MISSOURI OIL AND GAS COUNCIL

Form OGC - 3

APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

APPLICATION TO DRILL ☒ DEEPEN ☐ PLUG BACK ☐

NAME OF COMPANY OR OPERATOR LANDMARK PRODUCTION INC. DATE 1981/01/21

c/o Odyssey Petroleum Inc.
1801 B S. Butler Dr. (Address) Harrisonville (City) Missouri (State) 64701

DESCRIPTION OF WELL AND LEASE

Name of lease	Well number	Elevation (ground)
L. D. Paul	1	826 ft.

WELL LOCATION (give footage from section lines)
2431 ft. from ~~(N)~~ (S) sec. line 1053 ft. from ~~(E)~~ (W) sec. line

WELL LOCATION Section 20 Township 43 N Range 31 County Cass

Nearest distance from proposed location to property or lease line: 272 feet

Distance from proposed location to nearest drilling, completed or applied – for well on the same lease: — feet

Proposed depth:	Rotary or Cable tools	Approx. date work will start
1400 feet	Rotary	January 24, 1981

Number of acres in lease: 297.58

Number of wells on lease, including this well, completed in or drilling to this reservoir: 1

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 ☐ Amt. _____ Blanket Bond ☒ Amt. $40 000 ☒ 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:

amt.	size	wt./ft.	cem.
125 ft	7"	17	To Surface

Approved casing – To be filled in by State Geologist

amt.	size	wt./ft.	cem.

I, the undersigned, state that I am the Agent of the Landmark Production 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.

Signature M.B. Nathan

Permit Number 120140

Approval Date: 1/28/81

Approved By: Wallace B. Hare

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

RECEIVED
JAN 23 1981
MO. OIL & GAS COUNCIL

☒ SAMPLES REQUIRED
☐ SAMPLES NOT REQUIRED

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.

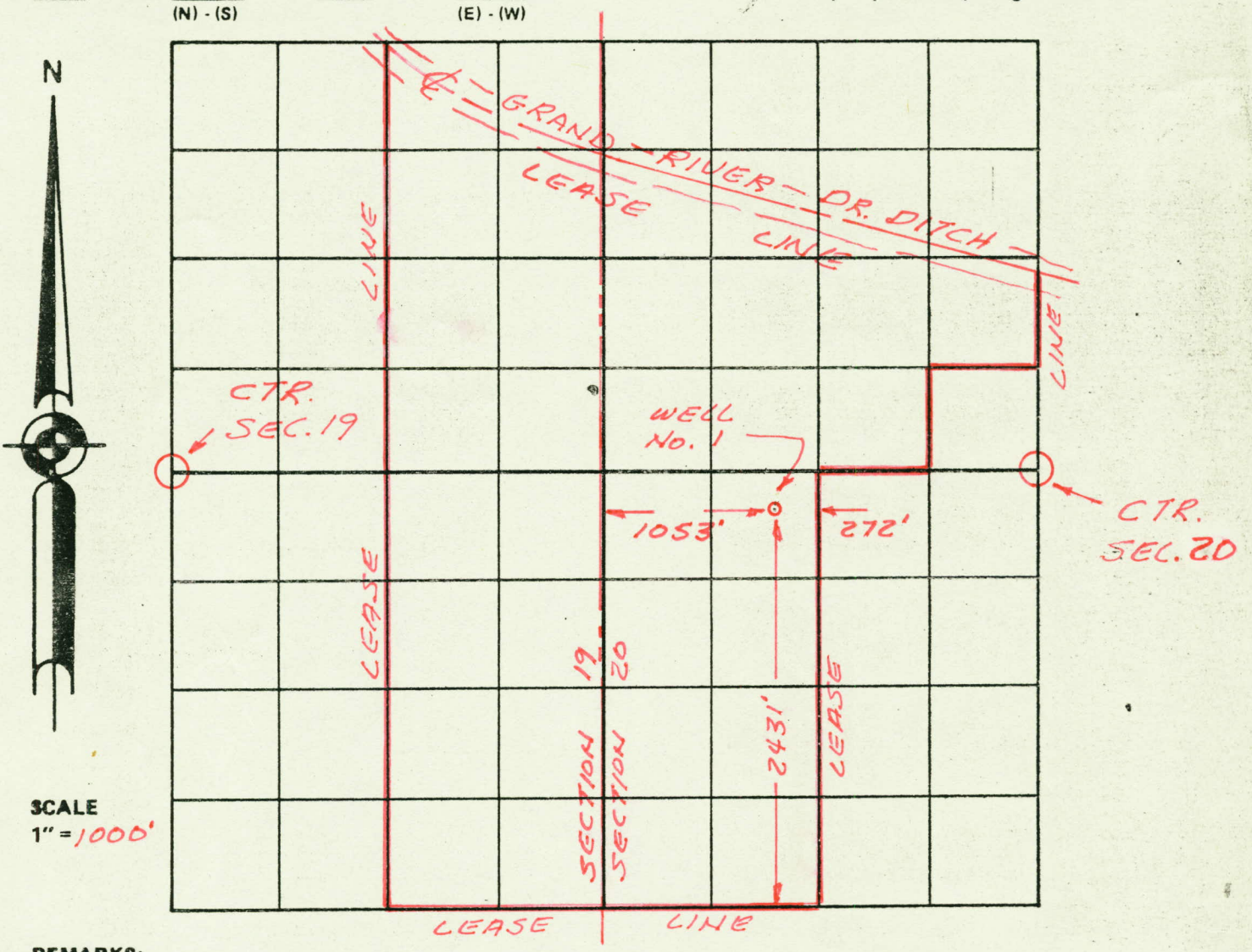
MISSOURI OIL AND GAS COUNCIL
WELL LOCATION PLAT

