

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-104
Revised August 1, 2011

OCT 27 2017
Submit one copy to appropriate District Office

RECEIVED

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator Name and Address COG Production LLC 2208 W. Main Street Artesia, NM 88210		² OGRID Number 217955
		³ Reason for Filing Code/ Effective Date NW
⁴ API Number 30 - 025-43516	⁵ Pool Name WC-025 G-06 S253206M; Bone Spring	⁶ Pool Code 97899
⁷ Property Code 40143	⁸ Property Name Windward Federal	⁹ Well Number 7H

II. ¹⁰ Surface Location

Ul or lot no. C	Section 30	Township 24S	Range 32E	Lot Idn	Feet from the 210	North/South Line North	Feet from the 1850	East/West line West	County Lea
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¹¹ Bottom Hole Location

Ul or lot no. N	Section 31	Township 24S	Range 32E	Lot Idn	Feet from the 251	North/South Line South	Feet from the 2231	East/West line West	County Lea
¹² Lse Code F	¹³ Producing Method Code F	¹⁴ Gas Connection Date 8/31/17	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
	Alpha Crude Connector Pipeline	O
	Lucid Energy	G

IV. Well Completion Data

²¹ Spud Date 1/4/17	²² Ready Date 8/30/17	²³ TD 19126'	²⁴ PBTD 19050'	²⁵ Perforations 9372-19025'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17 1/2"	13 3/8"	800'	975		
12 1/4"	9 5/8"	4550'	1575		
8 3/4"	5 1/2"	19120'	3350		
	2 7/8"	8708'			

V. Well Test Data

³¹ Date New Oil 8/31/17	³² Gas Delivery Date 8/31/17	³³ Test Date 8/31/17	³⁴ Test Length 24 Hrs	³⁵ Tbg. Pressure 725#	³⁶ Csg. Pressure
³⁷ Choke Size 38/64"	³⁸ Oil 378	³⁹ Water 2743	⁴⁰ Gas 611		⁴¹ Test Method Flowing

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: 


Printed name:
Stormi Davis

Title:
Regulatory Analyst

E-mail Address:
sdavis@concho.com

Date:
10/17/17

Phone:
575-748-6946

OIL CONSERVATION DIVISION	
Approved by: 	
Title: Petroleum Engineer	
Approval Date: 11/02/17	

C-104 TEMPORARY APPROVAL pending receipt of approved BLM forms attached

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

2. Name of Operator COG PRODUCTION LLC **Contact:** STORMI DAVIS
E-Mail: sdavis@concho.com

3. Address 2208 WEST MAIN
ARTESIA, NM 88210 **3a. Phone No. (include area code)**
Ph: 575-748-6946

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
Sec 30 T24S R32E Mer NMP
At surface NENW 210FNL 1850FWL
At top prod interval reported below
Sec 31 T24S R32E Mer NMP
At total depth SESW 251FSL 2231FWL

5. Lease Serial No. NMNM120908
6. If Indian, Allottee or Tribe Name
7. Unit or CA Agreement Name and No.
8. Lease Name and Well No. WINDWARD FEDERAL 7H
9. API Well No. 30-025-43516
10. Field and Pool, or Exploratory WILDCAT; BONE SPRING
11. Sec., T., R., M., or Block and Survey or Area Sec 30 T24S R32E Mer NMP
12. County or Parish LEA **13. State** NM
14. Date Spudded 01/04/2017 **15. Date T.D. Reached** 01/28/2017 **16. Date Completed**
☐ D & A ☒ Ready to Prod. 08/30/2017
17. Elevations (DF, KB, RT, GL)* 3543 GL
18. Total Depth: MD 19126 TVD 9133 **19. Plug Back T.D.:** MD 19050 TVD 9133 **20. Depth Bridge Plug Set:** MD 19050 TVD 9133
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) NONE
22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J55	54.5	0	800		975		0	
12.250	9.625 L80	40.0	0	4550		1575		0	
8.750	5.500 P110	17.0	0	19120		3350		20	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	8708	8698						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	9372	19025	9372 TO 19025	0.430	2816	OPEN
B)						
C)						
D)						

