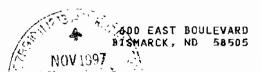
SEISMIC COMPLETION REPORT INDUSTRIAL COMMISSION OF NORTH DAKOTA DIL AND GAS DIVISION SEN

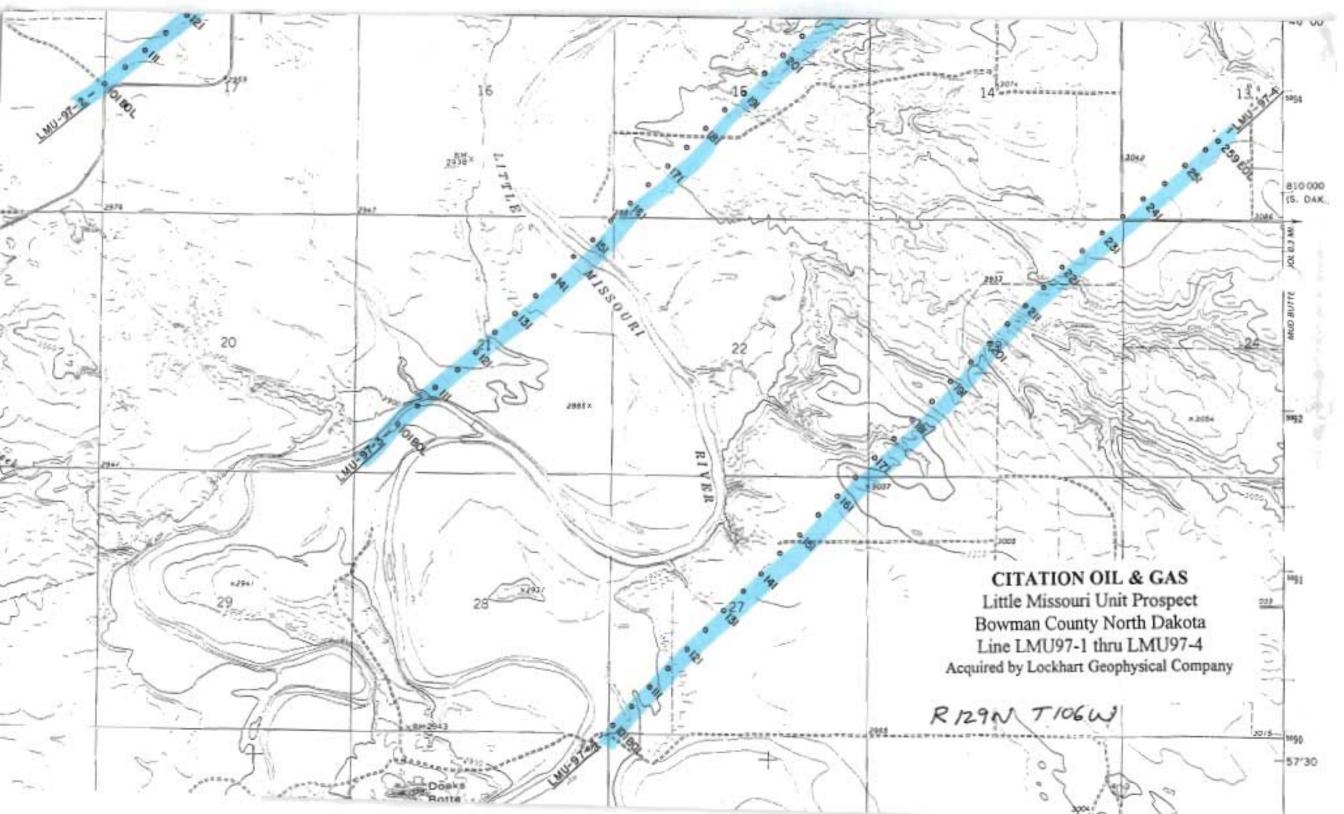


Permit No.					No. of		7				
97-0004						1					
Shot Hole Operation	*Non	*Non-Explosive Operations									
NA				VIBROSEIS							
1) Geophysical Co LOCKHART	GEOPHYSICAL CO	MPANY - 370 -	17TH STREET,	SUITE 36	90, DENV	ER, CO 8	0202				
Project Name	and/or Number		Coun								
LITTLE MI	SSOURI UNIT (J	гов#795) 		BOWMAN							
Township(s) 129/130N				Range(s)							
Permitted By CLENDA MI	TCHELL	·		_							
	Date Commenced				Date Completed 8/28/97						
2) First S.P #					Last S.P. M						
Loaded Holes	(undetonated shot po	oints)					-/				
NA S.P#'s	1						1				
	NA NA										
Charge size	NA NA					<u></u>					
Depths	NΛ										
1											
3) Flowing holes:							_				
1											
S.F.#'~ 	S.F.#'¬ NA										
Procedure for	plugging flowing ho	les:				•					
1	NA										
							•				
į											
4) Blown out hole											
 S.P.#'s 	NÅ										
İ											
Were all blown	out holes plugged	and by whom?									
N.F	A										
l											
	THE HOPE STREET ADDRESS	OURDANCE AND OR	CAMBINED SPRINGS	n banes miner :	PACOTATIVE						
OF THE APPROXIMATE	SCALE DISPLAYING E	QUADRANGLE MAP OR A ACH INDIVIDUAL SHOT	HOLE, SP #, LINE	WID TECAT I	OCATION.						

AFFIDAVIT OF COMPLETION (GEOPHYSICAL CONTRACTOR)

COUNTY OF)	
