BEFORE THE OIL CONSERVATION DIVISION EXAMINER HEARING AUGUST 06, 2020

CASE No. 21351

ROPE 183519 1H WELL

LEA COUNTY, NEW MEXICO



APPLICATION OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO

CASE NOS. 21351

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COMPULSORY POOLING APPLICATION CHECKLIST							
ALL INFORMATION IN THE APPLICATION MUST BE SUPPORTED BY SIGNED AFFIDAVITS							
Case: 21351	APPLICANT'S RESPONSE						
Date: August 4, 2020							
Applicant	Catena Resources Operating, LLC						
Designated Operator & OGRID (affiliation if applicable)	Catena Resources Operating, LLC (OGRID No. 328449)						
Applicant's Counsel:	Holland & Hart LLP						
Case Title:	APPLICATION OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.						
Entries of Appearance/Intervenors:	Marathon Oil Permian, LLC						
Well Family	Rope 183519 1H						
Formation/Pool							
Formation Name(s) or Vertical Extent:	Wolfcamp Formation						
Primary Product (Oil or Gas):	Oil						
Pooling this vertical extent:	Wolfcamp Formation						
Pool Name and Pool Code:	Airstrip; Wolfcamp (970)						
Well Location Setback Rules:	Statewide horizontal oil well rules						
Spacing Unit Size:	640-acres, more or less						
Spacing Unit							
Type (Horizontal/Vertical)	Horizontal well spacing unit						
Size (Acres)	640 acres, more or less						
Building Blocks:	quarter-quarter sections						
Orientation:	North to South						
Description: TRS/County	E/2 of Sections 19 and 30, Township 18 South, Range 35						
5. 1 10 : 124 HG : 125 (V/N) (SN 1 : 1	East, NMPM, Lea County, New Mexico.						
Standard Horizontal Well Spacing Unit (Y/N), If No, describe Other Situations	Yes						
Depth Severance: Y/N. If yes, description	None						
Proximity Tracts: If yes, description	W/2 E/2 of Sections 19 ad 30						
Proximity Defining Well: if yes, description	Rope 183519 1H						
Applicant's Ownership in Each Tract	Exhibit A-3						
Well(s)	EATHOR A-3						
Name & API (if assigned), surface and bottom hole location,	Add wells as needed						
footages, completion target, orientation, completion status	That Hello as Hedada						
(standard or non-standard)							
Well #1	Rope 183519 1H (API # Pending)						
	SHL: 190' FSL & 1290' FEL (Unit P), Sec. 18, T18S, R35E						
	BHL: 100' FSL & 1290 FEL (Unit P), Sec. 30, T18S, R35E						
	Completion target: Wolfcamp						
	Well orientation: North to South						
	Completion location: expected to be standard						
Horizontal Well First and Last Take Points	See Exhibit A-1						
Completion Target (Formation, TVD and MD)	See Exhibit B						
AFE Capex and Operating Costs							
Drilling Supervision/Month \$	\$8,000						
Production Supervision/Month \$	\$800						
Justification for Supervision Costs	See Exhibit A						

Requested Risk Charge	200%
Notice of Hearing	
Proposed Notice of Hearing	Exhibit C
Proof of Mailed Notice of Hearing (20 days before hearing)	Exhibit C
Proof of Published Notice of Hearing (10 days before hearing)	N/A
Ownership Determination	
Land Ownership Schematic of the Spacing Unit	Exhibit A-3
Tract List (including lease numbers and owners)	Exhibit A-3
Pooled Parties (including ownership type)	Exhibit A-3
Unlocatable Parties to be Pooled	None
Ownership Depth Severance (including percentage above &	
below)	N/A
Joinder	N/A
Sample Copy of Proposal Letter	Exhibit A-4
List of Interest Owners (ie Exhibit A of JOA)	Exhibit A-3
Chronology of Contact with Non-Joined Working Interests	Exhibit A-5
Overhead Rates In Proposal Letter	Exhibit A-4
Cost Estimate to Drill and Complete	Exhibit A-4
Cost Estimate to Equip Well	Exhibit A-4
Cost Estimate for Production Facilities	Exhibit A-4
Geology	EATHOR A T
Summary (including special considerations)	Exhibit B
Spacing Unit Schematic	Exhibit A-2
Gunbarrel/Lateral Trajectory Schematic	Exhibit A-2
Well Orientation (with rationale)	Exhibit B-3
Target Formation	Exhibit B
HSU Cross Section	Exhibit B-2
Depth Severance Discussion	N/A
Forms, Figures and Tables	IN A
C-102	Exhibit A-1
Tracts	Exhibit A-3
Summary of Interests, Unit Recapitulation (Tracts)	Exhibit A-3
General Location Map (including basin)	Exhibit A-2
Well Bore Location Map	Exhibit A-2
Structure Contour Map - Subsea Depth	Exhibit B-1
Cross Section Location Map (including wells)	Exhibit B-1
Cross Section (including Landing Zone)	Exhibit B-2
Additional Information	
Special Provisions/Stipulations	None
CERTIFICATION: I hereby certify that the information provide	
Printed Name (Attorney or Party Representative):	Michael H. Feldewert
	Iviiciiaci II. reiueweit
Signed Name (Attorney or Party Representative):	+ Mil College
Date:	Y was to go the days 4-Aug-20

APPLICATION OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

CASE NO. <u>21351</u>

APPLICATION

Catena Resources Operating, LLC ("Applicant") (OGRID No. 328449), through its undersigned attorneys, hereby files this application with the Oil Conservation Division pursuant to the provisions of NMSA 1978, § 70-2-17, for an order pooling all uncommitted interests in the Wolfcamp formation underlying a standard 640-acre, more or less, horizontal spacing unit comprised of the E/2 of Sections 19 and 30, Township 18 South, Range 35 East, Lea County, New Mexico. In support Applicant states:

- 1. Applicant is a working interest owner in the proposed horizontal spacing unit and has the right to drill thereon.
- 2. Applicant seeks to initially dedicate the above-referenced spacing unit to the proposed **Rope 183519 1H Well** to be horizontally drilled from a surface location in the SE/4 SE/4 (Unit P) of Section 18 to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 30.
- 3. The completed interval for the proposed well will remain within 330 feet of the W/2 E/2 of Sections 19 and 30 to allow inclusion of this offsetting acreage in a standard horizontal well spacing unit.
- 4. Applicant has sought and been unable to obtain voluntary agreement for the development of these lands from all interest owners in the subject spacing unit.

- 5. The pooling of interests will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.
- 6. In order to permit Applicant to obtain its just and fair share of the oil and gas underlying the subject lands, all uncommitted interests in this horizontal spacing unit should be pooled, and Applicant should be designated the operator of the proposed well and horizontal spacing unit.

WHEREFORE, Applicant requests that this application be set for hearing before an Examiner of the Oil Conservation Division on July 23, 2020, and, after notice and hearing as required by law, the Division enter an order:

- A. Pooling all uncommitted interests in the horizontal spacing unit and approving the initial well thereon;
- B. Designating Applicant as operator of the horizontal spacing unit and the horizontal wells to be drilled thereon;
- C. Authorizing Applicant to recover its costs of drilling, equipping, and completing the well;
- D. Approving the actual operating charges and costs of supervision while drilling and after completion, together with a provision adjusting the rates pursuant to the COPAS accounting procedures; and
- E. Imposing a 200% charge for the risk assumed by Applicant in drilling and completing the well against any working interest owner who does not voluntarily participate in the drilling of the well.

