

# Andrew White

Petroleum Geologist

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Hagen 2-12  
Location: 12-12S-20W  
License Number: API: 15-051-26680  
Spud Date: 03/29/2014  
Surface Coordinates: 1550' FSL, 1980' FWL

Region: Ellis Co, KS  
Drilling Completed: 04/03/2014

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 2156                      K.B. Elevation (ft): 2161  
Logged Interval (ft): 3100                      To: 3945                      Total Depth (ft): 3945  
Formation: Arbuckle  
Type of Drilling Fluid: Chemical

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

Company: Murfin Drilling Co., Inc.  
Address: 250 N. Water, Suite 300  
Wichita, KS 67202

## GEOLOGIST

Name: Andrew White  
Company: White Exploration, Inc.  
Address: 1635 N. Waterfront Pkwy, Suite 100  
Wichita, KS 67206

## Remarks

Due to the negative Drill Stem Test results, the decision was made to P&A the well.

## General Info

Drilling Contractor: Murfin Drilling Rig 16

Logs: Pioneer  
Compensated Density/Neutron, Dual Induction, Micro, Sonic

Drilling Mud: Mudco/Service Mud, Inc.

Surveys: 218'-.25; 3496'-.75; 3945'-.75

## Daily Status

3/29/14: MIRT, set 8 5/8" Csg at 217', 150 sxs of Comm 3%CC, 2% gel

3/30/14: Drill ahead at 300'

3/31/14: Drilling ahead at 2260'

4/1/14: Drilling ahead at 3090'

4/2/14: Running DST #1

4/3/14: Drilling ahead at 3610'

4/4/14: RTD starting to log

Plug well using 60/40 Poz, 4% gel, 1/4# Floseal, 50sxs@3792', 25 sxs @1547', 100sxs @ 806', 40 sxs @ 267', 10 sxs @ 40', 30 sxs @ RH

Murfin Hagen #2-12				Murfin Hagen #1-12	
12-12S-20W				12-12S-20W	
1550' FSL, 1980' FWL				1550' FSL, 1240' FWL	
KB: 2161				KB: 2143	
Sample	Log	Datum		Relationship	
Anhydrite	1525	1522	639	+1	
Base Anhy	1570	1568	593	+3	
Topeka	3207	3205	-1044	+4	
Heebner	3432	3430	-1269	+4	
Lansing	3474	3474	-1313	+2	
BKC	3722	3708	-1547	+11	
Marm	3732	3718	-1557	+9	
Pawnee	3758	3757	-1596	+7	
Arbuckle	3845	3814	-1653	+33	