Before me, MICHAEL J. COMEAU , a Notary Public in and for the said County and State, this day personally appeared RICHARD L. LOCKHART who being first duly sworn, deposes and says that (s)he is employed by LOCKHART GENPHYSICAL COMPANY, that (s)he has read North Dakota Century Code Section 38-08.1, that the foregoing seismic project has been completed in accordance with North Dakota Administrative Code Rule 43-02-12 and that the statements on the reverse side of this document are true.	
Geophysical Contractor Representative	
Subscribed in my presence and sworn before me this 10TH day of NOVEMBER, 1997	
Notary Public	
My Commission Expires	

My Commission Expires 3/20/99



Lockhart # 970004

9-11

APPLICATION FOR PERMIT TO ENGAGE IN GEOPHYSICAL EXPLORATION INDUSTRIAL COMMISSION OF MORTH DAKOYA



OIL AND GAS DIVISION 408 & BOULEYARD AVE BISMARCK, ND 58505

TAT	EART GEOPHYSIC	**************************************	TI A NEW		Ve.	2	y		
J a. Company	MARI GIANIII 31	CON CON	FARI						
	- 17TH STREET,	SULTE	3690. DENVE	B CO 80202		C. C. C.	323247	2526273	
	nt Address & Telepho			a, 00 00202			7500	- (3)	
	IAMO L. LOCKHAI			/APPTCEL 30	2 500 5		AUG	1997	
0. Namb 6 2	Telephone Wumber of	Company &	- btesengerria		3-147-3	270	1.00/18	11 03VE	
	EL R. SAND	•					- 1.2	& GAS (V)	
<u> </u>	red Agent & Address							- DO 2/	
-	4TH STREET, P.	O. HOX	321				. 2)	ictogray,	
	CORPASY & AAArea			-				· ·	
•	TOWN, ND 58763	-0321							
b. Sond Ty									
Shot-Ro	1 =		Heo-Explosive	<u> </u>	Dei	ller/Bole Plu	455.		
	No. N/A				210	,000 do	R/A		
c. Boul Ex	Piracion								
			-						
•	metor (check)			38.4 .					
Drille	. <u>N/A</u>	,	Bols Plugget	_3/A					
b. Purmener	at Address & Telepho	se Kumber							
	_								
e. Kusa 6	W/A Telephone Mumber of	Comeny L	wcetantation						
	M/A	,							
s) a. Supery	Company & Address	•				-			
	N/A								
									