Respectfully submitted,

HOLLAND & HART LLP

Bv:

Michael H. Feldewert
Adam G. Rankin
Julia Broggi
Kaitlyn A. Luck
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
(505) 988-4421
(505) 983-6043 Facsimile
mhfrldewert@hollandhart.com
agrankin@hollandhart.com
jbroggi@hollandhart.com
kaluck@hollandhart.com

ATTORNEYS FOR CATENA RESOURCES OPERATING, LLC

APPLICATION OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO

CASE NOS. 21351

AFFIDAVIT OF ROBERT SWANN

Robert Swann, of lawful age and being first duly sworn, declares as follows:

1. My name is Robert Swann. I am a Land Manager with Catena Resources Operating,

LLC ("Catena").

2. I have previously testified before the New Mexico Oil Conservation Division as an

expert witness in petroleum land matters. My credentials as a petroleum land manager have been

accepted by the Division and made a matter of record.

3. I am familiar with the application filed by Catena in this case, and I am familiar

with the status of the lands in the subject area.

4. The uncommitted parties have not indicated any opposition to this pooling

application, and therefore I do not expect any opposition at the hearing

5. Catena seek an order pooling all uncommitted interests in the Wofcamp formation

[Airstrip; Wolfcamp Pool (970)] underlying a standard 640-acre horizontal spacing unit comprised

of the E/2 of Sections 19 and 30, Township 18 South, Range 35 East, Lea County, New Mexico.

6. Catena seeks to initially dedicate this spacing unit to the proposed Rope 183519

1H Well to be horizontally drilled from a surface location in the SE/4 SE/4 (Unit P) of Section 18

to a bottom hole location in the SE/4 SE/4 (Unit P) of Section 30. The completed interval for the

proposed well will remain within 330 feet of the W/2 E/2 of Sections 19 and 30 to allow inclusion

1

of this offsetting acreage in a standard horizontal well spacing unit

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe. New Mexico

Exhibit No. A

Submitted by: Catena Resources Operating, LLC Hearing Date: August 06, 2020

Case No. 21351

- 7. **Exhibit A-1** contains the Form C-102 for the proposed well.
- 8. **Exhibit A-2** is a general location map outlining the acreage being pooled and the lateral trajectory of the proposed well. The acreage is comprised of state lands.
- 9. **Exhibit A-3** identifies the tracts of land comprising the proposed spacing unit, the working interest ownership in each tract and their respective interest in the horizontal spacing unit. The mineral owners that remain to be pooled are highlighted on Exhibit A-3.
- 10. No ownership depth severances exist within in either the Wolfcamp formation underlying the subject acreage.
- 11. Catena has conducted a diligent search of company records, county records, telephone directors and conducted computer searches to locate contact information for each of the mineral owners that it seeks to pool.
- 12. **Exhibit A-4** contains a sample of the letter and AFE for the proposed well sent to the working interest owners that Catena has been able to locate. The costs reflected on the AFE are consistent with what Catena and other operators have incurred for drilling similar horizontal wells in the area in this formation.
- 13. **Exhibit A-5** contains a chronology of the contacts with the uncommitted mineral owners Catena was able to locate. Catena has made a good faith effort to obtain voluntary joinder of these owners in the proposed wells.
- 14. Catena requests overhead and administrative rates of \$8,000 per month for drilling and \$800 per month for a producing well. These rates are consistent with the rates charged by Catena and other operators for similar wells in this area.

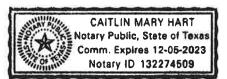
- 15. I have provided the law firm of Holland and Hart, LLP, with the names and addresses (where available) of the mineral owners that Catena seeks to pool and instructed that they be notified of this hearing.
- 16. Exhibits A-1 through A-5 were prepared by me or compiled under my direction from company business records.

FURTHER AFFIANT SAY	ETH NAUGH	Γ
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ROBERT SWANN

STATE OF TEXAS)
)
COUNTY OF BEXAR)

SUBSCRIBED and SWORN to before me this 4th day of AUST 2020 by Robert Swann.



NOTARY PUBLIC

My Commission Expires:

15152298_v1

District I
1625 N., French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. I jirst St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505 District IV 1220 S., St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

■ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Numb	er		^r Pool Cod 970	•		ie Enuip			
⁴ Property	Property Code Property Name Rope 183519							4 Well Number 111		
⁷ OGRID 328449				***************************************	* Operator Name * Elevation Cutena Resources Operating, LLC					
					" Surface Lo	ocation				
CI, or let no. P	Section 18	Township 18	Range S 35 E	f.ot ldn	Feet from the 190°	North/South line South	Feet from the 1290'	Enst/West line Enst	County Lea	
		5-95-11	" Bot	tom Hole	Location If I	Different From	Surface			
UL or lot no. P		Township 18 S	Range 35 E	Lot Idn	Feet from the 180°	the North/South line Feet from the Eust/West line		County Lea		
12 Dedicated Acres 640	13 Joint of		Consolidation (Code IF Ord	er No.			·		

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	SESE	L 4	SHL 190' FSL	\$E	SESE	swsw	 SESW 	SWSE	OPERATOR CERTIFICATION I haveby certify that the information attained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interestor unleased mineral interest in the land meliding
E	NENE	L 1	1290' FEL S-18, 18S,3	SSE NE	FTP 100' F	NL	NENW	 NWNE	owns a working interessor unleased innerest interest in the land including the proposed bottom hole locationwhus a right to deil) this well sets location pursuant to a contract with an owner of such a numeral as work interest, or to a columnary pooling agreement or anapulsory pooling order
E	SENE	L 2	SENW	SWNE	1290' S-19,	FEL 18S,35E	SENW	SWNE	heresetive eased by the division 8/4/202
E	NESE	35E ⊾ 7	NESW	NWSE	NESE	NWSW	NESW	NWSE	ROBERT SWANN Printed Name
E	SESE	185	SESW	 SWSE 	SESE	swsw	SESW	SWSE	F-mail Address
E	NENE	L 1	 NENW	 NWNE	NENE	NWNW	l NENW	 NWNE	"SURVEYOR CERTIFICATION I hereby certify that the well location shown on hiplat was plotted from field notes of actual surveys made by
Е	SENE	L 2	SENW	SWNE	SENE	SWNW	SENW	SWNE	me or under my supervisin, and that the same is true and correct to the best of my belief.
E	NESE	L 3	NESW	NWSE	NESE	BHL & LT	NESW P	NWSE	Date of Survey Signature and Seal of Professional Surveyor:
E	SESE	L 4	SESW	SWSE	SESE	100' FSL 1290' FEI S-30, 189		SWSE	
E	NENE	Ļ	I NENW	NWNE.	NENE	NWNW	NENW	NWNE	Certificate Number

