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December 4, 2012

Solutions Consulting  
Attention: Herb Deines  
108 W. 35th  
Hays, Kansas 67601

Carrie Exploration & Development Co. – Alan C-1, NW/4 SW/4 Section 1-T22S-R10 W,  
Reno County, Kansas

Herb and Ron:

Attached to this summary letter is my lithologic log for the above-captioned well. Carrie Exploration and Development Co. elected to plug and abandon this well, based on poor DST results and the open-hole log.

Several trace oil shows were observed in well cuttings, as defined by a single grain with oil staining or a trace of free oil in cuttings. The trace shows were tested by one of the three DSTs run on this well, and are shown on the attached lithologic log.

A slightly better show consisted of some beads of free oil, but no staining or odor, in the top of the Arbuckle Dolomite, from approximately 3560-3563 ft (log corrected depths). The lack of a discernible permeability barrier between this zone and underlying saltwater, and the lack of a lower straddle packer seat, was the basis for not testing this zone by DST.

The well ran slightly low compared to the nearby well with a good open-hole log (for comparison purposes), as shown below.

**LOG TOP COMPARISON:**

<u>Formation</u>	Alan C-1 <u>log tops</u>	compared to log tops of <u>Sleeper A-1 (SE 1/4 2-22s-10w)</u>
Heebner Sh.	2914(-1176)	-0- (-1176)
Brown Ls.	3050(-1312)	+3 (-1315)
Top LKC	3086(-1348)	-2 (-1346)
Base KC	3379(-1641)	+2 (-1643)
Viola Ls.	3433(-1695)	+3 (-1698)
Simpson Formation	3496(-1758)	-6 (-1752)
Arbuckle	3560(-1822)	-6 (-1816)

