Matador Production Company

Case No. 15363

Airstrip 31 18S 35E State Com #201H Well

September 6, 2016

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION COMMISSION

APPLICATION OF MATADOR PRODUCTION COMPANY FOR A NONSTANDARD OIL SPACING AND PRORATION UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

CASE NO. 15363

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Airstrip 31 18S 35E State Com #201H Well

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EXHIBIT 1

District I
1625 N. Fren
Phone: (575)
District II
211 S. First St.,
one: (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., Sante 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.
Sante 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 Number	[2]Pool Code	[3]Pool Name
	970	Airstrip; Wolfcamp

[4]Property Code	[5]Property Name	[6]Well Number
	AIRSTRIP 31 18S 35E RN STATE COM	#201H

[7]OGRID No.	[8]Operator Name	[9]Elevation
228937	MATADOR PRODUCTION COMPANY	3945'

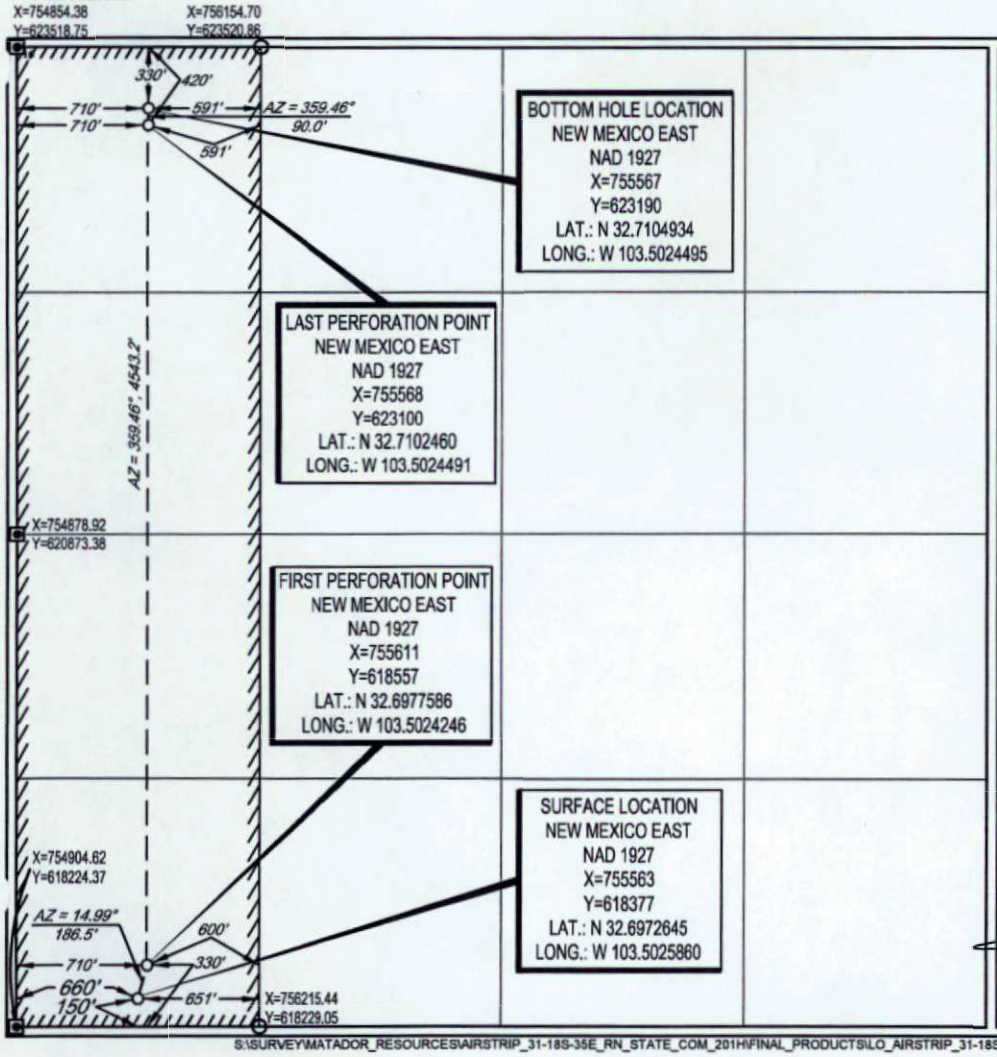
[10]Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	31	18-S	35-E	-	150'	SOUTH	660'	WEST	LEA

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	31	18-S	35-E	-	330'	NORTH	710'	WEST	LEA

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order 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.



[17]OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Sam Pryor
Printed Name

spryor@matadorresources.com
E-mail Address

[18]SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

Date of Survey
Signature and Seal of Professional Surveyor

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Certificate Number

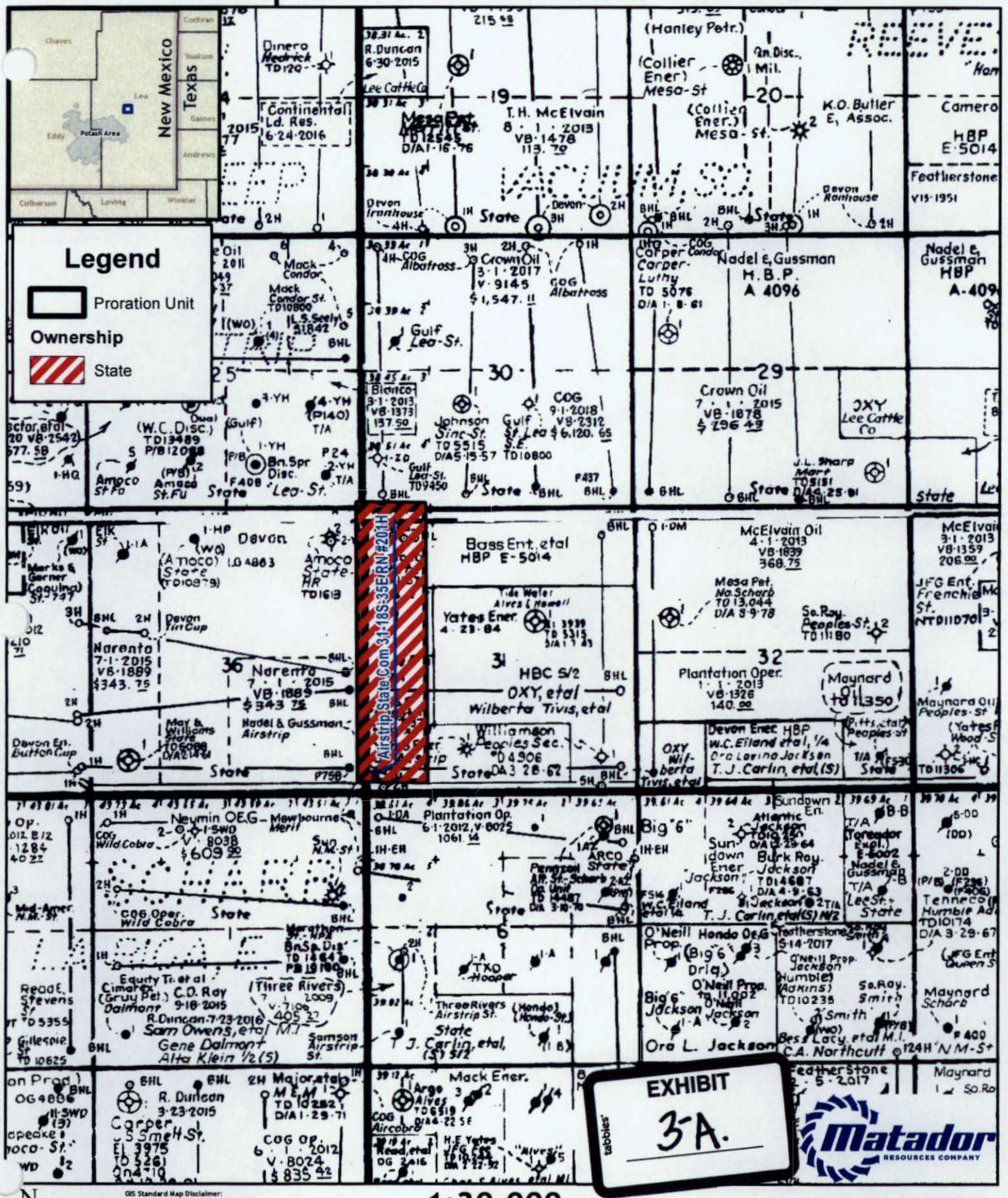
S:\SURVEY\MATADOR_RESOURCES\AIRSTRIP_31-18S-35E_RN_STATE_COM_201H\FINAL_PRODUCTS\LO_AIRSTRIP_31-18S-35E_RN_STATE_COM_201H_REV2.DWG 8/22/2016 11:53:10 AM jstovall

Matador
Exhibit 2

Summary of Interests

MRC Delaware Resources, LLC Working Interest		**93.273941%**
Voluntary Joinder		**3.909677%**
Compulsory Pool Interest Total:		**2.816382%**
Interest Owner:	Description:	Interest:
Jalapeno Corporation	Uncommitted Working Interest Owner	2.766362%
Louis Kadane and Michael L. Gustafson, Trustees of the 4-K Trust, at the request of Edward G. Kadane, II, Former Interest of George Kadane	Uncommitted Working Interest Owner	0.025010%
Louis Kadane and Michael L. Gustafson, Trustees of the 4-K Trust, at the request of Matthew B. Kadane, Former Interest of George Kadane	Uncommitted Working Interest Owner	0.025010%

Airstrip 31 18 35 RN State Com 201H



N

GIS Standard Map Disclaimer:
This cartographic product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

1:30,000

1 inch = 2,500 feet

0 1,250 2,500 5,000 7,500 10,000 Feet

Southeast New Mexico

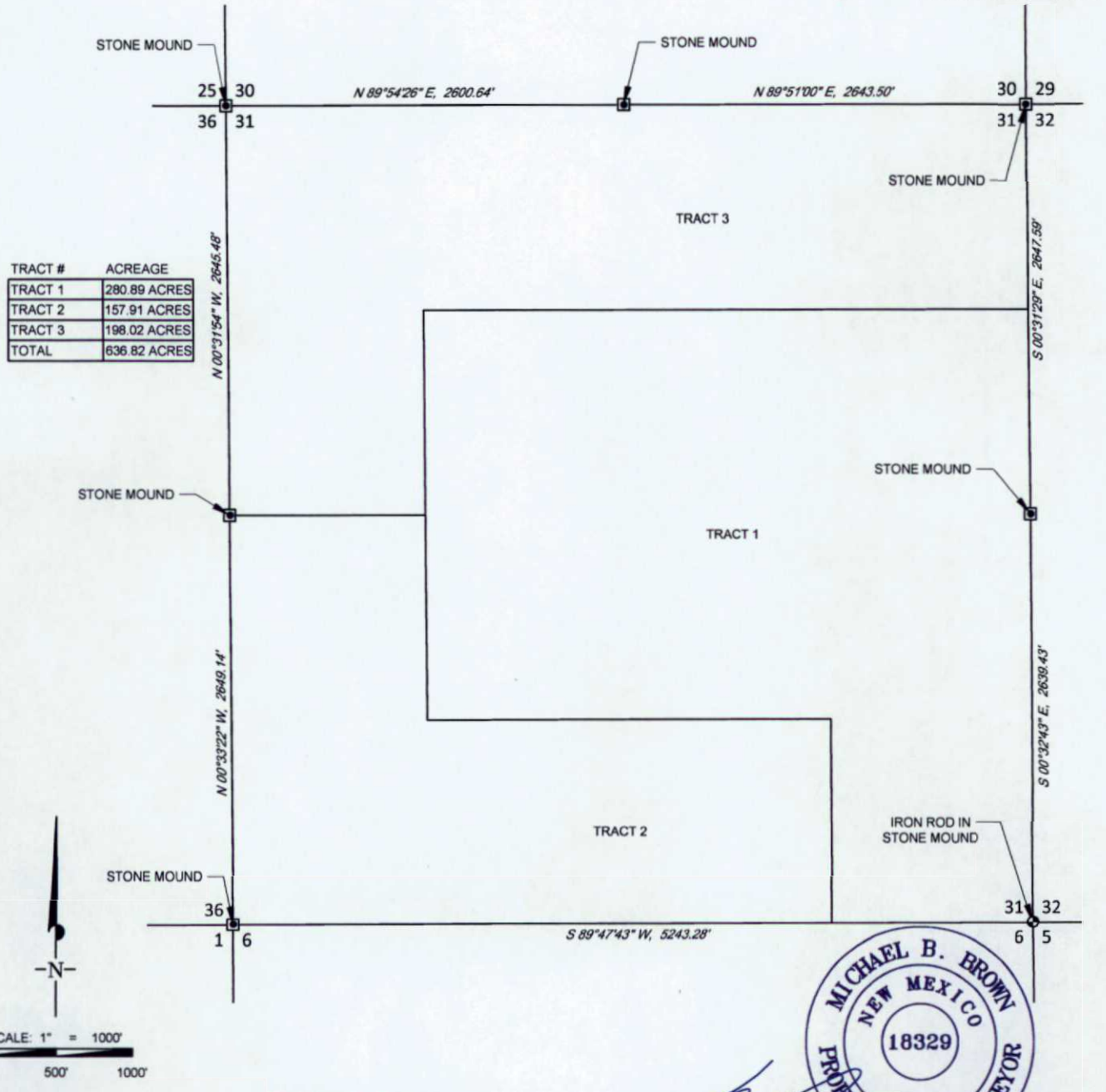
Map Prepared by: thudgins
Date: August 23, 2016
Filename: Airstrip201H
Coordinate System: NAD 1927 StatePlane New Mexico East FIPS 3001
Projection: Transverse Mercator; Datum: North American 1927; Units: Foot US
Sources: IHS; ESRI;

EXHIBIT 3.B.

Matador PRODUCTION COMPANY

SECTION 31, TOWNSHIP 18-S, RANGE 35-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

LEGEND
- SECTION LINE
- ROAD WAY
- MONUMENT
- IRON ROD IN STONE MOUND



TRACT #	ACREAGE
TRACT 1	280.89 ACRES
TRACT 2	157.91 ACRES
TRACT 3	198.02 ACRES
TOTAL	636.82 ACRES

SCALE: 1" = 1000'
0' 500' 1000'

UNIT/LEASE NAME: SECTION 31-18S-35E

SECTION 31 TWP 18-S RGE 35-E SURVEY N.M.P.M.
COUNTY LEA STATE NM TOTAL ACREAGE 636.82

ALL INSTRUMENTS, PRE/POST DRILLING DATA, PRE/POST COMPLETION DATA,HARD LINE INFORMATION, LEASE INFORMATION, AND ANY PERTINENT INFORMATION USED IN THE PREPARATION OF THIS MAP WAS PROVIDED BY MATADOR PRODUCTION COMPANY.

THIS UNIT/LEASE BOUNDARY HAS BEEN CAREFULLY SURVEYED ON THE GROUND UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE ACCORDING TO THE EVIDENCE, OFFICIAL SURVEY RECORDS, MAPS, AND OTHER DATA PROVIDED BY MATADOR PRODUCTION COMPANY. THIS PLAT WAS CREATED FOR THE SOLE PURPOSE OF FILING A PERMIT WITH THE RAILROAD COMMISSION OF TEXAS AND SHOULD NOT BE CONSTRUED AS A "BOUNDARY SURVEY" IN COMPLIANCE WITH T.B.P.L.S. MINIMUM STANDARDS OF PROCEDURES FOR BOUNDARY SURVEYS. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE OF THE NORTH AMERICAN DATUM 1927, U.S. SURVEY FEET.

MICHAEL B. BROWN NEW MEXICO 18329 PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
AUGUST 26, 2015

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7548
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

S:\SURVEY\MATADOR_RESOURCES\SECTION_MAPS\FINAL_PRODUCTS\BO_SEC_31-18S-35E.DWG 8/27/2015 11:12:12 AM jstovall

EXHIBIT
tabbies
4

MRC Delaware Resources, LLC

500 North Main Street, Suite One, Roswell, New Mexico 88201
Mailing Address: P.O. Box 1936, Roswell, New Mexico 88202-1936
Voice 575-623-6601 • Fax 575-627-2427
Sender's e-mail: mrandle@matadorresources.com

Melissa Randle
Land Manager

March 24, 2015

VIA CERTIFIED MAIL 7012 2920 0002 3253 7452

Billie Kirby
#9 Woodland Creek Circle
Wichita Falls, TX 76302

Re: Well Proposal
Matador: Airstrip State Com 31-18S-35E #201H (formerly Airstrip 31 State #2H)
Section 31-18S-35E
Lea County, New Mexico

Dear Billie Kirby:

Reference is made to that certain well proposal letter dated September 14, 2014, sent by Harvey E. Yates Company ("HEYCO") proposing to drill the Airstrip 31 State #2H well referenced above to test the Third Bone Springs formation at a horizontal location in the W/2 W/2 of the subject section. On Friday, February 27, 2015, HEYCO closed on and merged its assets in New Mexico with Matador Resources Company and MRC Delaware Resources, LLC ("MRC Delaware") is the new successor entity with Matador Production Company being the operating company entity for MRC Delaware.

MRC Delaware desires to drill the subject well above to a depth that is approximately 200' deeper than originally proposed in order to test the Wolfcamp formation at a surface location approximately 150' FSL and 330' FWL of Section 31, Township 18 South, Range 35 East, and a bottom hole location of approximately 330' FNL and 710' FWL of Section 31, Township 18 South, Range 35 East, Lea County, New Mexico. We intend to drill horizontally (~10,840' TVD) to a Total Measured Depth of approximately 15,500' resulting in a lateral wellbore of approximately 4,400' that is planned to be completed with 15 frac stages. Estimated costs to drill the test well are $5,376,594 for a dry hole with a completed well costing approximately $9,099,800 as shown on the enclosed AFE.

Please indicate your election for this proposed operation by executing this letter below, as well as the enclosed AFE, if participating, and return both to the attention of the undersigned. Please be aware that the enclosed AFE is only an estimate of costs to be incurred and in electing to participate in the proposed well, you will be responsible for your proportionate share of all actual costs incurred. If your election is to participate, please accept this letter as an invoice notice and request for payment and to please remit payment for your proportionate share of costs pursuant to Article VII.C of the above referenced operating agreement as detailed in the enclosed AFE to Matador Production

Company on or before fifteen (15) days after receipt of this estimate and invoice is received.

I have enclosed a revised Operating Agreement to the previous agreement sent under the September 14, 2014 proposal letter for your review and execution. We have corrected the operator name, well depth, contract depth, Exhibit "A", header names, etc. to reflect the proposed well herein. Please return one (1) executed copy of the signature page to the Operating Agreement along with your election letter and AFE.

As an alternative to participation, MRC Delaware hereby proposes the following options covering your 5.0005% Working Interest in this proposed unit:

1) Assign all your interest to MRC Delaware for $1800.00 per net acre for delivering of your existing Net Revenue Interest, less and except your interest in any existing producing wellbore(s) located in the SE Airstrip Com #1 Unit.

2) Assign all of your interest to MRC Delaware delivering a 75.0% Net Revenue Interest, reserving an Overriding Royalty Interest equal to the positive difference between existing burdens and 25.0%, proportionately reduced. Any assignment would cover all rights less and except any rights in and to any existing producing wellbore(s) located in the SE Airstrip Com #1 Unit.

As an alternative to the above options, MRC Delaware would be interested in purchasing your interest in this unit/section including any producing well bores, subject to the negotiation of mutually agreeable price and terms. If you are interested in pursuing this alternative, please so indicate at the space provided below and/or contact the undersigned. We will immediately forward this information to our Acquisitions and Divestitures Department for follow-up. However, you are advised that entering into negotiations to sell your interest does not excuse or allow you to delay your required election under this well proposal.

Your earliest attention and response to this proposal will be greatly appreciated. With this recent merger, there is an opportunity to move this well onto our rig schedule and spud this proposed well around April 25, 2015, provided we can gather the elections and signatures needed ahead of spudding the well. Should you have any questions regarding this proposal, please contact me at any time using the contact information above.

Sincerely,

MRC DELAWARE RESOURCES, LLC

Melissa Randle
Land Manager

Enclosures

MATADOR PRODUCTION COMPANY

ONE LINCOLN CENTRE • 5400 LBJ FREEWAY • SUITE 1500 • DALLAS, TEXAS 75240
Phone (972) 371-5200 • Fax (972) 371-5201

ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE

DATE:	March 18, 2015	AFE NO.:	0
WELL NAME:	Airstrip State Com 31-18S-35E #201H	FIELD:	0
LOCATION:		MD/TVD:	15500'/10840'
COUNTY/STATE:	Lea / NM	LATERAL LENGTH:	4,400
MRC WI:	52.37%	DRILLING DAYS:	38
GEOLOGIC TARGET:	Wolfcamp A "X/Y"	COMPLETION DAYS:	10
REMARKS:	Drill a horizontal well and complete with 15 stages, Gen 2 Upper Wolfcamp Design		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
01 Land / Legal / Regulatory	$ 95,000	$ -	$ -	$ 95,000
02 Location, Surveys & Damages	180,500	137,500	4,000	322,000
10 Drilling	1,349,000	-	-	1,349,000
15 Cementing & Float Equip	250,000	-	-	250,000
20 Logging / Formation Evaluation	-	6,000	-	6,000
21 Mud Logging	38,500	-	-	38,500
23 Mud Circulation System	112,850	-	-	112,850
24 Mud & Chemicals	301,800	30,000	-	331,800
25 Mud / Wastewater Disposal	145,000	-	-	145,000
26 Freight / Transportation	36,000	15,000	-	51,000
28 Rig Supervision / Engineering	154,800	62,000	18,000	234,800
31 Drill Bits	105,450	-	-	105,450
32 Fuel & Power	190,000	-	-	190,000
33 Water	52,000	395,000	-	447,000
34 Drlg & Completion Overhead	21,000	17,000	-	38,000
36 Plugging & Abandonment	-	-	-	-
38 Directional Drilling, Surveys	350,000	-	-	350,000
40 Completion Unit, Swab, CTU	-	90,000	28,000	118,000
44 Perforating, Wireline, Slickline	-	76,000	20,000	96,000
45 High Pressure Pump Truck	-	48,000	-	48,000
46 Stimulation	-	1,650,000	-	1,650,000
47 Stimulation Flowback & Disp	-	68,000	-	68,000
48 Insurance	27,180	-	-	27,180
50 Labor	150,500	19,500	6,000	176,000
51 Rental - Surface Equipment	161,500	209,250	12,000	382,750
52 Rental - Downhole Equipment	99,000	43,000	-	142,000
53 Rental - Living Quarters	87,630	28,210	10,000	125,840
54 Contingency	390,771	289,446	9,800	690,017
TOTAL INTANGIBLES >	4,298,481	3,183,906	107,800	7,590,187

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
41 Surface Casing	$ 52,088	$ -	$ -	$ 52,088
42 Intermediate Casing	161,800	-	-	161,800
43 Drilling Liner	355,600	-	-	355,600
44 Production Casing	428,625	-	-	428,625
45 Production Liner	-	-	-	-
46 Tubing	-	-	55,000	55,000
47 Wellhead	80,000	-	60,000	140,000
48 Packers, Liner Hangers	-	35,000	12,000	47,000
49 Tanks	-	-	-	-
50 Production Vessels	-	-	74,000	74,000
51 Flow Lines	-	-	-	-
52 Rod string	-	-	-	-
53 Artificial Lift Equipment	-	-	30,000	30,000
54 Compressor	-	-	-	-
55 Installation Costs	-	-	82,000	82,000
56 Surface Pumps	-	-	5,000	5,000
58 Non-controllable Surface	-	-	66,000	66,000
59 Non-controllable Downhole	-	-	-	-
61 Downhole Pumps	-	-	-	-
63 Measurement & Meter Installation	-	-	12,500	12,500
64 Gas Conditioning / Dehydration	-	-	-	-
65 Interconnecting Facility Piping	-	-	-	-
66 Gathering / Bulk Lines	-	-	-	-
67 Valves, Dumps, Controllers	-	-	-	-
68 Tank / Facility Containment	-	-	-	-
69 Flare Stack	-	-	-	-
70 Electrical / Grounding	-	-	-	-
71 Communications / SCADA	-	-	-	-
72 Instrumentation / Safety	-	-	-	-
TOTAL TANGIBLES >	1,078,113	35,000	396,500	1,509,613
TOTAL COSTS >	5,376,594	3,218,906	504,300	9,099,800

PREPARED BY MATADOR PRODUCTION COMPANY:

Drilling Engineer: Aaron Byrd
Completions Engineer: Chris Calvert
Production Engineer: Casey McCain

Team Lead - WTX/NM: _____ DB

MATADOR RESOURCES COMPANY APPROVAL:

Executive VP, COO/CFO: _____ DEL
VP - Res Engineering: _____ BMR
VP - Drilling: _____ BG
Executive VP, Legal: _____ CA
Exec Dir - Exploration: _____ DFN
VP - Production: _____ WFM
President: _____ MVH
VP & General Manager: _____ RCL

NON OPERATING PARTNER APPROVAL:

Company Name: _____ Working Interest (%): _____ Tax ID: _____

Signed by: _____ Date: _____

Title: _____ Approval: _____ Yes _____ No (mark one)

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No. or PO Box No. Mary D. Hughes
City, State, ZIP 5503 Mercedes Avenue
PS Form 3800 Dallas, TX 75206

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Emily A. Kadane
4201 Picasso Drive
Wichita Falls, TX 76302

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/27/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7438

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mary D. Hughes
5503 Mercedes Avenue
Dallas, TX 75206

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/26/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7407

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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No. or PO Box No. Emily A. Kadane
City, State, ZIP 4201 Picasso Drive
PS Form 3800 Wichita Falls, TX 76302

7012 2920 0002 3253 7445

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Postage	$
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No., or PO Box No. Robert A. Kadane
City, State, ZIP+4 518 17th Street, Suite 745
PS Form 3800, Denver, CO 80202

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:

Johanna K. Little
815 Glenchester
Houston, TX 77079

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Johanna Little ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/26/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service) 7012 2920 0002 3253 7469

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

ert A. Kadane
17th Street, Suite 745
ver, CO 80202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Robert A Kadane ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/30/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

Number (Transfer from service) 7012 2920 0002 3253 7445

3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No., or PO Box No. Johanna K. Little
City, State, ZIP+4 815 Glenchester
PS Form 3800, Houston, TX 77079

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No.; or PO Box No. Billie Kirby
City, State, ZIP+ #9 Woodland Creek Circle
PS Form 3800, Wichita Falls, TX 76302

7012 2920 0002 3253 7452

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Judith K. Nix
103 Catron Street, Unit #4
Santa Fe, NM 87501

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Brad Norton ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/20/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7483

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Billie Kirby
#9 Woodland Creek Circle
Wichita Falls, TX 76302

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Billie Kirby ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/20/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7452

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No.; or PO Box No. Judith K. Nix
City, State, ZIP+ 103 Catron Street, Unit #4
PS Form 3800, Santa Fe, NM 87501

7012 2920 0002 3253 7483

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com®

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No.; or PO Box No. Harlena K. Lowenstein
City, State, ZIP+4 201 Main Street, Suite 400
Ft. Worth, TX 76102

PS Form 3800,

7012 2920 0002 3253 7476

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jill D. Robertson
#9 Copper Kettle
Wichita Falls, TX 76308

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Jill Robertson ☐ Agent ☐ Addressee

B. Received by (Printed Name) Jill Robertson
C. Date of Delivery 3/24/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from 7012 2920 0002 3253 7513

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Harlena K. Lowenstein
201 Main Street, Suite 400
Ft. Worth, TX 76102

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery MAR 3 0 2015

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service lat 7012 2920 0002 3253 7476

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service™
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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No.; or PO Box No. Jill D. Robertson
City, State, ZIP+4 #9 Copper Kettle
Wichita Falls, TX 76308

PS Form 3800, A

7012 2920 0002 3253 7513

U.S. Postal Service™
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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage	$

Postmark Here

Sent To
Street, Apt. No. or PO Box No. Prime Energy Corporation
City, State, ZIP 9821 Katy Freeway, Suite 1050
Houston, TX 77024-6009

PS Form 3800

7012 2920 0002 3253 7490

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Brent Ray Robertson
8 Sleepy Hollow
Wichita Falls, TX 76308

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Brent Robertson ☐ Agent ☐ Addressee

B. Received by (Printed Name) Brent Robertson C. Date of Delivery 3-25-15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service)* 7012 2920 0002 3253 7506

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Prime Energy Corporation
9821 Katy Freeway, Suite 1050
Houston, TX 77024-6009

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/26/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service)* 7012 2920 0002 3253 7490

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage	$

Postmark Here

Sent To
Street, Apt. No. or PO Box No. Brent Ray Robertson
City, State, ZIP 8 Sleepy Hollow
Wichita Falls, TX 76308

PS Form 3800

7012 2920 0002 3253 7506

U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

7012 2920 0002 3253 7599

Sent To

Matthew B. Kadane

Street, Apt. No. or PO Box No. 4809 Cole Avenue, Suite 100, LB 114

City, State, ZIP+ Dallas, TX 75205

PS Form 3800,

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Roden Associates, Ltd.

2603 Augusta, Suite 740

Houston, TX 77057

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Cindy Russell ☑ Agent ☐ Addressee

B. Received by (Printed Name) Cindy Russell C. Date of Delivery 3/30/15

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail

☐ Registered ☐ Return Receipt for Merchandise

☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from ser* 7012 2920 0002 3253 7520

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Matthew B. Kadane

4809 Cole Avenue, Suite 100, LB 114

Dallas, TX 75205

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Ken Kadane ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 4/3/15

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail

☐ Registered ☐ Return Receipt for Merchandise

☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7012 2920 0002 3253 7599

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

7012 2920 0002 3253 7520

Sent To

Roden Associates, Ltd.

Street, Apt. No.; or PO Box No. 2603 Augusta, Suite 740

City, State, ZIP+ Houston, TX 77057

PS Form 3800,

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OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Jalapeno Corporation
Street, Apt. No., or PO Box No.: P.O. Box 1608
City, State, ZIP+4: Albuquerque, NM 87103-1608

PS Form 3800, August 2006 — See Reverse for Instructions

7012 2920 0002 3253 7414

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jalapeno Corporation
P.O. Box 1608
Albuquerque, NM 87103-1608

COMPLETE THIS SECTION ON DELIVERY

A. Signature: X Jun Barrack ☐ Agent ☐ Addressee

B. Received by (Printed Name): Jun Barrack C. Date of Delivery: 3/30/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label): 7012 2920 0002 3253 7414

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mary B. Attaya
1211 Popular Street
Bedford, TX 76021

COMPLETE THIS SECTION ON DELIVERY

A. Signature: X Irene C Attaya ☐ Agent ☐ Addressee

B. Received by (Printed Name): C. Date of Delivery: 4-1-15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label): 7012 2920 0002 3253 7391

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

U.S. Postal Service™
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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

Postmark Here

Sent To: Mary B. Attaya
Street, Apt. No., or PO Box No.: 1211 Popular Street
City, State, ZIP+4: Bedford, TX 76021

PS Form 3800, August 2006 — See Reverse for Instructions

7012 2920 0002 3253 7391

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

MAR 24 2015

Sent To
Street, Apt. No.; or PO Box No.: Yates Energy Corporation
City, State, ZIP+: P.O. Box 2323
Roswell, NM 88202-2323

PS Form 3800,

7012 2920 0002 3253 7582

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Edward G. Kadane
4809 Cole Avenue, Suite 100, LB114
Dallas, TX 75205

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Pam Holler ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery
03/30/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7421

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Yates Energy Corporation
P.O. Box 2323
Roswell, NM 88202-2323

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Tedi Hamilton ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery
Tedi Hamilton | 3/25/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

MAR 25 2015 ROSWELL

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7582

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service™
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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No.; or PO Box No.: Edward G. Kadane
City, State, ZIP+: 4809 Cole Avenue, Suite 100, LB114
Dallas, TX 75205

PS Form 3800,

7012 2920 0002 3253 7421

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No., or PO Box No. Roden Exploration Company Ltd.
City, State, ZIP+4 2603 Augusta, Suite 740
PS Form 3800, Houston, TX 77057

7012 2920 0002 3253 7537

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Roden Participants, Ltd.
2603 Augusta, Suite 740
Houston, TX 77057

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Cindy Russell ☑ Agent ☐ Addressee

B. Received by (Printed Name) Cindy Russell C. Date of Delivery 3/26/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7544

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Roden Exploration Company Ltd.
2603 Augusta, Suite 740
Houston, TX 77057

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Cindy Russell ☑ Agent ☐ Addressee

B. Received by (Printed Name) Cindy Russell C. Date of Delivery 3/26/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7537

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No., or PO Box No. Roden Participants, Ltd.
City, State, ZIP+4 2603 Augusta, Suite 740
PS Form 3800, Houston, TX 77057

7012 2920 0002 3253 7544

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For delivery information visit our website at www.usps.com

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

Postmark Here

Sent To
Street, Apt. No., or PO Box No.
City, State, ZIP+4

Sherrfive, LP
812 Eagle Pointe
Montgomery, TX 77316

PS Form 3800, A

7012 2920 0002 3253 7568

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Sherrfive, LP
812 Eagle Pointe
Montgomery, TX 77316

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Vicki Sherrick ☑ Agent ☐ Addressee

B. Received by (Printed Name) Vicki Sherrick
C. Date of Delivery 3/30/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

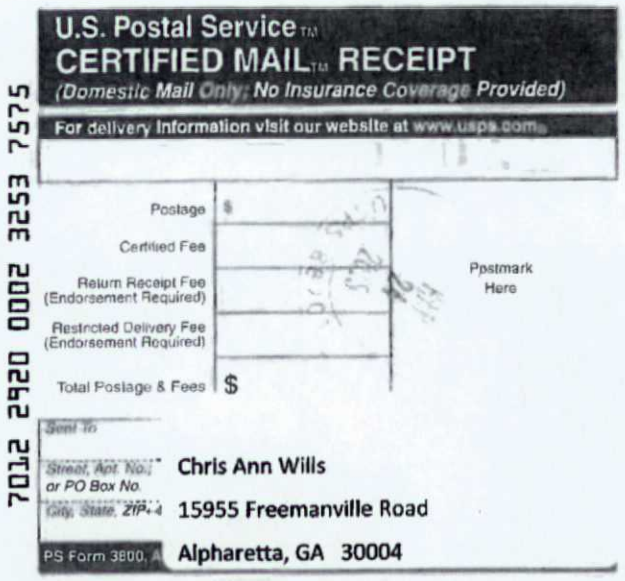
3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7012 2920 0002 3253 7568

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Per USPS website, Letter/ Proposal was delivered → on May 4, 2015



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Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

Postmark Here

7012 2920 0002 3253 7575

Sent To
Street, Apt. No., or PO Box No. Chris Ann Wills
City, State, ZIP+4 15955 Freemanville Road
PS Form 3800, A Alpharetta, GA 30004

Per USPS website, on July 31, 2015, it is still showing "in transit" with last update on March 26, 2015 in Missoula, MT.

→

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Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

Postmark Here

7012 2920 0002 3253 7551

Sent To
Street, Apt. No., or PO Box No. S & C Construction Company
City, State, ZIP+4 P.O. Box 1509
PS Form 3800, A Whitefish, MT 59937

SUMMARY OF COMMUNICATIONS

March 24, 2015

- Matador Production Company's ("Matador") landman, Melissa Randle, created a well proposal packet for the Airstrip State Com 31-18S-35E RN 201H well and sent to working interest parties in the unit including Jalapeno Corporation ("Jalapeno")

April 10, 2015

- Matador follows up with Jalapeno via e-mail on the status of Airstrip proposal.

April 13, 2015

- Jalapeno responds via e-mail indicating that it will respond via letter.

April 28, 2015

- Jalapeno send response letter to Matador.

May 12, 2015 – May 15, 2015

- Sam Pryor and Rudy Sims participate in calls Jalapeno to discuss the Airstrip well proposal and response letters dated April 28, 2015.

May 18, 2015

- Matador arranges meeting with Jalapeno for June 3, 2015, at Matador's office.
- Jalapeno indicates they are unwilling to make an election until Matador meets in person.

June 3, 2015

- Matador's CEO, President, EVP – Land and Legal, EVP and General Manager, EVP – Land, Vice President – Reservoir Engineering and CTO, Operations Land Manager, New Mexico Team Lead and other members of the operations team meet with Fred Yates and Becky Pemberton of Yates Energy and with Emmons Yates of Jalapeno to discuss the Airstrip proposal and alternatives to participating.

June 19, 2015

- Matador follows up with Jalapeno as to the status of their elections.
- Emmons Yates of Jalapeno indicates Jalapeno will provide a response by Monday, June 22, 2015.

June 22, 2015

- Matador calls Jalapeno to discuss the Airstrip well proposal, acreage trade and non-consent penalty and indicates that it may need to initiate force pooling proceedings if a deal is not reached with Jalapeno soon.

July 14, 2016 – July 16, 2015

- Matador initiates calls with Jalapeno to discuss the Airstrip well proposal, acreage trade and non-consent penalty again.

July 20, 2015

- Matador initiates force pooling proceedings.

July 21, 2015

- Matador calls Jalapeno to revisit possibility of term assignment, expanded JOA contract area and non-consent penalty.
- Jalapeno again confirms that it is unwilling to sell its interest, commit its interest to the JOA unless the non-consent penalty is reduced or participate in the well.
- Matador informs Jalapeno that it will initiate force pooling proceedings.

August 6, 2015

- Jalapeno's attorney files an entry of appearance.

August 10, 2015

- Jalapeno's attorney requests a continuance because of an unavailable witness without specifying who the witness is.

August 11, 2015

- Matador disagrees with any action to continue the hearing date and replies to Jalapeno attorney with its reasons.

August 12, 2015

- Matador receives a filed motion for continuance related to the compulsory pooling case.

August 13, 2015

- Van Singleton from Matador speaks to Harvey E. Yates Jr. of Jalapeno regarding potential deals related to Jalapeno's interest and reiterates that Matador is willing to provide information, but no requests have been made.
- Matador agrees to a continuance requested by Jalapeno.

August 17, 2015

- Matador receives a letter from Jalapeno requesting information it claims it needs from Matador.

August 21, 2015

- Matador receives a subpoena from Jalapeno.

August 26, 2015

- Van Singleton from Matador responds to Jalapeno's letter regarding the Airstrip Well.

HARVEY E. YATES COMPANY

A MEMBER COMPANY OF HEYCO ENERGY GROUP

September 18, 2014

CERTIFIED MAIL

Airstrip Prospect Working Interest Owners
(See attached mailing list)

Re: **Airstrip 31 State Com #2H**
Sec.31, T-18S R-35E, N.M.P.M.
SHL: 150' FSL & 330' FWL
Sec. 31, T-18S, R-35E, N.M.P.M.
BHL: 330' FNL & 710' FWL
Lea County, New Mexico

Ladies and Gentlemen:

Harvey E. Yates Company ("HEYCO") hereby proposes to drill the above captioned well. The Airstrip 31 State Com #2H well has been staked and permitted at an approximate surface hole location of 150' FSL and 330' FWL in Section 31 of T-18S, R-35E, with an approximate bottom hole location of 330' FNL and 710' FWL in Section 31 and will be drilled horizontally to test the Bone Spring 3rd Sand at an approximate vertical depth of 10,510 feet. The project area for this well will be 154.28 acres (W/2W/2 Section 31).

A Joint Operating Agreement is enclosed for your review and execution. If you wish to participate in the captioned well please return a signed AFE with the executed pages to the JOA to my attention. Also attached to this proposal is a spreadsheet that outlines the legal description of the contract area for the prospect, and the breakdown of the working interest for each owner in the prospect area (634.28 acres). In the event you elect not to participate in this drilling proposal, HEYCO will consider a farm-in of your working interest on terms acceptable to HEYCO.

Should you have any questions regarding this proposal please contact me for any land concerns, Trent Green for any technical questions, and Gordon Yahney for geology concerns.

