47	Distance	Chata	Page 49	Distance	Chata	Store 40	Distance	Chata	24 20	Distance	Chata
	Stage 16	Between Perfs	Shots	Stage 17	Between Perfs	Shots	Stage 18	Between Perfs	Shots	Stage 19	Between Perfs	Shots	Stage 20	Between Perfs	Shots
	15,417	25	6	15,254	34	6	15,115	20	6	14,960	20	6	14,809	25	6
From	15,403	19	6	15,240	13	6	15,097	19	6	14,940	15	6	14,791	20	6
Bottom	15,384 15,364	20 19	6	15,227 15,212	15 20	6	15,078 15,059	19 19	6	14,925 14,909	16	6	14,771	18 24	6
to Top	15,345	19	5	15,192	19	5	15,040	22	5	14,887	19	5	14,729	14	5
	15,326	19	5	15,173	19	5	15,018	17	5	14,868	20	5	14,715	18	5
	15,307	19	5	15,154	19	5	15,001	21	5	14,848	14	5	14,697	20	5
	15,288	400	5	15,135	400	5	14,980		5	14,834	454	5	14,677	450	5
	Plug to Plug Frac Plug	163	44 Total Shots	Plug to Plug Frac Plug	139 15,264	44 Total Shots	Plug to Plug Frac Plug	155 15,125	44 Total Shots	Plug to Plug Frac Plug	151	44 Total Shots	Plug to Plug Frac Plug	152	44 Total Shots
187-4	Frac Flug	10,427	Total Shots	Frac Flug	13,204	Total Shots	Frac Flug	19,129	Total Shots	Frac Flug	14,810	Total Shots	Frac Flug	14,019	Total Shots
		Distance			Distance			Distance			Distance		147 11 11 12	Distance	
	Stage 21	Between Perfs	Shots	Stage 22	Between Perfs	Shots	Stage 23	Between Perfs	Shots	Stage 24	Between Perfs	Shots	Stage 25	Between Perfs	Shots
	14,657	20	6	14,501	20	6	14,349	25	6	14,198	20	6	14,065	4	6
											20				
	14,638	19	6	14,479	16	6	14,333	17	6	14,180	19	6	14,027	19	6
From	14,638 14,619	19 19	6	14,479 14,463	16 16	6	14,333 14,316	17 22	6	14,180 14,161	23	6	14,027 14,008	19	6
Bottom	14,638 14,619 14,600	19 19 19	6	14,479 14,463 14,447	16 16 19	6 6	14,333 14,316 14,294	17 22 19	6	14,180 14,161 14,138	23 16	6	14,027 14,008 13,989	19 23	6 6 6
	14,638 14,619 14,600 14,581	19 19 19 20	6 6 5	14,479 14,463 14,447 14,428	16 16 19	6 6 6 5	14,333 14,316 14,294 14,275	17 22 19 19	6 6 5	14,180 14,161 14,138 14,122	23 16 19	6 6 5	14,027 14,008 13,989 13,966	19 23 16	6 6 6
Bottom	14,638 14,619 14,600 14,581 14,561	19 19 19 20 18	6	14,479 14,463 14,447 14,428 14,409	16 16 19 19	6 6	14,333 14,316 14,294 14,275 14,256	17 22 19 19	6	14,180 14,161 14,138 14,122 14,103	23 16 19	6	14,027 14,008 13,989 13,966 13,950	19 23 16 19	6 6 6
Bottom	14,638 14,619 14,600 14,581 14,561 14,543	19 19 19 20	6 6 5	14,479 14,463 14,447 14,428	16 16 19	6 6 6 5	14,333 14,316 14,294 14,275	17 22 19 19	6 6 5	14,180 14,161 14,138 14,122	23 16 19	6 6 5	14,027 14,008 13,989 13,988 13,960 13,931	19 23 16	6 6 6 5
Bottom	14,638 14,619 14,600 14,581 14,561	19 19 19 20 18 22	6 6 5 5	14,479 14,463 14,447 14,428 14,409 14,390	16 16 19 19 19 19 16	6 6 6 5 5	14,333 14,316 14,294 14,275 14,256 14,237	17 22 19 19 19 19	6 6 5 5 5 5 44	14,180 14,161 14,138 14,122 14,103 14,084	23 16 19 19 15	6 6 5 5 5 5	14,027 14,008 13,989 13,966 13,950	19 23 16 19 19	6 6 6 5 5 5 5
Bottom	14,638 14,619 14,600 14,581 14,561 14,543 14,521	19 19 19 20 18 22	6 6 5 5 5	14,479 14,463 14,447 14,428 14,409 14,390 14,374	16 16 19 19 19	6 6 6 5 5 5	14,333 14,316 14,294 14,275 14,256 14,237 14,218	17 22 19 19 19	6 6 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,069	23 16 19 19	6 6 5 5 5 5	14,027 14,008 13,989 13,966 13,950 13,931 13,912	19 23 16 19	6 6 6 5 5 5
Bottom	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug	19 19 19 20 18 22	6 6 5 5 5 5	14,479 14,463 14,447 14,428 14,409 14,390 14,374 Plug to Plug	16 16 19 19 19 19 16	6 6 6 6 5 5 5	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug	17 22 19 19 19 19	6 6 5 5 5 5 44	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug	23 16 19 19 15	6 6 5 5 5 5	14,027 14,008 13,989 13,968 13,950 13,931 13,912 Plug to Plug	19 23 16 19 19	6 6 6 5 5 5 5
Bottom	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug	19 19 19 20 18 22 156 14,667	6 6 5 5 5 5	14,479 14,463 14,447 14,428 14,409 14,390 14,374 Plug to Plug	16 16 19 19 19 19 16 147 14,511	6 6 6 6 5 5 5	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug	17 22 19 19 19 19 19 156 14,364	6 6 5 5 5 5 44	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug	23 16 19 19 15 15 153 14,208	6 6 5 5 5 5	14,027 14,008 13,989 13,968 13,950 13,931 13,912 Plug to Plug	19 23 16 19 19 153 14,055	6 6 6 5 5 5 5
Bottom	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug Frac Plug	19 19 19 20 18 22 156 14,667	6 6 5 5 5 5 5 44 Total Shots	14,479 14,493 14,447 14,428 14,409 14,390 14,374 Plug to Plug Frac Plug Stage 27	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs	6 6 6 5 5 5 5 44 Total Shots	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs	6 6 5 5 5 5 5 5 Total Shots	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug	23 16 19 19 15 15 153 14,208	6 6 5 5 5 5 5 44 Total Shots	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug	19 23 16 19 19 153 14,055	6 6 6 5 5 5 5 5 44 Total Shots
Bottom	14,638 14,619 14,800 14,581 14,581 14,543 14,521 Plug to Plug Frac Plug Stage 26	19 19 20 18 22 156 14,687	6 6 5 5 5 5 44 Total Shots	14,479 14,483 14,447 14,447 14,428 14,409 14,390 14,374 Plug to Plug Frac Plug Stage 27	16 16 19 19 19 19 16 16 147 14,511	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug Stage 28	17 22 19 19 19 19 19 19 158 14,364 Distance Between Perfs	6 6 5 5 5 5 5 44 Total Shots Shots 6	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29	23 16 19 19 15 15 153 14,208 Distance Between Perfs	6 6 5 5 5 5 5 44 Total Shots Shots	14,027 14,008 13,999 13,966 13,950 13,931 13,912 Plug to Plug Frac Plug Stage 30	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31	6 6 6 5 5 5 5 5 5 5 44 Total Shots
Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug Frac Plug	19 19 20 18 22 156 14,687	6 6 5 5 5 5 5 44 Total Shots	14,479 14,463 14,447 14,447 14,428 14,409 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs	6 6 6 5 5 5 5 44 Total Shots	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs	6 6 5 5 5 5 5 5 Total Shots	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug	23 16 19 19 15 15 153 14,208	6 6 5 5 5 5 5 44 Total Shots	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug	19 23 16 19 19 153 14,055	6 6 6 5 5 5 5 5 44 Total Shots
From Bottom	14,638 14,619 14,800 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19	6 6 5 5 5 5 5 44 Total Shots Shots	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683	16 16 19 19 19 16 16 147 14,511 Distance Between Perfs 24 19 19	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,550	17 22 19 19 19 19 19 158 14,364 Distance Between Perfs 25 16 21 19	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,3394 13,379	23 16 19 19 15 15 153 14,208 Distance Between Perfs 20 15 15 21	6 6 5 5 5 5 5 44 Total Shots Shots 6 6 6	14,027 14,008 13,999 13,966 13,990 13,931 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24	6 6 6 5 5 5 5 44 Total Shots Shots 6 6 6 6 6 6 6
Bottom to Top	14,638 14,619 14,690 14,581 14,581 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817	19 19 20 18 22 158 14,687 Distance Between Perfs 20 19 19 20	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,447 14,428 14,409 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,664	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 10 19 19	6 6 6 6 6 5	14,333 14,316 14,264 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,551 13,550 13,511	17 22 19 19 19 19 10 158 14,364 Distance Between Perfs 25 16 21 19	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 15	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,950 13,931 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 16 24 14	6 6 6 6 6 6 6 6 5 5