BEFORE THE OIL CONSERVATION DIVISION

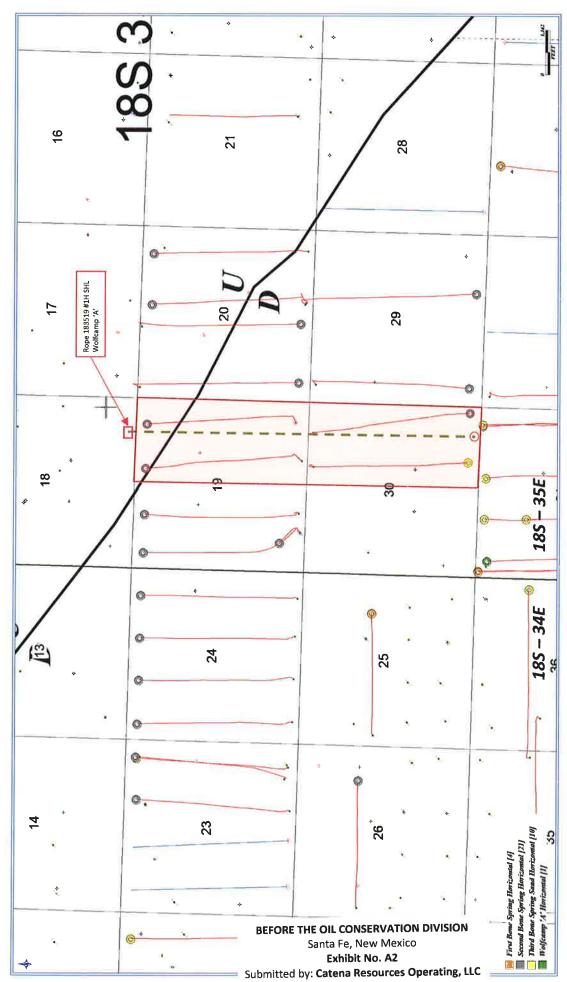
Santa Fe, New Mexico

Exhibit No. A1

Submitted by: Catena Resources Operating, LLC Hearing Date: August 06, 2020

Case No. 21351

Rope 183519 #1H Locator Map





Hearing Date: August 06, 2020 Case No. 21351

Catena Resources Operating, LLC Rope 183519 1H - Wolfcamp Case No. 21351

SWSE		18S 35E	SESW	SWSE	SESE	swsw	SESW
NWNE	NENE	L 1	NENW	NWNE	 	NWNW	NENW
SWNE	SENE	L 2	SENW	SWNE	SENE	SWNW	SENW
NWSE	NESE	L 3	- NESW	NWSE	 NESE 	NWSW	NESW
SWSE	SESE	L 4	SESW	SWSE	SESE	swsw	SESW
NWNE	NENE	L 1	NENW	NWNE	 NENE 	NWNW	NENW
SWNE	SENE	L 2	SENW	SWNE	SENE	SWNW	SENW
NWSE	NESE	L 3	NESW	NWSE	 NESE 	NWSW	NESW
SWSE	SESE	L 4	SESW	SWSE	SESE BEFORE	SWSW THE OIL CONSERVATI Santa Fe, New Mexi	
NWNE	NENE	L 1	NENW	NWNE	Submitted He	Exhibit No. A3 by: Catena Resources earing Date: August 06 Case No. 21351	Operating, LLC

Unit Size	Rope 183519 1H - Wolfcamp - Case No. 21351							
640	Корс	ope 183519 1H - Wolfcamp - Case No. 21351						
WI Owner		Tract	Tract	Tract	Tract			
Wi Owner		No	Gross	WI	NMA			
Catena Resources Operating	3	1	160	87.50%	140.000			
Catena Resources Operating	3	2	160	87.50%	140.000			
T.H. McElvain Oil & Gas, LLLI	P	1	160	12.50%	20.000			
T.H. McElvain Oil & Gas, LLLI	P	2	160	12.50%	20.000			
Marathon Oil Permian LLC		3	160	40.00%	64.000			
Concho/COG		3	160	60.00%	96.000			
Marathon Oil Permian LLC		4	160	51.16%	81.850			
Concho/COG		4	160	43.84%	70.150			
Axis Energy Corporation	Axis Energy Corporation 4 160		160	5.00%	8.000			
Tract T	lotals				640.000			

WI Owner	Unit	Unit
Wi Owilei	WI	NMA
Catena Resources Operating	43.75%	280.000
T.H. McElvain Oil & Gas, LLLP	6.25%	40.000
Marathon Oil Permian LLC	22.79%	145.850
Concho/COG	25.96%	166.150
Axis Energy Corporation	1.25%	8.000
Unit Totals	100.00%	640.000



June 10, 2020 Via Certified Mail

Re:

Rope 183519 1H Well Proposal

Wolfcamp Formation

E2 of Section 19 T18S, 35E, and Section 30, T18S, R35E

Lea County, New Mexico

Rope 183519 2H Well Proposal

Bone Springs Formation

E2 of Section 19 T18S, 35E, and Section 30, T18S, R35E

Lea County, New Mexico

Ladies and Gentlemen,

Catena Resources Operating, LLC ("Catena") as Operator hereby proposes to drill the following wells to a depth sufficient to test the Wolfcamp and Bone Spring formations:

Well Name	SHL	BHL	BHL Spacing Unit		Estimated
	Sec. 18	Sec. 30	640 Acres	TVD	TMD
Rope 183519 1H Wolfcamp Formation	FSL: 190' FEL: 1290'	FSL: 100' FEL: 1290'	E/2 of Section 19, T18S, 35E and Section 30, T18S, R35E	9,989'	20,698'
Rope 183519 2H Bone Spring Formation	FSL: 190' FEL: 1390'	FSL: 100' FEL: 1290'	E/2 of Section 19, T18S, 35E and Section 30, T18S, R35E	9,740'	20,444'

These proposed locations and target depths are subject to change depending on any surface or subsurface concerns encountered.

Regarding the above, enclosed for your further handling are our AFE's dated April 16, 2020 for the proposed wells. The AFE's represent an estimate of the costs that will be incurred to drill and complete the wells, but those electing to participate in the wells are responsible for their proportionate share of the actual costs incurred. In the event you elect to participate in the proposed wells, please execute the enclosed AFE's and return to me. We are happy to furnish you with a proposed Joint Operating Agreement upon request. Please respond within 30 days of receiving this notice. If you do not wish to participate, Catena proposes to acquire your interest via term assignment subject to due diligence and title verification satisfactory to Catena.

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Hearing Date: August 06, 2020 Case No. 21351



Should you have any questions regarding the above, please email me at rswann@catenares.com or call me at (210) 775-6993.

Sincerely,

Catena Resources Operating, LLC

Robert Swann

Land Manager



WELL COST ESTIMATE

AFE NO.

WELL NAME: RELD NAME: LOCATION: COUNTY / ST: OBJECTIVE:

Rope 183519 1H 2,0 sec. lateral, Lea County, NM Wolfcamp DATE: START DATE: COMPLETE DATE: ORIGINAL: SUPPLEMENT:

16-Apr-20

	ACCT	DRILLING-		T T	ACCT	FACILITIES -	
INTANGIBLE COSTS	CODE	310XX	ACCT CODE	COMPLETION - 320XX	CODE	330XX	TOTAL
Legal Fees / Title Opinion	31001	\$50,000	32001	50	33001		****
Surveys / Staking / Permits / Bonds / Regulatory	31001	\$25,700	32002	50	33002	50	\$50,000 \$25,700
ROW / Surface Damages	31003	\$60,000	32003	50	11 33001	50	\$60,000
Roads & Location / Reserve Pit - Construction	31004	\$90,000	32004	50	-11	50	\$90,000
Roads & Location / Reserve Pit - Reclaimation	31005	- 100/1704	32005	\$0	-11	\$0	50
Frac Pond	31008		32006	50	-11	50	
Gate Guard	31007		32007	\$0	- 11	\$0	50
Mouse / Rathole / Conductor	31008	\$19,000		50		50	\$19,000
Mobilization / Demobilization	31000	\$230,875	32008	50		\$0	\$230,675
Drilling - Daywork	31010	\$574,646		\$0		\$0	\$574,846
Drilling - Footage	31011			\$0		50	50
Drilling - Turnkey	31012			\$0		50	\$0
Completion / Snubbing / Workover Unit	31013		32009	\$40,000		\$0	\$40,000
Trailer House / Communications	31014	\$43,572	32010	\$24,200		\$0	\$67,772
Drill Bits	31015	\$103,000	32011	\$0		\$0	\$103,000
Directional Equipment / Gyro Surveys	31016	\$266,326	32012	\$0		50	\$260,326
Downhole Tool / Stabilization Rental	31017	\$57,075	32013	\$34,000		\$0	\$91,075
Mud / Chemicals	31018	\$222,658	32014	\$601,500		50	\$824,058
Fuel / Power	31019	\$116,482	32015	\$471,800		\$0	\$588,282
Water Supply Well, equipment Water / Water Hauling	31020	\$3,603	32016	50		50	****
Offsite Water & Cuttings Disposal	31021 31022	\$204 770	32017 32018	\$816,550	-#	10	\$816,550
Transportation / Hauling	31022	\$284,770 \$31,000	32019	\$30,500	33009	30	\$315,270
Inspection / Tubular Testing	31023	\$101,000	32020	50	33009	\$15,000	\$46,000
Laydown Machine / Casing Crew / Tongs	31025		32021	50		50	\$101,000
Cementing, Float Equipment & Services	31025	\$62,190	32021	50			\$62,190
Mud Logging	31028	\$65,072 \$35,343	32022	50		50	\$65,072
Logging - Open Hole	31027	570,343	32023	50		50	\$35,343
Logging - Open Hole Logging - Cased Hole	31028		32024	\$13,000		50	\$13,000
Coring & Analysis, Drill Stem Test	31030		32024	\$13,000		50	
Perforating	31030		32025	\$421,200	-11	50	\$421,200
Wireline / Slickline Services	31032		32026	\$15,000	-11	50	\$15,000
Equipment Rental	31032	\$163,809	32027	\$236,000		50	\$399,809
Pumping Services/Rental	31034	2102,003	32028	\$21,000	-11	50	2329,009
Acidizing & Fracturing	31035		32029	\$2,479,000	- 11	50	\$2,479,000
Coll Tubing Unit	31036		32030	\$120,000	-11	\$0	\$120,000
How Testing, Swabbing	31037		32031	\$95,875		10	\$95,875
Fishing / Sidetrack Services	31038		32032	50		50	50
Nipple Up / BOPE Testing	31039	\$6,400	32033	\$23,000	_	50	\$29,400
Overhead	31040	\$8,000	32034	\$19,500		10	\$27,500
Wellsite Consulting Services/Supervision	31041	\$170,628	32035	\$153,950	33003	\$20,000	\$344,578
Engineering / Geological / Lab Service: Tracers and diagnostics	31042	\$25,000	32036	\$35,500	1	\$15,000	\$75,500
Roustabout / Contract Labor	31043	\$5,480	32037	80	33004	\$160,000	\$168,480
Welding Services	31044	\$5,120	32038	50	1	50	\$5,120
Insurance	31045	\$10,000	32039	30	33005	\$0	\$10,000
Miscellaneous	31046		32040	50	33006	\$0	10
P&A Costs	31047		32041	50		10	
							20.000
Bafety / EH&S	31048		32042	\$6,610	33007	50	30,610
5.5% Contingency (8% Taxes on Casing included in casing cost)	31049	\$141,973	32043	\$311,200	33007	\$10,500	\$6,610 \$463,673
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible	31049 31050	\$141,973	32043 32044	\$311,200	\blacksquare	\$10,500	\$463,673
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / interconnect	31049		32043	\$311,200 \$0 \$0	33007 33008	\$10,500 \$0 \$0	\$463,673
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible	31049 31050	\$141,973 \$2,981,422	32043 32044	\$311,200	\blacksquare	\$10,500	\$463,673
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / interconnect	31049 31050 31051	\$2,981,422	32043 32044	\$311,200 \$0 \$0	33008	\$10,500 \$0 \$0 \$220,500	\$463,673
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / interconnect	31049 31050 31051		32043 32044	\$311,200 \$0 \$0	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS	31049 31050 31051	\$2,981,422	32043 32044 32045	\$311,200 \$0 \$0 \$5 \$5,969,385	33008	\$10,500 \$0 \$0 \$220,500	\$463,673 \$0 \$9,171,307
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS Size Feet \$7R	31049 31050 31051 ACCT CODE	\$2,981,422	32043 32044 32045	\$311,200 \$0 \$0 \$5 \$5,969,385	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$0 \$9,171,307
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANCIBLE COSTS Conductor Size Feet \$/Ft	31049 31050 31051 ACCT CODE	52,981,422 DRILLING - 311X)	32043 32044 32045	\$311,200 \$0 \$0 \$5 \$5,969,385	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$6 \$9,171,307 TOTAL
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS Conductor Surface Casing 13.3/6" 13.3/6"	31049 31050 31051 ACCT CODE 31101 31102	\$2,981,422 DRILLING - 311X) \$58,600	32043 32044 32045	\$311,200 \$0 \$0 \$5 \$5,969,385	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$0 \$9,171,307 TOTAL
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS Conductor Surface Casing 13.3/6" 13.3/6" 13.5/6"	31049 31050 31051 ACCT CODE 31101 31102 31103	52,981,422 DRILLING - 311X)	32043 32044 32045	\$311,200 \$0 \$0 \$5 \$5,969,385	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$493,673 \$9,171,307 TOTAL \$68,800 \$113,200
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS Conductor Surface Casing 13.3/6" 13.3/6"	31049 31050 31051 ACCT CODE 31101 31102	\$2,981,422 DRILLING - 311X) \$58,600	32043 32044 32045	\$311,200 \$0 \$0 \$5 \$5,969,385	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$0 \$9,171,307 TOTAL \$68,800 \$113,200
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS Conductor Surface Casing 113 //fit 113 //fit 113 //fit 12 //fit 12 //fit 13 //fit 13 //fit 13 //fit 13 //fit 14 //fit 15 //fit 15 //fit 16 //fit 17 //fit 17 //fit 18 //fit 18 //fit 19 //fit 19 //fit 19 //fit 10 //fit 10 //fit 10 //fit 11 //fit 12 //fit 13 //fit 13 //fit 14 //fit 15 //fit 15 //fit 16 //fit 17 //fit 18 //fit 18 //fit 19 //fit	31049 31050 31051 ACCT CODE 31101 31102 31103	\$2,981,422 DRILLING - 311X) \$58,600	32043 32044 32045 ACCT CODE	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$0 \$9,171,307 TOTAL \$68,800 \$113,200
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCEBLE COSTS TANGBLE COSTS Conductor Surface Casing 113 Jis* 113 Jis* 114 Intermediate Casing / Liner Production Casing / Liner Production Casing / Liner Production Casing / Liner Production Casing / Liner Casing 1E Back Liner Hanger Assembly	31049 31050 31051 ACCT CODE 31101 31102 31103	\$2,981,422 DRILLING - 311X) \$58,600	32043 32044 32045 ACCT CODE	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$0 \$9,171,307 TOTAL \$68,800 \$113,200
5.5% Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS **TANGBLE COSTS** **Conductor Surface Casing 11.1 st Intermediate Casing / Liner 2nd I	31049 31050 31051 ACCT CODE 31101 31102 31103	\$2,981,422 DRILLING - 311X) \$58,600	32043 32044 32045 ACCT CODE	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$0 \$9,171,307 TOTAL \$68,800 \$113,200
5.5% Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS TANGBLE COSTS **Conductor** Surace Casing 1.5 interconnect 1.3 ils** 1.5 intermediate Casing / Liner 9 5 //8** Production Casing / Liner 9 5 //8** Production Casing / Liner 9 5 //8** Liner Hanger Assembly 1.5 interconnect 1.	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32105	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX \$410,000 \$51,425 \$31,200	33008 ACCT	\$10,500 \$0 \$2 \$220,500 FACILITIES -	\$463,673 \$9,171,307 TOTAL \$88,800 \$113,200 \$430,000