Very truly yours,

Colby Booth
Landman

CSB
Enclosures
AirstripFedCom2HProposalLtr.doc/Land:SE Airstrip

Southeast Airstrip
Mailing Labels

Harvey E. Yates Company
P.O. Box 1933
Roswell, NM 88202-1933

Explorers Petroleum Corporation
P.O. Box 1933
Roswell, NM 88202-1933

Jalapeno Corporation
P.O. Box 1608
Albuquerque, NM 87103-1608

Mike Kadane Trust
P.O. Box 5012
Wichita Falls, TX 76307

Prime Energy Corporation
9821 Katy Freeway, Suite 1050
Houston, TX 77024-6009

Roden Participants, Ltd.
2603 Augusta, Suite 740
Houston, TX 77057

Roden Associates, Ltd.
2603 Augusta, Suite 740
Houston, TX 77057

Roden Exploration Company Ltd.
2603 Augusta, Suite 740
Houston, TX 77057

S & C Construction Company
P.O. Box 1509
Whitefish, MT 59937

Sherrfive, LP
812 Eagle Pointe
Montgomery, TX 77316

Spiral, Inc.
P.O. Box 1933
Roswell, NM 88202-1933

Yates Energy Corporation
P.O. Box 2323
Roswell, NM 88202-2323

Devon Energy Production Co.
333 W. Sheridan
Oklahoma City, OK 73102

Authority For Expenditure
Harvey E. Yates Company

Date	7/15/2014
Prepared By	Jim Ward
Prospect Name	Airstrip Bone Spring
County, State	Lea, New Mexico
Projected Total Depth	15,185'

Lease / Well Number:	Airstrip '31 State #2H
Location	SHL: Sec. 31, T18S R35E, 150' FSL & 330' FWL
	BHL: Sec 31, T 18S, R35E, 330' FNL & 710' FWL
Field:	Airstrip; Bone Spring
Primary Objectives:	3rd Bone Springs

NOTES

Daywork Contract - Horiz. Well - Closed Loop Mud System
Sand Completion (Multiple stages Frac)
Assumes regulatory agent approves casing program.
Casing prices based on direct purchase for this well.

It is recognized that the amounts provided here are estimates only and approval of this authorization shall extend to actual costs incurred in conducting the operations specified, whether more or less than estimated.

Intan. Drilling Costs BCP					COSTS
951-000 Abandonment & Cleanup				$	30,000
920-009 Abstracts & Title Opinions				$	15,000
920-009 Well Control Insurance	15,185'	$/Ft: 0.57		$	8,700
921-000 Legal, Permits & Fees				$	5,000
921-000 Staking Location & Surveys				$	11,500
921-001 Location, Road & ROW				$	80,000
921-003 IDC Daywork	Days: 23	$/Day: 19500		$	448,500
921-003 Mobilization / Demobilization				$	100,000
921-003 Rig Fuel	Days: 23	$/Day: 4500		$	103,500
921-002 IDC Footage		$/Ft:			
922-001 Supervision	Days: 23	$/Day: 1850		$	42,550
922-001 Drilling Overhead (Administrative Services)				$	5,600
922-004 Bits & Reamers				$	73,000
922-000 Rentals Surface				$	203,980
922-000 Rentals Sub-Surface				$	82,915
922-000 Drill Pipe / Motors	Days: 15	$/Day: 2500		$	37,500
922-000 Directional Drilling Expense				$	150,000
921-008 Inspection - Drill String				$	10,000
921-008 Well Control & Testing				$	6,000
921-008 Miscellaneous IDC				$	25,000
921-006 Mud Logging	Days: 18	$/Day: 1800		$	32,400
922-003 Contract Labor				$	25,500
922-002 Transportation				$	15,000
921-004 Surface Casing Crews				$	15,000
921-004 Surface Cement and Cement Services				$	47,000
921-004 Surface Float Equipment & Centralizers				$	3,500
921-007 Intermediate Casing Crews				$	20,000
921-007 Intermediate Cement and Cement Services				$	34,000
921-007 Intermediate Float Equipment & Centralizers				$	5,000
921-005 Mud & Additives				$	100,000
921-011 Corrosion Control & Chem.				$	7,000
921-010 Water				$	25,000
921-010 Water / Mud Disposal				$	25,000
Contingency (10%)				$	179,315
TOTAL				$	1,972,460

Intan. Formation Testing BCP					COSTS
923-003 Logging & Wireline				$	45,000
923-003 Drill Stem - Formation Tests				$	-
923-001 Coring & Analysis (Sidewall Cores)				$	-
Contingency (10%)				$	4,500
TOTAL				$	49,500

Tangible Lease & Well Equipment BCP						COSTS
930-001 Surface Casing	13-3/8 "	$/Ft: 41	Feet:	2000	$	82,000
930-002 Intermediate Csg	9-5/8 "	$/Ft: 30	Feet:	4040	$	121,200
	"	$/Ft:	Feet:		$	-
	"	$/Ft:	Feet:		$	-
930-009 Wellhead					$	25,000
931-003 Cattle Guards					$	5,000
Contingency (10%)					$	23,320
TOTAL EQUIPMENT					$	256,520

TOTAL DRILLING	$	2,278,480
TOTAL INTANGIBLE	$	6,306,735

Intan. Comp. Costs ACP				COSTS
951-000 Abandonment & Cleanup			$	(30,000)
921-003 Daywork	Days: 5	$/Day: 19500	$	97,500
921-003 Rig Fuel	Days: 5	$/Day: 4500	$	22,500
924-008 Drilling Rig Supervision	Days: 5	$/Day: 1850	$	9,250
924-004 Production Casing Crews			$	25,000
924-004 Production Casing Cement & Services			$	76,000
924-004 Prod. Float Equipment & Centralizers			$	12,000
924-001 Completion / Swab Unit	Days: 10	$/Day: 4500	$	45,000
924-008 Compl. Rig Supervision	Days: 10	$/Day: 750	$	7,500
924-008 Administrative Services			$	6,500
924-003 Mud & Chemicals			$	5,000
924-003 Water Hauling			$	100,000
924-005 Logging, Perforations & Wireline			$	140,000
924-006 Rentals Subsurface			$	100,000
924-006 Rentals Surface			$	235,000
924-006 Nitrogen Service & Coiled Tubing			$	180,000
924-006 Fishing			$	-
924-007 Stimulation			$	2,500,000
924-007 Transportation			$	14,000
924-009 Contract Labor & Roustabout			$	15,000
925-001 Bits & Reamers			$	5,000
925-001 Couplings & Fittings			$	15,000
925-003 Location & Road Expense			$	10,000
925-003 Miscellaneous IDC			$	150,000
925-003 Pipe Inspection & Recondition			$	20,000
925-003 Pumping Services (Kill Truck)			$	120,000
925-003 Testing			$	11,500
925-003 Well Control Insurance	Days: 10	$/Day: 350	$	3,500
Contingency (10%)			$	389,525
TOTAL			$	4,284,775

Tangible Well Equipment ACP						COSTS
930-003 Prod. Csg / Liners	5-1/2 "	$/Ft: 15	Feet:	8000	$	120,000
	"	$/Ft: 20	Feet:	7500	$	150,000
930-004 Tubing	2-3/8 "	$/Ft: 7	Feet:	10500	$	68,250
930-009 Wellhead					$	9,500
931-000 Downhole Lift Equipment					$	-
931-000 Subsurface Equipment					$	45,000
Contingency (10%)					$	39,275
TOTAL EQUIPMENT					$	432,025

Tangible Lease & Battery Equipment ACP		
940-001 Pumping Units & Engines	$	-
940-002 Emission Controls	$	-
940-002 Heaters, Treaters & Separators	$	35,000
940-005 Tanks & Accessory Equipment	$	150,000
941-001 Pipeline	$	45,000
941-001 Facility Electrical & Automation	$	25,000
941-001 Overhead Electricity	$	12,500
941-001 Misc. Non-Controllable Equipment	$	25,000
Contingency (10%)	$	29,250
TOTAL EQUIPMENT	$	321,750

TOTAL COMPLETION	$	5,038,550
TOTAL TANGIBLE	$	1,010,295

TOTAL DRY HOLE COST	$	2,420,655
TOTAL WELL COST	$	7,317,030

HEYCO
Energy Group, Inc.

Authority For Expenditure
Harvey E. Yates Company

Region	Well Name	Field Name	Property Number	AFE No
Permian	**Airstrip 31 State #2H**	Airstrip; Bone Spring		

Location	County, State	Well Type			
SHL; Sec. 31, T18S R35E, 150' FSL & 330' FWL BHL: Sec 31, T 18S, R35E, 330' FNL & 710' FWL	Lea, New Mexico	Oil	☑	EXPL	☑
		Gas	☐	PROD	☐

Estimate Type		Est. Start Date	Est. Comp Date	Formation	Total Measured Depth
Original Estimate	☑	December 15, 2014	February 28, 2015	3rd Bone Springs	15,185'
Revised Estimate	☐				Total Vertical Depth
Supplemental Estimate	☐				

Project Description

Intangible Costs

Drilling		Formation Testing		Completion	
$	1,972,460	$	49,500	$	4,284,775

Tangible Costs

Lease and Well Equipment		Well Equipment		Lease and Battery Equipment	
$	256,520	$	432,025	$	321,750

Total Drilling	$	2,278,480	Total Completion	$	5,038,550
Total Intangible	$	6,306,735	Total Tangible	$	1,010,295
Total Well Cost	$	7,317,030	Total Dry Hole Cost	$	2,420,655

Comments on Well Cost

1. All tubulars, well or lease equipment is priced by COPAS and CEPS guidelines using the Historic Price Multiplier.

Well Control Insurance

Unless otherwise indicated below, you, as a non-operating working interest owner, agree to be covered by operators well control insurance procedure by Operator so long as Operator conducts operation hereunder and to pay your prorate share of the premiums therefore. If you elect to purchase your own well control insurance, you must provide a certificate of such insurance acceptable to Operator, as to form and limits at the time this AFE is Returned, if available, but in no event later than commencement of frilling operation. You agree that failure to provide the certificate of insurance, as provided herein, will result in your being covered by insurance procured by Operator.

☐ **I elect to purchase my own well control insurance policy.**

Well control insurance procedure by Operator, provides, among other terms, for $20,000,000 (100% W.I.) of Combined Single Limit coverage for well control and related redrilling and clean-up / pollution expense covering drilling (trough completion with a $1,000,000 (100% W.I) deductible.

Marketing Election

HEYCO sells its gas under arm's length contracts with third party purchasers. Such contracts may include fees. In addition, penalties may be incurred for insufficient volumes delivered over time. Should you choose to market your share of gas with HEYCO, you will be subject to all of the terms of such contracts. Upon written request to HEYCO, we will share with you the terms and conditions pursuant to which gas will be sold. Failure to make an election below shall be deemed an election to market your gas with HEYCO under the terms and conditions set forth above.

☐ **I elect to take my gas in kind.**

☐ **I elect to market my gas with HEYCO pursuant to the terms and conditions of its contract.**

AFE Comments

Harvey E. Yates Approval

Harvey E. Yates Company By: **T.W. Green** Date: **Tuesday, July 15, 2014**

Joint Interest Approval

Company	[illegible]
Date	Signature

Airstrip 31 State Com #2H
Sec.31, T-18S R-35E, N.M.P.M.
SHL: 150' FSL & 330' FWL
Sec. 31, T-18S, R-35E, N.M.P.M.
BHL: 330' FNL & 710' FWL
Lea County, New Mexico

Drill and Completed Cost $7,317,030.00

Working Interest Owner	Working Interest	Estimated Costs
Explorers Petroleum Corp.	0.02489898	$182,186.58
Jalapeno Corporation	0.05097063	$372,953.63
Mike Kadane Trust	0.01250118	$91,471.53
Prime Energy Corporation	0.03125296	$228,678.82
Roden Participants, Ltd.	0.03097409	$226,638.38
Roden Associates, Ltd.	0.00619482	$45,327.69
Roden Exploration Company, Ltd.	0.03097409	$226,638.38
S & C Construction Company	0.08982488	$657,251.35
SHERRFIVE L.P.	0.08982488	$657,251.35
Spiral, Inc.	0.02489898	$182,186.58
Yates Energy Corporation	0.08394506	$614,228.54
Harvey E. Yates Company	0.52373944	$3,832,217.17
Total	1.00000000	$7,317,030.01

Jalapeno Corporation

P.O. Box 1608
Albuquerque, NM 87103-1608
Phone: (505) 242-2050 Fax: (505) 242-8501

October 21, 2014

Attn: Colby Booth
Harvey E. Yates Company
P.O. Box 1933
Roswell, NM 88202

RE: **Airstrip 31 State Com #2H**
S31, T18S, R35E
Lea County, New Mexico

Dear Colby,

Enclosed please find the executed AFE evidencing that Jalapeno Corporation has agreed to participate in the drilling of the Airstrip horizontal well. However, we do not agree to sign the proposed operating agreement. The reason is that the non-consent penalty is much too high considering the low risk. we believe the geologic, engineering and other risks associated with 2nd and 3rd Bone Spring horizontal drilling in the township do not support your proposed 100%/300% nonconsent penalty. We believe a far more supportable nonconsent penalty would be 100%/150%. If this is acceptable, we will execute the operating agreement.

Yours Truly,

Harvey E. Yates, Jr.
President
Jalapeño Corporation

Jalapeño Corporation
P.O. Box 1608
Albuquerque, NM 87103-1608
Phone: (505) 242-2050 Fax: (505) 242-8501

WELL INFORMATION REQUIREMENTS

E-MAIL jbarrack@jalapenocorp.com and eyates@jalapenocorp.com:

Daily Drilling & Completion Reports
New Wells -Daily Production Reports for the first year

1. First 60 days – send daily
2. For rest of the year – send Monthly

E-MAIL jbarrack@jalapenocorp.com: Electric log

MAIL FINAL REPORTS:

Surveyed Location Plat
Daily Drilling & Completion Reports at the end of the drilling & completion
State and/or Federal Forms (Drilling & Completion)
Logs – **Final prints of all open hole and cased hole logs**
Production Tests
Well Prognosis
Geological Reports
Core Analysis – Prelim and Final
Mudlogging – One reproducible copy of the final print
Logs – Electric Logs and Dipmeters (Field and Final); Cement Bond; DST Charts with Engr. analysis, core descriptions and analysis and fluid analysis; Digital Log Data.

Test – Gas/Oil Ration; Open Flow; Shut-In; Bottom Hole Pressure; Reservoir Fluid or Gas Analysis; Drillstem; Monthly Production Reports.

To mail final reports:
P.O. Box 1608, Albuquerque, NM 87103-1608
To FedEx/UPS final reports:
1429 Central NW Suite 3, Albuquerque, NM 87104

Telephone Reports (night, holidays or weekends) for any critical and urgent decision: Emmons Yates – Cell phone # (505) 980-0703 or Harvey E. Yates, Jr. – Cell phone # (505) 980-7761.

It is understood and agreed that our representative shall have access to the rig floor at all times and to any and all information concerning the captioned well.

HEYCO Energy Group, Inc.

Authority For Expenditure
Harvey E. Yates Company

Date:	7/15/2014
Prepared By:	Jim Ward
Prospect Name:	Airstrip Bone Spring
County, State:	Lea, New Mexico
Projected Total Depth:	15,185'

Lease / Well Number:	Airstrip 31 State #2H
Location:	SHL; Sec. 31, T18S R35E, 150' FSL & 330' FWL
	BHL: Sec 31, T 18S, R35E, 330' FNL & 710' FWL
Field:	Airstrip; Bone Spring
Primary Objectives:	3rd Bone Springs

NOTES

Daywork Contract - Horiz. Well - Closed Loop Mud System
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921-010 Water				$	25,000
921-010 Water / Mud Disposal				$	25,000
Contingency (10%)				$	179,315
TOTAL				$	1,972,460

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923-003 Drill Stem - Formation Tests	$	-
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TOTAL INTANGIBLE	$	6,306,735

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924-008 Administrative Services			$	6,500
924-003 Mud & Chemicals			$	5,000
924-003 Water Hauling			$	100,000
924-005 Logging, Perforations & Wireline			$	140,000
924-006 Rentals Subsurface			$	100,000
924-006 Rentals Surface			$	235,000
924-006 Nitrogen Service & Coiled Tubing			$	180,000
924-006 Fishing			$	-
924-007 Stimulation			$	2,500,000
924-007 Transportation			$	14,000
924-009 Contract Labor & Roustabout			$	15,000
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TOTAL COMPLETION	$	5,038,550
TOTAL TANGIBLE	$	1,010,295

TOTAL DRY HOLE COST	$	2,420,655
TOTAL WELL COST	$	7,317,030

HEYCO Energy Group, Inc.

Authority For Expe. iture
Harvey E. Yates Company

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		Gas	☐	PROD	☐

Estimate Type		Est. Start Date	Est. Comp Date	Formation	Total Measured Depth
Original Estimate	☑	December 15, 2014	February 28, 2015	3rd Bone Springs	15,185'
Revised Estimate	☐				Total Vertical Depth
Supplemental Estimate	☐				

Project Description

Intangible Costs					
Drilling	$ 1,972,460	Formation Testing	$ 49,500	Completion	$ 4,284,775

Tangible Costs					
Lease and Well Equipment	$ 256,520	Well Equipment	$ 432,025	Lease and Battery Equipment	$ 321,750

Total Drilling	$ 2,278,480	Total Completion	$ 5,038,550
Total Intangible	$ 6,306,735	Total Tangible	$ 1,010,295
Total Well Cost	$ 7,317,030	Total Dry Hole Cost	$ 2,420,655

Comments on Well Cost

1. All tubulars, well or lease equipment is priced by COPAS and CEPS guidelines using the Historic Price Multiplier.

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Well control insurance procedure by Operator, provides, among other terms, for $20,000,000 (100% W.I.) of Combined Single Limit coverage for well control and related redrilling and clean-up / pollution expense covering drilling (trough completion with a $1,000,000 (100% W.I) deductible.

Marketing Election

HEYCO sells its gas under arm's length contracts with third party purchasers. Such contracts may include fees. In addition, penalties may be incurred for insufficient volumes delivered over time. Should you choose to market your share of gas with HEYCO, you will be subject to all of the terms of such contracts. Upon written request to HEYCO, we will share with you the terms and conditions pursuant to which gas will be sold. Failure to make an election below shall be deemed an election to market your gas with HEYCO under the terms and conditions set forth above

☐ **I elect to take my gas in kind.**

☑ **I elect to market my gas with HEYCO pursuant to the terms and conditions of its contract.**

AFE Comments

Harvey E. Yates Approval

Harvey E. Yates Company By: **T.W. Green** Date: **Tuesday, July 15, 2014**

Joint Interest Approval

Company	Approved By
Jalapeno Corp.	Harvey E. Yates, Jr.
Date	**Signature**
10/23/14	

MRC Delaware Resources, LLC

500 North Main Street, Suite One, Roswell, New Mexico 88201
Mailing Address: P.O. Box 1936, Roswell, New Mexico 88202-1936
Voice 575-623-6601 • Fax 575-627-2427
Sender's e-mail: mrandle@matadorresources.com

Melissa Randle
Land Manager

March 24, 2015

VIA CERTIFIED MAIL 7012 2920 0002 3253 7414

Jalapeno Corporation
P.O. Box 1608
Albuquerque, NM 87103-1608

Re: Well Proposal
Matador: Airstrip State Com 31-18S-35E #201H (formerly Airstrip 31 State #2H)
Section 31-18S-35E
Lea County, New Mexico

Dear Jalapeno Corporation:

Reference is made to that certain well proposal letter dated September 14, 2014, sent by Harvey E. Yates Company ("HEYCO") proposing to drill the Airstrip 31 State #2H well referenced above to test the Third Bone Springs formation at a horizontal location in the W/2 W/2 of the subject section. On Friday, February 27, 2015, HEYCO closed on and merged its assets in New Mexico with Matador Resources Company and MRC Delaware Resources, LLC ("MRC Delaware") is the new successor entity with Matador Production Company being the operating company entity for MRC Delaware.

MRC Delaware desires to drill the subject well above to a depth that is approximately 200' deeper than originally proposed in order to test the Wolfcamp formation at a surface location approximately 150' FSL and 330' FWL of Section 31, Township 18 South, Range 35 East, and a bottom hole location of approximately 330' FNL and 710' FWL of Section 31, Township 18 South, Range 35 East, Lea County, New Mexico. We intend to drill horizontally (~10,840' TVD) to a Total Measured Depth of approximately 15,500' resulting in a lateral wellbore of approximately 4,400' that is planned to be completed with 15 frac stages. Estimated costs to drill the test well are $5,376,594 for a dry hole with a completed well costing approximately $9,099,800 as shown on the enclosed AFE.

Please indicate your election for this proposed operation by executing this letter below, as well as the enclosed AFE, if participating, and return both to the attention of the undersigned. Please be aware that the enclosed AFE is only an estimate of costs to be incurred and in electing to participate in the proposed well, you will be responsible for your proportionate share of all actual costs incurred. If your election is to participate, please accept this letter as an invoice notice and request for payment and to please remit payment for your proportionate share of costs pursuant to Article VII.C of the above referenced operating agreement as detailed in the enclosed AFE to Matador Production

Company on or before fifteen (15) days after receipt of this estimate and invoice is received.

I have enclosed a revised Operating Agreement to the previous agreement sent under the September 14, 2014 proposal letter for your review and execution. We have corrected the operator name, well depth, contract depth, Exhibit "A", header names, etc. to reflect the proposed well herein. Please return one (1) executed copy of the signature page to the Operating Agreement along with your election letter and AFE.

As an alternative to participation, MRC Delaware hereby proposes the following options covering your 5.097063% Working Interest in this proposed unit:

1) Assign all your interest to MRC Delaware for $1800.00 per net acre for delivering of your existing Net Revenue Interest, less and except your interest in any existing producing wellbore(s) located in the SE Airstrip Com #1 Unit.

2) Assign all of your interest to MRC Delaware delivering a 75.0% Net Revenue Interest, reserving an Overriding Royalty Interest equal to the positive difference between existing burdens and 25.0%, proportionately reduced. Any assignment would cover all rights less and except any rights in and to any existing producing wellbore(s) located in the SE Airstrip Com #1 Unit.

As an alternative to the above options, MRC Delaware would be interested in purchasing your interest in this unit/section including any producing well bores, subject to the negotiation of mutually agreeable price and terms. If you are interested in pursuing this alternative, please so indicate at the space provided below and/or contact the undersigned. We will immediately forward this information to our Acquisitions and Divestitures Department for follow-up. However, you are advised that entering into negotiations to sell your interest does not excuse or allow you to delay your required election under this well proposal.

Your earliest attention and response to this proposal will be greatly appreciated. With this recent merger, there is an opportunity to move this well onto our rig schedule and spud this proposed well around April 25, 2015, provided we can gather the elections and signatures needed ahead of spudding the well. Should you have any questions regarding this proposal, please contact me at any time using the contact information above.

Sincerely,

MRC DELAWARE RESOURCES, LLC

Melissa Randle
Land Manager

Enclosures

Please elect one (1) of the following and return to sender:

_____ Jalapeno Corporation hereby elects to participate for its proportionate share of the costs detailed in the enclosed AFE for the Airstrip State Com 31-18S-35E #201H Well, located in Lea County, New Mexico.

_____Please find enclosed our proportionate share of well costs pursuant to the cash call provision under the governing operating agreement referenced hereinabove.

_____ Jalapeno Corporation hereby elects not to participate for its proportionate share of the costs detailed in the enclosed AFE for the Airstrip State Com 31-18S-35E #201H Well, located in Lea County, New Mexico.

_____ Jalapeno Corporation hereby elects to assign our interest for $1,800/acre for delivery of my existing Net Revenue Interest, less and except your interest in any existing producing wellbore(s) located in the SE Airstrip Com #1 Unit. Please provide assignment form for review and acceptance.

_____ Jalapeno Corporation hereby elects to assign all of our interest to MRC Delaware delivering a 75.0% Net Revenue Interest, reserving an Overriding Royalty Interest equal to the positive difference between existing burdens and 25.0%, proportionately reduced. Any assignment would cover all rights less and except any rights in and to any existing producing wellbore(s) located in the SE Airstrip Com #1 Unit. Please provide assignment form for review and acceptance.

Jalapeno Corporation

By:_____

Title: _____

Date: _____

_____I / We are interested in selling our interest in this unit, please contact us to discuss.

RECEIVED MAY 4 2015

EXHIBIT tabbies 5C.

Jalapeno Corporation

PO Box 1608, Albuquerque, NM. 87103

Ph: 505-242-2050 fax: 505-242-8501

April 28, 2015
Re: Matador Airstrip State Com #20 1H
Sent Return Receipt Requested

Melissa Randle, Land Manager
MRC Delaware Resources LLC
PO Box 1936
Roswell, New Mexico 88202-1936

Dear Melissa:

Thanks for your letter regarding the subject well which was received here on March 31st. You enclosed with your letter both an AFE and a proposed operating agreement ("JOA").

While we may be willing to participate in the proposed well, we are unwilling to execute a JOA written as you have proposed. The "non-consent" provisions included in your JOA suggest a much greater geologic risk -- a risk inherent in the vertical-well world --, but far overestimates the geologic risk inherent in the Bone Spring or Wolfcamp horizontal drilling world. Because of this, any JOA we execute with terms even approaching those you suggest would have to be limited to the well's spacing unit and be limited to the horizon to be drilled in the well's proposed lateral -- in this case the Wolfcamp formation.

In regard to your AFE we have some problems. For starters, we note the your new AFE is $1,782,770 higher than the AFE sent out by Heyco a few months ago even though rig costs, as well as the cost of other services, have fallen since the start of the precipitous oil-price decline. Thus, we also have compared the AFE you sent for the Airstrip with AFEs from comparable wells proposed by other operators in the general area. The comparison raises some questions. For instance, COG Operating LLC's AFE for the CTA State Com # 6H has a supervision estimate of $105,000 while your AFE has a supervision estimate of over twice as much -- $234,000. Intangible Costs Contingencies in your AFE are $690,017 whereas the CTA well's AFE has Intangible Costs Contingencies at $80,000. In short, while the depth of your well is approximately 2,000 feet deeper than the CTA well, this fact by no means explains the significant additional cost of your proposed well.

Trying to get at the reason for your greatly elevated costs, we have compared the estimated drilling cost per foot from your AFE with the estimated drilling cost per foot of other well know operators in the area. The estimated drill cost per foot of COG's CTA # 6H is $130 per foot. The estimated drill cost of Devon's Bellatrix # 4H is $215 per foot. While Devon is

known as a high cost operator, your AFE blows them out of the water. The proposed cost per foot of your well is $347. As I say, we have problems with your AFE, and for obvious reasons we decline to sign it in its present condition.

Your letter proposes some alternatives to participating in the well, none of which appear to us to be reasonable. For instance, whereas Matador recently priced Heyco acreage at $8,000 an acre, you suggest that we sell our acreage to MRC for $1,500 an acre -- this even though the Airstrip acreage is likely among the more valuable acreage purchased by Matador.

As an alternative to your proposals, we will offer one: We would agree to sell MRC a one year term lease covering our interest in the Wolfcamp underlying the spacing unit for $5,000 per net acre. We would reserve an ORR equal to the difference between 25% and the existing burdens. If you are interested in this, please let us know.

It is our understanding that Yates Energy joins us in this response.

Yours truly,

Harvey E. Yates, Jr.

Jalapeno Corporation
PO Box 1608, Albuquerque, NM. 87103
Ph: 505-242-2050 fax: 505-242-8501

August 17, 2015

Van Singleton
Matador Production Company
Suite 1500
One Lincoln Centre,
5400 LBJ Freeway,
Dallas, Texas 75240

Dear Van:

In the course of our conversation on Thursday you mentioned that our Motion for Continuance stated that we were going to request a subpoena from the OCD in order to secure documents from Matador. You suggested that we just send you a list of needed information without going through the subpoena process. I appreciate that offer. Consequently, I attach to this letter a list of the documents we need from Matador related to its force-pooling application. If some of the requested information is more readily available to Matador than other information, I request that it be supplied to us as Matador retrieves it. However, I would request that all the information be supplied to us by the last day of this month which is just a few days before the hearing date.

Our conversation occurred because you called and then texted me to say that you have been gone for a month and that you hoped we could resolve the Airstrip pooling matter which got off-track in your absence. I returned your call. I agree that this matter is off-track.

As you are aware we received in March 2015 Matador's AFE from Melissa Randal (Landman for Matador) together with a letter which demanded that we respond within 15 days and immediately pay our proportionate share of the Airstrip well -- a cost which had grown by approximately $1.7 million since Heyco's earlier AFE for a well at the same location. Melissa's letter also included a Joint Operating Agreement (JOA) which contained a 100%/300% non-consent penalty provision. Needless to say, both my brother, Fred Yates, and I found the tone of Melissa's letter to be particularly inappropriate. We thought that Matador, Jalapeno and Yates Energy all had reason to start their relationship on friendly, rather than hostile, terms.

Both in my written response to Melissa and in subsequent conversations with your subordinates, I have explained that I would not sign a JOA for horizontal drilling which contains a non-consent provision which, though customary during the era of vertical wells, is now inappropriate because it reflects a penalty which is unrelated to the actual risk most drillers are taking when they drill horizontal wells in the Delaware Basin. I suggested changing the non-

consent provision in Matador's proposed JOA to make those terms more reflective of the actual risk of drilling in the area. Matador rejected any change to the non-consent terms.

However, because we were trying to start our relationship with Matador in a cooperative way, I suggested terms of yet another deal which I thought would allow Matador to drill its Airstrip well, even though I would not sign its proffered JOA, and even though I believe Matador's AFE is unreasonably high. I offered to trade our acreage under the 154.28 spacing unit to Matador for $5,000 a net acre (the same price Matador has agreed to pay Yates Energy) if Matador would trade to Jalapeno some Chaves County acreage which it had fortuitously inherited in its Heyco merger. (The offer price for the Chaves County acreage was the same price Jalapeno recently paid another joint owner of the same Chaves County acreage.) My thinking was that if Matador itself owned our acreage within the spacing unit, neither the JOA issue nor the AFE issue would arise.

However, when Sam Pryor, another Matador Landman, called to discuss the exchange offer he suggested that though the exchange seemed to be fair, Matador still wanted me to sign the offending JOA as to acreage outside of the spacing unit. Of course, I refused. Negotiations broke down. Until you and I talked Thursday I assumed the deal is "off-track," not because there is a dispute as to the spacing unit regarding which Matador has filed the force-pooling application, but because I won't sign a JOA which covers our ownership in acreage outside of the spacing unit which is being force-pooled.

In our conversation on Thursday you suggested that there is an additional problem with my acreage trade proposal. Because one of my brothers, George, is on Matador's board of directors, and Matador is a public company, Matador cannot make a different deal with me than it makes with other parties. This seems to me to place Matador in a particularly difficult position because, before Matador initiates a force pooling action, it is supposed to negotiate in good faith to resolve the issue. Yet, Matador would be limited to communicating to me what the deal would be, because others have agreed to it. I doubt that such communication would rise to the level of the required negotiations. (Keep in mind that depending on the circumstances, the "others" may have no knowledge about the oil industry, no knowledge about the actual risk of the proposed drilling and no capacity to examine an AFE.)

In a third attempt to get our dispute resolved, on Thursday I suggested yet another possible trade which would allow Matador to incorporate our acreage within a JOA covering all of Section 31. In other words, it would resolve the problem Sam Pryor raised. I suggested that Matador might buy all our net acreage in Section 31 from surface to the base of the Wolfcamp under a term agreement equivalent to that it has negotiated with Yates Energy. (As I understand that Term Agreement, Matador would pay $5,000 a net acre and would be subject to a continuous drilling agreement to hold the acreage. Jalapeno would retain an ORR equal to the difference between existing burdens and 25%. The term agreement also would contain a horizontal Pugh Clause.) Matador could then enter our acreage into a JOA containing non-consent terms of its choosing. However, my stipulation was that as to any acreage returned to Jalapeno as a consequence of the termination of Matador's rights to it, the acreage would be subject to a 100%/150% non-consent provision rather than the 100%/300% provision contained

in Matador's proposed JOA. As in the earlier offer, Matador would sell to Jalapeno its interest in the Chaves County acreage: W/2 of Sec. 17 of 9S, 27E.

Thus, Matador has from me three offers related to its proposed drilling:

- It can simply change the terms of the non-consent provisions in its proposed JOA to 100%/150%. Jalapeno will non-consent as to the drilling of the Airstrip Wolfcamp well, but may well later consent to Bone Spring horizontal wells or even later Wolfcamp wells within acreage covered by the JOA depending, of course, on the then posted price of oil, or
- It can trade its Section 17 Chaves County acreage for our interest in the Airstrip spacing unit, at the earlier specified prices. It could then place its newly acquired interest in the Airstrip acreage into its JOA and drill the well, or
- It can purchase Jalapeno's acreage within Sec. 31of 18S, 35E on a term assignment and convey to us its acreage in W/2 Sec. 17, 9S.,27E. as discussed above.

I think the record shows that I have bent over backward in an attempt to reach a deal with Matador. However, because Matador filed a force-pooling action against us, we have had to employ attorneys, and they are costly. My preference among the deals is the first one above -- that Matador simply change the non-consent provisions of its JOA -- but, I am willing to enter into any of the three deals this week. After that, we will have piled so much legal time into preparation for the OCD Hearing, the follow-up OCC hearing, and, if necessary, the District Court case, that I'm not sure that any of the proposed settlement offers will make sense any more. If we are going to make a deal, we should do it now. Thanks for reaching out to me.

Yours truly,

Harvey E. Yates, Jr.

ATTACHEMENT TO LETTER TO VAN SINGLETON
INFORMATION NEEDED FROM MATADOR

INFORMATION AS TO DRILLING AND COMPLETION PLANS: As to the proposed Airstrip 31 RN State Com. 201H (hereinafter Airstrip 201H) we request the following information:

- Documents specifying how far below the top of the Wolfcamp formation Matador's proposed lateral will be.
- Documents related to whether the lateral will cut the Bone Spring formation as well as the Wolfcamp formation.
- Documents having to do with whether Matador's frac job will penetrate the Bone Spring formation as well as the Wolfcamp formation.

PROJECTED RECOVERY FROM AIRSTRIP WELL: Please provide any documents in Matador's possession which estimate or project the ultimate recovery from the Airstrip 201H.

WOLFCAMP DST: Heyco drilled the Southeast Airstrip # 1 in Unit N of Section 31 of 18TS, 35RE. (API # 3002527618) and completed it in the Morrow. In the course of that drilling effort Heyco caused a drill-stem test of the Wolfcamp formation. Please provide a copy of the drill stem test results. Additionally, please provide all documents having to do with Matador's lateral in the Airstrip 201H and its proposed frac-job suggesting whether either would penetrate the Wolfcamp at the approximate depth tested in the earlier Heyco well.

WHAT HORIZONS IS MATADOR ATTEMPTING TO FORCE-POOL?: Please provide documents clarifying the horizon which Matador is attempting to force-pool. See below:

- In the heading paragraph Matador states: "*(ii) pooling all mineral interests in the **Wolfcamp formation** underlying the non-standard unit...*" (emphasis added)

- And, Matador's plea asks that the Division enter an order "*B Pooling all mineral interests in the **Wolfcamp formation** underlying the W1/W1/2 of Section 31.*" (emphasis added)

- However, at paragraph 2. Matador states, "*Applicant seeks to dedicate the W1/2W1/2 ... to form a non-standard 154.28 acre oil spacing and proration unit (project area) **for any formations and/or pools developed** on 40 acre spacing **within that vertical extent**.*" (emphasis added)

MATADOR'S ACTUAL RISK: Matador asks that a 200% risk penalty be applied to the Airstrip 201H. Please provide all documents evidencing that 200% is equivalent to the actual risk Matador would encounter if it drills the Airstrip 201H.

INFORMATION WHICH MATADOR HAS CONVEYED TO OTHERS REGARDING ITS PERMIAN BASIN RISK AND REWARDS: Please provide all documents conveyed to Matador's board of directors, shareholders, lendérs, analysts and reports to the Securities Exchange Commission dealing with the risk and reward of Matador's drilling on its Permian Basin acreage in New Mexico.

SPECIFIC WELL INFORMATION: For each of the following wells please provide all documents having to do with risk and reward, cost of drilling and completing, and success or failure related to the well:

- PICKARD STATE No. 002H, API Number: 3002541614,
- JIM ROLFE 22 18 34 RN STATE No. 131H, API Number: 3002541889,
- JIM ROLFE 22 18 34 RN STATE No. 131Y, API Number: 3002542057,
- PICKARD STATE 20-18S-34E RN#121H, API Number: 3002541614,
- CIMMARON 16-19S-34E RN #134H
- TIGER 14 24s 28e rb#204h. I API# is(30-015-43087
- AIRSTRIP 201H API Number: 3002540397.
- All other horizontal wells drilled by Matador in Southeast New Mexico

HEDGING AND FIXED PRICE CONTRACTS: Please provide documents related to the actual price Matador itself will receive for oil and gas production from the Airstrip 201H including documents evidencing whether Matador has or has not hedged the production it would receive from the Airstrip 201H and, additionally, whether it has entered into any fixed price contract which would affect the price it would receive for oil or gas from the Airstrip 201H . (Below, where I reference "hedged dollar price" or "hedged fund dollars" please also provide information as to any fixed price contract payments.)

- If Matador is hedged, please provide documents evidencing whether the revenue Matador would receive from a force-pooled party's former proportionate share of the production, would be paid to Matador in hedged fund dollars -- that is, in the per barrel price for which has Matador hedged.
- If Matador would be paid at the hedged price for the force-pooled parties' former interest, please provide all documents, including risk analyses, specifying whether the 200% penalty which Matador has asked the OCD to impose was calculated in the analyses at the hedged dollar price or at the actual oil price which is expected to be received for the produced oil or gas.
- Please provide all documents which relate to whether Matador plans to have the recoupment of the penalty, which would be imposed on the parties which are force-pooled, calculated at the hedged price or in the actual price then prevailing for the oil and when it is sold?

RIG COSTS: Matador's predecessor, Heyco, provided Jalapeno Corporation and Yates Energy an AFE for the drilling of a Bone Spring well at the same location as now proposed by Matador. Both Jalapeno and Yates Energy consented to participate in Heyco's well. However, Matador's AFE is approximately one million seven hundred thousand dollars higher than the Heyco AFE agreed to by Jalapeno and Yates Energy. In the meantime the cost of drill rigs has plummeted as drill rigs in the Permian Basin have been stacked. However, public information suggests that Matador owns its own rigs or has leased rigs to utilize in its Permian Basin drilling.

- Please provide all documents related to any drilling contract or ancillary related agreement which affects, or would tend to affect, the cost of drilling the Airstrip 201H or which evidence the reason for Matador's high AFE cost for the Airstrip 201H:
- Please provide all documents which explain the reason for the higher cost of drilling the Matador well than AFE'ed earlier for the proposed Heyco well even though since the earlier AFE rig costs and other service prices have plummeted;
- If Matador intends to drill the Airstrip 201H with its own rig or with a leased rig, if Matador intends to use its own equipment otherwise or if Matador intends to dispose of salt water in its own disposal wells, please provide copies of all accounting or other documents which reveal both Matador's likely actual cost of such operations as well as the cost it intends to bill non-operators for such operations.

ESTIMATED ULTIMATE RECOVERIES: Please provide all documents in Matador's possession which estimate the ultimate recovery which Matador expects from wells it has drilled, has submitted an application to drill or will propose to drill in the following townships which surround the proposed Airstrip 201H: T18S, R34E; T18S,R35E; T19S, R34E and T19S, R35E.

MRC Delaware Resources Company

One Lincoln Centre • 5400 LBJ Freeway • Suite 1500 • Dallas, Texas 75240
Voice 972.371.5273 • Fax 972.371.5201
vsingleton@matadorresources.com

August 26, 2015

Mr. Harvey Yates
Jalapeno Corporation
Post Office Box 1608
Albuquerque, NM 87103

Re: Airstrip Well

Dear Harvey:

I have reviewed your letter dated August 17, 2015 and have had the chance to consider your most recent proposal and the attached requests (the "Letter"). When we last spoke, I suggested that you send us a request for any information that you may need in connection with your analysis of Matador's force pooling application and related hearing with respect to the State Com Well 31-18S-35E #201H (the "Well"). Additionally, we have since received a copy of a subpoena filed by your attorneys with the OCD requesting many of the same items found in the attachment to your Letter, along with a number of other items not requested in the Letter. As a result, Matador's legal counsel will prepare and file the appropriate response to your request for a subpoena.

Your Letter included a number of items that require a response from Matador. First, you referenced the March, 2015 AFE prepared by Matador and duly submitted to Jalapeno and specifically highlighted the $1.7 million increase in the cost compared to that of a proposal you had previously received from HEYCO. As we have discussed on several occasions, the HEYCO proposal contemplated a Bone Spring completion instead of the Wolfcamp completion as shown in our March 24 well proposal and AFE. The proposed Wolfcamp completion is deeper than the Bone Spring proposal and will require an additional string of casing. These two reasons account for the vast majority of the difference between the HEYCO AFE and the new AFE which is really not an "apples to apples" comparison.