From Bottom	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 28 13,892 13,895 13,836 13,817 13,797	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 19 20 19	6 6 6 6 6 6 5 5	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,738 13,731 13,683 13,684 13,684	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20	6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 6 6 6 6	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,530 13,511 13,492	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19	6 6 6 6 6 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,379 13,358 13,339	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 15	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,225 13,240 13,224 13,200 13,186	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 16 24 19 19	6 6 6 6 6 6 6 5 5 5 5
From Bottom	14,638 14,619 14,800 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,797	19 19 20 18 22 158 14,687 Distance Between Perfs 20 19 19 20	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,684 13,645 13,625	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 10 19 19	6 6 6 6 6 5 5 5 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,567 13,551 13,530 13,511 13,492 13,473	17 22 19 19 19 19 10 158 14,364 Distance Between Perfs 25 16 21 19	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 15	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 16 24 14	6 6 6 6 6 6 6 6 5 5
From Bottom	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 28 13,892 13,895 13,836 13,817 13,797	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 19 20 19	6 6 6 5 5 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,738 13,731 13,683 13,684 13,684	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 19 19 18	6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 6 6 6 6	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,581 13,530 13,511 13,492 13,473 13,473 Plug to Plug	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20	6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,320 Plug to Plug	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 15	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,950 13,951 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19	6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5
From Bottom	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,836 13,817 13,797 13,778 13,762	19 19 20 18 22 156 14,667 Distance Between Perfs 20 19 19 20 19 16	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,448 14,449 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,664 13,645 13,625 13,607	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 10 20 18	6 6 6 6 6 6 5 5 5 5 5 5 5 5	14,333 14,316 14,264 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,551 13,492 13,473 13,453	17 22 19 19 19 19 19 158 14,364 Distance Between Perfs 25 16 21 19 19 20	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,339 13,339 13,339 13,339 13,339 13,339 13,339	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 15 19 19	6 6 6 5 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,999 13,968 13,950 13,931 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,187 13,148	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19	6 6 6 5 5 5 6 6 6 6 5 5 5 5 5 5 5 5 5 5
From Bottom	14,638 14,619 14,600 14,561 14,561 14,563 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,777 13,778 13,778 13,7782 Plug to Plug	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 10 16	6 6 6 5 5 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5	14,479 14,493 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,738 13,721 13,702 13,683 13,625 13,625 13,607 Plug to Plug	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 19 19 18	6 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,581 13,530 13,511 13,492 13,473 13,473 Plug to Plug	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20	6 6 6 6 6 6 5 5 5 6 44	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,320 Plug to Plug	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 19 19 19	6 6 6 5 5 5 6 6 6 6 6 6 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,950 13,951 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19	6 6 6 5 5 5 6 6 6 6 5 5 5 5 5 5 5 5 5 5
From Bottom	14,638 14,619 14,600 14,561 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,917 13,778 13,778 13,778 Plug to Plug Frac Plug	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 16 154 13,902	6 6 6 5 5 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5	14,479 14,493 14,497 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,645 13,625 13,607 Plug to Plug Frac Plug	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 19 20 18 151 13,748	6 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,530 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug	17 22 19 19 19 19 19 19 156 14,364 Distance Between Perfs 25 16 21 19 19 19 19 20 154 13,597	6 6 6 6 6 6 5 5 5 5 6 44	14,180 14,161 14,138 14,122 14,103 14,089 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,339 13,320 13,330 Plug to Plug Frac Plug	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 19 19 19 19 183 13,443	6 6 6 5 5 5 6 6 6 6 6 6 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167 13,186 Plug to Plug Frac Plug	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 142 13,280	6 6 6 5 5 5 6 6 6 6 5 5 5 5 5 5 5 5 5 5
From Bottom	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,797 13,778 13,762 Plug to Plug Frac Plug Stage 31	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 16 154 13,902	6 6 6 5 5 6 6 6 6 6 6 5 5 5 5 44 Total Shots	14,479 14,483 14,447 14,428 14,409 14,300 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,694 13,645 13,625 13,607 Plug to Plug Frac Plug	16 16 19 19 19 16 147 14,511 Distance Between Perfs 24 10 19 19 10 20 18 151 13,748	6 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 26 13,582 13,567 13,551 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33	17 22 19 19 19 19 19 158 14,364 Distance Between Perfs 25 16 21 19 19 20 154 13,597	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,301 Plug to Plug Frac Plug Stage 34	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 15 19 19 19 19 183 13,443 Distance Between Perfs	6 6 6 5 5 44 Total Shots Shots 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,998 13,998 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 16 24 14 19 19 142 13,280 Distance Between Perfs	6 6 6 5 5 5 44 Total Shots Shots 6 6 6 6 6 6 6 5 5 5 5 44 Total Shots
