



COG OPERATING LLC

Fascinator Federal Com #601H, #602H, #603H, 604H
Fascinator Federal Com #701H, #702H, #703H
Fascinator Federal Com #704H, #705H, #706H

Section 30 & 31 T24S-R35E
Lea County, New Mexico



**BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING JULY 26, 2018**

Case No. 16219 & 16220

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 604H**
 SHL: 210 FNL & 3600 FWL
 BHL: 200 FSL & 450 FWL
 FORMATION: WOLFBONE POOL
 LEGAL: SEC 30-31 T24S-R35E

PROSPECT NAME: **BULLDOG 717008**
 STATE & COUNTY: **New Mexico, Lea**
 OBJECTIVE: **DRILL AND COMPLETE**
 DEPTH: **22,500**
 TVD: **12,649**

		<u>Drlg - Rig</u>		<u>Completion(C)</u>		<u>Tank Btty</u>		<u>Pmpg</u>		<u>TOTAL</u>
<u>INTANGIBLE COSTS</u>		<u>Release(D)</u>				<u>Constrctn(TB)</u>		<u>Equipment(PEQ)</u>		
Title/Curative/Permit	201	11,000								11,000
Insurance	202	4,000	302							4,000
Damages/Right of Way	203	5,000	303		351					5,000
Survey/Stake Location	204	6,000			352					6,000
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	366			161,000
Drilling / Completion Overhead	206	11,100	306							11,100
Turnkey Contract	207	0	307	1,397,000						1,397,000
Footage Contract	208	0	308	781,000						781,000
Daywork Contract	209	820,000	309	1,177,000						1,997,000
Directional Drilling Services	210	398,000	310	150,000						548,000
Fuel & Power	211	211,000	311	5,000	354		367			216,000
Water	212	60,000	312	855,000			368			915,000
Bits	213	133,200	313	4,500			369			137,700
Mud & Chemicals	214	275,000	314	25,000			370			300,000
Drill Stem Test	215	0	315							0
Coring & Analysis	216	0								0
Cement Surface	217	28,000								28,000
Cement Intermediate	218	75,000								75,000
Cement 2nd Intermediate/Production	219	115,000								115,000
Cement Squeeze & Other (Kickoff Plug)	220	0					371			0
Float Equipment & Centralizers	221	45,000								45,000
Casing Crews & Equipment	222	60,000								60,000
Fishing Tools & Service	223	0	323				372			0
Geologic/Engineering	224	0	324		355		373			0
Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500		92,200
Company Supervision	226	66,600	326	15,000	357		375			81,600
Contract Supervision	227	124,000	327	204,000	358		376	5,000		333,000
Testing Casing/Tubing	228	20,000	328	10,000			377			30,000
Mud Logging Unit	229	52,000	329							52,000
Logging	230	0					378			0
Perforating/Wireline Services	231	4,000	331	515,000			379			519,000
Stimulation/Treating			332	397,000			380			397,000
Completion Unit			333	138,000			381	10,000		148,000
Swabbing Unit			334				382			0
Rentals-Surface	235	190,000	335	310,000	359		383	7,000		507,000
Rentals-Subsurface	236	150,000	336	55,000			384			205,000
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360		385	3,000		143,000
Welding Services	238	4,000	338	5,000	361		386			9,000
Water Disposal	239	0	339	60,000	362	135,000	387			195,000
Plug to Abandon	240	0	340							0
Seismic Analysis	241	0	341							0
Miscellaneous	242	0	342				389			0
Contingency	243	63,000	343	250,000	363		390			313,000
Closed Loop & Environmental	244	330,000	344	5,000	364		388			335,000
Coil Tubing			346	462,000						462,000
Flowback Crews & Equip			347	325,000						325,000
Offset Directional/Frac	248	0	348	48,000						48,000
TOTAL INTANGIBLES		3,506,400		7,231,700		238,000		31,500		11,007,600
TANGIBLE COSTS										
Surface Casing	401	73,000								73,000
Intermediate Casing	402	421,000								421,000
Production Casing/Liner	403	433,000								433,000
Tubing			504	47,300			530	10,000		57,300
Wellhead Equipment	405	75,000	505	22,000			531	3,000		100,000
Pumping Unit				0			506	98,000		98,000
Prime Mover				0			507			0
Rods				0			508	65,000		65,000
Pumps-Sub Surface (BH)			509				532	5,500		5,500
Tanks					510	35,800				35,800
Flowlines					511	85,000				85,000
Heater Treater/Separator					512	159,465				159,465
Electrical System					513	60,000	533	20,000		80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000		68,000
Couplings/Fittings/Valves	415	0			515	76,000				76,000
Dehydration					517					0
Injection Plant/CO2 Equipment					518					0
Pumps-Surface					521	6,250				6,250
Instrumentation/SCADA/POC					522		529	7,000		7,000
Miscellaneous	419	0	519		523		535	3,000		3,000
Contingency	420	0	520		524		536			0
Meters/LACT					525	29,150				29,150
Flares/Combusters/Emission					526	15,000				15,000
Gas Lift/Compression			527	15,000	516	75,000	528			90,000
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500		1,907,465
TOTAL WELL COSTS		4,508,400		7,382,000		779,665		245,000		12,915,065

% of Total Well Cost

35%

57%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
_____% Working Interest

By: PWS

Company: **Marathon Oil Permian LLC**
By: _____

Printed Name: _____
Title: _____
Date: _____

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**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 604H**
 SHL: 210 FNL & 3600 FWL
 BHL: 200 FSL & 450 FWL
 FORMATION: WOLFBONE POOL
 LEGAL: SEC 30-31 T24S-R35E

PROSPECT NAME: BULLDOG 717008
 STATE & COUNTY: New Mexico, Lea
 OBJECTIVE: DRILL AND COMPLETE
 DEPTH: 22,500
 TVD: 12,649

		Drlg - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL
INTANGIBLE COSTS						
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Turnkey Contract	207	0	307	1,397,000		1,397,000
Footage Contract	208	0	308	781,000		781,000
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Directional Drilling Services	210	398,000	310	150,000		548,000
Fuel & Power	211	211,000	311	5,000	354	367
Water	212	60,000	312	855,000		368
Bits	213	133,200	313	4,500		369
Mud & Chemicals	214	275,000	314	25,000		370
Drill Stem Test	215	0	315			
Coring & Analysis	216	0				
Cement Surface	217	28,000				
Cement Intermediate	218	75,000				
Cement 2nd Intermediate/Production	219	115,000				
Cement Squeeze & Other (Kickoff Plug)	220	0			371	
Float Equipment & Centralizers	221	45,000				
Casing Crews & Equipment	222	60,000				
Fishing Tools & Service	223	0	323			
Geologic/Engineering	224	0	324			
Contract Labor	225	5,500	325	8,200	356	72,000
Company Supervision	226	66,600	326	15,000	357	
Contract Supervision	227	124,000	327	204,000	358	
Testing Casing/Tubing	228	20,000	328	10,000		
Mud Logging Unit	229	52,000	329			
Logging	230	0				
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Production Casing/Liner	403	433,000				433,000
Tubing			504	47,300		530
Wellhead Equipment	405	75,000	505	22,000		531
Pumping Unit				0		506
Prime Mover				0		507
Rods				0		508
Pumps-Sub Surface (BH)			509			532
Tanks				510		35,800
Flowlines				511		85,000
Heater Treater/Separator				512		159,465
Electrical System				513		60,000
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Dehydration				517		
Injection Plant/CO2 Equipment				518		
Pumps-Surface				521		6,250
Instrumentation/SCADA/POC				522		7,000
Miscellaneous	419	0	519	523		535
Contingency	420	0	520	524		536
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						12,915,065

% of Total Well Cost

35%

57%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
 _____ % Working Interest

By: PWS

Company: Oxy USA Inc.