You also raised an issue with respect to the 100%/300% non-consent penalty contemplated by our proposed JOA. I understand that you have raised this objection with other operators as well; however, this is a current industry standard non-consent penalty contained in all recent operating agreements Matador has entered into in the Delaware Basin, whether or not we are the operator and other working interest owners in the proposed unit have agreed to these terms. While you may not agree with such penalty, based on our experience as an operator of

horizontal wells in this area, we disagree with your assertion that a lower risk threshold is more appropriate for horizontal wells. Accordingly, we are unable to accommodate your request for a 100%/150% non-consent penalty.

I appreciate your efforts to work with Matador on a possible transaction involving your acreage. You mentioned in your Letter that your brother, George Yates, is on Matador's Board of Directors. You may have misunderstood the point I was making. The fact that George is on our Board does not preclude Matador from negotiating with you or other family members. Your Letter seems to ignore the good faith efforts that Matador has made to offer Jalapeno a variety of deal options. Specific to that point, in our initial proposal we offered Jalapeno four different options, including: participating in the well, assigning all of your net revenue interest in the proposed contract area for the Well to Matador for $1,800/net acre, assigning 75% of your net revenue interest with a reserved 25% overriding royalty interest in the proposed contract area for the Well, or selling all of your interest in the related governmental section. After you responded unfavorably to all of those options, we invited you to our office and raised the price we would pay on a per acre basis to $5000.00 per acre and presented an additional alternative—contributing the acreage to a joint venture in which Jalapeno or its affiliates have a beneficial interest. Beyond that, we have seriously considered your counterproposals and offers, but we are unwilling to accept terms materially different than those we have negotiated with other parties in the applicable section or the general area.

With respect to the specific transactions we have discussed, you mentioned the possible trade of your four net acres in the proposed spacing unit of the Well for all of our acreage in Section 17, T9S, R27E, Chaves County. The deal terms that you have offered, however, do not seem to be fair for both sides as we would receive a limited amount of your acreage in Section 31 with a number of additional limitations while you would receive all of our acreage in Section 17 with no additional limitations. That type of trade would be unacceptable unless you are willing to expand the trade to include all of the acreage Jalapeno owns in the section without additional limitations. The price per acre and horizontal Pugh provisions preclude us from pursuing this transaction for such a small position. Again, if Jalapeno would expand its offer to include all of the acreage it holds in the section, we would be interested in discussing the proposed transaction further.

You have also offered to sell all of Jalapeno's interest in Section 31 pursuant to a term assignment. As we understand your proposal, Jalapeno would convey all of its net acreage in Section 31 to Matador in exchange for $5,000/ net mineral acre pursuant to a term assignment with a one-year term and a 120 day continuous drilling clause. Under this scenario, Matador could include the acreage in any JOA it enters into in connection with the formation of a unit involving Section 31; however, any acreage/depths that Matador does not hold would revert to Jalapeno and would no longer be subject to the terms of the JOA. We are not opposed to this scenario so long as any acreage that might revert to Jalapeno would remain a part of the contract area covered by the JOA. By maintaining uniformity in the contract area, additional wells could be proposed in the future without having to revise the JOA and our hope would be that Jalapeno would participate as a working interest owner.

We understand that you believe you have tried to work with us to reach a deal and we also believe that we have worked hard to reach a compromise acceptable to both parties. While our strong preference is to enter into agreement to include your acreage in the section encompassing the Airstrip unit, we cannot accept terms that are less favorable than those which have been agreeable to many other operators in the Delaware Basin and that could impair our ability to further develop these minerals in the future. We would like to continue to work to resolve this matter before the scheduled hearing on September 3, 2015. I will call you to further discuss the options that you have presented.

If you have any further questions, please do not hesitate to contact me (972) 371-5273.

Respectfully,

P.P.
Van H. Singleton, II,
Executive Vice President of Land

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF MATADOR PRODUCTION COMPANY FOR A NON-STANDARD SPACING AND PRORATION UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

Case No. 15,363

AFFIDAVIT OF NOTICE

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

James Bruce, being duly sworn upon his oath, deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.

2. I am an attorney for Matador Production Company.

3. Matador Production Company has conducted a good faith, diligent effort to find the names and correct addresses of the interest owners entitled to receive notice of the application filed herein.

4. Notice of the application was provided to the interest owners, at their correct addresses, by certified mail. Copies of the notice letter and certified return receipts are attached hereto as Attachment A.

5. Applicant has complied with the notice provisions of Division Rules NMAC 19.15.4.9 and 19.15.4.12.C.

James Bruce

SUBSCRIBED AND SWORN TO before me this 26th day of August, 2015 by James Bruce.

OFFICIAL SEAL
KERRIE C. ALLEN
Notary Public
State of New Mexico
My Commission Expires 10-22-18

My Commission Expires:

Notary Public

EXHIBIT
6-A.

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

June 30, 2015

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed is a copy of an application for compulsory pooling and a non-standard oil spacing and proration unit, filed with the New Mexico Oil Conservation Division by Matador Production Company, regarding a well in the W½W½ of Section 31, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico.

This matter is scheduled for hearing at 8:15 a.m. on Thursday, August 20, 2015, in Porter Hall at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. 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 contesting the matter at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Thursday, August 13, 2015. This statement must be filed with the Division's Santa Fe office at the above address, and should include: The names of the party and its attorney; a concise statement of the case; the names of the 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 need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,

James Bruce

James Bruce

Attorney for Matador Production Company

Attachment A

EXHIBIT A

Yates Energy Corporation			c/o Fred G. Yates or Juduan Prichard (Landman) P.O. Box 2323 Roswell NM 88202-2323
Jalapeno Corporation			c/o Harvey E. Yates, Jr. or Isabel Zhang (Landman) P.O. Box 1608 Albuquerque, NM 87103-1608
Prime Energy Corporation			c/o Beverly A. Cummings, Executive Vice President 9821 Katy Freeway Suite 1050 Houston, TX 77024-6009
Roden Associates, Ltd.			c/o Ben Kinney 2603 Augusta, Suite 740 Houston, TX 77057
Roden Exploration Company, Ltd.			c/o Ben Kinney 2603 Augusta, Suite 740 Houston, TX 77057
Roden Participants, Ltd.			c/o Ben Kinney 2603 Augusta, Suite 740 Houston, TX 77057
S&C Construction Company			Steve Cosby P.O. Box 1509 Whitefish, MT 59937
Sherrfive, LP			Jeff Sherrick 812 Eagle Pointe Montgomery, TX 77316

Mary B. Attaya			5455 La Sierra Drive, Apt. 612 Dallas, TX 75231
Mary D. Hughes			c/o Taylor Hughes Mason 25 Highland Park Village, Suite 100 #819 Dallas, TX 75205
Edward G. Kadane			c/o Mike Gustofsen 4809 Cole Avenue, Suite 100, LB114 Dallast TX 75205
Matthew B. Kadane			c/o Mike Gustofsen 4809 Cole Avenue, Suite 100, LB114 Dallast TX 75205
Robert A. Kadane			518 17th Street, Suite 745 Denver, CO 80202
Brent Ray Robertson			8 Sleepy Hollow Witchita Falls, TX 76308
Chris Ann Wills			15955 Freemanville Road, Milton, GA 30004

7013 3020 0000 4603 9932

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

Postmark Here — USPS SANTA … NM 8 … JUL 3 … SANT. MAIN POS

Sent To: Sherrfive, LP
Street, Apt. No.; or PO Box No.: 812 Eagle Pointe
City, State, ZIP+4: Montgomery, TX 77316

PS Form 3800, August 2006 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Mary D. Hughes
25 Highland Park Village
Suite 100 #819
Dallas, TX 75205

COMPLETE THIS SECTION ON DELIVERY

A. Signature X Gena Franks ☒ Agent ☐ Addressee
B. Received by (Printed Name) Gena Franks C. Date of Delivery 8/3/15
D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9918

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Sherrfive, LP
812 Eagle Pointe
Montgomery, TX 77316

COMPLETE THIS SECTION ON DELIVERY

A. Signature X Vickie Sherrick ☐ Agent ☐ Addressee
B. Received by (Printed Name) Vickie Sherrick C. Date of Delivery 8-8-15
D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9932

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

7013 3020 0000 4603 9918

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

Postmark Here — USPS SANTA FE NM 87501 … JUL

Mary D. Hughes
25 Highland Park Village
Sent To: Suite 100 #819
Street, Apt. No.; or PO Box No.; City, State, ZIP+4: Dallas, TX 75205

PS Form 3800, August 2006 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mary B. Attaya

5455 La Sierra Drive, Apt. 612
Dallas, TX 75231

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Gary Peerman C. Date of Delivery 8/5/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9925

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	S&C Construction Company

USPS SANTA FE NM 87501 MAIN POST OFF SANTA FE JUL 20 Postmark Here

Sent To P.O. Box 1509
Street, Apt. No.; or PO Box No. Whitefish, MT 59937
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4603 9949

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

USPS SANTA FE NM 87501 MAIN POST SANTA FE JUL 30 Postmark Here

Sent To Mary B. Attaya
Street, Apt. No.; or PO Box No. 5455 La Sierra Drive, Apt. 612
City, State, ZIP+4 Dallas, TX 75231

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4603 9925

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

S&C Construction Company

P.O. Box 1509

Whitefish, MT 59937

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) STEVE COSBY C. Date of Delivery 8/3/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9949

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Roden Associates, Ltd.

Roden Exploration Co., Ltd.

Roden Participants, Ltd.

2603 Augusta, Suite 740 Houston, TX 77057

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Richard E Morris ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 8-4-15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9956

PS Form 3811, July 2013 Domestic Return Receipt Met-L

7013 3020 0000 4603 9963

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Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

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JUL 30 2015
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Sent To Prime Energy Corporation
Street, Apt. No., or PO Box No. 9821 Katy Freeway Suite 1050 Houston, TX 77024-6009
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4603 9956

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Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

Postmark Here
JUL 30 2015
USPS SANTA FE NM 87501

Sent To Roden Associates, Ltd.
Roden Exploration Co., Ltd.
Roden Participants, Ltd.
Street, Apt. No., or PO Box No. 2603 Augusta, Suite 740 Houston, TX 77057
City, State, ZIP+4

PS Form 3800, August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Prime Energy Corporation

9821 Katy Freeway Suite 1050 Houston, TX 77024-6009

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Dean Casey ☐ Agent ☑ Addressee

B. Received by (Printed Name) Dean Casey C. Date of Delivery 8/3/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9963

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here: JUL 2

USPS SANTA FE NM 87501 MAIN POST OFFICE

Sent To: Jalapeno Corporation
Street, Apt. No., or PO Box No.: P.O. Box 1608
City, State, ZIP+4: Albuquerque, NM 87103-1608

PS Form 3800, August 2006 — See Reverse for Instructions

7013 3020 0000 4603 9970

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Chris Ann Wills
15955 Freemanville Road
Milton, GA 30004

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery: 8/5/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label): 7013 3020 0000 4603 9871

PS Form 3811, July 2013 — Domestic Return Receipt

Mat - L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jalapeno Corporation
P.O. Box 1608
Albuquerque, NM 87103-1608

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name): Jun Barrack | C. Date of Delivery: 8/5/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label): 7013 3020 0000 4603 9970

PS Form 3811, July 2013 — Domestic Return Receipt

Mat - L

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here: AUG 2015

USPS SANTA FE NM 87501

Sent To: Chris Ann Wills
Street, Apt. No., or PO Box No.: 15955 Freemanville Road
City, State, ZIP+4: Milton, GA 30004

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7013 3020 0000 4603 9871

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here: SANTA FE NM POST OFFICE JUL 30 2013

Sent To: Robert A. Kadane

Street, Apt. No., or PO Box No.: 518 17th Street, Suite 745 Denver, CO 80202

City, State, ZIP+4:

7013 3020 0000 4603 9895

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Yates Energy Corporation

P.O. Box 2323

Roswell NM 88202-2323

COMPLETE THIS SECTION ON DELIVERY

A. Signature: X Pat Escalante ☐ Agent ☐ Addressee

B. Received by (Printed Name): Pat Escalante C. Date of Delivery: AUG 4 2013

D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4603 9987

PS Form 3811, July 2013 — Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Robert A. Kadane

518 17th Street, Suite 745 Denver, CO 80202

COMPLETE THIS SECTION ON DELIVERY

A. Signature: X Robert A. Kadane ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service lab) 7013 3020 0000 4603 9895

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Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here: USPS SANTA FE NM 87... JUL 30

Sent To: Yates Energy Corporation

Street, Apt. No., or PO Box No.: P.O. Box 2323

City, State, ZIP+4: Roswell NM 88202-2323

7013 3020 0000 4603 9987

PS Form 3800, August 2006 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Brent Ray Robertson

8 Sleepy Hollow

Witchita Falls. TX 76308

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Brent Robertson ☐ Agent ☐ Addressee

B. Received by (Printed Name) Brent Robertson C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

BRIDGEPORT TX 76308 AUG 3 2015 USPS

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service l) 7013 3020 0000 4603 9888

PS Form 3811, July 2013 Domestic Return Receipt Mef - L

7013 3020 0000 4603 9888

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

USPS SANTA FE NM 8750 JUL 30 Postmark Here

Sent To: Brent Ray Robertson

Street, Apt. No.; or PO Box No.: 8 Sleepy Hollow

City, State, ZIP+4: Witchita Falls TX 76308

PS Form 3800, August 2006 See Reverse for Instructions

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Tracking Number: **70133020000046039901**

Product & Tracking Information

Postal Product: **Features:** Certified Mail™

DATE & TIME	STATUS OF ITEM	LOCATION
August 3, 2015 , 1:09 pm	Delivered	**DALLAS, TX 75205**
Your item was delivered at 1:09 pm on August 3, 2015 in DALLAS, TX 75205.		
August 2, 2015 , 7:59 pm	Departed USPS Facility	DALLAS, TX 75260
August 1, 2015 , 4:30 am	Arrived at USPS Facility	DALLAS, TX 75260
July 31, 2015 , 2:39 am	Departed USPS Facility	ALBUQUERQUE, NM 87101
July 30, 2015 , 7:49 pm	Arrived at USPS Facility	ALBUQUERQUE, NM 87101
July 30, 2015 , 4:22 pm	Departed Post Office	SANTA FE, NM 87501
July 30, 2015 , 1:19 pm	Picked Up	SANTA FE, NM 87501

Available Actions

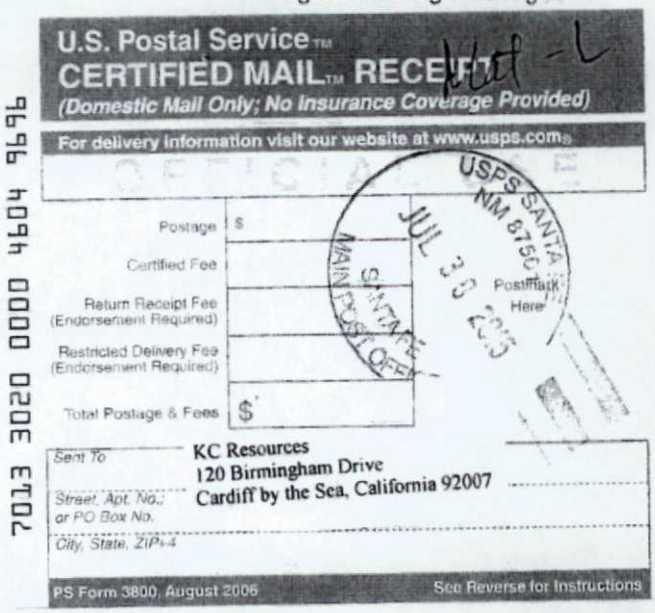
Text Updates

Email Updates

Track Another Package

Tracking (or receipt) number

Manage Incoming Packages



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Tracking Number: **70133020000046039901**

Product & Tracking Information

Postal Product:

Features:
Certified Mail™

DATE & TIME	STATUS OF ITEM	LOCATION
August 3, 2015 , 1:09 pm	Delivered	**DALLAS, TX 75205**
Your item was delivered at 1:09 pm on August 3, 2015 in DALLAS, TX 75205.		
August 2, 2015 , 7:59 pm	Departed USPS Facility	DALLAS, TX 75260
August 1, 2015 , 4:30 am	Arrived at USPS Facility	DALLAS, TX 75260
July 31, 2015 , 2:39 am	Departed USPS Facility	ALBUQUERQUE, NM 87101
July 30, 2015 , 7:49 pm	Arrived at USPS Facility	ALBUQUERQUE, NM 87101
July 30, 2015 , 4:22 pm	Departed Post Office	SANTA FE, NM 87501
July 30, 2015 , 1:19 pm	Picked Up	SANTA FE, NM 87501

Available Actions

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Email Updates

Track Another Package

Tracking (or receipt) number

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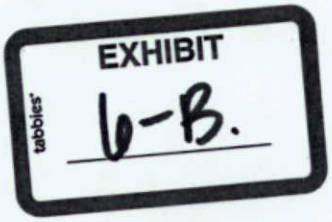
SE/4 Section 25-18S-34E
KC Resources
120 Birmingham Drive
Cardiff by the Sea, California 92007

S/2 Section 30-18S-35E
COG Operating LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701



E/2W/2 and W/2E/2 Section 31-18S-35E
Harvey E. Yates Company
P.O. Box 1933
Roswell, New Mexico 88202

N/2 Section 6-19S-35E
Plantation Operating
Suite 100
10355 Centrepark Drive
Houston, Texas 77043

COG Operating LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701

NE/4 Section 1-19S-34E
COG Operating LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701

SE/4 Section 36-18S-34E
Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102

Yates Petroleum Corporation
105 Fourth Street
Artesia, New Mexico 88201

Slash Exploration
P.O. Box 1973
Roswell, New Mexico 88202

Airstrip Field Joint Venture
PMB 100
3571 Far West Boulevard
Austin, Texas 78731

Otter Creek
P.O. Box 1557
Sealy, Texas 77474

Williams Enterprises
P.O. Box 32570
Santa Fe, New Mexico 87504

David Sorenson
P.O. Box 1453
Roswell, New Mexico 88202

Marathon Oil Company
5555 San Felipe Street
Houston, Texas 77056

<u>NE/4 Section 36-18S-34E</u>
Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF MATADOR PRODUCTION COMPANY FOR A NON-STANDARD SPACING AND PRORATION UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

Case No. 15,363

AFFIDAVIT OF NOTICE

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

James Bruce, being duly sworn upon his oath, deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.

2. I am an attorney for Matador Production Company.

3. Matador Production Company has conducted a good faith, diligent effort to find the names and correct addresses of the offset operators or working interest owners entitled to receive notice of the application filed herein.

4. Notice of the application was provided to the offsets by certified mail. Copies of the notice letters and certified return receipts are attached hereto as Attachment A.

5. Applicant has complied with the notice provisions of Division Rules NMAC 19.15.4.9 and 19.15.4.12.C.

James Bruce

SUBSCRIBED AND SWORN TO before me this 26th day of August, 2015 by James Bruce.

OFFICIAL SEAL
KERRIE C. ALLEN
Notary Public
State of New Mexico
My Commission Expires 10-25-18

My Commission Expires:

Notary Public

EXHIBIT
6-C.

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

June 30, 2015

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed is a copy of an application a for non-standard unit, *etc.*, filed with the New Mexico Oil Conservation Division by Matador Production Company, regarding a well in the W½W½ of Section 31, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico.

This matter is scheduled for hearing at 8:15 a.m. on Thursday, August 20, 2015, in Porter Hall at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. **The Division requires applicant to notify offset operators or working interest owners of the non-standard unit portion of the application, and you offset the well unit.** You are not required to attend this hearing, but you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from contesting the matter at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Thursday, August 13, 2015. This statement must be filed with the Division's Santa Fe office at the above address, and should include: The names of the party and its attorney; a concise statement of the case; the names of the 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 need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,

James Bruce

James Bruce

Attorney for Matador Production Company

Attachment A

EXHIBIT A

Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102

Yates Petroleum Corporation
105 Fourth Street
Artesia, New Mexico 88201

Slash Exploration
P.O. Box 1973
Roswell, New Mexico 88202

Airstrip Field Joint Venture
PMB 100
3571 Far West Boulevard
Austin, Texas 78731

Otter Creek
P.O. Box 1557
Sealy, Texas 77474

Williams Enterprises
P.O. Box 32570
Santa Fe, New Mexico 87504

David Sorenson
P.O. Box 1453
Roswell, New Mexico 88202

Marathon Oil Company
5555 San Felipe Street
Houston, Texas 77056

KC Resources
120 Birmingham Drive
Cardiff by the Sea, California 92007

COG Operating LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701

Harvey E. Yates Company
P.O. Box 1933
Roswell, New Mexico 88202

Plantation Operating
2203 Timberloch
The Woodlands, Texas 77380

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Harvey E. Yates Company
P.O. Box 1933
Roswell, New Mexico 88202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery 8/4/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

AUG 4 2015 88201

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9719

PS Form 3811, July 2013 Domestic Return Receipt Mat -L

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com®

USPS SANTA FE NM 87501 JUL 30 2015 MAIN POST OFFICE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Marathon Oil Company
Street, Apt. No.; or PO Box No.: 5555 San Felipe Street
City, State, ZIP+4: Houston, Texas 77056

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9689

Mat -L

U.S. Postal Service™
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USPS SANTA FE NM 87501 JUL 30 2015 MAIN POST OFFICE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Harvey E. Yates Company
Street, Apt. No.; or PO Box No.: P.O. Box 1933
City, State, ZIP+4: Roswell, New Mexico 88202

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9719

Mat -L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Marathon Oil Company
5555 San Felipe Street
Houston, Texas 77056

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Marcos Carrick ☐ Agent ☐ Addressee

B. Received by (Printed Name) Marcos Carrick C. Date of Delivery 8-4-15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9689

PS Form 3811, July 2013 Domestic Return Receipt Mat -L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

David Sorenson
P.O. Box 1453
Roswell, New Mexico 88202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X David J. Sorenson ☐ Agent ☑ Addressee

B. Received by (Printed Name) David J. Sorenson | C. Date of Delivery 8-4-15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

AUG 4 2015 ROSWELL NM

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9672

PS Form 3811, July 2013 Domestic Return Receipt

Mat - L

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Williams Enterprises
Street, Apt. No., or PO Box No.: P.O. Box 32570
City, State, ZIP+4: Santa Fe, New Mexico 87504

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9665

Mat - L

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USPS SANTA FE NM 87501 JUL 30 2015 MAIN POST OFFICE STATE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: David Sorenson
Street, Apt. No., or PO Box No.: P.O. Box 1453
City, State, ZIP+4: Roswell, New Mexico 88202

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9672

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Williams Enterprises
P.O. Box 32570
Santa Fe, New Mexico 87504

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Paulette Williamson ☐ Agent ☑ Addressee

B. Received by (Printed Name) Paulette Williamson | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

USPS SANTA FE NM 87504 AUG - 1 2015 DEVARGAS POST OFFICE

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9665

PS Form 3811, July 2013 Domestic Return Receipt

Mat - L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Otter Creek
P.O. Box 1557
Sealy, Texas 77474

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

AUG - 4 2015
77474 USPS

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9658

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

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CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com®

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Airstrip Field Joint Venture
Street, Apt. No.; or PO Box No.: PMB 100
3571 Far West Boulevard
City, State, ZIP+4: Austin, Texas 78731

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9641

U.S. Postal Service™
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For delivery information visit our website at www.usps.com®

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Otter Creek
Street, Apt. No.; or PO Box No.: P.O. Box 1557
City, State, ZIP+4: Sealy, Texas 77474

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9658

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Airstrip Field Joint Venture
PMB 100
3571 Far West Boulevard
Austin, Texas 78731

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☑ Addressee

B. Received by (Printed Name) Amber Trevino C. Date of Delivery 8/5/15

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9641

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Slash Exploration
P.O. Box 1973
Roswell, New Mexico 88202

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Vanessa Sexton ☐ Agent ☐ Addressee

B. Received by (Printed Name) Vanessa Sexton C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7013 3020 0000 4604 9634

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

7013 3020 0000 4604 9627

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USPS SANTA FE NM 87501 JUL 30 2013

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

Postmark Here

Sent To: Yates Petroleum Corporation
Street, Apt. No., or PO Box No.: 105 Fourth Street
City, State, ZIP+4: Artesia, New Mexico 88201

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9627

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

Postmark Here

Sent To: Slash Exploration
Street, Apt. No., or PO Box No.: P.O. Box 1973
City, State, ZIP+4: Roswell, New Mexico 88202

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4604 9634

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Yates Petroleum Corporation
105 Fourth Street
Artesia, New Mexico 88201

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) Stormy C. Date of Delivery 8/30

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service lab 7013 3020 0000 4604 9627

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Devon Energy Production Company, L.P.
333 West Sheridan
Oklahoma City, Oklahoma 73102

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X David Carrillo ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number
(*Transfer from service label*) 7013 3020 0000 4605 0586

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

7013 3020 0000 4604 9702

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

USPS SANTA ... NM 87... JUL 30 2015 MAIN...

Sent To: COG Operating LLC
Street, Apt. No.; or PO Box No.: One Concho Center, 600 West Illinois Avenue
City, State, ZIP+4: Midland, Texas 79701

PS Form 3800, August 2006 See Reverse for Instructions

7013 3020 0000 4605 0586

U.S. Postal Service™
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For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Devon Energy Production Company, L.P.
Street, Apt. No.; or PO Box No.: 333 West Sheridan
City, State, ZIP+4: Oklahoma City, Oklahoma 73102

PS Form 3800, August 2006 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

COG Operating LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) [signature] C. Date of Delivery 8/3

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number
(*Transfer from service label*) 7013 3020 0000 4604 9702

PS Form 3811, July 2013 Domestic Return Receipt Mat - L

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(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

7013 3020 0000 4604 9726

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

USPS SANTA FE NM 87501 JUL 30 2015 SANTA FE MAIN POST OFFICE

Postmark Here

Sent To: Plantation Operating
Street, Apt. No.; or PO Box No.: 2203 Timberloch
City, State, ZIP+4: The Woodlands, Texas 77380

PS Form 3800, August 2006 — See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Plantation Operating
2203 Timberloch
The Woodlands, Texas 77380

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service la* 7013 3020 0000 4604 9726

PS Form 3811, July 2013 Domestic Return Receipt

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

August 13, 2015

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed is a copy of an application a for non-standard unit, *etc.*, filed with the New Mexico Oil Conservation Division by Matador Production Company, regarding a well in the W½W½ of Section 31, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico.

This matter is scheduled for hearing at 8:15 a.m. on Thursday, September 3, 2015, in Porter Hall at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. **The Division requires applicant to notify offset operators or working interest owners of the non-standard unit portion of the application, and you offset the well unit**. You are not required to attend this hearing, but you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from contesting the matter at a later date.

A party appearing in a Division case is required by Division Rules to file a Pre-Hearing Statement no later than Thursday, August 27, 2015. This statement must be filed with the Division's Santa Fe office at the above address, and should include: The names of the party and its attorney; a concise statement of the case; the names of the 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 need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to the undersigned.

Very truly yours,

James Bruce

Attorney for Matador Production Company

EXHIBIT A

Plantation Operating, LLC
Suite 100
10355 Centrepark Drive
Houston, Texas 77043

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Plantation Operating, LLC
Suite 100
10355 Centrepark Drive
Houston, Texas 77043

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☑ Certified Mail® ☐ Priority Mail Express™
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ Collect on Delivery

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7013 3020 0000 4604 9757

PS Form 3811, July 2013 Domestic Return Receipt Mail - L

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
August 07, 2015
and ending with the issue dated
August 07, 2015.

Daniel Russell
Publisher

Sworn and subscribed to before me this
7th day of August 2015.

Jessie Black
Business Manager

My commission expires
January 29, 2019
(Seal)

GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL LEGAL

LEGAL NOTICE
August 7, 2015

NOTICE

To: S&C Construction Company, Sherrfive, LP, Mary B. Attaya, Mary D. Hughes, Edward G. Kadane, Matthew B. Kadane, Robert A. Kadane, Brent Ray Robertson, Chris Ann Wills, Otter Creek, Williams Enterprises, David Sorenson, KC Resources, and Plantation Operating LLC, or your heirs, devisees, successors, or assigns: Matador Production Company has filed an application with the New Mexico Oil Conservation Division seeking an order approving a 154.28-acre non-standard oil spacing and proration unit (project area) in the Wolfcamp formation comprised of Lots 1-4 (the W/2W/2) of Section 31, Township 18 South, Range 35 East, NMPM. Applicant further seeks the pooling of all mineral interests in the Wolfcamp formation underlying the non-standard spacing and proration unit (project area) for all pools or formations developed on 40 acre spacing within that vertical extent. The unit is to be dedicated to the Airstrip 31 18 35 RN State Com. Well No. 201H, a horizontal well with a surface location in Lot 4, and a terminus in Lot 1, of Section 31. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a 200% charge for the risk involved in drilling and completing the well. The application is scheduled to be heard at 8:15 a.m. on Thursday, September 3, 2015 at the Division's offices at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. As an interest owner in the well unit, or as an offset interest owner, you have the right to enter an appearance and participate in the case. Failure to appear will preclude you from contesting this matter at a later date. The attorney for applicant is James Bruce, P.O. Box 1056, Santa Fe, New Mexico 87504. The unit is located approximately 15 miles west-northwest of Monument, New Mexico.
#30247

EXHIBIT
tabbies
6-D.

01101711 00160888

JAMES BRUCE, ATTORNEY AT LAW
P.O. BOX 1056
SANTA FE, NM 87504

HEYCO NO. 9149

A.A.P.L. FORM 610 - 1977

MODEL FORM OPERATING AGREEMENT

SOUTHEAST AIRSTRIP WORKING INTEREST UNIT

OPERATING AGREEMENT

DATED

October 15, 1981,

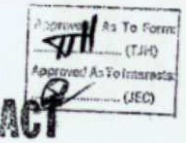
OPERATOR HARVEY E. YATES COMPANY

CONTRACT AREA Township 18 South, Range 35 East, N.M.P.M.

Section 31: Lots 3, 4, E/2 SW/4,

SE/4 (Being S/2)

COUNTY OR PARISH OF LEA STATE OF NEW MEXICO



CONTRACT

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1977

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OPERATING AGREEMENT

THIS AGREEMENT, entered into by and between HARVEY E. YATES COMPANY, hereinafter designated and referred to as "Operator", and the signatory party or parties other than Operator, sometimes hereinafter referred to individually herein as "Non-Operator", and collectively as "Non-Operators",

WITNESSETH:

WHEREAS, the parties to this agreement are owners of oil and gas leases and/or oil and gas interests in the land identified in Exhibit "A", and the parties hereto have reached an agreement to explore and develop these leases and/or oil and gas interests for the production of oil and gas to the extent and as hereinafter provided:

NOW, THEREFORE, it is agreed as follows:

ARTICLE I.
DEFINITIONS

As used in this agreement, the following words and terms shall have the meanings here ascribed to them:

A. The term "oil and gas" shall mean oil, gas, casinghead gas, gas condensate, and all other liquid or gaseous hydrocarbons and other marketable substances produced therewith, unless an intent to limit the inclusiveness of this term is specifically stated.

B. The terms "oil and gas lease", "lease" and "leasehold" shall mean the oil and gas leases covering tracts of land lying within the Contract Area which are owned by the parties to this agreement.

C. The term "oil and gas interests" shall mean unleased fee and mineral interests in tracts of land lying within the Contract Area which are owned by parties to this agreement.

D. The term "Contract Area" shall mean all of the lands, oil and gas leasehold interests and oil and gas interests intended to be developed and operated for oil and gas purposes under this agreement. Such lands, oil and gas leasehold interests and oil and gas interests are described in Exhibit "A".

E. The term "drilling unit" shall mean the area fixed for the drilling of one well by order or rule of any state or federal body having authority. If a drilling unit is not fixed by any such rule or order, a drilling unit shall be the drilling unit as established by the pattern of drilling in the Contract Area or as fixed by express agreement of the Drilling Parties.

F. The term "drillsite" shall mean the oil and gas lease or interest on which a proposed well is to be located.

G. The terms "Drilling Party" and "Consenting Party" shall mean a party who agrees to join in and pay its share of the cost of any operation conducted under the provisions of this agreement.

H. The terms "Non-Drilling Party" and "Non-Consenting Party" shall mean a party who elects not to participate in a proposed operation.

Unless the context otherwise clearly indicates, words used in the singular include the plural, the plural includes the singular, and the neuter gender includes the masculine and the feminine.

ARTICLE II.
EXHIBITS

The following exhibits, as indicated below and attached hereto, are incorporated in and made a part hereof:

☒ A. Exhibit "A", shall include the following information:
- (1) Identification of lands subject to agreement,
- (2) Restrictions, if any, as to depths or formations,
- (3) Percentages or fractional interests of parties to this agreement,
- (4) Oil and gas leases and/or oil and gas interests subject to this agreement,
- (5) Addresses of parties for notice purposes.

☐ B. Exhibit "B", Form of Lease.

☒ C. Exhibit "C", Accounting Procedure.

☒ D. Exhibit "D", Insurance.

☒ E. Exhibit "E", Gas Balancing Agreement.

☒ F. Exhibit "F", Non-Discrimination and Certification of Non-Segregated Facilities.

If any provision of any exhibit, except Exhibit "E", is inconsistent with any provision contained in the body of this agreement, the provisions in the body of this agreement shall prevail.

ARTICLE III.
INTERESTS OF PARTIES

A. Oil and Gas Interests:

If any party owns an unleased oil and gas interest in the Contract Area, that interest shall be treated for the purpose of this agreement and during the term hereof as if it were a leased interest under the form of oil and gas lease attached as Exhibit "B". As to such interest, the owner shall receive royalty on production as prescribed in the form of oil and gas lease attached hereto as Exhibit "B". Such party shall, however, be subject to all of the provisions of this agreement relating to lessees, to the extent that it owns the lessee interest.

B. Interest of Parties in Costs and Production:

Exhibit "A" lists all of the parties and their respective percentage or fractional interests under this agreement. Unless changed by other provisions, all costs and liabilities incurred in operations under this agreement shall be borne and paid, and all equipment and material acquired in operations on the Contract Area shall be owned by the parties as their interests are shown in Exhibit "A". All production of oil and gas from the Contract Area, subject to the payment of lessor's royalties ~~which will be borne by the Joint Account~~, shall also be owned by the parties in the same manner during the term hereof; provided, however, this shall not be deemed an assignment or cross-assignment of interests covered hereby.

ARTICLE IV.
TITLES

A. Title Examination:

Title examination shall be made on the drillsite of any proposed well prior to commencement of drilling operations or, if the Drilling Parties so request, title examination shall be made on the leases and/or oil and gas interests included, or planned to be included, in the drilling unit around such well. The opinion will include the ownership of the working interest, minerals, royalty, overriding royalty and production payments under the applicable leases. At the time a well is proposed, each party contributing leases and/or oil and gas interests to the drillsite, or to be included in such drilling unit, shall furnish to Operator all abstracts (including Federal Lease Status Reports), title opinions, title papers and curative material in its possession free of charge. All such information not in the possession of or made available to Operator by the parties, but necessary for the examination of title, shall be obtained by Operator. Operator shall cause title to be examined by attorneys on its staff or by outside attorneys. Copies of all title opinions shall be furnished to each party hereto. The cost incurred by Operator in this title program shall be borne as follows:

☐ ~~Option No. 1: Costs incurred by Operator in procuring abstracts and title examination (including preliminary, supplemental, shut-in gas royalty opinions and division order title opinions) shall be a part of the administrative overhead as provided in Exhibit "C," and shall not be a direct charge, whether performed by Operator's staff attorneys or by outside attorneys.~~

☒ Option No. 2: Costs incurred by Operator in procuring abstracts and fees paid outside attorneys for title examination (including preliminary, supplemental, shut-in gas royalty opinions and division order title opinions) shall be borne by the Drilling Parties in the proportion that the interest of each Drilling Party bears to the total interest of all Drilling Parties as such interests appear in Exhibit "A". Operator shall make no charge for services rendered by its staff attorneys or other personnel in the performance of the above functions.

Each party shall be responsible for securing curative matter and pooling amendments or agreements required in connection with leases or oil and gas interests contributed by such party. The Operator shall be responsible for the preparation and recording of Pooling Designations or Declarations as well as the conduct of hearings before Governmental Agencies for the securing of spacing or pooling orders. This shall not prevent any party from appearing on its own behalf at any such hearing.

No well shall be drilled on the Contract Area until after (1) the title to the drillsite or drilling unit has been examined as above provided, and (2) the title has been approved by the examining attorney or title has been accepted by all of the parties who are to participate in the drilling of the well.

B. Loss of Title:

1. Failure of Title: Should any oil and gas interest or lease, or interest therein, be lost through failure of title, which loss results in a reduction of interest from that shown on Exhibit "A", this agreement, nevertheless, shall continue in force as to all remaining oil and gas leases and interests, and

(a) The party whose oil and gas lease or interest is affected by the title failure shall bear alone the entire loss and it shall not be entitled to recover from Operator or the other parties any development

or operating costs which it may have theretofore paid, but there shall be no monetary liability on its part to the other parties hereto for drilling, development, operating or other similar costs by reason of such title failure; and

(b) There shall be no retroactive adjustment of expenses incurred or revenues received from the operation of the interest which has been lost, but the interests of the parties shall be revised on an acreage basis, as of the time it is determined finally that title failure has occurred, so that the interest of the party whose lease or interest is affected by the title failure will thereafter be reduced in the Contract Area by the amount of the interest lost; and

(c) If the proportionate interest of the other parties hereto in any producing well theretofore drilled on the Contract Area is increased by reason of the title failure, the party whose title has failed shall receive the proceeds attributable to the increase in such interests (less costs and burdens attributable thereto) until it has been reimbursed for unrecovered costs paid by it in connection with such well; and

(d) Should any person not a party to this agreement, who is determined to be the owner of any interest in the title which has failed, pay in any manner any part of the cost of operation, development, or equipment, such amount shall be paid to the party or parties who bore the costs which are so refunded; and

(e) Any liability to account to a third party for prior production of oil and gas which arises by reason of title failure shall be borne by the party or parties in the same proportions in which they shared in such prior production; and

(f) No charge shall be made to the joint account for legal expenses, fees or salaries, in connection with the defense of the interest claimed by any party hereto, it being the intention of the parties hereto that each shall defend title to its interest and bear all expenses in connection therewith.

2. Loss by Non-Payment or Erroneous Payment of Amount Due: If, through mistake or oversight, any rental, shut-in well payment, minimum royalty or royalty payment, is not paid or is erroneously paid, and as a result a lease or interest therein terminates, there shall be no monetary liability against the party who failed to make such payment. Unless the party who failed to make the required payment secures a new lease covering the same interest within ninety (90) days from the discovery of the failure to make proper payment, which acquisition will not be subject to Article VIII.B., the interests of the parties shall be revised on an acreage basis, effective as of the date of termination of the lease involved, and the party who failed to make proper payment will no longer be credited with an interest in the Contract Area on account of ownership of the lease or interest which has terminated. In the event the party who failed to make the required payment shall not have been fully reimbursed, at the time of the loss, from the proceeds of the sale of oil and gas attributable to the lost interest, calculated on an acreage basis, for the development and operating costs theretofore paid on account of such interest, it shall be reimbursed for unrecovered actual costs theretofore paid by it (but not for its share of the cost of any dry hole previously drilled or wells previously abandoned) from so much of the following as is necessary to effect reimbursement:

(a) Proceeds of oil and gas, less operating expenses, theretofore accrued to the credit of the lost interest, on an acreage basis, up to the amount of unrecovered costs;

(b) Proceeds, less operating expenses, thereafter accrued attributable to the lost interest on an acreage basis, of that portion of oil and gas thereafter produced and marketed (excluding production from any wells thereafter drilled) which, in the absence of such lease termination, would be attributable to the lost interest on an acreage basis, up to the amount of unrecovered costs, the proceeds of said portion of the oil and gas to be contributed by the other parties in proportion to their respective interests; and

(c) Any monies, up to the amount of unrecovered costs, that may be paid by any party who is, or becomes, the owner of the interest lost, for the privilege of participating in the Contract Area or becoming a party to this agreement.

3. Other Losses: All losses incurred, other than those set forth in Articles IV.B.1. and IV.B.2. above, shall not be considered failure of title but shall be joint losses and shall be borne by all parties in proportion to their interests. There shall be no readjustment of interests in the remaining portion of the Contract Area.