Bottom to Top	14,638 14,619 14,600 14,561 14,561 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 Plug to Plug Frac Plug Stage 31 13,128	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 19 20 19 16 154 13,902 Distance Between Perfs	6 6 6 5 5 5 5 44 Total Shots Shots 6 6 5 5 5 5 44 Total Shots Shots 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	14,479 14,493 14,493 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs	6 6 6 5 6 6 6 6 6 6 6 5 5 5 44 Total Shots Shots Shots 6 6 6 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,590 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597	6 6 6 5 5 5 5 5 44 Total Shots Shots Shots 6 6 6 5 5 5 5 5 5 5 5 5 6 5 6 6 6 6 6	14,180 14,161 14,138 14,122 14,103 14,089 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,330 Plug to Plug Frac Plug	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 19 19 19 19 103 13,443	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167 13,187 13,188 Plug to Plug Frac Plug Stage 35	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 142 13,280 Distance Between Perfs	6 6 6 6 6 6 6 5 5 4 4 Total Shots Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,875 13,836 13,817 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778 13,778	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 16 154 13,902 Distance Between Perfs	6 6 5 5 5 44 Total Shots Shots Shots Shots 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,492 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,959	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 10 19 19 10 20 18 151 13,748 Distance Between Perfs	6 6 6 5 5 5 5 5 44 Total Shots Shots Shots Shots 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,561 13,530 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,180 14,161 14,138 14,122 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,300 13,301 Plug to Plug Frac Plug	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 10 163 13,443 Distance Between Perfs	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,989 13,986 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,220 13,225 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 142 13,280 Distance Between Perfs	6 6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,561 14,561 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 Plug to Plug Frac Plug Stage 31 13,128	19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 19 20 19 16 154 13,902 Distance Between Perfs	6 6 6 5 5 5 5 44 Total Shots Shots 6 6 5 5 5 5 44 Total Shots Shots 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	14,479 14,493 14,493 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs	6 6 6 5 6 6 6 6 6 6 6 5 5 5 44 Total Shots Shots Shots 6 6 6 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	14,333 14,316 14,294 14,275 14,256 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,590 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597	6 6 6 5 5 5 5 5 44 Total Shots Shots Shots 6 6 6 5 5 5 5 5 5 5 5 5 6 5 6 6 6 6 6	14,180 14,161 14,138 14,122 14,103 14,089 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,330 Plug to Plug Frac Plug	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 19 19 19 19 103 13,443	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,224 13,200 13,186 13,167 13,187 13,188 Plug to Plug Frac Plug Stage 35	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 142 13,280 Distance Between Perfs	6 6 6 6 6 6 6 5 5 4 4 Total Shots Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,836 13,817 13,778 13,762 Plug to Plug Frac Plug Stage 31	19 19 19 20 18 22 18 22 156 14,687 Distance Between Perfs 20 19 19 20 16 154 13,902 Distance Between Perfs 20 19 19 19 10 10 11 10 11 11 11 11 11 11 11 11 11	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,449 14,300 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,959 12,937	16 16 19 19 19 10 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 Distance Between Perfs 20 21 18	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,567 13,561 13,590 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789	17 22 19 19 19 19 19 19 156 14,364 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 25 21 21 20 21 20 21 20 21 20 20 21 20 21 20 21 20 21 20 21 20 21 20 21 20 21 20 20 21 21 20 20 21 20 21 20 20 21 21 20 20 21 20 21 20 20 21 20 20 21 20 20 21 20 20 21 20 20 21 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,180 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,330 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,632	23 16 19 19 15 153 14,208 Distance Between Perfs 20 15 15 16 17 19 19 19 19 183 13,443 Distance Between Perfs 20 21 21 21 21 21 22 21 22 23 24 25 26 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 44 Total Shots Shots 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 16 24 14 19 19 142 13,280 Distance Between Perfs 25 6 16 19	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,817 13,762 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,071 13,090 13,071 13,052 13,052 13,032	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 16 154 13,902 Distance Between Perfs 20 19 19 16 154 13,902	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,449 14,430 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,664 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,899 12,899	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 Distance Between Perfs 22 18 20 22 18 20 19	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,567 13,561 13,590 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,766	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 21 21 20 21 21 20 21 21 20 20 21 21 20 20 21 21 20 21 21 20 20 21 21 20 20 21 21 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 6 6 6 6 6 6 5 5 6 5 6 6 6 6 6 6 6	14,180 14,161 14,161 14,163 14,163 14,103 14,064 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,610 12,676	23 16 19 19 10 15 153 14,208 Distance Between Perfs 20 15 15 15 19 19 19 19 21 183 13,443 Distance Between Perfs 20 19 21 19 22 16 16 23	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,230 13,235 13,240 13,224 13,240 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,442	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 10 24 14 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,561 14,561 14,561 14,563 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,000 13,071 13,052 13,052 13,032 13,014	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 16 154 13,992 Distance Between Perfs 20 19 19 20 19 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 6 6 6 6 6 6 6 5 5 5 5 5 5 5	14,479 14,493 14,493 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,959 12,937 12,959 12,880 12,880	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 18 20 19	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,581 13,593 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 Plug to Plug 12,766 12,747 12,776	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 21 21 20 20 21 21 20 20 21 20 20 21 20 20 20 21 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,161 14,138 14,122 14,103 14,089 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,654 12,654 12,578 12,578	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 10 163 13,443 Distance Between Perfs 20 16 16 16	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,225 13,240 13,224 13,200 13,188 13,167 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,402	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 24 13,280 Distance Between Perfs 10 11 11 12 13 14 15 16 16 19 19 19 19 19 19	6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,543 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,090 13,090 13,071 13,052 13,032 13,014 12,993	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 20 16 154 13,902 Distance Between Perfs 20 19 10 11 154 13,902	6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,738 