

Helmerich & Payne, Inc.
 Utica at Twenty First
 Tulsa 14, Oklahoma

29-33-30

Re: Helmerich & Payne (H. P.) Well
 G. P. No. 29-33-30
 Loc. Twenty-Nine

GENERAL DATA:

Operator:	Helmerich & Payne	Contractor:	Helmerich & Payne
Commenced:	11-30-62	Completed:	12-13-62
Surface Casing:	1855 Ft/350 wt.	Cil. String:	None D & A
Elevation:	3719 Kelley bushing 2702 Ground	Total Depth:	3074

Samples were saved and have been examined microscopically from 2500 ft. to rotary total depth of 3074 ft. A one (1) foot drilling time log was kept from 2500 ft. until the well was completed. Upon completion of drilling operations a Schlumberger (Induction-Resistivity Gamma-Ray-Sonic/caliper) log was run.

Listed below are formation tops as determined from sample cuttings and the electric log. Depths below the surface and minus data are based on Kelley bushing elevation of 3719 ft.

Formation	Depth (ft.)	Depth (ft.)	Sub-sea (ft.)
Anhydrite	2500		(-1169)
Herrington	2500		(-1169)
Krider	2500		(-1169)
Winfield	2500		(-1169)
Ft. Riley	2500		(-1169)
Florence	2500		(-1169)
Heebner	4116	4337	(-1352)
Toronto	4416	4416	(-1659)
Lansing-Kansas City	4516	4516	(-1759)
Manassas	5116	5116	(-2359)
Cherokee	5216	5216	(-2459)
Atoka	5316	5316	(-2559)
Morrow	5716	5716	(-2959)
Mississippian (Chester)	5716	5716	(-2959)
(St. Genevieve)	6016	6016	(-3259)
Total Depth	3074	3074	(-3355)

Porosity zones of interest, shows of oil and drill mud cuts taken are as follows:

Group 1, 2500

This group consists of the Herrington, upper and lower Morrow, Winfield and upper and lower Ft. Riley. All formations appeared to have fair to good porosity, however, lacked shows of oil or gas. No gas was indicated on the Baroid gas unit.

Toronto, 4416
4420-4432

This zone is gray-white, fine crystalline, fossiliferous fossil and consists of porosity, no show, very chalky.
 Quantitative Analysis: 4420-22 Porosity 15%; Water 100%
 4427-22 " 15%; " 100%

Porcine (cont.)

- 4450-4455 Limestone, as above, dolomitic, good crystalline porosity
Quantitative analysis: Porosity 80%; Water 100%
- 4476-4480 Limestone, gray buff, fine crystalline, crystalline
porosity, no show.
Quantitative Analysis: Porosity 11%; Water 90%

Lansing-Kansas City # 4844

- 4552-4556 Limestone, gray buff, fine crystalline, slightly cherty,
oolitic and oolitic porosity, no show.
Quantitative analysis: Porosity 25%; Water 55%
- 4592-4596 Limestone, gray buff, fine crystalline, slightly
porous, no show.
Quantitative analysis: Porosity 21%; Water 67%
- 4630-4640 Limestone, gray buff, fine crystalline, slightly dolomitic,
fair oolitic porosity, cherty, no show
Quantitative analysis: Porosity 11%; Water 100%
- 4670-4676 Limestone, gray buff, fine crystalline, some good
fossil porosity, cherty, no show.
Quantitative analysis: Porosity 7%; Water 95%
- 4900-4904 Limestone, gray buff, fine crystalline, crystalline &
oolitic porosity, cherty, no show
Quantitative analysis: Porosity 13%; Water 100%
- 5056-5060 Limestone, gray buff, fine crystalline, good oolitic
and oolitic porosity, cherty, no show.
Quantitative analysis: Porosity 13%; Water 85%
- 5100-5106 Limestone, as above
Quantitative analysis: Porosity 20%; Water 100%

Marathon # 5201

- 5204-5206 Limestone, gray buff, fine crystalline, cherty, highly
oolitic, no oolitic porosity, no show
Quantitative analysis: Porosity 11%; Water 100%
- 5240-5244 Limestone, gray buff, fine crystalline, fossiliferous,
cherty, oolitic porosity, cherty, no show.
Quantitative analysis: Porosity 3%; Water 100%
- 5296-5301 Limestone, gray buff, fine crystalline, cherty, no show
Quantitative analysis: Porosity 4%; Water 100%
- 5344-5346 Limestone, gray buff, fine crystalline, good fossil and
oolitic porosity, cherty, no show
Quantitative analysis: Porosity 21%; Water 100%