26. Perforation Record

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
9372 TO 19025	SEE ATTACHED

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
08/31/2017	08/31/2017	24	→	378.0	611.0	2743.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
38/64	725		→	378	611	2743		POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #392302 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
LAMAR	4546	4572		RUSTLER	823
BELL CANYON	4573	5531		TOS	1059
CHERRY CANYON	5532	6803		BOS	4324
BRUSHY CANYON	6804	8458		LAMAR	4546
BONE SPRING LM	8459	9208		BELL CANYON	4573
				CHERRY CANYON	5532
				BRUSHY CANYON	6804
				BONE SPRING LM	8459

32. Additional remarks (include plugging procedure):
Surveys, perfs & stimulation are attached.

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #392302 Verified by the BLM Well Information System.
For COG PRODUCTION LLC, sent to the Hobbs

Name (please print) STORMI DAVIS Title PREPARER

Signature (Electronic Submission) Date 10/18/2017

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

5. Lease Serial No.
NMNM120908
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. WINDWARD FEDERAL 7H
2. Name of Operator COG PRODUCTION LLC		9. API Well No. 30-025-43516
3a. Address 2208 WEST MAIN ARTESIA, NM 88210		10. Field and Pool or Exploratory Area WILDCAT; BONE SPRING
3b. Phone No. (include area code) Ph: 575-748-6946		11. County or Parish, State LEA COUNTY, NM
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 30 T24S R32E Mer NMP NENW 210FNL 1850FWL		

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

2/28/17 to 3/6/17 Test csg to 8500# for 30 mins. Good test. Drilled out FC, FS and new formation to 19126'. Injection test.

5/4/17 to 7/24/17 Ran CBL. TOC @ 20'. Set CBP @ 19050'. Test to 8457#. Perf 9372-19025' (2816). Acdz w/96,524 gal 7 1/2% and 96,887 gal 15%; Frac w/19,223,490# sand & 24,155,173 gal fluid.

8/13/17 to 8/15/17 Drilled out CFP's. Clean down to CBP @ 19050'.

8/16/17 to 8/17/17 Set 2 7/8" 6.5# L-80 tbg @ 8708' & pkr @ 8698'. Installed gas-lift system.

8/30/17 Began flowing back & testing.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #392294 verified by the BLM Well Information System For COG PRODUCTION LLC, sent to the Hobbs	
Name (Printed/Typed) STORMI DAVIS	Title PREPARER
Signature (Electronic Submission)	Date 10/18/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office _____

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Additional data for EC transaction #392294 that would not fit on the form

32. Additional remarks, continued

8/31/17 Date of first production.

WINDWARD FEDERAL #7H

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>15% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	0	1512	304780	378210
2	1500	1512	303800	388068
3	3024	1512	302960	489342
4	1512	1512	305780	387450
5	1512	1512	304890	377118
6	1512	1554	306610	384174
7	1512	1500	260620	365892
8	1512	1512	304650	527100
9	1512	1512	280690	372288
10	1512	1512	301010	376866
11	1500	1500	303690	506958
12	1512	1500	300540	374166
13	1512	1512	301050	385014
14	1512	1512	300970	454734
15	1500	1512	300460	432252
16	1512	1512	302550	374976
17	1500	1512	302240	375594
18	1512	1500	302690	371100
19	1500	1512	300320	366606
20	1512	1512	307680	386316
21	1500	1512	300980	363960
22	1500	1596	298560	364548
23	1500	1512	300940	374838
24	1512	1512	300570	366618
25	1512	1512	301800	361998
26	1512	1512	301180	375858
27	1512	1512	300700	363678
28	1512	1512	301380	366534
29	1500	1512	309750	379164
30	1512	1512	305350	368424
31	1512	1512	304540	362964
32	1512	1512	300730	386358
33	1512	1512	301530	376992
34	1500	1512	300980	367782
35	1500	1512	299870	451362
36	1512	1512	302200	372834
37	1512	1512	304160	365442
38	1512	1512	299520	360612
39	1512	1512	300110	379302
40	1512	1512	301440	362376
41	1500	1512	301410	351108
42	1512	1512	301720	427476
43	1512	1512	301720	352968
44	1512	1512	300290	354102
45	1500	1554	300310	355224
46	1512	1512	301350	351456
47	1512	1512	300880	353346
48	1500	1512	286520	338592
49	1500	1512	300090	347837
50	1512	1512	300190	345954
51	1512	1512	301020	347550
52	1512	1512	299020	350532
53	1500	1512	303470	353964
54	1500	1512	301180	351906
55	1512	1512	301440	363804
56	1500	1512	271850	356064
57	1512	1512	300070	469560
58	1512	1512	303640	348852
59	1512	1512	297300	345282
60	1500	1512	303110	349050
61	1512	1512	300530	351204
62	1512	1512	303890	350784
63	1512	1512	301100	345450
64	1500	1512	307120	347244
Totals	96,524	96,887	19,223,490	24,155,173

