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## **1.0 EXECUTIVE SUMMARY**

JEFF BRADY  
LARAMIE ENERGY  
1512 LARAMIE STREET SUITE 1000  
DENVER, CO 80202

Dear JEFF BRADY,

Halliburton appreciates the opportunity to perform the stimulation treatment on the MCELWAIN 12-4. A pre-job safety meeting was held where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined. Pump time was 17.78 min.

The proposed treatment for MCELWAIN 12-4 consisted of:

- 2560 gal of TREATED WATER.

The treatment actually pumped consisted of:

- 2459 gal of TREATED WATER.

The average BH treating rate was 2.0 bpm and average WH pressure was 667 psi.  
The total liquid load to recover is 2460 gal.

Halliburton is strongly committed to quality control on location. Before and after each job all chemicals, proppants, and fluid volumes are measured to assure the highest level of quality control. Tank fluid analysis, crosslink time, and break tests are performed before each job in order to optimize the performance of the treatment fluids.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

TOM NOWAK

## 2.0 WELL INFORMATION

### 2.1 Customer Information

Customer	LARAMIE ENERGY
Sales Order	4800935
Well Name	MCELWAIN
Interval	1
Well Number	12-4
Start Time	12-Dec-06 04:51:09
County	Mesa
State	Colorado
UWI/API	05-077-08828
Lease Name	MCELWAIN 12-4
Country	United States of America
H2S Present	No
CO2 Present	No
Customer Representative	JEFF BRADY
Halliburton Representative	TOM NOWAK

### 2.2 Pipe Information

Equipment	Top MD ft	Bottom MD ft	OD in	ID in	Grade	Weight lb/ft
Surface Pipe	0.0	20.0	2.620	1.870		
Tubing	0.0	2500.0	2.375	1.853	N-80	6.20
Casing	0.0	4000.0	4.500	4.000	I-80	11.60

### 2.3 Perforation Intervals

Top MD ft	Bottom MD ft	Number of Shots	Perf Density spf
3045.0	3081.0	12	0.3

### 2.4 Initial Conditions

Surface Fluid Temp	72.0	°F
BH Static Temperature	150.0	°F
Expected BH Treating Pressure	5000	psi
Reservoir Pressure	3500	psi
Static Column Used	No	
Wellbore Fluid	Brine	
Top Fluid Depth	0.0	ft
Closed in WH Pressure	996	psi
BH Gauge Used	No	

## 3.0 ACTUAL STAGE SUMMARY

### 3.1 Stage Summary

Stage Number	Start Time	Max Treating Pressure psi	Avg Treating Pressure psi	Max Slurry Rate bpm	Avg Slurry Rate bpm	Avg Clean Rate bpm	Slurry Volume gal	Clean Volume gal	Avg HHP hp
1	07:28:58	2212	568	4.5	2.9	2.9	1051	1051	41
2	11:08:49	1087	799	4.3	3.9	3.9	1366	1366	76
3	11:17:14	1056	319	1.9	1.3	1.3	42	42	10
Total							2460	2460	

### 3.2 Bottom Hole Stage Summary

Stage Number	Start Time	Max BH Pressure psi	Avg BH Pressure psi	Max BH Rate bpm	Avg BH Rate bpm	Max BH Conc lb/gal	Avg BH Conc lb/gal
0	07:28:58	1999	1282	4.5	3.8	0.00	0.00
1	07:33:22	3614	1537	4.3	1.3	0.00	0.00
2	11:13:20	2404	1750	4.1	2.7	0.00	0.00

## 4.0 PERFORMANCE HIGHLIGHTS

### 4.1 Job Summary

<b>Start Time</b>	07:28:58	
<b>End Time</b>	12:19:57	
<b>Time</b>	290.97	min
<b>Pump Time</b>	17.78	min
<b>Max Treating Pressure</b>	2212	psi
<b>Avg Treating Pressure</b>	667	psi
<b>Avg Clean Rate</b>	3.3	bpm
<b>Clean Volume</b>	2460	gal
<b>Max Slurry Rate</b>	4.5	bpm
<b>Avg Slurry Rate</b>	3.3	bpm
<b>Slurry Volume</b>	2460	gal
<b>Max WH Rate</b>	4.5	bpm
<b>Avg WH Rate</b>	3.3	bpm
<b>WH Volume</b>	2460	gal
<b>Avg HHP</b>	54	hp
<b>BH Max Treating Pressure</b>	3614	psi
<b>BH Avg Treating Pressure</b>	1543	psi
<b>BH Max Rate</b>	4.5	bpm
<b>BH Avg Rate</b>	2.0	bpm
<b>BH Slurry Volume</b>	2499	gal
<b>BH Clean Volume</b>	2499	gal
<b>Load to Recover</b>	2460	gal

