

This permit originally issued to General Energy, then to Emery Energy, now owned by Town Oil.

Missouri Oil and Gas Council

Form OGC-3

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

APPLICATION TO DRILL DEEPEN PLUG BACK
for an oil well or gas well

NAME OF COMPANY OR OPERATOR Town Oil Co DATE 12/6/85
Route 4 Paola KS 66071
Address City State

DESCRIPTION OF WELL AND LEASE

Name of lease Jack Beary Well number 56 E Elevation (ground) _____

WELL LOCATION (give footage from section lines)
933.89 ft. from (N) sec. line 1432.25 ft. from (E) sec. line

WELL LOCATION Section 4 Township 46N Range 33W County CASS

Nearest distance from proposed location to property or lease line: 165 feet
Distance from proposed location to nearest drilling, completed or applied for well on the same lease: _____ feet

Proposed depth 670 Drilling contractor, name & address _____ Rotary or Cable Tools Approx. date work will start see note

Number of acres in lease 2 1/2 Number of wells on lease, including this well, completed in or drilling to this reservoir: _____
Number of abandoned wells on lease: _____

If lease, purchased with one or more wells drilled, from whom purchased. Name _____ No. of Wells: producing _____
Address _____ inactive _____
abandoned _____

Status of Bond Single Well Amt. _____ Blanket Bond Amt. 20,000 ON FILE ATTACHED

Remarks: (If this is an application to deepen or plug back, briefly describe work to be done, giving present producing zone and expected new producing zone) use back of form if needed.

Proposed casing program:				Approved casing -- To be filled in by State Geologist			
amt.	size	wt /ft.	cem.	amt.	size	wt /ft.	cem.
<u>650'</u>	<u>4"</u>	<u>10.4</u>	<u>yes</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>22</u>	<u>7 1/2"</u>	<u>22</u>	<u>yes</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
_____	_____	_____	_____	_____	_____	_____	_____

I, the undersigned, state that I am the Partner of the Town Oil (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.
Signature Larry Town

Permit Number 20102

Approval Date 12/6/85

Approved By Wallace B. Hone BWH

Note: This Permit not transferable to any other person or to any other location.

Remit two copies to: Missouri Oil and Gas Council
P.O. Box 250 Rolla, Mo. 65401
One will be returned for driller's signature

- Drillers log required
- E-logs required if run
- Core analysis required if run
- Drill stem test info. required if run
- Samples required
- Samples not required

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DEC 16 1985

WATER SAMPLES REQUIRED @

Approval of this permit by the Oil and Gas Council does not constitute endorsement of the geologic merits of the proposed well nor endorsement of the qualifications of the permittee.

APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

APPLICATION TO DRILL DEEPEN PLUG BACK

NAME OF COMPANY OR OPERATOR General Energy, Inc. of Linn Co DATE 11-25-80
Box 216 Mound City KANSAS 66056
 Address City State

DESCRIPTION OF WELL AND LEASE			
Name of lease <u>JACK BEARY</u>	Well number <u>56E</u>	Elevation (ground)	
WELL LOCATION <u>933-89 FN</u> (give footage from section lines) 111 ft. from (S) sec. line <u>385</u> ft. from (E) sec. line <u>1432.25</u>			
WELL LOCATION Section <u>4</u> Township <u>46</u> Range <u>33</u>			County <u>CASS</u>
Nearest distance from proposed location to property or lease line: <u>165</u> feet		Distance from proposed location to nearest drilling, completed or applied - for well on the same lease: _____ feet	
Proposed depth: <u>670'</u>	Rotary or Cable tools <u>ROTARY</u>	Approx. date work will start <u>12 80</u>	
Number of acres in lease: <u>24 1/2</u>	Number of wells on lease, including this well, completed in or drilling to this reservoir: <u>1</u> Number of abandoned wells on lease: _____		
If lease, purchased with one or more wells drilled, from whom purchased: Name _____ Address _____		No. of Wells: producing _____ inactive _____ abandoned _____	
Status of Bond Single Well <input type="checkbox"/> Amt. _____ Blanket Bond <input checked="" type="checkbox"/> Amt. <u>20,000⁰⁰</u> <input checked="" type="checkbox"/> ON FILE <input type="checkbox"/> ATTACHED			
Remarks: (If this is an application to deepen or plug back, briefly describe work to be done, giving present producing zone and expected new producing zone) use back of form if needed.			
Proposed casing program:		Approved casing - To be filled in by State Geologist	
amt.	size	wt./ft.	cem.
<u>650'</u>	<u>4"</u>	<u>10.4</u>	<u>yes</u>
<u>22</u>	<u>7/8"</u>	<u>22</u>	<u>yes</u>
_____	_____	_____	_____
_____	_____	_____	_____
I, the undersigned, state that I am the <u>VICE PRESIDENT</u> of the <u>GENERAL ENERGY INC & LINN CO</u> (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge. Signature <u>Ray McDown</u>			

