

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

OCB - HOBBS  
11/27/2018  
RECEIVED

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM126972
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator CENTENNIAL RESOURCE PRODUCTION LLC [372165]		8. Lease Name and Well No. SOLOMON FEDERAL GOM 710H [318029]
3a. Address 1001 17th Street, Suite 1800 Denver CO 80202	3b. Phone No. (include area code) (720)499-1400	9. API Well No. 30-025-45376
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface LOT O / 300 FSL / 1475 FEL / LAT 32.196605 / LONG -103.454051 At proposed prod. zone LOT B / 330 FNL / 1650 FEL / LAT 32.209376 / LONG -103.454611		10. Field and Pool, or Exploratory ANTELOPE RIDGE; WOLFCAMP [2220]
11. Sec., T. R. M. or Blk. and Survey or Area SEC 22 / T24S / R34E / NMP		
14. Distance in miles and direction from nearest town or post office* 19.5 miles		12. County or Parish LEA
13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 152 feet	16. No of acres in lease 80	17. Spacing, Unit dedicated to this well 80
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Proposed Depth 12450 feet / 16804 feet	20. BLM/BIA Bond No. in file FED: NMB001471
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3495 feet	22. Approximate date work will start* 08/04/2018	23. Estimated duration 30 days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification.  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

25. Signature (Electronic Submission)	Name (Printed/Typed) Melissa Luke / Ph: (720)499-1482	Date 03/12/2018
Title Sr. Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 11/02/2018
Title Assistant Field Manager Lands & Minerals		
Office CARLSBAD		

Application approval 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.

Conditions of approval, if any, are attached.

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.

GCP Rec 11/27/2018

APPROVED WITH CONDITIONS  
Approval Date: 11/02/2018

K2  
11/27/2018



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

## APD Print Report

11/05/2018

APD ID: 10400028299

Submission Date: 03/12/2018

Highlighted data  
reflects the most  
recent changes.

Operator Name: CENTENNIAL RESOURCE PRODUCTION LLC Federal/Indian APD: FED

Well Name: SOLOMON FEDERAL COM

Well Number: 710H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Application

#### Section 1 - General

APD ID: 10400028299

Tie to previous NOS?

Submission Date: 03/12/2018

BLM Office: CARLSBAD

User: Melissa Luke

Title: Sr. Regulatory Analyst

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM126972

Lease Acres: 80

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: CENTENNIAL RESOURCE PRODUCTION LLC

Operator letter of designation:

#### Operator Info

Operator Organization Name: CENTENNIAL RESOURCE PRODUCTION LLC

Operator Address: 1001 17th Street, Suite 1800

Zip: 80202

Operator PO Box:

Operator City: Denver

State: CO

Operator Phone: (720)499-1400

Operator Internet Address:

#### Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Approval Date: 11/02/2018

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**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Well API Number:**

**Field/Pool or Exploratory?** Field and Pool

**Field Name:** ANTELOPE RIDGE; **Pool Name:** WOLFCAMP

**Is the proposed well in an area containing other mineral resources?** USEABLE WATER

**Describe other minerals:**

**Is the proposed well in a Helium production area?** N

**Use Existing Well Pad?** NO

**New surface disturbance?**

**Type of Well Pad:** MULTIPLE WELL

**Multiple Well Pad Name:**

**Number:** 1

**Well Class:** HORIZONTAL

SHEBA

**Number of Legs:** 1

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** EVALUATION

**Describe sub-type:**

**Distance to town:** 19.5 Miles

**Distance to nearest well:** 30 FT

**Distance to lease line:** 152 FT

**Reservoir well spacing assigned acres Measurement:** 80 Acres

**Well plat:** Submitted\_SOLOMON\_FEDERAL\_COM\_710H\_Application\_Well\_Plats\_03.12.18\_20180315135424.pdf

**Well work start Date:** 03/04/2018

**Duration:** 30 DAYS

### Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:** 23782

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	300	FSL	1475	FEL	24S	34E	22	Lot O	32.196605	-103.454051	LEA	NEW MEXICO	NEW MEXICO	F	FEE	3495	0	0
KOP Leg #1	300	FSL	1475	FEL	24S	34E	22	Lot O	32.196605	-103.454051	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8382	11881	11877

