

May 29, 1953

Mr. Jerry Ryan Ryan Cil Co. Midland Savings Bldg. Denver, Colorado

Dear Mr. Ryan:

Attached herewith are a descriptive sample log, core descriptions, drill stem test data, drilling time and bit records from Ryan's No. 1 - Olsen, 30-12N-52W - Logan County, Colorado. The formations penetrated and other data are:

RYAN OIL CO., NO. 1 CLSEN SW SW SE Sec. 30, T.12N., R.52W. Logan County, Colorado.

Elev: 4518 gd: 4527 K.B.

Comm: May 20, 1953.

Comp: May 29, 1953.

Csg: 10 3/4 @ 234

Contr: Miracle-Fifer Drlg. Co.

Top	Niobrara Ft. Hays	4310	Schlum.	measure
48	Carlile	4674.	19	83
1)	Greenhorn	4883	11	**
п	"D" Sand	5127	18	15
耕	"J" Sand	52601	69	48
T.D.		"J"sand 5323"	(Driller)(Schlum get to	did not bottom)

Schlumberger measure 3. lower than Driller.

Shows of oil were encountered in a highly fractured "D" sand section from the core 5127 to 5137' (driller), 5130 to 5140' (Schlum). When this section was drill stem tested between 5124 to 5135% (driller) 5127 to 5138% (Schlum), it yielded 1800' of oil and 1500' of water on a 2 hour test with medium strong gas blow throughout. From the core it was noted that a transitional oil water contact existed at 5137' (driller) 5140' (Schlum) and the core from 5138 to 5142' (driller) 5141 to 5145' (Schlum) was definitely water bearing. Since the top 3 feet of the "D" sand section were drilled, it is thought that gas may be contained in

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part of that 3 feet because the first sand which came up in the 30 minute circulating sample did not contain staining nor did it fluoresce. The next sample caught at 45 minutes contained sand with oil shows. This 3 feet of sand is separated from the main body by a foot of shale as can be seen from the micro log, electric log, and as was noted from the core. It is my opinion that the 3 feet of sand above the main body of "D" oil section probably contains at least 2 feet of gas and about 1 foot of oil. This is based on the percentage of samples with no oil stain and upon the amount of gas from the drill stem test.

Considering the above data, it may be necessary to try a protective squeeze to eliminate channeling of water into the highly fractured zone, and to perforate 3½ to 4 feet below the top of the "D" sand, i.e. below 5127' (driller), 5130' (Schlum), but not below 5135' (driller) 5138' (Schlum).

The "J" sand section was drilled from the top at 5157 to 5170. (driller) 5160 to 5173' (Schlum) where the first core was cut. At the time, the "J" sand top was interpreted to have been at 5152 from samples and drilling time. The interpretation of that top pick proved to be 5' too high, therefore instead of drilling all of the first bench of the "J" sand as planned, coring was begun too early and 5. higher than desired. The first core cut from 5270 to 5278 (driller) 5273-81 (Schlum), therefore did not reach the second bench which is productive further south in the West Peetz field. This core recovered 2' of shale with silty sand-stone bands from 1 inch to 3 inches thick with oil stain, and 12' of sand which was very hard and tight with oil stain, but with low to no permeability. Below this was 44 of shale with siltstone bands from } inch to 2 inches thick with no shows. Since it was desired to core only a few feet of the second bench of the "J" sand in order to stay away from water another short core was cut from 5278 to 5284 (driller) 5281 to 5287 (Schlum). This core apparently just topped the sand section which wehad planned to core, but was of such a poor quality that it was not recognized as the same sand. This core recovered 5' of shale and 1 foot of shale with sandstone blebs with no show. Since much time had already been consumed with short cores, it was decided to drill ahead and circulate out any shows and then test. No further shows were encountered in the drilling, and the sand which is productive of oil in the West Feetz Field was found to be shaled out except for 22 feet which is still pesent but without shows.

It is not recommended that pipe be run through the slight shows of oil found in the core from 5270-78' (driller) 5273-81' (Schlum). This sand should be watched for favorable development or fracturing in all future wells drilled in the West Peetz Field area,

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and where pipe is already run through this sand section for lower production, it should be perforated and tested when the lower reservoirs are depleted. This is true especially for those wells which did not core the upper bench of the "J" sand and would not therefore be aware of fracturing which could furnish enough permeability for production.

Very truly yours,

Paul R. Buehler, geologist



Ryan & Miracle Fifer No. 1 Olsen - SW SW SE 30-12N-52W, Logan Co. Colo.

DESCRIPTIVE SAMPLE LOG

Samples examined by Paul R. Buchler, geologist on location. Samples begin at 4550 in the Niobrara formation.