ARTICLE V.
OPERATOR

A. DESIGNATION AND RESPONSIBILITIES OF OPERATOR:

HARVEY E. YATES COMPANY shall be the Operator of the Contract Area, and shall conduct and direct and have full control of all operations on the Contract Area as permitted and required by, and within the limits of, this agreement. It shall conduct all such operations in a good and workmanlike manner, but it shall have no liability as Operator to the other parties for losses sustained or liabilities incurred, except such as may result from gross negligence or willful misconduct.

B. Subsequent Operations:

1. Proposed Operations: Should any party hereto desire to drill any well on the Contract Area other than the well provided for in Article VI.A., or to rework, deepen or plug back a dry hole drilled at the joint expense of all parties or a well jointly owned by all the parties and not then producing in paying quantities, the party desiring to drill, rework, deepen or plug back such a well shall give the other parties written notice of the proposed operation, specifying the work to be performed, the location, proposed depth, objective formation and the estimated cost of the operation. The parties receiving such a notice shall have thirty (30) days after receipt of the notice within which to notify the parties wishing to do the work whether they elect to participate in the cost of the proposed operation. If a drilling rig is on location, notice of proposal to rework, plug back or drill deeper may be given by telephone and the response period shall be limited to forty-eight (48) hours, exclusive of Saturday, Sunday or legal holidays. Failure of a party receiving such notice to reply within the period above fixed shall constitute an election by that party not to participate in the cost of the proposed operation. Any notice or response given by telephone shall be promptly confirmed in writing.

2. Operations by Less than All Parties: If any party receiving such notice as provided in Article VI.B.1. or VI.E.1. elects not to participate in the proposed operation, then, in order to be entitled to the benefits of this article, the party or parties giving the notice and such other parties as shall elect to participate in the operation shall, within sixty (60) days after the expiration of the notice period of thirty (30) days (or as promptly as possible after the expiration of the forty-eight (48) hour period where the drilling rig is on location, as the case may be) actually commence work on the proposed operation and complete it with due diligence. Operator shall perform all work for the account of the Consenting Parties; provided, however, if no drilling rig or other equipment is on location, and if Operator is a Non-Consenting Party, the Consenting Parties shall either: (a) request Operator to perform the work required by such proposed operation for the account of the Consenting Parties, or (b) designate one (1) of the Consenting Parties as Operator to perform such work. Consenting Parties, when conducting operations on the Contract Area pursuant to this Article VI.B.2., shall comply with all terms and conditions of this agreement.

If less than all parties approve any proposed operation, the proposing party, immediately after the expiration of the applicable notice period, shall advise the Consenting Parties of (a) the total interest of the parties approving such operation, and (b) its recommendation as to whether the Consenting Parties should proceed with the operation as proposed. Each Consenting Party, within forty-eight (48) hours (exclusive of Saturday, Sunday or legal holidays) after receipt of such notice, shall advise the proposing party of its desire to (a) limit participation to such party's interest as shown on Exhibit "A", or (b) carry its proportionate part of Non-Consenting Parties' interest. The proposing party, at its election, may withdraw such proposal if there is insufficient participation, and shall promptly notify all parties of such decision.

The entire cost and risk of conducting such operations shall be borne by the Consenting Parties in the proportions they have elected to bear same under the terms of the preceding paragraph. Consenting Parties shall keep the leasehold estates involved in such operations free and clear of all liens and encumbrances of every kind created by or arising from the operations of the Consenting Parties. If such an operation results in a dry hole, the Consenting Parties shall plug and abandon the well at their sole cost, risk and expense. If any well drilled, reworked, deepened or plugged back under the provisions of this Article results in a producer of oil and/or gas in paying quantities, the Consenting Parties shall complete and equip the well to produce at their sole cost and risk, and the well shall then be turned over to Operator and shall be operated by it at the expense and for the account of the Consenting Parties. Upon commencement of operations for the drilling, reworking, deepening or plugging back of any such well by Consenting Parties in accordance with the provisions of this Article, each Non-Consenting Party shall be deemed to have relinquished to Consenting Parties, and the Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Party's interest in the well and share of production therefrom until the proceeds of the sale of such share, calculated at the well, or market value thereof if such share is not sold (after deducting production taxes, royalty, overriding royalty and other interests existing on the effective date hereof, payable out of or measured by the production from such well accruing with respect to such interest until it reverts) shall equal the total of the following:

windfall profits tax,

(a) 100% of each such Non-Consenting Party's share of the cost of any newly acquired surface equipment beyond the wellhead connections (including, but not limited to, stock tanks, separators, treaters, pumping equipment and piping), plus 100% of each such Non-Consenting Party's share of the cost of operation of the well commencing with first production and continuing until each such Non-Consenting Party's relinquished interest shall revert to it under other provisions of this Article, it being agreed that each Non-Consenting Party's share of such costs and equipment will be that interest which would have been chargeable to each Non-Consenting Party had it participated in the well from the beginning of the operation; and

(b) 300 % of that portion of the costs and expenses of drilling reworking, deepening, or plugging back, testing and completing, after deducting any cash contributions received under Article VIII.C., and

300% of that portion of the cost of newly acquired equipment in the well (to and including the well-head connections), which would have been chargeable to such Non-Consenting Party if it had participated therein.

Gas production attributable to any Non - Consenting Party's relinquished interest upon such Party's election, shall be sold to its purchaser, if available, under the terms of its existing gas sales contract. Such Non - Consenting Party shall direct its purchaser to remit the proceeds receivable from such sale direct to the Consenting Parties until the amounts provided for in this Article are recovered from the Non - Consenting Party's relinquished interest. If such Non - Consenting Party has not contracted for sale of its gas at the time such gas is available for delivery, or has not made the election as provided above, the Consenting Parties shall own and be entitled to receive and sell such Non-Consenting Party's share of gas as hereinabove provided during the recoupment period.

During the period of time Consenting Parties are entitled to receive Non-Consenting Party's share of production, or the proceeds therefrom, Consenting Parties shall be responsible for the payment of all production, severance, gathering, windfall profits tax, and other taxes, and all royalty, overriding royalty and other burdens applicable to Non-Consenting Party's share of production.

In the case of any reworking, plugging back or deeper drilling operation, the Consenting Parties shall be permitted to use, free of cost, all casing, tubing and other equipment in the well, but the ownership of all such equipment shall remain unchanged; and upon abandonment of a well after such reworking, plugging back or deeper drilling, the Consenting Parties shall account for all such equipment to the owners thereof, with each party receiving its proportionate part in kind or in value, less cost of salvage.

Within sixty (60) days after the completion of any operation under this Article, the party conducting the operations for the Consenting Parties shall furnish each Non-Consenting Party with an inventory of the equipment in and connected to the well, and an itemized statement of the cost of drilling, deepening, plugging back, testing, completing, and equipping the well for production; or, at its option, the operating party, in lieu of an itemized statement of such costs of operation, may submit a detailed statement of monthly billings. Each month thereafter, during the time the Consenting Parties are being reimbursed as provided above, the Party conducting the operations for the Consenting Parties shall furnish the Non-Consenting Parties with an itemized statement of all costs and liabilities incurred in the operation of the well, together with a statement of the quantity of oil and gas produced from it and the amount of proceeds realized from the sale of the well's working interest production during the preceding month. In determining the quantity of oil and gas produced during any month, Consenting Parties shall use industry accepted methods such as, but not limited to, metering or periodic well tests. Any amount realized from the sale or other disposition of equipment newly acquired in connection with any such operation which would have been owned by a Non-Consenting Party had it participated therein shall be credited against the total unreturned costs of the work done and of the equipment purchased, in determining when the interest of such Non-Consenting Party shall revert to it as above provided; and if there is a credit balance, it shall be paid to such Non-Consenting party.

~~If and when~~ On the first day of the month, following that month in which the Consenting Parties recover from a Non-Consenting Party's relinquished interest the amounts provided for above, the relinquished interests of such Non-Consenting Party shall automatically revert to it, and, from and after such reversion, such Non-Consenting Party shall own the same interest in such well, the material and equipment in or pertaining thereto, and the production therefrom as such Non-Consenting Party would have been entitled to had it participated in the drilling, reworking, deepening or plugging back of said well. Thereafter, such Non-Consenting Party shall be charged with and shall pay its proportionate part of the further costs of the operation of said well in accordance with the terms of this agreement and the Accounting Procedure, attached hereto.

Notwithstanding the provisions of this Article VI.B.2., it is agreed that without the mutual consent of all parties, no wells shall be completed in or produced from a source of supply from which a well located elsewhere on the Contract Area is producing, unless such well conforms to the then-existing well spacing pattern for such source of supply.

The provisions of this Article shall have no application whatsoever to the drilling of the initial well described in Article VI.A. except (a) when Option 2, Article VII.D.1., has been selected, or (b) to the reworking, deepening and plugging back of such initial well, if such well is or thereafter shall prove to be a dry hole or non-commercial well, after having been drilled to the depth specified in Article VI.A.

C. Right to Take Production in Kind:

Each party shall have the right to take in kind or separately dispose of its proportionate share of all oil and gas produced from the Contract Area, exclusive of production which may be used in development and producing operations and in preparing and treating oil for marketing purposes and production unavoidably lost. Any extra expenditure incurred in the taking in kind or separate disposition by any party of its proportionate share of the production shall be borne by such party. Any

party taking its share of production in kind shall be required to pay for only its proportionate share of such part of Operator's surface facilities which it uses.

Each party shall execute such division orders and contracts as may be necessary for the sale of its interest in production from the Contract Area, and, except as provided in Article VII.B., shall be entitled to receive payment direct from the purchaser thereof for its share of all production.

In the event any party shall fail to make the arrangements necessary to take in kind or separately dispose of its proportionate share of the oil and gas produced from the Contract Area, Operator shall have the right, subject to the revocation at will by the party owning it, but not the obligation, to purchase such oil and gas or sell it to others at any time and from time to time, for the account of the non-taking party at the best price obtainable in the area for such production. Any such purchase or sale by Operator shall be subject always to the right of the owner of the production to exercise at any time its right to take in kind, or separately dispose of, its share of all oil and gas not previously delivered to a purchaser. Any purchase or sale by Operator of any other party's share of oil and gas shall be only for such reasonable periods of time as are consistent with the minimum needs of the industry under the particular circumstances, but in no event for a period in excess of one (1) year. Notwithstanding the foregoing, Operator shall not make a sale, including one into interstate commerce, of any other party's share of gas production without first giving such other party thirty (30) days notice of such intended sale.

In the event one or more parties' separate disposition of its share of the gas causes split-stream deliveries to separate pipelines and/or deliveries which on a day-to-day basis for any reason are not exactly equal to a party's respective proportionate share of total gas sales to be allocated to it, the balancing or accounting between the respective accounts of the parties shall be in accordance with any Gas Balancing Agreement between the parties hereto, whether such Agreement is attached as Exhibit "E", or is a separate Agreement.

D. Access to Contract Area and Information:

Each party shall have access to the Contract Area at all reasonable times, at its sole risk to inspect or observe operations, and shall have access at reasonable times to information pertaining to the development or operation thereof, including Operator's books and records relating thereto. Operator, upon request, shall furnish each of the other parties with copies of all forms or reports filed with governmental agencies, daily drilling reports, well logs, tank tables, daily gauge and run tickets and reports of stock on hand at the first of each month, and shall make available samples of any cores or cuttings taken from any well drilled on the Contract Area. The cost of gathering and furnishing information to Non-Operator, other than that specified above, shall be charged to the Non-Operator that requests the information.

E. Abandonment of Wells:

1. Abandonment of Dry Holes: Except for any well drilled pursuant to Article VI.B.2., any well which has been drilled under the terms of this agreement and is proposed to be completed as a dry hole shall not be plugged and abandoned without the consent of all parties. Should Operator, after diligent effort, be unable to contact any party, or should any party fail to reply within forty-eight (48) hours (exclusive of Saturday, Sunday or legal holidays) after receipt of notice of the proposal to plug and abandon such well, such party shall be deemed to have consented to the proposed abandonment. All such wells shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk and expense of the parties who participated in the cost of drilling of such well. Any party who objects to the plugging and abandoning such well shall have the right to take over the well and conduct further operations in search of oil and/or gas subject to the provisions of Article VI.B.

2. Abandonment of Wells that have Produced: Except for any well which has been drilled or reworked pursuant to Article VI.B.2. hereof for which the Consenting Parties have not been fully reimbursed as therein provided, any well which has been completed as a producer shall not be plugged and abandoned without the consent of all parties. If all parties consent to such abandonment, the well shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk and expense of all the parties hereto. If, within thirty (30) days after receipt of notice of the proposed abandonment of such well, all parties do not agree to the abandonment of any well, those wishing to continue its operation shall tender to each of the other parties its proportionate share of the value of the well's salvable material and equipment, determined in accordance with the provisions of Exhibit "C", less the estimated cost of salvaging and the estimated cost of plugging and abandoning. Each abandoning party shall assign to the non-abandoning parties, without warranty, express or implied, as to title or as to quantity, quality, or fitness for use of the equipment and material, all of its interest in the well and related equipment, together with its interest in the leasehold estate as to, but only as to, the interval or intervals of the formation or formations then open to production. If the interest of the abandoning party is or includes an oil and gas interest, such party shall execute and deliver to the non-abandoning party or parties an oil and gas lease, limited to the interval or intervals of the formation or formations then open to production, for a term of one year and so long thereafter as oil and/or gas is produced from the interval or inter-

vals of the formation or formations covered thereby, such lease to be on the form attached as Exhibit "B". The assignments or leases so limited shall encompass the "drilling unit" upon which the well is located. The payments by, and the assignments or leases to, the assignees shall be in a ratio based upon the relationship of their respective percentages of participation in the Contract Area to the aggregate of the percentages of participation in the Contract Area of all assignees. There shall be no readjustment of interest in the remaining portion of the Contract Area.

Thereafter, abandoning parties shall have no further responsibility, liability, or interest in the operation of or production from the well in the interval or intervals then open other than the royalties retained in any lease made under the terms of this Article. Upon request, Operator shall continue to operate the assigned well for the account of the non-abandoning parties at the rates and charges contemplated by this agreement, plus any additional cost and charges which may arise as the result of the separate ownership of the assigned well.

ARTICLE VII.
EXPENDITURES AND LIABILITY OF PARTIES

A. Liability of Parties:

The liability of the parties shall be several, not joint or collective. Each party shall be responsible only for its obligations, and shall be liable only for its proportionate share of the costs of developing and operating the Contract Area. Accordingly, the liens granted among the parties in Article VII.B. are given to secure only the debts of each severally. It is not the intention of the parties to create, nor shall this agreement be construed as creating, a mining or other partnership or association, or to render the parties liable as partners.

B. Liens and Payment Defaults:

Each Non-Operator grants to Operator a lien upon its oil and gas rights in the Contract Area, and a security interest in its share of oil and/or gas when extracted and its interest in all equipment, to secure payment of its share of expense, together with interest thereon at the rate provided in the Accounting Procedure attached hereto as Exhibit "C". To the extent that Operator has a security interest under the Uniform Commercial Code of the State, Operator shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by Operator for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the lien rights or security interest as security for the payment thereof. In addition, upon default by any Non-Operator in the payment of its share of expense, Operator shall have the right, without prejudice to other rights or remedies, to collect from the purchaser the proceeds from the sale of such Non-Operator's share of oil and/or gas until the amount owed by such Non-Operator, to include interest on the deficiency and, if suit is brought to collect any deficiency, reasonable attorney's fees, has been paid. Each purchaser shall be entitled to rely upon Operator's written statement concerning the amount of any default. Operator grants a like lien and security interest to the Non-Operators to secure payment of Operator's proportionate share of expense.

If any party fails or is unable to pay its share of expense within sixty (60) days after rendition of a statement therefor by Operator, the non-defaulting parties, including Operator, shall, upon request by Operator, pay the unpaid amount in the proportion that the interest of each such party bears to the interest of all such parties. Each party so paying its share of the unpaid amount shall, to obtain reimbursement thereof, be subrogated to the security rights described in the foregoing paragraph.

C. Payments and Accounting:

Except as herein otherwise specifically provided, Operator shall promptly pay and discharge expenses incurred in the development and operation of the Contract Area pursuant to this agreement and shall charge each of the parties hereto with their respective proportionate shares upon the expense basis provided in the Accounting Procedure attached hereto as Exhibit "C". Operator shall keep an accurate record of the joint account hereunder, showing expenses incurred and charges and credits made and received.

Operator, at its election, shall have the right from time to time to demand and receive from the other parties payment in advance of their respective shares of the estimated amount of the expense to be incurred in operations hereunder during the next succeeding month, which right may be exercised only by submission to each such party of an itemized statement of such estimated expense, together with an invoice for its share thereof. Each such statement and invoice for the payment in advance of estimated expense shall be submitted on or before the 20th day of the next preceding month. Each party shall pay to Operator its proportionate share of such estimate within thirty(30) days after such estimate and invoice is received. If any party fails to pay its share of said estimate within said time, the amount due shall bear interest as provided in Exhibit "C" until paid. Proper adjustment shall be made monthly between advances and actual expense to the end that each party shall bear and pay its proportionate share of actual expenses incurred, and no more.

D. Limitation of Expenditures:

1. Drill or Deepen: Without the consent of all parties, no well shall be drilled or deepened, except any well drilled or deepened pursuant to the provisions of Article VI.B.2. of this Agreement, it being understood that the consent to the drilling or deepening shall include:

~~☐ Option No. 1: All necessary expenditures for the drilling or deepening, testing, completing and equipping of the well, including necessary tankage and/or surface facilities.~~

☒ Option No. 2: All necessary expenditures for the drilling or deepening and testing of the well. When such well has reached its authorized depth, and all tests have been completed, Operator shall give immediate notice to the Non-Operators who have the right to participate in the completion costs. The parties receiving such notice shall have forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays) in which to elect to participate in the setting of casing and the completion attempt. Such election, when made, shall include consent to all necessary expenditures for the completing and equipping of such well, including necessary tankage and/or surface facilities. Failure of any party receiving such notice to reply within the period above fixed shall constitute an election by that party not to participate in the cost of the completion attempt. If one or more, but less than all of the parties, elect to set pipe and to attempt a completion, the provisions of Article VI.B.2. hereof (the phrase "reworking, deepening or plugging back" as contained in Article VI.B.2. shall be deemed to include "completing") shall apply to the operations thereafter conducted by less than all parties.

2. Rework or Plug Back: Without the consent of all parties, no well shall be reworked or plugged back except a well reworked or plugged back pursuant to the provisions of Article VI.B.2. of this agreement, it being understood that the consent to the reworking or plugging back of a well shall include consent to all necessary expenditures in conducting such operations and completing and equipping of said well, including necessary tankage and/or surface facilities.

3. Other Operations: Operator shall not undertake any single project reasonably estimated to require an expenditure in excess of Twenty-five Thousand Dollars ($ 25,000.00) except in connection with a well, the drilling, reworking, deepening, completing, recompleting, or plugging back of which has been previously authorized by or pursuant to this agreement; provided, however, that, in case of explosion, fire, flood or other sudden emergency, whether of the same or different nature, Operator may take such steps and incur such expenses as in its opinion are required to deal with the emergency to safeguard life and property but Operator, as promptly as possible, shall report the emergency to the other parties. If Operator prepares "Authority for Expenditures" for its own use, Operator, upon request, shall furnish copies of its "Authority for Expenditures" for any single project costing in excess of Fifteen Thousand Dollars ($ 15,000.00).

E. Royalties, Overriding Royalties and Other Payments:

Each party shall pay or deliver, or cause to be paid or delivered, all royalties to the extent of One-Eighth (1/8) due on its share of production and shall hold the other parties free from any liability therefor. If the interest of any party in any oil and gas lease covered by this agreement is subject to any royalty, overriding royalty, production payment, or other charge over and above the aforesaid royalty, such party shall assume and alone bear all such obligations and shall account for or cause to be accounted for, such interest to the owners thereof.

No party shall ever be responsible, on any price basis higher than the price received by such party, to any other party's lessor or royalty owner; and if any such other party's lessor or royalty owner should demand and receive settlements on a higher price basis, the party contributing such lease shall bear the royalty burden insofar as such higher price is concerned.

F. Rentals, Shut-in Well Payments and Minimum Royalties:

Rentals, shut-in well payments and minimum royalties which may be required under the terms of any lease shall be paid by the party or parties who subjected such lease to this agreement at its or their expense. In the event two or more parties own and have contributed interests in the same lease to this agreement, such parties may designate one of such parties to make said payments for and on behalf of all such parties. Any party may request, and shall be entitled to receive, proper evidence of all such payments. In the event of failure to make proper payment of any rental, shut-in well payment or minimum royalty through mistake or oversight where such payment is required to continue the lease in force, any loss which results from such non-payment shall be borne in accordance with the provisions of Article IV.B.2.

Operator shall notify Non-Operator of the anticipated completion of a shut-in gas well, or the shutting in or return to production of a producing gas well, at least five (5) days (excluding Saturday, Sunday and holidays), or at the earliest opportunity permitted by circumstances, prior to taking such action, but assumes no liability for failure to do so. In the event of failure by Operator to so notify Non-Operator, the loss of any lease contributed hereto by Non-Operator for failure to make timely payments

of any shut-in well payment shall be borne jointly by the parties hereto under the provisions of Article IV.B.3.

G. Taxes:

Beginning with the first calendar year after the effective date hereof, Operator shall render for ad valorem taxation all property subject to this agreement which by law should be rendered for such taxes, and it shall pay all such taxes assessed thereon before they become delinquent. Prior to the rendition date, each Non-Operator shall furnish Operator information as to burdens (to include, but not be limited to, royalties, overriding royalties and production payments) on leases and oil and gas interests contributed by such Non-Operator. If the assessed valuation of any leasehold estate is reduced by reason of its being subject to outstanding excess royalties, overriding royalties or production payments, the reduction in ad valorem taxes resulting therefrom shall inure to the benefit of the owner or owners of such leasehold estate, and Operator shall adjust the charge to such owner or owners so as to reflect the benefit of such reduction. Operator shall bill other parties for their proportionate share of all tax payments in the manner provided in Exhibit "C".

If Operator considers any tax assessment improper, Operator may, at its discretion, protest within the time and manner prescribed by law, and prosecute the protest to a final determination, unless all parties agree to abandon the protest prior to final determination. During the pendency of administrative or judicial proceedings, Operator may elect to pay, under protest, all such taxes and any interest and penalty. When any such protested assessment shall have been finally determined, Operator shall pay the tax for the joint account, together with any interest and penalty accrued, and the total cost shall then be assessed against the parties, and be paid by them, as provided in Exhibit "C".

Each party shall pay or cause to be paid all production, severance, gathering and other taxes imposed upon or with respect to the production or handling of such party's share of oil and/or gas produced under the terms of this agreement.

H. Insurance:

At all times while operations are conducted hereunder, Operator shall comply with the Workmen's Compensation Law of the State where the operations are being conducted; provided, however, that Operator may be a self-insurer for liability under said compensation laws in which event the only charge that shall be made to the joint account shall be an amount equivalent to the premium which would have been paid had such insurance been obtained. Operator shall also carry or provide insurance for the benefit of the joint account of the parties as outlined in Exhibit "D", attached to and made a part hereof. Operator shall require all contractors engaged in work on or for the Contract Area to comply with the Workmen's Compensation Law of the State where the operations are being conducted and to maintain such other insurance as Operator may require.

In the event Automobile Public Liability Insurance is specified in said Exhibit "D", or subsequently receives the approval of the parties, no direct charge shall be made by Operator for premiums paid for such insurance for Operator's fully owned automotive equipment.

ARTICLE VIII.
ACQUISITION, MAINTENANCE OR TRANSFER OF INTEREST

A. Surrender of Leases:

The leases covered by this agreement, insofar as they embrace acreage in the Contract Area, shall not be surrendered in whole or in part unless all parties consent thereto.

However, should any party desire to surrender its interest in any lease or in any portion thereof, and other parties do not agree or consent thereto, the party desiring to surrender shall assign, without express or implied warranty of title, all of its interest in such lease, or portion thereof, and any well, material and equipment which may be located thereon and any rights in production thereafter secured, to the parties not desiring to surrender it. If the interest of the assigning party includes an oil and gas interest, the assigning party shall execute and deliver to the party or parties not desiring to surrender an oil and gas lease covering such oil and gas interest for a term of one year and so long thereafter as oil and/or gas is produced from the land covered thereby, such lease to be on the form attached hereto as Exhibit "B". Upon such assignment, the assigning party shall be relieved from all obligations thereafter accruing, but not theretofore accrued, with respect to the acreage assigned and the operation of any well thereon, and the assigning party shall have no further interest in the lease assigned and its equipment and production other than the royalties retained in any lease made under the terms of this Article. The parties assignee shall pay to the party assignor the reasonable salvage value of the latter's interest in any wells and equipment on the assigned acreage. The value of all material shall be determined in accordance with the provisions of Exhibit "C", less the estimated cost of salvaging and the estimated cost of plugging and abandoning. If the assignment is in favor of more than one party, the assigned interest shall

be shared by the parties assignee in the proportions that the interest of each bears to the interest of all parties assignee.

Any assignment or surrender made under this provision shall not reduce or change the assignor's or surrendering parties' interest, as it was immediately before the assignment, in the balance of the Contract Area; and the acreage assigned or surrendered, and subsequent operations thereon, shall not thereafter be subject to the terms and provisions of this agreement.

B. Renewal or Extension of Leases:

If any party secures a renewal of any oil and gas lease subject to this Agreement, all other parties shall be notified promptly, and shall have the right for a period of thirty (30) days following receipt of such notice in which to elect to participate in the ownership of the renewal lease, insofar as such lease affects lands within the Contract Area, by paying to the party who acquired it their several proper proportionate shares of the acquisition cost allocated to that part of such lease within the Contract Area, which shall be in proportion to the interests held at that time by the parties in the Contract Area.

If some, but less than all, of the parties elect to participate in the purchase of a renewal lease, it shall be owned by the parties who elect to participate therein, in a ratio based upon the relationship of their respective percentage of participation in the Contract Area to the aggregate of the percentages of participation in the Contract Area of all parties participating in the purchase of such renewal lease. Any renewal lease in which less than all parties elect to participate shall not be subject to this agreement.

Each party who participates in the purchase of a renewal lease shall be given an assignment, without warranty of title, of its proportionate interest therein by acquiring party.

The provisions of this Article shall apply to renewal leases whether they are for the entire interest covered by the expiring lease or cover only a portion of its area or an interest therein. Any renewal lease taken before the expiration of its predecessor lease, or taken or contracted for within six (6) months after the expiration of the existing lease shall be subject to this provision; but any lease taken or contracted for more than six (6) months after the expiration of an existing lease shall not be deemed a renewal lease and shall not be subject to the provisions of this agreement.

The provisions in this Article shall apply also and in like manner to extensions of oil and gas leases.

C. Acreage or Cash Contributions:

While this agreement is in force, if any party contracts for a contribution of cash toward the drilling of a well or any other operation on the Contract Area, such contribution shall be paid to the party who conducted the drilling or other operation and shall be applied by it against the cost of such drilling or other operation. If the contribution be in the form of acreage, the party to whom the contribution is made shall promptly tender an assignment of the acreage, without warranty of title, to the Drilling Parties in the proportions said Drilling Parties shared the cost of drilling the well. If all parties hereto are Drilling Parties and accept such tender, such acreage shall become a part of the Contract Area and be governed by the provisions of this agreement. If less than all parties hereto are Drilling Parties and accept such tender, such acreage shall not become a part of the Contract Area. Each party shall promptly notify all other parties of all acreage or money contributions it may obtain in support of any well or any other operation on the Contract Area.

If any party contracts for any consideration relating to disposition of such party's share of substances produced hereunder, such consideration shall not be deemed a contribution as contemplated in this Article VIII.C.

D. Subsequently Created Interest:

Notwithstanding the provisions of Article VIII.E. and VIII.G., if any party hereto shall, subsequent to execution of this agreement, create an overriding royalty, production payment, or net proceeds interest, which such interests are hereinafter referred to as "subsequently created interest", such subsequently created interest shall be specifically made subject to all of the terms and provisions of this agreement, as follows:

1. If non-consent operations are conducted pursuant to any provision of this agreement, and the party conducting such operations becomes entitled to receive the production attributable to the interest out of which the subsequently created interest is derived, such party shall receive same free and clear of such subsequently created interest. The party creating same shall bear and pay all such subsequently created interests and shall indemnify and hold the other parties hereto free and harmless from any and all liability resulting therefrom.

2. If the owner of the interest from which the subsequently created interest is derived (1) fails to pay, when due, its share of expenses chargeable hereunder, or (2) elects to abandon a well under provisions of Article VI.E. hereof, or (3) elects to surrender a lease under provisions of Article VIII.A. hereof, the subsequently created interest shall be chargeable with the pro rata portion of all expenses hereunder in the same manner as if such interest were a working interest. For purposes of collecting such chargeable expenses, the party or parties who receive assignments as a result of (2) or (3) above shall have the right to enforce all provisions of Article VII.B. hereof against such subsequently created interest.

E. Maintenance of Uniform Interest:

For the purpose of maintaining uniformity of ownership in the oil and gas leasehold interests covered by this agreement, and notwithstanding any other provisions to the contrary, no party shall sell, encumber, transfer or make other disposition of its interest in the leases embraced within the Contract Area and in wells, equipment and production unless such disposition covers either:

1. the entire interest of the party in all leases and equipment and production; or

2. an equal undivided interest in all leases and equipment and production in the Contract Area.

Every such sale, encumbrance, transfer or other disposition made by any party shall be made expressly subject to this agreement, and shall be made without prejudice to the right of the other parties.

If, at any time the interest of any party is divided among and owned by four or more co-owners, Operator, at its discretion, may require such co-owners to appoint a single trustee or agent with full authority to receive notices, approve expenditures, receive billings for and approve and pay such party's share of the joint expenses, and to deal generally with, and with power to bind, the co-owners of such party's interests within the scope of the operations embraced in this agreement; however, all such co-owners shall have the right to enter into and execute all contracts or agreements for the disposition of their respective shares of the oil and gas produced from the Contract Area and they shall have the right to receive, separately, payment of the sale proceeds hereof.

F. Waiver of Right to Partition:

If permitted by the laws of the state or states in which the property covered hereby is located, each party hereto owning an undivided interest in the Contract Area waives any and all rights it may have to partition and have set aside to it in severalty its undivided interest therein.

~~**G. Preferential Right to Purchase:**~~

~~Should any party desire to sell all or any part of its interests under this agreement, or its rights and interests in the Contract Area, it shall promptly give written notice to the other parties, with full information concerning its proposed sale, which shall include the name and address of the prospective purchaser (who must be ready, willing and able to purchase), the purchase price, and all other terms of the offer. The other parties shall then have an optional prior right, for a period of ten (10) days after receipt of the notice, to purchase on the same terms and conditions the interest which the other party proposes to sell; and, if this optional right is exercised, the purchasing parties shall share the purchased interest in the proportions that the interest of each bears to the total interest of all purchasing parties. However, there shall be no preferential right to purchase in those cases where any party wishes to mortgage its interests, or to dispose of its interests by merger, reorganization, consolidation, or sale of all or substantially all of its assets to a subsidiary or parent company or to a subsidiary of a parent company, or to any company in which any one party owns a majority of the stock.~~

ARTICLE IX.
INTERNAL REVENUE CODE ELECTION

This agreement is not intended to create, and shall not be construed to create, a relationship of partnership or an association for profit between or among the parties hereto. Notwithstanding any provisions herein that the rights and liabilities hereunder are several and not joint or collective, or that this agreement and operations hereunder shall not constitute a partnership, if, for Federal income tax purposes, this agreement and the operations hereunder are regarded as a partnership, each party hereby affected elects to be excluded from the application of all of the provisions of Subchapter "K", Chapter 1, Subtitle "A", of the Internal Revenue Code of 1954, as permitted and authorized by Section 761 of the Code and the regulations promulgated thereunder. Operator is authorized and directed to execute on behalf of each party hereby affected such evidence of this election as may be required by the Secretary of the Treasury of the United States or the Federal Internal Revenue Service, including specifically, but not by way of limitation, all of the returns, statements, and the data required by Federal Regulations 1.761. Should there be any requirement that each party hereby affected give further evidence of this election, each such party shall execute such documents and furnish such other evidence as may be required by the Federal Internal Revenue Service or as may be necessary to evidence this election. No

such party shall give any notices or take any other action inconsistent with the election made hereby. If any present or future income tax laws of the state or states in which the Contract Area is located or any future income tax laws of the United States contain provisions similar to those in Subchapter "K", Chapter 1, Subtitle "A", of the Internal Revenue Code of 1954, under which an election similar to that provided by Section 761 of the Code is permitted, each party hereby affected shall make such election as may be permitted or required by such laws. In making the foregoing election, each such party states that the income derived by such party from Operations hereunder can be adequately determined without the computation of partnership taxable income.

ARTICLE X.
CLAIMS AND LAWSUITS

Operator may settle any single damage claim or suit arising from operations hereunder if the expenditure does not exceed Five Thousand Dollars ($ 5,000.00) and if the payment is in complete settlement of such claim or suit. If the amount required for settlement exceeds the above amount, the parties hereto shall assume and take over the further handling of the claim or suit, unless such authority is delegated to Operator. All costs and expense of handling, settling, or otherwise discharging such claim or suit shall be at the joint expense of the parties. If a claim is made against any party or if any party is sued on account of any matter arising from operations hereunder over which such individual has no control because of the rights given Operator by this agreement, the party shall immediately notify Operator, and the claim or suit shall be treated as any other claim or suit involving operations hereunder.

ARTICLE XI.
FORCE MAJEURE

If any party is rendered unable, wholly or in part, by force majeure to carry out its obligations under this agreement, other than the obligation to make money payments, that party shall give to all other parties prompt written notice of the force majeure with reasonably full particulars concerning it; thereupon, the obligations of the party giving the notice, so far as they are affected by the force majeure, shall be suspended during, but no longer than, the continuance of the force majeure. The affected party shall use all reasonable diligence to remove the force majeure situation as quickly as practicable.

The requirement that any force majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes, lockouts, or other labor difficulty by the party involved, contrary to its wishes; how all such difficulties shall be handled shall be entirely within the discretion of the party concerned.

The term "force majeure", as here employed, shall mean an act of God, strike, lockout, or other industrial disturbance, act of the public enemy, war, blockade, public riot, lightning, fire, storm, flood, explosion, governmental action, governmental delay, restraint or inaction, unavailability of equipment, and any other cause, whether of the kind specifically enumerated above or otherwise, which is not reasonably within the control of the party claiming suspension.

ARTICLE XII.
NOTICES

All notices authorized or required between the parties, and required by any of the provisions of this agreement, unless otherwise specifically provided, shall be given in writing by United States mail or Western Union telegram, postage or charges prepaid, or by teletype, and addressed to the party to whom the notice is given at the addresses listed on Exhibit "A". The originating notice given under any provision hereof shall be deemed given only when received by the party to whom such notice is directed, and the time for such party to give any notice in response thereto shall run from the date the originating notice is received. The second or any responsive notice shall be deemed given when deposited in the United States mail or with the Western Union Telegraph Company, with postage or charges prepaid, or when sent by teletype. Each party shall have the right to change its address at any time, and from time to time, by giving written notice hereof to all other parties.

ARTICLE XIII.
TERM OF AGREEMENT

This agreement shall remain in full force and effect as to the oil and gas leases and/or oil and gas interests subjected hereto for the period of time selected below; provided, however, no party hereto shall ever be construed as having any right, title or interest in or to any lease, or oil and gas interest contributed by any other party beyond the term of this agreement.

☐ ~~Option No. 1: So long as any of the oil and gas leases subject to this agreement remain or are continued in force as to any part of the Contract Area, whether by production, extension, renewal or otherwise, and/or so long as oil and/or gas production continues from any lease or oil and gas interest~~

[X] Option No. 2: In the event the well described in Article VI.A., or any subsequent well drilled under any provision of this agreement, results in production of oil and/or gas in paying quantities, this agreement shall continue in force so long as any such well or wells produce, or are capable of production, and for an additional period of 180 days from cessation of all production; provided, however, if, prior to the expiration of such additional period, one or more of the parties hereto are engaged in drilling or reworking a well or wells hereunder, this agreement shall continue in force until such operations have been completed and if production results therefrom, this agreement shall continue in force as provided herein. In the event the well described in Article VI.A., or any subsequent well drilled hereunder, results in a dry hole, and no other well is producing, or capable of producing oil and/or gas from the Contract Area, this agreement shall terminate unless drilling or reworking operations are commenced within 180 days from the date of abandonment of said well.

It is agreed, however, that the termination of this agreement shall not relieve any party hereto from any liability which has accrued or attached prior to the date of such termination.

ARTICLE XIV.
COMPLIANCE WITH LAWS AND REGULATIONS

A. Laws, Regulations and Orders:

This agreement shall be subject to the conservation laws of the state in which the committed acreage is located, to the valid rules, regulations, and orders of any duly constituted regulatory body of said state; and to all other applicable federal, state, and local laws, ordinances, rules, regulations, and orders. However, non-operators agree to release operator from any and all losses, damages, injuries, claims and causes of action arising out of incident to or resulting directly or indirectly from operator's interpretation or application of rules, rulings, regulations or orders of the Department of Energy, Federal Energy Regulatory Commission or predecessor agencies to the extent operator's interpretation or application of such rules, rulings, regulations or orders were made in good faith. Non-operators further agree to reimburse operator for their proportionate share of any amounts operator may be required to refund, rebate or pay as a result of an incorrect interpretation or application of the above noted rules, rulings, regulations or orders, together with the non-operators' proportionate part of interest and penalties owing by operator as a result of such incorrect interpretation or application of such rules, regulations or orders.

B. GOVERNING LAW:

The essential validity of this agreement and all matters pertaining thereto, including, but not limited to, matters of performance, breach, remedies, procedures, rights, duties and interpretation or construction, shall be governed and determined by the law of the state in which the Contract Area is located. If the Contract Area is in two or more states, the law of the state where most of the land in the Contract Area is located shall govern.

ARTICLE XV
OTHER PROVISIONS

A. SUBSTITUTE WELL:

1. If, in the drilling of the Initial Well, Operator loses the hole or encounters mechanical difficulties rendering it impracticable, in the opinion of Operator, to drill the well to the Objective Depth, then and in any of such events on or before sixty (60) days after completion of the Initial Well, Operator shall have the option to commence the actual drilling of another well (Substitute Well) at a lawful location of Operator's selection on the Unit Area, and prosecute the drilling of said well with due diligence and in a good and workmanlike manner to the Objective Depth. For all purposes of this agreement, the drilling of the Substitute Well shall be considered as the drilling of the Initial Well.

2. Any provision herein concerning the Initial Well shall also apply to the Substitute Well, and any provision herein excepting the Initial Well shall also except the Substitute Well.

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1977

ARTICLE XVI.
MISCELLANEOUS

This agreement shall be binding upon and shall inure to the benefit of the parties hereto and to their respective heirs, devisees, legal representatives, successors and assigns.

This instrument may be executed in any number of counterparts, each of which shall be considered an original for all purposes.

IN WITNESS WHEREOF, this agreement shall be effective as of 15th day of October, 19 81.

OPERATOR

ATTEST:

R. T. Avery
Assistant Secretary

HARVEY E. YATES COMPANY

By: _____
President

NON-OPERATORS

ATTEST:

_____
Secretary

HNG OIL COMPANY

By: _____
President

ATTEST:

_____
Secretary

YATES ENERGY CORPORATION

By: _____
President

ATTEST:

_____
Secretary

SPIRAL, INC.

By: _____
President

ATTEST:

Barbara L. Griffin
Secretary

FRED G. YATES, INC.