### ROCK TYPES

#### LITHOLOGY

	Anhy
	Bent
	Brec
	Cht
	Clyst
	Black shale
	Congl

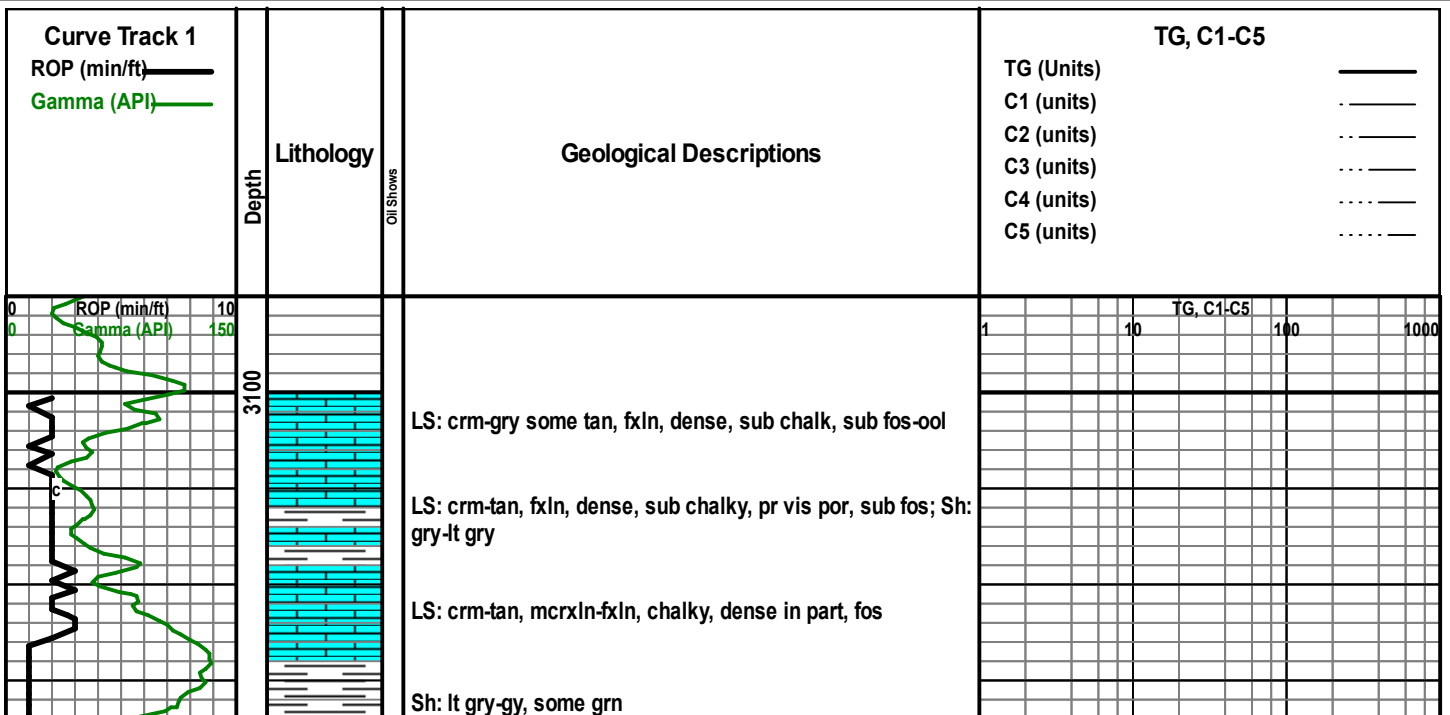
	Dol
	Gyp
	Igne
	Lmst
	Meta
	Mrlst
	Salt
	Shale

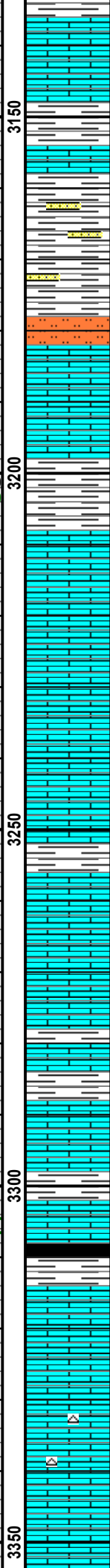
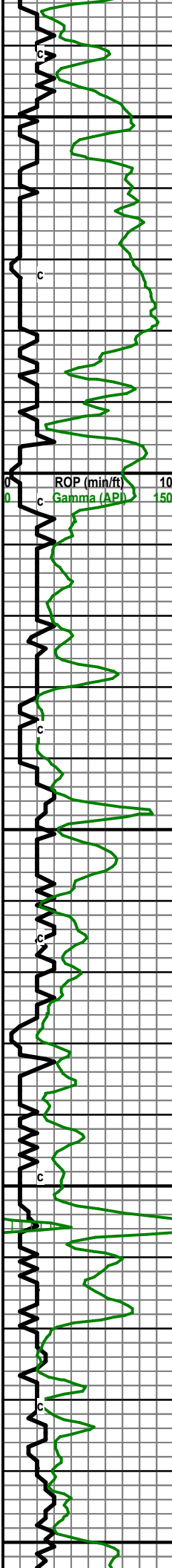
	Shcol
	Shgy
	Slstst
	Ss
	Till

	STRINGER
	Anhy

	Arg
	Bent
	Coal
	Dol
	Gyp
	Ls
	Mrst
	Slststrg

	Ssstrg
<b>OIL SHOW</b>	
	Even
	Spotted
	Ques
	Dead





Sh: gry-drk gry, LS: crm-gry, mcr-fxln, sli chalky, dense, no vis por

Sh: gry-grn, some SS: opaque-gry, vfgrn-fgrn, sli friable

Sh: A.A. with some SS: gry-white, vfgrn-fgrn, sli dense

Sh: lt gry-gry, slight Siltstone in part

LS: crm-tan, fxln, sli friable, sub chalky, fos

LS: A.A. with Sh: gry-lt gry, some grn

Sh: gry-lt gry

LS: crm-tan-brwn, fxln, dense, fos, some chalk

LS: A.A. with some gry and a little more chalk

LS: crm-tan-gry, mrcxln-fxln, dense, no vis por

LS: gry-crm, mrcxln-fxln, dense, no vis por, sli chalky,

LS: A.A. some Sh: gry-lt gry

LS: crm-lt gry, fxln, dense, sli fos, sli chalky, no vis por

LS: A.A.

