

RESEARCH LAB

300 South Locust

KIMBALL, NEBRASKA 69145

Phone 235-3278



Company Kenneth Tipps Location Sec. 21 TWP. 12N Rge. 56W File N-1276
 Well Klinginsmith-Cervey No. 1 Elevation 4909-KB Remarks: _____
 Field Unnamed Engineers R.P.
 County Weld State Colorado Type Core Barrel Diamond

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs		POROSITY %	RESIDUAL SATUR. % PORE SPACE		PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL		OIL	WATER		
1	6308-09	2.5	2.3	13.0	9.2	23.0	Oil	Fine grain sand, brown, scattered clay balls, stain and odor, vertical fracture, low perm.
2	6309-10	5.5	5.3	10.6	9.4	25.5	"	Fine grain sand, brown, clean, stain and odor, vertical frac., low perm.
3	6310-11	4.9	4.7	13.8	7.2	21.0	"	Same as above.
4	6322-23	10.	9.0	13.0	9.2	20.0	"	Fine grain sand, brown, sli. carb., stain and odor, vertical frac., low perm.
5	6323-24	8.1	7.0	13.8	8.7	27.5	"	Same as above.
6	6324-25	55.	50.	15.5	9.0	29.0	"	Fine grain sand, brown, thin shale partings, stain and odor, vertical fracture.
7	6325-26	33.	31.	14.0	7.1	29.2	"	Fine grain sand, brown, sli. carb., stain and odor, vertical fracture.
8	6326-27	49.	46.	17.0	4.7	24.1	"	Fine grain sand, brown, carb. stringers, stain and odor.

AVERAGES

PERMEABILITY HORIZONTAL-VERTICAL		POROSITY	OIL	WATER
21.	19.	13.8	8.1	24.9



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DRILL STEM TEST #1

(6284-6290')

COLO. OIL & GAS CONS. COMM.

Open 90" Shut in 60"
Opened with fair blow that decreased to weak blow in 45 minutes and died at the end of 85 minutes.
Recovered 600' of gas in drill pipe above fluid and 20' of slightly oil cut mud.

Initial Flow = 12psi
Final Flow = 18psi
Shut in Pressure = 769psi
Initial Hydrostatic Pressure = 3472psi
Final Hydrostatic Pressure = 3447psi
Pressure below bottom packer = 3420psi

DRILL STEM TEST #2

(6307-6326')

Straddle Packer Test

Open 120" Shut in 60"
Fair steady blow throughout test.
Recovered 2800' of gas in drill pipe above fluid, 20' of mud and 55' of slightly oil cut muddy water.

Initial Flow = 13psi
Final Flow = 44psi
Shut in Pressure = 1320psi
Initial Hydrostatic Pressure = 3369psi
Final Hydrostatic Pressure = 3303psi
Pressure below bottom packer = 1850psi

DRILL STEM TEST #3

(6184-6194')

Straddle Packer Test

Open 5" Shut in 30" Open 90" Shut in 30"
Good blow with gas to surface 10 minutes after initial shut in, too small to measure.
Recovered 460' total fluid. 60' of slightly oil cut mud and 400' of water.

First Flow Period
Initial Flow = 79psi
Final Flow = 68psi
Shut in Pressure = 729psi

Second Flow Period
Initial Flow = 68psi
Final Flow = 204psi
Shut in Pressure = 713psi
Initial Hydrostatic Pressure = 3314psi
Final Hydrostatic Pressure = 3332psi
Pressure below bottom packer = 1900psi

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COLO. OIL & GAS CONS. COMM.

CORE DESCRIPTION:

Core #1 6296-6356' Cut & Recovered 60'

6296-6306' Sand, grey, fine grained, heavily clay filled, reworked with numerous irregular thin black shale streaks, poor porosity and perm, no shows.

6306-6307½' Shale, black, medium hard, with hard grey clay filled tight sand at base.