Permit Number: 20102
 Approval Date: December 1, 1980
 Approved By: Wallace B. Drive
 IR3

SAMPLES REQUIRED
 SAMPLES NOT REQUIRED DEC 01 1980
 MO. OIL & GAS COUNCIL
 WATER SAMPLES REQUIRED @:

Remit two copies to: Missouri Oil and Gas Council
 P.O. Box 250 Rolla, Mo. 65401
 One will be returned for driller's signature

Approval of this permit by the Oil and Gas Council does not constitute endorsement of the geologic merits of the proposed well nor endorsement of the qualifications of the permittee.

MISSOURI OIL AND GAS COUNCIL

Form OGC-5

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

New Well Work-Over Deepen Plug Back Same Reservoir Different Reservoir Oil Gas Dry

Owner **Emery Energy, Inc.** Address **Box 519, Osawatomie, Kansas 66064**

Lease Name **Jack Beary Lease** Well Number **E-56**

Location **933.89 ft. ENL 1432.25 Ft. FEL** Sec. — TWP-Range or Block & Survey **Sec. 4 Twp. 46N Range 33W**

County **Cass** Permit number (OGC3 number) **20102**

Date spudded **12-18-80** Date total depth reached _____ Date completed, ready to produce **1-21-81** Elevation (DF, RKB, RT or Gr.) **1067.4 feet Gr.** Elevation of casing hd. flange _____ feet **Same as sur. ele.**

Total depth **657 ft.** P. B. T. D. **629.70**

Producing interval (s) for this completion **582-593** Rotary tools used (interval) From **0** to **T.D.** Drilling Fluid used **water, air** Cable tools used (interval) From _____ to **None**

Was this well directionally drilled? **no** Was directional survey made? **no** Was copy of directional survey filed? **no** Date filed **no**

Type of electrical or other logs run (list logs filed with the State Geologist) **Gamma Ray, Neutron, CCL** Date filed **5/25/1981**

CASING RECORD

Purpose	Size hole drilled	Size casing set	Weight (lb ft)	Depth set	Sacks cement	Amt pulled
surface	9 in.	7 in.	35	20.6		
producing	6.25 in.	4 in.	10.6	629.70	70	

TUBING RECORD

LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2.375 in.	577 ft.	none ft.	N/A in.	N/A ft.	N/A ft.	N/A	N/A

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
.92	3 1/2 glass	582-593	water gel	
			sand 20-40	20
			sand 10-30	10

INITIAL PRODUCTION

Date of first production **2-16-81** Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:) **No record-see later production report**

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
no			bbls.	MCF	bbls.	API (Corr.)
Tubing pressure	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

Method of disposal of mud pit contents:

CERTIFICATE: I, the undersigned, state that I am the **Vice-President** of the **Emery Energy, Inc.** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Devon M. Hurst
Signature **Devon Hurst**

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Remit two copies: one will be returned