LS: crm-white, fxln some mrcxln, fos, dense, some chalk, no vis por, some Sh: lt gry

LS: crm-tan, fxln, dense, some chalk some Sh: lt gry-gry

LS: A.A. with some Sh: lt gry

LS: crm, fxln, chalk, fos, dense, some Sh: gry few blk

LS: crm-gry, fxln, some granular, dense, sli ool, sub chalky,

LS: crm-tan, some gry, fxln, fos, few pieces ool, chalky in part, dense, some Chert: tan-opaque,

LS: crm-lt gry, mrcxln-fxln, sli ool, sli chalky, dense few pieces of Chert: A.A.

LS: crm-tan, mrcxln-fxln, part ool, dense some friable

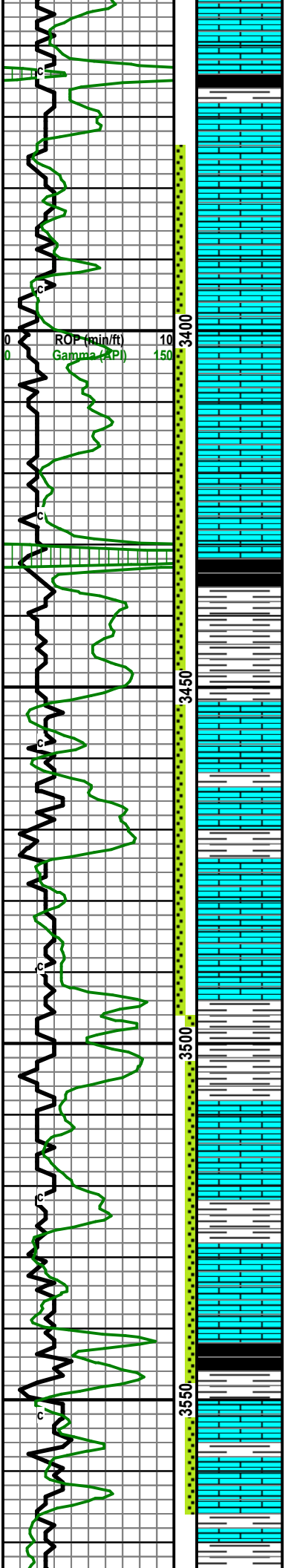
Mudco Mck  
 Wt: 8.6 Vis:60+  
 pH: 11.5 Fil:5.8  
 LCM: 2

TG, C1-C5  
 1 10 100 1000

**Topeka 3207 (-1046)**

Wt: 8.7, Vis: 60

Wt: 8.8, Vis: 57



LS: crm-gry, mcrxln, dense

LS: A.A. with some Sh: gry, trace blk

LS: crm-tan, fxln, dense, some friable, part fos and ool, sli cherty, sli drk staining, pr vis por, verr SFO, verr show gas, sli gold fluor, no odor

LS: crm-tan, fxln, dense, part fos, some chert, NSO, sli drk stain

LS: crm-tan, dense, fos, cherty, sli inter por, dead oil stain

LS: crm, fxln, dense, some chert, pr vis por, sli oil stain, some chalk

LS: crm-tan-brwn, some gry, fxln, dense some friable, fos, sli vis por, some stain, verr SFO, verr gas, faint gold fluor, sli cherty

Sh: blk carb

Sh: gry some grn

Sh: A.A.

LS: crm-tan, fxln, dense sub friable, sli drk stain, pr-fr por, sli cherty

Sh: gry-grn

LS: white-crm-tan, mcr-fxln, dense, sli chalky, sli fos, some drk stain, verr SFO only a few pieces

Sh: gry-grn, some red

LS: crm-gry, fxln, sub friable, part cherty, sli stain, sub fos

LS: crm-tan, fxln, dense, some friable, sli cherty, some lt brwn-drk stain, rsfo, rsgas, sli vis por, dull fluor

LS: crm-gry, fxln, dense, cherty

Sh: gry-grn, some red

LS: crm-tan, fxln, sli ool, dense, some friable, pr inter por, very sli odor, sli show gas, sli light stain, NSFO, some chert

