

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1163054

Form ACO-1 June 2009 Form Must Be Typed Form must be Signed All blanks must be Filled

WELL COMPLETION FORM

WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License #		API No. 15	
Name:		Spot Description:	
Address 1:		Sec	TwpS. R 🗌 East 🗌 West
Address 2:		Fe	eet from Dorth / South Line of Section
City: State: Zip	+	Fe	eet from East / West Line of Section
Contact Person:			Nearest Outside Section Corner:
Phone: ()		,	/ SE SW
CONTRACTOR: License #			
Name:		-	Well #:
Wellsite Geologist:			VVCII #
0			
Purchaser:		C C	Kelle Davidson
Designate Type of Completion:			Kelly Bushing:
New Well Re-Entry	Workover	·	ug Back Total Depth:
Oil WSW SWD	SIOW	Amount of Surface Pipe Se	et and Cemented at: Feet
Gas D&A ENHR	SIGW	Multiple Stage Cementing (Collar Used? 🗌 Yes 🗌 No
OG GSW	Temp. Abd.	If yes, show depth set:	Feet
CM (Coal Bed Methane)		If Alternate II completion, c	ement circulated from:
Cathodic Other (Core, Expl., etc.):		feet depth to:	w/sx cmt
If Workover/Re-entry: Old Well Info as follows:			
Operator:			
Well Name:		Drilling Fluid Managemen (Data must be collected from th	
Original Comp. Date: Original Tot	tal Depth:		
	ENHR Conv. to SWD	Chloride content:	ppm Fluid volume: bbls
Conv. to	GSW	Dewatering method used: _	
Plug Back: Plug		Location of fluid disposal if	hauled offsite:
Commingled Permit #:	-	Operator Name:	
Dual Completion Permit #:			
SWD Permit #:			License #:
ENHR Permit #:		Quarter Sec	TwpS. R [_] East [_] West
GSW Permit #:		County:	Permit #:
Spud Date or Date Reached TD Recompletion Date	Completion Date or Recompletion Date		

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
Letter of Confidentiality Received
Date:
Confidential Release Date:
Wireline Log Received
Geologist Report Received
UIC Distribution
ALT I II Approved by: Date:

	Side Two	1163054
Operator Name:	Lease Name:	Well #:
Sec TwpS. R □ East □ West	County:	

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken (Attach Additional She	eets)	Yes No		-	n (Top), Depth an		Sample
Samples Sent to Geolog	gical Survey	Yes No	Nam	le		Тор	Datum
Cores Taken Electric Log Run Electric Log Submitted B (If no, Submit Copy)	Electronically	<pre> Yes No</pre> No Yes No Yes No					
List All E. Logs Run:							
		CASING		ew Used			
		Report all strings set-	conductor, surface, inte	ermediate, product	ion, etc.		
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD

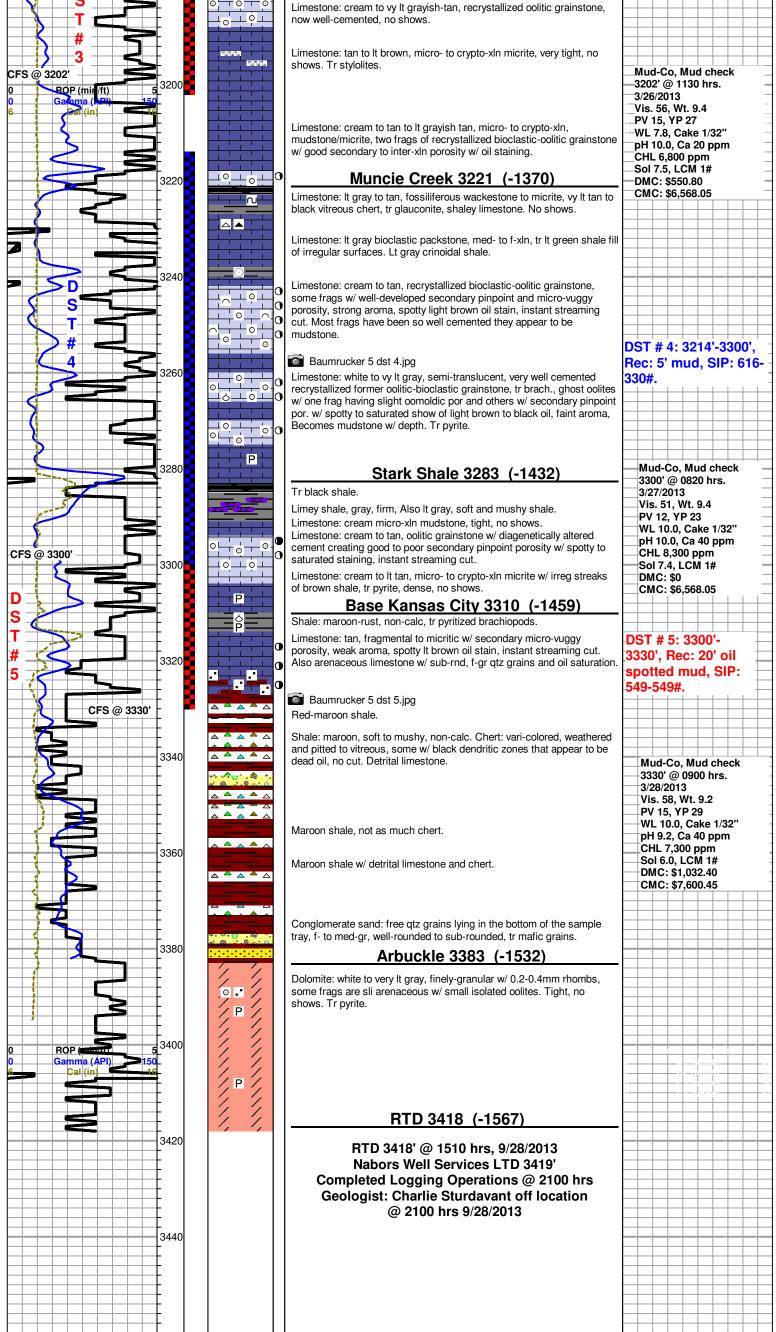
Purpose: Perforate	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
Protect Casing Plug Back TD				
Plug Off Zone				

Shots Per Foot		PERFORATION Specify Fo		RD - Bridge P Each Interval I		e			ement Squeeze Record	Depth
TUBING RECORD:	Siz	:e:	Set At:		Packer	At:	Liner R	un:	No	