13,721 13,702 13,683 13,625 13,625 13,625 13,625 12,973 12,919 12,939 12,939 12,939 12,880 12,861 12,847	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19	6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,530 13,511 13,492 13,473 14,433 Plug to Plug Frac Plug Stage 33	17 22 19 19 19 19 19 156 14,364 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 16 17 19 20 19 20 19 19 20 19 19	6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,330 13,300 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,678 12,555 12,557	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 10 163 13,443 Distance Between Perfs 20 16 16 21 19 22 16 16 23 18	6 6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,422 12,385	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 25 16 19 19 19 20 17	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,817 13,762 13,762 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,000 13,071 13,052 13,014 12,993 Plug to Plug	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 16 154 13,902 Distance Between Perfs 20 19 19 20 19 16 154 13,902	6 6 5 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,449 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,722 13,683 13,664 13,645 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,937 12,999 12,880 12,880 12,887 Plug to Plug	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 19 19 19 19 19 10 18 151 13,148	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,286 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,551 13,567 13,551 13,453 13,453 19,100 Prac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,777 12,708 12,689 Plug to Plug	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 21 19 20 19 20 154 13,597	6 6 6 6 6 6 6 6 5 5 6 5 6 5 6 6 6 6 6 6	14,180 14,161 14,163 14,163 14,103 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,632 12,610 12,694 12,678 12,555 12,537 Plug to Plug	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 16 21 19 19 19 21 19 22 16 16 23 18	6 6 6 5 5 5 5 6 6 6 6 6 6 5 5 5 5 6	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,220 13,225 13,240 13,224 13,220 13,186 13,167 13,148 Plug to Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,485 Plug to Plug	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20 17	6 6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,543 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,090 13,090 13,071 13,052 13,032 13,014 12,993	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 20 16 154 13,902 Distance Between Perfs 20 19 10 11 154 13,902	6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,738 13,721 13,702 13,683 13,625 13,625 13,625 13,625 12,973 12,919 12,939 12,939 12,939 12,880 12,861 12,847	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19	6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,530 13,511 13,492 13,473 14,433 Plug to Plug Frac Plug Stage 33	17 22 19 19 19 19 19 156 14,364 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 16 17 19 20 19 20 19 19 20 19 19	6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5	14,180 14,161 14,161 14,138 14,122 14,103 14,084 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,330 13,300 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,678 12,555 12,557	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 10 163 13,443 Distance Between Perfs 20 16 16 21 19 22 16 16 23 18	6 6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,422 12,385	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 25 16 19 19 19 20 17	6 6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,817 13,762 13,762 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,000 13,071 13,052 13,014 12,993 Plug to Plug	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 16 154 13,902 Distance Between Perfs 20 21 21 21 21 25 21 25 26 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 5 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,449 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,722 13,683 13,664 13,645 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,937 12,999 12,880 12,880 12,887 Plug to Plug	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 Distance Between Perfs 22 18 20 22 18 20 19 19 19 19 10 18 20 18 20 18 20 19 19 19 19 10 18 20 18 20 18 20 18 20 18 20 18 20 18 20 19 19 19 19 19 19	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,286 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,551 13,567 13,551 13,453 13,453 19,100 Prac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,777 12,708 12,689 Plug to Plug	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 16 21 19 20 154 13,597	6 6 6 6 6 6 6 6 5 5 6 5 6 5 6 6 6 6 6 6	14,180 14,161 14,163 14,163 14,103 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,632 12,610 12,694 12,678 12,555 12,537 Plug to Plug	23 16 19 19 10 15 153 14,208 Distance Between Perfs 20 15 15 21 19 19 19 21 183 13,443 Distance Between Perfs 20 16 16 21 19 19 19 183 18 18 157 12,679	6 6 6 5 5 5 5 6 6 6 6 6 6 5 5 5 5 6	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,220 13,225 13,240 13,224 13,220 13,186 13,167 13,148 Plug to Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,485 Plug to Plug	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 24 13,280 Distance Between Perfs 25 16 19 19 27 17 147 12,522	6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,817 13,762 13,762 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,000 13,071 13,052 13,014 12,993 Plug to Plug	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 16 154 13,902 Distance Between Perfs 20 19 19 20 19 16 154 13,902	6 6 5 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,449 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,722 13,683 13,664 13,645 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,937 12,999 12,880 12,880 12,887 Plug to Plug	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 19 19 19 19 19 10 18 151 13,148	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,286 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,551 13,567 13,551 13,453 13,453 19,100 Prac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,777 12,708 12,689 Plug to Plug	17 22 19 19 19 19 19 158 14,384 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 21 19 20 19 20 154 13,597	6 6 6 6 6 6 6 6 5 5 6 5 6 5 6 6 6 6 6 6	14,180 14,161 14,163 14,163 14,103 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,632 12,610 12,694 12,678 12,555 12,537 Plug to Plug	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 16 21 19 19 19 21 19 22 16 16 23 18	6 6 6 5 5 5 5 6 6 6 6 6 6 5 5 5 5 6	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,220 13,225 13,240 13,224 13,220 13,186 13,167 13,148 Plug to Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,485 Plug to Plug	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20 17	6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,561 14,561 14,561 14,563 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,009 13,071 13,052 13,032 13,014 12,993 Plug to Plug Frac Plug Stage 36	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 10 16 154 13,902 Distance Between Perfs 20 21 21 21 21 25 21 25 26 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,493 14,493 14,497 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,969 