By: _____

Printed Name: _____

Title: _____

Date: _____

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**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 604H**
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Seismic Analysis	241	0	341					0	
Miscellaneous	242	0	342				389	0	
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Injection Plant/CO2 Equipment					518			0	
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Miscellaneous	419	0	519		523		535	3,000	3,000
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Flares/Combusters/Emission					526	15,000		15,000	
Gas Lift/Compression			527	15,000	516	75,000	528	90,000	
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TOTAL WELL COSTS		4,508,400		7,382,000		779,665		245,000	12,915,065

% of Total Well Cost

35%

57%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:

 % Working Interest

By: PWS

Company: **Advance Energy Partners, LLC**
 By: _____

Printed Name: _____

Title: _____

Date: _____

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**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

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% of Total Well Cost
35%
57%
6%
2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
 _____ % Working Interest

By: PWS

Company: **Scratch Properties, LLC**

By: _____

Printed Name: _____

Title: _____

Date: _____

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**COG OPERATING LLC
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DRILLING**

WELL NAME: **FASCINATOR FED COM 604H**

PROSPECT NAME: **BULLDOG 717008**

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STATE & COUNTY: **New Mexico, Lea**

BHL: 200 FSL & 450 FWL

OBJECTIVE: **DRILL AND COMPLETE**

FORMATION: **WOLFBONE POOL**

DEPTH: **22,500**

LEGAL: **SEC 30-31 T24S-R35E**

TVD: **12,649**

INTANGIBLE COSTS		Drlg - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL			
Title/Curative/Permit	201	11,000				11,000			
Insurance	202	4,000	302			4,000			
Damages/Right of Way	203	5,000	303			5,000			
Survey/Stake Location	204	6,000		351		6,000			
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	161,000		
Drilling / Completion Overhead	206	11,100	306			11,100			
Turnkey Contract	207	0	307	1,397,000		1,397,000			
Footage Contract	208	0	308	781,000		781,000			
Daywork Contract	209	820,000	309	1,177,000		1,997,000			
Directional Drilling Services	210	398,000	310	150,000		548,000			
Fuel & Power	211	211,000	311	5,000	354	367	216,000		
Water	212	60,000	312	855,000		368	915,000		
Bits	213	133,200	313	4,500		369	137,700		
Mud & Chemicals	214	275,000	314	25,000		370	300,000		
Drill Stem Test	215	0	315				0		
Coring & Analysis	216	0					0		
Cement Surface	217	28,000					28,000		
Cement Intermediate	218	75,000					75,000		
Cement 2nd Intermediate/Production	219	115,000					115,000		
Cement Squeeze & Other (Kickoff Plug)	220	0			371		0		
Float Equipment & Centralizers	221	45,000					45,000		
Casing Crews & Equipment	222	60,000					60,000		
Fishing Tools & Service	223	0	323			372	0		
Geologic/Engineering	224	0	324		355	373	0		
Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500	92,200
Company Supervision	226	66,600	326	15,000	357		375		81,600
Contract Supervision	227	124,000	327	204,000	358		376	5,000	333,000
Testing Casing/Tubing	228	20,000	328	10,000			377		30,000
Mud Logging Unit	229	52,000	329						52,000
Logging	230	0					378		0
Perforating/Wireline Services	231	4,000	331	515,000			379		519,000
Stimulation/Treating			332	397,000			380		397,000
Completion Unit			333	138,000			381	10,000	148,000
Swabbing Unit			334				382		0
Rentals-Surface	235	190,000	335	310,000	359		383	7,000	507,000
Rentals-Subsurface	236	150,000	336	55,000			384		205,000
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360		385	3,000	143,000
Welding Services	238	4,000	338	5,000	361		386		9,000
Water Disposal	239	0	339	60,000	362	135,000	387		195,000
Plug to Abandon	240	0	340						0
Seismic Analysis	241	0	341						0
Miscellaneous	242	0	342				389		0
Contingency	243	63,000	343	250,000	363		390		313,000
Closed Loop & Environmental	244	330,000	344	5,000	364		388		335,000
Coil Tubing			346	462,000					462,000
Flowback Crews & Equip			347	325,000					325,000
Offset Directional/Frac	248	0	348	48,000					48,000
TOTAL INTANGIBLES		3,506,400		7,231,700		238,000		31,500	11,007,600

TANGIBLE COSTS									
Surface Casing	401	73,000				73,000			
Intermediate Casing	402	421,000				421,000			
Production Casing/Liner	403	433,000				433,000			
Tubing			504	47,300		530	10,000	57,300	
Wellhead Equipment	405	75,000	505	22,000		531	3,000	100,000	
Pumping Unit				0		506	98,000	98,000	
Prime Mover				0		507		0	
Rods				0		508	65,000	65,000	
Pumps-Sub Surface (BH)			509			532	5,500	5,500	
Tanks					510	35,800		35,800	
Flowlines					511	85,000		85,000	
Heater Treater/Separator					512	159,465		159,465	
Electrical System					513	60,000	533	20,000	80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000	68,000
Couplings/Fittings/Valves	415	0			515	76,000			76,000
Dehydration					517				0
Injection Plant/CO2 Equipment					518				0
Pumps-Surface					521	6,250			6,250
Instrumentation/SCADA/POC					522		529	7,000	7,000
Miscellaneous	419	0	519		523		535	3,000	3,000
Contingency	420	0	520		524		536		0
Meters/LACT					525	29,150			29,150
Flares/Combusters/Emission					526	15,000			15,000
Gas Lift/Compression			527	15,000	516	75,000	528		90,000
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500	1,907,465
TOTAL WELL COSTS		4,508,400		7,382,000		779,665		245,000	12,915,065

% of Total Well Cost

35%

57%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
_____% Working Interest

By: PWS

Company: **Energren Resources Corporation**

By: _____

Printed Name: _____

Title: _____

Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 604H**
 SHL: 210 FNL & 3600 FWL
 BHL: 200 FSL & 450 FWL
 FORMATION: WOLFBONE POOL
 LEGAL: SEC 30-31 T24S-R35E

PROSPECT NAME: **BULLDOG 717008**
 STATE & COUNTY: **New Mexico, Lea**
 OBJECTIVE: **DRILL AND COMPLETE**
 DEPTH: **22,500**
 TVD: **12,649**

	Drig - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL
INTANGIBLE COSTS					
Title/Curative/Permit	201 11,000				11,000
Insurance	202 4,000	302			4,000
Damages/Right of Way	203 5,000	303	351		5,000
Survey/Stake Location	204 6,000		352		6,000
Location/Pits/Road Expense	205 120,000	305 10,000	353 31,000	366	161,000
Drilling / Completion Overhead	206 11,100	306			11,100
Turnkey Contract	207 0	307 1,397,000			1,397,000
Footage Contract	208 0	308 781,000			781,000
Daywork Contract	209 820,000	309 1,177,000			1,997,000
Directional Drilling Services	210 398,000	310 150,000			548,000
Fuel & Power	211 211,000	311 5,000	354	367	216,000
Water	212 60,000	312 855,000		368	915,000
Bits	213 133,200	313 4,500		369	137,700
Mud & Chemicals	214 275,000	314 25,000		370	300,000
Drill Stem Test	215 0	315			0
Coring & Analysis	216 0				0
Cement Surface	217 28,000				28,000
Cement Intermediate	218 75,000				75,000
Cement 2nd Intermediate/Production	219 115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220 0			371	0
Float Equipment & Centralizers	221 45,000				45,000
Casing Crews & Equipment	222 60,000				60,000
Fishing Tools & Service	223 0	323		372	0
Geologic/Engineering	224 0	324	355	373	0
Contract Labor	225 5,500	325 8,200	356 72,000	374 6,500	92,200
Company Supervision	226 66,600	326 15,000	357	375	81,600
Contract Supervision	227 124,000	327 204,000	358	376 5,000	333,000
Testing Casing/Tubing	228 20,000	328 10,000		377	30,000
Mud Logging Unit	229 52,000	329			52,000
Logging	230 0			378	0
Perforating/Wireline Services	231 4,000	331 515,000		379	519,000
Stimulation/Treating		332 397,000		380	397,000
Completion Unit		333 138,000		381 10,000	148,000
Swabbing Unit		334		382	0
Rentals-Surface	235 190,000	335 310,000	359	383 7,000	507,000
Rentals-Subsurface	236 150,000	336 55,000		384	205,000
Trucking/Forklift/Rig Mobilization	237 120,000	337 20,000	360	385 3,000	143,000
Welding Services	238 4,000	338 5,000	361	386	9,000
Water Disposal	239 0	339 60,000	362 135,000	387	195,000
Plug to Abandon	240 0	340			0
Seismic Analysis	241 0	341			0
Miscellaneous	242 0	342		389	0
Contingency	243 63,000	343 250,000	363	390	313,000
Closed Loop & Environmental	244 330,000	344 5,000	364	388	335,000
Coil Tubing		346 462,000			462,000
Flowback Crews & Equip		347 325,000			325,000
Offset Directional/Frac	248 0	348 48,000			48,000
TOTAL INTANGIBLES	3,506,400	7,231,700	238,000	31,500	11,007,600
TANGIBLE COSTS					
Surface Casing	401 73,000				73,000
Intermediate Casing	402 421,000				421,000
Production Casing/Liner	403 433,000				433,000
Tubing		504 47,300		530 10,000	57,300
Wellhead Equipment	405 75,000	505 22,000		531 3,000	100,000
Pumping Unit				506 98,000	98,000
Prime Mover				507	0
Rods				508 65,000	65,000
Pumps-Sub Surface (BH)		509		532 5,500	5,500
Tanks			510 35,800		35,800
Flowlines			511 85,000		85,000
Heater Treater/Separator			512 159,465		159,465
Electrical System			513 60,000	533 20,000	80,000
Packers/Anchors/Hangers	414 0	514 66,000		534 2,000	68,000
Couplings/Fittings/Valves	415 0		515 76,000		76,000
Dehydration			517		0
Injection Plant/CO2 Equipment			518		0
Pumps-Surface			521 6,250		6,250
Instrumentation/SCADA/POC			522	529 7,000	7,000
Miscellaneous	419 0	519	523	535 3,000	3,000
Contingency	420 0	520	524	536	0
Meters/LACT			525 29,150		29,150
Flares/Combusters/Emission			526 15,000		15,000
Gas Lift/Compression		527 15,000	516 75,000	528	90,000
TOTAL TANGIBLES	1,002,000	150,300	541,665	213,500	1,907,465
TOTAL WELL COSTS	4,508,400	7,382,000	779,665	245,000	12,915,065
% of Total Well Cost	35%	57%	6%	2%	

