

Form 4  
May, 2009

STATE OF WYOMING  
OIL AND GAS CONSERVATION COMMISSION  
Office of State Oil and Gas Supervisor  
P. O. Box 2640  
Casper Wyoming 82602

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill, or deepen. Form 1 is provided for such proposals.)

12. API No.:	49-025-23608
13. County:	Niobrara
Submit Single, Dupl. for State - Instructions on the reverse. If a Split Estate Location Change Provide Form 1A.	
5. Lease No.:	BBL wyw 158578
6. Unit Agreement or CA:	
7. Farm or Lease Name:	Mad Hatter Fed.
8. Well No.:	19-2
9. Reservoir:	Mowry
10. Field Name:	WC
11. Quarter- Quarter, Section, Township and Range:	
SW SE 19 38N 77W	
14. Elevation:	5376 GL
16. Latitude:	43.24498
17. Longitude:	106.13801

1. Type Well:

Oil    Gas    CBM    Dry Hole    Injection    Other \_\_\_\_\_

2. Operator: Strachan Exploration, Inc.

3. Address: 383 Inverness Parkwat Ste 360 Englewood, Co. 80112

4. Phone Number (w/ area code): 303-785-7006   Email: bill@strachanexploration.com

15. Footages:   SHL: 1170FSL 1350FEL   BHL: 1175FSL 641FEL

18. CHECK APPROPRIATE BOXES TO INDICATE THE NATURE OF NOTICE, REPORT, OR OTHER DATA

<b>Type of Submission:</b> <input checked="" type="checkbox"/> Notice of Intent <input type="checkbox"/> Subsequent Report <input type="checkbox"/> Change of Address. <small>List Old &amp; New Below.</small> Split Estate?   Yes   No <input checked="" type="checkbox"/> <input type="checkbox"/> If this is a Split Estate location change or Fed Lease owner change file Form 1A.		<b>Type of Action:</b> <input type="checkbox"/> Change Plans <input checked="" type="checkbox"/> Fracture Treat/ Enhance <input type="checkbox"/> Repair Well <input type="checkbox"/> Convert to injection <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Shut-in <input type="checkbox"/> Dormant <input type="checkbox"/> Perforate <input type="checkbox"/> Start / Resume Production <input type="checkbox"/> Location or Site Change <input type="checkbox"/> Recomplete/ Plugback <input type="checkbox"/> Temporarily Abandoned <input type="checkbox"/> Federal Lease Owner Change <input type="checkbox"/> Reclaim <input type="checkbox"/> Water Shut-Off <input type="checkbox"/> Rename <input type="checkbox"/> Other _____	
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19. Describe the proposed or completed operations: Clearly state all pertinent dates and details, including estimated start date of proposed work. Form 3 is required following completion and recompletion procedures. Attach additional sheets if necessary, referencing API No., Well Name and Legal Location.

5-1/2" 17# J55 casing at 6784'. TOC from CBL 4440'  
 Mowry Shale Perforated 6435-6445 and 6472-6488 with 3 SPF.  
 2-7/8" tubing with packer set at 6422'

Attached : Formation Details, Frac Proposal, Flowback, and Chemical Data

\* Form 1a previously submitted

20. I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operations

Name (Printed or Typed): C. William Claxton   Title: Engineer

21. Signature: *C. William Claxton*   Date: 5-Oct-10

(The space below is for State office use)		Conditions of approval, if any:	
Approval Date:	<i>[Signature]</i>		
Approved By:	State Oil and Gas Supervisor		
Approvals sent:	OCT 06 2010		

WOGCC APPROVAL

# STRACHAN EXPLORATION, INC.

383 INVERNESS PARKWAY  
SUITE 360  
ENGLEWOOD, COLORADO 80112  
(303) 785-7006 • FAX (303) 785-7012

October 5, 2010

Wyoming Oil & Gas Commission  
P.O. Box 2640  
Casper, Wyoming 82602

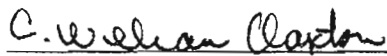
Re: Mad hatter Federal # 19-2  
Lease # WYW 158578  
API# 49-025-23608  
Natrona County, Wyoming

Gentlemen:

Attached please find our Sundry Notice of Intent to conduct a fracture treatment on the captioned well. Also attached is Halliburtons proposal and other data for approval.