Date of First, Resumed Pr	roducti	on, SWD or ENH	۲.	Producing M	lethod:	oing	Gas Lift	Other (Explain)		
Estimated Production Per 24 Hours		Oil Bb	ls.	Gas	Mcf	Wate	ər	Bbls.	Gas-Oil Ratio	Gravity
									1	
DISPOSITION	N OF G	BAS:			METHOD	OF COMPLE	TION:		PRODUCTION IN	TERVAL:
Vented Sold		Jsed on Lease		Open Hole	Perf.	Uually (Submit /		Commingled (Submit ACO-4)		
(If vented, Subm	nit ACO	-18.)		Other (Specify)						

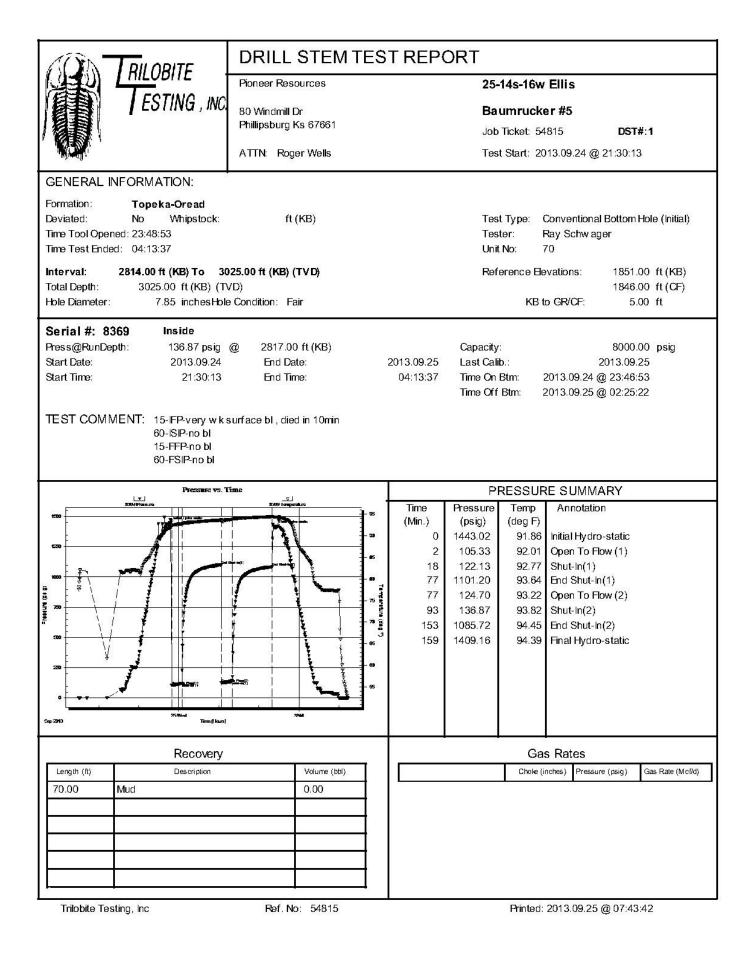
Well Name: Surface Location: Bottom Location:	# 5 Baumrucker 1643' FNL, 1904' FWL Sec 25-T14S-	-R14W
API: License Number: Spud Date: Region: Drilling Completed: Surface Coordinates:	15-051-26599-00-00 9/20/2013 Ellis County 9/28/2013	Time: 10:00 AM Time: 3:10 PM
Bottom Hole Coordinates: Ground Elevation: K.B. Elevation: Logged Interval: Total Depth: Formation:	1846.00ft 1851.00ft 2450.00ft 3418.00ft Arbuckle	To: 3418.00ft
Drilling Fluid Type:	Chemical/Fresh Water Gel	
Company: Address:	OPERATOR Pioneer Resources 80 Windmill Dr. Phillipsburg, Kansas 67661	
Contact Geologist: Contact Phone Nbr: Well Name: Location: Pool: State:	Rodger Wells 785-543-5556 # 5 Baumrucker 1643' FNL, 1904' FWL Sec 25-T14S- Kansas	Field: Baumruckcer
State:	Kansas LOGGED BY	Country: USA
	Charlie Sturdavant Consul	ting
Company: Address:	Charlie Sturdavant Consulting 920 12th Street Golden, CO 80401	-
Phone Nbr: Logged By:	Golden, CO 80401 303-907-2295303-384-9481 Geologist NOTES	Name: Charlie Sturdavant
examined from 2450' to TD. Five of oil were tested with discouragin was determined by all parties invo	recker well was drilled to a LTD of 341 DST's were conducted during the drillir g results. Based on the negative DST r lived, that the well should be plugged a	9 feet, bottoming in the Arbuckle. Samples were ng of this well. All zones that encountered shows results, sample examination and log analysis, it and abandoned. sas Geological Survey well sample library,
Charlie	Well Comparison Sheet Sturdavant Co	onsulting
DRILLING WELL Pioneer Resources #5 Baumi		COMPARISON WELL Messman-Rinehart #2 "B" Baumrucker
1643'FNL & 1904'F Sec. 25 T14S R16W 1851 KB Formation Sample Sub-Sea Log	Sec 25-T14S R16W Structura 1818 KB Relations	
Anhydrite 948 903 950 Tarkio 2558 -707 2556 Elmont 2615 -764 2612 Howard 2751 -900 2749 Severy 2794 -943 2792	901 896 922 -19 -705 2528 -710 3 -761 2584 -766 2 -898 2720 -902 2 -941 2765 -947 4	-21 912 907 -4 -6 5 2534 -715 8 10 5 2590 -771 7 10 4 2726 -907 7 9 6 2770 -951 8 10
Topeka 2811 -960 2810 King Hill Shale 2893 -1042 2891 Queen Hill 2954 -1103 2952 Heebner 3038 -1187 3036 Toronto 3056 -1205 3054	-959 2782 -964 4 -1040 2864 -1046 4 -1101 2924 -1106 3 -1185 3007 -1189 2 -1203 3026 -1208 3	5 2786 -967 7 8 6 2870 -1051 9 11 5 2930 -1111 8 10 4 3015 -1196 9 11 5 3032 -1213 8 10