JUN 25 1981

MO. OIL & GAS COUNCIL

W00013

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
PENNSYLVANIAN SYSTEM			
KANSAS CITY			
Iola Ls.	0	24	White to light gray limestone
Chanute Sh.	24	110	Gray to green shales with gray limestone beds
Cement City Sh.	67	77	Blue, gray limestone
Belton Ss.	97	107	Sandstone
Cherryvale Sh.	112	163	Gray, blue shales
Dennis Ls.			
Winterset Sh.	163	194	Gray, blue coarse limestone
Stark Sh.	194	199	Black, fissile shale
Swope Ls.			
Bethany Falls Ls.	199	220	Gray, fine to coarse limestone
Hush puckney Sh.	220	226	Black, fissile shale
Hertha Ls.	226	238	Gray to blue limestone
PLEASANTON	238	416	Gray, green shales sand
Knobtown Ss.			
Dawson Coal Hor.	366	370	Black, fissile, slaty shale
HENRIETTA	416	495	
Alamont	416	434	Gray brown, fine grained limestone with gray shale
Pawnee	434	476	Fine grained, light gray limestone
Peru Ss.	447	454	Sand
Myrick Sta. Ls.	466	472	Gray to brown limestone
Anna Sh.	472	476	Coal to black fissile shale
Fort Scott	476	500	Gray to green shales and limestone
Englevale Ss.	476	495	Fine to medium grained channel sandstone
CHEROKEE	495	---	Gray to dark shales
Upper Cherokee			
Upper Squirrel	516	524	Fine to medium grained sandstones
Lower Squirrel	580	599	Fine to medium grained sandstones
Bevier Coal Hor.			Black coal
Lower Cherokee			
Burbank Ss.			Sandstone, irregular
Bartlesville Ss.	599	657 T.D.	Shale, sandy shale, thin sandstone
Core # 1			
Core # 2	See Core	Analysis Report	enclosed.
Core # 3			

*Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well if available.



EMERY ENERGY, INC.

225 North State Street
Salt Lake City, Utah 84103
(801) 531-8770

June 14, 1984

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JUN 21 1984

Missouri Department of Natural Resources
P.O. Box 250
Rolla, MO. 65401
Attn: Mr. Bruce W, Netzler, Geologist

MO. OIL & GAS COUNCIL

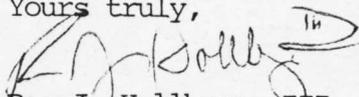
Dear Mr. Netzler,

I am in receipt of your letter requesting an interpretation of the log reports submitted to your office in 1981 by our company covering wells on the Beary Lease, Cass County, Missouri. In 1982-83 we basically shut down our operations in the Kansas/Missouri area and let the people go who were responsible for both the drilling of these wells and the Government reports. I have looked over the logs and our in-house geologist here in Salt Lake has examined it also but we are unable to come up with the answers. The fact is that no one is around who was there to observe the way the formations lay, so I don't know ~~how~~ we can clear up the matter.
how

If 3½ years hadn't passed I'd have confidence that maybe we could tack something down, but now I believe it is too late.

I'm sorry I wasn't able to help you in getting this cleared up. Please feel free to call if you have any other questions.

Yours truly,


Ron J. Hollberg, III
Production Dept.

RJH/rh



OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS 66720 - PHONE (316) 431-2650

RECEIVED

JUN 25 1981

February 24, 1981

MO. OIL & GAS COUNCIL

Emery Energy, Inc.
P. O. Box 519
Osawatomie, Kansas 66064

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary cores taken from the Beary Lease, Well No. 56-E, located in Cass County, Missouri and submitted to our laboratory on December 27, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Osawatomie, Kansas

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Emery Energy, Inc. Lease Beary Well No. 56-E

Location _____
 Section 4 Twp 46N Rge 33W County Cass State Missouri

Elevation, Feet	-		
Name of Sand	Labette	Englevale	Squirrel
Top of Core	453.0	478.0	574.0
Bottom of Core	458.4	484.0	587.5
Top of Sand	* (Tested) 455.0	478.0	* 575.3
Bottom of Sand	457.3	483.8	587.5
Total Feet of Permeable Sand	2.3	4.1	8.2
Total Feet of Floodable Sand	2.3	0.0	6.6

Distribution of Permeable Sand:
 Permeability Range
 Millidarcys

	Feet	Cum. Ft.
<u>LABETTE SAND</u>		
0 - 30	1.3	1.3
180 & Above	1.0	2.3
<u>ENGLEVALE SAND</u>		
0 - 10	3.1	3.1
10 & Above	1.0	4.1
<u>SQUIRREL SAND</u>		
0 - 25	2.9	2.9
60 - 100	1.9	4.8
195 - 205	2.0	6.8
400 & Above	1.4	8.2