Strachan Exploration, Inc., has the opportunity to perform this stimulation on October 7, 2010, if approval is granted. With the extremely busy schedule of frac crews, another opportunity could be several weeks to several months away.

If additional information is required, please notify this office.



C William Claxton



Strachan Exploration, Inc.  
Fracture Treatment  
Mad hatter Federal # 19-2

Formation: Mowry Top 6388' MD 6339' TVD  
Base 6629' MD 6578' TVD

Description: 80% shale Sil/calc cmt- Bent 15%  
Tr mica & pyr

Perf: 6435-6445 & 6472-6488 total 78 .41" holes

Broke down with 200 bbl 5% Kcl water @2658 PSI and 5.7 BPM  
Flow and swab load water and 10 bbl oil

Calculated Frac Gradient 0.57 psi/ft

Water for frac job will come from either Douglas or Wright city water  
Supply

FRAC DETAILS : Halliburton proposal attached

FLOW BACK and TEST; Flow back and swab will be into tanks on location.  
Recovered water will be hauled to Linch Environmental  
Disposal or other approved disposal sites.

FRAC CHEMICALS:

Trade Name	Product Use	Loading	Chemical Des.	CAS#
MO 67	additive P	.5-1.5 gpt	Sodium Hydroxide	1310-73-2
LGC-36 UC	Liquid Gel C	4-5 gpt	Naptha,hydrotreated heavy Polysaccharide	64742-48-9 *
CLA-STA XP	Clay Stabilizer	5 gpt	Polyepichlorohydrin, Trimethyl,amine quaternized	51838-31-4
FR-66	Friction Reducer	.5 gpt	hydrotreated light petro. Dist.	6472-47-8
GBW-30 Breaker	Breaker	1-3 gpt	Hemicellulase enzyme Carbohydrates	9012-54-8 *

Trade Name	Product Use	loading	Chemical Description	CAS#
SP Breaker	Breaker	1-3 gpt	Sodium persulfate	7775-27-1
LO Surf-300D	Surfactant	1 gpt	Ethanol	64-17-5
			Heavy aromatic pet. Naptha	64742-94-5
			Napthalene	91-20-3
			1,2,4 Trimethylbenzene	95-63-6
			Poly(oxy-1,2ethanediyl),aptha-	127087-87-0
			(4-nonylphenyl)-omega-hydroxy-, Branched	
BE-7	Biocide	.3 gpt	Sodium hypochlorite	7681-52-9
			Sodium hydroxide	1310-73-2
CL-31	crosslinker	.1-.5 gpt	Potassium metaborate	13709-94-9
crosslinker			Potassium hydroxide	1310-58-3
CL-22 UC	crosslinker	.4-1.0 gpt	Potassium formate	590-29-4

\* Halliburton has applied for a confidentiality status

PROPPANT 20/40 mesh premium white sand- 60,000 #  
100 mesh common white SSA-2 6,000#

FRAC LENGTH: Not much data on fracture treating the Mowry formation. Halliburton estimates a 300-400' half length.

# HALLIBURTON

Strachan Exploration Inc  
383 Inverness Dr S Ste 360  
Englewood, Colorado 80112

Mad Hatter Fed 19-2

Natrona County, Wyoming  
United States of America  
S:19 T:38N R:77W  
API/UWI 49-025-23608-0000

## Mad Hatter Fed 19-2 Mowry Frac

Prepared for: Mr. Bill Claxton

September 28, 2010  
Version: 1

Submitted by:  
Jared Fenton  
Halliburton  
1125 17th Street #1900  
Denver, Colorado 80202  
303.249.7704



HALLIBURTON

*Halliburton appreciates the opportunity to present this proposal and looks forward to being of service to you.*

## **Foreword**

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Enclosed is our recommended procedure for treating the referenced zone(s) in the referenced well. The information in this proposal includes well data, calculations, materials requirements, and cost estimates. This proposal is based on information from our field personnel and previous stimulation services in the area.

Halliburton Energy Services recognizes the importance of meeting society's needs for health, safety, and protection of the environment. It is our intention to proactively work with employees, customers, the public, governments, and others to use natural resources in an environmentally sound manner while protecting the health, safety, and environmental processes while supplying high quality products and services to our customers.

We appreciate the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact me or one of our representatives listed below.

**Chemical Additives:** Actual chemical additive concentrations will be based on lab testing completed prior to job and may vary from the amounts recommended in this proposal.