	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots		
	From Bottom to Top	19,025	38	14	18,883	48	6	18,681	61	6		18,583	28		6	18,417		27	6		18,402	19
(19,987	38	12	18,847	11	6	18,668	13	6	18,553	19	6	18,454	19	6	18,383	19	6	18,334	19	6
		18,949	38	10	18,836	19	6	18,655	13	6	18,534	19	6	18,435	25	6	18,364	19	6	18,315	19	6
		18,911		8	18,817	19	6	18,622	13	6	18,515	25	6	18,416	13	5	18,345	19	5	18,296	19	5
					18,798	18	5	18,629	19	5	18,516	13	5	18,417	13	5	18,346	18	5	18,297	19	5
					18,780	19	5	18,616	13	5	18,503	12	5	18,404	20	5	18,335	11	5	18,286	19	5
					18,761	19	5	18,603	12	5	18,484	20	5	18,388	11	5	18,308	11	5	18,238	11	5
					18,742	19	5	18,591	12	5	18,464	20	5	18,365	11	5	18,297	11	5	18,227	11	5
					18,723	19	5	18,572	12	5	18,443	20	5	18,344	11	5	18,274	11	5	18,204	11	5
					18,704	19	5	18,553	12	5	18,424	20	5	18,325	11	5	18,255	11	5	18,185	11	5
					18,685	19	5	18,534	12	5	18,405	20	5	18,306	11	5	18,236	11	5	18,166	11	5
					18,666	19	5	18,515	12	5	18,386	20	5	18,287	11	5	18,217	11	5	18,147	11	5
					18,647	19	5	18,496	12	5	18,367	20	5	18,268	11	5	18,198	11	5	18,128	11	5
					18,628	19	5	18,477	12	5	18,348	20	5	18,249	11	5	18,179	11	5	18,109	11	5
					18,609	19	5	18,458	12	5	18,329	20	5	18,230	11	5	18,160	11	5	18,090	11	5
					18,590	19	5	18,439	12	5	18,310	20	5	18,211	11	5	18,141	11	5	18,071	11	5
					18,571	19	5	18,420	12	5	18,301	20	5	18,202	11	5	18,132	11	5	18,062	11	5
					18,552	19	5	18,401	12	5	18,282	20	5	18,183	11	5	18,113	11	5	18,043	11	5
					18,533	19	5	18,382	12	5	18,263	20	5	18,164	11	5	18,094	11	5	18,024	11	5
					18,514	19	5	18,363	12	5	18,244	20	5	18,145	11	5	18,075	11	5	18,005	11	5
					18,495	19	5	18,344	12	5	18,225	20	5	18,126	11	5	18,056	11	5	17,986	11	5
					18,476	19	5	18,325	12	5	18,206	20	5	18,107	11	5	18,037	11	5	17,967	11	5
					18,457	19	5	18,306	12	5	18,187	20	5	18,088	11	5	18,018	11	5	17,948	11	5
					18,438	19	5	18,287	12	5	18,168	20	5	18,069	11	5	18,000	11	5	17,930	11	5
					18,419	19	5	18,268	12	5	18,149	20	5	18,050	11	5	17,981	11	5	17,911	11	5
					18,400	19	5	18,249	12	5	18,130	20	5	18,031	11	5	17,962	11	5	17,892	11	5
					18,381	19	5	18,230	12	5	18,111	20	5	18,012	11	5	17,943	11	5	17,873	11	5
					18,362	19	5	18,211	12	5	18,092	20	5	18,003	11	5	17,934	11	5	17,864	11	5
					18,343	19	5	18,192	12	5	18,073	20	5	18,004	11	5	17,935	11	5	17,865	11	5
					18,324	19	5	18,173	12	5	18,054	20	5	18,005	11	5	17,936	11	5	17,866	11	5
					18,305	19	5	18,154	12	5	18,035	20	5	18,006	11	5	17,937	11	5	17,867	11	5
					18,286	19	5	18,135	12	5	18,016	20	5	18,007	11	5	17,938	11	5	17,868	11	5
					18,267	19	5	18,116	12	5	17,997	20	5	18,008	11	5	17,939	11	5	17,869	11	5
					18,248	19	5	18,097	12	5	17,978	20	5	18,009	11	5	17,940	11	5	17,870	11	5
					18,229	19	5	18,078	12	5	17,959	20	5	18,010	11	5	17,941	11	5	17,871	11	5
					18,210	19	5	18,059	12	5	17,940	20	5	18,011	11	5	17,942	11	5	17,872	11	5
					18,191	19	5	18,040	12	5	17,921	20	5	18,012	11	5	17,943	11	5	17,873	11	5
					18,172	19	5	18,021	12	5	17,902	20	5	18,013	11	5	17,944	11	5	17,874	11	5
					18,153	19	5	18,002	12	5	17,883	20	5	18,014	11	5	17,945	11	5	17,875	11	5
					18,134	19	5	17,983	12	5	17,864	20	5	18,015	11	5	17,946	11	5	17,876	11	5
					18,115	19	5	17,964	12	5	17,845	20	5	18,016	11	5	17,947	11	5	17,877	11	5
					18,096	19	5	17,945	12	5	17,826	20	5	18,017	11	5	17,948	11	5	17,878	11	5
					18,077	19	5	17,926	12	5	17,807	20	5	18,018	11	5	17,949	11	5	17,879	11	5
					18,058	19	5	17,907	12	5	17,788	20	5	18,019	11	5	17,950	11	5	17,880	11	5
					18,039	19	5	17,888	12	5	17,769	20	5	18,020	11	5	17,951	11	5	17,881	11	5
					18,020	19	5	17,869	12	5	17,750	20	5	18,021	11	5	17,952	11	5	17,882	11	5
					18,001	19	5	17,850	12	5	17,731	20	5	18,022	11	5	17,953	11	5	17,883	11	5
					17,982	19	5	17,831	12	5	17,712	20	5	18,023	11	5	17,954	11	5	17,884	11	5
					17,963	19	5	17,812	12	5	17,693	20	5	18,024	11	5	17,955	11	5	17,885	11	5
					17,944	19	5	17,793	12	5	17,674	20	5	18,025	11	5	17,956	11	5	17,886	11	5
					17,925	19	5	17,774	12	5	17,655	20	5	18,026	11	5	17,957	11	5	17,887	11	5
					17,906	19	5	17,755	12	5	17,636	20	5	18,027	11	5	17,958	11	5	17,888	11	5
					17,887	19	5	17,736	12	5	17,617	20	5	18,028	11	5	17,959	11	5	17,889	11	5
					17,868	19	5	17,717	12	5	17,598	20	5	18,029	11	5	17,960	11	5	17,890	11	5
					17,849	19	5	17,698	12	5	17,579	20	5	18,030	11	5	17,961	11	5	17,891	11	5
					17,830	19	5	17,679	12	5	17,560	20	5	18,031	11	5	17,962	11	5	17,892	11	5
					17,811	19	5	17,660	12	5	17,541	20	5	18,032	11	5	17,963	11	5	17,893	11	5
					17,792	19	5	17,641	12	5	17,522	20	5	18,033	11	5	17,964	11	5	17,894	11	5
					17,773	19	5	17,622	12	5	17,503	20	5	18,034	11	5	17,965	11	5	17,895	11	5
					17,754	19	5	17,603	12	5	17,484	20	5	18,035	11	5	17,966	11	5	17,896	11	5
					17,735	19	5	17,584	12	5	17,465	20	5	18,036	11	5	17,967	11	5	17,897	11	5
					17,716	19	5	17,565	12	5	17,446	20	5	18,037	11	5	17,968	11	5	17,898	11	5
					17,697	19	5	17,546	12	5	17,427	20	5	18,038	11	5	17,969	11	5	17,899	11	5
					17,678	19	5	17,527	12	5	17,408	20	5	18,039	11	5	17,970	11	5	17,900	11	5
					17,659	19	5	17,508	12	5	17,389	20	5	18,040	11	5	17,971	11	5	17,901	11	5
					17,640	19	5	17,489	12	5	17,370	20	5	18,041	11	5	17,972	11	5	17,902	11	5
					17,621	19	5	17,470	12	5	17,351	20	5	18,042	11	5	17,973	11	5	17,903	11	5
					17,602	19	5	17,451	12	5	17,332	20	5	18,043	11	5	17,974	11	5	17,904	11	5
					17,583	19	5	17,432	12	5	17,313	20	5	18,044	11	5	17,975	11	5	17,905	11	5
					17,564	19	5	17,413	12	5	17,294	20	5	18,045	11	5	17,976	11	5	17,906	11	5
					17,545	19	5	17,394	12	5	17,275	20	5	18,046	11	5	17,977	11	5	17,907	11	5
					17,526	19	5	17,375	12	5	17,256	20	5	18,047	11	5	17,978	11	5	17,908	11	5
					17,507	19	5	17,356	12	5	17,237	20	5	18,048								