5.5% Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS Conductor Surface Casing 113.3/6* 13.1	31049 31050 31051 ACCT CODE 31101 31102 31103	\$2,981,422 DRILLING - 311X) \$58,600	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32105 32106	\$311,200 \$0 \$0 \$5,969,365 COMPLETION - 321XX \$430,000 \$61,425 \$31,200 \$27,000	ACCT CODE	\$10,500 \$40 \$20,500 FACILITIES - 331XX	\$463,673 \$9,171,307 TOTAL \$88,600 \$113,200 \$430,000 \$51,200 \$51,200 \$75,000
5.5% Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS TANGBLE COSTS Size Feet 5/ft Conductor Surface Casing / Liner 151 / Intermediate Casing / Liner Production Casing / Liner Production Casing / Liner Froduction Casing / Liner Casing Tie Back Liner Hanger Assembly Tubing Casing Equipment - OHMS / Etc. Wellhead Equipment Very pumping Unit / Prime Mover / Base	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32104 32105 32106 32107	\$311,200 \$0 \$0 \$0 \$15,969,385 COMPLETION - 321XX \$410,000 \$410,000 \$51,425 \$31,200 \$37,000 \$57,000	33008 ACCT CODE	\$10,500 \$6 \$220,500 FACILITIES - 331XX	\$463,673 \$9,171,307 TOTAL \$68,800 \$113,200 \$430,000 \$561,425 \$312,000 \$79,000
5.5% Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGIBLE COSTS TANGIBLE COSTS Conductor Surface Casing 113 3/8* 13 14/8* 13 14/8* 13 14/8* 13 14/8* 14 14 14 14 14 14 14 14 14 14 14 14 14 1	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32105 32106 32107 32108	\$311,200 \$0 \$0 \$5,369,365 COMPLETION - 321XX \$410,000 \$61,425 \$31,200 \$27,000 \$0 \$0	33008 ACCT CODE 33101 33102	\$10,500 \$40 \$220,500 FACILITIES - 331XX	\$483,673 \$9,171,307 TOTAL \$88,600 \$113,200 \$430,000 \$431,200 \$431,200 \$430,000 \$51,425 \$51,425 \$51,200 \$50 \$50 \$50 \$50
5.5% Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS TANGBLE COSTS Conductor Surface Casing Surface Casing 1 Inter 13.3/6" 13.1/6"	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32108 32107 32108 32107 32108	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX \$420,000 \$420,000 \$51,200 \$27,000 \$0 \$14,000	33008 ACCT CODE 33101 33102 33103 33103	\$10,500 \$40 \$20,500 FACILITIES - 331XX	\$463,673 \$9,171,307 TOTAL \$68,800 \$113,200 \$430,000 \$51,425 \$51,200 \$79,000 \$50,500 \$5
5.5%.Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGIBLE COSTS TANGIBLE COSTS Conductor Surface Casing 1 Size Feet \$\frac{1}{2}\text{TR}\$ Conductor 13.3 \(\frac{1}{2}\text{TR} \) Surface Casing 1 Inter 2nd intermediate Casing / Liner 9 5 \(\frac{1}{2}\text{TR} \) Total casing 1 E back Liner 6 1 \(\frac{1}{2}\text{TR} \) Liner Hanger Assembly 1 \ Tubing 2 \(\frac{1}{2}\text{TR} \) United 1 \(\frac{1}{2}\text{TR} \) Wellhead Equipment - OHMS / Etc. Wellhead Equipment 2 \(\frac{1}{2}\text{TR} \) Wellhead Equipment Completions - Production Tree	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32106 32106 32108 32108 32108 32108	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX \$430,000 \$61,425 \$31,200 \$27,000 \$0 \$14,000 \$14,000	33101 33101 33102 33102 33103 33104	\$10,500 \$40 \$220,500 FACILITIES - 331XX	\$463,673 \$5 \$9,171,307 TOTAL \$68,600 \$113,200 \$430,000 \$430,000 \$51,425 \$31,200 \$50 \$51,425
5.5%.Contingency (6% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS Conductor Surface Casing Surface Casing / Liner 2nd intermediate Casing / Liner 2nd int	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32105 32108 32108 32109 32110 32110	\$311,200 \$0 \$0 \$5,989,285 COMPLETION - 321XX COMPLETION - 321XX \$430,000 \$430,000 \$51,425 \$31,200 \$27,000 \$0 \$14,000 \$42,000 \$42,000	33008 ACCT CODE 33101 33102 33103 33104 33105	\$10,500 \$40 \$220,500 FACILITIES - 331XX	\$463,673 \$9,171,307 TOTAL \$68,600 \$113,200 \$430,000 \$51,425 \$31,200 \$75,000 \$142,000 \$142,000
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGIBLE COSTS TANGIBLE COSTS Conductor Surface Casing 1st Intermediate Casing / Liner 2nd Intermediate Casing / Liner 2nd Intermediate Casing / Liner 5 1/2 21,500 \$18.00 Casing Tipe Back Liner Hanger Assembly Tubing Casing Equipment - OHMS / Etc. Wellhead Equipment Pumping Unit / Prime Mower / Base Rod / Pony Rods / Sinker Bars Artificial Lin Other - Gas Lin Wellhead Equipment Completions - Production Tree Tanks / Tank Steps / Stalars Gas Treating / Dehydration Equipment	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32106 32106 32109 32110 32111 32111 32111	\$311,200 \$0 \$0 \$5 \$5,369,385 COMPLETION - 321XX \$430,000 \$51,425 \$51,200 \$27,600 \$0 \$14,000 \$42,000 \$5,42	33101 33101 33102 33103 33104 33105 33106	\$10,500 \$40 \$220,500 FACILITIES - 351XX	\$463,673 \$0 \$9,171,307 TOTAL \$88,800 \$113,200 \$430,000 \$430,000 \$79,000 \$14,000 \$14,000 \$14,000 \$14,000 \$14,000 \$14,000
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANCIBLE COSTS TANCIBLE COSTS Size Feet \$77 Conductor Surface Casing 11	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32106 32106 32108 32110 32111 32111 32111 32112	\$311,200 \$0 \$0 \$5,989,385 COMPLETION - 321XX COMPLETION - 321XX \$430,000 \$430,000 \$51,425 \$31,200 \$27,000 \$27,000 \$42,000 \$42,000 \$42,000 \$50 \$50 \$50 \$50	33008 ACCT CODE 33101 33102 33103 33104 33106 33107	\$10,500 \$40 \$220,500 FACILITIES - 331XX	\$463,673 \$9,171,307 TOTAL \$68,600 \$113,200 \$133,200 \$430,000 \$430,000 \$51,425 \$51,200 \$79,000 \$42,000 \$42,000 \$542,000 \$56,000 \$56,000 \$56,000
5.5%.Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGIBLE COSTS TANGIBLE COSTS Conductor Surface Casing 1 Size Feet 5/Ft Conductor Surface Casing 1 Size Feet 5/Ft Conductor Surface Casing 1 Liner 2nd Intermediate Casing / Liner 2nd Intermediate Casing / Liner 5 1/2 21,500 518.00 Liner Hanger Assembly Tubing Casing Talliner 5 1/2 21,500 5 5.85 Wellhead Equipment Completions - Production Casing Full Complete Casing Full Complete Casing Full Complete Casing Full Completions - Production Casing Full Complete	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32105 32106 32107 32108 32109 32110 32111 32112 32112 32113	\$311,200 \$0 \$0 \$5,369,385 COMPLETION - 321XX \$420,000 \$61,425 \$311,200 \$27,000 \$0 \$14,000 \$42,000 \$5,420 \$5,500	33008 ACCT CODE 33101 33102 33103 33104 33105 33106 33107 33108	\$10,500 \$9 \$220,500 FACILITIES - 3311XX	\$463,673 \$0 \$9,171,307 TOTAL \$88,600 \$113,200 \$430,000 \$430,000 \$51,425 \$51
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANCIBLE COSTS Conductor Surface Casing 113.3% 13.3% 13.1	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 32045 32101 32102 32103 32103 32104 32106 32106 32108 32108 32110 32111 32111 32112 32113 32114 32113	\$311,200 \$0 \$0 \$5,989,385 COMPLETION - 321XX COMPLETION - 321XX \$420,000 \$51,425 \$31,200 \$27,000 \$42,000 \$42,000 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	331008 ACCT CODE 33102 33102 33103 33106 33107 33108	\$10,500 \$40 \$220,500 FACILITIES - 331XX \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$463,673 \$9,171,307 TOTAL \$88,000 \$113,200 \$430,000 \$430,000 \$51,425 \$51,200 \$50,000 \$42,000 \$542,000 \$50,00