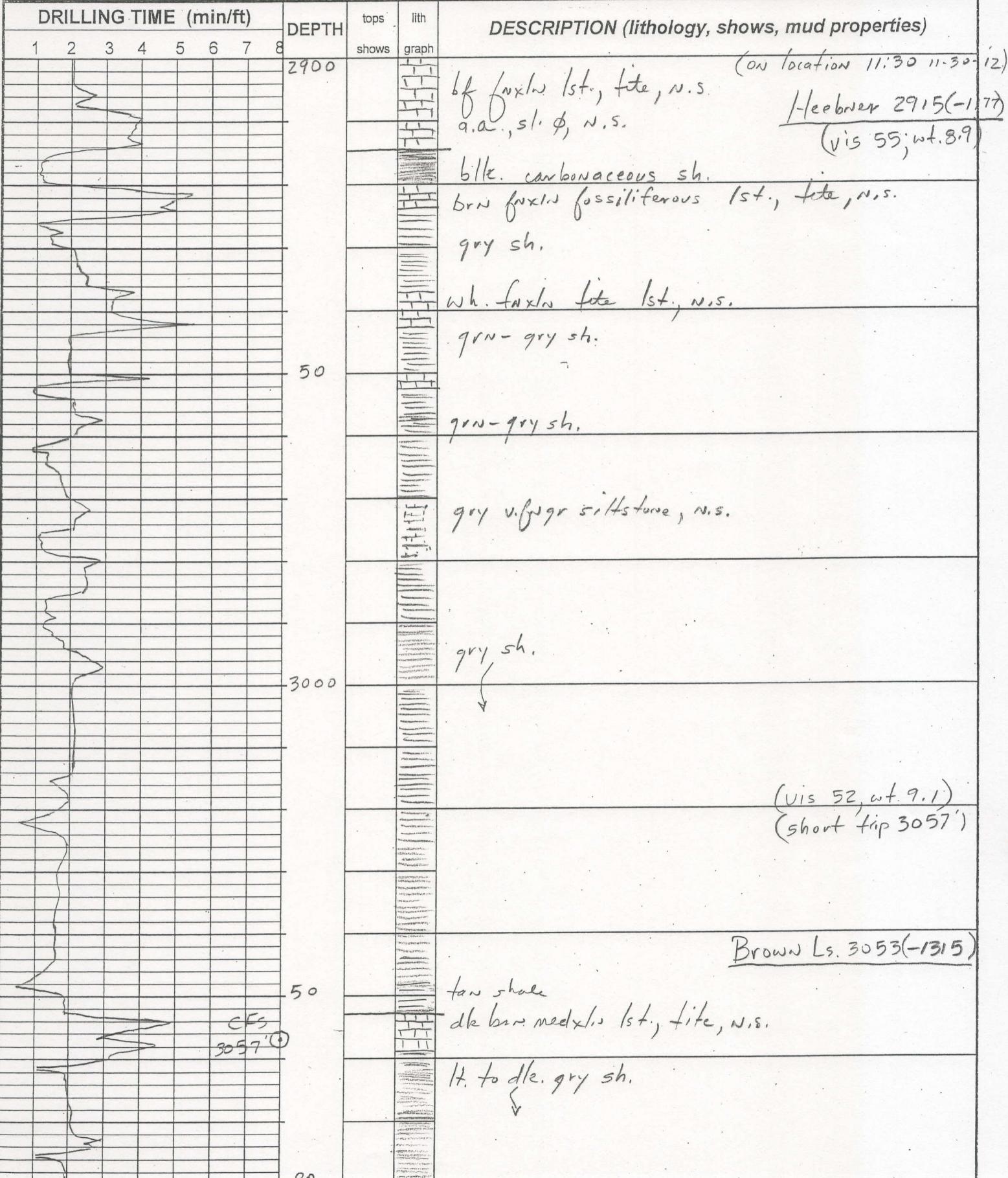
## LITHOLOGIC LOG

ROBERT HOPKINS-consulting geologist

Operator Carrie ExplorationLease / Well A 1an C - 1GL 1731 KB 1738\* (measure from \*)Location NW SW 1 - 22s - 10wCounty RENO State KS

scale 1" = 20'

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# LITHOLOGIC LOG

## ROBERT HOPKINS-consulting geologist

Operator Carrie Exploration

Location NW SW I- 225- 10w

Lease / Well Align C-1

County RENO State KS

GI KB 173

depth this sheet - from  $30^{\circ}$  to  $326^{\circ}$

scale 1" = 20'

GL \_\_\_\_\_ KB 1738 (measure from \*)

depth this sheet - from  $30^{\circ}$  to  $3260$

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DRILLING TIME (min/ft)								DEPTH	tops shows	lith graph	DESCRIPTION (lithology, shows, mud properties)		
1	2	3	4	5	6	7	8						
								80			red-gry sh.	(vis. 51; wt. 9.1)	
												LICK 3088(-1350)	
								3100			bf. frxln. fite lft., n.s.		
											brn-gry modxln. fossiliferous lft., sl. φ, n.s.		
											wh. frxln. fossiliferous lft., sl. φ, trc stn, no odor, no free oil; tarry		
											fite lft., n.s.		
								DST #1			dk gry sh.		
											vis. fossiliferous lft., n.s.		
											brn-gry sandy lft., sl. φ, trc. free oil, v. pr. stns, sl. odor, no fluorescence		
											bf frxln. fite lft., n.s.	DST #1: 3090-3139	
											30-30-30-30"		
											SIP: 406-365#		
											FP: 58-59#; 68-171#		
											REC: 61' ocm		
								50			dk brn frxln. poss. lft., sl. φ, trc stns, no odor,		
											gry sh - sdy sh.		
											no free oil, no fluores.		
								DST #2			brn modxln. fossiliferous to oölitic, sl. φ (not visible)		
											n.s.	DST #2: 3140-3190	
											30-30-30-45"		
											SIP: 1187-1175#		
											FP: 51-88#; 9-117#		
											Rec: 135' MW		
											bf - brn frxln. fossiliferous lft., fite, n.s.		
											dk gry sh.		
											bf frxln. lft., fite, n.s.		
											dk gry sh.		
								50			bf. frxln. fossiliferous lft., fite, n.s.		