Form OGC—4

Owner: LANDMARK PRODUCTION, INC.

Lease Name: L. D. PAUL **County:** CASS

2431 feet from S (N) - (S) line and 1053 feet from W (E) - (W) line of Sec. 20, Twp. 43 N, Range 31.



SCALE
1" = 1000'

REMARKS:

WELL NO. 1

INSTRUCTIONS

On the above plat, show distance of the proposed well from the two nearest section lines, the nearest lease line, and from the nearest well on the same lease completed in or drilling to the same reservoir. Do not confuse survey lines with lease lines. See rule 10 CSR 50-2.030 for survey requirements.

This is to Certify that I have executed a survey to accurately locate oil and gas wells in accordance with 10 CSR 50-2.030 and that the results are correctly shown on the above plat.

MISSOURI No. LS-918 HOWARD L. SHERMAN REGISTERED LAND SURVEYOR (SEAL)

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JAN 23 1981
MO. OIL & GAS COUNCIL

Howard L. Sherman — Registered Land Surveyor

MO 918 — Number

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

Missouri Oil and Gas Council

Form OGC-7

PLUGGING RECORD

Owner	Address
Landmark Production, Inc.	10950 Grandview, Suite 350 Overland Park, Kansas 66210

Name of Lease	Well No.	Permit Number (OGC-3 or OGC-3I number)
L. D. Paul	#1	20140

Location of Well	Sec-Twp-Rng or Block & Survey	County
Sec. 20 - T43N - R31W		Cass

Application to drill this well was filed in name of	Has this well ever produced oil or gas?	Character of well at completion (initial production)		Dry?
		Oil (bbls/day)	Gas (MCF/day)	
Landmark Production, Inc.	No	--------	-------	Yes

Date Abandoned	Total depth	Amount well producing prior to abandonment		Water (bbls/day)
		Oil (bbls/day)	Gas (MCF/day)	
8/82	540'	0	0	

Name of each formation containing oil or gas. Indicate which formation open to well bore at time of abandonment.	Fluid content of each formation	Depth interval of each formation	Size, kind, & depth of plugs used. Indicate zones squeeze cemented, giving amount cement.
Bartlesville	Water	426' - 446'	B.P. @ 423'
Upper Bartlesville	None	412' - 417'	B.P. @ 280'
Bell	Dry	226' - 232'	
Bell	Trace of Water	204' - 208'	B.P. @ 202'
Bell	Trace of Water	186' - 196'	B.P. @ 150'

Size pipe	Put in well (ft)	Pulled out (ft)	Left in well (ft)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
7"	42'	0	42'	None	None
4½"	535'	0	535'	None	None

Was well filled with mud-laden fluid?	Indicate deepest formation containing fresh water.
No	

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:
Gary W. Bultemeir	Rt. 1, Archie, Mo. 64725	East
Pearl Mossman	Rt. 3, Harrisonville, Mo. 64701	North
Elise Katherine Good		West
Burrell D. Warner	Archie, Mo. 64725	South

Method of disposal of mud pit contents: Unloaded, Dried Naturally, and Filled In. We cemented to surface and then cut the casing off below plow depth.