Sh: gry-grn

LS: crm-tan, fxln, ool, dense, pr vis por, few pieces with o and g, no odor, sli gold fluor

LS: crm-tan, fxln, dense some friable, pr-fr inter por, few pieces with good saturation of oil, sli show gas

Sh: drk gry-blck, some grn

LS: cream-white, mcr-fxln, sli ool, sli inter por, some stain, no odor, NSFO

Sh: gry-drk gry, some grn

LS: white-crm-tan, mcr-fxln, sli ool, no vis por, sli stain, sli show gas,

LS: crm-tan, mcrxln, dense, no show, some Sh: gry-grn

DST #1: 3374-3496

30-60-30-60

IF: 1 1/2" blow

FF: 1/2" blow

Recovery: 50' M w/ Oil spots

IFP: 67-80 ISIP: 1214

FFP: 80-88 FSIP: 1172

BHT: 103

TG, C1-C5  
1 10 100 1000

Heebner: 3432 (-1271)

Toronto: 3452 (-1291)

CFS: 60 min

Lansing: 3474 (-1313)

CFS: 60 min

Strap .59 long

Mudco mdck,  
Wt: 9.0 Vis: 60  
pH: 11 Fil: 5.8  
LCM: 2

CFS: 60 min

DST #2: 3496-3565

30-60-30-60

IF: 1" blow

FF: Surface blow

Recovery: 33' M

CFS: 60 min

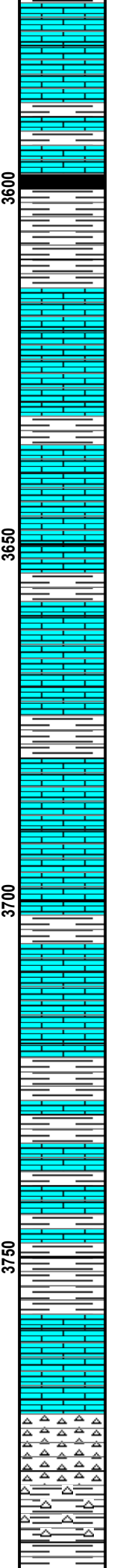
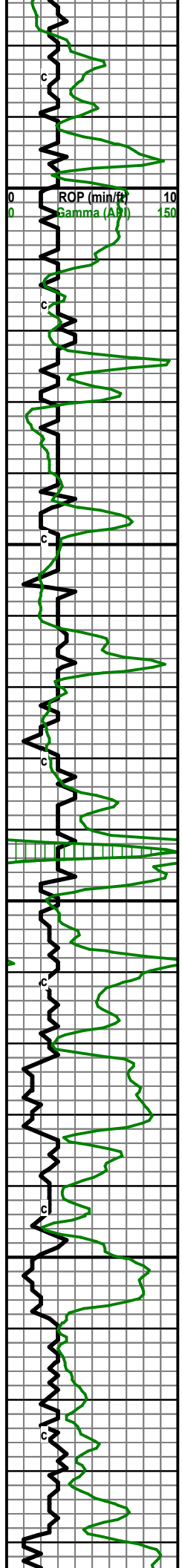
IFP: 30-40 ISIP: 1094

FFP: 42-47 FSIP: 1080

BHT: 104

CFS: 60 min

Mudco mdchk  
Wt: 9.0 Vis: 52  
pH: 10.5 Fil: 6.0  
LCM: 2



LS: crm, mcrxln, dense, sli ool, no vis por, NSFO

LS: crm-tan, mcr-fxln, dense, sli ool, sli fos, no vis por, NSFO, good amount of Sh: gry-drk gry-grn in sample

Sh: drk gry-gry-grn, some blk carb

SH: gry-grn some drk gry

LS: crm-lt gry, fxln, dense sub friable, sli ool, vrrsfo, no odor, no vis-sli inter por, very dull gold fluor, light brwn stain

LS: crm-lt gry, mcrxln, dense, sli cherty, nsfo

Sh: gry-grn

LS: crm-lt gry, mcrxln, dense, sli cherty, nsfo

LS: crm-gry, mcrxln-fxln, dense sli cherty, sli brwn stain

Sh: gry-drk gry-grn, some red

LS: crm-lt gry, mcrxln, dense sub friable, sli cherty, sli ool, drk tar stain

LS: crm-lt gry, mcrxln some fxln, dense sub friable, sli ool, sli chalky, drk stain