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	360	FSL	165 0	FEL	24S	34E	22	Lot O	32.19674 3	- 103.4546 16	LEA	NEW MEXI CO	NEW MEXI CO	F	FEE	- 871 8	122 40	122 13
EXIT Leg #1	330	FNL	165 0	FEL	24S	34E	22	Lot B	32.20937 6	- 103.4546 11	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 126972	- 895 5	168 04	124 50
BHL Leg #1	330	FNL	165 0	FEL	24S	34E	22	Lot B	32.20937 6	- 103.4546 11	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 126972	- 895 5	168 04	124 50

### Drilling Plan

#### Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	-1989	1160	1160	SANDSTONE	NONE	No
2	BELL CANYON	-7485	5496	5496	SANDSTONE	NONE	No
3	AVALON SAND	-11363	9374	9374	SHALE	OIL	No
4	FIRST BONE SPRING SAND	-12375	10386	10386	SANDSTONE	OIL	No
5	BONE SPRING 2ND	-12888	10899	10899	SANDSTONE	OIL	No
6	BONE SPRING 3RD	-13922	11933	12060	SANDSTONE	OIL	No
7	WOLFCAMP	-14202	12213	12753	SHALE,SANDSTONE	OIL	Yes

#### Section 2 - Blowout Prevention

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Pressure Rating (PSI):** 10M

**Rating Depth:** 16804

**Equipment:** Cameron The BOP and related equipment will meet or exceed the requirements of a 10M-psi system as set forth in On Shore Order No. 2. See attached BOP Schematic. A. Casing head: 13 5/8" 10M x 11" x 10,000 psi Tubing head: 7-1/16" – 10,000 psi B. Minimum Specified Pressure Control Equipment - Annular preventer - One Pipe ram, One blind ram - Drilling spool, or blowout preventer with 2 side outlets. Choke side will be a 3-inch minimum diameter, kill line shall be at least 2-inch diameter - 3 inch diameter choke line - 2 – 3 inch choke line valves - 2 inch Kill line - 2 chokes with 1 remotely controlled from rig floor ( see Figure 2 ) - 2 – 2 inch kill line valves and a check valve - Upper kelly cock valve with handle available - When the expected pressures approach working pressure of the system, 1 remote kill line tested to stack pressure (which shall run to the outer edge of the substructure and be unobstructed) - Lower kelly cock valve with handle available - Safety valve(s) and subs to fit all drill string connections in use - Inside BOP or float sub available - Pressure gauge on choke manifold - All BOPE connections subjected to well pressure shall be flanged, welded, or clamped - Fill-up line above the uppermost preventer. C. Auxiliary Equipment - Audio and visual mud monitoring equipment shall be placed to detect volume changes indicating loss or gain of circulating fluid volume. (OOS 1, III.C.2) - Gas Buster will be used below 6,000' - Upper and lower kelly cocks with handles, safety valve and subs to fit all drill string connections and pressure gauge on choke manifold.

**Requesting Variance?** YES

**Variance request:** Centennial is requesting a variance to the 10M annular policy, proposing the use of a 5M annular, rather than a 10M annular. Corresponding Well Control Plan is attached.

**Testing Procedure:** The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed b. whenever any seal subject to test pressure is broken c. following related repairs d. at 30 day intervals e. Checked daily as to mechanical operating conditions. The ram type preventer(s) shall be tested to the approved BOP stack working pressure when a test plug is used. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing. The annular type preventer(s) shall be tested to 50% of the approved BOP stack working pressure. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer. • A Sundry Notice (Form 3160 5), along with a copy of the BOP test report, shall be submitted to the local BLM office within 5 working days following the test. • If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure. • Centennial Resource Development will invite the BLM to witness them. The BOP Configuration, Choke manifold layout, and Accumulator system, will be in compliance with Onshore Order 2 for a 5000/10,000 psi system. A remote accumulator will be used. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM supervised BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible.