Use reverse side for additional detail.

File this form in duplicate with

CERTIFICATE: I, the undersigned, state that I am the manager of the Landmark Production (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 Brenda M. Rice

RECEIVED

SEP 02 1982

MO. OIL & GAS COUNCIL

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P.O. Box 250, Rolla, MO 65401

One will be returned.

3/12/82

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1

Company Odessy Petroleum, Inc. Lease Paul Well No. 1

WAYSIDE SAND

Sample No.	Depth, Feet	Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.
			Oil	Water	Total		
1	187.6	16.9	19	67	86	249	14.
2	188.5	20.1	33	51	84	515	80.
3	189.6	20.7	26	58	84	418	49.
4	190.5	18.5	11	79	90	158	15.
5	191.5	18.2	22	73	95	311	13.
6	192.5	19.3	27	70	97	404	13.
7	193.5	19.9	1	88	89	15	28.
8	194.4	18.3	13	84	97	185	9.6
9	195.6	17.8	16	80	96	221	6.6
10	197.3	17.9	17	81	98	236	4.3
11	198.5	18.7	6	89	95	87	30.
12	199.4	15.2	21	72	93	248	1.5
13	200.6	20.7	5	87	92	80	32.
14	201.3	23.5	8	58	66	146	9.6
15	202.6	21.6	7	86	93	117	18.
16	203.3	20.2	14	81	95	219	25.
17	204.4	17.5	4	78	82	54	6.3
18	205.5	19.8	1	90	91	15	7.1