6307½-6310½' Sand, grey to tan, fine grained, partially clay cemented, with numerous brown clay nodules, very hard, vertical fractures, poor porosity, good oil stain, sharp odor, good fluorescence where stain is present.

6310½-6322' Sand, grey, very fine grained to fine grained, heavily clay filled, numerous thin horizontal black shale streaks, hard and tight, no shows.

6322-6327' Sand, grey to tan, patches of clay filling, well cemented and very hard, occasional fracture, occasional thin irregular black shale streaks, poor porosity, good stain, odor and fluorescence in top 3' grading to spotty stain and fluorescence and weak odor in bottom 2'.

6327-6357' Sand, white to grey, very fine to fine grained, heavily clay filled in part, occasional fracture, occasional thin black shale streak, thin zones of spotty oil stain and fluorescence, fair odor between 6334 and 6336, poor to fair porosity, looks water wet where stain is not present.

Core Analysis

<u>Depth</u>	<u>Horizontal</u>	<u>Vertical</u>	<u>Porosity</u>	<u>Oil</u>	<u>Water</u>	<u>Prob. Prod.</u>
6308-09	2.5	2.3	13.0	9.2	23.0	Oil VF
6309-10	5.5	5.3	10.6	9.4	25.5	Oil VF
6310-11	4.9	4.7	13.8	7.2	21.0	Oil VF
6322-23	10.0	9.0	13.0	9.2	20.0	Oil VF
6323-24	8.1	7.0	13.8	8.7	27.5	Oil VF
6324-25	55	50	15.5	9.0	29.0	Oil VF
6325-26	33	31	14.0	7.1	29.2	Oil VF
6326-27	49	46	17.0	4.7	24.1	Oil

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PRELIMINARY CORE ANALYSIS REPORT

Company KENNETH TIPPS Location Sec. 21 TWP. 12N Rge. 56W File N-1276
 Well KLINGINSMITH-CERVENY NO. 1 Elevation 4909-KB Remarks:
 Field UNNAMED Engineers R.P.
 County WELD State COLORADO Type Core Barrel DIAMOND

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION % PORE SPACE		PROBABLE PRODUCTION	REMARKS
		H	V		OIL	WATER		
1	6308-09	2.5	2.3	13.0	9.2	23.0	Oil	VF Low Perm.
2	6309-10	5.5	5.3	10.6	9.4	25.5	"	VF "
3	6310-11	4.9	4.7	13.8	7.2	21.0	"	VF "
4	6322-23	10.	9.0	13.0	9.2	20.0	"	VF "
5	6323-24	8.1	7.0	13.8	8.7	27.5	"	VF "
6	6324-25	55.	50.	15.5	9.0	29.0	"	VF "
7	6325-26	33.	31.	14.0	7.1	29.2	"	VF "
8	6326-27	49.	46.	17.0	4.7	24.1	"	

SUMMARY

FORMATION NAME "J" SAND DEPTH 6296 TO 6357 FEET CORE RECOVERY 100 PERCENT
 PRODUCTIVE FORMATION RECOVERED 61 FEET POSSIBLE PRODUCTIVE FORMATION 8 FEET

AVERAGE OF DETERMINED VALUES:

PERMEABILITY 21. MDCYS.
 POROSITY 13.8 PERCENT
 OIL SATURATION 8.1 PERCENT
 WATER SATURATION 24.9 PERCENT
 VERTICAL PERM. 10. PERCENT

ESTIMATED OR MEASURED RESERVOIR DATA USED:

ORIGINAL SOLUTION
 GAS/OIL RATIO _____ CU. FT./BBL.
 ORIGINAL FORMATION VOLUME FACTOR _____ BBL./BBL.
 ORIGINAL SATURATION PRESSURE _____ PSI

PREDICTED UNIT RECOVERABLE OIL IN BBLs. PER ACRE FOOT

BY GAS EXPANSION TO ZERO PSI _____
 BY COMPLETE WATER DRIVE PRESSURE _____
 MAINTAINED _____