**Choke Diagram Attachment:**

Centennial\_Resource\_Development\_\_Well\_Control\_Plan\_v2\_20180301090532.pdf

Manifold\_old\_\_Solomon\_Federal\_Com\_710H\_20180315143813.pdf

**BOP Diagram Attachment:**

BOP\_HP\_650\_equipment\_20180301090256.pdf

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	CONDUCTOR	26	20.0	NEW	API	N	0	120	0	120	3519	3399	120	H-40	94	OTHER - Weld						
2	SURFACE	17.5	13.375	NEW	API	N	0	1300	0	1300	3519	2219	1300	J-55	54.5	OTHER - BTC	1.76	4.26	DRY	7.25	DRY	12.4
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	11604	0	11600	3519	-8081	11604	HCP -110	20	OTHER - TMK UP SF	1.7	1.68	DRY	2.59	DRY	2.
4	INTERMEDIATE	9.875	7.625	NEW	API	N	0	11604	0	11600	3519	-8081	11604	HCP -110	29.7	LTC	1.4	1.75	DRY	2.23	DRY	2.
5	PRODUCTION	6.75	5.0	NEW	API	Y	11670	16804	11670	12450	-8151	-8931	5134	HCP -110	18	OTHER - TMK UP SF	1.83	1.73	DRY	37.91	DRY	37.1

#### Casing Attachments

**Casing ID:** 1      **String Type:** CONDUCTOR

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

3\_TMK\_UP\_DQX\_5\_x\_18\_P110\_HC\_20180312104503.pdf

**Casing Design Assumptions and Worksheet(s):**

CASING\_ASSUMPTIONS\_WORKSHEET\_20180312104529.pdf

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

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**Casing Attachments**

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**Casing ID:** 2                      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

CASING\_ASSUMPTIONS\_WORKSHEET\_20180312104421.pdf

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**Casing ID:** 3                      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

3.\_TMK\_UP\_DQX\_5.5\_x\_20\_P110\_HC\_20180312145639.pdf

**Casing Design Assumptions and Worksheet(s):**

CASING\_ASSUMPTIONS\_WORKSHEET\_20180312145838.pdf

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**Casing ID:** 4                      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

3.\_TMK\_UP\_DQX\_5.5\_x\_20\_P110\_HC\_20180312104220.pdf

**Casing Design Assumptions and Worksheet(s):**

CASING\_ASSUMPTIONS\_WORKSHEET\_20180301090851.pdf

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**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

#### Casing Attachments

**Casing ID:** 5      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

3\_TMK\_UP\_DQX\_5\_x\_18\_P110\_HC\_20180312150028.pdf

**Casing Design Assumptions and Worksheet(s):**

CASING\_ASSUMPTIONS\_WORKSHEET\_20180301090842.pdf

#### Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
CONDUCTOR	Lead		0	120	121	1.49	12.9	180.6		GROUT	Bentonite 4% BWOC, Cellophane #/sx, CaCl2 2% BWOC.

SURFACE	Lead		0	800	635	1.75	13.5	1111	100	Class C Premium	Premium Gel Bentonite 4%, C-45 Econolite 0.25%, Phenoseal 0.25#/sk, CaCl 1%, Defoamer C-41P 0.75%
SURFACE	Tail		800	1300	518	1.34	14.8	695	100	Class C Premium	C-45 Econolite 0.10%, CaCl 2. %
INTERMEDIATE	Lead		0	1060 4	1473	3.2	10.6	4712	100	TXI Lightweight	Salt 0.81#/sk, C-45 Econolite 0.80%, Phenoseal 1.50#/sk, STE 6.0%, Citric Acid 0.20%, C-19 Fluid Loss Add've 0.10%, CSA-1000 Fluid Loss Add've 0.25%, Kol Seal 6.0#/sk, Defoamer C-41P 0.75%.
INTERMEDIATE	Tail		1060 4	1160 4	349	1.23	14.6	430	50	Class H Premium	CSA-1000 Floss Add've 0.05%



