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Geological Report on

NIKRBASH #1-30
1,000' FEL & 330' FSL, SE/4 30-T15S-R41W
Wallace County, Kansas

of

MURFIN DRILLING COMPANY
Wichita, Kansas

API #15-199-20211

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Curtis E. Covey
PETROLEUM GEOLOGIST

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3 December 1993

Murfin Drilling Company
250 North Water, Suite 300
Wichita, Kansas 67202

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Re: Nikrbash #1-30
1,000' FEL & 330' FSL, SE/4 3-T15S-R41W
Wallace County, Kansas

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Gentlemen,

The following manuscript letter and enclosed geologist's log are a summary of the referended well.

RECOMMENDATION

A recommendation is made to the operator that the well be considered non-commercial and be plugged in accordance with state rules and regulations. All samples were analyzed from 3,900' to RTD (5,300') for hydrocarbon content.

There were no major show(s) encountered during the drilling of the Nikrbash #1-30. Minor show(s) were encountered in the Marmation Limestone (4,650'-55') and the Morrow Sandstone (5,013'-22' & 5,077'-85').

GEOLOGICAL DATA

Formation Tops*:	Base/Fort Hays Limestone . . .	1,026'	(+2,790')
	Greenhorn Limestone	1,231'	(+2,585')
	Dakota Sandstone	1,416'	(+2,400')
	Blaine Salt	2,230'	(+1,586')
	Anhydrite	2,743'	(+1,073')
	Neva Limestone	3,468'	(+348')
	Topeka Limestone	3,888'	(-72')
	Heebner Shale	4,114'	(-298')
	Toronto Limestone	4,140'	(-324')
	Lansing Group	4,172'	(-356')
	Stark Shale	4,438'	(-622')
	Marmaton Group	4,573'	(-757')
	Cherokee Shale	4,723'	(-907')

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GEOLOGICAL DATA Cont'd.

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Atokan Stage	4,888'	(-1,072')
Morrow Shale	4,983'	(-1,167')
Middle Morrow Sandstone	5,013'	(-1,197')
Lower Morrow Sandstone	5,077'	(-1,261')
Keyes Limestone	5,099'	(-1,283')
Mississippi	5,150'	(-1,334')

* Log measure from Kelly Bushing; 10 feet above Permanent Datum.

Sample examination used in conjunction with electric logs' calculations suggest the information as noted below.

MAJOR SHOW(S)

There were no major show(s) encountered during the drilling of the Nikrbash #1-30.

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MINOR SHOW(S)

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1. Marmaton Limestone Limestone -- White. Singular. Micro-/Crypto-xln. Xln porosity. Dusty clear Re-xln. Trace visible porosity.
(4,650'-55')
 $\phi_{xp} = 2\% - 4\%$, $R_t = 50$ ohms,
 $R_w = 0.05$ ohms &
 $S_w = 100\%$. (Archies)
No permeability as suggested by DST #1, resistivity profile and lack of mudcake.
Faint odor. Spotted yellow flourescence. After crushing, weak live brown free oil. No gas. Spotted medium brown stain. Positive cut/residual. Positive acid/residual.
2. Middle Morrow Sandstone Sandstone -- Clear/White. Mottled. VF/F grain size. Poor/Moderately sorted. Poor/Moderate sphericity. Point/sutured grain contacts. Calc infill & cement. Minute pyrite/glaucanitic grains. 'Heavy' misc grains. Friable. Some disseminated grains. Fair/Good visible porosity.
(5.013'-22')
 $\phi_{xp} = 14\% - 21\%$ (ss matrix),
 $R_t = 2.4 - 6$ ohms,
 $R_w = 0.061$ ohms @ 140°F &
 $S_w = 59\% - 86\%$. (Humbles)
Excellent/Good permeability as suggested by DST #3 & #4, resistivity profile and mudcake. Sand above this interval is poor/fair as suggested by DST #2.
Faint odor. Uniform white flourescence. On own & after crushing, free minute gas bubbles & minute globs of light brown oil. Spotted/uniform light brown stain. Positive cut/residual. Strong positive acid/residual.