**Prime-Up Chemicals:** Chemicals used on location for stimulation treatments will be charged based on the beginning and ending chemical straps. This volume will include materials used for priming pumps and for accuracy verification, e.g. bucket testing. Chemicals that are used when utilizing 'System Pricing' will be included in the System Pricing volume.

**Hydrocarbon Based Fluids:** On all jobs using a diesel or crude oil base fluid, fire suppression equipment is required on location. The cost and coordination of this equipment is the responsibility of the customer.

Prepared and Submitted by:

\_\_\_\_\_  
Jared Fenton  
Technical Advisor

SERVICE CENTER:  
SERVICE COORDINATOR:  
OPER. ENGINEER:  
PHONE NUMBER:

Casper, WY  
Jay Watson / Curtis Cheetham  
Ross Jones  
307.473.8200

## Job Fluids Summary

## Mowry Frac

FR-66 Water					
Volume	Base Fluid	Biocide	Surfactant	Breaker	
20250 (Gal)	5% KCL Water*	BE-7	Losurf-300D	SP Breaker	
<b>Totals</b>	20250 (Gal)	6.08 (Gal)	20.25 (Gal)	20.25 (lbm)	

Hybor G - R (15)					
Volume	Base Fluid	Biocide	Surfactant	Breaker	Breaker
31000 (Gal)	5% KCL Water*	BE-7	Losurf-300D	SP Breaker	GBW-30
<b>Totals</b>	31000 (Gal)	9.3 (Gal)	31 (Gal)	31 (lbm)	31 (lbm)

JOB TOTALS					
Volume (Gal)	Base Fluid (Gal)	Biocide (Gal)	Surfactant (Gal)	Breaker (lbm)	Breaker (lbm)
	5% KCL Water*	BE-7	Losurf-300D	SP Breaker	GBW-30
	51250	15.38	51.25	51.25	31

Proppant		
	Designed Qty	Requested
Premium White-20/40	60000 (lbm)	60000 (lbm)
Common White-100 Mesh, SSA-2	6000 (lbm)	6000 (lbm)

Customer Supplied Items *			
	Designed Qty	Tank Bottom	Requested w/ Tank Bottom
5% KCL Water	51250 Gal	0 Gal	51250 Gal

# HALLIBURTON

## Treatment 1

## Mowry Frac

Well Name	Mad Hatter Fed	FR-66 Water	20250 Gal
Job Name	Mowry Frac	Hybor G - R (15)	31000 Gal
Mid Perf Depth	6405 ft	Common White-100	6000 lbm
		Mesh, SSA-2	
Estimated Pump Time	0.86 hrs	Premium White-20/40	60000 lbm
BHST	145 degF		

Casing (Surface)								
Tri-Stage	Stage Desc.	Flow Path	Fluid Desc.	Rate-Liq+Prop	Clean Vol.	Proppant	Proppant Conc.	Prop. Mass
1-1	Pad	IN	FR-66 Water	25	5000		0	0
1-2	Pad	IN	FR-66 Water	25	4000	Common White-100 Mesh, SSA-2	0.5	2000
1-3	Pad	IN	FR-66 Water	25	1000		0	0
1-4	Pad	IN	FR-66 Water	25	4000	Common White-100 Mesh, SSA-2	1	4000
1-5	Pad	IN	Hybor G - R (15)	25	1000		0	0
1-6	Proppant Laden Fluid	IN	Hybor G - R (15)	25	10000	Premium White-20/40	1	10000
1-7	Proppant Laden Fluid	IN	Hybor G - R (15)	25	10000	Premium White-20/40	2	20000
1-8	Proppant Laden Fluid	IN	Hybor G - R (15)	25	10000	Premium White-20/40	3	30000
1-9	Flush	IN	FR-66 Water	25	6250		0	0
<b>Totals</b>					<b>51250</b>			<b>66000</b>

## Fluid Details - Treatment 1

## Mowry Frac

FR-66 Water				
Volume (Gal)	Base Fluid	Biocide (gal/Mgal)	Surfactant (gal/Mgal)	Breaker (lbm/Mgal)
20250	5% KCL Water * 0 - 20250	BE-7 0.3	Losurf-300D 1	SP Breaker 1