Lansing 3090 -1239 3086 Muncie Creek 3221 -1370 3217 Stark 3283 -1432 3281 Base KC 3310 -1459 3307	-1235 3059 -1241 2 -1366 3191 -1373 3 -1430 3255 -1437 5 -1456 3280 -1462 3	6 3066 -1247 8 12 7 3198 -1379 9 13 7 3262 -1443 11 13 6 3290 -1471 12 15
Pleasanton 3313 -1462 3310 Conglomerate 3327 -1476 3326 Arbuckle 3383 -1532 3384 Total Depth 3418 -1567 3419		6 3293 -1474 12 15 7 3310 -1491 15 16 -11 3352 -1533 1 0 -19 3355 -1536 -31 -32
	Daily Drilling Report	
Charlie Stur	davant Cons	ulting
DAI Company: Charlie Sturdavant Consulti 920 12th Street Golden, CO 80401	Location: 1643' FNL & 1 Sec. 25 T14S	904' FWL R14W
Pioneer Resources Office: 785-543-5556 Rodger Wells Cell: 785-543-7827 Wellsite Geologist: Charlie Sturdavant Cell: (303) 907-2295	Ellis County, I Elevation: 1851' KB 18 Field: Baumrucker	46' GL
Office: (303) 384-9481 Drilling Contractor: Shields Drilling, Rig #2 785-7 DATE 7:00 AM DEPTH	API No.: 15-051-26599-00 Surface Casing: 8 5/8" se	et @ 220' KB
9/20/2013 115 ft. Spud @ 03 9/21/2013 759 ft. Drilling ahd	50 hrs. Drilling ahead. ead. Set susrface csg last night. 5 joints of 23# nev @ 0015 hrs.	w set @ 220'
9/24/2013 2852 ft. Drilling and 9/25/2013 3025 ft. CTCH after	ead. Geologist on location @ 1700 hrs., 2460 ft. ead. Conducted DST # 1: 2814'-3025', Rec: 70' muc r DST # 2: 3032'-3137', Rec: 20' oil spotted mud, SI	IP: 207-236#.
DST # 3: 3 SIP: 454-44 9/26/2013 3190 ft. Drilling ahd	140'-3202', Rec: 90' GIP, 30' SOCM (2% oil), 60' OC 16#.	M (10% oil),
9/28/2013 3330 ft. Pulling DS Reached R	T # 5: 3300'-3330', Rec:20' oil spotted mud, SIP: 54 TD of 3418 @ 1510 hrs. LTD: 3419'. Logging comp off location @ 2100 hrs.	19-549#.
	SURFACE CO-ORDINATES	
Well Type: Longitude: N/S Co-ord: E/W Co-ord:		Latitude:
Contractor: Rig #: Rig Type: Spud Date: TD Date: Rig Release:	CONTRACTOR Shields Drilling 2 mud rotary 9/20/2013 9/28/2013	Time: 10:00 AM Time: 3:10 PM Time:
K.B. Elevation: K.B. to Ground:	ELEVATIONS 1851.00ft Ground E 5.00ft	
Chtcongl	ROCK TYPES t fw<7	Ss
MINERAL FOSSIL	ACCESSORIES STRAT./SED. STRUCTS STRING	nestone
Note Note Note <td>Silt</td> <td>tstone ale een shale</td>	Silt	tstone ale een shale
MISC DST DR Daily Report DST Int DST alt	OTHER SYMBOLS	
 Digital Photo Document Folder 		
Link Vertical Log File Horizontal Log File		
Core Log File	Prir	nted by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)
Curve Track #1 ROP (min/ft) Gamma (API) Cal (in)		TG, C1 - C5
Gamma (API) Gamma (API)G	ලි ලි Geological Descrip	ptions
·	11	
1:240 Imperial D 2 U 1:240 Imp		1:240 Imperial
0 NOP (min/ft) 3	Pioneer Resources # 5 1643' FNL & 190 Sec 25-T14S-F Ellis County, K KB = 1851	5 Baumrucker 04' FWL R16W (ansas

Scale 1:240 Imperial

		on is surfaces. Es. gray, arg, lossimerous wackestone.	