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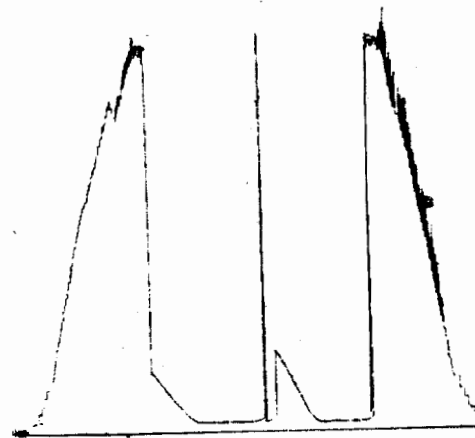
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MINOR SHOW(S) Cont'd:

3. Lower Morrow Sandstone Sandstone -- Clear/White. Mottled.
(5,077'-85') Medium/Coarse grain size. Angular/
subangular. Poorly sorted & sphericity.
 $\phi_{sp} = 16\%$ (ss matrix), Point/sutured grain contact. Fair/Good
 $R_t = 1.4$ ohms, visible porosity.
 $R_w = 0.061$ ohms @ 140°F &
 $S_w = 100\%$. (Humbles) No odor. 1 pc:spotted yellow floures-
ence. No free gas/oil. Spotted light
Good/excellent permeability brown stain. Positive cut/residual.
as suggested by DST #3 & Positive acid/residual.
#4, resistivity profile &
mudcake.

DRILL STEM TEST(S)

1. Marmaton Limestone Driller's Depth: 4,650'-4,723'
Logger's Depth: 4,646'-4,719'
Recovery: 30' Drilling Mud
IFP: 33# - 34# / 30"
ISIP: 466# / 45"
FFP: 33# - 40# / 45"
FSIP: 333# / 45"
MH: 2,233# - 2,200# Temp: 130°F
IOP: Weak blow - Died 15".
ZOP: Weak Blow. Flushed tool. Died 5".



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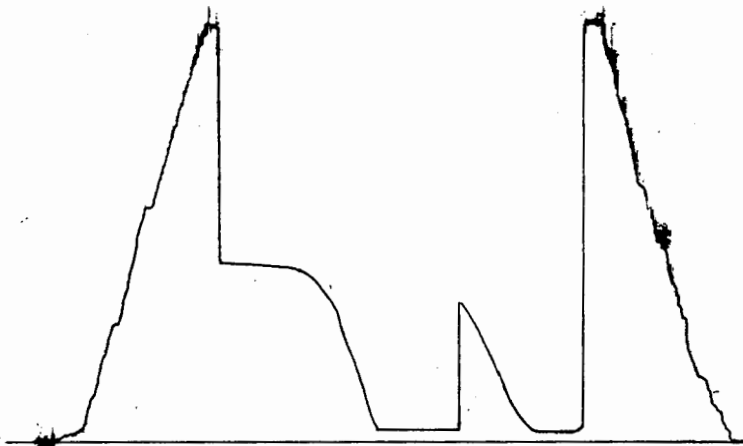
DRILL STEM TEST(S) Cont'd.

2. Middle Morrow Sandstone Driller's Depth: 4,985'-5,020'
Logger's Depth: 4,979'-5,014'
Recovery: 1,300' Gas in pipe.
100' Oil speckled Gas cut Mud
(10%G, 90%M)

IFP: 37# - 42# / 30"
ISIP: 816# / 60"
FFP: 55# - 55# / 60"
FSIP: 1,030# / 120"

MH: 2,411# - 2,486# Temp: 141°F

IOP: BOB - 20".
ZOP: BOB - 5".