LITHOLOGIC LOG				ROBERT HOPKINS-consulting geologist					
Operator <u>Carrie Exploration</u>				Location <u>NW SW 1-22s-10w</u>					
Lease / Well <u>Alan C-1</u>				County <u>RENO</u> State <u>Ks</u>					
GL <u>KB 1738</u> (measure from *)				depth this sheet - from 3260 to 3440					
DRILLING TIME (min/ft)				DEPTH	tops shows	lith graph	DESCRIPTION (lithology, shows, mud properties)		
1	2	3	4	5	6	7	8		
				600			bf faintly chalky lst., sl-f. φ, n.s.		
							bf fuxln chalky lst., sl φ, n.s. dk gry sh.		
							bf-brown fossiliferous lst., fite, n.s. ↓ sl. cherty @ base		
				3300			bf. fuxln fite lst., n.s.; sl. fossiliferous		
							dk gry - blk sh; pyritic		
							dk brown-gry fuxln fossiliferous lst., fite, n.s.		
							dk gry = h.		
							bf-brown fuxln chalky lst., sl. φ, n.s.		
				50			bf-gry fuxln fite lst., n.s.; sl. cherty		
							blk. pyritic to carbonaceous sh.		
							bf fuxln fite lst., n.s.		
							red - gry sh.		
							Base of Kansas City 3380 (-1642)		
				3400			bf fuxln fite lst., n.s.; very cherty		
							(vis 44, wt 9.5)		
							dk gry sh. to grn. sh.		
							Pawnee Ls?		
							bf fuxln fossiliferous lst., very cherty (orange) fite, n.s.		
							grn sh.		
							white sst., well cemented, fite, n.s.		
							Viola 3438(-1700)		
				40			grn sh.		
							white chert, fair φ, n.s. (chert is fossiliferous)		

## LITHOLOGIC LOG

ROBERT HOPKINS-consulting geologist

Operator Carrie ExplorationLocation NW SW 1-22s-10wLease / Well Alan C-1County Reno State KsGL KB 1738' (measure from \*)depth this sheet - from 3440 to 3620

scale 1" = 20'

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## DRILLING TIME (min/ft)

DEPTH

1 2 3 4 5 6 7 8

tops  
shows  
graph

## DESCRIPTION (lithology, shows, mud properties)

40  
wh-gry fresh chert, fair  $\phi$ , n.s.

50

wh dolomitic ls., very cherty, fite, n.s.

(vis 47, wt 9.1)

slight  $\phi$ , n.s.

wh sandy, dolomitic ls., cherty, fite, n.s.

3500

white  
cherty dolomite, fite, n.s.Top Simpson  
3499(-1761)

red to grn sh.

Simpson Sand Zone

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## LITHOLOGIC LOG

ROBERT HOPKINS-consulting geologist

Operator Carrie ExplorationLocation NW SW 1-22S-10WLease / Well Alan C-1County Reno State KsGL KB 1733' (measure from \*)depth this sheet - from 3620 to 3700 RTD

scale 1" = 20'

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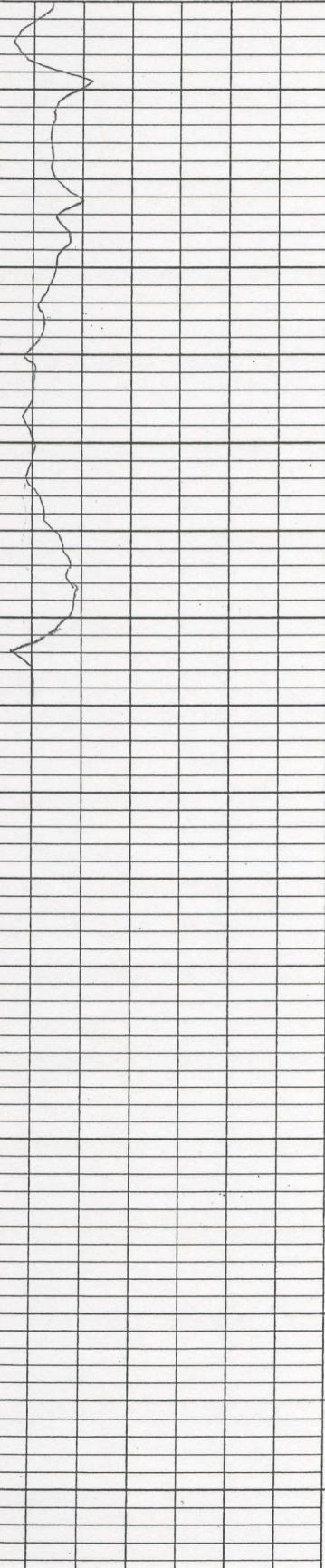
## DRILLING TIME (min/ft)

DEPTH  
20

1 2 3 4 5 6 7 8

tops  
showslith  
graph

## DESCRIPTION (lithology, shows, mud properties)



tan sucrosic to frixln. dolomite, gd  $\phi$ , n.s.  
sl. pyritic

as above, trc. wh. oolitic chert

wh-bf frixln sandy dolomite, sl.  $\phi$ , n.s.

tan sucrosic dolomite, sl.  $\phi$ , n.s.

@ 3700' RTD, new Log-Tech O-H log