12,937 12,919 12,899 12,880 12,861 12,861 12,861 12,861 Plug to Plug Frac Plug	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19 20 18 20 151 13,748	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,581 13,582 13,587 13,651 13,580 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,727 12,726 12,689 Plug to Plug Frac Plug	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 20 15 15 23 19 20 19 20 19 20 Distance Between Perfs	6 6 6 5 5 5 5 6 6 6 6 6 5 5 5 5 5 5 44 Total Shots	14,180 14,161 14,161 14,163 14,103 14,108 14,108 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,330 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,651 12,654 12,655 12,537 Plug to Plug Frac Plug Stage 39	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 21 19 19 19 22 16 16 16 23 18 18 157 12,679	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,225 13,240 13,188 13,167 13,188 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,402 12,335 Plug to Plug Frac Plug Stage 40	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 142 13,280 Distance Between Perfs 25 16 19 19 19 20 17 147 12,522	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,875 13,836 13,817 13,778 13,778 13,778 13,778 2Plug to Plug Frac Plug Stage 31 13,128 13,109 13,090 13,071 13,052 13,032 13,014 12,993 Plug to Plug Frac Plug Stage 36 12,360	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 20 19 19 20 16 154 13,902 Distance Between Perfs 20 19 10 155 13,138	6 6 5 5 5 5 44 Total Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,959 12,937 12,919 12,880 12,881 12,847 Plug to Plug Frac Plug Stage 37	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19 19 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,315 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,581 13,591 13,591 13,473 13,453 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,776 12,768 12,689 Plug to Plug Frac Plug Stage 38 12,049	17 22 19 19 19 19 19 156 14,364 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 16 21 19 20 154 13,597	6 6 6 5 5 5 5 44 Total Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,180 14,161 14,161 14,163 14,163 14,103 14,069 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,379 13,358 13,399 13,320 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,657 Plug to Plug Frac Plug Stage 39 11,907	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 19 21 19 19 16 23 13,443 Distance Between Perfs 20 15 21 21 21 21 21 21 22 23 23 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 44 Total Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,989 13,986 13,980 13,981 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,225 13,240 13,224 13,200 13,186 13,187 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,335 Plug to Plug Frac Plug Stage 40 Stage 40 11,762	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 24 13,280 Distance Between Perfs 24 14 17 19 19 20 17 147 12,522	6 6 6 5 5 5 5 44 Total Shots Shots Shots Shots Shots Shots Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,561 14,561 14,561 14,563 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,009 13,071 13,052 13,032 13,014 12,993 Plug to Plug Frac Plug Stage 36	19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 10 16 154 13,902 Distance Between Perfs 20 21 21 21 21 25 21 25 26 27 28 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,493 14,493 14,497 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,969 12,937 12,919 12,899 12,880 12,861 12,861 12,861 12,861 Plug to Plug Frac Plug	16 16 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19 20 18 20 151 13,748	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,581 13,582 13,587 13,651 13,580 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,727 12,726 12,689 Plug to Plug Frac Plug	17 22 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 20 15 15 23 19 20 19 20 19 20 Distance Between Perfs	6 6 6 5 5 5 5 6 6 6 6 6 5 5 5 5 5 5 44 Total Shots	14,180 14,161 14,161 14,163 14,103 14,108 14,108 14,089 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,330 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,651 12,654 12,655 12,537 Plug to Plug Frac Plug Stage 39	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 21 19 19 19 22 16 16 16 23 18 18 157 12,679	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,225 13,240 13,188 13,167 13,188 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,402 12,335 Plug to Plug Frac Plug Stage 40	19 23 16 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 142 13,280 Distance Between Perfs 25 16 19 19 19 20 17 147 12,522	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 5 5 5 5 5
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,874 13,762 Plug to Plug Frac Plug Stage 31 13,762 13,762 13,762 13,762 13,762 13,762 13,762 13,762 13,762 13,776 13,762 13,762 13,779 13,786 13,762 13,779 13,789 13,789 13,797 13,789 13,792 13,792 13,792 13,793 13,794 13,109 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,071 13,090 13,090 13,071 13,090 13,00	19 19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 20 18 413,902 Distance Between Perfs 20 19 19 20 18 154 13,902 Distance Between Perfs 20 19 19 20 18 21 Distance Between Perfs 20 19 19 20 18 21 155 13,138	6 6 6 5 5 5 5 6 6 6 6 6 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,497 14,428 14,490 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,665 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,959 12,297 12,919 12,890 12,880 12,861 12,847 Plug to Plug Frac Plug Stage 37 12,210 12,119 12,173 12,119 12,173 12,119	16 16 17 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,551 13,530 13,511 13,492 13,473 19,191 Stage 33 12,822 12,804 12,789 12,789 12,786 12,747 12,727 12,708 12,689 Plug to Plug Frac Plug Stage 38 12,049 12,035 12,017 12,001	17 22 19 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 19 20 154 21 25 25 25 27 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 444 Total Shots Shots Shots Shots Shots Shots Shots Shots Shots General Shots General Shots General Shots	14,180 14,161 14,161 14,163 14,163 14,103 14,069 14,069 Plug to Plug Frac Plug Stage 29 13,343 13,409 13,394 13,379 13,358 13,339 13,320 13,331 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,610 12,658 12,655 12,657 Plug to Plug Frac Plug Stage 34 11,688 11,886 11,888	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 19 21 16 23 13,443 Distance Between Perfs 20 15 21 21 21 21 21 22 26 23 28 28 29 20 20 20 20 20 20 20	6 6 6 5 5 5 5 44 Total Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,999 13,966 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,480 12,441 12,422 12,422 12,385 Plug to Plug Frac Plug Stage 40 11,752 11,734 11,734 11,755	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 24 13,280 Distance Between Perfs 24 14 17 12,522 Distance Between Perfs 20 20 20 20 19 19	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,865 13,817 13,762 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,000 13,071 13,052 13,014 12,993 Plug to Plug Frac Plug Stage 36 12,345 12,329 12,346 12,329 12,346 12,327 12,288	19 19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 16 154 13,992 Distance Between Perfs 20 19 19 20 19 154 13,138 Distance Between Perfs 21 155 13,138	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,722 