**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		6604	1160 4	193	3.56	10.6	686	0	TXI Lightweight	Salt 9.17#/sk, C-45 Econolite 0.80%, Phenoseal 2.50#/sk, STE 6.0%, Citric Acid 0.35%, CSA-1000 Fluid Loss Add'Ve 0.28%, Kol Seal 6.0#/sk, C-47B Fluid Loss Add'Ve 0.10%, Defoamer C-41P 0.75%.
PRODUCTION	Tail		1160 4	1680 4	694	1.26	14.2	875	25	Class H Premium	CSA-1000 Floss Add'Ve 0.10%, C47B Fluid Loss Add'Ve 0.30%, Retarder C-20 0.10%, Defoamer C-41P 0.25%
PRODUCTION	Lead		6604	1160 4	193	3.56	10.6	686	0	TXI Lightweight	Salt 9.17#/sk, C-45 Econolite 0.80%, Phenoseal 2.50#/sk, STE 6.0%, Citric Acid 0.35%, CSA-1000 Fluid Loss Add'Ve 0.28%, Kol Seal 6.0#/sk, C-47B Fluid Loss Add'Ve 0.10%, Defoamer C-41P 0.75%.
PRODUCTION	Tail		1160 4	1680 4	694	1.26	14.2	875	25	Class H Premium	CSA-1000 Floss Add'Ve 0.10%, C47B Fluid Loss Add'Ve 0.30%, Retarder C-20 0.10%, Defoamer C-41P 0.25%

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

### Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

**Description of the equipment for the circulating system in accordance with Onshore Order #2:**

**Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

**Describe what will be on location to control well or mitigate other conditions:** Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control. Surface interval will employ fresh water mud mix. The intermediate hole will utilize a diesel emulsified brine fluid to inhibit salt washout and preventing severe fluid losses. The production hole will employ oil base fluid of the appropriate density to maintain well control.

**Describe the mud monitoring system utilized:** Centrifuge separation system. Open tank monitoring will be used for drilling fluids, cuttings and all returns; drill fluids, cement, etc.

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1300	OTHER : Fresh Water	9	9.5							
0	1160 4	OTHER : Brine	8.6	9							
0	1680 4	OIL-BASED MUD	11	12.5							

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

Will utilize MWD/LWD (Gamma ray logging) from intermediate hole to TD of the well.

**List of open and cased hole logs run in the well:**

GR

**Coring operation description for the well:**

n/a

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7108

**Anticipated Surface Pressure:** 4369

**Anticipated Bottom Hole Temperature(F):** 170

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** NO

**Hydrogen sulfide drilling operations plan:**

### Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

H\_P\_650\_\_\_Solomon\_Federal\_Com\_710H\_Plan\_\_1\_20180312150843.pdf

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

**Other Variance attachment:**

SUPO

### Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

Submitted\_SOLOMON\_FEDERAL\_COM\_710H\_\_Access\_Roads\_Map\_03.12.18\_20180312151057.pdf

**Existing Road Purpose:** ACCESS

**Row(s) Exist?** NO

**ROW ID(s)**

**ID:**

**Do the existing roads need to be improved?** YES

**Existing Road Improvement Description:** Will need to improve on existing two track. Road will be constructed to a 20' wide finished surface. using caliche from designated barrow pits.