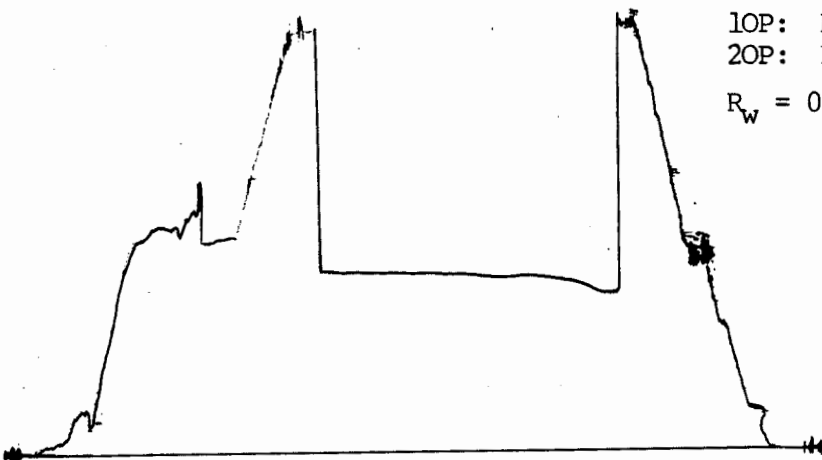
3. Middle/Lower Morrow Ss Driller's Depth: 4,982'-5,113'
Logger's Depth: 4,976'-5,107'
Recovery: 2,300' Gassy Muddy Water (Oil Scum)
(20%G, 25%M, 54%W, 1%O)

IFP: 910# - 976# / 30"
ISIP: 1,011# / 45"
FFP: 1,008# - 1,011# / 60"
FSIP: 1,041# / 90"

MH: 2,466# - 2,440# Temp: 144°F

IOP: BOB - 2". Cl⁻ (20M) - recovery
ZOP: BOB - 20". Cl⁻ (2400) - mud

R_w = 0.061 ohms @ 140°F.



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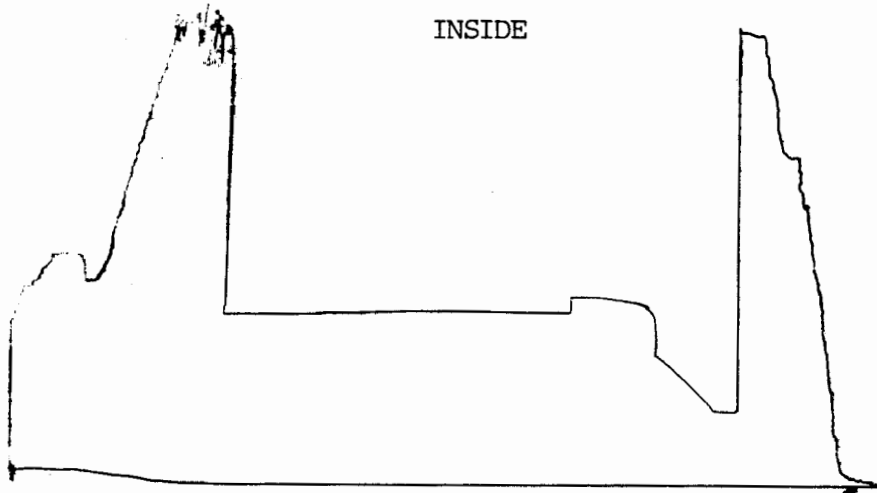
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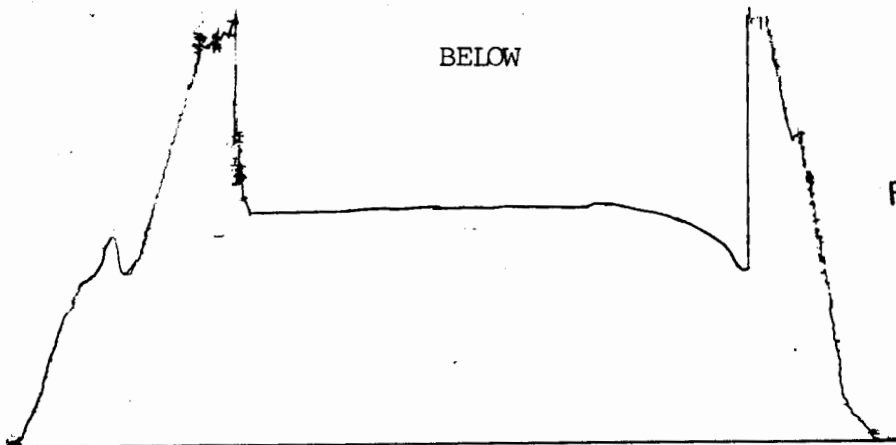
DRILL STEM TEST(S) Cont'd.