	═ ╶╸ ╧ ╧╴╴ _┏		
SC 2500 0 Gamme (API) 150			-Vis: 60, Wt: 8.8, WOB:
6 Cá (in) 16			32,000 #, Strokes: 52, RPM: 60
		Limestone: It grayish-tan, fossil-bearing, rhombopora, micro-xln matrix,	
2520		mudstone to wackestone, no shows.	
		Shale: gray, It gray, It tanish-gray, calcareous, soft to firm, black organic flecks in some frags, sli silty in other frags,	
		Very soft gray shale.	
2540			
2560		Tarkio 2558 (-707)	
		Limestone: tan to lt grayish-tan, med-xln fossil debris set in f-xln matrix, packstone. Ranges to micro-xln mudstone, no shows. Tr brach, spicules.	
		Becomes gray and argillaceous w/ depth, spicules, crinoid frags, shaley w/ black organic specks.	
2580		Limestone doesn't show up very well until the 2580-90' sample (20' lag).	
		The following descriptions are what was in the sample cups, despite the fact that this zone should be shale.	
		Limestone: cream w/ tan fossil debris, med-xln bioclastic grainstone, fussulinids, brachiopods, oolites, no shows. Tr glauc.	
0 ROP (min/ft) 5 2600 Gamma (API) 150		Limestone: tan to It grayish-tan, micro-xln mudstone.	
		Shale: gray to It gray, soft, non-calc., mica.	
2620		Elmont 2615 (-764) Limestone: tan, gastropods, brach, bryo stems, med- to coaarse framework fossil frags set in a vf-xln matrix, It green irreg. clay fill,	
		packstone. Brown Is w/ spicules and gray pellets set in a micro-xln matrix, mudstone. Tr glauconite.	
2640		Limestone: tan to It brown, pellet-bearing, bioclastic, crinoids, f- to med- xln lime sand, sli arg, packstone, no shows	
		Becomes more argillaceous w/ depth, now a wackestone. Brachiopods.	
2660		Limestone: tan to It brown to grayish-tan, bioclastic, argillaceous packstone, fussulinids, crinoids, brach, peloids, f- to med-xln, no shows.	
		Limestone: tan to grayish-tan, fossil frags set in a micro-xln matrix, wackestone, no shows, tr arg.	
2680		Shale: gray, calc., firm, mica, some w/ black organic flecks. Tr pyrite. Forms elongate fissile frags. Limestone: tan to grayish-tan, fragmental, argillaceous, fussulinids,	
		peloids, f- to med-xln frags set in a vf-xln matrix, wackestone to packstone, no shows. Tr bioclastic grainstone w/ fair inter-xln porosity,	
2700		no shows.	
		Limestone: tan to grayish-tan, fossiliferous, crinoids, fussulinids, argillaceous, vf-xln matrix, wackestone, no shows.	
		Shale: gray, very soft and mushy, sample washes gray as the shale disolves.	
2720		Shale: gray, as above w/ some frags w/ mica and sli silty, calc to non- calc.	
		Shale: gray, firm to soft, calc.	
2740			
		Howard 2751 (-900)	
2760		Limestone: tan to It brownish-gray, finely-granular lime sand w/ few fossil frags, sli arg, ranges to micro-xln mudstone. Limestone: tan, fossiliferous, spicular, brach, fussulinids, crinoids, med	
2/60		Limestone: tan, fossiliferous, spicular, brach, fussulinids, crinoids, med to crs fossil frags set in a f- to vf-xln matrix, packstone, fair inter-xln porosity, no shows.	
		Streaks of gray shaley Is w/ pellets.	
2780		Limestone: It brown to grayish-tan, vf-xln matrix, spicules, brach, wackestone, no shows.	
		Severy 2794 (-943)	
0 BOE 100/(ft) 5 2800 0 Ceanged (API) 150		Shale. gray, mushy	
6 Call(in) 16		Topeka 2811 (-960)	
		Limestone: cream to tan, micro-xln matrix w/ few fossil frags, spicules, mudstone, no shows. Limestone: tan, med-granular, tr bryozoans, fussulinids, brach, fair	
	mÒ	inter-granular porosity w/ spotty live oil stain, instant streaming cut,	
			Vis: 53
S S		Limestone: tan to brown micro-xln mudstone, tight, no shows.	Wt: 9.1
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows.	
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags,	
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2840 1 2840 2860 2860 2860 2860 5 7 4 1		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert,	
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2840 2840 2860 2860 2860 2880 5 7 4 4 1		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone.	
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		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous.	Mud-Co, Mud check 2960' @ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to lt gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale.	Mud-Co, Mud check 2960' @ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103)	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, packstone, fair inter-xln porosity, no shows.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Cueen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, packstone, fair inter-xln porosity, no shows.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossilferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, packstone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xln matrix, tight mudstone to wackestone, no shows.	Mud-Co, Mud check 2960'@1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,661.40 CMC: \$5,661.40
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, packstone, fair inter-xln porosity, no shows. Limestone: tan to It grayish-tan, fussulinids isolated in a micro-xln matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fossiliferous, vitreous.	Mud-Co, Mud check 2960'@1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,661.40 CMC: \$5,661.40
		 Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to lt gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossilferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Dueen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It grayish-tan, fussulinids isolated in a micro-xln matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fossiliferous, vitreous. Limestone: tan to It grayish-tan, fussulinids isolated in a micro-xln matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fossiliferous, vitreous. Limestone: It an, nicro-xln mudstone, some frags w/ fussulinids and secondary pinpoint porosity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It tan to tan, f- to med-xln, brach., sparry calcite, packstone 	Mud-Co, Mud check 2960'@1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#.