By: Fred G. Yates
President

ATTEST:

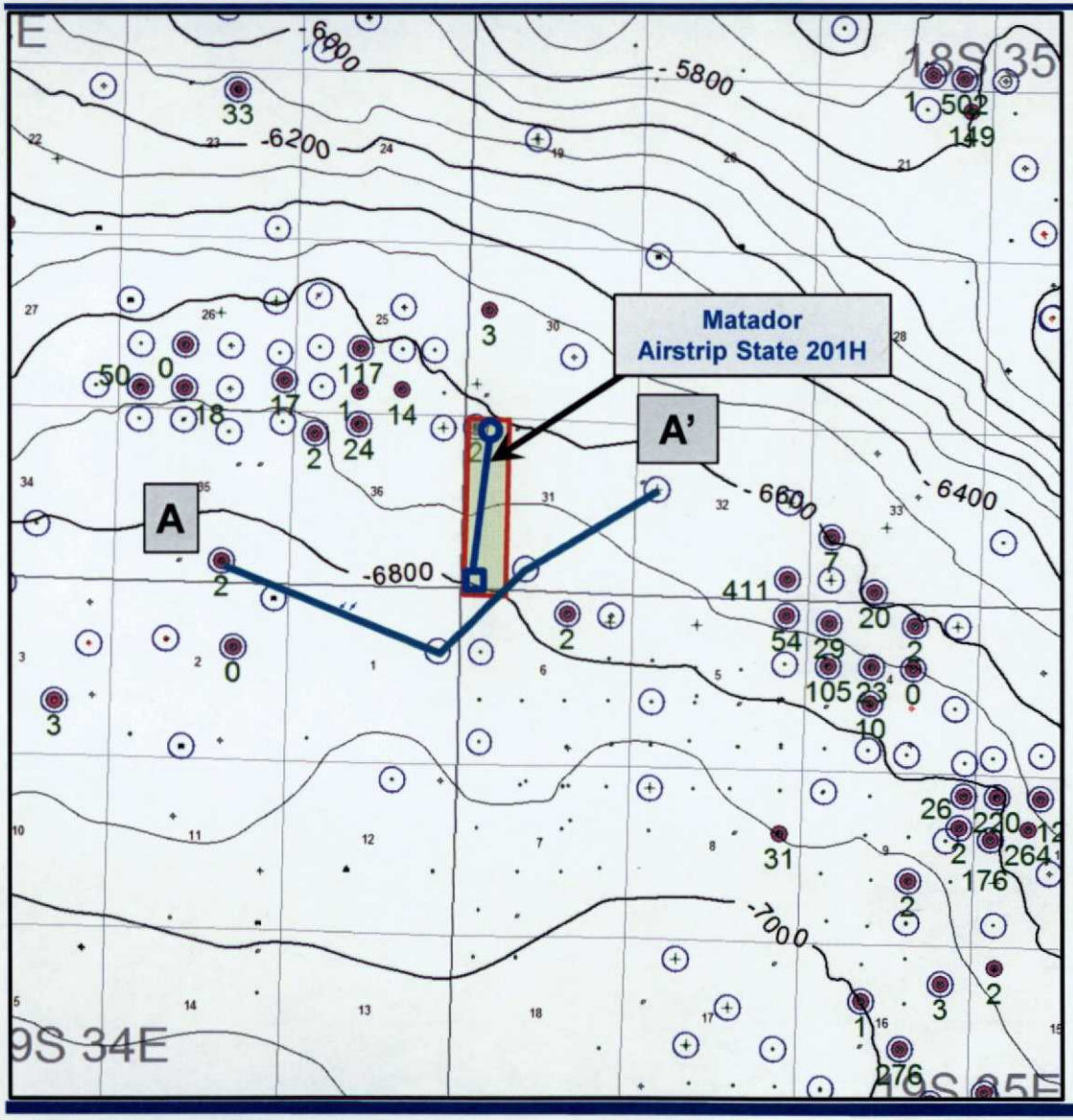
_____
Secretary

EXPLORERS PETROLEUM CORPORATION

By: _____
President

Matador
Exhibit 8

Airstrip; Wolfcamp Pool (Pool Code 970)
Structure Map (Top Wolfcamp Subsea)



Map Legend

BHL
SHL
Matador – Horizontal Location

Project Area

Vertical Wolfcamp Producer
25 ← Cum Eqv. MBOE

Wolfcamp Structure Data Point

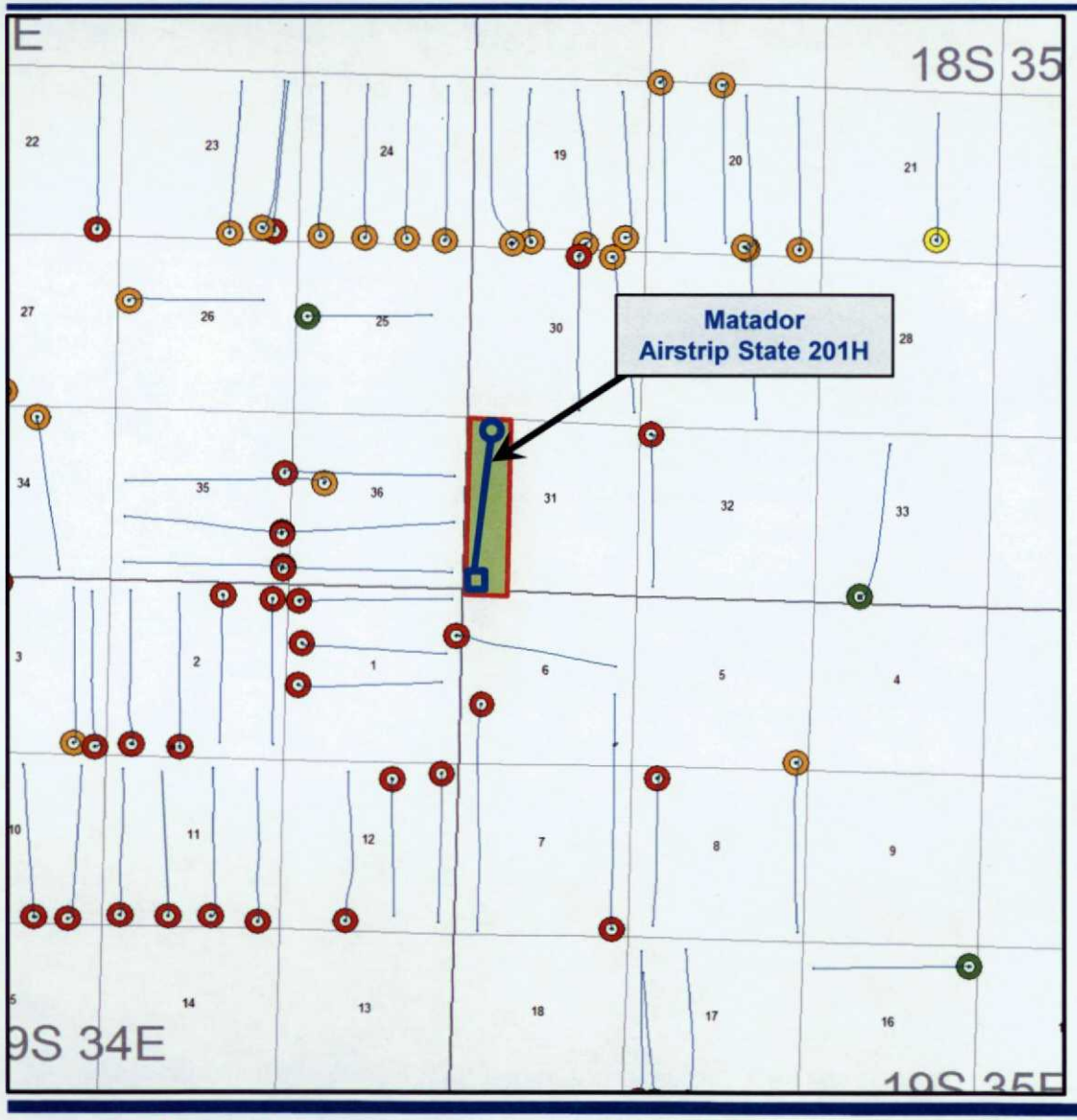
NO Horizontal Wolfcamp Producers

C.I. = 100'

Airstrip 31 18S 35E State Com #201H

Matador
Exhibit 9

Airstrip; Wolfcamp Pool (Pool Code 970)
Area Horizontal Development



Map Legend

BHL

SHL

Matador – Horizontal Location

Project Area

HZ Producing Zones

Queen Producer

1st Bone Spring Producer

2nd Bone Spring Producer

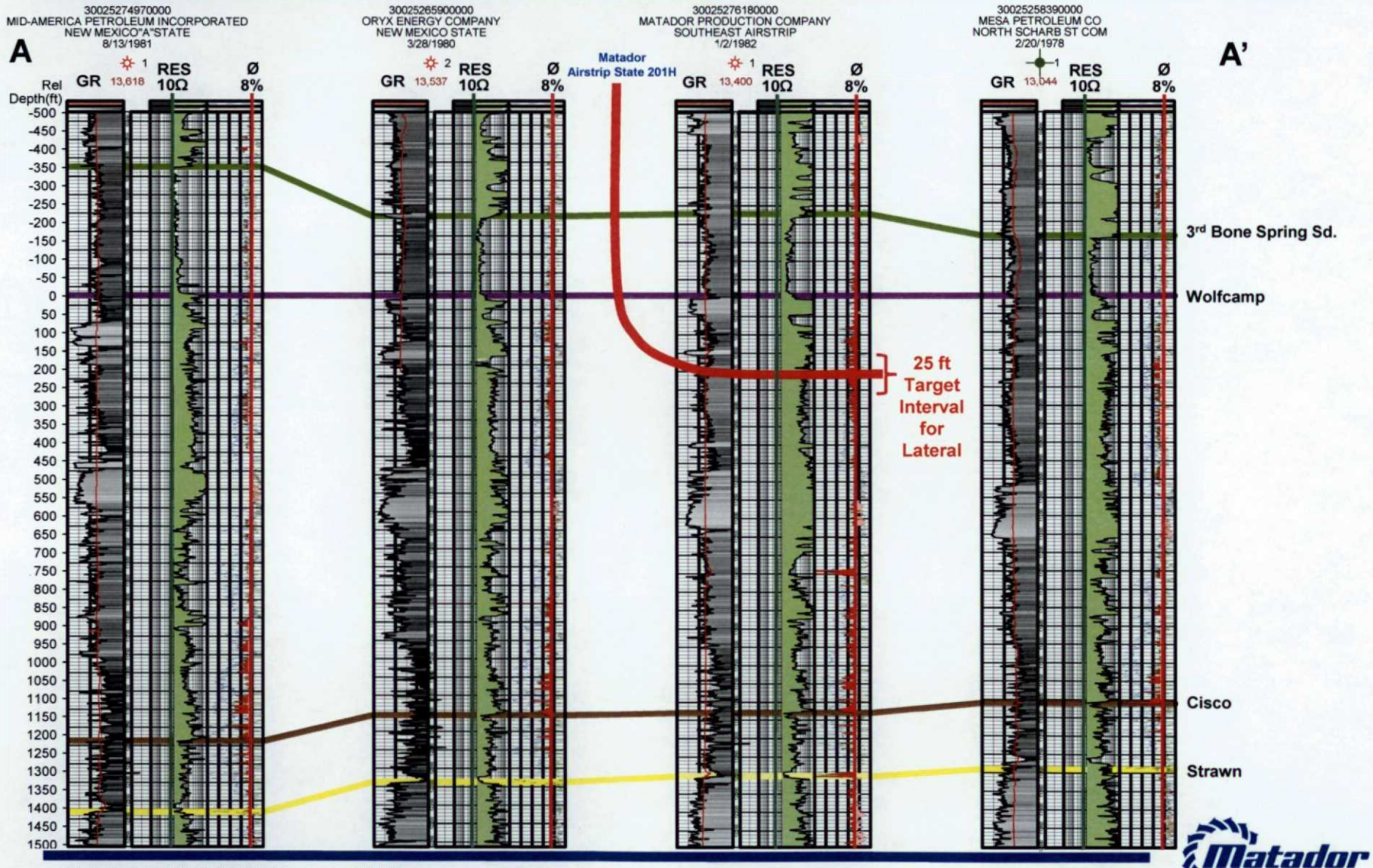
3rd Bone Spring Producer

NO Horizontal Wolfcamp Producers

Airstrip 31 18S 35E State Com #201H

Matador
Exhibit 10

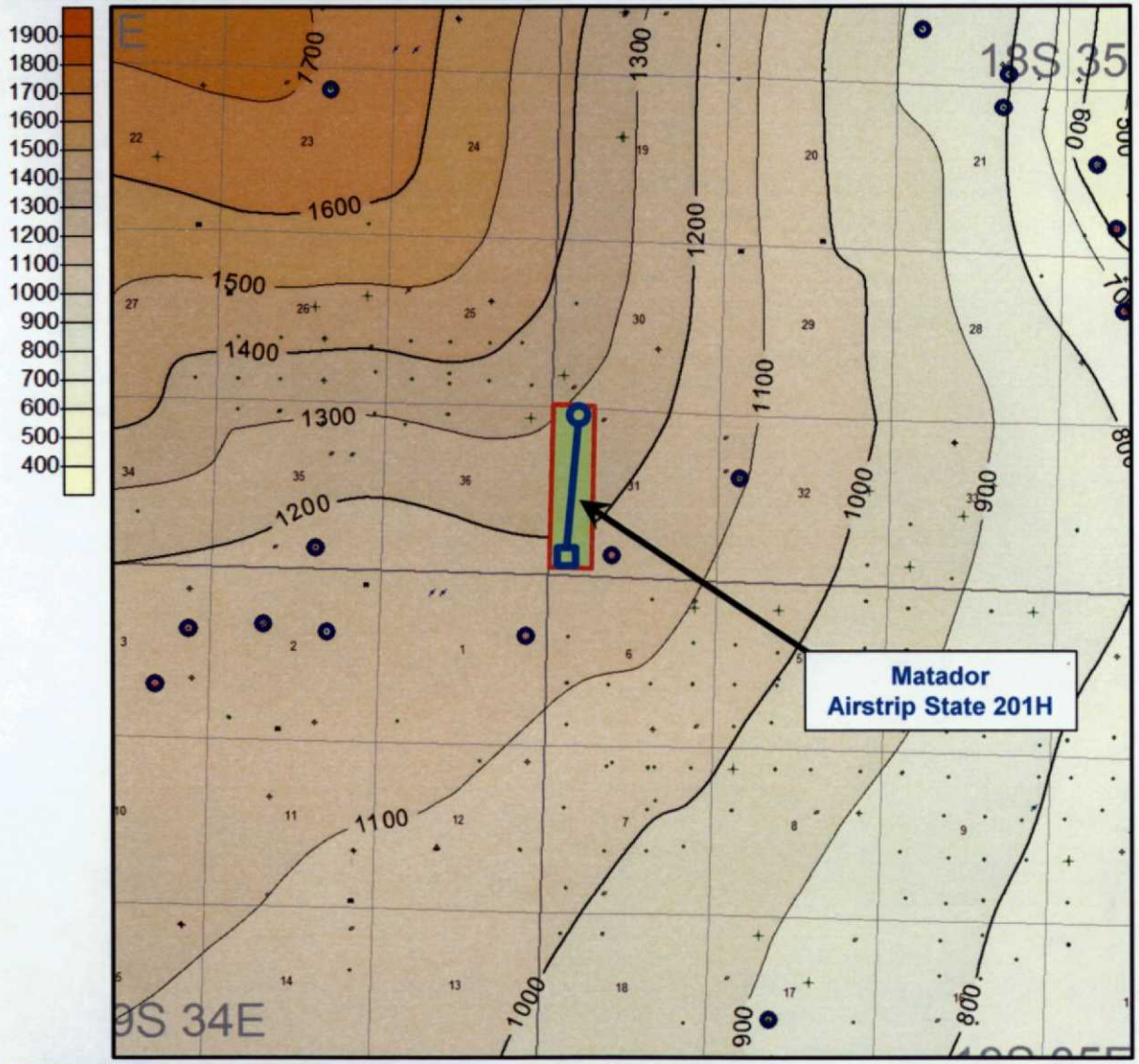
Airstrip; Wolfcamp Pool (Pool Code 970)
Stratigraphic Cross Section A - A'



Airstrip 31 18S 35E State Com #201H

Matador
Exhibit 11

Airstrip; Wolfcamp Pool (Pool Code 970)
Isopach Map (Wolfcamp)



Map Legend

BHL

SHL

Matador – Horizontal Location

Project Area

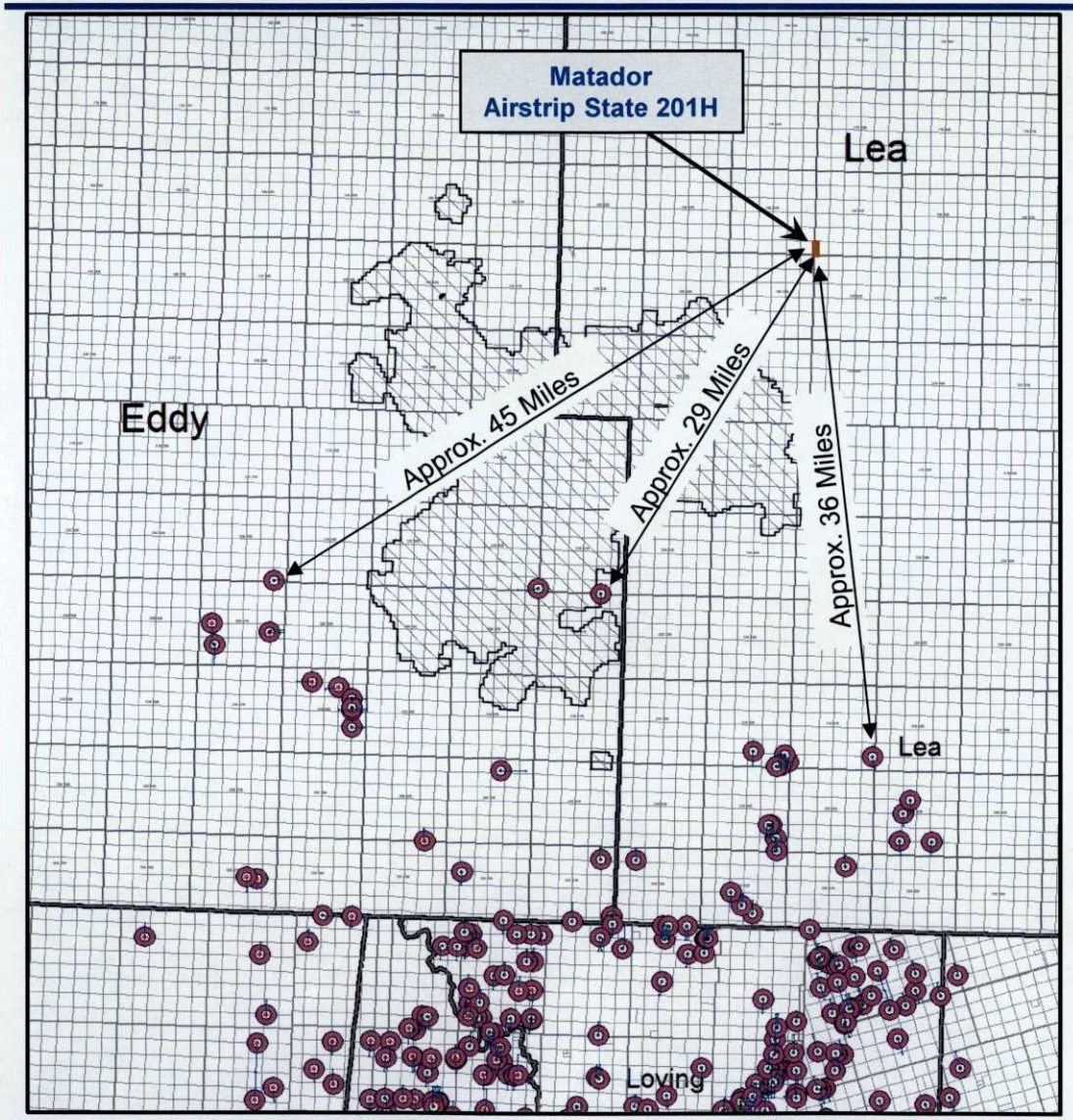
Isopach Data Point

C.I. = 100'

Airstrip 31 18S 35E State Com #201H

Matador
Exhibit 12

Airstrip; Wolfcamp Pool (Pool Code 970)
Upper Wolfcamp Horizontal Production



Map Legend

Project Area

Upper Wolfcamp Horizontal producer

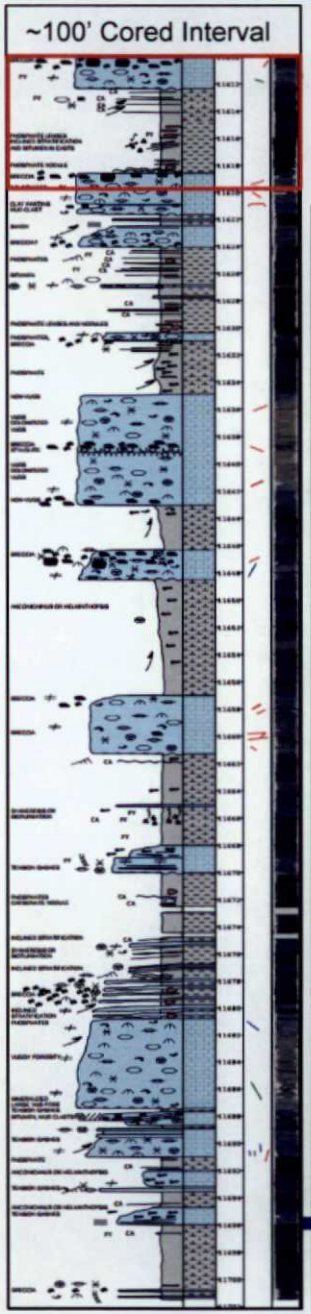
Closest Upper Wolfcamp Horizontal Producer is approx. 29 miles Southwest of the Airstrip Project Area

Airstrip 31 18S 35E State Com #201H

Matador RESOURCES COMPANY

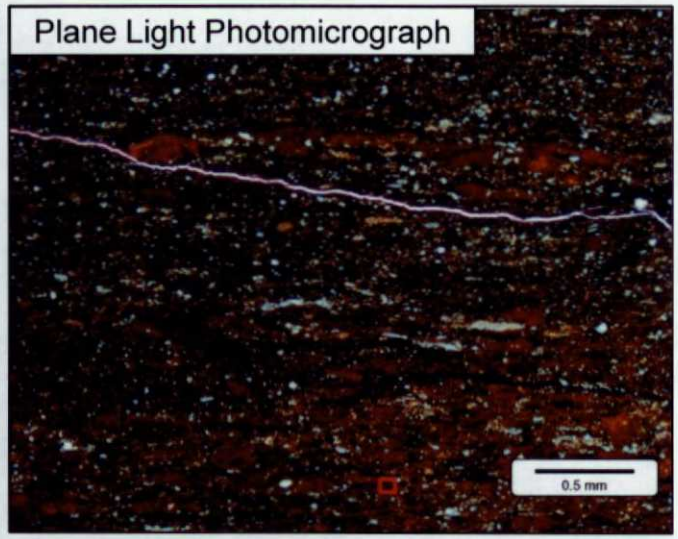
Wolfcamp Core- to Pore-scale Heterogeneity

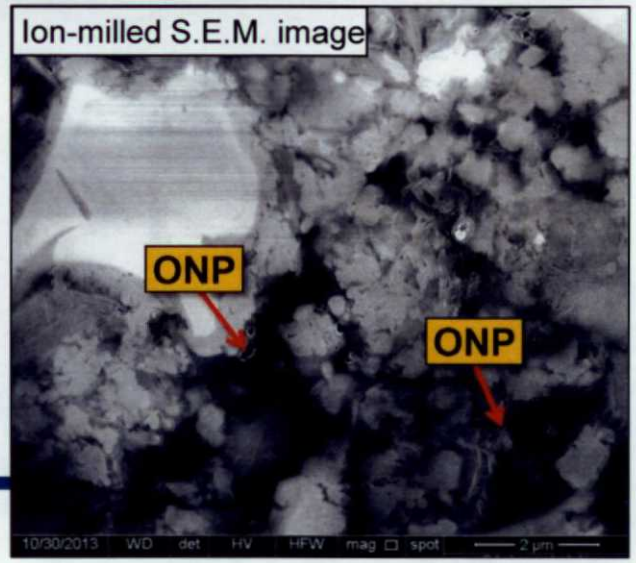
Matador Exhibit 13



Matador has invested significant capital to de-risk the Airstrip (and similar) prospects by acquiring proprietary 3D seismic, well logs, core, and geochemical data in the Airstrip area.

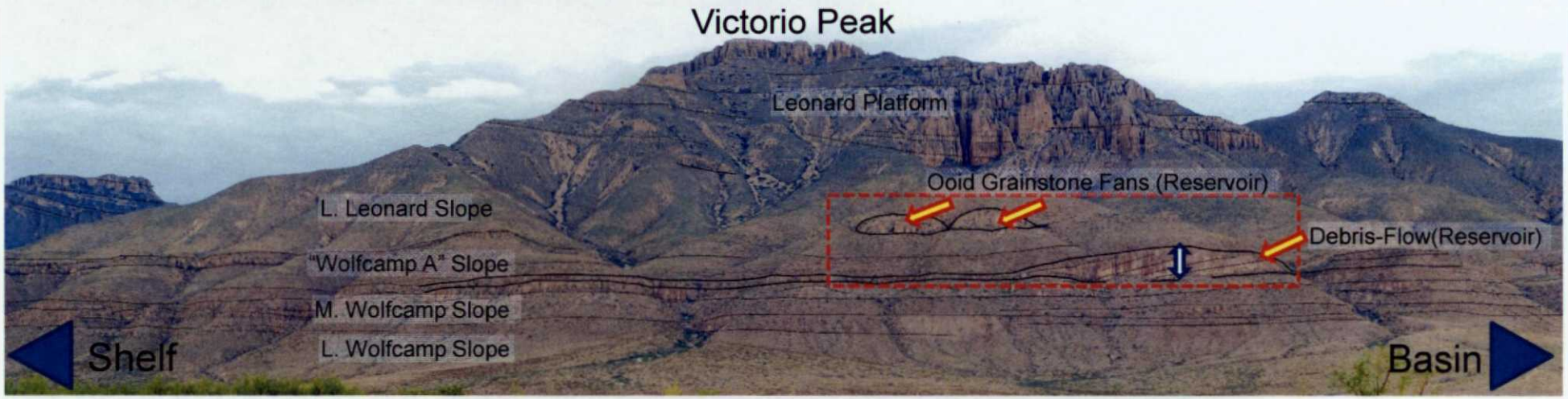
Geologic risk is still significant.



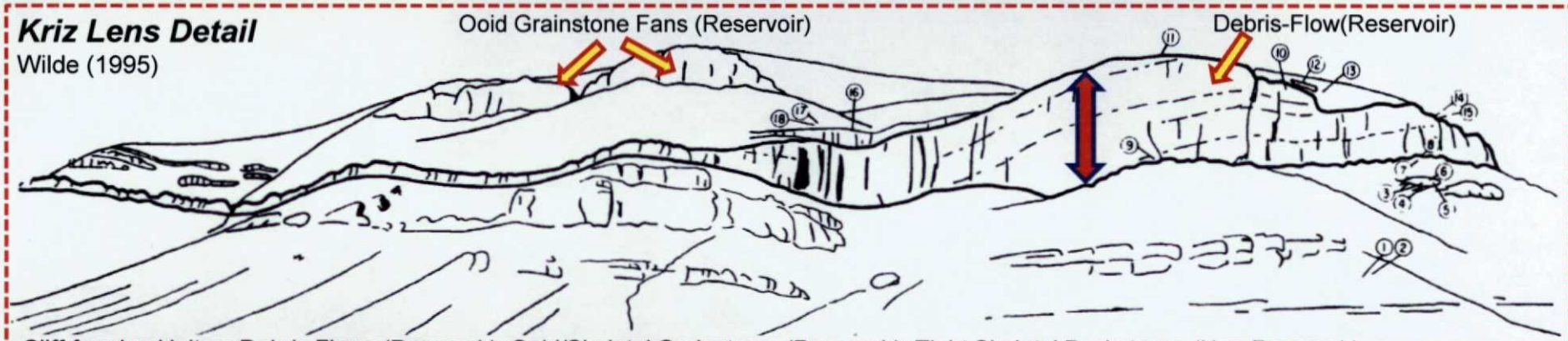


Matador
Exhibit 14

Wolfcamp Slope Complexity:
Victorio Peak, a Seismic-scale Outcrop Analog for Airstrip



Kriz Lens Detail
Wilde (1995)



Cliff-forming Units = Debris Flows (Reservoir), Ooid/Skeletal Grainstone (Reservoir), Tight Skeletal Packstones (Non-Reservoir)
Slope-Forming Units = Lime Mudstone (Non-reservoir), Skeletal Packstones (Non-Reservoir) +/- Organic-rich Mudstone (Source/Reservoir)

- Deep-water slope settings exhibit significant geologic complexity, often with rapid lateral lithology changes. As such, deep-water prospects always have some degree of risk.

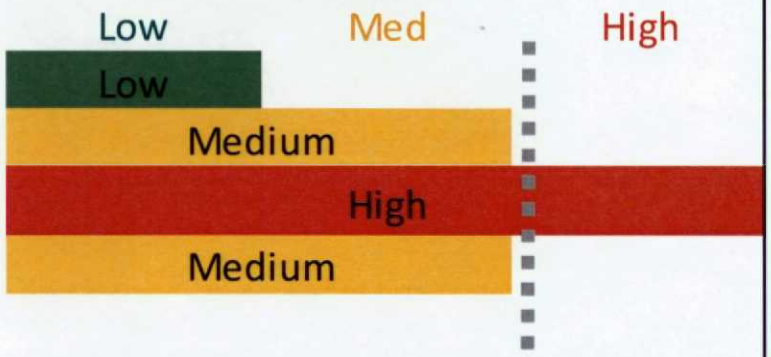
Matador
Exhibit 15

Airstrip; Wolfcamp Pool (Pool Code 970)
Geologic Risk

Geologic Risk Factors

Porosity >8%
Total Organic Carbon (TOC) >2%
Thermal Maturity > 1.0 R_o
Brittleness (Fracturability)

Risk Profile



Average Geologic Risk Profile for this Well

- Is Geologic Risk as simple as Presence or Absence of Formation? **NO**
  - Does Geologic Risk exist for this well? **YES**
- Chance of Geologic Success (P_g) ~25%

EXHIBIT 16-A.

tabbies

MATADOR PRODUCTION COMPANY

ONE LINCOLN CENTRE • 5400 LBJ FREEWAY • SUITE 1500 • DALLAS, TEXAS 75240
Phone (972) 371-5200 • Fax (972) 371-5201

ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE

DATE:	May 9, 2016	AFE NO.:	300017-014-01
WELL NAME:	Airstrip State Com 31-18S-35E RN 201H	FIELD:	Wolfcamp
LOCATION:		MD/TVD:	15700'/10780'
COUNTY/STATE:	Lea	LATERAL LENGTH:	4,300
MRC WI:			
GEOLOGIC TARGET:	Wolfcamp A		
REMARKS:	Drill and complete a horizontal Wolfcamp A well with 21 stages. Install AL, build TB, and construct PL to gas connect.		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	FACILITY COSTS	TOTAL COSTS
Land / Legal / Regulatory	$ 95,000	$	$ -	$ -	$ 95,000
Location, Surveys & Damages	111,500	17,500	5,000	-	134,000
Drilling	707,000				707,000
Cementing & Float Equip	205,000				205,000
Logging / Formation Evaluation	-	3,850	-		3,850
Mud Logging	32,500				32,500
Mud Circulation System	34,720				34,720
Mud & Chemicals	120,000	24,000			144,000
Mud / Wastewater Disposal	155,000	-			155,000
Freight / Transportation	18,000	16,500		-	34,500
Rig Supervision / Engineering	95,200	52,300	2,400	30,000	179,900
Drill Bits	97,000				97,000
Fuel & Power	70,000	-		-	70,000
Water	42,500	530,000			572,500
Drlg & Completion Overhead	14,000	7,500			21,500
Plugging & Abandonment	-				-
Directional Drilling, Surveys	185,000				185,000
Completion Unit, Swab, CTU	-	60,000	12,000		72,000
Perforating, Wireline, Slickline	-	66,000	-		66,000
High Pressure Pump Truck	-	33,000	10,500	-	43,500
Stimulation	-	945,000			945,000
Stimulation Flowback & Disp	-	45,500	6,000		51,500
Insurance	27,000				27,000
Labor	124,000	15,500	6,000	-	145,500
Rental - Surface Equipment	101,200	112,020	450	6,000	219,670
Rental - Downhole Equipment	45,000	38,000			83,000
Rental - Living Quarters	60,875	26,950	150	1,000	88,975
Contingency	234,050	199,362	2,600	3,700	439,712
TOTAL INTANGIBLES >	2,574,545	2,192,982	45,100	40,700	4,853,327

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	FACILITY COSTS	TOTAL COSTS
Surface Casing	$ 54,725	$	$	$	$ 54,725
Intermediate Casing	122,100				122,100
Drilling Liner	293,400				293,400
Production Casing	229,875				229,875
Production Liner	-				-
Tubing	-		52,500		52,500
Wellhead	60,000		40,000		100,000
Packers, Liner Hangers	-	36,000	-		36,000
Tanks	-		-	120,000	120,000
Production Vessels	-		50,000	45,000	95,000
Flow Lines	-		40,000	-	40,000
Rod string	-		-		-
Artificial Lift Equipment	-		53,000		53,000
Compressor	-		-	-	-
Installation Costs	-		30,000	90,000	120,000
Surface Pumps	-		5,000	-	5,000
Non-controllable Surface	-		-	120,000	120,000
Non-controllable Downhole	-		-		-
Downhole Pumps	-		-		-
Measurement & Meter Installation	-		20,000	19,000	39,000
Gas Conditioning / Dehydration			-	-	-
Interconnecting Facility Piping			-	-	-
Gathering / Bulk Lines			-	40,000	40,000
Valves, Dumps, Controllers			-	-	-
Tank / Facility Containment			-	40,000	40,000
Flare Stack			-	20,000	20,000
Electrical / Grounding			7,500	10,000	17,500
Communications / SCADA			-	-	-
Instrumentation / Safety			10,000	25,000	35,000
TOTAL TANGIBLES >	760,100	36,000	308,000	529,000	1,633,100
TOTAL COSTS >	3,334,645	2,228,982	353,100	569,700	6,486,427

PREPARED BY MATADOR PRODUCTION COMPANY:

Drilling Engineer: Patrick Walsh
Completions Engineer: Matt Bell
Production Engineer: Kenneth Dodson
Team Lead - WTX/NM: TG

MATADOR RESOURCES COMPANY APPROVAL:

Executive VP, COO/CFO: DEL
VP - Res Engineering: BMR
VP - Drilling: BG
Executive VP, Legal: CA
Exec Dir - Exploration: NLF
VP - Production: TWG
President: MVH
VP & General Manager: RCL

NON OPERATING PARTNER APPROVAL:

Company Name: _____ Working Interest (%): _____ Tax ID: _____

Signed by: _____ Date: _____

Title: _____ Approval: ____ Yes ____ No (mark one)

The costs on this AFE are estimates only and may not be construed as ceilings on any specific item or the total cost of the project. Tubing installation approved under the AFE may be delayed up to a year after the well has been completed. In executing this AFE, the Participant agrees to pay its proportionate share of actual costs incurred, including, legal, curative, regulatory, brokerage and well costs under the terms of the applicable joint operating agreement, regulatory order or other agreement covering this well. Participants shall be covered by and billed proportionately for Operator's well control and general liability insurance unless participant provides Operator a certificate evidencing its own insurance in an amount acceptable to the Operator by the date of spud.

Matador
Exhibit 16

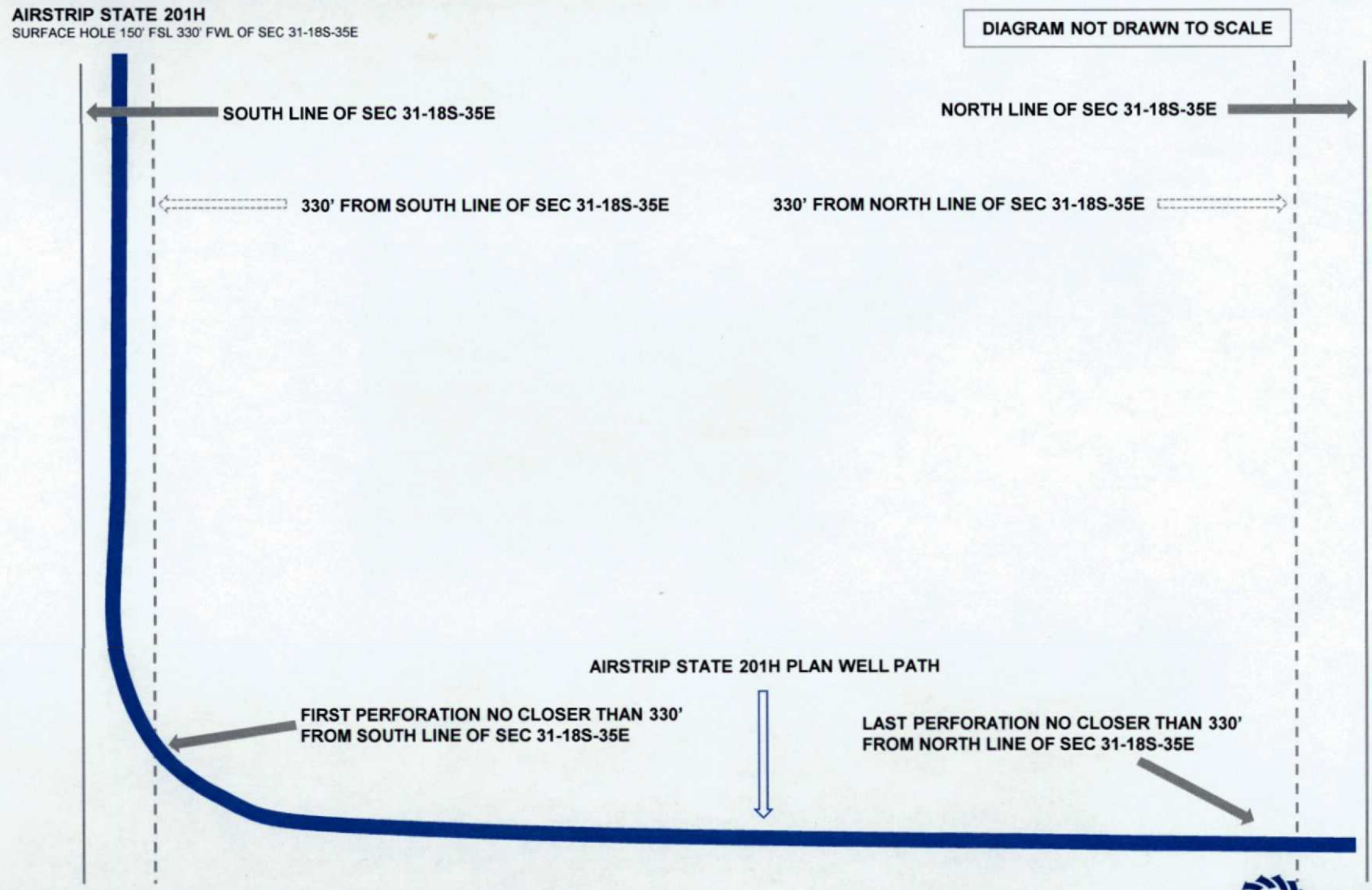
Reasonable Well Costs Include the Cost of Equipping a Well for Testing Production

1. "Completing" a well properly *includes* the cost to equip it for production.
   - Production tree
   - Production tubing
   - Tank battery size
   - Pipeline connection
   - Downhole artificial lift equipment (downhole pump)
   - Surface production equipment
2. Equipping a well takes place *before* the well produces.
3. Therefore, reasonable well costs include the cost of equipping a well for testing production.