## 4.2 Job Event Log

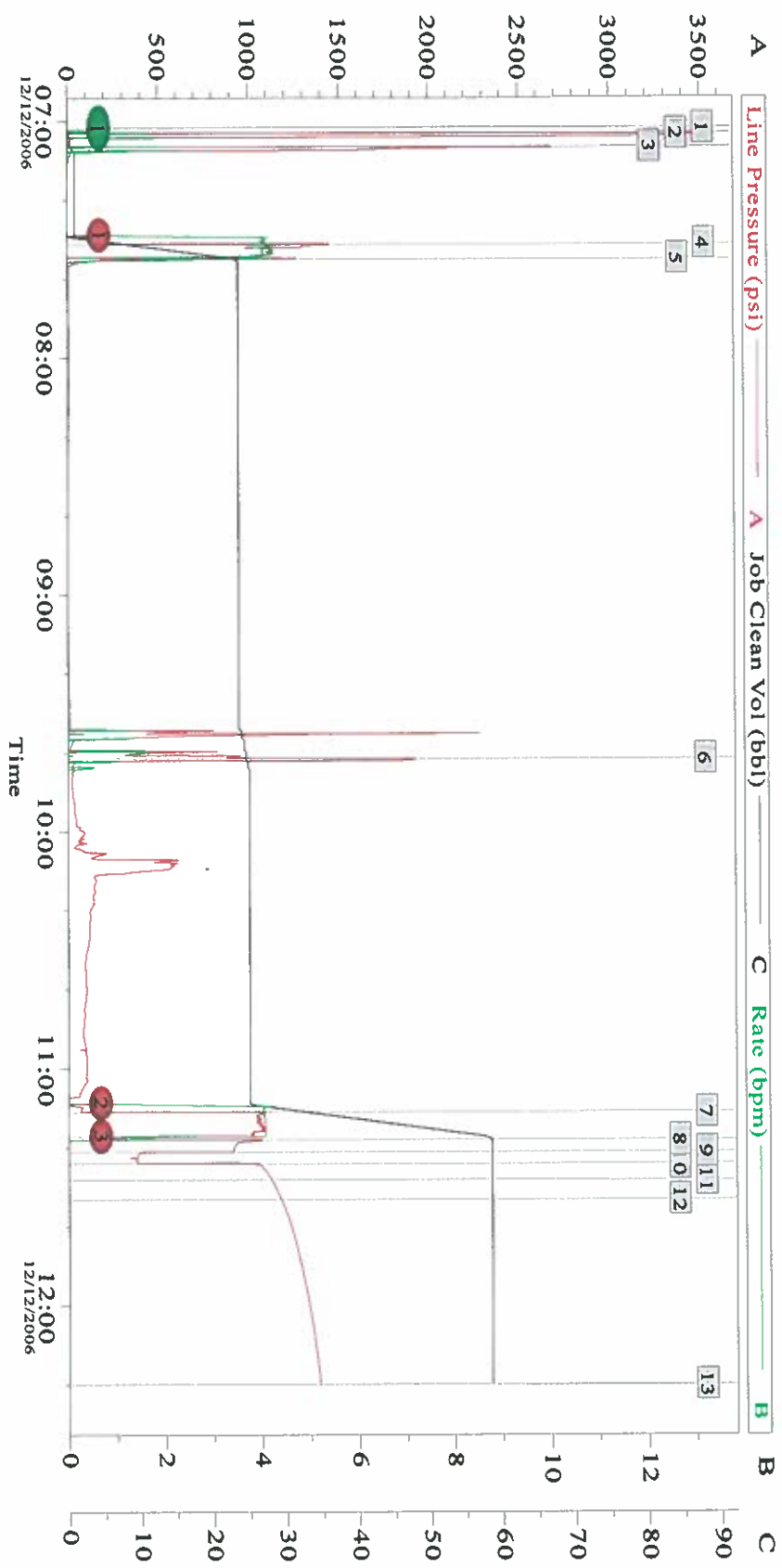
Time	Description	Comment	Treating Pr psi	Clean Rate bpm	Job Clean Vol gal	Hydr Power hp
07:01:48	Start Job	Starting Job	-4	0.0	0	0
07:01:48	Next Treatment	Treatment Interval 1	-4	0.0	0	0
07:03:12	Pressure Test	HES IRON	3541	0.0	9	0
07:06:37	Pressure Test	LUBRICATOR	2649	0.5	29	0
07:28:58	Stage 1	Pump-In	2	0.9	44	0
07:31:14	Break Formation		1449	4.1	345	147
07:35:02	Other	SHUTDOWN DUE TO PUMP PROBLEMS/WAIT 2 HOURS AND REDUE TEST	389	1.8	968	18
09:41:37	Pressure Test	LUBRICATOR	1923	0.0	1033	0
11:08:48	Stage 2	Pump-In	-2	0.3	1051	0
11:11:00	Break Formation		1087	4.0	1369	106
11:17:13	Stage 3	Pump-In	329	1.8	2418	14
11:18:03	Shutdown		1065	0.0	2460	1
11:21:04	Other	EMPLOYEE CLOSED VALVE TO WELL	899	0.0	2460	0
11:24:00	Other	EMPLOYEE REOPENED VALVE AT WELL SO WE COULD MONITOR PSI	992	0.0	2460	0
11:28:11	Shut-In Pressure @ 10 Minutes		1120	0.0	2460	0
11:33:05	Shut-In Pressure @ 15 Minutes		1171	0.0	2460	0
12:19:57	End Job	Ending Job	1383	0.0	2460	0

## 4.3 ISIP

Time	Description	Treating Pressure psi
11:28:11	Shut-In Pressure @ 10 Minutes	1120
11:33:05	Shut-In Pressure @ 15 Minutes	1171

5.0 ATTACHMENTS

5.1 DFIT



## 5.2 D FIT