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
_____% Working Interest

By: PWS

Burlington Resources Oil and Gas
Company, LP

By: _____

Printed Name: _____

Title: _____

Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 604H**
 SHL: 210 FNL & 3600 FWL
 BHL: 200 FSL & 450 FWL
 FORMATION: WOLFBONE POOL
 LEGAL: SEC 30-31 T24S-R35E

PROSPECT NAME: BULLDOG 717008
 STATE & COUNTY: New Mexico, Lea
 OBJECTIVE: DRILL AND COMPLETE
 DEPTH: 22,500
 TVD: 12,649

		<u>Drig - Rig</u>		<u>Tank Btty</u>	<u>Pmpg</u>	
<u>INTANGIBLE COSTS</u>		<u>Release(D)</u>	<u>Completion(C)</u>	<u>Constrctn(TB)</u>	<u>Equipment(PEQ)</u>	<u>TOTAL</u>
Title/Curative/Permit	201	11,000				11,000
Insurance	202	4,000	302			4,000
Damages/Right of Way	203	5,000	303			5,000
Survey/Stake Location	204	6,000		351		6,000
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000
Drilling / Completion Overhead	206	11,100	306		366	161,000
Turnkey Contract	207	0	307	1,397,000		11,100
Footage Contract	208	0	308	781,000		1,397,000
Daywork Contract	209	820,000	309	1,177,000		781,000
Directional Drilling Services	210	398,000	310	150,000		1,997,000
Fuel & Power	211	211,000	311	5,000	354	548,000
Water	212	60,000	312	855,000		367
Bits	213	133,200	313	4,500		368
Mud & Chemicals	214	275,000	314	25,000		369
Drill Stem Test	215	0	315			370
Coring & Analysis	216	0				
Cement Surface	217	28,000				
Cement Intermediate	218	75,000				
Cement 2nd Intermediate/Production	219	115,000				
Cement Squeeze & Other (Kickoff Plug)	220	0			371	
Float Equipment & Centralizers	221	45,000				
Casing Crews & Equipment	222	60,000				
Fishing Tools & Service	223	0	323			
Geologic/Engineering	224	0	324		372	
Contract Labor	225	5,500	325	8,200	355	
Company Supervision	226	66,600	326	15,000	357	72,000
Contract Supervision	227	124,000	327	204,000	358	6,500
Testing Casing/Tubing	228	20,000	328	10,000		
Mud Logging Unit	229	52,000	329			
Logging	230	0				
Perforating/Wireline Services	231	4,000	331	515,000		
Stimulation/Treating			332	397,000		
Completion Unit			333	138,000		
Swabbing Unit			334			
Rentals-Surface	235	190,000	335	310,000	359	
Rentals-Subsurface	236	150,000	336	55,000		
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360	
Welding Services	238	4,000	338	5,000	361	
Water Disposal	239	0	339	60,000	362	
Plug to Abandon	240	0	340			
Seismic Analysis	241	0	341			
Miscellaneous	242	0	342			
Contingency	243	63,000	343	250,000	363	
Closed Loop & Environmental	244	330,000	344	5,000	364	
Coil Tubing			346	462,000		
Flowback Crews & Equip			347	325,000		
Offset Directional/Frac	248	0	348	48,000		
TOTAL INTANGIBLES		3,506,400		7,231,700	238,000	31,500
TOTAL INTANGIBLES						11,007,600
TANGIBLE COSTS						
Surface Casing	401	73,000				73,000
Intermediate Casing	402	421,000				421,000
Production Casing/Liner	403	433,000				433,000
Tubing			504	47,300		530
Wellhead Equipment	405	75,000	505	22,000		10,000
Pumping Unit				0		531
Prime Mover				0		532
Rods				0		533
Pumps-Sub Surface (BH)			509			534
Tanks				510	35,800	
Flowlines				511	85,000	
Heater Treater/Separator				512	159,465	
Electrical System				513	60,000	533
Packers/Anchors/Hangers	414	0	514	66,000		20,000
Couplings/Fittings/Valves	415	0		515	76,000	534
Dehydration				517		
Injection Plant/CO2 Equipment				518		
Pumps-Surface				521	6,250	
Instrumentation/SCADA/POC				522		529
Miscellaneous	419	0	519			7,000
Contingency	420	0	520			535
Meters/LACT				525	29,150	3,000
Flares/Combusters/Emission				526	15,000	
Gas Lift/Compression			527	15,000	516	75,000
TOTAL TANGIBLES		1,002,000		150,300	541,665	213,500
TOTAL TANGIBLES						1,907,465
TOTAL WELL COSTS		4,508,400		7,382,000	779,665	245,000
TOTAL WELL COSTS						12,915,065

% of Total Well Cost

35%

57%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:

% Working Interest

By: PWS

Company: **Barney L. Alsobrook**

By:

Printed Name:

Title:

Date:

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5342

Marathon Oil Permian LLC
5555 San Felipe St.
Houston, Texas 77056

Re: Well Proposal – Fascinator Federal Com 701H
Sec 30: E/2W/2 - T24S-R35E
Sec 31: E/2W/2 - T24S-R35E
SHL: 210' FNL/ 2160' FWL, or a legal location in Sec 30 (Unit C)
BHL: 200' FSL/ 2310' FWL, or a legal location in Sec 31 (Unit N)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 701H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,761' and a MD of approximately 22,500' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: E/2W/2 - T24S-R35E and Sec 31: E/2W/2 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG proposes to acquire your interest via term assignment. It has the following general provisions:

- 3 year primary term
- Delivering a 75% NRI, proportionately reduced
- \$2,000 per net acre bonus consideration

The Term Assignment offer expires 5 p.m., Central Time, June 13, 2018, and it is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 17
Submitted by: **COG OPERATING LLC**
Hearing Date: July 26, 2018
Case Nos. 16219 & 16220

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 701H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 701H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5465

Chevron U. S. A. Inc.
1400 Smith Street
Houston, TX 77002

Re: Well Proposal – Fascinator Federal Com 701H
Sec 30: E/2W/2 - T24S-R35E
Sec 31: E/2W/2 - T24S-R35E
SHL: 210' FNL/ 2160' FWL, or a legal location in Sec 30 (Unit C)
BHL: 200' FSL/ 2310' FWL, or a legal location in Sec 31 (Unit N)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 701H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,761' and a MD of approximately 22,500' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: E/2W/2 - T24S-R35E and Sec 31: E/2W/2 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG would like to lease your minerals under the following general terms:

- Bonus of \$2,000 /Net Mineral Acre
- 3 Year Primary Term
- 25% Royalty Interest

The Lease offer is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 701H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 701H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5342

Marathon Oil Permian LLC
5555 San Felipe St.
Houston, Texas 77056

Re: Well Proposal – Fascinator Federal Com 702H
Sec 30: E/2W/2 - T24S-R35E
Sec 31: E/2W/2 - T24S-R35E
SHL: 210' FNL/ 2100' FWL, or a legal location in Sec 30 (Unit C)
BHL: 200' FSL/ 1930' FWL, or a legal location in Sec 31 (Unit N)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 702H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,862' and a MD of approximately 22,600' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: E/2W/2 - T24S-R35E and Sec 31: E/2W/2 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG proposes to acquire your interest via term assignment. It has the following general provisions:

- 3 year primary term
- Delivering a 75% NRI, proportionately reduced
- \$2,000 per net acre bonus consideration

The Term Assignment offer expires 5 p.m., Central Time, June 13, 2018, and it is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 18
Submitted by: COG OPERATING LLC
Hearing Date: July 26, 2018
Case Nos. 16219 & 16220

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 702H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 702H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5465

Chevron U. S. A. Inc.
1400 Smith Street
Houston, TX 77002

Re: Well Proposal – Fascinator Federal Com 702H
Sec 30: E/2W/2 - T24S-R35E
Sec 31: E/2W/2 - T24S-R35E
SHL: 210' FNL/ 2100' FWL, or a legal location in Sec 30 (Unit C)
BHL: 200' FSL/ 1930' FWL, or a legal location in Sec 31 (Unit N)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 702H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,862' and a MD of approximately 22,600' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: E/2W/2 - T24S-R35E and Sec 31: E/2W/2 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG would like to lease your minerals under the following general terms:

- Bonus of \$2,000 /Net Mineral Acre
- 3 Year Primary Term
- 25% Royalty Interest

The Lease offer is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 702H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 702H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: FASCINATOR FED COM 702H	PROSPECT NAME: BULLDOG 717008
SHL: 210 FNL & 2100 FWL	STATE & COUNTY: New Mexico, Lea
BHL: 200 FSL & 1930 FWL	OBJECTIVE: DRILL AND COMPLETE
FORMATION: WOLFBONE POOL	DEPTH: 22,600
LEGAL: SEC 30-31 T24S-R35E	TVD: 12,862

		Drlg - Rig			Tank Btty		Pmpg		
		Release(D)		Completion(C)		Constrctn(TB)		Equipment(PEQ)	TOTAL
INTANGIBLE COSTS									
Title/Curative/Permit	201	11,000							11,000
Insurance	202	4,000	302						4,000
Damages/Right of Way	203	5,000	303		351				5,000
Survey/Stake Location	204	6,000			352				6,000
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	366		161,000
Drilling / Completion Overhead	206	13,800	306						13,800
Turnkey Contract	207	0	307	1,397,000					1,397,000
Footage Contract	208	0	308	781,000					781,000
Daywork Contract	209	1,000,000	309	1,177,000					2,177,000
Directional Drilling Services	210	398,000	310	150,000					548,000
Fuel & Power	211	263,000	311	5,000	354		367		268,000
Water	212	60,000	312	855,000			368		915,000
Bits	213	133,200	313	4,500			369		137,700
Mud & Chemicals	214	275,000	314	25,000			370		300,000
Drill Stem Test	215	0	315						0
Coring & Analysis	216	0							0
Cement Surface	217	28,000							28,000
Cement Intermediate	218	75,000							75,000
Cement 2nd Intermediate/Production	219	115,000							115,000
Cement Squeeze & Other (Kickoff Plug)	220	0					371		0
Float Equipment & Centralizers	221	45,000							45,000
Casing Crews & Equipment	222	60,000							60,000
Fishing Tools & Service	223	0	323				372		0
Geologic/Engineering	224	0	324		355		373		0
Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500	92,200
Company Supervision	226	82,800	326	15,000	357		375		97,800
Contract Supervision	227	151,000	327	204,000	358		376	5,000	360,000
Testing Casing/Tubing	228	20,000	328	10,000			377		30,000
Mud Logging Unit	229	52,000	329						52,000
Logging	230	0					378		0
Perforating/Wireline Services	231	4,000	331	515,000			379		519,000
Stimulation/Treating			332	397,000			380		397,000
Completion Unit			333	138,000			381	10,000	148,000
Swabbing Unit			334				382		0
Rentals-Surface	235	190,000	335	310,000	359		383	7,000	507,000
Rentals-Subsurface	236	150,000	336	55,000			384		205,000
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360		385	3,000	143,000
Welding Services	238	4,000	338	5,000	361		386		9,000
Water Disposal	239	0	339	60,000	362	135,000	387		195,000
Plug to Abandon	240	0	340						0
Seismic Analysis	241	0	341						0
Miscellaneous	242	0	342				389		0
Contingency	243	68,700	343	250,000	363		390		318,700
Closed Loop & Environmental	244	330,000	344	5,000	364		388		335,000
Coil Tubing			346	462,000					462,000
Flowback Crews & Equip			347	325,000					325,000
Offset Directional/Frac	248	0	348	48,000					48,000
TOTAL INTANGIBLES		3,790,000		7,231,700		238,000		31,500	11,291,200
TANGIBLE COSTS									
Surface Casing	401	73,000							73,000
Intermediate Casing	402	421,000							421,000
Production Casing/Liner	403	433,000							433,000
Tubing			504	47,300			530	10,000	57,300
Wellhead Equipment	405	75,000	505	22,000			531	3,000	100,000
Pumping Unit				0			506	98,000	98,000
Prime Mover				0			507		0
Rods				0			508	65,000	65,000
Pumps-Sub Surface (BH)			509				532	5,500	5,500
Tanks					510	35,800			35,800
Flowlines					511	85,000			85,000
Heater Treater/Separator					512	159,465			159,465
Electrical System					513	60,000	533	20,000	80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000	68,000
Couplings/Fittings/Valves	415	0			515	76,000			76,000
Dehydration					517				0
Injection Plant/CO2 Equipment					518				0
Pumps-Surface					521	6,250			6,250
Instrumentation/SCADA/POC					522		529	7,000	7,000
Miscellaneous	419	0	519		523		535	3,000	3,000
Contingency	420	0	520		524		536		0
Meters/LACT					525	29,150			29,150
Flares/Combusters/Emission					526	15,000			15,000
Gas Lift/Compression			527	15,000	516	75,000	528		90,000
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500	1,907,465
TOTAL WELL COSTS		4,792,000		7,382,000		779,665		245,000	13,198,665
% of Total Well Cost				36%		56%		2%	

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

We approve:
_____% Working Interest

COG Operating LLC

By: PWS

Company:

By:

Printed Name:

Title:

Date:

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5342

Marathon Oil Permian LLC
5555 San Felipe St.
Houston, Texas 77056

Re: Well Proposal – Fascinator Federal Com 703H
Sec 30: E/2W/2 - T24S-R35E
Sec 31: E/2W/2 - T24S-R35E
SHL: 210' FNL/ 1510' FWL, or a legal location in Sec 30 (Unit C)
BHL: 200' FSL/ 1510' FWL, or a legal location in Sec 31 (Unit N)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 703H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,764' and a MD of approximately 22,600' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: E/2W/2 - T24S-R35E and Sec 31: E/2W/2 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG proposes to acquire your interest via term assignment. It has the following general provisions:

- 3 year primary term
- Delivering a 75% NRI, proportionately reduced
- \$2,000 per net acre bonus consideration

The Term Assignment offer expires 5 p.m., Central Time, June 13, 2018, and it is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 19
Submitted by: COG OPERATING LLC
Hearing Date: July 26, 2018
Case Nos. 16219 & 16220

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 703H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 703H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5465

Chevron U. S. A. Inc.
1400 Smith Street
Houston, TX 77002

Re: Well Proposal – Fascinator Federal Com 703H
Sec 30: E/2W/2 - T24S-R35E
Sec 31: E/2W/2 - T24S-R35E
SHL: 210' FNL/ 1510' FWL, or a legal location in Sec 30 (Unit C)
BHL: 200' FSL/ 1510' FWL, or a legal location in Sec 31 (Unit N)
Lea County, New Mexico

Dear Sir/Madam:

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Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 703H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 703H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____



April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5403

Energex, LLC
4425 98th St., Ste. 200
Lubbock, TX 79424

Re: Well Proposal – Fascinator Federal Com 704H
Sec 30: Lots 1-4 - T24S-R35E
Sec 31: Lots 1-4 - T24S-R35E
SHL: 210' FNL/ 980' FWL, or a legal location in Sec 30 (Lot 1)
BHL: 200' FSL/ 1130' FWL, or a legal location in Sec 31 (Lot 4)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 704H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,889' and a MD of approximately 22,700' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

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Respectfully,

Megan L. Tipton

Megan Tipton
Landman

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_____ I/We hereby elect not to participate in the Fascinator Federal Com 704H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____



April 13, 2018

US Certified Mail No. 91 7199 9991 7038 7698 1519

Burlington Resources Oil and Gas Company, LP
REAL PROPERTY ADMINISTRATION
PO BOX 7500
Bartlesville, OK 74005