Matador RESOURCES COMPANY

Matador
Exhibit 17

Airstrip; Wolfcamp Pool (Pool Code 970)
Airstrip State 201H Completion



Matador Exhibit 18

Wellbore Schematic

WELL: Airstrip State COM 31-18S-35E RN #201H **PROSPECT: Wolfcamp**

GL ELEV : 3953'
RKB ELEV : 3981'

SURFACE LOCATION: 150' FSL & 330' FWL

BOTTOM HOLE LOCATION: 330' FNL & 710' FWL

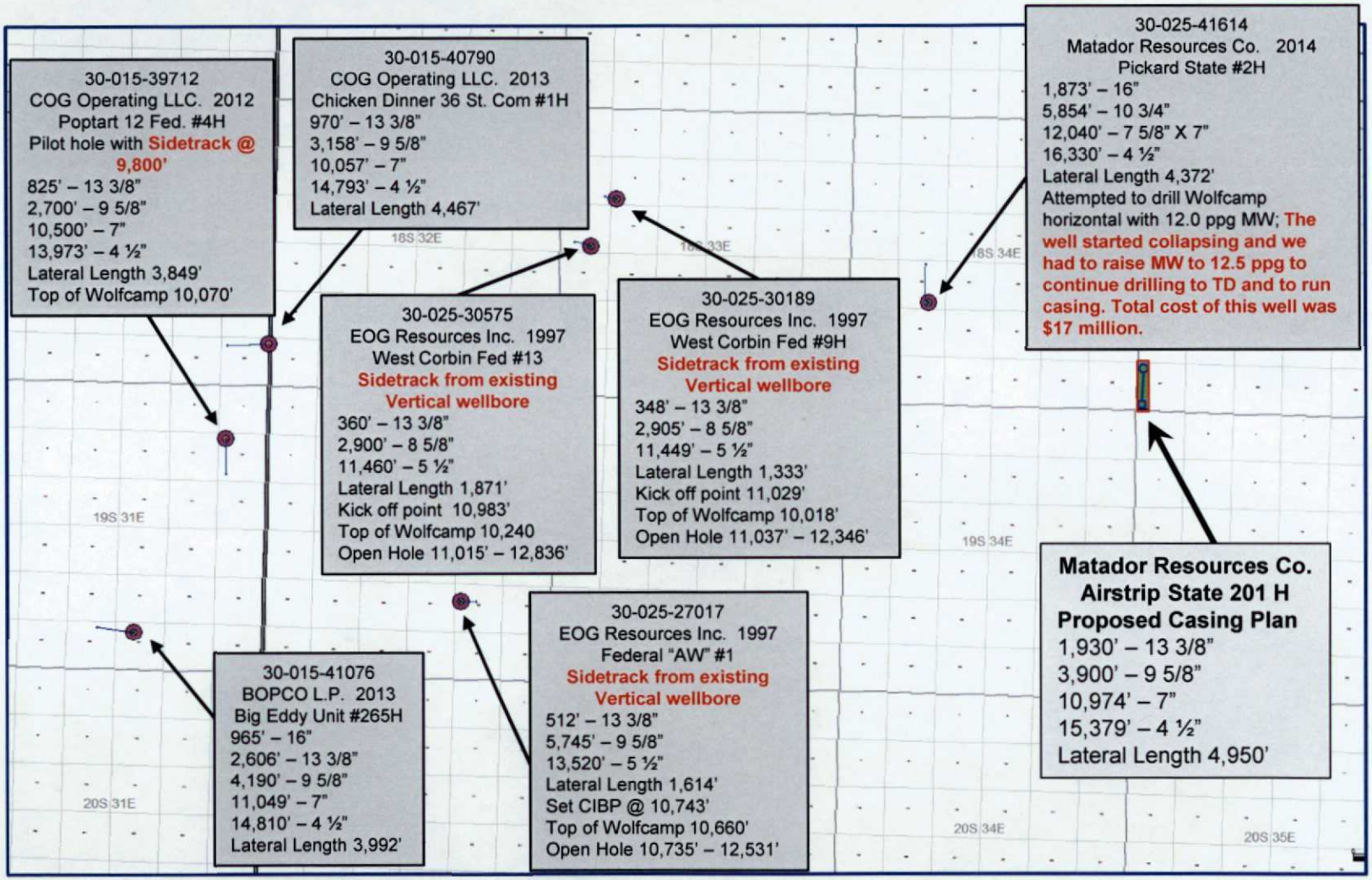
Formation Tops (TVD)	Mud Weight	Logs	CASING DIAGRAM	Depth	Hole	Casing & Cement Details
Red Beds @ 800' Rustler Anhydrite @ 1900'	8.4-8.6 PPG FW	•N/A		1930'	17.5"	**Surf. Csg Cmt:** Lead: Circulate to surface Tail: 20% critical (100% excess) 13-3/8", 54.5#, J-55, BTC
Grayburg @ 5280' Cherry Canyon est. @ 5970'	10.0 PPG saturated brine	•N/A		3900'	12-1/4"	**Int. Csg Cmt:** Lead: Circulate to surface Tail: 20% critical (100% excess) 9-5/8", 40#, J-55, BTC
Bone Springs LS @ 7740' 1st BS sd @ 9350' 2nd BS sd @ 9870' 3rd BS sd @ 10,480'	8.5-9.3 PPG cut brine	•Directional tools for up hole directional work •Drill 8-3/4" hole to +/- 75° in the curve •Mud Logs entire interval KOP = 10,224'		10,974'	8-3/4"	**Int 2 Csg Cmt:** Top of Lead: 2500' Top of Tail: 9500' (35% excess) 7", 29#, P-110, BTC TD @ 15,379MD / 10,810'TVD Lateral Inclination = 90.0° VS = 4825' Az = 3.97°
Wolfcamp target @ 10,810'	12.5-13.0 PPG OBM	•Directional tools for direction control •Mud Logs entire interval		15,379'	6-1/8"	**Prod. Csg Cmt:** Top of Tail: 9,500' 4.5", 13.5#, P-110, TXP (10% excess)

Prepared By: AB

- Extra casing string.
- Potential for higher pressure.

Matador
Exhibit 19

Airstrip; Wolfcamp Pool (Pool Code 970)
Area Wolfcamp Lateral Casing Design



Map Legend

Project Area

Matador – Horizontal Location

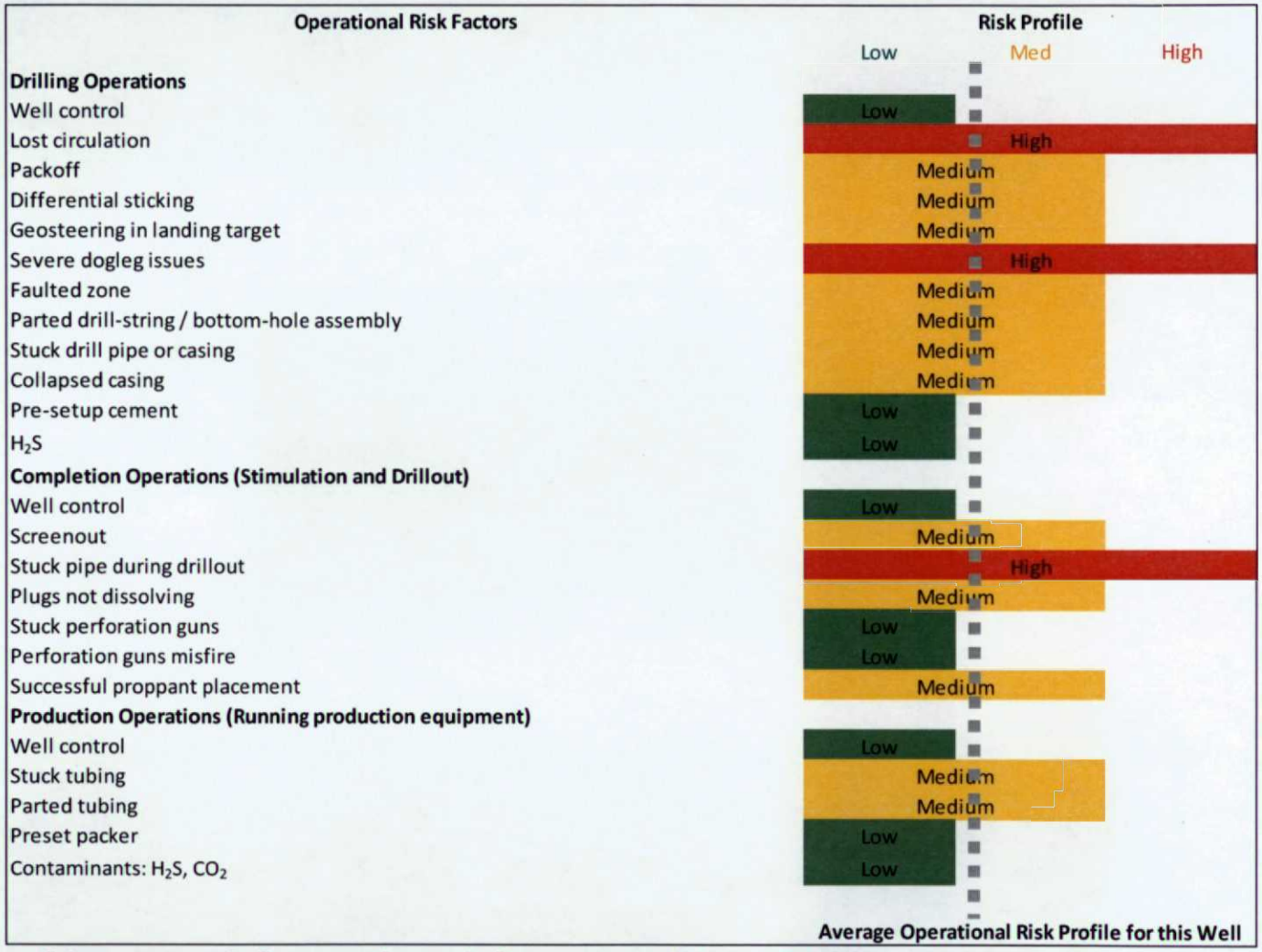
BHL

SHL

Wolfcamp Lateral Well

Matador
Exhibit 20

Airstrip; Wolfcamp Pool (Pool Code 970)
Operational Risk



- Chance of Operational Success (P_o) ~75%

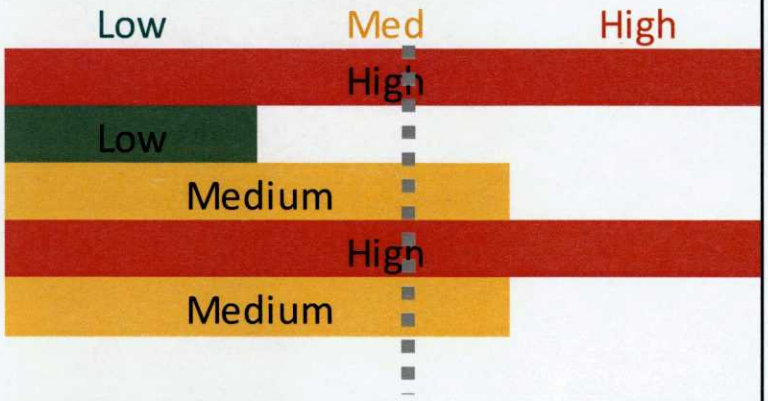
Matador
Exhibit 21

Airstrip; Wolfcamp Pool (Pool Code 970)
Reservoir Risk

Reservoir Risk Factors

Permeability > 100 nd
Net Thickness > 100 ft
Water Saturation < 45%
Formation Pressure Gradient > 0.6
Continuity

Risk Profile



Average Reservoir Risk Profile for this Well

- This well classifies only as Contingent Resources and not Reserves (SEC)
- Chance of Reservoir Success (P_r) ~50%

World Petroleum Council

Petroleum Resources Management System

Sponsored by:

Society of Petroleum Engineers (SPE)
American Association of Petroleum Geologists (AAPG)
World Petroleum Council (WPC)
Society of Petroleum Evaluation Engineers (SPEE)

Table of Contents

Note: A typographical error in this document was discovered and corrected on 7 January 2008. On Page 38 in the entry for Liquefied Natural Gas (LNG) Project, the text previously read "LNG is about 1/164 the volume of natural gas..." The corrected statement is "LNG is about 1/614 the volume of natural gas..."

Petroleum Resources Management System

Preamble

Petroleum resources are the estimated quantities of hydrocarbons naturally occurring on or within the Earth's crust. Resource assessments estimate total quantities in known and yet-to-be discovered accumulations; resources evaluations are focused on those quantities that can potentially be recovered and marketed by commercial projects. A petroleum resources management system provides a consistent approach to estimating petroleum quantities, evaluating development projects, and presenting results within a comprehensive classification framework.

International efforts to standardize the definitions of petroleum resources and how they are estimated began in the 1930s. Early guidance focused on Proved Reserves. Building on work initiated by the Society of Petroleum Evaluation Engineers (SPEE), SPE published definitions for all Reserves categories in 1987. In the same year, the World Petroleum Council (WPC, then known as the World Petroleum Congress), working independently, published Reserves definitions that were strikingly similar. In 1997, the two organizations jointly released a single set of definitions for Reserves that could be used worldwide. In 2000, the American Association of Petroleum Geologists (AAPG), SPE, and WPC jointly developed a classification system for all petroleum resources. This was followed by additional supporting documents: supplemental application evaluation guidelines (2001) and a glossary of terms utilized in resources definitions (2005). SPE also published standards for estimating and auditing reserves information (revised 2007).

These definitions and the related classification system are now in common use internationally within the petroleum industry. They provide a measure of comparability and reduce the subjective nature of resources estimation. However, the technologies employed in petroleum exploration, development, production, and processing continue to evolve and improve. The SPE Oil and Gas Reserves Committee works closely with other organizations to maintain the definitions and issues periodic revisions to keep current with evolving technologies and changing commercial opportunities.

This document consolidates, builds on, and replaces guidance previously contained in the 1997 Petroleum Reserves Definitions, the 2000 Petroleum Resources Classification and Definitions publications, and the 2001 "Guidelines for the Evaluation of Petroleum Reserves and Resources"; the latter document remains a valuable source of more detailed background information, and specific chapters are referenced herein. Appendix A is a consolidated glossary of terms used in resources evaluations and replaces those published in 2005.

These definitions and guidelines are designed to provide a common reference for the international petroleum industry, including national reporting and regulatory disclosure agencies, and to support petroleum project and portfolio management requirements. They are intended to improve clarity in global communications regarding petroleum resources. It is expected that this document will be supplemented with industry education programs and application guides addressing their implementation in a wide spectrum of technical and/or commercial settings.

It is understood that these definitions and guidelines allow flexibility for users and agencies to tailor application for their particular needs; however, any modifications to the guidance contained herein should be clearly identified. The definitions and guidelines contained in this document must not be construed as modifying the interpretation or application of any existing regulatory reporting requirements.

This SPE/WPC/AAPG/SPEE Petroleum Resources Management System document, including its Appendix, may be referred to by the abbreviated term "SPE-PRMS" with the caveat that the full title, including clear recognition of the co-sponsoring organizations, has been initially stated.

1.0 Basic Principles and Definitions

The estimation of petroleum resource quantities involves the interpretation of volumes and values that have an inherent degree of uncertainty. These quantities are associated with development projects at various stages of design and implementation. Use of a consistent classification system enhances comparisons between projects, groups of projects, and total company portfolios according to forecast production profiles and recoveries. Such a system must consider both technical and commercial factors that impact the project's economic feasibility, its productive life, and its related cash flows.

1.1 Petroleum Resources Classification Framework

Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid phase. Petroleum may also contain non-hydrocarbons, common examples of which are carbon dioxide, nitrogen, hydrogen sulfide and sulfur. In rare cases, non-hydrocarbon content could be greater than 50%.

The term "resources" as used herein is intended to encompass all quantities of petroleum naturally occurring on or within the Earth's crust, discovered and undiscovered (recoverable and unrecoverable), plus those quantities already produced. Further, it includes all types of petroleum whether currently considered "conventional" or "unconventional."

Figure 1-1 is a graphical representation of the SPE/WPC/AAPG/SPEE resources classification system. The system defines the major recoverable resources classes: Production, Reserves, Contingent Resources, and Prospective Resources, as well as Unrecoverable petroleum.

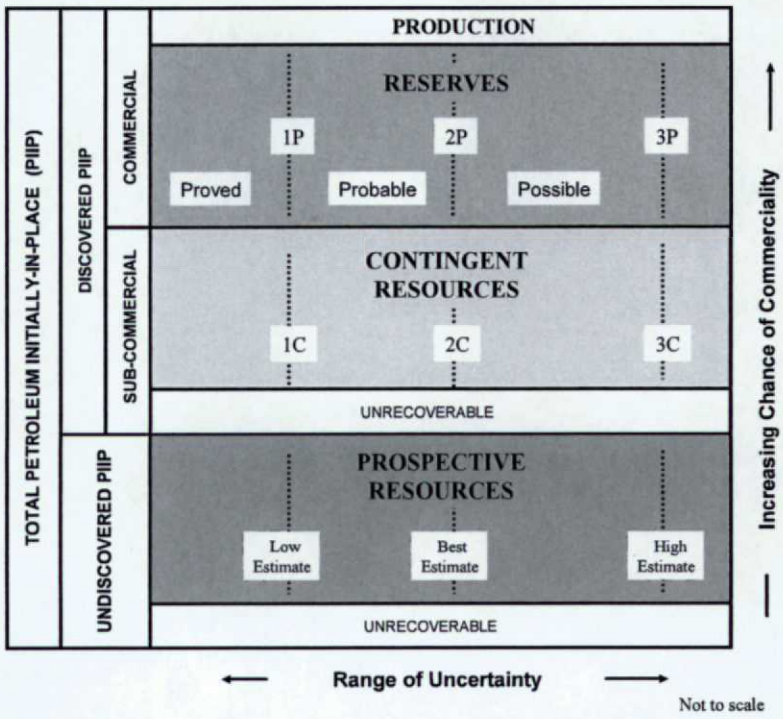


Figure 1-1: Resources Classification Framework.

The "Range of Uncertainty" reflects a range of estimated quantities potentially recoverable from an accumulation by a project, while the vertical axis represents the "Chance of Commerciality, that is, the chance that the project that will be developed and reach commercial producing status. The following definitions apply to the major subdivisions within the resources classification:

TOTAL PETROLEUM INITIALLY-IN-PLACE is that quantity of petroleum that is estimated to exist originally in naturally occurring accumulations. It includes that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production plus those estimated quantities in accumulations yet to be discovered (equivalent to "total resources").

DISCOVERED PETROLEUM INITIALLY-IN-PLACE is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production.

PRODUCTION is the cumulative quantity of petroleum that has been recovered at a given date. While all recoverable resources are estimated and production is measured in terms of the sales product specifications, raw production (sales plus non-sales) quantities are also measured and required to support engineering analyses based on reservoir voidage (see Production Measurement, section 3.2).

Multiple development projects may be applied to each known accumulation, and each project will recover an estimated portion of the initially-in-place quantities. The projects shall be subdivided into Commercial and Sub-Commercial, with the estimated recoverable quantities being classified as Reserves and Contingent Resources respectively, as defined below.

RESERVES are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: they must be discovered, recoverable, commercial, and remaining (as of the evaluation date) based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by development and production status.

CONTINGENT RESOURCES are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, but the applied project(s) are not yet considered mature enough for commercial development due to one or more contingencies. Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their economic status.

UNDISCOVERED PETROLEUM INITIALLY-IN-PLACE is that quantity of petroleum estimated, as of a given date, to be contained within accumulations yet to be discovered.

PROSPECTIVE RESOURCES are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of discovery and a chance of development. Prospective Resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be sub-classified based on project maturity.

UNRECOVERABLE is that portion of Discovered or Undiscovered Petroleum Initially-in-Place quantities which is estimated, as of a given date, not to be recoverable by future development projects. A portion of these quantities may become recoverable in the future as commercial circumstances change or technological developments occur; the remaining portion may never be recovered due to physical/chemical constraints represented by subsurface interaction of fluids and reservoir rocks.

Estimated Ultimate Recovery (EUR) is not a resources category, but a term that may be applied to any accumulation or group of accumulations (discovered or undiscovered) to define those quantities of petroleum estimated, as of a given date, to be potentially recoverable under defined technical and commercial conditions plus those quantities already produced (total of recoverable resources).

In specialized areas, such as basin potential studies, alternative terminology has been used; the total resources may be referred to as Total Resource Base or Hydrocarbon Endowment. Total recoverable or EUR may be termed Basin Potential. The sum of Reserves, Contingent Resources, and Prospective Resources may be referred to as "remaining recoverable resources." When such terms are used, it is important that each classification component of the summation also be provided. Moreover, these quantities should not be aggregated without due consideration of the varying degrees of technical and commercial risk involved with their classification.

1.2 Project-Based Resources Evaluations

The resources evaluation process consists of identifying a recovery project, or projects, associated with a petroleum accumulation(s), estimating the quantities of Petroleum Initially-in-Place, estimating that portion of those in-place quantities that can be recovered by each project, and classifying the project(s) based on its maturity status or chance of commerciality.

This concept of a project-based classification system is further clarified by examining the primary data sources contributing to an evaluation of net recoverable resources (see Figure 1-2) that may be described as follows:

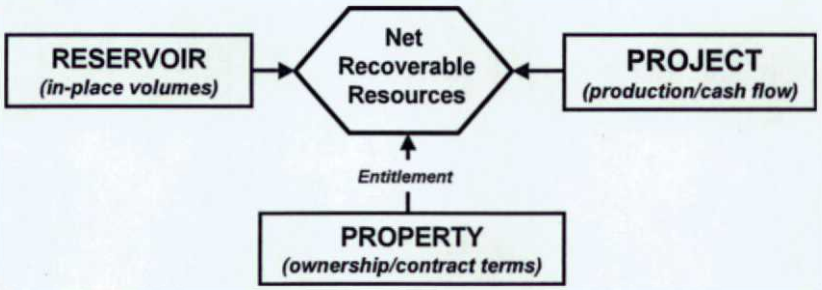


Figure 1-2: Resources Evaluation Data Sources.

- The Reservoir (accumulation): Key attributes include the types and quantities of Petroleum Initially-in-Place and the fluid and rock properties that affect petroleum recovery.

- The Project: Each project applied to a specific reservoir development generates a unique production and cash flow schedule. The time integration of these schedules taken to the project's technical, economic, or contractual limit defines the estimated recoverable resources and associated future net cash flow projections for each project. The ratio of EUR to Total Initially-in-Place quantities defines the ultimate recovery efficiency for the development project(s). A project may be defined at various levels and stages of maturity; it may include one or many wells and associated production and processing facilities. One project may develop many reservoirs, or many projects may be applied to one reservoir.

- The Property (lease or license area): Each property may have unique associated contractual rights and obligations including the fiscal terms. Such information allows definition of each participant's share of produced quantities (entitlement) and share of investments, expenses, and revenues for each recovery project and the reservoir to which it is applied. One property may encompass many reservoirs, or one reservoir may span several different properties. A property may contain both discovered and undiscovered accumulations.

In context of this data relationship, "project" is the primary element considered in this resources classification, and net recoverable resources are the incremental quantities derived from each project. Project represents the link between the petroleum accumulation and the decision-making process. A project may, for example, constitute the development of a single reservoir or field, or an incremental development for a producing field, or the integrated development of several fields and associated facilities with a common ownership. In general, an individual project will represent the level at which a decision is made whether or not to proceed (i.e., spend more money) and there should be an associated range of estimated recoverable quantities for that project.

An accumulation or potential accumulation of petroleum may be subject to several separate and distinct projects that are at different stages of exploration or development. Thus, an accumulation may have recoverable quantities in several resource classes simultaneously.

In order to assign recoverable resources of any class, a development plan needs to be defined consisting of one or more projects. Even for Prospective Resources, the estimates of recoverable quantities must be stated in terms of the sales products derived from a development program assuming successful discovery and commercial development. Given the major uncertainties involved at this early stage, the development program will not be of the detail expected in later stages of maturity. In most cases, recovery efficiency may be largely based on analogous projects. In-place quantities for which a feasible project cannot be defined using current, or reasonably forecast improvements in, technology are classified as Unrecoverable.

Not all technically feasible development plans will be commercial. The commercial viability of a development project is dependent on a forecast of the conditions that will exist during the time period encompassed by the project's activities (see Commercial Evaluations, section 3.1). "Conditions" include technological, economic, legal, environmental, social, and governmental factors. While economic factors can be summarized as forecast costs and product prices, the underlying influences include, but are not limited to, market conditions, transportation and processing infrastructure, fiscal terms, and taxes.

The resource quantities being estimated are those volumes producible from a project as measured according to delivery specifications at the point of sale or custody transfer (see Reference Point, section 3.2.1). The cumulative production from the evaluation date forward to cessation of production is the remaining recoverable quantity. The sum of the associated annual net cash flows yields the estimated future net revenue. When the cash flows are discounted according to a defined discount rate and time period, the summation of the discounted cash flows is termed net present value (NPV) of the project (see Evaluation and Reporting Guidelines, section 3.0).

The supporting data, analytical processes, and assumptions used in an evaluation should be documented in sufficient detail to allow an independent evaluator or auditor to clearly understand the basis for estimation and categorization of recoverable quantities and their classification.

2.0 Classification and Categorization Guidelines

To consistently characterize petroleum projects, evaluations of all resources should be conducted in the context of the full classification system as shown in Figure 1-1. These guidelines reference this classification system and support an evaluation in which projects are "classified" based on their chance of commerciality (the vertical axis) and estimates of recoverable and marketable quantities associated with each project are "categorized" to reflect uncertainty (the horizontal axis). The actual workflow of classification vs. categorization varies with individual projects and is often an iterative analysis process leading to a final report. "Report," as used herein, refers to the presentation of evaluation results within the business entity conducting the assessment and should not be construed as replacing guidelines for public disclosures under guidelines established by regulatory and/or other government agencies.

Additional background information on resources classification issues can be found in Chapter 2 of the 2001 SPE/WPC/AAPG publication: "Guidelines for the Evaluation of Petroleum Reserves and Resources," hereafter referred to as the "2001 Supplemental Guidelines."

2.1 Resources Classification

The basic classification requires establishment of criteria for a petroleum discovery and thereafter the distinction between commercial and sub-commercial projects in known accumulations (and hence between Reserves and Contingent Resources).

2.1.1 Determination of Discovery Status

A discovery is one petroleum accumulation, or several petroleum accumulations collectively, for which one or several exploratory wells have established through testing, sampling, and/or logging the existence of a significant quantity of potentially moveable hydrocarbons.

In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for economic recovery. Estimated recoverable quantities within such a discovered (known) accumulation(s) shall initially be classified as Contingent Resources pending definition of projects with sufficient chance of commercial development to reclassify all, or a portion, as Reserves. Where in-place hydrocarbons are identified but are not considered currently recoverable, such quantities may be classified as Discovered Unrecoverable, if considered appropriate for resource management purposes; a portion of these quantities may become recoverable resources in the future as commercial circumstances change or technological developments occur.

2.1.2 Determination of Commerciality

Discovered recoverable volumes (Contingent Resources) may be considered commercially producible, and thus Reserves, if the entity claiming commerciality has demonstrated firm intention to proceed with development and such intention is based upon all of the following criteria:

- Evidence to support a reasonable timetable for development.
- A reasonable assessment of the future economics of such development projects meeting defined investment and operating criteria:
- A reasonable expectation that there will be a market for all or at least the expected sales quantities of production required to justify development.
- Evidence that the necessary production and transportation facilities are available or can be made available:
- Evidence that legal, contractual, environmental and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated.

To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability. There must be a reasonable expectation that all required internal and external approvals will be forthcoming, and there is evidence of firm intention to proceed with development within a reasonable time frame. A reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.

To be included in the Reserves class, there must be a high confidence in the commercial producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that

the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.

2.1.3 Project Status and Commercial Risk

Evaluators have the option to establish a more detailed resources classification reporting system that can also provide the basis for portfolio management by subdividing the chance of commerciality axis according to project maturity. Such sub-classes may be characterized by standard project maturity level descriptions (qualitative) and/or by their associated chance of reaching producing status (quantitative).

As a project moves to a higher level of maturity, there will be an increasing chance that the accumulation will be commercially developed. For Contingent and Prospective Resources, this can further be expressed as a quantitative chance estimate that incorporates two key underlying risk components:

- The chance that the potential accumulation will result in the discovery of petroleum. This is referred to as the "chance of discovery."
- Once discovered, the chance that the accumulation will be commercially developed is referred to as the "chance of development."

Thus, for an undiscovered accumulation, the "chance of commerciality" is the product of these two risk components. For a discovered accumulation where the "chance of discovery" is 100%, the "chance of commerciality" becomes equivalent to the "chance of development."

2.1.3.1 Project Maturity Sub-Classes

As illustrated in Figure 2-1, development projects (and their associated recoverable quantities) may be sub-classified according to project maturity levels and the associated actions (business decisions) required to move a project toward commercial production.

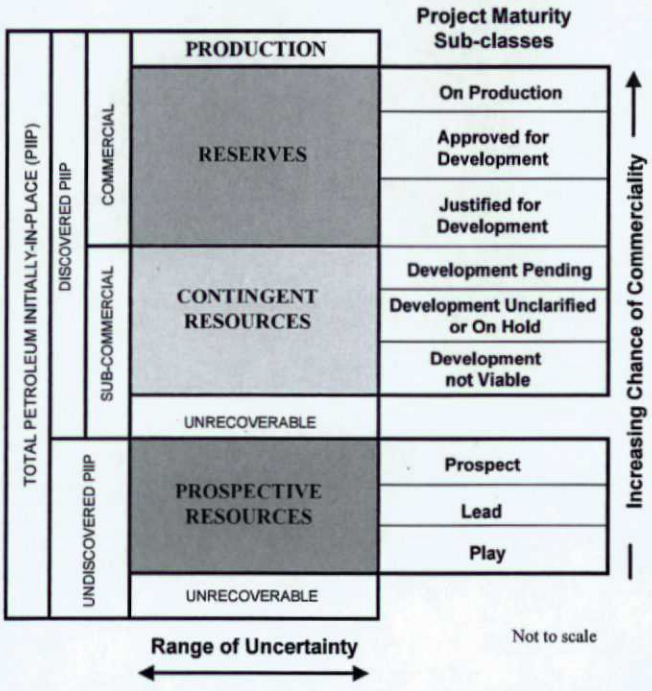


Figure 2-1: Sub-classes based on Project Maturity.

Project Maturity terminology and definitions have been modified from the example provided in the 2001 Supplemental Guidelines, Chapter 2. Detailed definitions and guidelines for each Project Maturity sub-class are provided in Table I. This approach supports managing portfolios of opportunities at various stages of exploration and development and may be supplemented by associated quantitative estimates of chance of commerciality. The boundaries between different levels of project maturity may be referred to as "decision gates."

Decisions within the Reserves class are based on those actions that progress a project through final approvals to implementation and initiation of production and product sales. For Contingent Resources, supporting analysis should focus on gathering data and performing analyses to clarify and then mitigate those key conditions, or contingencies, that prevent commercial development.

For Prospective Resources, these potential accumulations are evaluated according to their chance of discovery and, assuming a discovery, the estimated quantities that would be recoverable under appropriate development projects. The decision at each phase is to undertake further data acquisition and/or studies designed to move the project to a level of technical and commercial maturity where a decision can be made to proceed with exploration drilling.

Evaluators may adopt alternative sub-classes and project maturity modifiers, but the concept of increasing chance of commerciality should be a key enabler in applying the overall classification system and supporting portfolio management.

2.1.3.2 Reserves Status

Once projects satisfy commercial risk criteria, the associated quantities are classified as Reserves. These quantities may be allocated to the following subdivisions based on the funding and operational status of wells and associated facilities within the reservoir development plan (detailed definitions and guidelines are provided in Table 2):

- Developed Reserves are expected quantities to be recovered from existing wells and facilities.
    - Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate.
    - Developed Non-Producing Reserves include shut-in and behind-pipe Reserves.
- Undeveloped Reserves are quantities expected to be recovered through future investments.

Where Reserves remain undeveloped beyond a reasonable timeframe, or have remained undeveloped due to repeated postponements, evaluations should be critically reviewed to document reasons for the delay in initiating development and justify retaining these quantities within the Reserves class. While there are specific circumstances where a longer delay (see Determination of Commerciality, section 2.1.2) is justified, a reasonable time frame is generally considered to be less than 5 years.

Development and production status are of significant importance for project management. While Reserves Status has traditionally only been applied to Proved Reserves, the same concept of Developed and Undeveloped Status based on the funding and operational status of wells and producing facilities within the development project are applicable throughout the full range of Reserves uncertainty categories (Proved, Probable and Possible).

Quantities may be subdivided by Reserves Status independent of sub-classification by Project Maturity. If applied in combination, Developed and/or Undeveloped Reserves quantities may be identified separately within each Reserves sub-class (On Production, Approved for Development, and Justified for Development).

2.1.3.3 Economic Status

Projects may be further characterized by their Economic Status. All projects classified as Reserves must be economic under defined conditions (see Commercial Evaluations, section 3.1). Based on assumptions regarding future conditions and their impact on ultimate economic viability, projects currently classified as Contingent Resources may be broadly divided into two groups:

- Marginal Contingent Resources are those quantities associated with technically feasible projects that are either currently economic or projected to be economic under reasonably forecasted improvements in commercial conditions but are not committed for development because of one or more contingencies.

- Sub-Marginal Contingent Resources are those quantities associated with discoveries for which analysis indicates that technically feasible development projects would not be economic and/or other contingencies would not be satisfied under current or reasonably forecasted improvements in commercial conditions. These projects nonetheless should be retained in the inventory of discovered resources pending unforeseen major changes in commercial conditions.

Where evaluations are incomplete such that it is premature to clearly define ultimate chance of commerciality, it is acceptable to note that project economic status is "undetermined." Additional economic status modifiers may be applied to further characterize recoverable quantities; for example, non-sales (lease fuel, flare, and losses) may be separately identified and documented in addition to sales quantities for both production and recoverable resource estimates (see also Reference Point, section 3.2.1). Those discovered in-place volumes for which a feasible development project cannot be defined using current, or reasonably forecast improvements in, technology are classified as Unrecoverable.

Economic Status may be identified independently of, or applied in combination with, Project Maturity sub-classification to more completely describe the project and its associated resources.

2.2 Resources Categorization

The horizontal axis in the Resources Classification (Figure 1.1) defines the range of uncertainty in estimates of the quantities of recoverable, or potentially recoverable, petroleum associated with a project. These estimates include both technical and commercial uncertainty components as follows:

- The total petroleum remaining within the accumulation (in-place resources).
- That portion of the in-place petroleum that can be recovered by applying a defined development project or projects.
- Variations in the commercial conditions that may impact the quantities recovered and sold (e.g., market availability, contractual changes).

Where commercial uncertainties are such that there is significant risk that the complete project (as initially defined) will not proceed, it is advised to create a separate project classified as Contingent Resources with an appropriate chance of commerciality.

2.2.1 Range of Uncertainty

The range of uncertainty of the recoverable and/or potentially recoverable volumes may be represented by either deterministic scenarios or by a probability distribution (see Deterministic and Probabilistic Methods, section 4.2).

When the range of uncertainty is represented by a probability distribution, a low, best, and high estimate shall be provided such that:

- There should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
- There should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
- There should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

When using the deterministic scenario method, typically there should also be low, best, and high estimates, where such estimates are based on qualitative assessments of relative uncertainty using consistent interpretation guidelines. Under the deterministic incremental (risk-based) approach, quantities at each level of uncertainty are estimated discretely and separately (see Category Definitions and Guidelines, section 2.2.2).

These same approaches to describing uncertainty may be applied to Reserves, Contingent Resources, and Prospective Resources. While there may be significant risk that sub-commercial and undiscovered accumulations will not achieve commercial production, it useful to consider the range of potentially recoverable quantities independently of such a risk or consideration of the resource class to which the quantities will be assigned.

2.2.2 Category Definitions and Guidelines

Evaluators may assess recoverable quantities and categorize results by uncertainty using the deterministic incremental (risk-based) approach, the deterministic scenario (cumulative) approach, or probabilistic methods. (see "2001 Supplemental Guidelines," Chapter 2.5). In many cases, a combination of approaches is used.

Use of consistent terminology (Figure 1.1) promotes clarity in communication of evaluation results. For Reserves, the general cumulative terms low/best/high estimates are denoted as 1P/2P/3P, respectively. The associated incremental quantities are termed Proved, Probable and Possible. Reserves are a subset of, and must be viewed within context of, the complete resources classification system. While the categorization criteria are proposed specifically for Reserves, in most cases, they can be equally applied to Contingent and Prospective Resources conditional upon their satisfying the criteria for discovery and/or development.

For Contingent Resources, the general cumulative terms low/best/high estimates are denoted as 1C/2C/3C respectively. For Prospective Resources, the general cumulative terms low/best/high estimates still apply. No specific terms are defined for incremental quantities within Contingent and Prospective Resources.

Without new technical information, there should be no change in the distribution of technically recoverable volumes and their categorization boundaries when conditions are satisfied sufficiently to reclassify a project from Contingent Resources to Reserves. All evaluations require application of a consistent set of forecast conditions, including assumed future costs and prices, for both classification of projects and categorization of estimated quantities recovered by each project (see Commercial Evaluations, section 3.1).

Table III presents category definitions and provides guidelines designed to promote consistency in resource assessments. The following summarizes the definitions for each Reserves category in terms of both the deterministic incremental approach and scenario approach and also provides the probability criteria if probabilistic methods are applied.

- Proved Reserves are those quantities of petroleum, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities

will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.

- Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.

- Possible Reserves are those additional reserves which analysis of geoscience and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P) Reserves, which is equivalent to the high estimate scenario. In this context, when probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate.

Based on additional data and updated interpretations that indicate increased certainty, portions of Possible and Probable Reserves may be re-categorized as Probable and Proved Reserves.

Uncertainty in resource estimates is best communicated by reporting a range of potential results. However, if it is required to report a single representative result, the "best estimate" is considered the most realistic assessment of recoverable quantities. It is generally considered to represent the sum of Proved and Probable estimates (2P) when using the deterministic scenario or the probabilistic assessment methods. It should be noted that under the deterministic incremental (risk-based) approach, discrete estimates are made for each category, and they should not be aggregated without due consideration of their associated risk (see "2001 Supplemental Guidelines," Chapter 2.5).

2.3 Incremental Projects

The initial resource assessment is based on application of a defined initial development project. Incremental projects are designed to increase recovery efficiency and/or to accelerate production through making changes to wells or facilities, infill drilling, or improved recovery. Such projects should be classified according to the same criteria as initial projects. Related incremental quantities are similarly categorized on certainty of recovery. The projected increased recovery can be included in estimated Reserves if the degree of commitment is such that the project will be developed and placed on production within a reasonable timeframe.

Circumstances where development will be significantly delayed should be clearly documented. If there is significant project risk, forecast incremental recoveries may be similarly categorized but should be classified as Contingent Resources (see Determination of Commerciality, section 2.1.2).

2.3.1 Workovers, Treatments, and Changes of Equipment

Incremental recovery associated with future workover, treatment (including hydraulic fracturing), re-treatment, changes of equipment, or other mechanical procedures where such projects have routinely been successful in analogous reservoirs may be classified as Developed or Undeveloped Reserves depending on the magnitude of associated costs required (see Reserves Status, section 2.1.3.2).

2.3.2 Compression

Reduction in the backpressure through compression can increase the portion of in-place gas that can be commercially produced and thus included in Reserves estimates. If the eventual installation of compression was planned and approved as part of the original development plan, incremental recovery is included in Undeveloped Reserves. However, if the cost to implement compression is not significant (relative to the cost of a new well), the incremental quantities may be classified as Developed Reserves. If compression facilities were not part of the original approved development plan and such costs are significant, it should be treated as a separate project subject to normal project maturity criteria.

2.3.3 Infill Drilling

Technical and commercial analyses may support drilling additional producing wells to reduce the spacing beyond that utilized within the initial development plan, subject to government regulations (if such approvals are required). Infill drilling may have the combined effect of increasing recovery efficiency and accelerating production. Only the incremental recovery can be considered as additional Reserves; this additional recovery may need to be reallocated to individual wells with different interest ownerships.

2.3.4 Improved Recovery

Improved recovery is the additional petroleum obtained, beyond primary recovery, from naturally occurring reservoirs by supplementing the natural reservoir performance. It includes waterflooding, secondary or tertiary recovery processes, and any other means of supplementing natural reservoir recovery processes.

Improved recovery projects must meet the same Reserves commerciality criteria as primary recovery projects. There should be an expectation that the project will be economic and that the entity has committed to implement the project in a reasonable time frame (generally within 5 years; further delays should be clearly justified).

The judgment on commerciality is based on pilot testing within the subject reservoir or by comparison to a reservoir with analogous rock and fluid properties and where a similar established improved recovery project has been successfully applied.

Incremental recoveries through improved recovery methods that have yet to be established through routine, commercially successful applications are included as Reserves only after a favorable production response from the subject reservoir from either (a) a representative pilot or (b) an installed program, where the response provides support for the analysis on which the project is based.

These incremental recoveries in commercial projects are categorized into Proved, Probable, and Possible Reserves based on certainty derived from engineering analysis and analogous applications in similar reservoirs.