TOP NIOBRARA 4310 (Schlum). Sh, gry, fiss w/calc spec, ltl bent. 4550-70 Sh, gry-lt gry, fiss, w/calc spec. -80 -90 Sh, gry, w/calc spec, ltl bent. -4600 Sh. gry, w/calc spec. TOP FT. HAYS 4613 (Schlum)

Sh, It gry, chalky, w/calc spec. Sh, It gry, chalky 80%; Ls, wh-cr, crypto xln, foram 20%. -10 -30 -60

Ls. wh, crypto xln, foram.

TOP CARLILE 4674 (Schlum) Sh, gry-blk, fiss, silty, mica. -70

-90 Sh, gry-blk, fiss, Sh. gry, fiss; siltst to v.v.fn g. ss, gry, glaue, St. siltst to v.v. fn g. ss, gry, glaue, sap. -4700

-10 Siltst to v.v.fn g. ss, gry, glaue, sap. -20

Ss, v.fn.g. gry, glauc, sap. No por or perm. No show. -90 Ss, fn.g. gry, glauc, calc, s&p. No por or perm. No show. -40

Ss, v.fn.g. gry, glauc, calc, sap. No per or perm. No show. -50

Siltst to v.v.fn g. ss, gry, glauc, sap. -60

-70 Siltst, gry, glauc.

Ss, fn. g. gry, glauc, sap. No por or perm. No show. -90

Sitst to v.v. fn. g. ss. gry, glauc. sap. -4800 Sltst gry, glauc & silty sh, gry, fiss. -10 Sh, gry, silty, fiss & siltst, gry, glauc. -30

Sh, gry, silty, fiss w/few fish frags; ltl siltst as above.

-50 Sh, gry, fiss, silty.

-70 Sh, gry, fiss w/sli calc spec.

TOP GREENHORN L883 (Schlum) Sh, gry, fiss w/sli cale spec; ltl siltst gry, glauc, s&p. -80 Sh. gry, fiss, siltst, gry, glauc, sap; tr ls, br, m xln. Sh, gry, fiss; siltst, gry glauc, sap; Ls, br, m.xln.15%. -90 -4900 Sh, gry, fiss; siltst, gry glaue, sep; Ls br, m.xln. 25%. -10

Sh, gry, fiss; Ls, cr-brn, m. xln 25%. -20 Ls. br-er, m. xln 50%; Sh, gr, fiss 50%. -30

Ls, br-er, m. xln. -40

Sh, gry, fiss 65%; Ls er-br, m. xln, 35%. -50

Sh. gry, fiss.

(Poor sample after trip) Sh, gry, fiss. -70



Ryan & Miracle Fifer No. 1 Olsen - SW SW SE 30-12N-52W, Logan Co. Colo.

4970-80 Sh, gry, fiss (Much cave after trip).

-90 (Missed sample)

-5000 Sh. gry-drk gry. fiss.

Sh, gry-drk gry, fiss, few inoc. prisms.

-45050 Sh, gry-drk gry, fiss; Increase Bent. Tr ls, br, fish frag. Sh. gry-drk gry, fiss; Tr ls, br, fish frag; Increase Bent. Sh, gry-drk gry, fiss; Tr ls, br, fish frag. Sh, gry-drk gry, fiss 85%; Ls, br, fish frag 15%.

-65 -70 Sh. gry-drk gry, fiss 90%; Ls, br, fish frag 10%. Sh. gry-drk gry, fiss 95%; Ls br, fish frag 5%. -80

-5125 Sh, gry-drk gry, fiss.

- TOP "D" SAND 5127' (Schlum) (Cire 30 min) Sh. gry-drk gry, fiss; Ss. m.g. sa-sr. -27 wh, w/wh cly fill. Some w med por & perm 10%. No show.
- -27 (Circ 45 min) Ss, m.g., wh, sa-sr, w/wh cly fill, some w/med por & perm. 20%. Several frags w/light oil stain, dull fluor.
- -27 (Circ 60 min) Ss as above, several frags w/light oil stain and dull fluor.

CORE NO. 1 - 5127-5142' (driller), 5130-5145' (Schlum) (see core record)

DST NO. 1 - 5124-5135% (driller), 5127-5138% (Schlum) (see DST record)

5142-45 Drilled 3' while reaming rat hole after 2 DST missrums. No samples.

Sh. blk, fiss (Poor sample after trip).

Ss, m.f.g. sa-sr, wh-gry, mica, silty, No por or perm. No show.

Ss. m.g., sa-sr, wh. med por & perm. No show.

-70 -80 Ss, m.g., sa-sr, wh, med low por & perm. No show. Ltl pyrite.

Ss, m.g. to fn.g, sa-sr, wh, m to low por & perm. -90 No show, Ltl pyrite.

sh, blk, fiss 95%; Ss, m to fn. g. sa-sr, sli glauc, -5200 w/wh cly fill. No por or perm. No show.

-10 Ss. v.fn.g., gry-wh, silty. No por or perm. No show.