Re: Well Proposal – Fascinator Federal Com 704H
Sec 30: Lots 1-4 - T24S-R35E
Sec 31: Lots 1-4 - T24S-R35E
SHL: 210' FNL/ 980' FWL, or a legal location in Sec 30 (Lot 1)
BHL: 200' FSL/ 1130' FWL, or a legal location in Sec 31 (Lot 4)
Lea County, New Mexico

Dear Sir/Madam:

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Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 704H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 704H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**

PROSPECT NAME: **BULLDOG 717008**

SHL: **210 FNL & 980 FWL**

STATE & COUNTY: **New Mexico, Lea**

BHL: **200 FSL & 1130 FWL**

OBJECTIVE: **DRILL AND COMPLETE**

FORMATION: **WOLFBONE POOL**

DEPTH: **22,700**

LEGAL: **SEC 30-31 T24S-R35E**

TVD: **12,889**

	Drlg - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL
INTANGIBLE COSTS					
Title/Curative/Permit	201 11,000				11,000
Insurance	202 4,000	302			4,000
Damages/Right of Way	203 5,000	303	351		5,000
Survey/Stake Location	204 6,000		352		6,000
Location/Pits/Road Expense	205 120,000	305 10,000	353 31,000	366	161,000
Drilling / Completion Overhead	206 13,800	306			13,800
Turnkey Contract	207 0	307 1,397,000			1,397,000
Footage Contract	208 0	308 781,000			781,000
Daywork Contract	209 1,000,000	309 1,177,000			2,177,000
Directional Drilling Services	210 398,000	310 150,000			548,000
Fuel & Power	211 263,000	311 5,000	354	367	268,000
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Bits	213 133,200	313 4,500		369	137,700
Mud & Chemicals	214 275,000	314 25,000		370	300,000
Drill Stem Test	215 0	315			0
Coring & Analysis	216 0				0
Cement Surface	217 28,000				28,000
Cement Intermediate	218 75,000				75,000
Cement 2nd Intermediate/Production	219 115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220 0			371	0
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Fishing Tools & Service	223 0	323		372	0
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Completion Unit		333 138,000		381 10,000	148,000
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TANGIBLE COSTS					
Surface Casing	401 73,000				73,000
Intermediate Casing	402 421,000				421,000
Production Casing/Liner	403 433,000				433,000
Tubing		504 47,300		530 10,000	57,300
Wellhead Equipment	405 75,000	505 22,000		531 3,000	100,000
Pumping Unit				506 98,000	98,000
Prime Mover				507	0
Rods				508 65,000	65,000
Pumps-Sub Surface (BH)		509		532 5,500	5,500
Tanks			510 35,800		35,800
Flowlines			511 85,000		85,000
Heater Treater/Separator			512 159,465		159,465
Electrical System			513 60,000	533 20,000	80,000
Packers/Anchors/Hangers	414 0	514 66,000		534 2,000	68,000
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Instrumentation/SCADA/POC			522	529 7,000	7,000
Miscellaneous	419 0	519	523	535 3,000	3,000
Contingency	420 0	520	524	536	0
Meters/LACT			525 29,150		29,150
Flares/Combusters/Emission			526 15,000		15,000
Gas Lift/Compression		527 15,000	516 75,000	528	90,000
TOTAL TANGIBLES	1,002,000	150,300	541,665	213,500	1,907,465
TOTAL WELL COSTS	4,792,000	7,382,000	779,665	245,000	13,198,665

% of Total Well Cost

36%

56%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
_____% Working Interest

By: PWS

Company: **Marathon Oil Permian LLC**

By: _____

Printed Name: _____

Title: _____

Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**

PROSPECT NAME: **BULLDOG 717008**

SHL: 210 FNL & 980 FWL

STATE & COUNTY: **New Mexico, Lea**

BHL: 200 FSL & 1130 FWL

OBJECTIVE: **DRILL AND COMPLETE**

FORMATION: **WOLFBONE POOL**

DEPTH: **22,700**

LEGAL: **SEC 30-31 T24S-R35E**

TVD: **12,889**

	<u>Drig - Rig</u>		<u>Completion(C)</u>		<u>Tank Btty</u>		<u>Pmpg</u>		<u>TOTAL</u>
<u>INTANGIBLE COSTS</u>	<u>Release(D)</u>				<u>Constrctn(TB)</u>		<u>Equipment(PEQ)</u>		
Title/Curative/Permit	201	11,000							11,000
Insurance	202	4,000	302						4,000
Damages/Right of Way	203	5,000	303						5,000
Survey/Stake Location	204	6,000		351					6,000
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	366		161,000
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Fishing Tools & Service	223	0	323				372		0
Geologic/Engineering	224	0	324		355		373		0
Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500	92,200
Company Supervision	226	82,800	326	15,000	357		375		97,800
Contract Supervision	227	151,000	327	204,000	358		376	5,000	360,000
Testing Casing/Tubing	228	20,000	328	10,000			377		30,000
Mud Logging Unit	229	52,000	329						52,000
Logging	230	0					378		0
Perforating/Wireline Services	231	4,000	331	515,000			379		519,000
Stimulation/Treating			332	397,000			380		397,000
Completion Unit			333	138,000			381	10,000	148,000
Swabbing Unit			334				382		0
Rentals-Surface	235	190,000	335	310,000	359		383	7,000	507,000
Rentals-Subsurface	236	150,000	336	55,000			384		205,000
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360		385	3,000	143,000
Welding Services	238	4,000	338	5,000	361		386		9,000
Water Disposal	239	0	339	60,000	362	135,000	387		195,000
Plug to Abandon	240	0	340						0
Seismic Analysis	241	0	341						0
Miscellaneous	242	0	342				389		0
Contingency	243	68,700	343	250,000	363		390		318,700
Closed Loop & Environmental	244	330,000	344	5,000	364		388		335,000
Coil Tubing			346	462,000					462,000
Flowback Crews & Equip			347	325,000					325,000
Offset Directional/Frac	248	0	348	48,000					48,000
TOTAL INTANGIBLES		3,790,000		7,231,700		238,000		31,500	11,291,200
TANGIBLE COSTS									
Surface Casing	401	73,000							73,000
Intermediate Casing	402	421,000							421,000
Production Casing/Liner	403	433,000							433,000
Tubing			504	47,300			530	10,000	57,300
Wellhead Equipment	405	75,000	505	22,000			531	3,000	100,000
Pumping Unit				0			506	98,000	98,000
Prime Mover				0			507		0
Rods				0			508	65,000	65,000
Pumps-Sub Surface (BH)			509				532	5,500	5,500
Tanks					510	35,800			35,800
Flowlines					511	85,000			85,000
Heater Treater/Separator					512	159,465			159,465
Electrical System					513	60,000	533	20,000	80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000	68,000
Couplings/Fittings/Valves	415	0			515	76,000			76,000
Dehydration					517				0
Injection Plant/CO2 Equipment					518				0
Pumps-Surface					521	6,250			6,250
Instrumentation/SCADA/POC					522		529	7,000	7,000
Miscellaneous	419	0	519		523		535	3,000	3,000
Contingency	420	0	520		524		536		0
Meters/LACT					525	29,150			29,150
Flares/Combusters/Emission					526	15,000			15,000
Gas Lift/Compression			527	15,000	516	75,000	528		90,000
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500	1,907,465
TOTAL WELL COSTS		4,792,000		7,382,000		779,665		245,000	13,198,665

% of Total Well Cost

36%

56%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:

% Working Interest

By: PWS

Company: **Advance Energy Partners, LLC**

By: _____

Printed Name: _____

Title: _____

Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**

PROSPECT NAME: **BULLDOG 717008**

SHL: **210 FNL & 980 FWL**

STATE & COUNTY: **New Mexico, Lea**

BHL: **200 FSL & 1130 FWL**

OBJECTIVE: **DRILL AND COMPLETE**

FORMATION: **WOLFBONE POOL**

DEPTH: **22,700**

LEGAL: **SEC 30-31 T24S-R35E**

TVD: **12,889**

		Drig - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL
INTANGIBLE COSTS						
Title/Curative/Permit	201	11,000				11,000
Insurance	202	4,000	302			4,000
Damages/Right of Way	203	5,000	303			5,000
Survey/Stake Location	204	6,000				6,000
Location/Pits/Road Expense	205	120,000	305	10,000	353	161,000
Drilling / Completion Overhead	206	13,800	306			13,800
Turnkey Contract	207	0	307	1,397,000		1,397,000
Footage Contract	208	0	308	781,000		781,000
Daywork Contract	209	1,000,000	309	1,177,000		2,177,000
Directional Drilling Services	210	398,000	310	150,000		548,000
Fuel & Power	211	263,000	311	5,000	354	268,000
Water	212	60,000	312	855,000		915,000
Bits	213	133,200	313	4,500		137,700
Mud & Chemicals	214	275,000	314	25,000		300,000
Drill Stem Test	215	0	315			0
Coring & Analysis	216	0				0
Cement Surface	217	28,000				28,000
Cement Intermediate	218	75,000				75,000
Cement 2nd Intermediate/Production	219	115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Centralizers	221	45,000				45,000
Casing Crews & Equipment	222	60,000				60,000
Fishing Tools & Service	223	0	323			0
Geologic/Engineering	224	0	324			0
Contract Labor	225	5,500	325	8,200	356	92,200
Company Supervision	226	82,800	326	15,000	357	97,800
Contract Supervision	227	151,000	327	204,000	358	360,000
Testing Casing/Tubing	228	20,000	328	10,000		30,000
Mud Logging Unit	229	52,000	329			52,000
Logging	230	0				0
Perforating/Wireline Services	231	4,000	331	515,000		519,000
Stimulation/Treating			332	397,000		397,000
Completion Unit			333	138,000		148,000
Swabbing Unit			334			0
Rentals-Surface	235	190,000	335	310,000	359	507,000
Rentals-Subsurface	236	150,000	336	55,000		205,000
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360	143,000
Welding Services	238	4,000	338	5,000	361	9,000
Water Disposal	239	0	339	60,000	362	195,000
Plug to Abandon	240	0	340			0
Seismic Analysis	241	0	341			0
Miscellaneous	242	0	342			0
Contingency	243	68,700	343	250,000	363	318,700
Closed Loop & Environmental	244	330,000	344	5,000	364	335,000
Coil Tubing			346	462,000		462,000
Flowback Crews & Equip			347	325,000		325,000
Offset Directional/Frac	248	0	348	48,000		48,000
TOTAL INTANGIBLES		3,790,000	7,231,700	238,000	31,500	11,291,200
TANGIBLE COSTS						
Surface Casing	401	73,000				73,000
Intermediate Casing	402	421,000				421,000
Production Casing/Liner	403	433,000				433,000
Tubing			504	47,300		57,300
Wellhead Equipment	405	75,000	505	22,000		100,000
Pumping Unit				0	506	98,000
Prime Mover				0	507	0
Rods				0	508	65,000
Pumps-Sub Surface (BH)			509			5,500
Tanks				510		35,800
Flowlines				511		85,000
Heater Treater/Separator				512		159,465
Electrical System				513		60,000
Packers/Anchors/Hangers	414	0	514	66,000		68,000
Couplings/Fittings/Valves	415	0		515		76,000
Dehydration				517		0
Injection Plant/CO2 Equipment				518		0
Pumps-Surface				521		6,250
Instrumentation/SCADA/POC				522		7,000
Miscellaneous	419	0	519	523		3,000
Contingency	420	0	520	524		0
Meters/LACT				525		29,150
Flares/Combusters/Emission				526		15,000
Gas Lift/Compression			527	15,000	516	90,000
TOTAL TANGIBLES		1,002,000	150,300	541,665	213,500	1,907,465
TOTAL WELL COSTS		4,792,000	7,382,000	779,665	245,000	13,198,665

% of Total Well Cost

36%

56%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:

% Working Interest

By: PWS

Company: **Scratch Properties, LLC**

By: _____

Printed Name: _____

Title: _____

Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**

PROSPECT NAME: **BULLDOG 717008**

SHL: **210 FNL & 980 FWL**

STATE & COUNTY: **New Mexico, Lea**

BHL: **200 FSL & 1130 FWL**

OBJECTIVE: **DRILL AND COMPLETE**

FORMATION: **WOLFBONE POOL**

DEPTH: **22,700**

LEGAL: **SEC 30-31 T24S-R35E**

TVD: **12,889**

INTANGIBLE COSTS	Drig - Rig		Tank Btty		Pmpg	TOTAL			
	Release(D)	Completion(C)	Constrctn(TB)	Equipment(PEQ)					
Title/Curative/Permit	201	11,000				11,000			
Insurance	202	4,000	302			4,000			
Damages/Right of Way	203	5,000	303	351		5,000			
Survey/Stake Location	204	6,000		352		6,000			
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	366	161,000	
Drilling / Completion Overhead	206	13,800	306					13,800	
Turnkey Contract	207	0	307	1,397,000				1,397,000	
Footage Contract	208	0	308	781,000				781,000	
Daywork Contract	209	1,000,000	309	1,177,000				2,177,000	
Directional Drilling Services	210	398,000	310	150,000				548,000	
Fuel & Power	211	263,000	311	5,000	354	367		268,000	
Water	212	60,000	312	855,000		368		915,000	
Bits	213	133,200	313	4,500		369		137,700	
Mud & Chemicals	214	275,000	314	25,000		370		300,000	
Drill Stem Test	215	0	315					0	
Coring & Analysis	216	0						0	
Cement Surface	217	28,000						28,000	
Cement Intermediate	218	75,000						75,000	
Cement 2nd Intermediate/Production	219	115,000						115,000	
Cement Squeeze & Other (Kickoff Plug)	220	0				371		0	
Float Equipment & Centralizers	221	45,000						45,000	
Casing Crews & Equipment	222	60,000						60,000	
Fishing Tools & Service	223	0	323			372		0	
Geologic/Engineering	224	0	324		355	373		0	
Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500	92,200
Company Supervision	226	82,800	326	15,000	357		375		97,800
Contract Supervision	227	151,000	327	204,000	358		376	5,000	360,000
Testing Casing/Tubing	228	20,000	328	10,000			377		30,000
Mud Logging Unit	229	52,000	329						52,000
Logging	230	0					378		0
Perforating/Wireline Services	231	4,000	331	515,000			379		519,000
Stimulation/Treating			332	397,000			380		397,000
Completion Unit			333	138,000			381	10,000	148,000
Swabbing Unit			334				382		0
Rentals-Surface	235	190,000	335	310,000	359		383	7,000	507,000
Rentals-Subsurface	236	150,000	336	55,000			384		205,000
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360		385	3,000	143,000
Welding Services	238	4,000	338	5,000	361		386		9,000
Water Disposal	239	0	339	60,000	362	135,000	387		195,000
Plug to Abandon	240	0	340						0
Seismic Analysis	241	0	341						0
Miscellaneous	242	0	342				389		0
Contingency	243	68,700	343	250,000	363		390		318,700
Closed Loop & Environmental	244	330,000	344	5,000	364		388		335,000
Coil Tubing			346	462,000					462,000
Flowback Crews & Equip			347	325,000					325,000
Offset Directional/Frac	248	0	348	48,000					48,000
TOTAL INTANGIBLES		3,790,000		7,231,700		238,000		31,500	11,291,200
TANGIBLE COSTS									
Surface Casing	401	73,000							73,000
Intermediate Casing	402	421,000							421,000
Production Casing/Liner	403	433,000							433,000
Tubing			504	47,300			530	10,000	57,300
Wellhead Equipment	405	75,000	505	22,000			531	3,000	100,000
Pumping Unit				0			506	98,000	98,000
Prime Mover				0			507		0
Rods				0			508	65,000	65,000
Pumps-Sub Surface (BH)			509				532	5,500	5,500
Tanks					510	35,800			35,800
Flowlines					511	85,000			85,000
Heater Treater/Separator					512	159,465			159,465
Electrical System					513	60,000	533	20,000	80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000	68,000
Couplings/Fittings/Valves	415	0			515	76,000			76,000
Dehydration					517				0
Injection Plant/CO2 Equipment					518				0
Pumps-Surface					521	6,250			6,250
Instrumentation/SCADA/POC					522		529	7,000	7,000
Miscellaneous	419	0	519		523		535	3,000	3,000
Contingency	420	0	520		524		536		0
Meters/LACT					525	29,150			29,150
Flares/Combusters/Emission					526	15,000			15,000
Gas Lift/Compression			527	15,000	516	75,000	528		90,000
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500	1,907,465
TOTAL WELL COSTS		4,792,000		7,382,000		779,665		245,000	13,198,665

% of Total Well Cost

36%

56%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve: _____
% Working Interest

By: PWS

Burlington Resources Oil and Gas Company,
Company: LP
By: _____

Printed Name: _____
Title: _____
Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**
 SHL: 210 FNL & 980 FWL
 BHL: 200 FSL & 1130 FWL
 FORMATION: WOLFBONE POOL
 LEGAL: SEC 30-31 T24S-R35E