5.5%.Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANGBLE COSTS TANGBLE COSTS Conductor Surface Casing 15 thic remediate Casing / Liner 2nd intermediate Casing / Liner 5 1/2" 21,500 \$18.00 Liner Hanger Assembly Tubing Casing Edulpment - OHMS / Etc. Wellhead Equipment Pumping Inflir / Prime Mover / Base Rods / Pony Rods / Sinker Bars Arsticial Lift Other - Cas Lift Wellhead Equipment Completions - Production Tree Tanks / Tank Steps / Stalrs Gas Treating Debytration Equipment Separation Equipment, Heater Treater Surface Pumps Illers Billtongs	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32108 32108 32108 32109 32110 32111 32111 32111 32111 32111 32113 32114 32115	\$311,200 \$0 \$0 \$15,969,388 COMPLETION - 321XX \$410,000 \$61,425 \$311,200 \$27,000 \$140,000 \$42,000 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	33101 33101 33102 33103 33104 33106 33106 33107 33108 33107 33108	\$10,500 \$9 \$220,500 FACILITIES - 3311XX	\$463,673 \$0 \$9,171,307 TOTAL \$68,800 \$113,200 \$430,000 \$430,000 \$79,000 \$42,000 \$42,000 \$42,000 \$50
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANCIBLE COSTS TANCIBLE COSTS Conductor Surface Casing 11st Intermediate Casing / Uner 2nd Intermediate Casing / Uner Production Casing / Liner 2nd Intermediate Casing / Uner Production Casing / Liner Casing Tie Back Liner Hanger Assembly Liner Hanger Assembly Liner Hanger Assembly Casing Baulpment - OHMS / Etc. Wellhead Equipment Pumping Unit / Prime Mover / Base Rods / Pony Rods / Sinker Bars Artificial Lift Other - Gas Lift Wellhead Equipment Completions - Production Tree Tanks / Tank Steps / Stalars Cas Treating / Dehydration Equipment Separation Equipment, Heater Treater Surface Pumps Filters Buildings Interconnect Piping / Manifolds / Headers	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 32045 32101 32102 32103 32104 32106 32106 32107 32110 32111 32111 32112 32113 32114 32115 32115 32116	\$311,200 \$0 \$0 \$5,969,385 COMPLETION - 321XX \$430,000 \$4430,000 \$51,425 \$31,200 \$27,000 \$27,000 \$42,000 \$42,000 \$42,000 \$42,000 \$42,000 \$40,	33008 ACCT CODE 33101 33102 33103 33104 33108 33108 33108 33108 33103	\$10,500 \$40 \$220,500 FACILITIES - 331XX	\$463,673 \$0 \$9,171,307 TOTAL \$68,600 \$113,200 \$0 \$430,000 \$430,000 \$142,000 \$142,000 \$442,000 \$45,0
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS Conductor Surface Casing Surface Casing Uner 2nd Intermediate Casing / Uner 2nd	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32105 32108 32108 32109 32110 32111 32111 32112 32113 32114 32115 32118 32118	\$311,200 \$0 \$0 \$5,989,285 COMPLETION - 321XX COMPLETION - 321XX \$430,000 \$430,000 \$430,000 \$11,000 \$27,000 \$0 \$14,000 \$42,000	33101 33101 33102 33102 33103 33104 33106 33106 33107 33108 33108 33108 33108	\$10,500 \$20,500 \$220,500 FACILITIES - 3311XX 331XX \$40,000 \$50	\$463,673 \$9,171,307 TOTAL \$68,600 \$113,200 \$430,000 \$430,000 \$51,425 \$31,200 \$75,000 \$42,000 \$42,000 \$50,000
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANCIBLE COSTS TANCIBLE COSTS Conductor Surface Casing 1 1 13 3/6" 131 intermediate Casing / Uner 9 5/6" 2 2nd intermediate Casing	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 32045 32101 32102 32103 32104 32105 32106 32106 32107 32110 32111 32112 32113 32114 32115 32116 32117 32115 32116	\$311,200 \$0 \$0 \$5,369,385 COMPLETION - 321XX \$410,000 \$410,000 \$61,425 \$311,200 \$2,000 \$42,000 \$42,000 \$42,000 \$42,000 \$40,0	33008 ACCT CODE 33101 33102 33103 33104 33106 33108 33108 33108 33110 33111 33112 33113	\$10,500 \$40 \$220,500 FACILITIES - 331XX \$50 \$50 \$50 \$50,000 \$5	\$463,673 \$9,171,307 TOTAL \$88,800 \$113,200 \$430,000 \$430,000 \$514,000 \$514,000 \$544,000 \$55,200 \$50,000 \$50,
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS TANGBLE COSTS Conductor Surface Casing Surface Casing / Liner 13.3/8" 11st Intermediate Casing / Liner 2nd Intermediate Casing / Liner Production Casing / Liner 2nd Intermediate Casing / Liner Production Casing / Liner 2nd Intermediate Casing / L	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32108 32108 32109 32111 32111 32111 32113 32114 32115 32118 32118 32118 32118 32118 32118 32118 32118	\$311,200 \$0 \$0 \$5,969,285 COMPLETION - 321XX COMPLETION - 321XX \$420,000 \$420,000 \$27,000 \$27,000 \$27,000 \$42,000 \$42,000 \$42,000 \$42,000 \$40	33008 ACCT CODE 33101 33102 33103 33104 33106 33107 33108 33109 33110 33111 33113 33114	\$10,500 \$40 \$220,500 FACILITIES - 331XX \$9 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$463,673 \$9,171,307 TOTAL \$68,800 \$113,200 \$13,200 \$430,000 \$51,425 \$31,200 \$79,000 \$42,000 \$42,000 \$50,000
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGIBLE COSTS TANGIBLE COSTS Conductor Surface Casing 1st Intermediate Casing / Uner 2nd intermediate / Uner 2nd intermedi	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 32101 32102 32103 32103 32103 32106 32106 32107 32110 32111 32112 32113 32114 32115 32116 32116 32117 32117 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118 32118	\$311,200 \$0 \$0 \$5,369,385 COMPLETION - 321XX \$410,000 \$41,000 \$2,000 \$2,000 \$3,100 \$42,000 \$42,000 \$42,000 \$42,000 \$42,000 \$40 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$5	33008 ACCT CODE 33101 33102 33102 33103 33104 33105 33100 33110 33111 33113 33114 33115	\$10,500 \$40 \$220,500 FACILITIES - 331XX \$50,000 \$50,000 \$56,00	\$463,673 \$0 \$9,171,307 TOTAL \$68,600 \$113,200 \$430,000 \$430,000 \$51,425 \$31,200 \$514,000 \$52,000 \$50,000 \$5
5.5% Contingency (8% Taxes on Casing included in casing cost) NON-Op Drilling Intangible Pipeline installation / Interconnect TOTAL INTANCIBLE COSTS TANGBLE COSTS Conductor Surface Casing 113.3/6" 115 Intermediate Casing / Liner 2nd intermediate Casing / Liner 2nd intermediate Casing / Liner 2nd intermediate Casing / Liner Production Casing / Liner 2nd intermediate Casing / Liner 2nd gliner Assembly Tubing Casing Te Back Liner Hanger Assembly Tubing Casing Equipment - OHMS / Etc. Casing Te Back Liner Hanger Assembly Tubing Casing Equipment Completions - Production Tree Tanks / Tank Sof / Sinker Bars Artificial Lift Other - Gas Lift Wellhead Equipment Wellhead Equipment Completions - Production Tree Tanks / Tank Steps / Stairs Gas Treating / Dehydration Equipment Separation Equipment, Heater Treater Surface Pumps Pillers Buildings Interconnect Piping / Manifolds / Headers Howlines / Connections / Valves Automation / Instruments / Controls / Analyzers Bectrical Equipment / Centrols / Analyzers	31049 31050 31051 ACCT CODE 31101 31102 31103 31104	\$2,981,422 DRILLING - 311XX \$68,600 \$113,200	32043 32044 32045 ACCT CODE 32101 32102 32103 32104 32106 32108 32108 32109 32110 32111 32111 32112 32113 32114 32115 32118 32118 32118 32118 32118 32118 32118 32118	\$311,200 \$0 \$0 \$5,989,385 COMPLETION - 321XX \$430,000 \$430,000 \$51,425 \$31,200 \$27,000 \$42,000 \$42,000 \$42,000 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	33008 ACCT CODE 33102 33102 33103 33104 33106 33107 33112 33111 33111 33114 3313 33114 33115	\$10,500 \$40 \$220,500 FACILITIES - 331XX \$9 \$9 \$9 \$9 \$9 \$9 \$9 \$9 \$9 \$9 \$9 \$9 \$9	\$463,673 \$9,171,307 TOTAL \$88,800 \$113,200 \$113,200 \$430,000 \$430,000 \$514,000 \$42,000 \$42,000 \$50,000 \$42,000 \$50,0
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This AFE is only an estimate. By	returning one signed copy, you agree to pay your share	of the actual costs incurred	
Extra Expense Insurance	l elect to be covered by Operator's Ext	ra Expense Insurance and pay my proportionate share of the premium.	
other box is checked above, no	operating working interest owner elects to be covered to	by Operator's well control insuranc	
Joint Owner Interest:	Amount:	 }	
Joint Owner Name:		Signature:	

