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GEOLOGIC REPORT

KCC

SEP 21 2005

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LAYNE ENERGY

Oliver 4-13

NW ¼, NW ¼, 705' FNL, 761' FWL

Section 13-T31S-R14E

MONTGOMERY COUNTY, KANSAS

Drilled: June 14-16, 2005

Logged: June 16, 2005

A.P.I.# 15-125-30767

Ground Elevation: 925'

Depth Driller: 1,500'

Depth Logger: 1,500'

Surface Casing: 8 5/8" @ 20'

Production Casing: 4 1/2" @ 1,498'

Cemented Job: Consolidated

Open Hole Logs: Compensated density neutron log, dual induction sfl/gr log

FORMATION.....TOPS (in feet below ground surface)

Lansing GroupSurface (Stoner Limestone Member)

Lenapah Lime726

Altamont Lime772

Mulberry Coal906

Pawnee Lime909

Anna Shale938

First Oswego Lime998

Little Osage Shale1,028

Excello Shale1,046

Mulky Coal1,051

Bevier Coal1,087

"V" Shale1,106

Croweburg Coal1,109

Mineral Coal1,154

Scammon Coal1,169

Tebo Coal1,211

Weir Pitt Coal1,222

Bluejacket Coal1,254

Rowe Coal1,274

AW Coal1,352

Riverton Coal1,393

Mississippian1,400

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Operator Name:	Layne Energy Operating, LLC.		
Lease Name:	Oliver 4-13		
	Sec. 13 Twp. 31S Rng. 14E, Montgomery County		
API:	15-125-30767		
Shots per Foot	Perforation Record	Acid, Fracture, Shot, Cement Squeeze Record	Depth
4	1352-1353.5, 1274-1275, 1222-1224.5, 1207-1212.5	Rowe, Bluejacket, Weir, Tebo - 2,000 15% HCL Acid, 450 bbls Water, 4,800 # 20/40 Sand	1207-1353.5
4	1168.5-1169.5, 1153.5-1155, 1106.5-1109, 1087-1088	Scammon A, Mineral, Croweberg, Bevier - 1,200 15% HCL Acid, 400 bbls Water, 4700 # 20/40 Sand	1087-1169.5
4	1046-1051.5, 10218-1031, 906.5-907.5	Mulkey, Summit, Mulberry - 800 gal 15% HCL Acid, 411 bbls Water, 4500 # 20/40 Sand	906.5-1051.5

KANSAS OIL & GAS
SEP 23 2015
TO: KANSAS OIL & GAS