	Stage 6		Stage 7		Stage 8		Stage 9		Stage 10												
	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots											
	18,280	37	6	18,104	34	6	17,947	40	6	17,803	33	6	17,648	36	6	17,595	33	6	17,546	36	6
	18,246	14	6	18,092	16	6	17,935	12	6	17,790	14	6	17,635	12	6	17,586	16	6	17,537	17	6
From Bottom to Top	18,232	18	6	18,076	14	6	17,923	12	6	17,776	16	6	17,623	17	6	17,574	19	6	17,525	20	6
	18,214	20	6	18,062	17	6	17,911	19	6	17,760	15	6	17,606	16	6	17,557	18	6	17,508	19	6
	18,194	19	5	18,045	21	5	17,892	19	5	17,746	23	5	17,590	15	5	17,541	17	5	17,492	18	5
	18,175	18	5	18,024	19	5	17,873	19	5	17,722	19	5	17,575	23	5	17,526	25	5	17,477	26	5
	18,157	19	5	18,005	18	5	17,854	18	5	17,703	19	5	17,552	19	5	17,503	21	5	17,454	22	5
	18,138		5	17,997		5	17,836		5	17,684		5	17,533		5	17,484		5	17,435		5
Plug to Plug	161	44	Plug to Plug	150	151	44	Plug to Plug	147	44	Plug to Plug	144	44	Plug to Plug	141	44	Plug to Plug	138	44	Plug to Plug	135	44
Frac Plug																					
Total Shots	18,273		18,112		17,962		17,811		17,660		17,509		17,358		17,207		17,056		16,905		16,754
Total Shots		44		44		44		44		44		44		44		44		44		44	
Total Shots																					