Average Permeability Millidarcys	96.4	6.8	141.9
Average Percent Porosity	21.5	15.9	24.7
Average Percent Oil Saturation	43.8	41.7	53.3
Average Percent Water Saturation	42.5	52.7	30.8
Average Oil Content, Bbls./A. Ft.	738.	526.	1,024.
Total Oil Content, Bbls./Acre	1,698.	2,682.	9,418.
Average Percent Oil Recovery by Laboratory Flooding Tests	9.7	0.	16.2
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	171.	0.	311.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	393.	0.	2,055.
Total Calculated Oil Recovery, Bbls./Acre	See "Cal. Rec." Section	0.	See "Cal. Rec." Section

The core was sampled and the samples sealed in plastic bags by a representative of the client. Air and water were used as a drilling fluid.

Since only the Labette sand and the Squirrel sand responded to flooding susceptibility tests, a calculated recovery is given for these sands only.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
	<u>LABETTE SAND</u>
453.0 - 455.0	Gray sandy shale.
455.0 - 457.3	Dark brown slightly calcareous sandstone.
457.3 - 458.4	Gray sandy shale.
	<u>ENGLEVALE SAND</u>
478.0 - 479.3	Brown shaly slightly calcareous sandstone.
479.3 - 483.8	Brown and gray laminated slightly calcareous sandstone and shale.
483.8 - 484.0	Gray shale.
	<u>SQUIRREL SAND</u>
574.0 - 575.3	Gray laminated sandstone and shale.
575.3 - 576.2	Dark brown slightly calcareous sandstone.
576.2 - 582.5	Light brown and gray laminated slightly calcareous sandstone and shale.
582.5 - 585.9	Dark brown slightly calcareous sandstone.
585.9 - 587.5	Brown and gray laminated slightly calcareous sandstone and shale.

LABORATORY FLOODING TESTSLABETTE SAND

The Labette sand in this core responded to laboratory flooding tests, as a total recovery of 393 barrels of oil per acre was obtained from 2.3 feet of sand. The weighted average percent oil saturation was reduced from 43.8 to 34.1, or represents an average recovery of 9.7 percent. The weighted average effective permeability of the samples is 16.13 millidarcys, while the average initial fluid production pressure is 17.5 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 2 samples tested, 2 produced water and oil. This indicates that approximately 100 percent of the sand represented by these samples is floodable pay sand.

SQUIRREL SAND

The Squirrel sand in this core responded to laboratory flooding tests, as a total recovery of 2,055 barrels of oil per acre was obtained from 6.6 feet of sand. The weighted average percent oil saturation was reduced from 54.3 to 38.1, or represents an average recovery of 16.2 percent. The weighted average effective permeability of the samples is 18.60 millidarcys, while the average initial fluid production pressure is 12.5 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 8 samples tested, 6 produced water and oil, and 2 samples produced water only. This indicates that approximately 75 percent of the sand represented by these samples is floodable pay sand.

CALCULATED RECOVERY

It would appear from a study of the core data, that efficient primary and waterflood operations in the vicinity of this well should recover approximately 600 barrels of oil per acre from the Labette sand, and approximately 2,720 barrels of oil per acre from the Squirrel sand. This is an average recovery of 261 barrels per acre foot from 2.3 feet of floodable sand from the Labette sand, and an average recovery of 412 barrels per acre foot from 6.6 feet of floodable sand from the Squirrel sand.