Hybor G - R (15)					
Volume (Gal)	Base Fluid	Biocide (gal/Mgal)	Surfactant (gal/Mgal)	Breaker (lbm/Mgal)	Breaker (lbm/Mgal)
31000	5% KCL Water * 0 - 31000	BE-7 0.3	Losurf-300D 1	SP Breaker 1	GBW-30 1

\* Customer Supplied



# HALLIBURTON

## Cost Estimate

## Mowry Frac

### SAP Quote # 0

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt	Discount	Net Amt
342341	PE BOM-GELLED WATER FRAC - CONVENTIONAL	1	JOB		0.00	0.00	0.00
	<b>Fracturing Services and Equipment</b>						
224400	MOBILIZATION CHGS FRAC SOL SVC CH BARRELS/CUBIC METRES (BBL/CUM) RATE PER BBLICUM PRESSURE UNITS (PSI/MPA/BAR) PRESSURE	45 BBL 25 PSI 5000	MI	247.00	11,115.00	4,334.85	6,780.15
224401	FRACTURING -SOLUTION SERVICE CHARG BARRELS/CUBIC METRES (BBL/CUM) RATE PER BBLICUM PRESSURE UNITS (PSI/MPA/BAR) PRESSURE	1 BBL 25 PSI 5000	JOB	119,323.00	119,323.00	46,535.97	72,787.03
224402	ADDTL HRS ON LOC FRACTURING SOL SVC CHG BARRELS/CUBIC METRES (BBL/CUM) RATE PER BBLICUM PRESSURE UNITS (PSI/MPA/BAR) PRESSURE	0 BBL 25 PSI 5000	H	9,794.00	0.00	0.00	0.00
373061	PE DOT Vehicle Charge	14	EA	241.00	3,374.00	0.00	3,374.00
369282	PE Iron Certification, each	1	EA	100.00	100.00	0.00	100.00
21711	PE Environmental Charge	1	JOB	254.00	254.00	0.00	254.00
	<b>SubTotal</b>		<b>USD</b>		<b>134,166.00</b>	<b>50,870.82</b>	<b>83,295.18</b>
	<b>Materials</b>						
467131	FR-66 WATER	20250	GAL	67.80	1,372.95	961.07	411.88
341788	HYBOR G R VIS	31000 15	GAL		53,413.00	37,389.10	16,023.90
101649552	BE-7	16	GAL	25.83	413.28	289.30	123.98
101783480	LOSURF-300D	52	GAL	113.64	5,909.28	4,136.50	1,772.78
100012754	SP BREAKER - 55#	52	LB	39.20	2,038.40	1,426.88	611.52
101237068	GBW-30	31	LB	73.74	2,285.94	1,600.16	685.78
100003676	SAND-COMMON WHITE-100 MESH, SSA-2	60	SK	67.72	4,063.20	2,844.24	1,218.96
100003678	SAND-PREMIUM WHITE-20/40	600	SK	43.83	26,298.00	18,408.60	7,889.40
216319	Proppant Handl & Stor. Sol Chg Per lb	66000	LB	0.09	5,940.00	4,158.00	1,782.00
216318	Proppant Del Sol Chg, per ton mile	1485	TNM	4.05	6,014.25	4,209.98	1,804.27
	<b>SubTotal</b>		<b>USD</b>		<b>107,748.30</b>	<b>75,423.83</b>	<b>32,324.47</b>
	<b>Total</b>		<b>USD</b>				<b>241,914.30</b>
	<b>Discount</b>		<b>USD</b>				<b>126,294.65</b>
	<b>Discounted Total</b>		<b>USD</b>				<b>115,619.65</b>

Primary Plant: Casper, WY, USA  
 Secondary Plant: Casper, WY, USA

Price Book Ref: 01 Western US  
 Price Date: 1/15/2010

## Conditions

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### NOTE

The cost in this analysis is good for the materials and/or services outlined within and shall be valid for 30 days from the date of this proposal. In order to meet your needs under this proposal with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations.

Accordingly, the discounts reflected in this proposal are available only for materials and services awarded on a first-call basis. Alternate pricing may apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at:

<http://www.halliburton.com/terms> for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.

Any terms and conditions contained in purchase orders or other documents issued by the customer shall be of no effect except to confirm the type and quantity of services, equipment, and materials to be supplied to the customer.

If customer does not have an approved open account with Halliburton or a mutually executed written contract with Halliburton, which dictates payment terms different than those set forth in this clause, all sums due are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice.

Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.