	Stage 11		Stage 12		Stage 13		Stage 14		Stage 15		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots
	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots							
From Bottom to Top	17,502	31	6	17,342	40	6	17,200	28	6	17,049	31	6	16,890	39	6	16,738	44
	17,489	14	6	17,328	16	6	17,187	12	6	17,037	19	6	16,878	12	6	16,726	19
	17,475	15	6	17,312	14	6	17,175	19	6	17,018	15	6	16,868	18	6	16,713	15
	17,460	21	6	17,298	13	6	17,158	19	6	17,003	16	6	16,848	15	6	16,693	16
	17,439	19	5	17,285	16	5	17,137	19	5	16,987	20	5	16,833	16	5	16,678	20
17,420	23	5	17,269	19	5	17,118	19	5	16,967	19	5	16,817	20	5	16,667	19	
17,397	15	5	17,250	22	5	17,099	19	5	16,948	19	5	16,797	19	5	16,678	19	
17,382	5	5	17,228	5	5	17,080	5	5	16,929	5	5	16,778	5	5	16,627	5	
Plug to Plug	160	44	Plug to Plug	142	44	Plug to Plug	151	44	Plug to Plug	150	44	Plug to Plug	154	44	Plug to Plug	154	44
Frac Plug	17,510	Total Shots	Frac Plug	17,350	Total Shots	Frac Plug	17,208	Total Shots	Frac Plug	17,057	Total Shots	Frac Plug	16,907	Total Shots	Frac Plug	16,757	Total Shots