2840 2860 2860 2880 2880 2900 2920 2920 2920 2920 292		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are arg wackestone, some are fossilferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, packstone, fair inter-xln porosity, no shows.	Mud-Co, Mud check 2960'@1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,661.40 CMC: \$5,661.40
2840 2860 2900 5 2900 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 2920 5 5 2920 5 5 2920 5 5 5 5 5 5 5 5 5 5 5 5 5		 Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xln, fair inter-xln por., w/ chert: tan to lt gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. Shale: black, carbonaceous, soft, calcareous. Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo., some are gray wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, ipdat mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xln matrix, packstone; fair inter-xln porosity, no shows. Limestone: It an to It, fair aroma in wet sample. Limestone: It tan to tan, f- to med-xln, brach., sparry calcite, packstone w/ weak porosity, It green shale fill of irregular surfaces, tr stylolitic 	Mud-Co, Mud check 2960'@1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#.
2840 2860 2860 2880 2880 2900 2920 2920 2920 2920 292		 Limestone: gray, argillaceous, f-xin matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xin matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xin, fair inter-xin por., w/ chert: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xin w/ good inter-xin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 28933 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xin, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It prayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to mad., sparry calcite, packstone w/ weak porosity, tareous. Limestone: It tan, micro-xin mudstone, some frags w/ fussulinids and secondary pinpoint prorosity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It tan to tan, recrystallized former fossiliferous packstone, fussulinids, also	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32'' pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.60 CMC: \$5,661.40 CMC: \$5,
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2840 2860 2860 2860 2860 2860 2860 2860 2860 2900 5 2900 5 7 4 2900 5 7 4 2900 5 7 4 2900 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 2940 5 7 4 4 4 4 4 5 5 7 4 4 4 4 4 4 5 5 5 7 4 4 4 4 5 5 7 4 4 4 4 5 5 7 4 5 5 7 4 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7		 Limestone: gray, argillaceous, f-xin matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xin matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-xin, fair inter-xin por., w/ chert: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xin w/ good inter-xin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 28933 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xin, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It prayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to mad., sparry calcite, packstone w/ weak porosity, tareous. Limestone: It tan, micro-xin mudstone, some frags w/ fussulinids and secondary pinpoint prorosity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It tan to tan, recrystallized former fossiliferous packstone, fussulinids, also	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,661
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2840 2860 2860 2860 2860 2800 2900 2900 2920 2920 2920 2920 292		Limestone: gray, argiliaceous, f-xin matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-xin matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fusulinids, f- to med-xin w/ good inter-xin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fususulinid grainstone, tight, no shows. King Hill Shale 28933 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy it tan, micro- to crypto-xin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xin, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argiliaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to it brown, coarse frags of fussulinids and other fossil debris set in a f- to med-xin matrix, packstone, fair inter-xin porosity, no shows. Limestone: tan to it grayish-tan, fusulinidis isolated in a micro-xin matrix, tight mudstone to wackestone, some frags w/ fussulinids and secondary pripoint prorsity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It an, intero-xin mudstone, some frags w/ fussulinids and streaming cut, fair aroma in wet sample. Limestone: It an to tan, f- to med-xin, brach., sparry calcite, packstone, fussulinids, also micro-xin mudstone w/ few fossils, chert: white to It gray, fossiliferous, vitreous. Limestone: It an, fussulinid packstone w/ f-xin matrix, no shows. Limestone: cream to tan, recrystallized former fossiliferous packstone, fussulinids, also micro-xin mudstone w/ few fossils, chert: white to It gray, fossiliferous, vitreous.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32'' pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.60 CMC: \$5,661.40 CMC: \$5,
2840 2860 2860 2860 2860 2800 2900 2900 2920 2920 2920 2920 292		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, tussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomilic, hard. Limestone: tan to It brown, coarse frags of fussulinids and other fossil debris set in a 1- to med-xln matrix, packstone, fair inter-xln porosity, no shows. Limestone: tan to It prayish-tan, fussulinids isolated in a micro-xln matrix, tight mudstone to wackestone, no shows. Chert: tan to It grayish-tan, fossiliferous, vitreous. M Baumrucker 5 dst 1.jpg Limestone: It tan, nicro-xln mudstone, some frags w/ fussulinids and secondary priporit porosity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It tan, nicro-xln mudstone, some frags w/ fussulinids and secondary priporit porosity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It tan, to tan, f- to med-xln, brach., sparry calcite, packstone, w/ weak porosity, nit green shale fill of irregular surfaces, tr stylollic mudstone. Limestone: tan, fussulinid packstone w/ f-xln matrix, no shows. Heebner 3038 (-1187) Shale: black, carbonaceo	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32'' pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.60 CMC: \$5,661.40 CMC: \$5,
		Limestone: gray, argillaceous, f-xln matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It tan, vf-xln matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xln w/ good inter-xln porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoida-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xln, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xln, pelets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to It orway, coarse frags of fussulinids and other fossil debris set in a f- to med-xln matrix, packstone, fair inter-xln porosity, no shows. Limestone: tan to It grayish-tan, fussulinids isolated in a micro-xln matrix, tight mudstone to wackestone, no shows. Chert: tan to it grayish-tan, fossiliferous, vitreous. Mice It tan, micro-xln mudstone, some frags w/ fussulinids and secondary pinpoint porosity, stained w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It tan to tan, - for med-xln, parry calcite, packstone, w/ weak porosity, It green shale fill of irregular surfaces, tr stylolitic mudstone. Limestone: it tan to tan, recrystallized former fossiliferous packstone, fussulinids, also micro-xln mudstone w/ few fossils, chert: white to It gray, fossiliferous, vitreous. Heebner 3038 (-1187) Shale: black, carbonaceous, hard, blocky, dolomitic. Shale: it gray, calc., mushy, and gray, calc., firm, flakey. Toronto 3056 (-1205) Limestone: tan to It brown, v4- to micro-xln, tr fo	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32'' pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.60 CMC: \$5,661.40 CMC: \$5,