-20

Sh, blk, fiss. Sh, gry fiss; siltst, gry, dns.

-35 -55 Siltst, gry-brn, dns. Ss, m.g. gry-wh, sa-sr; w/wh cly fill. No por or perm. No show. (Reworked-belongs in the siltst. section).

TOP "J" SAND 5260' (Schlum) -60 Ss. gry, wh, sa-sr, m.g. sli glaue, otzie & cly filled w/few phos. frags. No por or perm. No show.





Ryan & Miracle Fifer No. 1 Olsen - SW SW SE 30-12N-52W, Logan Co.

5260 (Cire 30 min) Ss, m. cse g., sa-sr, br-gry, w/brn cly fill. No por or perm. No show.

-60 (Circ 45 min) Ss as above. (Circ 60 min) Ss as above. -60

-65 Ss, cse g. wh, sa, w/cly fill. No por or perm. No show.

-70 Ss, as above.

(Circ 30 min) Ss, m.f.g., wh, sa-sr, sli sap, w/some -70 cly pore fill. Low to no por & perm, spotted light golden fluor, light oil stain.

(Circ 45 min) Ss, as above. (Circ 60 min) Ss, as above. -70 -70

> CORE NO. 2 - 5270-5278 (Driller), 5273-5281 (Schlum) (See core record)

> 5278-5284 (Driller), 5281-5287 (Schlum) CORE NO. 3 -(See core record)

5284-90 Ss, m.g. sa-sr. Med por & perm. Stain & Fluor. Sh, blk, fiss (Sample from reaming rat hole) No new cuttings up off bottom yet.

-95 Sh, gry, fiss. -5300

Sh, gry, fiss, Sh, gry, fiss, Tr ss, cse g, sa-sr, wh, w/ltl wh cly -05 fill, few blk min g. Med to high por & perm in some frags. No show.

-10 as above.

-15 Sh, gry fiss 95%; Ss as above 5%.

-20 Sh, gry, fiss, 90%; Ss, m.g. wh, sa-sr. Low to no por & perm. No show.

Sh, gry, fiss 90%; Ss, fn.g. gry, sa-sr, s&p, No por -22 or perm. No show.

-23 Sh, as above 80%; Ss as above 20%.

-23 (Circ 15 min) Ss as above.

(Circ 30 min) Same (Circ 45 min) Same (Circ 60 min) Same -23 -23

T.C. 5323' (driller) 66' in "J" Sand on May 29, 1953.

Paver Butler Paul R. Buehler, geologist

Ryan & Miracle Fifer No. 1 Olsen - SW SW SE 30-12N-52W, Logan Co.

CORE RECORD

gore No. 1 5127-5142 (driller) 5130-5145 (Schlum) Rec 15.

Sh, blk, fiss

31 Ss. m.g., sa-sr, sap, med por & perm, w/good oil stain, taste, and solid golden fluor. Many vertical fractures. Bleeds oil along fracture planes.

Ss, as above only cse g and w/med high por & perm. Saturated & stained as above to 5137. Transition

zone of oil-wtr at 5138.

Ss. m-m cse g. wh, sa-sr, med high por & perm. Can suck wtr from core. No show.

Sh, blk, fiss

Ss, m.g. wh, sa-sr, m to low por & perm. Can suck wtr from core. No show.

Core No. 2 5270-5278 (driller) 5273-5281 (Schlum) Rec. 8. Sh, & sandstone banded. Ss, hard, tight, fn.g. with low to no por & perm, but with light oil

stain, taste & fluor. Sh, blk, fiss. Ss, fn.g, dns, sa-sr, low to no por & perm.

Good oil stain, fluor, and taste.

43. Sh & siltstone banded. No show.

5278-5284 (driller), 5281-5287 (Schlum) Rec 6. Core No. 3 Sh. gry to brn fiss. Sh, gry to brn, fiss w/many fn.g. ss blebs.

No show in ss.

DST No. 1 5124-35% (driller) 5127-38% (Schlum)
Tool open 2 hrs. Shut in 20 min. Gas to surface in 10 min. Med. strong steady blow through 2" line for 45 min, decreasing slightly at end of 45 min. Unsteady blow then for next 1 1/4 hrs. Rec. 3300 fluid - 1800 free oil & 1500 wtr. IF 300%. FF 870%. SI 880%.

BIT RECORD

1	HTC	9"	08C-3	254-3645	3391.	22g hrs.
2	38	9"	- 11	3645-4454	809	144
3	10	9"	83	1454-4965	511.	18 3/4
L	11	911	49	4965-51271	162	7 (Out to core)
5	- #	9 n	OSC-1	5145-5270	1251	11 3/4 " "
6	41	9"	OSC	5270-5923	591	5 T.D.

Jaul & Buchler Paul R. Buehler, geologist