Cherokee # 5400

- 5588-5590 Limestone, gray buff, fine crystalline, fossiliferous,
cherty, cherty. No porosity noted in samples - the
shaly content probably is affecting sonic porosity curve.
Quantitative analysis: Porosity 24%; Water 45%

Morrow # 5722

- 5754-5756 Limestone, gray-buff, fine-medium crystalline, glauconitic,
partly to a highly calcareous blaucenitic sandstone, no
show, see D.S.E.#1.
Quantitative Analysis: Porosity 11%; Water 75%
- 5760-5764 Sandstone, gray, very fine grained, friable, slight
show gas. See D.S.E.#1
Quantitative Analysis: Porosity 11%; Water 100%

D.S.E.#1

5740 to 5745 ... 180 ft. drilling

I.P.P. ... 1845 p.s.i./45 min.
P.S.P. ... 1835 p.s.i./45 min.

Mississippi (Ghost) #1

5814-5820

Limestone ... crystalline, fair
crystalline ... scattered light
oil stain ...
Quantitative ... 7 5%; Water 32%

D.S.E.#2

5725 to 5730 ... plugged 162,000 p.s.i.
... 76,000 p.s.i.

I.P.P. ... 1875 p.s.i./45 min.
P.S.P. ... 1875 p.s.i./45 min.

5821-5827

5821-5827

Limestone ... gray highly
siliceous ... some glauconite to
dark siliceous

Structural position of the ... shown in the following table:

Table with 2 columns: Well Name, Location. Includes Helmerich #1 Bond and Morrow #1 Bond.

Table with 4 columns: Well Name, Depth, Pressure, etc. Lists Lansing, Mammoth, Morrow, and Mississippi.

Recommendations & Summary

No shows of oil or gas were ... Two
drill stem tests were ... the Morrow and the
top of the Mississippi ...
indicated no zones of ...
abandoned and plugged ...

Sincerely,

Richard E. Roby

Richard E. Roby

... and
 ...
 ...

DATA
 2500-2510
 2520
 2530
 2540
 2550
 2560
 2570
 2580
 2590
 2600
 2610
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 2640
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 2690
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 2940
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 2960
 2970
 2980
 2990
 3000

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Depth	Drilling Time
3000-3010	1-1-1-1-1-1-1-1-1-1
3020	2-2-2-2-2-2-2-2-2-2
3030	3-3-3-3-3-3-3-3-3-3
3040	4-4-4-4-4-4-4-4-4-4
3050	5-5-5-5-5-5-5-5-5-5
3060	2-2-2-2-2-2-2-2-2-2
3070	3-3-3-3-3-3-3-3-3-3
3080	3-3-3-3-3-3-3-3-3-3
3090	3-3-3-3-3-3-3-3-3-3
3100	4-4-4-4-4-4-4-4-4-4
3100-3110	1-1-1-1-1-1-1-1-1-1
3120	1-1-1-1-1-1-1-1-1-1
3130	4-4-4-4-4-4-4-4-4-4
3140	4-4-4-4-4-4-4-4-4-4
3150	3-3-3-3-3-3-3-3-3-3
3160	3-3-3-3-3-3-3-3-3-3
3170	3-3-3-3-3-3-3-3-3-3
3180	1-1-1-1-1-1-1-1-1-1
3190	2-2-2-2-2-2-2-2-2-2
3200	3-3-3-3-3-3-3-3-3-3
3210	2-2-2-2-2-2-2-2-2-2
3220	3-3-3-3-3-3-3-3-3-3
3230	3-3-3-3-3-3-3-3-3-3
3240	1-1-1-1-1-1-1-1-1-1
3250	2-2-2-2-2-2-2-2-2-2
3260	2-2-2-2-2-2-2-2-2-2
3270	1-1-1-1-1-1-1-1-1-1
3280	2-2-2-2-2-2-2-2-2-2
3290	1-1-1-1-1-1-1-1-1-1
3300	1-1-1-1-1-1-1-1-1-1
3300-3310	1-1-1-1-1-1-1-1-1-1
3320	3-3-3-3-3-3-3-3-3-3
3330	1-1-1-1-1-1-1-1-1-1
3340	3-3-3-3-3-3-3-3-3-3
3350	3-3-3-3-3-3-3-3-3-3
3360	3-3-3-3-3-3-3-3-3-3
3370	1-1-1-1-1-1-1-1-1-1
3380	1-1-1-1-1-1-1-1-1-1
3390	3-3-3-3-3-3-3-3-3-3
3400	1-1-1-1-1-1-1-1-1-1
3400-3410	1-1-1-1-1-1-1-1-1-1
3420	2-2-2-2-2-2-2-2-2-2
3430	3-3-3-3-3-3-3-3-3-3
3440	2-2-2-2-2-2-2-2-2-2
3450	3-3-3-3-3-3-3-3-3-3
3460	1-1-1-1-1-1-1-1-1-1
3470	1-1-1-1-1-1-1-1-1-1
3480	2-2-2-2-2-2-2-2-2-2
3490	2-2-2-2-2-2-2-2-2-2
3500	4-4-4-4-4-4-4-4-4-4