		Limestone: gray, argiliacaous, f-xin matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vi-xin matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan to it gray, vireous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-xin w/ good inter-xin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-lussulinit grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy it tan, micro- to crypto-xin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xin, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to it grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to black scondar priporit prosety, striendew. live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: Itan, micro-xin mudstone, some frags w/ fussulinids and secondary piporit prosety, striende w/ live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: Itan, tan, recrystalized former fossilferous packstone, fussulinids, and in wet sample. Limestone: Itan, tan, recrystalized former fossilf. Heebner 3038 (-1187) Shale: black, carbonaceous, hard, blocky, dolomitic. Shale: It gray, calc., mushy, and gray, calc., firm, flakey. Toronto 3056 (-1205) Limestone: Itan to the rown, vi- to micro-xin, tr fas spotty paporit secondary projesity withe oil and good cut. Ranges to ream-colored mudstone. Tr translucent, cloudy vireous chert.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,661
		Limestone: gray, argiliaceous, f-kin matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vi-kin matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan in fragmental fossil debris, med- to f-kin, fair inter-kin por, w/ chert: tan to it gray, viireous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-kin w/ good inter-kin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinit grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy it tan, micro- to crypto-kin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-kin, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to it grayish-tan, fussulinids and other fossil debris set in a f- to med-kin matrix, packstone, fair inter-xin porosity, no shows. Limestone: tan to it grayish-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to it grayish-tan, fossiliferous, vitreous.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, VI: 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#.
		Limestone: gray, argillaceous, f-vhn matrix w/ cearser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-vhn matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-vhn w/ good inter-vin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, fussulinids, f- to med-vhn w/ good inter-vin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, fussulinids, f- to med-vin w/ good inter-vin porosity, thin shale laminations, no shows. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xin, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to it brown, coarse frags of fussulinids and other fossil debris set in a 1- to med-xin matrix, packstone, fair inter-xin porosity, no shows. Limestone: tan to it gray/sh-tan, fussulinids isolated in a micro-xin matrix, tight mudstone to wackestone, no shows. Chert: tan to it graysh-tan, fossiliferous, vitreous.	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis.53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 CMC: \$5,661.40 CM
2840 2860 2860 2860 2860 2860 2920 2940		Limestone: gray, anglilaceous, 1-xh matrix w/ cearser lossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-xh matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan bioclastic grainstone, fussulinds, 1- to med-xh w/ good inter-xh porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, motifed salt and pepper granular chert, crinoidal-lussulini grainstone, fussulinds, 1- to med-xh w/ good inter-xh porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, motifed salt and pepper granular chert, crinoidal-lussulini grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-xhn, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-xhn, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossilferous packstone, no shows, chert: tan to black, fossilferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to th grayish-tan, fussulinids and other fossil debris set in a 1-to med-xhn matrix, packstone, fair inter-xhn prosity, no shows. Limestone: It an, micro-kn mudstone, some frags w/ fussulinids and secondary pinpoint poreity, stained w live brown oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: It an, fussulinid packstone w/ f-xhn matrix, no shows. Limestone: It an to tan, recrystallized former fossiliferous packstone, fussulinids, also micro-xhn mudstone w lew fossils, chert: while to it gray, fossiliferous, vitreous. Limestone: It an to tan, recrystallized former fossiliferous packstone, fussulinids, also micro-xhn mudstone w/ f-xhn matrix, no shows. Limestone: It an to tan, recrystallized former fossiliferous packstone, fussulinids, also micro-xhn mudstone w/ few fossils, chert: while to it gray, fossiliferous, vit	Mud-Co, Mud check 2960'@ 120 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DST # 2: 3032'-3137', Deviation: 3/4 degrees
		Limestone: gray, angiliaceous, f-sh matrix w/ cearser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-sh matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan fragmental fossil debris, med- to f-sh, fair inter-sh por, w/ chert: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-sh w/ good inter-sh porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, metided salt and pepper granular chert, crinoidal-lussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-shn, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Mixed limestones: tan to gray, f-shn, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to braw, fossiliferous, vitreous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to thown, coarse frags of fussulinids and other fossil debris set in a 1-to med-shn matrix, packstone, fair inter-shn prosity, no shows. Limestone: tan to the grayish-tan, fussulinids isolated in a micro-shn matrix, tight mudstone to wackstone, no shows. Chert: tan to th grayish-tan, fossiliferous, vitreous. W weak porosity, it green shale fill of irregular surfaces, tr styloilic mudstone. Limestone: It ant otan, 1-to med-shn, barary calcite, packstone w/ weak porosity, it green shale fill of irregular surfaces, tr styloilic mudstone. Limestone: It ant otan, recrystallized former fossiliferous packstone, fuseulinids, also micro-shn mudstone w/ f-sh matrix, no shows. Heebner 3038 (-1187) Shale: black, carbonaceous, hard, blocky, dolomitic. Shale: It gray, calc., mushy, and gray, calc., firm, flakey. Limestone: tan to the rown, 4-to micro-shn, fragses to cream-colored mudstone. Tr translucent, cloudy	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 CMC: \$5,661.40 C