13,683 13,664 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,890 12,801 12,847 Plug to Plug Frac Plug Stage 37	16 16 17 19 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,286 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,561 13,597 13,551 13,591 13,453 Plug to Plug Frac Plug Stage 33 12,12 12,708 12,766 12,747 12,727 12,708 12,689 Plug to Plug Frac Plug Stage 38 12,049 12,049 12,049 12,035 12,017 11,982	17 22 19 19 19 19 19 19 158 14,364 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 19 20 15 23 19 20 19 19 19 153 12,832	6 6 6 6 6 6 6 6 5 5 5 5 6 44 Total Shots	14,180 14,161 14,161 14,161 14,163 14,162 14,103 14,069 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,399 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,632 12,610 12,594 12,678 12,555 12,537 Plug to Plug Frac Plug Stage 39 11,907 11,886 11,888 11,888 11,848 11,829	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 21 18 20 18 157 12,679 Distance Between Perfs 20 21 21 21 22 23 24 25 26 27 27 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,998 13,998 13,998 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,256 13,240 13,224 13,200 13,188 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,492 12,449 12,442 12,422 12,402 12,345 Plug to Plug Frac Plug Stage 40 Stage 40 11,752 11,734 11,714 11,695 11,676	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20 17 147 12,522 Distance Between Perfs 20 20 19 19 22	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,561 14,561 14,561 14,561 14,563 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 Plug to Plug Frac Plug Stage 31 13,128 13,109 13,032 13,014 12,993 Plug to Plug Frac Plug Stage 36 12,360 12,360 12,360 12,360 12,360 12,360 12,307 12,288	19 19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 16 154 13,902 Distance Between Perfs 20 20 19 21 155 154 21 21 25 155 13,138	6 6 6 5 5 5 6 6 6 6 5 5 5 5 6 6 6 6 6 6	14,479 14,493 14,493 14,497 14,498 14,499 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,731 13,702 13,693 13,684 13,645 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,890 12,881 12,847 Plug to Plug Frac Plug Stage 37	16 16 19 19 19 19 16 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19 20 18 20 22 18 20 24 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,582 13,587 13,581 13,582 13,587 13,651 13,580 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,727 12,706 12,889 Plug to Plug Frac Plug Stage 38 12,049 12,049 12,049 12,049 12,001 11,982 11,982 11,983	17 22 19 19 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 20 19 20 19 20 19 20 19 20 19 20 21 21 22 23 23 24 25 26 27 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 44 Total Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,180 14,161 14,161 14,163 14,163 14,103 14,069 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,676 12,555 12,537 Plug to Plug Frac Plug Stage 39 11,907 11,886 11,888 11,888 11,888 11,888	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 21 19 19 19 21 18 21 19 19 22 16 16 23 18 15 21 19 22 16 26 27 28 20 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,255 13,240 13,255 13,240 13,188 13,167 13,188 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,492 12,385 Plug to Plug Frac Plug Stage 40 Stage 40 11,752 11,734 11,795 11,676 11,654	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20 17 147 12,522 Distance Between Perfs 20 20 20 19 19 19 22 16	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 14,521 Plug to Plug Frac Plug Stage 31 Stage 31 Stage 31 13,128 13,109 13,090 13,071 13,052 13,032 13,014 12,993 Plug to Plug Frac Plug Stage 36 12,345 12,345 12,345 12,329 12,307 12,288 12,289 12,280	19 19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 16 154 13,992 Distance Between Perfs 20 19 19 20 19 154 13,138 Distance Between Perfs 21 155 13,138	6 6 6 5 5 5 5 44 Total Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,497 14,428 14,490 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,625 13,625 13,625 13,625 12,917 12,919 12,899 12,880 12,881 12,847 Plug to Plug Frac Plug Stage 37 12,919 12,899 12,880 12,861 12,847 Plug to Plug Frac Plug Stage 37	16 16 17 19 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,530 13,511 13,492 13,473 14,218 Plug to Plug Frac Plug Stage 33 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,035 12,049 12,035 11,939 11,939	17 22 19 19 19 19 19 19 158 14,364 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 19 20 15 23 19 20 19 19 19 153 12,832	6 6 6 5 5 5 5 44 Total Shots	14,180 14,161 14,161 14,163 14,163 14,103 14,069 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,330 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,651 12,652 12,678 12,578 Plug to Plug Frac Plug Stage 39 11,907 11,886 11,848 11,829 11,810 11,791	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 21 19 19 19 21 18 20 18 157 12,679 Distance Between Perfs 20 21 21 21 22 23 24 25 26 27 27 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 6 6 6 6 6 6 6 6 5 5 6 5 5 6	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,425 12,495 12,479 12,480 12,411 12,422 11,734 11,734 11,734 11,752 11,734 11,734 11,695 11,676 11,654 11,638	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20 17 147 12,522 Distance Between Perfs 20 20 19 19 22	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,674 13,855 13,836 13,817 13,762 Plug to Plug Frac Plug Stage 31 Stage 32 Stage 36	19 19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 16 154 13,902 Distance Between Perfs 20 20 19 21 155 154 21 21 25 155 13,138	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,479 14,483 14,447 14,428 14,497 14,493 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,607 Plug to Plug Frac Plug Stage 32 12,973 12,999 12,830 12,847 Plug to Plug Frac Plug Stage 37 12,819 12,829 12,837 12,847 Plug to Plug Frac Plug Stage 37	16 16 19 19 19 19 16 16 147 14,511 Distance Between Perfs 24 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 19 20 18 20 22 18 20 24 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,266 14,237 14,286 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,567 13,561 13,530 13,511 13,492 13,473 13,453 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,766 12,747 12,727 12,708 12,689 Plug to Plug Frac Plug Stage 33 12,049 12,035 12,017 12,001 11,982 11,993 11,993 11,993 11,997	17 22 19 19 19 19 19 19 19 156 14,384 Distance Between Perfs 25 16 21 19 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 20 19 20 19 20 19 20 19 20 19 20 21 21 22 23 23 24 25 26 27 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 44 Total Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,180 14,161 14,161 14,163 14,163 14,103 14,084 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,320 13,301 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,632 12,610 12,578 12,557 Plug to Plug Frac Plug Stage 39 11,907 11,886 11,868 11,868 11,868 11,868 11,868 11,868 11,868 11,868 11,868 11,868 11,868 11,868 11,879 11,772	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 21 19 19 19 21 18 21 19 19 22 16 16 23 18 15 21 19 22 16 26 27 28 20 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	14,027 14,008 13,989 13,986 13,980 13,981 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,480 12,441 12,422 12,425 12,425 Plug to Plug Frac Plug Stage 40 11,752 11,734 11,714 11,695 11,676 11,654 11,654 11,658 11,622	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 19 24 13,280 Distance Between Perfs 25 16 19 19 20 17 147 12,522 Distance Between Perfs 20 20 20 19 19 19 22 16	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