**Existing Road Improvement Attachment:**

TYPICAL\_ACCESS\_CROSS\_SECTIONS\_20180312110653.pdf

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

## Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** YES

**New Road Map:**

Submitted\_SOLOMON\_FEDERAL\_COM\_710H\_\_Access\_Roads\_Map\_03.12.18\_20180312151203.pdf

**New road type:** COLLECTOR

**Length:** 8157 Feet

**Width (ft.):** 32

**Max slope (%):** 2

**Max grade (%):** 4

**Army Corp of Engineers (ACOE) permit required?** NO

**ACOE Permit Number(s):**

**New road travel width:** 20

**New road access erosion control:** Please see attached.

**New road access plan or profile prepared?** YES

**New road access plan attachment:**

TYPICAL\_ACCESS\_CROSS\_SECTIONS\_20180301121942.pdf

**Access road engineering design?** NO

**Access road engineering design attachment:**

**Access surfacing type:** OTHER

**Access topsoil source:** ONSITE

**Access surfacing type description:** Caliche

**Access onsite topsoil source depth:** 4

**Offsite topsoil source description:**

**Onsite topsoil removal process:** Equipment will be used to strip 4 inches in depth and stockpile, utilizing berms for run-off

**Access other construction information:** Raptor nest is pictured in the plats. A biological survey will be conducted two weeks prior to construction activities.

**Access miscellaneous information:** Raptor nest identified in plats

**Number of access turnouts:**

**Access turnout map:**

## Drainage Control

**New road drainage crossing:** CULVERT

**Drainage Control comments:** Will be using 16" CMP for the culverts.

**Road Drainage Control Structures (DCS) description:** Please see attached.

**Road Drainage Control Structures (DCS) attachment:**

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

TYPICAL\_ACCESS\_CROSS\_SECTIONS\_20180301121953.pdf

### Access Additional Attachments

**Additional Attachment(s):**

### Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

Submitted\_Solomon\_Federal\_Com\_711H\_AOR\_Map\_and\_Well\_List\_03.09.18\_20180312151516.pdf

**Existing Wells description:**

### Section 4 - Location of Existing and/or Proposed Production Facilities

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:**

**Production Facilities map:**

Submitted\_SOLOMON\_FEDERAL\_COM\_710H\_Facility\_Layout\_03.12.18\_20180312151846.pdf

### Section 5 - Location and Types of Water Supply

#### Water Source Table

**Water source use type:** DUST CONTROL, SURFACE CASING

**Water source type:** OTHER

**Describe type:** EOG Jolly Roger Fresh Water Pit: Located in SWNW  
Sec. 16, T24S, R34E

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** PRIVATE

**Water source transport method:** PIPELINE

**Source transportation land ownership:** PRIVATE

**Water source volume (barrels):** 350000

**Source volume (acre-feet):** 45.112583

**Source volume (gal):** 14700000

<b>Operator Name:</b> CENTENNIAL RESOURCE PRODUCTION LLC		
<b>Well Name:</b> SOLOMON FEDERAL COM	<b>Well Number:</b> 710H	

**Water source and transportation map:**  
Sheba\_Water\_Source\_Map\_Jolly\_Roger\_03.09.18\_20180312112118.pdf

**Water source comments:** Temporary surface lines will be used to transport water for drilling and completion operation from the EOG Jolly Roger fresh water pit to the Sheba Pad.

**New water well?** NO

**New Water Well Info**

<b>Well latitude:</b>	<b>Well Longitude:</b>	<b>Well datum:</b>
<b>Well target aquifer:</b>		
<b>Est. depth to top of aquifer(ft):</b>	<b>Est thickness of aquifer:</b>	
<b>Aquifer comments:</b>		
<b>Aquifer documentation:</b>		
<b>Well depth (ft):</b>	<b>Well casing type:</b>	
<b>Well casing outside diameter (in.):</b>	<b>Well casing inside diameter (in.):</b>	
<b>New water well casing?</b>	<b>Used casing source:</b>	
<b>Drilling method:</b>	<b>Drill material:</b>	
<b>Grout material:</b>	<b>Grout depth:</b>	
<b>Casing length (ft.):</b>	<b>Casing top depth (ft.):</b>	
<b>Well Production type:</b>	<b>Completion Method:</b>	
<b>Water well additional information:</b>		
<b>State appropriation permit:</b>		
<b>Additional information attachment:</b>		

**Section 6 - Construction Materials**

**Construction Materials description:** Caliche will be hauled from the existing "Madera Pit" located in SENW, Section 06, T 25S R35E. Pit has been identified for use in the attached exhibit. Any native caliche on the proposed site can be used by "flipping" the location and using all native soils.