2.4 Unconventional Resources

Two types of petroleum resources have been defined that may require different approaches for their evaluations:

- Conventional resources exist in discrete petroleum accumulations related to a localized geological structural feature and/or stratigraphic condition, typically with each accumulation bounded by a downdip contact with an aquifer, and which is significantly affected by hydrodynamic influences such as buoyancy of petroleum in water. The petroleum is recovered through wellbores and typically requires minimal processing prior to sale.

- Unconventional resources exist in petroleum accumulations that are pervasive throughout a large area and that are not significantly affected by hydrodynamic influences (also called "continuous-type deposits"). Examples include coalbed methane (CBM), basin-centered gas, shale gas, gas hydrates, natural bitumen, and oil shale deposits. Typically, such accumulations require specialized extraction technology (e.g., dewatering of CBM, massive fracturing programs for shale gas, steam and/or solvents to mobilize bitumen for in-situ recovery, and, in some cases, mining activities). Moreover, the extracted petroleum may require significant processing prior to sale (e.g., bitumen upgraders).

For these petroleum accumulations that are not significantly affected by hydrodynamic influences, reliance on continuous water contacts and pressure gradient analysis to interpret the extent of recoverable petroleum may not be possible. Thus, there typically is a need for increased sampling density to define uncertainty of in-place volumes, variations in quality of reservoir and hydrocarbons, and their detailed spatial distribution to support detailed design of specialized mining or in-situ extraction programs.

It is intended that the resources definitions, together with the classification system, will be appropriate for all types of petroleum accumulations regardless of their in-place characteristics, extraction method applied, or degree of processing required.

Similar to improved recovery projects applied to conventional reservoirs, successful pilots or operating projects in the subject reservoir or successful projects in analogous reservoirs may be required to establish a distribution of recovery efficiencies for non-conventional accumulations. Such pilot projects may evaluate both extraction efficiency and the efficiency of unconventional processing facilities to derive sales products prior to custody transfer.

3.0 Evaluation and Reporting Guidelines

The following guidelines are provided to promote consistency in project evaluations and reporting. "Reporting" refers to the presentation of evaluation results within the business entity conducting the evaluation and should not be construed as replacing guidelines for subsequent public disclosures under guidelines established by regulatory and/or other government agencies, or any current or future associated accounting standards.

3.1 Commercial Evaluations

Investment decisions are based on the entity's view of future commercial conditions that may impact the development feasibility (commitment to develop) and production/cash flow schedule of oil and gas projects. Commercial conditions include, but are not limited to, assumptions of financial conditions (costs, prices, fiscal terms, taxes), marketing, legal, environmental, social, and governmental factors. Project value may be assessed in several ways (e.g., historical costs, comparative market values); the guidelines herein apply only to evaluations based on cash flow analysis. Moreover, modifying factors such contractual or political risks that may additionally influence investment decisions are not addressed. (Additional detail on commercial issues can be found in the "2001 Supplemental Guidelines," Chapter 4.)

3.1.1 Cash-Flow-Based Resources Evaluations

Resources evaluations are based on estimates of future production and the associated cash flow schedules for each development project. The sum of the associated annual net cash flows yields the estimated future net revenue. When the cash flows are discounted according to a defined discount rate and time period, the summation of the discounted cash flows is termed net present value (NPV) of the project. The calculation shall reflect:

- The expected quantities of production projected over identified time periods.
- The estimated costs associated with the project to develop, recover, and produce the quantities of production at its Reference Point (see section 3.2.1), including environmental, abandonment, and reclamation costs charged to the project, based on the evaluator's view of the costs expected to apply in future periods.
- The estimated revenues from the quantities of production based on the evaluator's view of the prices expected to apply to the respective commodities in future periods including that portion of the costs and revenues accruing to the entity.
- Future projected production and revenue related taxes and royalties expected to be paid by the entity.
- A project life that is limited to the period of entitlement or reasonable expectation thereof.
- The application of an appropriate discount rate that reasonably reflects the weighted average cost of capital or the minimum acceptable rate of return applicable to the entity at the time of the evaluation.

While each organization may define specific investment criteria, a project is generally considered to be "economic" if its "best estimate" case has a positive net present value under the organization's standard discount rate, or if at least has a positive undiscounted cash flow.

3.1.2 Economic Criteria

Evaluators must clearly identify the assumptions on commercial conditions utilized in the evaluation and must document the basis for these assumptions.

The economic evaluation underlying the investment decision is based on the entity's reasonable forecast of future conditions, including costs and prices, which will exist during the life of the project (forecast case). Such forecasts are based on projected changes to current conditions; SPE defines current conditions as the average of those existing during the previous 12 months.

Alternative economic scenarios are considered in the decision process and, in some cases, to supplement reporting requirements. Evaluators may examine a case in which current conditions are held constant (no inflation or deflation) throughout the project life (constant case).

Evaluations may be modified to accommodate criteria imposed by regulatory agencies regarding external disclosures. For example, these criteria may include a specific requirement that, if the recovery were confined to the technically Proved Reserves estimate, the constant case should still generate a positive cash flow. External reporting requirements may also specify alternative guidance on current conditions (for example, year-end costs and prices).

There may be circumstances in which the project meets criteria to be classified as Reserves using the forecast case but does not meet the external criteria for Proved Reserves. In these specific circumstances, the entity may record 2P and 3P estimates without separately recording Proved. As costs are incurred and development proceeds, the low estimate may eventually satisfy external requirements, and Proved Reserves can then be assigned.

While SPE guidelines do not require that project financing be confirmed prior to classifying projects as Reserves, this may be another external requirement. In many cases, loans are conditional upon the same criteria as above; that is, the project must be economic based on Proved Reserves only. In general, if there is not a reasonable expectation that loans or other forms of financing (e.g., farm-outs) can be arranged such that the development will be initiated within a reasonable timeframe, then the project should be classified as Contingent Resources. If financing is reasonably expected but not yet confirmed, the project may be classified as Reserves, but no Proved Reserves may be reported as above.

3.1.3 Economic Limit

Economic limit is defined as the production rate beyond which the net operating cash flows from a project, which may be an individual well, lease, or entire field, are negative, a point in time that defines the project's economic life. Operating costs should be based on the same type of projections as used in price forecasting. Operating costs should include only those costs that are incremental to the project for which the economic limit is being calculated (i.e., only those cash costs that will actually be eliminated if project production ceases should be considered in the calculation of economic limit). Operating costs should include fixed property-specific overhead charges if these are actual incremental costs attributable to the project and any production and property taxes but, for purposes of calculating economic limit, should exclude depreciation, abandonment and reclamation costs, and income tax, as well as any overhead above that required to operate the subject property itself. Operating costs may be reduced, and thus project life extended, by various cost-reduction and revenue-enhancement approaches, such as sharing of production facilities, pooling maintenance contracts, or marketing of associated non-hydrocarbons (see Associated Non-Hydrocarbon Components, section 3.2.4).

Interim negative project net cash flows may be accommodated in short periods of low product prices or major operational problems, provided that the longer-term forecasts must still indicate positive economics.

3.2 Production Measurement

In general, the marketable product, as measured according to delivery specifications at a defined Reference Point, provides the basis for production quantities and resources estimates. The following operational issues should be considered in defining and measuring production. While referenced specifically to Reserves, the same logic would be applied to projects forecast to develop Contingent and Prospective Resources conditional on discovery and development. (Additional detail on operational issues that impact resources estimation can be found in the "2001 Supplemental Guidelines," Chapter 3.)

3.2.1 Reference Point

Reference Point is a defined location(s) in the production chain where the produced quantities are measured or assessed. The Reference Point is typically the point of sale to third parties or where custody is transferred to the entity's downstream operations. Sales production and estimated Reserves are normally measured and reported in terms of quantities crossing this point over the period of interest.

The Reference Point may be defined by relevant accounting regulations in order to ensure that the Reference Point is the same for both the measurement of reported sales quantities and for the accounting treatment of sales revenues. This ensures that sales quantities are stated according to their delivery specifications at a defined price. In integrated projects, the appropriate price at the Reference Point may need to be determined using a netback calculation.

Sales quantities are equal to raw production less non-sales quantities, being those quantities produced at the wellhead but not available for sales at the Reference Point. Non-sales quantities include petroleum consumed as fuel, flared, or lost in processing, plus non-hydrocarbons that must be removed prior to sale; each of these may be allocated using separate Reference Points but when combined with sales, should sum to raw production. Sales quantities may need to be adjusted to exclude components added in processing but not derived from raw production. Raw production measurements are necessary and form the basis of engineering calculations (e.g., production performance analysis) based on total reservoir voidage.

3.2.2 Lease Fuel

Lease fuel is that portion of produced natural gas, crude oil, or condensate consumed as fuel in production and lease plant operations.

For consistency, lease fuel should be treated as shrinkage and is not included in sales quantities or resource estimates. However, some regulatory guidelines may allow lease fuel to be included in Reserves estimates where it replaces alternative sources of fuel and/or power that would be purchased in their absence. Where claimed as Reserves, such fuel quantities should be reported separately from sales, and their value must be included as an operating expense. Flared gas and oil and other losses are always treated as shrinkage and are not included in either product sales or Reserves.

3.2.3 Wet or Dry Natural Gas

The Reserves for wet or dry natural gas should be considered in the context of the specifications of the gas at the agreed Reference Point. Thus, for gas that is sold as wet gas, the volume of the wet gas would be reported, and there would be no associated or extracted hydrocarbon liquids reported separately. It would be expected that the corresponding enhanced value of the wet gas would be reflected in the sales price achieved for such gas.

When liquids are extracted from the gas prior to sale and the gas is sold in dry condition, then the dry gas volume and the extracted liquid volumes, whether condensate and/or natural gas liquids, should be accounted for separately in resource assessments. Any hydrocarbon liquids separated from the wet gas subsequent to the agreed Reference Point would not be reported as Reserves.

3.2.4 Associated Non-Hydrocarbon Components

In the event that non-hydrocarbon components are associated with production, the reported quantities should reflect the agreed specifications of the petroleum product at the Reference Point. Correspondingly, the accounts will reflect the value of the petroleum product at the Reference Point. If it is required to remove all or a portion of non-hydrocarbons prior to delivery, the Reserves and production should reflect only the residual hydrocarbon product.

Even if the associated non-hydrocarbon component (e.g., helium, sulfur) that is removed prior to the Reference Point is subsequently and separately marketed, these quantities are not included in petroleum production or Reserves. The revenue generated by the sale of non-hydrocarbon products may be included in the economic evaluation of a project.

3.2.5 Natural Gas Re-Injection

Natural gas production can be re-injected into a reservoir for a number of reasons and under a variety of conditions. It can be re-injected into the same reservoir or into other reservoirs located on the same property for recycling, pressure maintenance, miscible injection, or other enhanced oil recovery processes. In such cases, assuming that the gas will eventually be produced and sold, the gas volume estimated as eventually recoverable can be included as Reserves.

If gas volumes are to be included as Reserves, they must meet the normal criteria laid down in the definitions including the existence of a viable development, transportation, and sales marketing plan. Gas volumes should be reduced for losses associated with the re-injection and subsequent recovery process. Gas volumes injected into a reservoir for gas disposal with no committed plan for recovery are not classified as Reserves. Gas volumes purchased for injection and later recovered are not classified as Reserves.

3.2.6 Underground Natural Gas Storage

Natural gas injected into a gas storage reservoir to be recovered at a later period (e.g., to meet peak market demand periods) should not be included as Reserves.

The gas placed in the storage reservoir may be purchased or may originate from prior production. It is important to distinguish injected gas from any remaining native recoverable volumes in the reservoir. On commencing gas production, its allocation between native gas and injected gas may be subject to local regulatory and accounting rulings. Native gas production would be drawn against the original field Reserves. The uncertainty with respect to original field volumes remains with the native reservoir gas and not the injected gas.

There may be occasions, such as gas acquired through a production payment, in which gas is transferred from one lease or field to another without a sale or custody transfer occurring. In such cases, the re-injected gas could be included with the native reservoir gas as Reserves. The same principles regarding separation of native resources from injected quantities would apply to underground oil storage.

3.2.7 Production Balancing

Reserves estimates must be adjusted for production withdrawals. This may be a complex accounting process when the allocation of production among project participants is not aligned with their entitlement to Reserves. Production overlift or underlift can occur in oil production records because of the necessity for participants to lift their production in parcel sizes or cargo volumes to suit available shipping schedules as agreed among the parties. Similarly, an imbalance in gas deliveries can result from the participants having different operating or marketing arrangements that prevent gas volumes sold from being equal to entitlement share within a given time period.

Based on production matching the internal accounts, annual production should generally be equal to the liftings actually made by the participant and not on the production entitlement for the year. However, actual production and entitlements must be reconciled in Reserves assessments. Resulting imbalances must be monitored over time and eventually resolved before project abandonment.

3.3 Resources Entitlement and Recognition

While assessments are conducted to establish estimates of the total Petroleum Initially-in-Place and that portion recovered by defined projects, the allocation of sales quantities, costs, and revenues impacts the project economics and commerciality. This allocation is governed by the applicable contracts between the mineral owners (lessors) and contractors (lessees) and is generally referred to as "entitlement." For publicly traded companies, securities regulators may set criteria regarding the classes and categories that can be "recognized" in external disclosures.

Entitlements must ensure that the recoverable resources claimed/reported by individual stakeholders sum to the total recoverable resources; that is, there are none missing or duplicated in the allocation process. (The "2001 Supplemental Guidelines," Chapter 9, addresses issues of Reserves recognition under production-sharing and non-traditional agreements.)

3.3.1 Royalty

Royalty refers to payments that are due to the host government or mineral owner (lessor) in return for depletion of the reservoirs by the producer (lessee/contractor) having access to the petroleum resources.

Many agreements allow for the lessee/contractor to lift the royalty volumes and sell them on behalf of, and pay the proceeds to, the royalty owner/lessor. Some agreements provide for the royalty to be taken only in-kind by the royalty owner. In either case, royalty volumes must be deducted from the lessee's entitlement to resources. In some agreements, royalties owned by the host government are actually treated as taxes to be paid in cash. In such cases, the equivalent royalty volumes are controlled by the contractor who may (subject to regulatory guidance) elect to report these volumes as Reserves and/or Contingent Resources with appropriate offsets (increase in operating expense) to recognize the financial liability of the royalty obligation.

Conversely, if a company owns a royalty or equivalent interest of any type in a project, the related quantities can be included in Resources entitlements.

3.3.2 Production-Sharing Contract Reserves

Production-Sharing Contracts (PSCs) of various types replace conventional tax-royalty systems in many countries. Under the PSC terms, the producers have an entitlement to a portion of the production. This entitlement, often referred to as "net entitlement" or "net economic interest," is estimated using a formula based on the contract terms incorporating project costs (cost oil) and project profits (profit oil).

Although ownership of the production invariably remains with the government authority up to the export point of the project, the producers may take title to their share of the net entitlement at that point and may claim that share as their Reserves.

Risked-Service Contracts (RSCs) are similar to PSCs, but in this case, the producers are paid in cash rather than in production. As with PSCs, the Reserves claimed are based on the parties' net economic interest. Care needs to be taken to distinguish between an RSC and a "Pure Service Contract." Reserves can be claimed in an RSC on the basis that the producers are exposed to capital at risk, whereas no Reserves can be claimed for Pure Service Contracts because there are no market risks and the producers act as contractors.

Unlike traditional royalty-lease agreements, the cost recovery system in production-sharing, risk-service, and other related contracts typically reduce the production share and hence Reserves obtained by a contractor in periods of high price and increase volumes in periods of low price. While this ensures cost recovery, it introduces a significant price-related volatility in annual Reserves estimates under cases using "current" economic conditions. Under a defined "forecast conditions case," the future relationship of price to Reserves entitlement is known.

The treatment of taxes and the accounting procedures used can also have a significant impact on the Reserves recognized and production reported from these contracts.

3.3.3 Contract Extensions or Renewals

As production-sharing or other types of agreements approach maturity, they can be extended by negotiation for contract extensions, by the exercise of options to extend, or by other means.

Reserves should not be claimed for those volumes that will be produced beyond the ending date of the current agreement unless there is reasonable expectation that an extension, a renewal, or a new contract will be granted. Such reasonable expectation may be based on the historical treatment of similar agreements by the license-issuing jurisdiction. Otherwise, forecast production beyond the contract term should be classified as Contingent Resources with an associated reduced chance of commercialization. Moreover, it may not be reasonable to assume that the fiscal terms in a negotiated extension will be similar to existing terms.

Similar logic should be applied where gas sales agreements are required to ensure adequate markets. Reserves should not be claimed for those quantities that will be produced beyond those specified in the current agreement or reasonably forecast to be included in future agreements.

In either of the above cases, where the risk of cessation of rights to produce or inability to secure gas contracts is not considered significant, evaluators may choose to incorporate the uncertainty by categorizing quantities to be recovered beyond the current contract as Probable or Possible Reserves.

4.0 Estimating Recoverable Quantities

Assuming that projects have been classified according to their project maturity, the estimation of associated recoverable quantities under a defined project and their assignment to uncertainty categories may be based on one or a combination of analytical procedures. Such procedures may be applied using an incremental (risk-based) and/or scenario approach; moreover, the method of assessing relative uncertainty in these estimates of recoverable quantities may employ both deterministic and probabilistic methods.

4.1 Analytical Procedures

The analytical procedures for estimating recoverable quantities fall into three broad categories: (a) analogy, (b) volumetric estimates, and (c) performance-based estimates, which include material balance, production decline, and other production performance analyses. Reservoir simulation may be used in either volumetric or performance-based analyses. Pre- and early post-discovery assessments are typically made with analog field/project data and volumetric estimation. After production commences and production rates and pressure information become available, performance-based methods can be applied. Generally, the range of EUR estimates is expected to decrease as more information becomes available, but this is not always the case.

In each procedural method, results are not a single quantity of remaining recoverable petroleum, but rather a range that reflects the underlying uncertainties in both the in-place volumes and the recovery efficiency of the applied development project. By applying consistent guidelines (see Resources Categorization, section 2.2.), evaluators can define remaining recoverable quantities using either the incremental or cumulative scenario approach. The confidence in assessment results generally increases when the estimates are supported by more than one analytical procedure.

4.1.1 Analogs

Analogs are widely used in resources estimation, particularly in the exploration and early development stages, when direct measurement information is limited. The methodology is based on the assumption that the analogous reservoir is comparable to the subject reservoir regarding reservoir and fluid properties that control ultimate recovery of petroleum. By selecting appropriate analogs, where performance data based on comparable development plans (including well type, well spacing and stimulation) are available, a similar production profile may be forecast.

Analogous reservoirs are defined by features and characteristics including, but not limited to, approximate depth, pressure, temperature, reservoir drive mechanism, original fluid content, reservoir fluid gravity, reservoir size, gross thickness, pay thickness, net-to-gross ratio, lithology, heterogeneity, porosity, permeability, and development plan. Analogous reservoirs are formed by the same, or very similar, processes with regard to sedimentation, diagenesis, pressure, temperature, chemical and mechanical history, and structural deformation.

Comparison to several analogs may improve the range of uncertainty in estimated recoverable quantities from the subject reservoir. While reservoirs in the same geographic area and of the same age typically provide better analogs, such proximity alone may not be the primary consideration. In all cases, evaluators should document the similarities and differences between the analog and the subject reservoir/project. Review of analog reservoir performance is useful in quality assurance of resource assessments at all stages of development.

4.1.2 Volumetric Estimate

This procedure uses reservoir rock and fluid properties to calculate hydrocarbons in-place and then estimate that portion that will be recovered by a specific development project(s). Key uncertainties affecting in-place volumes include:

- Reservoir geometry and trap limits that impact gross rock volume.
- Geological characteristics that define pore volume and permeability distribution.
- Elevation of fluid contacts.
- Combinations of reservoir quality, fluid types, and contacts that control fluid saturations.

The gross rock volume of interest is that for the total reservoir. While spatial distribution and reservoir quality impact recovery efficiency, the calculation of in-place petroleum often uses average net-to-gross ratio, porosity, and fluid saturations. In more heterogeneous reservoirs, increased well density may be required to confidently assess and categorize resources.

Given estimates of the in-place petroleum, that portion that can be recovered by a defined set of wells and operating conditions must then be estimated based on analog field performance and/or simulation studies using available reservoir information. Key assumptions must be made regarding reservoir drive mechanisms.

The estimates of recoverable quantities must reflect uncertainties not only in the petroleum in-place but also in the recovery efficiency of the development project(s) applied to the specific reservoir being studied.

Additionally, geostatistical methods can be used to preserve spatial distribution information and incorporate it in subsequent reservoir simulation applications. Such processes may yield improved estimates of the range of recoverable quantities. Incorporation of seismic analyses typically improves the underlying reservoir models and yields more reliable resource estimates. [Refer to the "2001 SPE Supplemental Guidelines" for more detailed discussion of geostatistics (Chapter 7) and seismic applications (Chapter 8)].

4.1.3 Material Balance

Material balance methods to estimate recoverable quantities involve the analysis of pressure behavior as reservoir fluids are withdrawn. In ideal situations, such as depletion-drive gas reservoirs in homogeneous, high-permeability reservoir rocks and where sufficient and high quality pressure data is available, estimation based on material balance may provide very reliable estimates of ultimate recovery at various abandonment pressures. In complex situations, such as those involving water influx, compartmentalization, multiphase behavior, and multilayered or low-permeability reservoirs, material balance estimates alone may provide erroneous results. Evaluators should take care to accommodate the complexity of the reservoir and its pressure response to depletion in developing uncertainty profiles for the applied recovery project.

Computer reservoir modeling or reservoir simulation can be considered a sophisticated form of material balance analysis. While such modeling can be a reliable predictor of reservoir behavior under a defined development program, the reliability of input rock properties, reservoir geometry, relative permeability functions, and fluid properties are critical. Predictive models are most reliable

in estimating recoverable quantities when there is sufficient production history to validate the model through history matching.

4.1.4 Production Performance Analysis

Analysis of the change in production rates and production fluids ratios vs. time and vs. cumulative production as reservoir fluids are withdrawn provides valuable information to predict ultimate recoverable quantities. In some cases, before decline in production rates is apparent, trends in performance indicators such as gas/oil ratio (GOR), water/oil ratio (WOR), condensate/gas ratio (CGR), and bottomhole or flowing pressures can be extrapolated to an economic limit condition to estimate reserves.

Reliable results require a sufficient period of stable operating conditions after wells in a reservoir have established drainage areas. In estimating recoverable quantities, evaluators must consider complicating factors affecting production performance behavior, such as variable reservoir and fluid properties, transient vs. stabilized flow, changes in operating conditions, interference effects, and depletion mechanisms. In early stages of depletion, there may be significant uncertainty in both the ultimate performance profile and the commercial factors that impact abandonment rate. Such uncertainties should be reflected in the resources categorization. For very mature reservoirs, the future production forecast may be sufficiently well defined that the remaining uncertainty in the technical profile is not significant; in such cases, the "best estimate" 2P scenario may also be used for the 1P and 3P production forecasts. However, there may still be commercial uncertainties that will impact the abandonment rate, and these should be accommodated in the resources categorization.

4.2 Deterministic and Probabilistic Methods

Regardless of the analytical procedure used, resource estimates may be prepared using either deterministic or probabilistic methods. A deterministic estimate is a single discrete scenario within a range of outcomes that could be derived by probabilistic analysis.

In the deterministic method, a discrete value or array of values for each parameter is selected based on the estimator's choice of the values that are most appropriate for the corresponding resource category. A single outcome of recoverable quantities is derived for each deterministic increment or scenario.

In the probabilistic method, the estimator defines a distribution representing the full range of possible values for each input parameter. These distributions may be randomly sampled (typically using Monte Carlo simulation software) to compute a full range and distribution of potential outcome of results of recoverable quantities (see "2001 Supplemental Guidelines," Chapter 5, for more detailed discussion of probabilistic reserves estimation procedures). This approach is most often applied to volumetric resource calculations in the early phases of an exploitation and development projects. The Resources Categorization guidelines include criteria that provide specific limits to parameters associated with each category. Moreover, the resource analysis must consider commercial uncertainties. Accordingly, when probabilistic methods are used, constraints on parameters may be required to ensure that results are not outside the range imposed by the category deterministic guidelines and commercial uncertainties.

Deterministic volumes are estimated for discrete increments and defined scenarios. While deterministic estimates may have broadly inferred confidence levels, they do not have associated quantitatively defined probabilities. Nevertheless, the ranges of the probability guidelines established for the probabilistic method (see Range of Uncertainty, section 2.2.1) influence the amount of uncertainty generally inferred in the estimate derived from the deterministic method.

Both deterministic and probabilistic methods may be used in combination to ensure that results of either method are reasonable.

4.2.1 Aggregation Methods

Oil and gas quantities are generally estimated and categorized according to certainty of recovery within individual reservoirs or portions of reservoirs; this is referred to as the "reservoir level" assessment. These estimates are summed to arrive at estimates for fields, properties, and projects. Further summation is applied to yield totals for areas, countries, and companies; these are generally referred to as "resource reporting levels." The uncertainty distribution of the individual estimates at each of these levels may differ widely, depending on the geological settings and the maturity of the resources. This cumulative summation process is generally referred to as "aggregation."

Two general methods of aggregation may be applied: arithmetic summation of estimates by category and statistical aggregation of uncertainty distributions. There is typically significant divergence in results from applying these alternative methods. In statistical aggregation, except in the rare situation when all the reservoirs being aggregated are totally dependent, the P90 (high degree of certainty) quantities from the aggregate are always greater than the arithmetic sum of the reservoir level P90 quantities, and the P10 (low degree of certainty) of the aggregate is always less than the arithmetic sum P10 quantities assessed at the reservoir level. This "portfolio effect" is the result of the central limit theorem in statistical analysis. Note that the mean (arithmetic average) of the sums is equal to the sum of the means; that is, there is no portfolio effect in aggregating mean values.

In practice, there is likely to be a large degree of dependence between reservoirs in the same field, and such dependencies must be incorporated in the probabilistic calculation. When dependency is present and not accounted for, probabilistic aggregation will overestimate the low estimate result and underestimate the high estimate result. (Aggregation of Reserves is discussed in Chapter 6 of the "2001 Supplemental Guidelines.")

The aggregation methods utilized depends on the business purpose. It is recommended that for reporting purposes, assessment results should not incorporate statistical aggregation beyond the field, property, or project level. Results reporting beyond this level should use arithmetic summation by category but should caution that the aggregate Proved may be a very conservative estimate and aggregate 3P may be very optimistic depending on the number of items in the aggregate. Aggregates of 2P results typically have less portfolio effect that may not be significant in mature properties where the statistical median approaches the mean of the resulting distribution.

Various techniques are available to aggregate deterministic and/or probabilistic field, property, or project assessment results for detailed business unit or corporate portfolio analyses where the results incorporate the benefits of portfolio size and diversification. Again, aggregation should incorporate degree of dependency. Where the underlying analyses are available, comparison of arithmetic and statistical aggregation results may be valuable in assessing impact of the portfolio effect. Whether deterministic or probabilistic methods are used, care should be taken to avoid systematic bias in the estimation process.

It is recognized that the monetary value associated with these recoveries is dependent on the production and cash flow schedules for each project; thus, aggregate distributions of recoverable quantities may not be a direct indication of corresponding uncertainty distributions of aggregate value.

4.2.1.1 Aggregating Resources Classes

Petroleum quantities classified as Reserves, Contingent Resources, or Prospective Resources should not be aggregated with each other without due consideration of the significant differences in the criteria associated with their classification. In particular, there may be a significant risk that

accumulations containing Contingent Resources and/ or Prospective Resources will not achieve commercial production.

Where the associated discovery and commerciality risks have been quantitatively defined, statistical techniques may be applied to incorporate individual project risk estimates in portfolio analysis of volume and value.

Table 1: Recoverable Resources Classes and Sub-Classes

Class/Sub-Class	**Definition**	**Guidelines**
Reserves	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions.	Reserves must satisfy four criteria: they must be discovered, recoverable, commercial, and remaining based on the development project(s) applied. Reserves are further subdivided in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their development and production status. To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability. There must be a reasonable expectation that all required internal and external approvals will be forthcoming, and there is evidence of firm intention to proceed with development within a reasonable time frame. A reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented. To be included in the Reserves class, there must be a high confidence in the commercial producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.
On Production	The development project is currently producing and selling petroleum to market.	The key criterion is that the project is receiving income from sales, rather than the approved development project necessarily being complete. This is the point at which the project "chance of commerciality" can be said to be 100%. The project "decision gate" is the decision to initiate commercial production from the project.
Approved for Development	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is under way.	At this point, it must be certain that the development project is going ahead. The project must not be subject to any contingencies such as outstanding regulatory approvals or sales contracts. Forecast capital expenditures should be included in the reporting entity's current or following year's approved budget. The project "decision gate" is the decision to start investing capital in the construction of production facilities and/or drilling development wells.

Class/Sub-Class	**Definition**	**Guidelines**
Justified for Development	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.	In order to move to this level of project maturity, and hence have reserves associated with it, the development project must be commercially viable at the time of reporting, based on the reporting entity's assumptions of future prices, costs, etc. ("forecast case") and the specific circumstances of the project. Evidence of a firm intention to proceed with development within a reasonable time frame will be sufficient to demonstrate commerciality. There should be a development plan in sufficient detail to support the assessment of commerciality and a reasonable expectation that any regulatory approvals or sales contracts required prior to project implementation will be forthcoming. Other than such approvals/contracts, there should be no known contingencies that could preclude the development from proceeding within a reasonable timeframe (see Reserves class). The project "decision gate" is the decision by the reporting entity and its partners, if any, that the project has reached a level of technical and commercial maturity sufficient to justify proceeding with development at that point in time.
Contingent Resources	Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable due to one or more contingencies.	Contingent Resources may include, for example, projects for which there are currently no viable markets, or where commercial recovery is dependent on technology under development, or where evaluation of the accumulation is insufficient to clearly assess commerciality. Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by their economic status.
Development Pending	A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future.	The project is seen to have reasonable potential for eventual commercial development, to the extent that further data acquisition (e.g. drilling, seismic data) and/or evaluations are currently ongoing with a view to confirming that the project is commercially viable and providing the basis for selection of an appropriate development plan. The critical contingencies have been identified and are reasonably expected to be resolved within a reasonable time frame. Note that disappointing appraisal/evaluation results could lead to a re-classification of the project to "On Hold" or "Not Viable" status. The project "decision gate" is the decision to undertake further data acquisition and/or studies designed to move the project to a level of technical and commercial maturity at which a decision can be made to proceed with development and production.

Class/Sub-Class	**Definition**	**Guidelines**
Development Unclarified or on Hold	A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay.	The project is seen to have potential for eventual commercial development, but further appraisal/evaluation activities are on hold pending the removal of significant contingencies external to the project, or substantial further appraisal/evaluation activities are required to clarify the potential for eventual commercial development. Development may be subject to a significant time delay. Note that a change in circumstances, such that there is no longer a reasonable expectation that a critical contingency can be removed in the foreseeable future, for example, could lead to a re-classification of the project to "Not Viable" status. The project "decision gate" is the decision to either proceed with additional evaluation designed to clarify the potential for eventual commercial development or to temporarily suspend or delay further activities pending resolution of external contingencies.
Development Not Viable	A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time due to limited production potential.	The project is not seen to have potential for eventual commercial development at the time of reporting, but the theoretically recoverable quantities are recorded so that the potential opportunity will be recognized in the event of a major change in technology or commercial conditions. The project "decision gate" is the decision not to undertake any further data acquisition or studies on the project for the foreseeable future.
Prospective Resources	Those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.	Potential accumulations are evaluated according to their chance of discovery and, assuming a discovery, the estimated quantities that would be recoverable under defined development projects. It is recognized that the development programs will be of significantly less detail and depend more heavily on analog developments in the earlier phases of exploration.
Prospect	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target.	Project activities are focused on assessing the chance of discovery and, assuming discovery, the range of potential recoverable quantities under a commercial development program.
Lead	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation in order to be classified as a prospect.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to confirm whether or not the lead can be matured into a prospect. Such evaluation includes the assessment of the chance of discovery and, assuming discovery, the range of potential recovery under feasible development scenarios.
Play	A project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation in order to define specific leads or prospects.	Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to define specific leads or prospects for more detailed analysis of their chance of discovery and, assuming discovery, the range of potential recovery under hypothetical development scenarios.

Table 2: Reserves Status Definitions and Guidelines

Status	Definition	Guidelines
Developed Reserves	Developed Reserves are expected quantities to be recovered from existing wells and facilities.	Reserves are considered developed only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Where required facilities become unavailable, it may be necessary to reclassify Developed Reserves as Undeveloped. Developed Reserves may be further sub-classified as Producing or Non-Producing.
Developed Producing Reserves	Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate.	Improved recovery reserves are considered producing only after the improved recovery project is in operation.
Developed Non-Producing Reserves	Developed Non-Producing Reserves include shut-in and behind-pipe Reserves.	Shut-in Reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells which will require additional completion work or future re-completion prior to start of production. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.
Undeveloped Reserves	Undeveloped Reserves are quantities expected to be recovered through future investments:	(1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g. when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.

Table 3: Reserves Category Definitions and Guidelines

Category	Definition	Guidelines
Proved Reserves	Proved Reserves are those quantities of petroleum, which by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations.	If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. The area of the reservoir considered as Proved includes (1) the area delineated by drilling and defined by fluid contacts, if any, and (2) adjacent undrilled portions of the reservoir that can reasonably be judged as continuous with it and commercially productive on the basis of available geoscience and engineering data. In the absence of data on fluid contacts, Proved quantities in a reservoir are limited by the lowest known hydrocarbon (LKH) as seen in a well penetration unless otherwise indicated by definitive geoscience, engineering, or performance data. Such definitive information may include pressure gradient analysis and seismic indicators. Seismic data alone may not be sufficient to define fluid contacts for Proved reserves (see "2001 Supplemental Guidelines," Chapter 8). Reserves in undeveloped locations may be classified as Proved provided that: • The locations are in undrilled areas of the reservoir that can be judged with reasonable certainty to be commercially productive. • Interpretations of available geoscience and engineering data indicate with reasonable certainty that the objective formation is laterally continuous with drilled Proved locations. For Proved Reserves, the recovery efficiency applied to these reservoirs should be defined based on a range of possibilities supported by analogs and sound engineering judgment considering the characteristics of the Proved area and the applied development program.
Probable Reserves	Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves.	It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate. Probable Reserves may be assigned to areas of a reservoir adjacent to Proved where data control or interpretations of available data are less certain. The interpreted reservoir continuity may not meet the reasonable certainty criteria. Probable estimates also include incremental recoveries associated with project recovery efficiencies beyond that assumed for Proved.

Category	Definition	Guidelines
Possible Reserves	Possible Reserves are those additional reserves which analysis of geoscience and engineering data indicate are less likely to be recoverable than Probable Reserves.	The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate. Possible Reserves may be assigned to areas of a reservoir adjacent to Probable where data control and interpretations of available data are progressively less certain. Frequently, this may be in areas where geoscience and engineering data are unable to clearly define the area and vertical reservoir limits of commercial production from the reservoir by a defined project. Possible estimates also include incremental quantities associated with project recovery efficiencies beyond that assumed for Probable.
Probable and Possible Reserves	(See above for separate criteria for Probable Reserves and Possible Reserves.)	The 2P and 3P estimates may be based on reasonable alternative technical and commercial interpretations within the reservoir and/or subject project that are clearly documented, including comparisons to results in successful similar projects. In conventional accumulations, Probable and/or Possible Reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from Proved areas by minor faulting or other geological discontinuities and have not been penetrated by a wellbore but are interpreted to be in communication with the known (Proved) reservoir. Probable or Possible Reserves may be assigned to areas that are structurally higher than the Proved area. Possible (and in some cases, Probable) Reserves may be assigned to areas that are structurally lower than the adjacent Proved or 2P area. Caution should be exercised in assigning Reserves to adjacent reservoirs isolated by major, potentially sealing, faults until this reservoir is penetrated and evaluated as commercially productive. Justification for assigning Reserves in such cases should be clearly documented. Reserves should not be assigned to areas that are clearly separated from a known accumulation by non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results); such areas may contain Prospective Resources. In conventional accumulations, where drilling has defined a highest known oil (HKO) elevation and there exists the potential for an associated gas cap, Proved oil Reserves should only be assigned in the structurally higher portions of the reservoir if there is reasonable certainty that such portions are initially above bubble point pressure based on documented engineering analyses. Reservoir portions that do not meet this certainty may be assigned as Probable and Possible oil and/or gas based on reservoir fluid properties and pressure gradient interpretations.

Appendix A: Glossary of Terms Used in Resources Evaluations

Originally published in January 2005, the SPE/WPC/AAPG Glossary has herein been revised to align with the 2007 SPE/WPC/AAPG/SPEE Petroleum Resources Management System document. The glossary provides high-level definitions of terms use in resource evaluations. Where appropriate, sections and/or chapters within the 2007 and/or 2001 documents are referenced to best show the use of selected terms in context.

TERM	Reference	DEFINITION
1C	2007 - 2.2.2	Denotes low estimate scenario of Contingent Resources.
2C	2007 - 2.2.2	Denotes best estimate scenario of Contingent Resources.
3C	2007 - 2.2.2	Denotes high estimate scenario of Contingent Resources.
1P	2007 - 2.2.2	Taken to be equivalent to Proved Reserves; denotes low estimate scenario of Reserves.
2P	2007 - 2.2.2	Taken to be equivalent to the sum of Proved plus Probable Reserves; denotes best estimate scenario of Reserves.
3P	2007 - 2.2.2	Taken to be equivalent to the sum of Proved plus Probable plus Possible Reserves; denotes high estimate scenario of reserves.
Accumulation	2001 - 2.3	An individual body of naturally occurring petroleum in a reservoir.
Aggregation	2007 - 3.5.1 2001 - 6	The process of summing reservoir (or project) level estimates of resource quantities to higher levels or combinations such as field, country or company totals. Arithmetic summation of incremental categories may yield different results from probabilistic aggregation of distributions.
Approved for Development	2007 - Table I	All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is underway.
Analogous Reservoir	2007 - 3.4.1	Analogous reservoirs, as used in resources assessments, have similar rock and fluid properties, reservoir conditions (depth, temperature and pressure) and drive mechanisms, but are typically at a more advanced stage of development than the reservoir of interest and thus may provide concepts to assist in the interpretation of more limited data and estimation of recovery.
Assessment	2007 - 1.2	See Evaluation.
Associated Gas		Associated Gas is a natural gas found in contact with or dissolved in crude oil in the reservoir. It can be further categorized as Gas-Cap Gas or Solution Gas.
Barrels of Oil Equivalent (BOE)	2001 - 3.7	See Crude Oil Equivalent.
Basin-Centered Gas	2007 - 2.4	An unconventional natural gas accumulation that is regionally pervasive and characterized by low permeability, abnormal pressure, gas saturated reservoirs and lack of a down-dip water leg.

Behind-Pipe Reserves	2007 - 2.1.3.1	Behind-pipe reserves are expected to be recovered from zones in existing wells, which will require additional completion work or future re-completion prior to the start of production. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.
Best Estimate	2007 - 2.2.2 2001 - 2.5	With respect to resource categorization, this is considered to be the best estimate of the quantity that will actually be recovered from the accumulation by the project. It is the most realistic assessment of recoverable quantities if only a single result were reported. If probabilistic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
Bitumen	2007 - 2.4	See Natural Bitumen.
Buy Back Agreement		An agreement between a host government and a contractor under which the host pays the contractor an agreed price for all volumes of hydrocarbons produced by the contractor. Pricing mechanisms typically provide the contractor with an opportunity to recover investment at an agreed level of profit.
Carried Interest	2001 - 9.6.7	A carried interest is an agreement under which one party (the carrying party) agrees to pay for a portion or all of the pre-production costs of another party (the carried party) on a license in which both own a portion of the working interest.
Chance	2007 - 1.1	Chance is 1- Risk. (See Risk)
Coalbed Methane (CBM)	2007 - 2.4	Natural gas contained in coal deposits, whether or not stored in gaseous phase. Coalbed gas, although usually mostly methane, may be produced with variable amounts of inert or even non-inert gases. (Also termed Coal Seam Gas, CSG, or Natural Gas from Coal, NGC)
Commercial	2007 - 2.1.2 and Table 1	When a project is commercial, this implies that the essential social, environmental and economic conditions are met, including political, legal, regulatory and contractual conditions. In addition, a project is commercial if the degree of commitment is such that the accumulation is expected to be developed and placed on production within a reasonable time frame. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.
Committed Project	2007 - 2.1.2 and Table 1	Projects are committed only when it can be demonstrated that there is a firm intention to develop them and bring them to production. Intention may be demonstrated with funding/financial plans and declaration of commerciality based on realistic expectations of regulatory approvals and reasonable satisfaction of other conditions that would otherwise prevent the project from being developed and brought to production.