From Bottom to Top	14,638 14,619 14,600 14,581 14,561 14,561 14,543 14,521 Plug to Plug Frac Plug Stage 26 13,892 13,874 13,855 13,836 13,817 13,778 13,778 13,778 13,778 13,782 14,521 Plug to Plug Frac Plug Stage 31 Stage 31 Stage 31 13,128 13,109 13,090 13,071 13,052 13,032 13,014 12,993 Plug to Plug Frac Plug Stage 36 12,345 12,345 12,345 12,329 12,307 12,288 12,289 12,280	19 19 19 19 20 18 22 156 14,687 Distance Between Perfs 20 19 19 20 19 19 16 154 13,992 Distance Between Perfs 20 19 19 20 155 15,138 Distance Between Perfs 21 22 155 13,138	6 6 6 5 5 5 5 44 Total Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,479 14,483 14,447 14,428 14,497 14,428 14,490 14,390 14,374 Plug to Plug Frac Plug Stage 27 13,738 13,721 13,702 13,683 13,625 13,625 13,625 13,625 13,625 12,917 12,919 12,899 12,880 12,881 12,847 Plug to Plug Frac Plug Stage 37 12,919 12,899 12,880 12,861 12,847 Plug to Plug Frac Plug Stage 37	16 16 17 19 19 19 19 19 16 147 14,511 Distance Between Perfs 24 19 19 19 20 18 151 13,748 Distance Between Perfs 20 22 18 20 19 19 14 151 12,983	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	14,333 14,316 14,294 14,275 14,265 14,237 14,218 Plug to Plug Frac Plug Stage 28 13,582 13,587 13,551 13,530 13,511 13,492 13,473 14,218 Plug to Plug Frac Plug Stage 33 Plug to Plug Frac Plug Stage 33 12,822 12,804 12,789 12,035 12,049 12,035 11,939 11,939	17 22 19 19 19 19 19 19 158 14,364 Distance Between Perfs 25 16 21 10 19 20 154 13,597 Distance Between Perfs 25 15 23 19 20 19 19 20 19 19 20 19 19 20 19 19 20 19 19 20 19 19 20 19 20 19 19 20 19 20 19 20 19 20 19 20 19 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 444 Total Shots	14,180 14,161 14,161 14,163 14,163 14,103 14,069 14,069 Plug to Plug Frac Plug Stage 29 13,433 13,409 13,394 13,379 13,358 13,339 13,320 13,330 Plug to Plug Frac Plug Stage 34 12,669 12,651 12,652 12,651 12,652 12,678 12,578 Plug to Plug Frac Plug Stage 39 11,907 11,886 11,848 11,829 11,810 11,791	23 16 19 19 19 15 153 14,208 Distance Between Perfs 20 15 15 16 21 19 19 19 21 18 20 18 23 18 157 12,679 Distance Between Perfs 20 19 21 10 10 21 21 21 21 20 21 21 21 22 23 24 25 26 27 28 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14,027 14,008 13,999 13,996 13,990 13,991 13,912 Plug to Plug Frac Plug Stage 30 13,270 13,285 13,240 13,224 13,200 13,186 13,167 13,148 Plug to Plug Frac Plug Stage 35 12,512 12,495 12,479 12,460 12,441 12,422 12,425 12,495 12,479 12,480 12,411 12,422 11,734 11,734 11,734 11,752 11,734 11,734 11,695 11,676 11,654 11,638	19 23 16 19 19 19 153 14,055 Distance Between Perfs 31 15 16 24 14 19 19 20 17 147 12,522 Distance Between Perfs 20 20 19 19 22 16 16 16	6 6 6 5 5 5 5 44 Total Shots Shots Shots 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6

- ROAD RUNNER FEDERAL COM 12H

,	Stage 41	Distance Between Perfs	Shots	Stage 42	Distance Between Perfs	Shots	Stage 43	Distance Between Perfs	Shots	Stage 44	Distance Between Perfs	Shots	Stage 45	Distance Between Perfs	Shots
1 1	11,597	25	6	11,445	25	6	11,293	20	6	11,132	28	6	10,988	20	6
	11,581	19	6	11,428	18	6	11,275	19	6	11,117	14	6	10,969	19	6
From Bottom	11,562	20	6	11,410	20	6	11,256	24	6	11,103	19	6	10,950	19	6
to Top	11,542	19	6	11,390	20	6	11,232	16	6	11,084	22	6	10,931	19	6
to rop	11,523	19	5	11,370	19	5	11,216	15	5	11,062	16	5	10,912	21	5
1	11,504	19	5	11,351	19	5	11,201	22	5	11,046	17	5	10,891	17	5
	11,485	15	5	11,332	19	5	11,179	19	5	11,029	21	5	10,874	16	5
1	11,470		5	11,313		5	11,160		5	11,008		5	10,858		5
	Plug to Plug	147	44	Plug to Plug	157	44	Plug to Plug	161	44	Plug to Plug	144	44	Plug to Plug	155	44
	Frac Plug	11,607	Total Shots	Frac Plug	11,460	Total Shots	Frac Plug	11,303	Total Shots	Frac Plug	11,142	Total Shots	Frac Plug	10,998	Total Shots
	Stage 46	Distance Between Perfs	Shots	Stage 47	Distance Between Perfs	Shots	Stage 48	Distance Between Perfs	Shots	Stage 49	Distance Between Perfs	Shots	Stage 50	Distance Between Perfs	Shots
	10,833	25	6	10,677	25	6	10,528	20	6	10,367	29	6	10,223	20	6
F	10,816	19	6	10,661	16	6	10,509	18	6	10,358	20	6	10,205	19	6
From Bottom	10,797	19	6	10,645	20	6	10,491	24	6	10,338	19	6	10,186	19	6
to Top	10,778	19	6	10,625	19	6	10,467	14	6	10,319	24	6	10,167	20	6
	10,759	19	5	10,606	19	5	10,453	17	5	10,295	14	5	10,147	19	5
	10,740	20	5	10,587	19	5	10,436	21	5	10,281	18	5	10,128	19	5
	10,720	18	5	10,568	20	5	10,415	19	5	10,263	20	5	10,109	14	5
	10,702		5	10,548		5	10,396		5	10,243		5	10,095		5
	Plug to Plug	151	44	Plug to Plug	154	44	Plug to Plug	161	44	Plug to Plug	144	44	Plug to Plug	153	44
	Frac Plug	10,843	Total Shots	Frac Plug	10,692	Total Shots	Frac Plug	10,538	Total Shots	Frac Plug	10,377	Total Shots	Frac Plug	10,233	Total Shots
	Stage 51	Distance Between Perfs	Shots	Stage 52	Distance Between Perfs	Shots	Stage 53	Distance Between Perfs	Shots	Stage 54	Distance Between Perfs	Shots	Stage 55	Distance Between Perfs	Shots
1	10,070	25	6	9,918	26	6	9,765	19	6	9,607	20	6	9,458	25	6
From	10,053	20	6	9,899	23	6	9,746	19	6	9,593	19	6	9,440	15	6
Bottom	10,033	18	6	9,876	15	6	9,727	19	6	9,574	19	6	9,425	23	6
to Top	9,995	20	6	9,861 9,841	18	5	9,708	19	6	9,555 9,536	19 19	5	9,402 9,383	19	6
	9,975	19	5	9,823	20	5	9,667	16	5	9,517	19	5	9,364	19	5
	9,975	12	5	9,803	19	5	9,651	24	5	9,517	15	5	9,345	19	5
1	9,944	12	5	9,784	19	5	9,627	24	5	9,483	15	5	9,326	19	5
		146	44	Plug to Plug	159	44	Plug to Plug	158	44	Plug to Plug	144	44	Plug to Plug	157	44
	Plug to Plug Frac Plug	10,080	Total Shots	Frac Plug	9,934	Total Shots	Frac Plug	9,775	Total Shots	Frac Plug	9,617	Total Shots	Frac Plug	9,473	Total Shots
	Stage 56	Distance Between Perfs	Shots	Stage 57	Distance Between Perfs	Shots	Stage 58	Distance Between Perfs	Shots	Stage 59	Distance Between Perfs	Shots	Stage 60	Distance Between Perfs	Shots
1	9,306	20	6	9,146	27	6	8,994	26	6	8,848	19	6	8,688	26	6
	9,287	19	6	9,135	20	6	8,982	19	6	8,826	16	6	8,676	19	6
From	9,268	21	6	9,115	19	6	8,963	19	6	8,810	17	6	8,657	19	6
Bottom to Top	9,247	17	6	9,096	21	6	8,944	20	6	8,793	21	6	8,638	20	6
10 lob	9,230	17	5	9,075	17	5	8,924	19	5	8,772	20	6	8,618	18	5
1	9,213	21	5	9,058	23	5	8,905	19	5	8,752	19	5	8,600	16	5
	9,192	19	5	9,035	15	5	8,886	19	5	8,733	19	5	8,584	23	5
	9,173		5	9,020		5	8,867	-	5	8,714		5	8,561		5
	Plug to Plug	160	44	Plug to Plug	146	44	Plug to Plug	152	44	Plug to Plug	160	44	Plug to Plug	147	44
	Frac Plug	9,316	Total Shots	Frac Plug	9,156	Total Shots	Frac Plug	9,010	Total Shots	Frac Plug	8,858	Total Shots	Frac Plug	8,698	Total Shots
	Stage 61	Distance Between Perfs	Shots	Stage 62	Distance Between Perfs	Shots	Stage 63	Distance Between Perfs	Shots	Stage 64	Distance Between Perfs	Shots	Stage 65	Distance Between Perfs	Shots
1	8,541	20	6	8,389	25	6	8,231	25	6	8,083	20	6		7950	
From	8,523	19	6	8,370	19	6	8,217	19	6	8,060	15	6			EXAMPLE (SERVICE)
Bottom	8,504	19	6	8,351	19	6	8,198	19	6	8,045	18	6			
to Top	8,485	19	6	8,332	19	6	8,179	19	6	8,027	20	6			
10.00	8,466	23	5	8,313	19	5	8,160	19	5	8,007	19	5			
	8,443	15	5	8,294	19	5	8,141	19	5	7,988	19	5			Charles Inc.