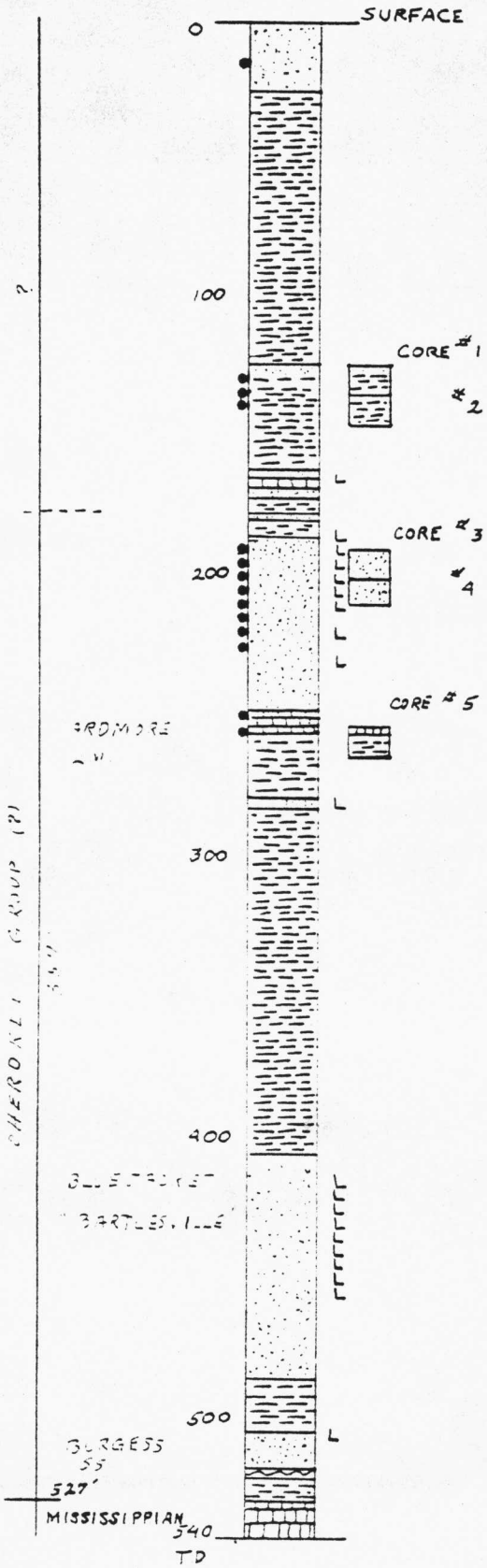
PAUL WELL #1

The first correlative unit within the Paul well is the Ardmore limestone at a depth of about 250'. Sedimentation from this point back to surface is not correlative. Below the Ardmore limestone, the 150' shale section is also not correlative. The Bartlesville, or Bluejacket, sandstone interval below 400' and the Burgess sandstone overlying the Mississippian contact are correlative with other holes. The proximity of the Paul hole to a 'sink hole complex suggests the faulting within the hole could displace the standard sequence of units.

A-63

PAUL #1
Sec 20 T43 N, R31 W
2431 FSL & 1053 FWL

Elv. 826



Name of Lease:	Number Acres in Lease:	Location:
L. D. Paul	297	W 1/4, Sec 20 - E 1/4, Sec 19 T43N-R31W
Date of Report:	**County:**	**State:**
March 23, 1981	Cass	Missouri
Well No:	**Well Location:**	**Company:**
1	Sec20-T43N-R31W 2,431' fr. S line 1,053' fr. W line	Odyssey Joint Venture

Surface Elevation:
826

Casing Record:
40'10", 7" J55 to 40'7"

Date Spudded:
March 20, 1981

Cementing Record:
11 Sacks, Portland A in 55 Gal. Water

Date Completed or Abandoned:

Hole Size:
9-7/8" to 42'
6-1/4" to 540'

Total Depth:
540

Permanent Datum G.L. Elev. K.B. --
Log Measured from G.L. D.F. --
Drill Measured from G.L. G.L. 826'

Sample and Core Descriptions

Formation	Depth(s)	Unit Description
	0-10	soil and sandstone, tan, weathered
	10-15	sandstone, tan, very fine-grained; dead oil staining on bedding surfaces; sample oxidized and weathered
	15-25	sandstone, tan, very fine-grained; dead oil stained in part
	25-35	shale, gray, platey; sandstone, light gray, very fine-grained, platey and possibly variegated with shale, gray
	35-120	shale, gray, platey

Paul - Well No. 1

120-123.5 sandstone, gray, very fine-grained; saturated with live oil; in drilled fragments oil issuing from rock increases with time; minor shale, gray, sandy; estimate 1' penetration into sandstone

123.5-133.5 Core #1 - Cut 10'. Received 9.9'.

All core is shale, gray with oil saturated sandstone horizontal zones from 6 to 8 inches thick of alternating splits of shale-sand-shale-sand; the sandstone releases oil upon wetting with acid. The sand-shale zones occur approximately every 2'; intervening areas of shale between the zones of sand-shale are thinly bedded shale that breaks readily along the thin beds - no oil is evident along these breaks. Visible oil is associated with sandstone splits. The initial drill sample was apparently from the uppermost zone of oil accumulation in this thick 95' shale section.

Core #1 did not show an end to the oil accumulation. The present zones, as disclosed in Core #1, will possibly be stimulated by both fracking and acidizings - additional zones are needed to approach an economic yield at these shallow depths.

133.5-143.5 Core #2

Core is all shale alternating dark gray and light gray as thin bands. Upper 4 inches of core, from 133.5' to 133.8', contained alternating sandstone stringers.

None of the core responded to liberation of an oil film by acid application - odor of petroleum was faintly present, no other indication of oil or gas.