4. Middle Morrow Sandstone Driller's Depth: 4,980' - 5,027'
Logger's Depth: 4,980' - 5,027'
Recovery: 2,200' Gassy Water (10% G, 90% W)
150' Gassy Slightl Muddy Water (20% G, 20% M, 1% O, 59% W)
270' Gas in pipe
IFP: 377# - 680# / 60"
ISIP: 968# / 60"
FFP: 878# - 878# / 120"
FSIP: 878# / 120"
Bottom Recorder: 1,400#
Sampler: 1,800cc Water
0.9 cf Gas
500# in sampler.
MH: 2,366# - 2,342# Temp: 141°F
LOP: BOB - 2" 2OP: BOB - 10", blow
weakend to 3 inches by end. Afterblow

INSIDE



BELOW



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DRILLING EVENTS

No notable drilling events were encountered during the drilling of the Nikrbash #1-30.

LOST CIRCULATION ZONES (S)

There were no lost circulation zone(s) encountered during the drilling of the Nikrbash #1-30.

PLUGGING

The Nikrbash #1-30 was plugged in the following manner: 25 sx @ 2,760', 100 sx @ 1m725', 40 sx @ 440' (in and outside the surface casing), 10 sx @ 40' and whip out, 15 sx in rathole and 10 sx in mousehole. Cement was 60/40 POZ with $\frac{1}{4}$ Floseal per sx.

WELL DATA

Spudded: 23 Nov 1993. Completed: 2 Dec 1993.
Contractor: Murfin Drilling Company -- Rig #25.
Depth: Rotary - 5,300' & Logger's - 5,296'.
API Number: 15-199-20,111. Elevation: 3,816'KB, 3,814'DF & 3,806'GL.
Hole Deviation: $\frac{1}{4}^{\circ}$ @ 132', $\frac{3}{4}^{\circ}$ @ 222', $\frac{3}{4}^{\circ}$ @ 390', 1° @ 1,329', $\frac{3}{4}^{\circ}$ @ 2,367', $\frac{3}{4}^{\circ}$ @ 3,347', $\frac{3}{4}^{\circ}$ @ 4,061', $\frac{3}{4}^{\circ}$ @ 4,584', $\frac{3}{4}^{\circ}$ @ 4,723', $\frac{3}{4}^{\circ}$ @ 5,020', $\frac{3}{4}^{\circ}$ @ 5,113' and $\frac{1}{2}^{\circ}$ @ 5,300' (RTD).

Geological Supervision: 3,900' - RTD by Curtis Covey.

Surveys:

Electric Log: Atlas Wireline Services.
Gas Detector: None. Mud Program: MSI Drilling Fluids
Tester: Western Testing Company.
Casing: Conductor - N/A.
Surface - N/A.
Intermediate - N/A.
Production - N/A.
Cement: Conductor - N/A.
Surface - Allied Cementing
Intermediate - N/A.
Production - N/A.
Plugging - Allied Cementing

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CASING

Conductor: N/A.
Surface: 8-5/8", Used. Set @ 389'. 240 sx 60/40 POZ (3% CC + 2% Gel).
Intermediate: N/A.
Production: N/A.

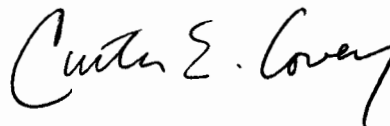
DISCLAIMER

The service rendered on the Nikrbash #1-30 was done without any biasing influence, intentional or unintentional, from any employee or representative of Murfin Drilling Company. In this review, I am an independent petroleum geologist and subsequently, not an employee of the referenced company. I will not receive any financial benefit from the positive completion of the well.

The enclosed geologist's log is considered an integral part of this report and is not intended to be separated from the same.

The recommendations made hereon shall not be construed as absolute and are made without assumption of liability and are statements of observation / research / training or opinion only.

Respectfully submitted,



Curtis E. Covey

CEC:fyd
cc:file

ENCL: GEOLOGIST LOG
SAMPLE CHIP TRAY
Drilling Time Sheets
Drilling Fluid Reports
Straight Hole Targets
DST Service Tickets
E-Log Service Ticket
Strap Sheets
Water Recovery Sample Bottle

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