Catena Resources Operating, LLC – Discussion Timeline

<u>Wells</u>

Rope 183519 1H

Catena's conversations with Marathon began on December 6, 2019. From that time on, multiple emails, phone calls, proposals and letters were exchanged. The main contact at Marathon is Jeff Broussard and as of August 3, 2020, dealings with Marathon are ongoing.

Santa Fe, New Mexico
Exhibit No. A5

Submitted by: Catena Resources Operating, LLC

Hearing Date: August 06, 2020 Case No. 21351

Catena Resources Operating, LLC – Discussion Timeline

Wells Rope 183519 2H

Catena's conversations with Concho/COG began on July 6, 2020. From that time on, multiple emails, phone calls, proposals and letters were exchanged. The main contact at Concho is Brent Sawyer and as of August 3, 2020, dealings with Concho are ongoing.

Catena Resources Operating, LLC – Discussion Timeline

Wells Rope 183519 2H

Catena's conversations with Axis Energy began on December 10, 2019 with an email from Chad Barbe requesting the proposed Operating Agreement. The requested Operating Agreement was sent on December 11, 2019. As of December 11, 2019, dealings with Axis have remained at a standstill.

APPLICATION OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO

CASE NOS. 21351

AFFIDAVIT OF VINCE SMITH

Vince Smith, of lawful age and being first duly sworn, declares as follows:

1. My name is Vince Smith. I work for Catena Resources Operating, LLC ("Catena")

as a Geologist.

2. I have previously testified before the New Mexico Oil Conservation Division as an

expert witness in petroleum geology. My credentials as a petroleum geologist have been accepted

by the Division and made a matter of record.

3. I am familiar with the application filed by Catena in this matter and I have

conducted a geologic study of the lands in the subject area.

4. Catena is initially targeting the 'A' interval of the Wolfcamp formation. Exhibit

B-1 is a subsea structure map that I prepared for this interval with 25-foot contours. The proposed

horizontal well spacing unit is highlighted in red and the initial well is depicted with a dashed line.

The structure map shows the Wolfcamp formation dipping gently to the southwest. The dark line

between the notations "D" and "U" represents a deeper structure that caused the shallower formations

to sit high. The notations "D" and "U" refer to "downthrown" and "upthrown" side of the deep

structure faulting. The structure appears consistent across the proposed spacing unit and I do not

observe any faulting, pinch outs, or other geologic impediments to drilling horizontal wells in this

area.

5. **Exhibit B-1** also shows a cross-section line in red running north to south reflecting five wells penetrating the Wolfcamp formation that I used to construct a stratigraphic cross-section from A to A'. These wells contain good logs and I consider them representative of the geology in the subject area.

6. **Exhibit B-2** is a stratigraphic cross-section that I prepared using the logs from the five wells noted on Exhibit B-1. Each well in the cross-section contains the gamma ray in the first track, resistivity in the second track and porosity curves in the third track. The initial target interval is labeled and marked. The cross-section demonstrates that the targeted interval is continuous across the proposed spacing unit.

7. Based on my geologic study, the Wolfcamp formation underlying the subject area is suitable for development by horizontal wells and the acreage comprising the proposed spacing unit will be productive and contribute proportionately to the production from the well.

8. **Exhibit B-3** shows the orientation of the horizontal wells drilled in the Wolfcamp and Bone Spring formations in the surrounding area. The stand-up orientation of the proposed well is the preferred orientation for horizontal well development in this area and is appropriate to efficiently and effectively develop the subject acreage.

9. In my opinion, the granting of Catena's application is in the best interest of conservation, the prevention of waste, and protection of correlative rights.

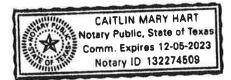
10. **Exhibits B-1** through **B-3** were either prepared by me or compiled under my direction and supervision.