PROSPECT NAME: **BULLDOG 717008**
 STATE & COUNTY: **New Mexico, Lea**
 OBJECTIVE: **DRILL AND COMPLETE**
 DEPTH: 22,700
 TVD: 12,889

	<u>Drig - Rig</u>		<u>Tank Btty</u>	<u>Pmpg</u>					
<u>INTANGIBLE COSTS</u>	<u>Release(D)</u>	<u>Completion(C)</u>	<u>Constrctn(TB)</u>	<u>Equipment(PEQ)</u>	<u>TOTAL</u>				
Title/Curative/Permit	201	11,000			11,000				
Insurance	202	4,000	302		4,000				
Damages/Right of Way	203	5,000	303	351	5,000				
Survey/Stake Location	204	6,000		352	6,000				
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	366	161,000	
Drilling / Completion Overhead	206	13,800	306					13,800	
Turnkey Contract	207	0	307	1,397,000				1,397,000	
Footage Contract	208	0	308	781,000				781,000	
Daywork Contract	209	1,000,000	309	1,177,000				2,177,000	
Directional Drilling Services	210	398,000	310	150,000				548,000	
Fuel & Power	211	263,000	311	5,000	354		367	268,000	
Water	212	60,000	312	855,000			368	915,000	
Bits	213	133,200	313	4,500			369	137,700	
Mud & Chemicals	214	275,000	314	25,000			370	300,000	
Drill Stem Test	215	0	315					0	
Coring & Analysis	216	0						0	
Cement Surface	217	28,000						28,000	
Cement Intermediate	218	75,000						75,000	
Cement 2nd Intermediate/Production	219	115,000						115,000	
Cement Squeeze & Other (Kickoff Plug)	220	0					371	0	
Float Equipment & Centralizers	221	45,000						45,000	
Casing Crews & Equipment	222	60,000						60,000	
Fishing Tools & Service	223	0	323				372	0	
Geologic/Engineering	224	0	324	355			373	0	
Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500	92,200
Company Supervision	226	82,800	326	15,000	357		375	97,800	
Contract Supervision	227	151,000	327	204,000	358		376	5,000	360,000
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Mud Logging Unit	229	52,000	329					52,000	
Logging	230	0					378	0	
Perforating/Wireline Services	231	4,000	331	515,000			379	519,000	
Stimulation/Treating			332	397,000			380	397,000	
Completion Unit			333	138,000			381	10,000	148,000
Swabbing Unit			334				382	0	
Rentals-Surface	235	190,000	335	310,000	359		383	7,000	507,000
Rentals-Subsurface	236	150,000	336	55,000			384	205,000	
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Water Disposal	239	0	339	60,000	362	135,000	387	195,000	
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Miscellaneous	242	0	342				389	0	
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Coil Tubing			346	462,000				462,000	
Flowback Crews & Equip			347	325,000				325,000	
Offset Directional/Frac	248	0	348	48,000				48,000	
TOTAL INTANGIBLES		3,790,000		7,231,700		238,000		31,500	11,291,200
TANGIBLE COSTS									
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Intermediate Casing	402	421,000						421,000	
Production Casing/Liner	403	433,000						433,000	
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Wellhead Equipment	405	75,000	505	22,000			531	3,000	100,000
Pumping Unit				0			506	98,000	98,000
Prime Mover				0			507	0	
Rods				0			508	65,000	65,000
Pumps-Sub Surface (BH)			509				532	5,500	5,500
Tanks					510	35,800		35,800	
Flowlines					511	85,000		85,000	
Heater Treater/Separator					512	159,465		159,465	
Electrical System					513	60,000	533	20,000	80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000	68,000
Couplings/Fittings/Valves	415	0			515	76,000		76,000	
Dehydration					517			0	
Injection Plant/CO2 Equipment					518			0	
Pumps-Surface					521	6,250		6,250	
Instrumentation/SCADA/POC					522		529	7,000	7,000
Miscellaneous	419	0	519		523		535	3,000	3,000
Contingency	420	0	520		524		536	0	
Meters/LACT					525	29,150		29,150	
Flares/Combusters/Emission					526	15,000		15,000	
Gas Lift/Compression			527	15,000	516	75,000	528	90,000	
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500	1,907,465
TOTAL WELL COSTS		4,792,000		7,382,000		779,665		245,000	13,198,665

% of Total Well Cost
36%
56%
6%
2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
 _____ % Working Interest

By: PWS

Company: **L. W. Kirby**
 By: _____

Printed Name: _____
 Title: _____
 Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**
 SHL: 210 FNL & 980 FWL
 BHL: 200 FSL & 1130 FWL
 FORMATION: WOLFBONE POOL
 LEGAL: SEC 30-31 T24S-R35E

PROSPECT NAME: BULLDOG 717008
 STATE & COUNTY: New Mexico, Lea
 OBJECTIVE: DRILL AND COMPLETE
 DEPTH: 22,700
 TVD: 12,889

		Drig - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL			
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Insurance	202	4,000	302			4,000			
Damages/Right of Way	203	5,000	303	351		5,000			
Survey/Stake Location	204	6,000		352		6,000			
Location/Pits/Road Expense	205	120,000	305	10,000	353	31,000	161,000		
Drilling / Completion Overhead	206	13,800	306			13,800			
Turnkey Contract	207	0	307	1,397,000		1,397,000			
Footage Contract	208	0	308	781,000		781,000			
Daywork Contract	209	1,000,000	309	1,177,000		2,177,000			
Directional Drilling Services	210	398,000	310	150,000		548,000			
Fuel & Power	211	263,000	311	5,000	354	367	268,000		
Water	212	60,000	312	855,000		368	915,000		
Bits	213	133,200	313	4,500		369	137,700		
Mud & Chemicals	214	275,000	314	25,000		370	300,000		
Drill Stem Test	215	0	315				0		
Coring & Analysis	216	0					0		
Cement Surface	217	28,000					28,000		
Cement Intermediate	218	75,000					75,000		
Cement 2nd Intermediate/Production	219	115,000					115,000		
Cement Squeeze & Other (Kickoff Plug)	220	0			371		0		
Float Equipment & Centralizers	221	45,000					45,000		
Casing Crews & Equipment	222	60,000					60,000		
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Contract Labor	225	5,500	325	8,200	356	72,000	374	6,500	92,200
Company Supervision	226	82,800	326	15,000	357		375	97,800	
Contract Supervision	227	151,000	327	204,000	358		376	5,000	360,000
Testing Casing/Tubing	228	20,000	328	10,000			377	30,000	
Mud Logging Unit	229	52,000	329					52,000	
Logging	230	0					378	0	
Perforating/Wireline Services	231	4,000	331	515,000			379	519,000	
Stimulation/Treating			332	397,000			380	397,000	
Completion Unit			333	138,000			381	10,000	148,000
Swabbing Unit			334				382	0	
Rentals-Surface	235	190,000	335	310,000	359		383	7,000	507,000
Rentals-Subsurface	236	150,000	336	55,000			384	205,000	
Trucking/Forklift/Rig Mobilization	237	120,000	337	20,000	360		385	3,000	143,000
Welding Services	238	4,000	338	5,000	361		386	9,000	
Water Disposal	239	0	339	60,000	362	135,000	387	195,000	
Plug to Abandon	240	0	340					0	
Seismic Analysis	241	0	341					0	
Miscellaneous	242	0	342				389	0	
Contingency	243	68,700	343	250,000	363		390	318,700	
Closed Loop & Environmental	244	330,000	344	5,000	364		388	335,000	
Coil Tubing			346	462,000				462,000	
Flowback Crews & Equip			347	325,000				325,000	
Offset Directional/Frac	248	0	348	48,000				48,000	
TOTAL INTANGIBLES		3,790,000		7,231,700		238,000		31,500	11,291,200
TANGIBLE COSTS									
Surface Casing	401	73,000						73,000	
Intermediate Casing	402	421,000						421,000	
Production Casing/Liner	403	433,000						433,000	
Tubing			504	47,300			530	10,000	57,300
Wellhead Equipment	405	75,000	505	22,000			531	3,000	100,000
Pumping Unit				0			506	98,000	98,000
Prime Mover				0			507	0	
Rods				0			508	65,000	65,000
Pumps-Sub Surface (BH)			509				532	5,500	5,500
Tanks					510	35,800		35,800	
Flowlines					511	85,000		85,000	
Heater Treater/Separator					512	159,465		159,465	
Electrical System					513	60,000	533	20,000	80,000
Packers/Anchors/Hangers	414	0	514	66,000			534	2,000	68,000
Couplings/Fittings/Valves	415	0			515	76,000		76,000	
Dehydration					517			0	
Injection Plant/CO2 Equipment					518			0	
Pumps-Surface					521	6,250		6,250	
Instrumentation/SCADA/POC					522		529	7,000	7,000
Miscellaneous	419	0	519		523		535	3,000	3,000
Contingency	420	0	520		524		536	0	
Meters/LACT					525	29,150		29,150	
Flares/Combusters/Emission					526	15,000		15,000	
Gas Lift/Compression			527	15,000	516	75,000	528	90,000	
TOTAL TANGIBLES		1,002,000		150,300		541,665		213,500	1,907,465
TOTAL WELL COSTS		4,792,000		7,382,000		779,665		245,000	13,198,665