		Limestone: gray, ærgillaceous, f-kin matrix wi coarser fossil frags, crinoids, brach, wackestone. Tan mudstone, no shows. Limestone: tan, fragmental fossil debris, med- to f-kin, fair inter-kin por, wi chert: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone. (Jussulinids, f- to med-kin wi good inter-kin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and peoper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 28933 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vyl tan, micro- to crypto-kin, micrite to mudstone, tight, no shows. Micrite with crinoid. Mixed limestones: tan to gray, f-kin, pelletis, spicules, tr pyrite, bryo, some are arg wackestone, some are fossiliferous packstone, no shows, chert: tan to black, fossiliterous, vitreous. Argillaceous limestone as above wir thin, irreg, streaks of shale. Queen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to thown, coarse frags of fussulinids and other fossil debris set in a 1-to med-kin matrix, packstone, fair inter-kin porosity, no shows. Limestone: itan to tary, incous. Wiester in a 1-to med-kin mudstone, some frags wi fussulinids and streaming cut, fair aroma in wet sample. Limestone: itan to tar, in com-kin, mudstone, some frags wi fussulinids and streaming cut, fair aroma in wet sample. Limestone: itan to tan, in tor each, brach, party calcite, packstone, russulinids, also micro-kin mudstone wire for fossiliferous packstone, fussulinids, also micro-kin mudstone wire fossiliferous packstone, fussulifierous, vitreous. Shale: tary, calc., mushy,	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DMC: \$5,661.40 Strap was 0.36 short to board, Deviation: 3/4 degrees Strap was 0.36 short to board, Deviation: 3/4 degrees
		Limestone: gray, argillaceous, f-sh matrix w coarser fossil frags, crinolds, brach, wackestone. Tan mudstone, no shows. Limestone: Itan, M-sh matrix w few fossil frags, brach, wackestone, no shows. Limestone: Itan, fragmental fossil debris, med- to f-shn, fair inter-shn por, wircher: Itan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-shn w/ good inter-shn porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoldal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to vy It tan, micro- to crypto-shn, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Micrite u/ tr crinoid. Micrite u/ tr crinoid. Micrite u/ tr crinoid. Micrite u/ tr crinoid. Limestone: carbonaceous, dolomitic, hard. Limestone: tan to tray, f-shn, pellets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossilferous packstone, no shows, chert: tan to black, fossilferous, vitreous. Argillaceous limestone as above w/ thin, irreg, streaks of shale. Diabets black, carbonaceous, dolomitic, hard. Limestone: tan to It grayish-tan, fussulinids isolated in a micro-shn matrix, tight mutdoto to wackestone, no shows. Chert: tan to it grayish-tan, fossilferous, vitreous. Dimestone: tan, to It grayish-tan, fussulinids isolated in a micro-shn matrix, tight mutdotone to wackestone, some frags wf fussulinids and secondary pinpoint proresity, stained wi heo rown ali, no fluor but good streaming cut, fair aroma in wet sample. Limestone: tan, fussulinid packstone w/ few fossilf, chert: while to It gray, fossilferoous, vitreous. Limestone: tan, fusulinid packstone w/ few fossilf, chert: while to It gray, fossilferoous, vitreous. Limestone: tan, fusulinid packstone w/ few fossilf, chert: while to It gray, fossilferoous, vitreous. Limestone: tan to Itam micry	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,2013 CMC: \$5,20
		Limestone: gray, argillaceous, f-kin matrix w coarser fossil frags, crinoids, brach, wackestone. Tan mudstone, no shows. Limestone: Itan, kf-kin matrix w/ few fossil frags, brach, wackestone, no shows. Limestone: tan, fragmental fossil debris, med- to f-kin, fair inter-kin por, wichet: Itan to It gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-kin w/ good inter-kin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and peoper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceous, soft, calcareous. Shale to shaley limestone. Limestone: cream to y/ Itan, micro- to crypto-kin, micrite to mudstone, tight, no shows. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Micrite w/ tr crinoid. Micrite u/ tr tranoid. Micrite u/ tr	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 10, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,70 CMC: \$5,70
		Limestone: gray, argillaceous, f-kin matrix w/ coarser fossil frags, crinoids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-kin matrix w/ few fossil frags, brach., wackestone, no shows. Limestone: tan to it gray, vitroous. No shows. Limestone: tan to it gray, vitroous. No shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, fussulinids, f- to med-kin w/ good inter-kin porosity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, crinoidal-fussulinid grainstone, tight, no shows. King Hill Shale 2893 (-1042) Shale to shaley limestone. Limestone: cream to vyll tan, micro- to crypto-kin, micrite to mudstone, tight, no shows. Micrite w/t rerinoid. Mixed limestones: tan to gray, f-kin, peliets, spicules, tr pyrite, bryo, some are arg wackestone, some are fossillerous packstone, no shows, chert tan to black, fossiliterous, viteous. Argillaceous limestone as above w/ thin, irreg. streaks of shale. Decen Hill 2954 (-1103) Shale: black, carbonaceous, dolomilic, hard. Limestone: tan to it gray/sh-tan, fussulinids and other fossil debris set in a f- to med-kin matrix, packstone, fair inter-kin porosity, no shows. Micrite w/ tracinoid . Micrite w/ tracistore of wackestone , no shows. Chert: tan to bit graysh-tan, fussilierous, vitroous. Micrite and targarysh-tan , fussulinids isolated in a micro-xin matrix, light mudstone for wackestone, no shows. Chert: tan to bit graysh-tan, fossilierous, vitroous. Micrite and targarysh-tan , fussulinids isolated in a micro-xin matrix, light mudstone for wackestone, witrow will, no fluor but good streaming cut, fair aroma in wet sample. Limestone: tan, it to sail - 1 to med-xin, trach. spary calcile, packstone wive wack porosity, fargen shale fill di regular surfaces, tracylolitic undstone. Limestone: tan, fussulinid packstone w/ f-xin matrix, no shows. Limestone: tan, fussulinid packstone w/ f-xin matrix, no shows. Limestone: tan, fussulinid packstone	Mud-Co, Mud check 2960 @ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2 Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DEST # 2: 3032'-3137', Rec: 70' mud, SIP: 1101-1085#. DEST # 2: 3032'-3137', Rec: 70' mud, SIP: 1101-1085#.