Depth	Drilling Pipe
3530-3540	1-1-1-1-1-1-1-1-1-1
3520	1-1-1-1-1-1-1-1-1-1
3530	1-1-1-1-1-1-1-1-1-1
3540	1-1-1-1-1-1-1-1-1-1
3550	2-2-2-2-2-2-2-2-2-2
3560	1-1-1-1-1-1-1-1-1-1
3570	2-2-2-2-2-2-2-2-2-2
3580	2-2-2-2-2-2-2-2-2-2
3590	2-2-2-2-2-2-2-2-2-2
3600	2-2-2-2-2-2-2-2-2-2
3600-3610	1-1-1-1-1-1-1-1-1-1
3620	1-1-1-1-1-1-1-1-1-1
3630	1-2-2-2-2-2-2-2-2-2
3640	1-1-1-1-1-1-1-1-1-1
3650	2-2-2-2-2-2-2-2-2-2
3660	2-2-1-1-1-1-1-1-1-1
3670	2-2-2-2-2-2-2-2-2-2
3680	1-1-1-1-1-1-1-1-1-1
3690	2-2-1-1-1-1-1-1-1-1
3700	1-1-1-1-1-1-1-1-1-1
3700-3710	2-2-2-2-2-2-2-2-2-2
3720	2-2-2-2-2-2-2-2-2-2
3730	1-2-2-2-2-2-2-2-2-2
3740	2-2-1-1-1-1-1-1-1-1
3750	2-2-2-2-2-2-2-2-2-2
3760	2-2-2-2-2-2-2-2-2-2
3770	2-2-1-1-1-1-1-1-1-1
3780	2-2-1-1-1-1-1-1-1-1
3790	1-2-2-2-2-2-2-2-2-2
3800	2-2-2-2-2-2-2-2-2-2
3800-3810	2-2-2-2-2-2-2-2-2-2
3820	2-2-2-2-2-2-2-2-2-2
3830	2-2-2-2-2-2-2-2-2-2
3840	2-1-1-1-1-1-1-1-1-1
3850	2-2-2-2-2-2-2-2-2-2
3860	2-2-1-1-1-1-1-1-1-1
3870	2-2-2-2-2-2-2-2-2-2
3880	2-2-2-2-2-2-2-2-2-2
3890	2-2-2-2-2-2-2-2-2-2
3900	2-2-2-2-2-2-2-2-2-2
3900-3910	2-2-2-2-2-2-2-2-2-2
3920	2-2-2-2-2-2-2-2-2-2
3930	2-4-2-2-2-2-2-2-2-2
3940	2-2-2-2-2-2-2-2-2-2
3950	2-2-2-2-2-2-2-2-2-2
3960	2-2-2-2-2-2-2-2-2-2
3970	2-2-4-2-2-2-2-2-2-2
3980	2-2-2-2-2-2-2-2-2-2
3990	2-2-2-2-2-2-2-2-2-2
4000	2-2-2-2-2-2-2-2-2-2

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Depth

3990-4010

4020

4030

4040

4050

4060

4070

4080

4090

4100

4100-4110

4120

4130

4140

4150

4160

4170

4180

4190

4200

4200-4210

4220

4230

4240

4250

4260

4270

4280

4290

4300

4300-4310

4320

4330

4340

4350

4360

4370

4380

4390

4400

4400-4410

4420

4430

4440

4450

4460

4470

4480

4490

4500

3990-4010

Drill C 4060

Drill C 4472

4500-4510	...
4520	...
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4570	...
4580	...
4590	...
4600	...
4610	...
4620	...
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4650	...
4660	...
4670	...
4680	...
4690	...
4700	...
4710	...
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4790	...
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4990	...
5000	...

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5010	...
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5110	...
5120	...
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5280	...
5290	...
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5370	...
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5390	...
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5480	...
5490	...
5500	...

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Holmrich & Payne #1. Drill

1950-1951

Depth	Description
6000-6010	10' of sand
6020	6-8" of sand
6030	8-10" of sand
6040	7-8" of sand
6050	2-3" of sand
6060	5-6" of sand
6070	2-3" of sand
6080	2-3" of sand