% of Total Well Cost

36%

56%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
_____% Working Interest

By: PWS

Company: **Barney L. Alsobrook**
By: _____

Printed Name:
Title:
Date:

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **FASCINATOR FED COM 704H**

PROSPECT NAME: **BULLDOG 717008**

SHL: **210 FNL & 980 FWL**

STATE & COUNTY: **New Mexico, Lea**

BHL: **200 FSL & 1130 FWL**

OBJECTIVE: **DRILL AND COMPLETE**

FORMATION: **WOLFBONE POOL**

DEPTH: **22,700**

LEGAL: **SEC 30-31 T24S-R35E**

TVD: **12,889**

INTANGIBLE COSTS	Drig - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL
Title/Curative/Permit	201 11,000				11,000
Insurance	202 4,000 302				4,000
Damages/Right of Way	203 5,000 303				5,000
Survey/Stake Location	204 6,000				6,000
Location/Pits/Road Expense	205 120,000 305	10,000	353 31,000	366	161,000
Drilling / Completion Overhead	206 13,800 306				13,800
Turnkey Contract	207 0 307	1,397,000			1,397,000
Footage Contract	208 0 308	781,000			781,000
Daywork Contract	209 1,000,000 309	1,177,000			2,177,000
Directional Drilling Services	210 398,000 310	150,000			548,000
Fuel & Power	211 263,000 311	5,000	354	367	268,000
Water	212 60,000 312	855,000		368	915,000
Bits	213 133,200 313	4,500		369	137,700
Mud & Chemicals	214 275,000 314	25,000		370	300,000
Drill Stem Test	215 0 315				0
Coring & Analysis	216 0				0
Cement Surface	217 28,000				28,000
Cement Intermediate	218 75,000				75,000
Cement 2nd Intermediate/Production	219 115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220 0			371	0
Float Equipment & Centralizers	221 45,000				45,000
Casing Crews & Equipment	222 60,000				60,000
Fishing Tools & Service	223 0 323			372	0
Geologic/Engineering	224 0 324		355	373	0
Contract Labor	225 5,500 325	8,200	356 72,000	374 6,500	92,200
Company Supervision	226 82,800 326	15,000	357	375	97,800
Contract Supervision	227 151,000 327	204,000	358	376 5,000	360,000
Testing Casing/Tubing	228 20,000 328	10,000		377	30,000
Mud Logging Unit	229 52,000 329				52,000
Logging	230 0			378	0
Perforating/Wireline Services	231 4,000 331	515,000		379	519,000
Stimulation/Treating		332 397,000		380	397,000
Completion Unit		333 138,000		381 10,000	148,000
Swabbing Unit		334		382	0
Rentals-Surface	235 190,000 335	310,000	359	383 7,000	507,000
Rentals-Subsurface	236 150,000 336	55,000		384	205,000
Trucking/Forklift/Rig Mobilization	237 120,000 337	20,000	360	385 3,000	143,000
Welding Services	238 4,000 338	5,000	361	386	9,000
Water Disposal	239 0 339	60,000	362 135,000	387	195,000
Plug to Abandon	240 0 340				0
Seismic Analysis	241 0 341				0
Miscellaneous	242 0 342			389	0
Contingency	243 68,700 343	250,000	363	390	318,700
Closed Loop & Environmental	244 330,000 344	5,000	364	388	335,000
Coil Tubing		346 462,000			462,000
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Offset Directional/Frac	248 0 348	48,000			48,000
TOTAL INTANGIBLES	3,790,000	7,231,700	238,000	31,500	11,291,200

TANGIBLE COSTS					
Surface Casing	401 73,000				73,000
Intermediate Casing	402 421,000				421,000
Production Casing/Liner	403 433,000				433,000
Tubing		504 47,300		530 10,000	57,300
Wellhead Equipment	405 75,000 505	22,000		531 3,000	100,000
Pumping Unit		0		506 98,000	98,000
Prime Mover		0		507	0
Rods		0		508 65,000	65,000
Pumps-Sub Surface (BH)		509		532 5,500	5,500
Tanks			510 35,800		35,800
Flowlines			511 85,000		85,000
Heater Treater/Separator			512 159,465		159,465
Electrical System			513 60,000	533 20,000	80,000
Packers/Anchors/Hangers	414 0 514	66,000		534 2,000	68,000
Couplings/Fittings/Valves	415 0		515 76,000		76,000
Dehydration			517		0
Injection Plant/CO2 Equipment			518		0
Pumps-Surface			521 6,250		6,250
Instrumentation/SCADA/POC			522	529 7,000	7,000
Miscellaneous	419 0 519		523	535 3,000	3,000
Contingency	420 0 520		524	536	0
Meters/LACT			525 29,150		29,150
Flares/Combusters/Emission			526 15,000		15,000
Gas Lift/Compression		527 15,000	516 75,000	528	90,000
TOTAL TANGIBLES	1,002,000	150,300	541,665	213,500	1,907,465
TOTAL WELL COSTS	4,792,000	7,382,000	779,665	245,000	13,198,665

% of Total Well Cost

36%

56%

6%

2%

COG Operating LLC

Date Prepared: 3/27/2018 for proposal

COG Operating LLC

We approve:
_____% Working Interest

By: PWS

Company: **Flatland Mineral Fund, LP**
By: _____

Printed Name: _____
Title: _____
Date: _____

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5342

Marathon Oil Permian LLC
5555 San Felipe St.
Houston, Texas 77056

Re: Well Proposal – Fascinator Federal Com 705H
Sec 30: Lots 1-4 - T24S-R35E
Sec 31: Lots 1-4 - T24S-R35E
SHL: 210' FNL/ 920' FWL, or a legal location in Sec 30 (Lot 1)
BHL: 200' FSL/ 710' FWL, or a legal location in Sec 31 (Lot 4)
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the Fascinator Federal Com 705H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,790' and a MD of approximately 22,600' to test the Wolfbone Pool ("Operation"). The total cost of the Operation is estimated to be \$13,198,665, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: Lots 1-4 - T24S-R35E and Sec 31: Lots 1-4 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG proposes to acquire your interest via term assignment. It has the following general provisions:

- 3 year primary term
- Delivering a 75% NRI, proportionately reduced
- \$2,000 per net acre bonus consideration

The Term Assignment offer expires 5 p.m., Central Time, June 13, 2018, and it is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 21
Submitted by: COG OPERATING LLC
Hearing Date: July 26, 2018
Case Nos. 16219 & 16220

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 705H.

_____ I/We hereby elect *not* to participate in the Fascinator Federal Com 705H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____



April 13, 2018

US Certified Mail No. 91 7199 9991 7038 1571 5052

The Estate of Barney L. Alsobrook, deceased
1405 E 17th
Odessa, TX 79761

Re: Well Proposal – Fascinator Federal Com 705H

Sec 30: Lots 1-4 - T24S-R35E

Sec 31: Lots 1-4 - T24S-R35E

SHL: 210' FNL/ 920' FWL, or a legal location in Sec 30 (Lot 1)

BHL: 200' FSL/ 710' FWL, or a legal location in Sec 31 (Lot 4)

Lea County, New Mexico

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COG is proposing to drill this well under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 30: Lots 1-4 - T24S-R35E and Sec 31: Lots 1-4 - T24S-R35E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your election in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFE and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG would like to lease your minerals under the following general terms:

- Bonus of \$2,000 /Net Mineral Acre
- 3 Year Primary Term
- 25% Royalty Interest

The Lease offer is subject to the approval of COG's management and verification of title.

If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

If you have any questions, please contact the undersigned at (432) 685-2588 Mflanagan@concho.com.

Respectfully,

Megan L. Tipton

Megan Tipton
Landman

_____ I/We hereby elect to participate in the Fascinator Federal Com 705H.

_____ I/We hereby elect not to participate in the Fascinator Federal Com 705H.

Company: _____

By: _____

Name: _____

Title: _____

Date: _____