d. Bond Hu	mer N/A	_	Explan	tion N/A					
6) Location of	Proposed Project								
-	BOWMAN COUNTY,	N.T.							
			3 4 5 6 7 6				 -		
9002102(0).	Township(s) & Range	(6) 546	$\frac{3,4,3,6,7,6}{15,21,23,2}$	- 1 1 CTTTT					
			. <u>13,21,23,27</u> . 27,33,32		29N		1 1069		
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N/A	N/A	n/a	M/A	14.6	.	N/A			
• • • • • • • • • • • • • • • • • • •									
o) a. Propose	t bole plugging proc	edure.	N/A						
b. If orker	than shot-bols dee	cribe me	bod of geophysics	1 speration. N/	A ()	BEATOR)			
					()	D4110~)	-		
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LITTLE MIS		•				-	prox. Date of Comp	Let ion	
	trace of Land Manage			AUGUST 14. 1		1 AUGU	ST_251 997		
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UPPAL DATE _	3/12/97			execut.	wiln	aut w/ B	rus - Nove Orl	e Gas	
Man DO		baseil !	Regulate Lege	linon	1	•	1, Qui	will 8/1/13	
	////							7 - 7 - 7	

LOCKHART FIELD PARAMETER

CLIENT:

CITATION OIL & GAS CORPORATION

8223 Willow Place South, SUite 250

Houston, Texas 77070-5623

CONTACT:

Robert Unger

Bus: 281-469-9664

Fax:

281-469-1184

CONSULTANT:

Terry Donze

Bus & Fax: 303-420-7868

PROSPECT:

LITTLE MISSOURI UNIT

JOB NUMBER: 795

LOCATION:

T129S R106W

BOWMAN COUNTY, NORTH DAKOTA

LINE NUMBER OR DESTINATIONS:

LMU97-1, LMU97-2, LMU97-3, & LMU97-4

(See Map For Instructions)

NUMBER OF LINES:

CDP COVERAGE: 3000%

APPROX. START:

7/15/97

APPROX. DAYS: 7

APPROX MILES: 14.60

TYPE OF INSTRUMENTS: TEXAS INST. DFS-V W/MICRO-MAX COMPUTER

NUMBER OF CHANNELS:

120

NUMBER OF STATION GAP: 5 STAT.

GEOPHONE INTERVALS:

110'

VIBRATOR INTERVAL: 220'

TYPE OF GEOPHONES: 10 HZ. MARK PRODUCTS L10A GEOPPONES, 12 GEOPHONES/STATION (ACROSS FLAG)

LO CUT: 12 HZ

SLOPE: 18 DB

HIGH CUT: 128 HZ

SLOPE: 70 DB

NOTCH FILTER: OUT

RECORD LENGTH: 3 SEC -

SAMPLE RATE: 2 MIL.

GEOPHONE PATTERN: 12 PHONES/110'ACROSS FLAGS, 55' SPACING

VIBRATOR PATTERN: 2-2-2-2-2 EACH VIB/7.5' MOVE UP 3 VIBES ACROSS THE FLAGS

SWEEP LENGTH:

12 SECONDS 10 OR 12 SWEEPS/VIB 3 VIBES

SWEEP FREQUENCY: 12-128 HZ

NONLINEAR SWEEP: 3DB/OCT

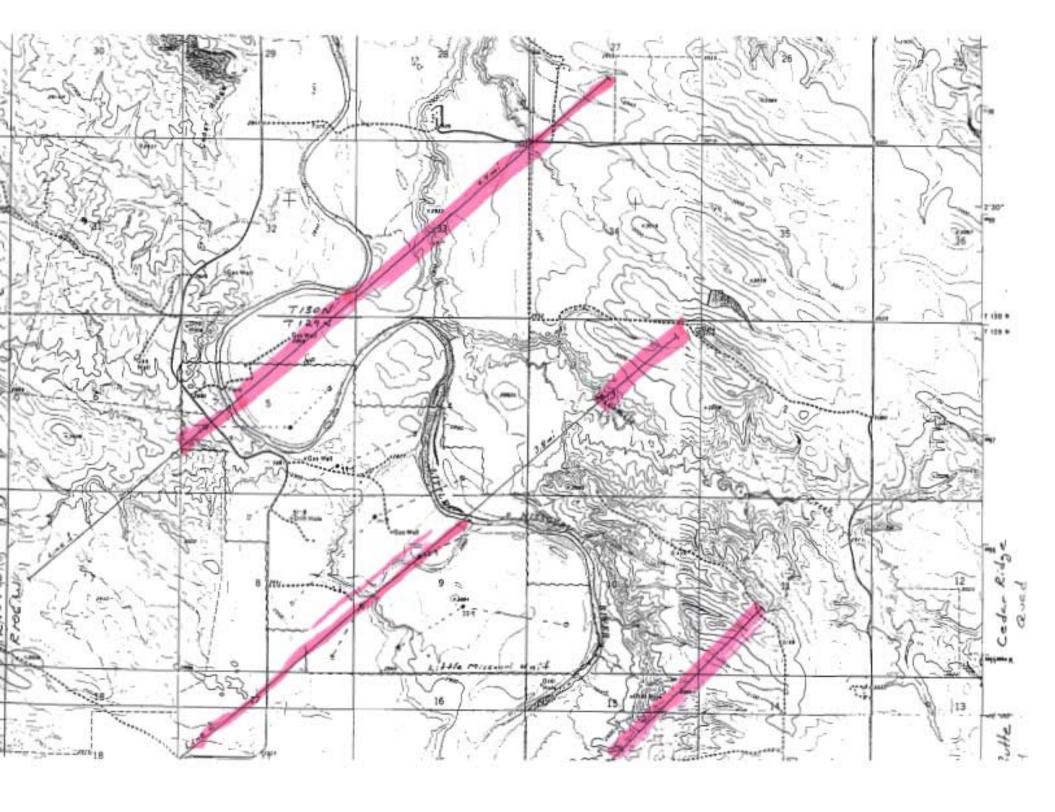
DATA PROCESSOR: TO BE ANNOUNCED

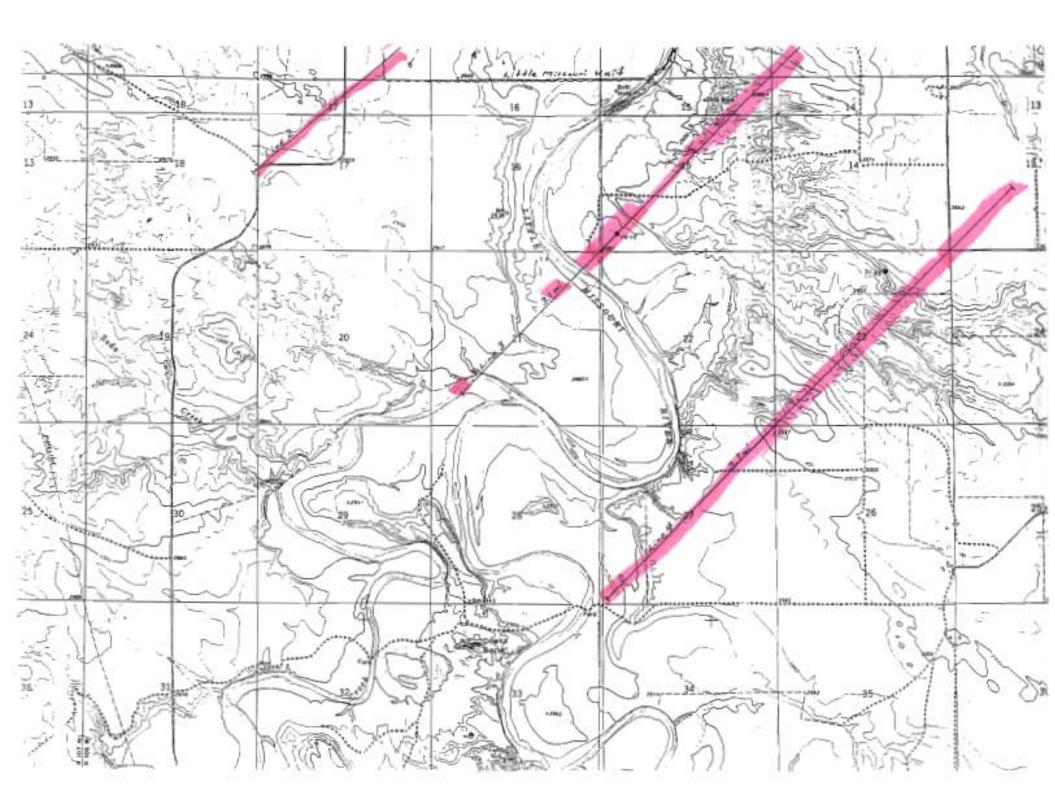
PREPARED BY: RICHARD L. LOCKHART

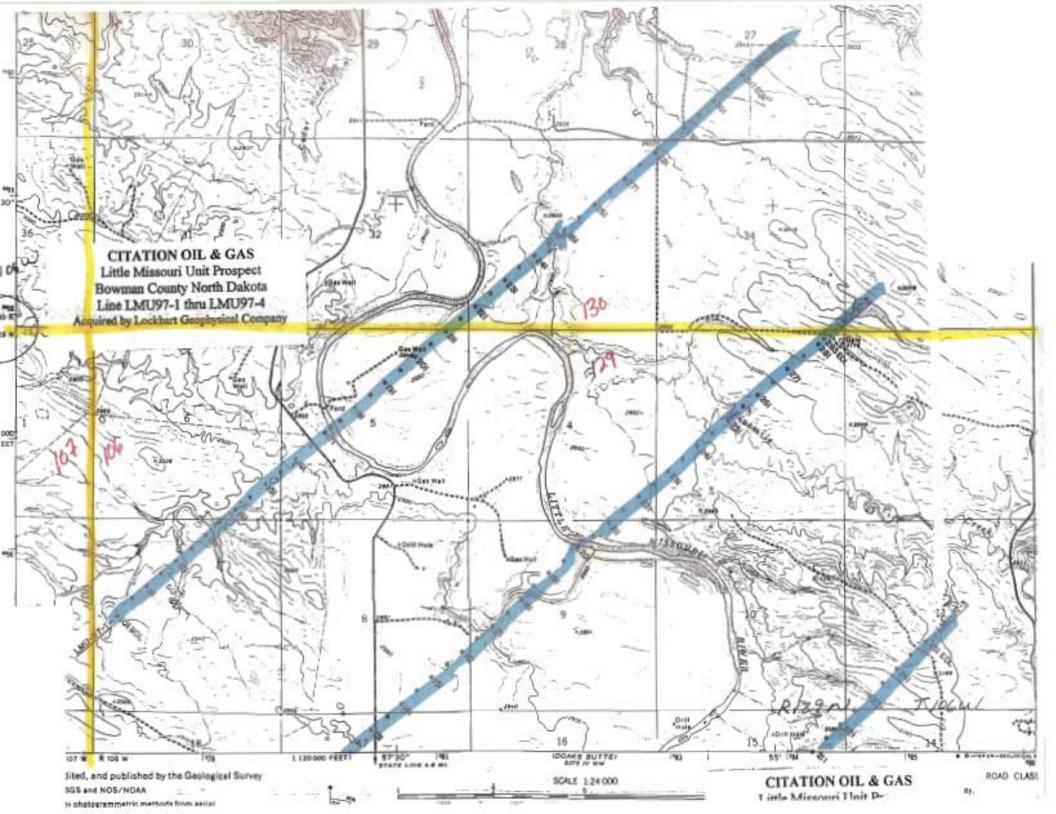
DATE: JULY 2, 1997

TOPOS: DOAKS BUTTE, CEDAR RIDGE

Client - Bird Dog - Party Mgr - Surveyor - Permitter - Observer - Vib Ops - Headlinesman







NORTH DAKOTA INDUSTRIAL COMMISSION

OIL AND GAS DIVISION

Wesley D. Norton DIRECTOR F.E.Wilhorn ASSISTANT DIRECTOR

November 5, 1997

Mr. Richard Lockhart Lockhart Geophysical Co. 370 17th St., Ste. 3690 Denver, CO 80202

> RE: Completion Information Little Missouri Unit Project ND Permit #97-0004 Bowman County, ND

Dear Mr. Lockhart:

Please find enclosed a copy of our seismic completion report and affidavit.

Please review and complete section 1 and the affidavit, and also submit a map clearly indicating the actual lines of this program.

Should you have any questions, please contact our office.

Singerely

David C. Hvinden

Geophysical Regulations Supervisor

DCH/dh

Enclosure