FURTHER AFFIANT SAYETH NOT

VINCE SMITE

STATE OF TEXAS)
COUNTY OF BEXAR)

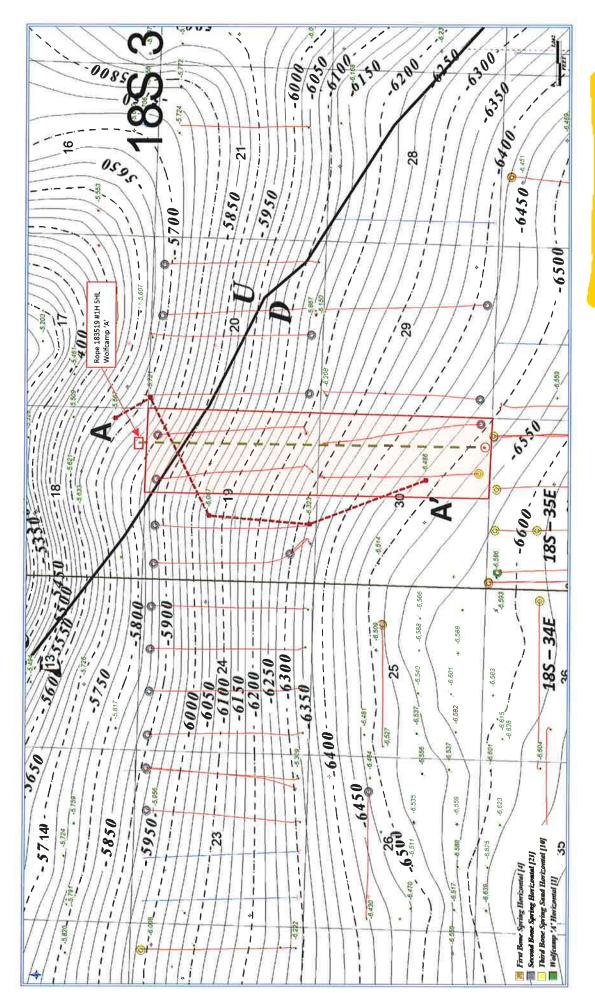
SUBSCRIBED and SWORN to before me this _____ day of AUU 2020 by Vince Smith.



My Commission Expires:

Wolfcamp 'A'

Subsea Structure

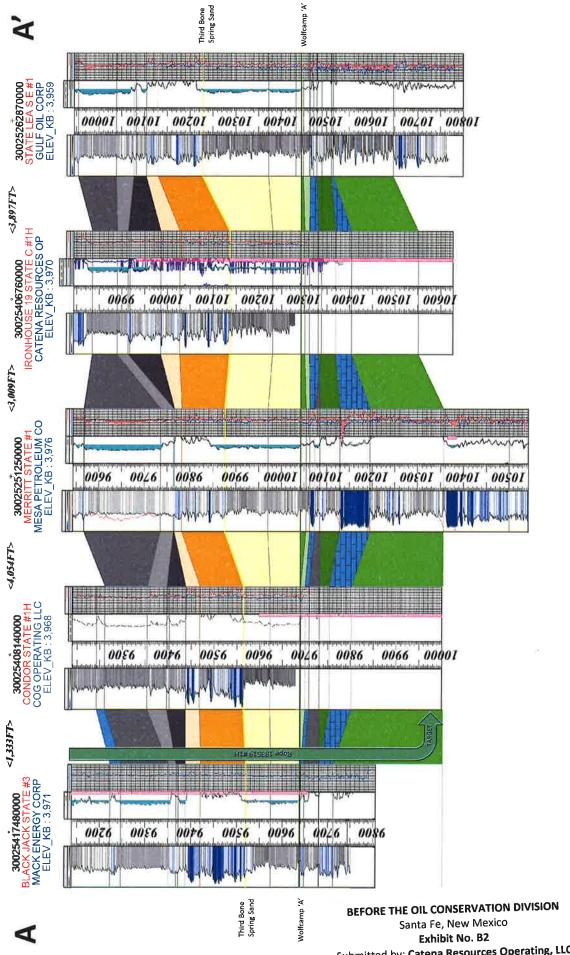




Contour Interval = 25'

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. B1
Submitted by: Catena Resources Operating, LLC
H Hearing Date: August 06, 2020
Case No. 21351

Wolfcamp 'A' Datum Cross Section

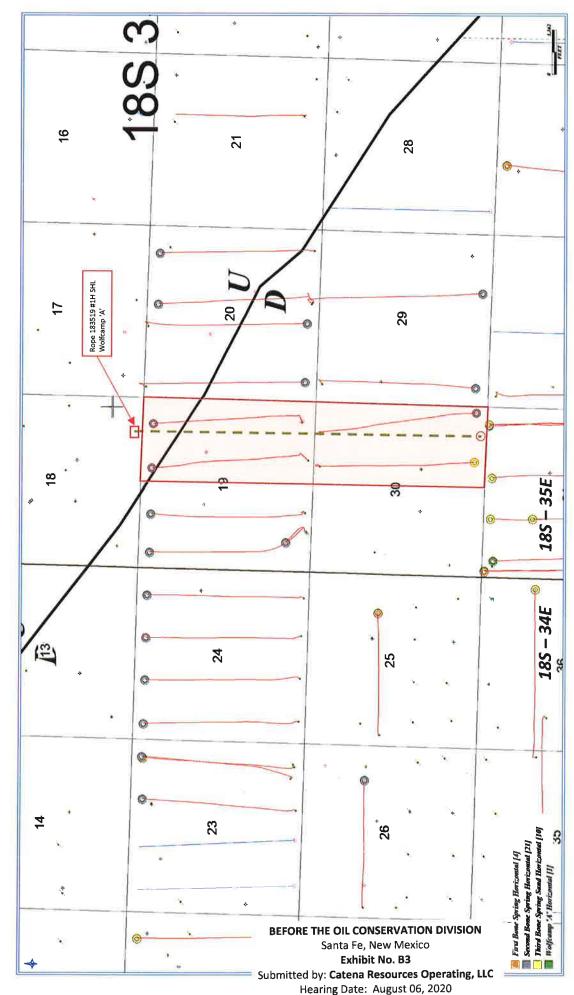




Submitted by: Catena Resources Operating, LLC Hearing Date: August 06, 2020

Case No. 21351

Rope 183519 #1H Locator Map





earing Date: August 06, 2020 Case No. 21351

APPLICATIONS OF CATENA RESOURCES OPERATING, LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

CASE NO. 21351

AFFIDAVIT

STATE OF NEW MEXICO)
) ss
COUNTY OF SANTA FE)

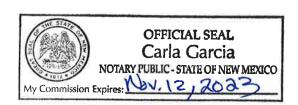
Michael H. Feldewert, attorney in fact and authorized representative of Catena Resources Operating, LLC, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application has been provided under the notice letters and proof of receipts attached hereto.

Michael H. Feldewert

SUBSCRIBED AND SWORN to before me this 4th day of August, 2020 by Michael H. Feldewert.

My Commission Expires:

Nav.12, 2023



BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Exhibit No. C

Submitted by: Catena Resources Operating, LLC
Hearing Date: August 06, 2020
Case No. 21351



Michael H. Feldewert Phone (505) 988-4421 Fax (505) 983-6043 mfeldewert@hollanhart.com

July 17, 2020

VIA CERTIFIED MAIL CERTIFIED RECEIPT REQUESTED

TO: ALL INTEREST OWNERS SUBJECT TO POOLING PROCEEDINGS

Re: Application of Catena Resources Operating, LLC for Compulsory Pooling, Lea

County, New Mexico. Rope 183519 1H Well

Ladies & Gentlemen:

This letter is to advise you that COG Operating Inc. has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on August 6, 2020, and the status of the hearing can be monitored through the Division's website at http://www.emnrd.state.nm.us/ocd/. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from subsequently challenging this matter.

During the COVID-19 Pubic Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. To participate in the electronic hearing, see the instructions posted on the Oil Conservation Division "OCD Hearings" website at http://www.emnrd.state.nm.us/OCD/announcements.html.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed at the Division's Santa Fe office at the above specified address and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter, please contact Robert Swann at (210) 775-6993 or at rswann@catenares.com.

Sincerely,

Michael H. Feldewert

ATTORNEY FOR CATENA RESOURCES OPERATING,

LLC

Case Nos. 21351 Postal Delivery Report