	Stage 16		Stage 17		Stage 18		Stage 19		Stage 20		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots	
	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots								
From Bottom to Top	16,745	33	6	16,594	33	6	16,442	35	6	16,292	33	6	16,144	30	6	15,998	28	6
	16,733	13	6	16,582	16	6	16,426	16	6	16,277	15	6	16,131	14	6	15,986	14	6
	16,720	22	6	16,566	16	6	16,410	14	6	16,262	17	6	16,117	19	6	15,973	19	6
	16,698	18	6	16,550	17	6	16,398	14	6	16,245	14	6	16,098	18	6	15,948	18	6
	16,690	15	5	16,533	14	5	16,382	19	5	16,231	19	5	16,080	23	5	15,940	23	5
16,665	18	5	16,519	24	5	16,363	19	5	16,212	19	5	16,057	15	5	15,913	15	5	
16,647	20	5	16,495	18	5	16,344	19	5	16,183	19	5	16,042	17	5	15,890	17	5	
16,627	5	5	16,477	5	5	16,325	5	5	16,174	5	5	16,025	5	5	15,871	5	5	
Plug to Plug	143	44	Plug to Plug	160	44	Plug to Plug	180	44	Plug to Plug	140	44	Plug to Plug	160	44	Plug to Plug	180	44	
Frac Plug	18,753	Total Shots	18,610	Total Shots	18,450	Total Shots	18,300	Total Shots	18,150	Total Shots	18,000	Total Shots	17,850	Total Shots	17,700	Total Shots	17,550	Total Shots

	Stage 21		Stage 22		Stage 23		Stage 24		Stage 25		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots		
	From Bottom to Top	15,922	33	6	15,834	38	6	15,689	32	6		15,537	33		6	15,384		35	6		15,231	33
From Bottom to Top		15,922	15	6	15,920	13	6	15,675	15	6	15,525	15	6	15,371	11	6	15,218	15	6	15,065	11	6
		15,907	16	6	15,807	13	6	15,660	22	6	15,510	16	6	15,356	18	6	15,203	16	6	15,050	18	6
		15,941	16	6	15,794	16	6	15,638	14	6	15,484	15	6	15,330	18	6	15,177	15	6	15,024	18	6
		15,925	15	5	15,778	19	5	15,624	16	5	15,470	22	5	15,316	24	5	15,163	22	5	15,010	24	5
		15,910	20	5	15,759	19	5	15,608	19	5	15,457	19	5	15,303	13	5	15,150	19	5	14,997	13	5
Plug to Plug		15,890	18	5	15,740	19	5	15,589	19	5	15,438	19	5	15,287	12	5	15,136	19	5	14,985	12	5
Frac Plug		15,872		5	15,721		5	15,570		5	15,419		5	15,275		5	15,124		5	14,970		5
Total Shots		44		44	44		44	44		44	44		44	44		44	44		44	44		44
Total Shots		16,000		15,842	15,687		15,535	15,382		15,229	15,076		14,924	14,771		14,619	14,466		14,313	14,160		14,007