Completion		Completion of a well. The process by which a well is brought to its final classification—basically dry hole, producer, injector, or monitor well. A dry hole is normally plugged and abandoned. A well deemed to be producible of petroleum, or used as an injector, is completed by establishing a connection between the reservoir(s) and the surface so that fluids can be produced from, or injected into, the reservoir. Various methods are utilized to establish this connection, but they commonly involve the installation of some combination of borehole equipment, casing and tubing, and surface injection or production facilities.
Completion Interval		The specific reservoir interval(s) that is (are) open to the borehole and connected to the surface facilities for production or injection, or reservoir intervals open to the wellbore and each other for injection purposes.
Concession	2001 - 9.6.1	A grant of access for a defined area and time period that transfers certain entitlements to produced hydrocarbons from the host country to an enterprise. The enterprise is generally responsible for exploration, development, production, and sale of hydrocarbons that may be discovered. Typically granted under a legislated fiscal system where the host country collects taxes, fees, and sometimes royalty on profits earned.
Condensate	2001 - 3.2	Condensates are a mixture of hydrocarbons (mainly pentanes and heavier) that exist in the gaseous phase at original temperature and pressure of the reservoir, but when produced, are in the liquid phase at surface pressure and temperature conditions. Condensate differs from natural gas liquids (NGL) on two respects: (1) NGL is extracted and recovered in gas plants rather than lease separators or other lease facilities; and (2) NGL includes very light hydrocarbons (ethane, propane, butanes) as well as the pentanes-plus that are the main constituents of condensate.
Conditions	2007 - 3.1	The economic, marketing, legal, environmental, social, and governmental factors forecast to exist and impact the project during the time period being evaluated (also termed Contingencies).
Constant Case	2007 - 3.1.1	Modifier applied to project resources estimates and associated cash flows when such estimates are based on those conditions (including costs and product prices) that are fixed at a defined point in time (or period average) and are applied unchanged throughout the project life, other than those permitted contractually. In other words, no inflation or deflation adjustments are made to costs or revenues over the evaluation period.
Contingency	2007 - 3.1 and Table 1	See Conditions.
Contingent Project	2007 - 2.1.2	Development and production of recoverable quantities has not been committed due to conditions that may or may not be fulfilled.
Contingent Resources	2007 - 1.1 and Table 1	Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingent Resources are a class of discovered recoverable resources.
Continuous-Type Deposit	2007 - 2.4 2001 - 2.3	A petroleum accumulation that is pervasive throughout a large area and which is not significantly affected by hydrodynamic influences. Such accumulations are included in Unconventional Resources. Examples of such deposits include "basin-centered" gas, shale gas, gas hydrates, natural bitumen and oil shale accumulations.

Conventional Crude Oil	2007 - 2.4	Crude oil flowing naturally or capable of being pumped without further processing or dilution (see Crude Oil).
Conventional Gas	2007 - 2.4	Conventional Gas is a natural gas occurring in a normal porous and permeable reservoir rock, either in the gaseous phase or dissolved in crude oil, and which technically can be produced by normal production practices.
Conventional Resources	2007 - 2.4	Conventional resources exist in discrete petroleum accumulations related to localized geological structural features and/or stratigraphic conditions, typically with each accumulation bounded by a downdip contact with an aquifer, and which is significantly affected by hydrodynamic influences such as buoyancy of petroleum in water.
Conveyance	2001 - 9.6.9	Certain transactions that are in substance borrowings repayable in cash or its equivalent and shall be accounted for as borrowings and may not qualify for the recognition and reporting of oil and gas reserves.
Cost Recovery	2001 - 9.6.2, 9.7.2	Under a typical production-sharing agreement, the contractor is responsible for the field development and all exploration and development expenses. In return, the contractor recovers costs (investments and operating expenses) out of the gross production stream. The contractor normally receives payment in oil production and is exposed to both technical and market risks.
Crude Oil	2001 - 3.1	Crude oil is the portion of petroleum that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric conditions of pressure and temperature. Crude oil may include small amounts of non-hydrocarbons produced with the liquids but does not include liquids obtained from the processing of natural gas.
Crude Oil Equivalent	2001 - 3.7	Converting gas volumes to the oil equivalent is customarily done on the basis of the nominal heating content or calorific value of the fuel. There are a number of methodologies in common use. Before aggregating, the gas volumes first must be converted to the same temperature and pressure. Common industry gas conversion factors usually range between 1 barrel of oil equivalent (BOE) = 5,600 standard cubic feet (scf) of gas to 1 BOE = 6,000 scf. (Many operators use 1 BOE = 5,620 scf derived from the metric unit equivalent 1 m^3 crude oil = 1,000 m^3 natural gas). (Also termed Barrels of Oil Equivalent.)
Cumulative Production	2007 - 1.1	The sum of production of oil and gas to date (see also Production).
Current Economic Conditions	2007 - 3.1.1	Establishment of current economic conditions should include relevant historical petroleum prices and associated costs and may involve a defined averaging period. The SPE guidelines recommend that a 1-year historical average of costs and prices should be used as the default basis of "constant case" resources estimates and associated project cash flows.
Cushion Gas Volume		With respect to underground natural gas storage, Cushion Gas Volume (CGV) is the gas volume required in a storage field for reservoir management purposes and to maintain adequate minimum storage pressure for meeting working gas volume delivery with the required withdrawal profile. In caverns, the cushion gas volume is also required for stability reasons. The cushion gas volume may consist of recoverable and non-recoverable in-situ gas volumes and injected gas volumes.
Deposit	2007 - 2.4	Material laid down by a natural process. In resource evaluations, it identifies an accumulation of hydrocarbons in a reservoir (see Accumulation).

Deterministic Estimate	2007 - 3.5	The method of estimation of Reserves or Resources is called deterministic if a discrete estimate(s) is made based on known geoscience, engineering, and economic data.
Developed Reserves	2007 - 2.1.3.2 and Table 2	Developed Reserves are expected to be recovered from existing wells including reserves behind pipe. Improved recovery reserves are considered "developed" only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Developed Reserves may be further sub-classified as Producing or Non-Producing.
Developed Producing Reserves	2007 - 2.1.3.2 and Table 2	Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate. Improved recovery reserves are considered producing only after the improved recovery project is in operation.
Developed Non-Producing Reserves	2007 - 2.1.3.2 and Table 2	Developed Non-Producing Reserves include shut-in and behind-pipe Reserves. Shut-in Reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate but which have not yet started producing, (2) wells which were shut in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are also those expected to be recovered from zones in existing wells which will require additional completion work or future re-completion prior to start of production. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.
Development Not Viable	2007 - 2.1.3.1 and Table 1	A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time due to limited production potential. A project maturity sub-class that reflects the actions required to move a project towards commercial production.
Development Pending	2007 - 2.1.3.1 and Table 1	A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future. A project maturity sub-class that reflects the actions required to move a project towards commercial production.
Development Plan	2007 - 1.2	The design specifications, timing and cost estimates of the development project including, but not limited to, well locations, completion techniques, drilling methods, processing facilities, transportation and marketing. (See also Project.)
Development Unclarified or On Hold	2007 - 2.1.3.1 and Table 1	A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay. A project maturity sub-class that reflects the actions required to move a project toward commercial production.
Discovered	2007 - 2.1.1	A discovery is one petroleum accumulation, or several petroleum accumulations collectively, for which one or several exploratory wells have established through testing, sampling, and/or logging the existence of a significant quantity of potentially moveable hydrocarbons. In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for economic recovery. (See also Known Accumulations.)

Discovered Petroleum Initially-in-Place	2007 - 1.1	Discovered Petroleum Initially-in-Place is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production. Discovered Petroleum Initially-in-Place may be subdivided into Commercial, Sub-Commercial, and Unrecoverable, with the estimated commercially recoverable portion being classified as Reserves and the estimated sub-commercial recoverable portion being classified as Contingent Resources.
Dry Gas	2001 - 3.2	Dry Gas is a natural gas remaining after hydrocarbon liquids have been removed prior to the reference point. The dry gas and removed hydrocarbon liquids are accounted for separately in resource assessments. It should be recognized that this is a resource assessment definition and not a phase behavior definition. (Also called Lean Gas.)
Dry Hole	2001 - 2.5	A well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.
Economic	2007 - 3.1.2 2001 - 4.3	In relation to petroleum Reserves and Resources, economic refers to the situation where the income from an operation exceeds the expenses involved in, or attributable to, that operation.
Economic Interest	2001 - 9.4.1	An Economic Interest is possessed in every case in which an investor has acquired any Interest in mineral in place and secures, by any form of legal relationship, revenue derived from the extraction of the mineral to which he must look for a return of his capital.
Economic Limit	2007 - 3.1.2 2001 - 4.3	Economic limit is defined as the production rate beyond which the net operating cash flows (after royalties or share of production owing to others) from a project, which may be an individual well, lease, or entire field, are negative.
Entitlement	2007 - 3.3	That portion of future production (and thus resources) legally accruing to a lessee or contractor under the terms of the development and production contract with a lessor.
Entity	2007 - 3.0	Entity is a legal construct capable of bearing legal rights and obligations. In resources evaluations this typically refers to the lessee or contractor, which is some form of legal corporation (or consortium of corporations). In a broader sense, an entity can be an organization of any form and may include governments or their agencies.
Estimated Ultimate Recovery (EUR)	2007 - 1.1	Those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from an accumulation, plus those quantities already produced therefrom.
Evaluation	2007- 3.0	The geosciences, engineering, and associated studies, including economic analyses, conducted on a petroleum exploration, development, or producing project resulting in estimates of the quantities that can be recovered and sold and the associated cash flow under defined forward conditions. Projects are classified and estimates of derived quantities are categorized according to applicable guidelines. (Also termed Assessment.)

Evaluator	2007 - 1.2, 2.1.2	The person or group of persons responsible for performing an evaluation of a project. These may be employees of the entities that have an economic interest in the project or independent consultants contracted for reviews and audits. In all cases, the entity accepting the evaluation takes responsibility for the results, including Reserves and Resources and attributed value estimates.
Exploration		Prospecting for undiscovered petroleum.
Field	2001 - 2.3	An area consisting of a single reservoir or multiple reservoirs all grouped on, or related to, the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field that are separated vertically by intervening impermeable rock, laterally by local geologic barriers, or both. The term may be defined differently by individual regulatory authorities.
Flare Gas	2007 - 3.2.2 2001 - 3.1	Total volume of gas vented or burned as part of production and processing operations.
Flow Test	2007 - 2.1.1	An operation on a well designed to demonstrate the existence of moveable petroleum in a reservoir by establishing flow to the surface and/or to provide an indication of the potential productivity of that reservoir (such as a wireline formation test).
Fluid Contacts	2007 - 2.2.2	The surface or interface in a reservoir separating two regions characterized by predominant differences in fluid saturations. Because of capillary and other phenomena, fluid saturation change is not necessarily abrupt or complete, nor is the surface necessarily horizontal.
Forecast Case	2007 - 3.1.1	Modifier applied to project resources estimates and associated cash flow when such estimates are based on those conditions (including costs and product price schedules) forecast by the evaluator to reasonably exist throughout the life of the project. Inflation or deflation adjustments are made to costs and revenues over the evaluation period.
Forward Sales	2001 - 9.6.6	There are a variety of forms of transactions that involve the advance of funds to the owner of an interest in an oil and gas property in exchange for the right to receive the cash proceeds of production, or the production itself, arising from the future operation of the property. In such transactions, the owner almost invariably has a future performance obligation, the outcome of which is uncertain to some degree. Determination as to whether the transaction represents a sale or financing rests on the particular circumstances of each case.
Fuel Gas	2007 - 3.2.2	See Lease Fuel.
Gas Balance	2007 - 3.2.7 2001 - 3.10	In gas production operations involving multiple working interest owners, an imbalance in gas deliveries can occur. These imbalances must be monitored over time and eventually balanced in accordance with accepted accounting procedures.

Gas Cap Gas	2001 - 6.2.2	Gas Cap Gas is a free natural gas which overlies and is in contact with crude oil in the reservoir. It is a subset of Associated Gas.
Gas Hydrates	2007 - 2.4	Gas hydrates are naturally occurring crystalline substances composed of water and gas, in which a solid water lattice accommodates gas molecules in a cage-like structure, or clathrate. At conditions of standard temperature and pressure (STP), one volume of saturated methane hydrate will contain as much as 164 volumes of methane gas. Because of this large gas-storage capacity, gas hydrates are thought to represent an important future source of natural gas. Gas hydrates are included in unconventional resources, but the technology to support commercial production has yet to be developed.
Gas Inventory		With respect to underground natural gas storage, "gas inventory" is the sum of Working Gas Volume and Cushion Gas Volume.
Gas/Oil Ratio	2007 - 3.4.4	Gas to oil ratio in an oil field, calculated using measured natural gas and crude oil volumes at stated conditions. The gas/oil ratio may be the solution gas/oil , symbol R_s; produced gas/oil ratio, symbol R_p; or another suitably defined ratio of gas production to oil production.
Gas Plant Products		Gas Plant Products are natural gas liquids (or components) recovered from natural gas in gas processing plants and, in some situations, from field facilities. Gas Plant Products include ethane, propane, butanes, butanes/propane mixtures, natural gasoline and plant condensates, sulfur, carbon dioxide, nitrogen, and helium.
Gas-to-Liquids (GTL) Projects		Gas-to-Liquids projects use specialized processing (e.g., Fischer-Tropsch synthesis) to convert natural gas into liquid petroleum products. Typically, these projects are applied to large gas accumulations where lack of adequate infrastructure or local markets would make conventional natural gas development projects uneconomic.
Geostatistical Methods	2001 - 7.1	A variety of mathematical techniques and processes dealing with the collection, methods, analysis, interpretation, and presentation of masses of geoscience and engineering data to (mathematically) describe the variability and uncertainties within any reservoir unit or pool, specifically related here to resources estimates, including the definition of (all) well and reservoir parameters in 1, 2, and 3 dimensions and the resultant modeling and potential prediction of various aspects of performance.
High Estimate	2007 - 2.2.2 2001 - 2.5	With respect to resource categorization, this is considered to be an optimistic estimate of the quantity that will actually be recovered from an accumulation by a project. If probabilistic methods are used, there should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.
Hydrocarbons	2007 - 1.1	Hydrocarbons are chemical compounds consisting wholly of hydrogen and carbon.

Improved Recovery (IR)	2007 - 2.3.4	Improved Recovery is the extraction of additional petroleum, beyond Primary Recovery, from naturally occurring reservoirs by supplementing the natural forces in the reservoir. It includes waterflooding and gas injection for pressure maintenance, secondary processes, tertiary processes and any other means of supplementing natural reservoir recovery processes. Improved recovery also includes thermal and chemical processes to improve the in-situ mobility of viscous forms of petroleum. (Also called Enhanced Recovery.)
Injection	2001 - 3.5 2007 - 3.2.5	The forcing, pumping, or free flow under vacuum, of substances into a porous and permeable subsurface rock formation. Injected substances can include either gases or liquids.
Justified for Development	2007 - 2.1.3.1 and Table 1	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting and that there are reasonable expectations that all necessary approvals/contracts will be obtained. A project maturity sub-class that reflects the actions required to move a project toward commercial production.
Kerogen		The naturally occurring, solid, insoluble organic material that occurs in source rocks and can yield oil upon heating. Kerogen is also defined as the fraction of large chemical aggregates in sedimentary organic matter that is insoluble in solvents (in contrast, the fraction that is soluble in organic solvents is called bitumen). (See also Oil Shales.)
Known Accumulation	2007 - 2.1.1 2001 - 2.2	An accumulation is an individual body of petroleum-in-place. The key requirement to consider an accumulation as "known," and hence containing Reserves or Contingent Resources, is that it must have been discovered, that is, penetrated by a well that has established through testing, sampling, or logging the existence of a significant quantity of recoverable hydrocarbons.
Lead	2007 - 2.1.3.1 and Table 1	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation in order to be classified as a prospect. A project maturity sub-class that reflects the actions required to move a project toward commercial production.
Lease Condensate		Lease Condensate is condensate recovered from produced natural gas in gas/liquid separators or field facilities.
Lease Fuel	2007 - 3.2.2	Oil and/or gas used for field and processing plant operations. For consistency, quantities consumed as lease fuel should be treated as shrinkage. However, regulatory guidelines may allow lease fuel to be included in Reserves estimates. Where claimed as Reserves, such fuel quantities should be reported separately from sales, and their value must be included as an operating expense.
Lease Plant		A general term referring to processing facilities that are dedicated to one or more development projects and the petroleum is processed without prior custody transfer from the owners of the extraction project (for gas projects, also termed "Local Gas Plant").
Liquefied Natural Gas (LNG) Project		Liquefied Natural Gas projects use specialized cryogenic processing to convert natural gas into liquid form for tanker transport. LNG is about 1/614 the volume of natural gas at standard temperature and pressure.
Loan Agreement	2001 - 9.6.5	A loan agreement is typically used by a bank, other investor, or partner to finance all or part of an oil and gas project. Compensation for funds advanced is limited to a specified interest rate.

Low/Best/High Estimates	2007 - 2.2.1, 2.2.2	The range of uncertainty reflects a reasonable range of estimated potentially recoverable volumes at varying degrees of uncertainty (using the cumulative scenario approach) for an individual accumulation or a project.
Low Estimate	2007 - 2.2.2 2001 - 2.5	With respect to resource categorization, this is considered to be a conservative estimate of the quantity that will actually be recovered from the accumulation by a project. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
Lowest Known Hydrocarbons	2007 - 2.2.2.	The deepest occurrence of a producible hydrocarbon accumulation as interpreted from well log, flow test, pressure measurement, or core data.
Marginal Contingent Resources	2007 - 2.1.3.3	Known (discovered) accumulations for which a development project(s) has been evaluated as economic or reasonably expected to become economic but commitment is withheld because of one or more contingencies (e.g., lack of market and/or infrastructure).
Measurement	2007 - 3.0	The process of establishing quantity (volume or mass) and quality of petroleum products delivered to a reference point under conditions defined by delivery contract or regulatory authorities.
Mineral Interest	2001 - 9.3	Mineral Interests in properties including (1) a fee ownership or lease, concession, or other interest representing the right to extract oil or gas subject to such terms as may be imposed by the conveyance of that interest; (2) royalty interests, production payments payable in oil or gas, and other non-operating interests in properties operated by others; and (3) those agreements with foreign governments or authorities under which a reporting entity participates in the operation of the related properties or otherwise serves as producer of the underlying reserves (as opposed to being an independent purchaser, broker, dealer, or importer).
Monte Carlo Simulation	2001 - 5 2007 - 3.5	A type of stochastic mathematical simulation that randomly and repeatedly samples input distributions (e.g., reservoir properties) to generate a resulting distribution (e.g., recoverable petroleum volumes).
Natural Bitumen	2007 - 2.4	Natural Bitumen is the portion of petroleum that exists in the semisolid or solid phase in natural deposits. In its natural state, it usually contains sulfur, metals, and other non-hydrocarbons. Natural Bitumen has a viscosity greater than 10,000 milliPascals per second (mPa.s) (or centipoises) measured at original temperature in the deposit and atmospheric pressure, on a gas free basis. In its natural viscous state, it is not normally recoverable at commercial rates through a well and requires the implementation of improved recovery methods such as steam injection. Natural Bitumen generally requires upgrading prior to normal refining. (Also called Crude Bitumen.)
Natural Gas	2007 - 3.2.3 2001 - 6.6, 9.4.4	Natural Gas is the portion of petroleum that exists either in the gaseous phase or is in solution in crude oil in natural underground reservoirs, and which is gaseous at atmospheric conditions of pressure and temperature. Natural Gas may include some amount of non-hydrocarbons.

Natural Gas Inventory		With respect to underground natural gas storage operations "inventory" is the total of working and cushion gas volumes.
Natural Gas Liquids	2007 - A13 2001 - 3.2, 9.4.4	Natural Gas Liquids (NGL) are a mixture of light hydrocarbons that exist in the gaseous phase and are recovered as liquids in gas processing plants. NGL differs from condensate in two principal respects: (1) NGL is extracted and recovered in gas plants rather than lease separators or other lease facilities, and (2) NGL includes very light hydrocarbons (ethane, propane, butanes) as well as the pentanes-plus that are the main constituents of condensates.
Natural Gas Liquids to Gas Ratio		Natural gas liquids to gas ratio in an oil or gas field, calculated using measured natural gas liquids and gas volumes at stated conditions.
Net-Back	2007 - 3.2.1	Linkage of input resource to the market price of the refined products.
Net Profits Interest	2001 - 9.4.4	An interest that receives a portion of the net proceeds from a well, typically after all costs have been paid.
Net Working Interest	2001 - 9.6.1	A company's working interest reduced by royalties or share of production owing to others under applicable lease and fiscal terms. (Also called Net Revenue Interest.)
Non-Hydrocarbon Gas	2007 - 3.2.4 2001 - 3.3	Natural occurring associated gases such as nitrogen, carbon dioxide, hydrogen sulfide, and helium. If non-hydrocarbon gases are present, the reported volumes should reflect the condition of the gas at the point of sale. Correspondingly, the accounts will reflect the value of the gas product at the point of sale.
Non-Associated Gas		Non-Associated Gas is a natural gas found in a natural reservoir that does not contain crude oil.
Normal Production Practices		Production practices that involve flow of fluids through wells to surface facilities that involve only physical separation of fluids and, if necessary, solids. Wells can be stimulated, using techniques including, but not limited to, hydraulic fracturing, acidization, various other chemical treatments, and thermal methods, and they can be artificially lifted (e.g., with pumps or gas lift). Transportation methods can include mixing with diluents to enable flow, as well as conventional methods of compression or pumping. Practices that involve chemical reforming of molecules of the produced fluids are considered manufacturing processes.
Oil Sands		Sand deposits highly saturated with natural bitumen. Also called "Tar Sands." Note that in deposits such as the western Canada "oil sands," significant quantities of natural bitumen may be hosted in a range of lithologies including siltstones and carbonates.
Oil Shales	2007 - 2.4	Shale, siltstone and marl deposits highly saturated with kerogen. Whether extracted by mining or in situ processes, the material must be extensively processed to yield a marketable product (synthetic crude oil).
Offset Well Location		Potential drill location adjacent to an existing well. The offset distance may be governed by well spacing regulations. In the absence of well spacing regulations, technical analysis of drainage areas may be used to define the spacing. For Proved volumes to be assigned to an offset well location there must be conclusive, unambiguous technical data which supports the reasonable certainty of production of hydrocarbon volumes and sufficient legal acreage to economically justify the development without going below the shallower of the fluid contact or the lowest known hydrocarbon.

On Production	2007 - 2.1.3.1 and Table 1	The development project is currently producing and selling petroleum to market. A project status/maturity sub-class that reflects the actions required to move a project toward commercial production.
Operator		The company or individual responsible for managing an exploration, development, or production operation.
Overlift/Underlift	2007 - 3.2.7 2001 - 3.9	Production overlift or underlift can occur in annual records because of the necessity for companies to lift their entitlement in parcel sizes to suit the available shipping schedules as agreed among the parties. At any given financial year-end, a company may be in overlift or underlift. Based on the production matching the company's accounts, production should be reported in accord with and equal to the liftings actually made by the company during the year, and not on the production entitlement for the year.
Penetration	2007 - 1.2	The intersection of a wellbore with a reservoir.
Petroleum	2007 - 1.0	Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid phase. Petroleum may also contain non-hydrocarbon compounds, common examples of which are carbon dioxide, nitrogen, hydrogen sulfide, and sulfur. In rare cases, non-hydrocarbon content could be greater than 50%.
Petroleum Initially-in-Place	2007 - 1.1	Petroleum Initially-in-Place is the total quantity of petroleum that is estimated to exist originally in naturally occurring reservoirs. Crude Oil-in-place, Natural Gas-in-place and Natural Bitumen-in-place are defined in the same manner (see Resources). (Also referred as Total Resource Base or Hydrocarbon Endowment.)
Pilot Project	2007 - 2.3.4, 2.4	A small-scale test or trial operation that is used to assess the suitability of a method for commercial application.
Play	2007 - 2.1.3.1 and Table 1	A project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation in order to define specific leads or prospects. A project maturity sub-class that reflects the actions required to move a project toward commercial production.
Pool		An individual and separate accumulation of petroleum in a reservoir.
Possible Reserves	2007 - 2.2.2 and Table 3	An incremental category of estimated recoverable volumes associated with a defined degree of uncertainty. Possible Reserves are those additional reserves which analysis of geoscience and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate.
Primary Recovery		Primary recovery is the extraction of petroleum from reservoirs utilizing only the natural energy available in the reservoirs to move fluids through the reservoir rock to other points of recovery.
Probability	2007 - 2.2.1	The extent to which an event is likely to occur, measured by the ratio of the favorable cases to the whole number of cases possible. SPE convention is to quote cumulative probability of exceeding or equaling a quantity where P90 is the small estimate and P10 is the large estimate. (See also Uncertainty.)

Probabilistic Estimate	2007 - 3.5	The method of estimation of Resources is called probabilistic when the known geoscience, engineering, and economic data are used to generate a continuous range of estimates and their associated probabilities.
Probable Reserves	2007 - 2.2.2 and Table 3	An incremental category of estimated recoverable volumes associated with a defined degree of uncertainty. Probable Reserves are those additional Reserves that are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.
Production	2007 - 1.1	Production is the cumulative quantity of petroleum that has been actually recovered over a defined time period. While all recoverable resource estimates and production are reported in terms of the sales product specifications, raw production quantities (sales and non-sales, including non-hydrocarbons) are also measured to support engineering analyses requiring reservoir voidage calculations.
Production-Sharing Contract	2007 - 3.3.2 2001 - 9.6.2	In a production-sharing contract between a contractor and a host government, the contractor typically bears all risk and costs for exploration, development, and production. In return, if exploration is successful, the contractor is given the opportunity to recover the incurred investment from production, subject to specific limits and terms. Ownership is retained by the host government; however, the contractor normally receives title to the prescribed share of the volumes as they are produced.
Profit Split	2001 - 9.6.2	Under a typical production-sharing agreement, the contractor is responsible for the field development and all exploration and development expenses. In return, the contractor is entitled to a share of the remaining profit oil or gas. The contractor receives payment in oil or gas production and is exposed to both technical and market risks.
Project	2007 - 1.2 2001 - 2.3	Represents the link between the petroleum accumulation and the decision-making process, including budget allocation. A project may, for example, constitute the development of a single reservoir or field, or an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership. In general, an individual project will represent a specific maturity level at which a decision is made on whether or not to proceed (i.e., spend money), and there should be an associated range of estimated recoverable resources for that project. (See also Development Plan.)
Property	2007 - 1.2 2001 - 9.4	A volume of the Earth's crust wherein a corporate entity or individual has contractual rights to extract, process, and market a defined portion of specified in-place minerals (including petroleum). Defined in general as an area but may have depth and/or stratigraphic constraints. May also be termed a lease, concession, or license.
Prorationing		The allocation of production among reservoirs and wells or allocation of pipeline capacity among shippers, etc.
Prospect	2007 - 2.1.3.1 and Table 1	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target. A project maturity sub-class that reflects the actions required to move a project toward commercial production.

Prospective Resources	2007 - 1.1 and Table 1	Those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.
Proved Economic	2007 - 3.1.1	In many cases, external regulatory reporting and/or financing requires that, even if only the Proved Reserves estimate for the project is actually recovered, the project will still meet minimum economic criteria; the project is then termed as "Proved Economic."
Proved Reserves	2007 - 2.2.2 and Table 3	An incremental category of estimated recoverable volumes associated with a defined degree of uncertainty Proved Reserves are those quantities of petroleum which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. Often referred to as 1P, also as "Proven."
Purchase Contracts	2001 - 9.6.8	A contract to purchase oil and gas provides the right to purchase a specified volume of production at an agreed price for a defined term.
Pure-Service Contract	2001 - 9.7.5	A pure-service contract is an agreement between a contractor and a host government that typically covers a defined technical service to be provided or completed during a specific period of time. The service company investment is typically limited to the value of equipment, tools, and expenses for personnel used to perform the service. In most cases, the service contractor's reimbursement is fixed by the terms of the contract with little exposure to either project performance or market factors.
Range of Uncertainty	2007 - 2.2 2001 - 2.5	The range of uncertainty of the recoverable and/or potentially recoverable volumes may be represented by either deterministic scenarios or by a probability distribution. (See Resource Uncertainty Categories.)
Raw Natural Gas	2007 - 3.2.1	Raw Natural Gas is natural gas as it is produced from the reservoir. It includes water vapor and varying amounts of the heavier hydrocarbons that may liquefy in lease facilities or gas plants and may also contain sulfur compounds such as hydrogen sulfide and other non-hydrocarbon gases such as carbon dioxide, nitrogen, or helium, but which, nevertheless, is exploitable for its hydrocarbon content. Raw Natural Gas is often not suitable for direct utilization by most types of consumers.
Reasonable Certainty	2007 - 2.2.2	If deterministic methods for estimating recoverable resource quantities are used, then reasonable certainty is intended to express a high degree of confidence that the estimated quantities will be recovered.
Reasonable Expectation	2007 - 2.1.2	Indicates a high degree of confidence (low risk of failure) that the project will proceed with commercial development or the referenced event will occur.
Reasonable Forecast	2007 - 3.1.2	Indicates a high degree of confidence in predictions of future events and commercial conditions. The basis of such forecasts includes, but is not limited to, analysis of historical records and published global economic models.
Recoverable Resources	2007 - 1.2	Those quantities of hydrocarbons that are estimated to be producible from discovered or undiscovered accumulations.

Recovery Efficiency	2007 - 2.2	A numeric expression of that portion of in-place quantities of petroleum estimated to be recoverable by specific processes or projects, most often represented as a percentage.
Reference Point	2007 - 3.2.1	A defined location within a petroleum extraction and processing operation where quantities of produced product are measured under defined conditions prior to custody transfer (or consumption). Also called Point of Sale or Custody Transfer Point.
Reserves	2007 - 1.1	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: They must be discovered, recoverable, commercial, and remaining (as of a given date) based on the development project(s) applied.
Reservoir	2001 - 2.3	A subsurface rock formation containing an individual and separate natural accumulation of moveable petroleum that is confined by impermeable rocks/formations and is characterized by a single-pressure system.
Resources	2007 - 1.1	The term "resources" as used herein is intended to encompass all quantities of petroleum (recoverable and unrecoverable) naturally occurring on or within the Earth's crust, discovered and undiscovered, plus those quantities already produced. Further, it includes all types of petroleum whether currently considered "conventional" or "unconventional" (see Total Petroleum Initially-in-Place). (In basin potential studies, it may be referred to as Total Resource Base or Hydrocarbon Endowment.)
Resources Categories	2007 - 2.2 and Table 3	Subdivisions of estimates of resources to be recovered by a project(s) to indicate the associated degrees of uncertainty. Categories reflect uncertainties in the total petroleum remaining within the accumulation (in-place resources), that portion of the in-place petroleum that can be recovered by applying a defined development project or projects, and variations in the conditions that may impact commercial development (e.g., market availability, contractual changes)
Resources Classes	2007 - 1.1, 2.1 and Table 1	Subdivisions of Resources that indicate the relative maturity of the development projects being applied to yield the recoverable quantity estimates. Project maturity may be indicated qualitatively by allocation to classes and sub-classes and/or quantitatively by associating a project's estimated chance of reaching producing status.
Revenue-Sharing Contract	2001 - 9.6.3	Revenue-sharing contracts are very similar to the production-sharing contracts described earlier, with the exception of contractor payment. With these contracts, the contractor usually receives a defined share of revenue rather than a share of the production.
Reversionary Interest		The right of future possession of an interest in a property when a specified condition has been met.
Risk	2001 - 2.5	The probability of loss or failure. As "risk" is generally associated with the negative outcome, the term "chance" is preferred for general usage to describe the probability of a discrete event occurring.

Risk and Reward	2001 - 9.4	Risk and reward associated with oil and gas production activities stems primarily from the variation in revenues due to technical and economic risks. Technical risk affects a company's ability to physically extract and recover hydrocarbons and is usually dependent on a number of technical parameters. Economic risk is a function of the success of a project and is critically dependent on cost, price, and political or other economic factors.
Risked-Service Contract	2007 - 3.3.2 2001 - 9.7.4	These agreements are very similar to the production-sharing agreements with the exception of contractor payment, but risk is borne by the contractor. With a risked-service contract, the contractor usually receives a defined share of revenue rather than a share of the production.
Royalty	2007 - 3.3.1 2001 - 3.8	Royalty refers to payments that are due to the host government or mineral owner (lessor) in return for depletion of the reservoirs and the producer (lessee/contractor) for having access to the petroleum resources. Many agreements allow for the producer to lift the royalty volumes, sell them on behalf of the royalty owner, and pay the proceeds to the owner. Some agreements provide for the royalty to be taken only in kind by the royalty owner.
Sales	2007 - 3.2	The quantity of petroleum product delivered at the custody transfer (reference point) with specifications and measurement conditions as defined in the sales contract and/or by regulatory authorities. All recoverable resources are estimated in terms of the product sales quantity measurements.
Shut-in Reserves	2007 - 2.1.3.2 and Table 2	Shut-in Reserves are expected to be recovered from (1) completion intervals which are open at the time of the estimate, but which have not started producing; (2) wells which were shut-in for market conditions or pipeline connections; or (3) wells not capable of production for mechanical reasons.
Solution Gas		Solution Gas is a natural gas which is dissolved in crude oil in the reservoir at the prevailing reservoir conditions of pressure and temperature. It is a subset of Associated Gas.
Sour Natural Gas	2001 - 3.4	Sour Natural Gas is a natural gas that contains sulfur, sulfur compounds, and/or carbon dioxide in quantities that may require removal for sales or effective use.
Stochastic	2001 - 5	Adjective defining a process involving or containing a random variable or variables or involving chance or probability such as a stochastic stimulation.
Sub-Commercial	2007 - 2.1.2	A project is Sub-Commercial if the degree of commitment is such that the accumulation is not expected to be developed and placed on production within a reasonable time frame. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. Discovered sub-commercial projects are classified as Contingent Resources.
Sub-Marginal Contingent Resources	2007 - 2.1.3.3	Known (discovered) accumulations for which evaluation of development project(s) indicated they would not meet economic criteria, even considering reasonably expected improvements in conditions.
Sweet Natural Gas	2001 - 3.3	Sweet Natural Gas is a natural gas that contains no sulfur or sulfur compounds at all, or in such small quantities that no processing is necessary for their removal in order that the gas may be sold.

Synthetic Crude Oil (SCO)	2001 - A12, A13	A mixture of hydrocarbons derived by upgrading (i.e., chemically altering) natural bitumen from oil sands, kerogen from oil shales, or processing of other substances such as natural gas or coal. SCO may contain sulfur or other non-hydrocarbon compounds and has many similarities to crude oil.
Taxes	2001 - 9.4.2	Obligatory contributions to the public funds, levied on persons, property, or income by governmental authority.
Technical Uncertainty	2007 - 2.2	Indication of the varying degrees of uncertainty in estimates of recoverable quantities influenced by range of potential in-place hydrocarbon resources within the reservoir and the range of the recovery efficiency of the recovery project being applied.
Total Petroleum Initially-in-Place	2007 - 1.1	Total Petroleum Initially-in-Place is generally accepted to be all those estimated quantities of petroleum contained in the subsurface, as well as those quantities already produced. This was defined previously by the WPC as "Petroleum-in-place" and has been termed "Resource Base" by others. Also termed "Original-in-Place" or "Hydrocarbon Endowment."
Uncertainty	2007 - 2.2 2001 - 2.5	The range of possible outcomes in a series of estimates. For recoverable resource assessments, the range of uncertainty reflects a reasonable range of estimated potentially recoverable quantities for an individual accumulation or a project. (See also Probability.)
Unconventional Resources	2007 - 2.4,	Unconventional resources exist in petroleum accumulations that are pervasive throughout a large area and that are not significantly affected by hydrodynamic influences (also called "continuous-type deposits"). Examples include coalbed methane (CBM), basin-centered gas, shale gas, gas hydrate, natural bitumen (tar sands), and oil shale deposits. Typically, such accumulations require specialized extraction technology (e.g., dewatering of CBM, massive fracturing programs for shale gas, steam and/or solvents to mobilize bitumen for in-situ recovery, and, in some cases, mining activities). Moreover, the extracted petroleum may require significant processing prior to sale (e.g., bitumen upgraders). (Also termed "Non-Conventional" Resources and "Continuous Deposits.")
Undeveloped Reserves	2001 - 2.1.3.1 and Table 2	Undeveloped Reserves are quantities expected to be recovered through future investments: (1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g., when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.
Unitization		Process whereby owners group adjoining properties and divide reserves, production, costs, and other factors according to their respective entitlement to petroleum quantities to be recovered from the shared reservoir(s).
Unproved Reserves	2001 - 5.1.1	Unproved Reserves are based on geoscience and/or engineering data similar to that used in estimates of Proved Reserves, but technical or other uncertainties preclude such reserves being classified as Proved. Unproved Reserves may be further categorized as Probable Reserves and Possible Reserves.
Unrecoverable Resources	2007 - 1.1	That portion of Discovered or Undiscovered Petroleum Initially-in-Place quantities which are estimated, as of a given date, not to be recoverable. A portion of these quantities may become recoverable in the future as commercial circumstances change, technological developments occur, or additional data are acquired.

Upgrader	2007 - 2.4	A general term applied to processing plants that convert extra-heavy crude oil and natural bitumen into lighter crude and less viscous synthetic crude oil (SCO). While the detailed process varies, the underlying concept is to remove carbon through coking or to increase hydrogen by hydrogenation processes using catalysts.
Well Abandonment		The permanent plugging of a dry hole, an injection well, an exploration well, or a well that no longer produces petroleum or is no longer capable of producing petroleum profitably. Several steps are involved in the abandonment of a well: permission for abandonment and procedural requirements are secured from official agencies; the casing is removed and salvaged if possible; and one or more cement plugs and/or mud are placed in the borehole to prevent migration of fluids between the different formations penetrated by the borehole. In some cases, wells may be temporarily abandoned where operations are suspended for extended periods pending future conversions to other applications such as reservoir monitoring, enhanced recovery, etc.
Wet Gas	2001 - 3.2 2007 - 3.2.3	Wet (Rich) Gas is natural gas from which no liquids have been removed prior to the reference point. The wet gas is accounted for in resource assessments, and there is no separate accounting for contained liquids. It should be recognized that this is a resource assessment definition and not a phase behavior definition.
Working Gas Volume		With respect to underground natural gas storage, Working Gas Volume (WGV) is the volume of gas in storage above the designed level of cushion gas which can be withdrawn/injected with the installed subsurface and surface facilities (wells, flowlines, etc.) subject to legal and technical limitations (pressures, velocities, etc.). Depending on local site conditions (injection/withdrawal rates, utilization hours, etc.), the working gas volume may be cycled more than once a year.
Working Interest	2001 - 9	A company's equity interest in a project before reduction for royalties or production share owed to others under the applicable fiscal terms.

Matador
Exhibit 23

Airstrip; Wolfcamp Pool (Pool Code 970)
Probability of Success (standard practice in the industry)

Probability of Geological Success (P_g) x Probability of Reservoir Success (P_r) x Probability of Operational Success (P_o)

$$P_g \times P_r \times P_o = \text{Probability of Success}$$

- The probabilities should be multiplied together to calculate the Probability of Success.

- Matador's criteria for success:
  - Geologic: Suitable rock quality at peak oil window.
  - Reservoir: In the current environment, an EUR of 400 MBO.
  - Operational: Drilling and completing the well at or below AFE cost.

Airstrip; Wolfcamp Pool (Pool Code 970)
Applicable Probability of Success

Probability of Geological Success (P_g) x Probability of Reservoir Success (P_r) x Probability of Operational Success (P_o)

$$P_g \times P_r \times P_o = \text{Probability of Success}$$

Therefore, if…

$$P_g = 0.25$$

$$P_r = 0.5$$

$$P_o = 0.75$$

Probability of Success = 0.25 x 0.5 x 0.75 = **9.375%**

The Appropriate Risk Charge is at least 200%

- The proposed well is within the "vast majority"* of cases
- There is no specific reason to provide a lesser charge than 200%
- Voluntary industry agreements call for *at least* 200% risk charge

*Case No. 13069, Order R-11992
Nos. 37-38