143.5-145 shale, gray, sandy

145-150 shale, gray, sandy; show shale, black, fissile

150-160 shale, dark gray, sandy; with sandstone, gray, as splits

Paul - Well No. 1

160-165	sandstone, light gray, very fine-grained; minor shale, gray, sandy; minor limestone, brown
165-175	sandstone, light gray, very fine-grained; minor shale, gray, sandy
175-180	shale, gray; sandstone, light gray, very fine-grained, as variegated sequence
180-185	sandstone, gray, very fine-grained
185-186	sandstone, gray, fine-grained; oil stained in part; oil on pit
186-196	Core #3 - Cut 10'. Received 9.5'.
	186-189.6 Sandstone, dark gray with shale; dark gray as bands upper 8 inches.
	189.6-196 Sandstone, gray (free of shale), banded with streaks of carbon from thread width to 2 mm.
196-206	Core #4 - Cut 10'. Received 10'.
	All core is sandstone, gray, medium-grained with minor thin carbon splits; inclusions of angular fragment sandstone, tan, 1' up from base of core. Core is not fractured, is massive, appears to have suitable porosity - may have excess water.
206-220	sandstone, gray, fine-grained, platey; carbon staining on bedding splits; with oil staining
220-225	sandstone, gray, medium-grained; chert, brown, dense 10%
225-230	sandstone, gray, medium-grained; shaley-sandstone, dark gray; minor showings brown chert
230-235	sandstone, light gray, medium-grained; carbon staining on platey surfaces
235-240	sandstone, light gray, medium-grained; silica cemented in part; chert, tan or brown; show of coal/fissile shale; some calcareous sandstone fragments

Paul - Well No. 1

240-245	sandstone, light gray, medium grained; limestone, tan, fossiliferous; show coal and fissile shale; minor sandstone, light gray, large-grained, cemented with silica
245-249	shale, dark gray, hard; limestone, brown, dense, fossiliferous 70%; strong odor of petroleum in sample; visible free oil on sample surfaces; limestone has healed fractures but may have open features-thus Core #5
249-259	Core #5 - Cut 10'. Received 9.6'.
	249-251 Limestone, tan-gray, extremely dense; fossiliferous, possibly horizontal fractures, 2 per foot.
	251-259 Shale, gray, very sandy, dense; variegated with shale, light gray and sandstone stringers (tan) 2 mm thick as occasional stringers; increases in sand content downwards. Odor of petroleum in limestone portion of core. Shale portion apparently too massive and dense to hold oil or gas other than minor stringers of sandstone too thinly developed to be significant.
259-270	shale, gray, sandy, hard
270-275	shale, gray, sandy
275-280	coal, black; sandstone, gray, fine-grained; sandstone, tan, fine-grained; non calcareous
280-285	sandstone, gray, fine-grained; shale, gray, sandy hard; coal showings with pyrite
285-290	shale, dark gray, platey; shale, light gray, platey; could be classed as a sandstone
290-295	shale, dark gray, platey, sandy, hard; minor shale, tan, sandy, hard
295-390	shale, dark gray, sandy, platey, hard

Paul - Well No. 1

	390-395	sandstone, gray, platey; minor shale, dark gray, sandy; all sandstone carries finely dispersed carbon particles
	395-400	shale, dark gray, sandy, platey; minor sandstone, gray, platey, hard (very fine-grained)
	400-450	sandstone, gray, very fine-grained, platey; carbon coatings on bedding planes, pyritic
	450-460	sandstone, light gray, fine-grained, pyritic; show of coal or shale, black, fissile
	460-475	sandstone, tannish-gray, fine-grained, pyritic; coal and pyritic wood (coalified)
	475-480	sandstone, light gray, very fine-grained
	480-485	sandstone, light gray, very fine-grained; shale, light gray and dark gray, platey; shale, black, fissile
	485-490	sandstone, light gray and dark gray, variegated, platey, very fine-grained
	490-500	shale, dark gray, variegated with shale, light gray, both sandy, platey
	500-505	sandstone, light gray, fine-grained, platey
	505-515	sandstone, light gray, dark gray (variegated), very fine-grained, platey
	515-525	shale, dark gray, sandy; shale, black, fissile; shale, light gray; chert, pink, orange, yellow, dense; shale, blue, soft
Mississippian	525-530	same as above; limestone, brown, dense
	530-535	limestone, brown, dense; contribution of chert, shale
	535-540	limestone, brown, dense
	TD 540	

Permit #: 20140 Date Issued: 1-28-81

County: Cass Date Cancelled:

CONFIDENTIAL UNTIL: Date Plugged: 8-82

OGC FORMS	Date Received
1	
2	
3	1-23-81
3i	
4	1-23-81
4i	
5	
6	
7	9-2-82
8	
11	
12	
Misc. Form 2	

COMMENTS:

	TYPE	ID #	Date Received
Logs			
Samples	chip		
	core		
Analyses	water		
	core		

Additional Submitted Data:
core tests
sat & perm.