**Construction Materials source location attachment:**  
Sheba\_Caliche\_Source\_Map\_Solomon\_Caliche\_Pit\_03.12.18\_20180312121913.pdf

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

## **Section 7 - Methods for Handling Waste**

**Waste type:** DRILLING

**Waste content description:** Drill Fluids

**Amount of waste:** 1200 barrels

**Waste disposal frequency :** One Time Only

**Safe containment description:** Steel tanks lined with polymer lining

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY      **Disposal location ownership:** STATE

**Disposal type description:**

**Disposal location description:** State approved disposal facility

**Waste type:** SEWAGE

**Waste content description:** Grey water and human waste

**Amount of waste:** 6500 barrels

**Waste disposal frequency :** Weekly

**Safe containment description:** Steel tanks lined with polymer lining

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY      **Disposal location ownership:** STATE

**Disposal type description:**

**Disposal location description:** Haul to stat approved disposal facility

**Waste type:** GARBAGE

**Waste content description:** Trash/garbage

**Amount of waste:** 5000 pounds

**Waste disposal frequency :** Weekly

**Safe containment description:** Trash Trailer

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY      **Disposal location ownership:** STATE

**Disposal type description:**

**Disposal location description:** Haul to state approved facility

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

### Reserve Pit

**Reserve Pit being used?** NO

**Temporary disposal of produced water into reserve pit?**

**Reserve pit length (ft.)**

**Reserve pit width (ft.)**

**Reserve pit depth (ft.)**

**Reserve pit volume (cu. yd.)**

**Is at least 50% of the reserve pit in cut?**

**Reserve pit liner**

**Reserve pit liner specifications and installation description**

### Cuttings Area

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** NO

**Description of cuttings location**

**Cuttings area length (ft.)**

**Cuttings area width (ft.)**

**Cuttings area depth (ft.)**

**Cuttings area volume (cu. yd.)**

**Is at least 50% of the cuttings area in cut?**

**WCuttings area liner**

**Cuttings area liner specifications and installation description**

## Section 8 - Ancillary Facilities

**Are you requesting any Ancillary Facilities?:** NO

**Ancillary Facilities attachment:**

**Comments:**

## Section 9 - Well Site Layout

**Well Site Layout Diagram:**

Submitted\_SOLOMON\_FEDERAL\_COM\_710H\_Location\_Layout\_03.12.18\_20180312152228.pdf

**Comments:**



**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:** SHEBA

**Multiple Well Pad Number:** 1

**Recontouring attachment:**

Submitted\_SOLOMON\_FEDERAL\_COM\_710H\_Reclamation\_Plat\_03.12.18\_20180312152300.pdf

**Drainage/Erosion control construction:** Drainage and erosion will be constantly monitored to prevent compromising the well site integrity, an to protect the surrounding native topography.

**Drainage/Erosion control reclamation:** Upon reclamation, well site will be returned to its native contour. Water breaks will be added if needed, to prevent unnatural erosion and loss of vegetation.

<b>Well pad proposed disturbance (acres):</b> 9.79	<b>Well pad interim reclamation (acres):</b> 1.69	<b>Well pad long term disturbance (acres):</b> 8.1
<b>Road proposed disturbance (acres):</b> 5.99	<b>Road interim reclamation (acres):</b> 0	<b>Road long term disturbance (acres):</b> 5.99
<b>Powerline proposed disturbance (acres):</b> 0	<b>Powerline interim reclamation (acres):</b> 0	<b>Powerline long term disturbance (acres):</b> 0
<b>Pipeline proposed disturbance (acres):</b> 12.17	<b>Pipeline interim reclamation (acres):</b> 0	<b>Pipeline long term disturbance (acres):</b> 12.17
<b>Other proposed disturbance (acres):</b> 0	<b>Other interim reclamation (acres):</b> 0	<b>Other long term disturbance (acres):</b> 0
<b>Total proposed disturbance:</b> 27.95	<b>Total interim reclamation:</b> 1.69	<b>Total long term disturbance:</b> 26.26

**Disturbance Comments:**

**Reconstruction method:** Come back in with heavy equipment, remove caliche in the reclamation area, and replace with native topsoil. Reconstruction of pad will occur once all wells on location have been drilled and completed.