	8,428	14	5	8,275	19	5	8,122	19	- 5	7,969	19	5			
	8,414		5	8,256		5	8,103		5	7,950		5			
	Plug to Plug	152	44	Plug to Plug	153	44	Plug to Plug	153	44	Plug to Plug	1328	44	Plug to Plug	6765	0
	Frac Plug	8,551	Total Shots	Frac Plug	8,399	Total Shots	Frac Plug	8,246	Total Shots	Frac Plug	8,093	Total Shots	Frac Plug	6,765	Total Shots

Form 3160-5 (June 2015)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB NO. 1004-0137 Expires: January 31, 2018

RI	JREAU OF LAND MANA	GEMENT				inuary 31, 2018			
	NOTICES AND REPO		ELLS		5. Lease Serial No. NMNM112907				
Do not use thi	s form for proposals to II. Use form 3160-3 (API	drill or to re	-enter an		6. If Indian, Allottee o	r Tribe Name			
SUBMIT IN T	TRIPLICATE - Other inst	tructions on	page 2		7. If Unit or CA/Agree	ement, Name and/or No.			
Type of Well	er				8. Well Name and No. ROAD RUNNER I	FEDERAL COM 12H			
2. Name of Operator		STORMI DA	VIS		9. API Well No.				
COG OPERATING LLC	E-Mail: sdavis@co				30-015-44148				
3a. Address 2208 WEST MAIN ARTESIA, NM 88210		3b. Phone No Ph: 575-74	o. (include area 18-6946	code)	10. Field and Pool or I	Exploratory Area D DRAW; BONE SPR			
4. Location of Well (Footage, Sec., T.	, R., M., or Survey Description)			11. County or Parish,	State			
Sec 25 T25S R26E Mer NMP	SWSE 210FSL 1995FEL				EDDY COUNTY	′, NM			
12. CHECK THE AF	PPROPRIATE BOX(ES)	TO INDICA	TE NATUR	E OF NOTIC	E, REPORT, OR OTH	IER DATA			
TYPE OF SUBMISSION			TYP	E OF ACTION					
C Nation of Latest	☐ Acidize	☐ Dee	epen	☐ Produ	action (Start/Resume)	☐ Water Shut-Off			
☐ Notice of Intent	☐ Alter Casing	□ Нус	Iraulic Fractu	ring Recla	mation	☐ Well Integrity			
Subsequent Report	☐ Casing Repair	□ Nev	v Construction	n Recor	mplete	Other			
☐ Final Abandonment Notice	☐ Change Plans	□ Plug	g and Abando	n 🗖 Temp	orarily Abandon				
	☐ Convert to Injection ☐ Plug Back ☐ Water Disposal								
13. Describe Proposed or Completed Ope If the proposal is to deepen directions Attach the Bond under which the wor following completion of the involved testing has been completed. Final Ab determined that the site is ready for fi	ally or recomplete horizontally, k will be performed or provide operations. If the operation re- andonment Notices must be fil	give subsurface the Bond No. o sults in a multip	locations and r n file with BLM le completion o	neasured and true I/BIA. Required r recompletion in	vertical depths of all pertin subsequent reports must be a new interval, a Form 316	ent markers and zones. filed within 30 days 0-4 must be filed once			
9/19/17 Set CBP @ 17785' an Injection test.	nd test csg to 8540# for 3	0 mins. Goo	d test. Perf	17750-17760'	(60).				
11/7/17 to 11/29/17 Perf 7950 20,002,374 gal fluid.	0-17698' (2816). Acdz w/	190,974 gal	7 1/2%; frac	w/19,990,523#	# sand &				
12/6/17 to 12/8/17 Drilled out	CFP's. Clean down to C	BP @ 17785	'.		RVATION				
12/9/17 Set 2 7/8" 6.5# J-55 t	bg @ 7372' & pkr @ 736	3'. Installed	gas-lift syste						
12/21/17 Began flowing back	& testing.				JAN Z Z Z	010			
					RECEIVE	D			
14. I hereby certify that the foregoing is	Electronic Submission #	401467 verifie PERATING L	d by the BLM .C, sent to ti	l Well Informati ne Carlsbad	ion System				
Name (Printed/Typed) STORMI	DAVIS		Title PR	EPARER					
Signature (Electronic S	submission)		Date 01/	18/2018					
	THIS SPACE FO	OR FEDERA	AL OR STA	TE OFFICE	USE				
				Pending BLI	M approvals will	•			
Approved By			Title	_	iently be reviewed				
Conditions of approval, if any, are attached certify that the applicant holds legal or equivalent would entitle the applicant to condu	itable title to those rights in the		Office	and scanne	d				
Title 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent s				130	1-26-18	United			