These recovery values were calculated using the following data and assumptions:

	<u>LABETTE SAND</u>	<u>SQUIRREL SAND</u>
Original formation volume factor, estimated	1.04	1.05
Reservoir water saturation, percent, estimated	35.0	15.0
Average porosity, percent	21.5	24.8
Oil saturation after flooding, percent	34.1	38.1
Performance factor, percent, estimated	55.0	50.0
Net floodable sand, feet	2.3	6.6

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Emery Energy, Inc. Lease Beary Well No. 56-E

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	455.7	19.8	39	56	95	599	26.	1.3	1.3	779	33.80
2	456.5	23.7	50	25	75	919	188.	1.0	2.3	919	188.00
						<u>LABETTE SAND</u>					
3	478.7	13.9	36	60	96	388	1.3	1.3	1.3	504	1.69
4	480.8	18.3	53	42	95	752	12.	1.0	2.3	752	12.00
5	481.2	17.0	46	47	93	607	7.8	1.8	4.1	1093	14.04
6	483.7	14.3	30	64	94	333	Imp.	1.0	5.1	333	0.00
						<u>ENGLEVALE SAND</u>					
						<u>SQUIRREL SAND</u>					
7	575.7	24.3	59	30	89	1112	62.	0.9	0.9	1001	55.80
8	579.8	23.6	48	33	81	879	Imp.	1.0	1.9	879	0.00
9	580.5	23.6	60	24	84	1099	97.	1.0	2.9	1099	97.00
10	581.3	25.2	62	18	80	1212	23.	1.3	4.2	1576	29.90
11	583.1	26.9	52	23	75	1085	199.	1.0	5.2	1085	199.00
12	584.1	24.9	53	24	77	1024	415.	1.4	6.6	1434	581.00
13	585.8	23.1	46	44	90	824	200.	1.0	7.6	824	200.00
14	586.5	25.5	48	47	9	950	0.65	1.6	9.2	1520	1.04

Oilfield Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Well No. 56-E

Lease Beary

Company Emery Energy, Inc.

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation		Volume of Water Recovered cc*	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.		
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water					
1	455.7	19.8	39	599	LABETTIE SAND	4	61	35	61	538	282	18.63	15
2	456.5	23.8	50	923		17	314	33	47	609	450	12.89	20
3	478.7	14.4	35	391	ENGLEVALE SAND	0	0	35	61	391	0	Imp.	-
4	480.8	18.4	53	757		0	0	53	42	757	0	Imp.	-
5	481.2	16.6	47	605		0	0	47	46	605	0	Imp.	-
6	483.7	14.3	30	333		0	0	30	64	333	0	Imp.	-
7	575.7	24.2	59	1108	SQUIRREL SAND	14	263	35	56	845	306	2.36	10
8	579.8	23.6	48	879		11	201	37	51	678	340	11.75	15
9	580.5	23.7	60	1103		24	441	36	59	662	292	18.42	10
10	581.3	25.2	62	1212		20	391	42	53	821	388	27.63	15
11	583.1	26.8	52	1081		14	291	38	54	790	244	23.50	15
12	584.1	24.8	53	1020		14	269	39	56	751	306	22.20	10
13	585.8	23.0	46	821		0	0	46	45	821	3	0.43	50
14	586.5	25.1	49	954		0	0	49	46	954	266	24.07	15

Notes: cc—cubic centimeter.

*—Volume of water recovered at the time of maximum oil recovery.

**—Determined by passing water through sample which still contains residual oil.

Oilfield Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company	Lease	Beary	Well No.
Emery Energy, Inc.	LABETTE SAND		SQUIRREL SAND
	455.0 - 457.3		575.3 - 587.5
Depth Interval, Feet	2.3		6.6
Feet of Core Analyzed	21.5		24.8
Average Percent Porosity	43.8		54.3
Average Percent Original Oil Saturation	9.7		16.2
Average Percent Oil Recovery	34.1		38.1
Average Percent Residual Oil Saturation	54.9		54.8
Average Percent Residual Water Saturation	89.0		92.9
Average Percent Total Residual Fluid Saturation	740.		1,070.
Average Original Oil Content, Bbls./A. Ft.	171.		311.
Average Oil Recovery, Bbls./A. Ft.	569.		759.
Average Residual Oil Content, Bbls./A. Ft.	1,701.		7,064.
Total Original Oil Content, Bbls./Acre	393.		2,055.
Total Oil Recovery, Bbls./Acre	1,308.		5,009.
Total Residual Oil Content, Bbls./Acre	16.13		18.60
Average Effective Permeability, Millidarcys	17.5		12.5
Average Initial Fluid Production Pressure, p.s.i.			

NOTE: Only those samples which recovered oil were used in calculating the above averages.