	Stage 26		Stage 27		Stage 28		Stage 29		Stage 30		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots				
	From Bottom to Top	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs	Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots	Distance Between Perfs		Shots						
		15,242	33	6	15,092	25	6	14,948	27	6	14,784	36	6	14,628	38	6	14,473	36	6	14,317	38	6		
		15,227	16	6	15,079	19	6	14,932	23	6	14,770	16	6	14,614	14	6	14,458	16	6	14,302	14	6		
		15,211	19	6	15,060	19	6	14,909	19	6	14,754	16	6	14,598	16	6	14,442	19	6	14,286	16	6		
		15,192	19	6	15,041	19	6	14,890	19	6	14,739	20	6	14,594	15	6	14,438	19	6	14,282	19	6		
		15,173	19	5	15,022	19	5	14,871	19	5	14,713	15	5	14,560	17	5	14,404	15	5	14,248	17	5		
		15,154	24	5	15,003	18	5	14,852	19	5	14,698	16	5	14,552	21	5	14,396	16	5	14,240	21	5		
		15,130	13	5	14,985	18	5	14,833	13	5	14,682	18	5	14,531	19	5	14,375	18	5	14,223	19	5		
		15,117		5	14,975		5	14,820		5	14,664		5	14,512		5	14,356		5	14,204		5		
	Plug to Plug	150		44	Plug to Plug	144		44	Plug to Plug	164		44	Plug to Plug	150		44	Plug to Plug	140		44	Plug to Plug	150		44
	Frac Plug		15,250			15,100			14,956			14,802			14,648			14,494			14,340			

	Stage 31	
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Windward Federal 7H

	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
From Bottom to Top	12,987	23	12,827	33	6	12,662	38	6	12,532	25	6	12,392	48	6
	12,964	14	12,813	19	6	12,647	15	6	12,515	23	6	12,350	15	6
	12,950	24	12,774	19	6	12,632	12	6	12,492	19	6	12,335	13	6
	12,926	16	12,725	18	6	12,620	14	6	12,473	19	6	12,322	17	6
	12,910	24	12,757	19	5	12,606	19	5	12,454	18	5	12,305	20	5
	12,888	11	12,738	20	5	12,587	19	5	12,386	19	5	12,285	15	5
	12,875	15	12,718	18	5	12,568	11	5	12,417	9	5	12,270	20	5
Plug to Plug	12,860	5	12,700	5	5	12,557	5	5	12,408	5	5	12,250	5	5
Frac Plug	12,855	160	12,700	165	44	12,557	130	44	12,408	170	44	12,250	142	44
Total Shots		44		44	Total Shots		44	Total Shots		44	Total Shots		44	Total Shots

	Distance Between Perfs	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
From Bottom to Top	12,213	37	12,067	29	6	11,932	18	6	11,767	33	6	11,608	35	6
	12,200	14	12,056	12	6	11,910	20	6	11,757	20	6	11,598	20	6
	12,186	16	12,044	19	6	11,880	20	6	11,737	19	6	11,578	14	6
	12,170	18	12,025	24	5	11,870	20	5	11,718	19	6	11,564	16	6
	12,152	23	12,001	19	5	11,850	20	5	11,699	19	5	11,548	19	5
	12,129	14	11,982	12	5	11,830	15	5	11,680	19	5	11,529	19	5
	12,115	19	11,970	20	5	11,815	15	5	11,661	18	5	11,510	18	5
Plug to Plug	12,096	5	11,950	5	5	11,800	5	5	11,643	5	5	11,492	5	5
Frac Plug	12,228	153	12,075	135	44	12,075	165	44	11,940	159	44	11,804	134	44
Total Shots		44		44	Total Shots		44	Total Shots		44	Total Shots		44	Total Shots