**Topsoil redistribution:** Surface disturbance will be limited to well site surveyed dimensions. Topsoil will be stored along the west edge of the pad site.

**Soil treatment:** Native caliche will be used in the initial construction of the well pad. Pad will be compacted using fresh water, dust control measures will be implemented as needed.

**Existing Vegetation at the well pad:**

**Existing Vegetation at the well pad attachment:**

**Existing Vegetation Community at the road:**

**Existing Vegetation Community at the road attachment:**

**Existing Vegetation Community at the pipeline:**

**Existing Vegetation Community at the pipeline attachment:**

**Existing Vegetation Community at other disturbances:**

**Existing Vegetation Community at other disturbances attachment:**

**Non native seed used?**

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?**

**Seedling transplant description attachment:**

**Will seed be harvested for use in site reclamation? NO**

**Seed harvest description:**

**Seed harvest description attachment:**

### Seed Management

#### Seed Table

**Seed type:**

**Seed source:**

**Seed name:**

**Source name:**

**Source address:**

**Source phone:**

**Seed cultivar:**

**Seed use location:**

**PLS pounds per acre:**

**Proposed seeding season:**

#### Seed Summary

**Total pounds/Acre:**

**Seed Type**

**Pounds/Acre**

**Seed reclamation attachment:**

#### Operator Contact/Responsible Official Contact Info

**First Name:** Melissa

**Last Name:** Luke

**Phone:** (720)499-1482

**Email:** melissa.luke@cdevinc.com

**Seedbed prep:** Prepare a 3-5 inch deep seedbed, with the top 3-4 inches consisting of topsoil

**Seed BMP:** Seeding will be done in the proper season, and monitored for the re-establishment of native vegetation.

**Seed method:** Broadcast

**Existing invasive species? NO**

**Existing invasive species treatment description:**

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Existing invasive species treatment attachment:**

**Weed treatment plan description:** Spray for noxious weeds and bare ground as needed

**Weed treatment plan attachment:**

**Monitoring plan description:** All disturbed areas will be closely monitored for any primary or secondary noxious weeds. Should any be found, chemical spraying in accordance with state regulations will be implemented.

**Monitoring plan attachment:**

**Success standards:** No primary or secondary noxious weeds will be allowed. Vegetation will be returned to its native standard.

**Pit closure description:** No open pits will be constructed.

**Pit closure attachment:**

## Section 11 - Surface Ownership

**Disturbance type:** WELL PAD

**Describe:**

**Surface Owner:** PRIVATE OWNERSHIP

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

<b>Operator Name:</b> CENTENNIAL RESOURCE PRODUCTION LLC	
<b>Well Name:</b> SOLOMON FEDERAL COM	<b>Well Number:</b> 710H

<b>Fee Owner:</b> Bert Madera	<b>Fee Owner Address:</b> 125 Bella Via Circle Ruidoso, NM
<b>Phone:</b> (575)631-4444	88345-9719
	<b>Email:</b>
<b>Surface use plan certification:</b> NO	
<b>Surface use plan certification document:</b>	
<b>Surface access agreement or bond:</b> Agreement	
<b>Surface Access Agreement Need description:</b> SUA with Private Surface Owner	
<b>Surface Access Bond BLM or Forest Service:</b>	
<b>BLM Surface Access Bond number:</b>	
<b>USFS Surface access bond number:</b>	