Sh: gry-drk gry, some grn and red

LS: crm-tan, mcrxln-fxln, sli ool, dense, sub chalk, sli drk stain, pr vis por

LS: crm-tan, mcrxln-fxln, sli ool, sli fos, dense sub friable, sli chalk, sli stain, nsfo

Sh: gry-grn some red and blk carb

LS: crm-tan, mcrxln, dense sli ool, sli chalk, nsfo

LS: crm-tan, dense, ool, sli chalky, nsfo

Sh: gry-drk gry, some blk and green good amount of red

LS: crm-tan, dense, sli ool, sli fos, sli chalky with abundant Sh: A.A.

Sh: gry-drk gry-grn, still a lot of red

LS: crm-tan, some sli purple, dense, sli ool, nsfo some Chert: opaque-orange-red

LS: A.A. with Chert: red-orange-opaque, fresh blocky, some weathered, nsfo, no cut

LS and Chert: A.A. with Sh: red-gry, some grn

Sh: red-arg. some arn

TG, C1-C5  
1 10 100 1000

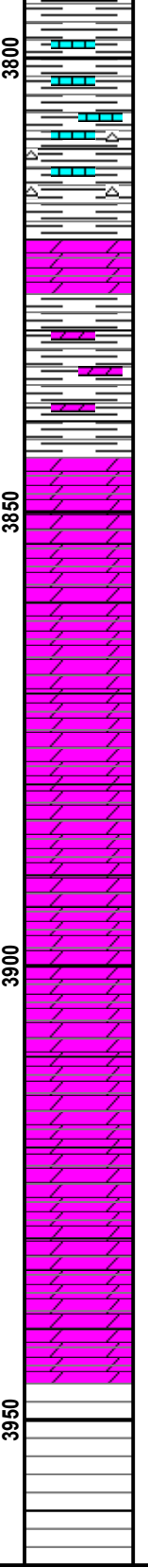
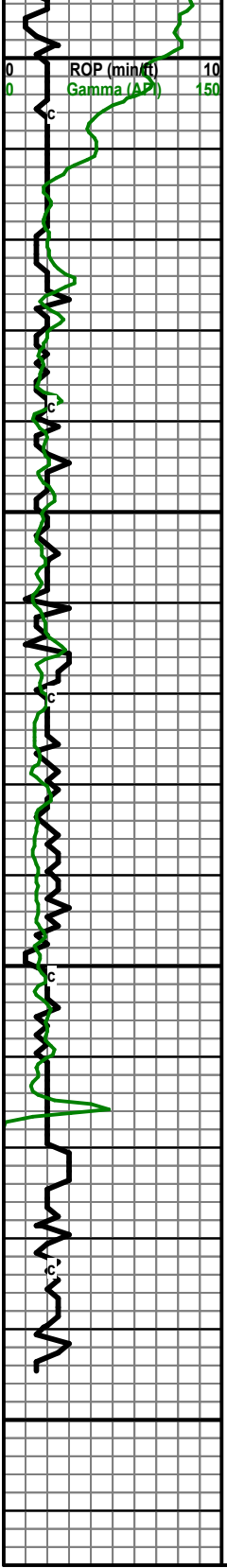
CFS: 60 min

CFS: 60 min

**BKC: 3722 (-1561)**

**Marm: 3732 (-1571)**

**Pawnee: 3758 (-1597)**



Sh: A.A. some LS: crm-white, mcrxln, sub friable, sli chalky

Sh and LS: A.A. with some Chert: opaque fresh

Dolo: crm-tan some gry, fxln, dense, pr vis por,

Dolo: A.A. with Sh: red-grn-gry

Dolo: crm-tan, fn-mxln, sli suc, pr por, dense, no show

Dolo: A.A.

Dolo: crm-lt gry, fxln-mxln, pr por some with fr pinpoint por, no show

Dolo: crm-white, fxln-mxln, sli ool, dense, fr inter por, no show

Dolo: tan-crm, fxln-mxln, ool, dense, pr-fr por, no show

Dolo: A.A.

Dolo: tan-crm some gry, fxln, sli ool, pr-fr por, no show

Dolo: tan-crm-gry, mcrxln-fxln, sli ool, pr por, no show

Dolo: A.A.

**RTD: 3945**  
**LTD: 3944**