	Distance Between Perfs	Shots	Stage 50	Distance Between Perfs	Shots	Stage 51	Distance Between Perfs	Shots	Stage 52	Distance Between Perfs	Shots	Stage 53	Distance Between Perfs	Shots
From Bottom to Top	11,474	18	11,312	28	6	11,172	23	6	11,019	25	6	10,854	33	6
	11,462	22	11,296	16	6	11,152	19	6	11,001	19	6	10,841	15	6
	11,420	20	11,280	15	6	11,133	19	6	10,982	19	6	10,826	16	6
	11,400	20	11,265	15	6	11,114	22	6	10,963	19	6	10,810	23	6
	11,380	20	11,250	23	5	11,092	18	5	10,944	19	5	10,787	17	5
	11,360	20	11,232	15	5	11,074	17	5	10,925	19	5	10,770	15	5
	11,340	5	11,212	17	5	11,057	13	5	10,908	19	5	10,755	19	5
Plug to Plug	11,320	5	11,195	5	5	11,044	5	5	10,987	5	5	10,736	5	5
Frac Plug	11,482	162	11,320	140	44	11,180	153	44	11,027	165	44	10,862	163	44
Total Shots		44		44	Total Shots		44	Total Shots		44	Total Shots		44	Total Shots

	Distance Between Perfs	Shots	Stage 54	Distance Between Perfs	Shots	Stage 55	Distance Between Perfs	Shots	Stage 56	Distance Between Perfs	Shots	Stage 57	Distance Between Perfs	Shots
From Bottom to Top	10,691	45	10,562	23	6	10,397	37	6	10,251	31	6	10,098	34	6
	10,679	18	10,547	18	6	10,382	16	6	10,240	15	6	10,086	18	6
	10,661	12	10,529	19	6	10,366	16	6	10,225	16	6	10,068	11	6
	10,649	17	10,510	19	6	10,350	14	6	10,209	20	6	10,057	19	6
	10,636	17	10,491	19	5	10,335	14	5	10,189	19	5	10,038	19	5
	10,618	14	10,472	22	5	10,321	19	5	10,170	19	5	10,019	19	5
	10,604	19	10,450	16	5	10,302	20	5	10,151	19	5	10,000	19	5
Plug to Plug	10,585	5	10,434	5	5	10,282	5	5	10,132	5	5	9,981	5	5
Frac Plug	10,689	129	10,570	165	44	10,405	146	44	10,239	153	44	10,106	144	44
Total Shots		44		44	Total Shots		44	Total Shots		44	Total Shots		44	Total Shots

	Distance Between Perfs	Shots	Stage 58	Distance Between Perfs	Shots	Stage 59	Distance Between Perfs	Shots	Stage 60	Distance Between Perfs	Shots	Stage 61	Distance Between Perfs	Shots
From Bottom to Top	9,945	36	9,797	33	6	9,644	35	6	9,484	44	6	9,372	44	6
	9,933	13	9,778	14	6	9,630	18	6	9,474	19	6	9,372	37	6
	9,920	17	9,764	16	6	9,612	15	6	9,455	10	6	9,357	11	6
	9,903	16	9,748	15	6	9,597	21	6	9,445	11	6	9,342	11	6
	9,887	16	9,733	16	5	9,576	16	5	9,434	19	5	9,327	19	5
	9,871	22	9,717	23	5	9,560	17	5	9,415	19	5	9,312	24	5
	9,849	19	9,694	15	5	9,545	17	5	9,396	24	5	9,300	24	5
Plug to Plug	9,830	5	9,679	5	5	9,528	5	5	9,372	5	5	9,300	5	5
Frac Plug	9,982	157	9,805	153	44	9,652	160	44	9,492	47	0	9,332	0	0
Total Shots		44		44	Total Shots		44	Total Shots		44	Total Shots		44	Total Shots