**Disturbance type:** NEW ACCESS ROAD

**Describe:**

**Surface Owner:** PRIVATE OWNERSHIP

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Fee Owner:** Bert Madera

**Phone:** (575)631-4444

**Surface use plan certification:** NO

**Surface use plan certification document:**

**Surface access agreement or bond:** Agreement

**Surface Access Agreement Need description:** SUA with Private Surface Owner

**Surface Access Bond BLM or Forest Service:**

**BLM Surface Access Bond number:**

**USFS Surface access bond number:**

**Fee Owner Address:** 125 Bella Via Circle Ruidoso, NM  
88345-9719

**Email:**

**Disturbance type:** EXISTING ACCESS ROAD

**Describe:**

**Surface Owner:** PRIVATE OWNERSHIP

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Fee Owner:** Bert Madera

**Phone:** (575)631-4444

**Surface use plan certification:** NO

**Surface use plan certification document:**

**Surface access agreement or bond:** Agreement

**Surface Access Agreement Need description:** SUA with Private Surface Owner

**Surface Access Bond BLM or Forest Service:**

**BLM Surface Access Bond number:**

**USFS Surface access bond number:**

**Fee Owner Address:** 125 Bella Via Circle Ruidoso, NM  
88345-9719

**Email:**

## Section 12 - Other Information

**Right of Way needed?** NO

**Use APD as ROW?**

**ROW Type(s):**

## ROW Applications

**SUPO Additional Information:**

**Use a previously conducted onsite?** YES

**Previous Onsite information:** Onsite conducted with Colleen Cepero-Rios on 1/18/2018

## Other SUPO Attachment

Arch\_Survey\_Romeo\_\_Juliet\_\_Sheba\_\_\_\_Solomon\_20180312115334.pdf

Submitted\_SOLOMON\_FEDERAL\_COM\_7101H\_Addl\_Atchmnts\_Rig\_Layout\_\_Arch\_Boundayr\_\_Cross\_Section\_03.12.18\_20180312152514.pdf

PWD

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

## Section 1 - General

**Would you like to address long-term produced water disposal?** NO

## Section 2 - Lined Pits

**Would you like to utilize Lined Pit PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Lined pit PWD on or off channel:**

**Lined pit PWD discharge volume (bbl/day):**

**Lined pit specifications:**

**Pit liner description:**

**Pit liner manufacturers information:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Lined pit precipitated solids disposal schedule:**

**Lined pit precipitated solids disposal schedule attachment:**

**Lined pit reclamation description:**

**Lined pit reclamation attachment:**

**Leak detection system description:**

**Leak detection system attachment:**

**Lined pit Monitor description:**

**Lined pit Monitor attachment:**

**Lined pit: do you have a reclamation bond for the pit?**

**Is the reclamation bond a rider under the BLM bond?**

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information attachment:**

### **Section 3 - Unlined Pits**

**Would you like to utilize Unlined Pit PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit specifications:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule attachment:**

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

**Do you propose to put the produced water to beneficial use?**

**Beneficial use user confirmation:**

**Estimated depth of the shallowest aquifer (feet):**

**Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?**

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

**Unlined pit: do you have a reclamation bond for the pit?**

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information attachment:**



Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

**Other PWD type attachment:**

**Have other regulatory requirements been met?**

**Other regulatory requirements attachment:**

## Bond Info

### Bond Information

**Federal/Indian APD:** FED

**BLM Bond number:** NMB001471

**BIA Bond number:**

**Do you have a reclamation bond?** NO

**Is the reclamation bond a rider under the BLM bond?**

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond number:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**

## Operator Certification

### Operator Certification

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** Melissa Luke

**Signed on:** 03/12/2018

**Title:** Sr. Regulatory Analyst

**Street Address:** 1001 17th Street, Suite 1800

**City:** Denver

**State:** CO

**Zip:** 80202

**Phone:** (720)499-1482

**Email address:** Melissa.Luke@cdevinc.com

**Operator Name:** CENTENNIAL RESOURCE PRODUCTION LLC

**Well Name:** SOLOMON FEDERAL COM

**Well Number:** 710H

### Field Representative

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**

### Payment Info

#### Payment

**APD Fee Payment Method:** PAY.GOV

**pay.gov Tracking ID:** 268BQUN3