		Limestone: gray, argillaceous, f-sh markix wi coarser fossil frags, crinicids, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-sh markix wi few fossil frags, brach., wackestone, no shows. Limestone: tan to it gray, vitreous. No shows. Limestone: tan bioclastic grainstone, fussulinids, f- to med-sh wi good inter-sh porceity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, criniddal-lussulinid grainstone, fussulinids, f- to med-sh wi good inter-sh porceity, thin shale laminations, no shows. Cherty limestone: gray to tan, mottled salt and pepper granular chert, criniddal-lussulinid grainstone, tight, no shows. Shale to shaley limestone. Limestone: cream to vylt tan, micro- to crypto-sh, micrite to mudstone, light, no shows. Micrite wi romoid. Micrite science: tan to gray, f-sh, pelets, spicules, tryprite, bryo, chert: tan to black, fossilferous, vitreous. Argillaceous limestone as above wi thin, irreg. streaks of shale. Dueon Hill 2954 (-1103) Shale: black, carbonaceous, domitic, hard. Limestone: tan to it praysh-tan, fussulinids isolated in a micro-sh matix, just mudstone some frags of fussulinids and other fossil debis set in a 1- to med-sh matrix, packstone, fair inter-sh porosity, no shows. Limestone: tan to it graysh-tan, fussulinids isolated in a micro-sh matix, just mudstone to wackestone, no shows. Chert: tan to it graysh-tan, fossilferous, vitreous. Microstore: Itan, micro-sh mudstone, some frags wi fussulinide and decordary pinptin proseily, ital edw if heb forwn oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: Itan, fussulinid packstone wi f-sh matrix, no shows. Microstone: Itan, fussulinid packstone wi f-sh matrix, no shows. Microstone: Itan, fussulinid packstone wi f-sh matrix, no shows. Microstone: Itan, fussulinid packstone wi f-sh matrix, pas spoty pinpoint scondary porphy	Mud-Co, Mud check 2960 @ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DEST # 2: 3032'-3137', Rec: 70' mud, SIP: 1101-1085#. Deviation: 3/4 degrees Mud-Co, Mud check 3132'/2013 Vis. 53, Wt. 9.2 PV 12, YP 23 WL 7.2, Cake 1/32" pH 1.0, Ca 20 2pm CHL 5,70 CPM Sol 5.1 CM 2# DMC: \$355.85
		Limestone: gray, argillaceous, f-shn matrix w' coarser fossil frags, crindds, brach., wackestone. Tan mudstone, no shows. Limestone: It an, vf-shn matrix w' few fossil frags, brach., wackestone, no shows. Limestone: tan bloclastic grainstone. fussulinids, f- to med-shn w/ good inter-shn poresity, thin shale laminations, no shows. Cherty limestone: gray to han, motifed salt and peoper granular chert, crinddal-fussulinid grainstone, fight, no shows. Cherty limestone: gray to han, motifed salt and peoper granular chert, crinddal-fussulinid grainstone, fight, no shows. Cherty limestone: gray to han, motifed salt and peoper granular chert, crinddal-fussulinid grainstone, fight, no shows. Shale: black, carbonaceous, soft, calcareous. Shale: black, carbonaceous, soft, calcareous. Micrite w'tr crinoid. Mixed limestones: tan to gray, f-shn, pellets, spicules, tr pyrito, bryo, soma are arg wackestone, some are fossilferous packstone, no shows, chert: tan to black, fossilferous, vtreous. Argillaceous limestone as above w'thin, irreg, streaks of shale. Ducen Hill 2954 (-1103) Shale: black, carbonaceous, dolomitic, hard. Limestone: tan to it proysh-han, fussulinids isolated in a micro-shn matrix, tight mudstone to wackestone, no shows. Chert: tan to black fossilferous, vtreous. Fiberon: Itan to itary shi-han, fussulinids isolated in a micro-shn matrix, tight mudstone to wackestone, no shows. Chert: tan to it graysh-tan, fossilferous, vtreous. Fiberon: Itan to tan, recrystallized former fossilferous packstone, misson; jut prossil, stande withe proven oil, no fluor but good streaming cut, fair aroma in wet sample. Limestone: tan, fussulinid packstone w/ f-xin matrix, no shows. FibeDne: Tan, micro-xin mudstone some frags wf fussulinids and streaming cut, fair aroma in wet sample. Limestone: tan, fussulinid packstone w/ f-xin matrix, no shows. FibeDne: Tan to tan. creystallized former fossilferous packstone, fussulinids, also micro-xin mudstone. Diagenetically saferod mi gray, fossilferoous, vtreous. Shale: blac	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 1.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 CMC: \$5,670 CMC:
		Limestone: gray, argilizeous, f-win matrix wi coarser feesil frags, crindis, brach, wackestone. Tan mutatore, no shows. Limestone: It tan, vf-win matrix wi few fossil frags, brach, wackestone, no shows. Limestone: tan fragmental fossil debris, med- to f-win, fair inter-win por- wi chert: tan to tigray, vitrous. No shows. Limestone: tan biodcastic grainstone, fussulinids, f- to med-win wi good inter-win porosity, thin shale liminations, no shows. Cherty limestone: gray to tan, motifed sait and pepper granular chert, erionidal-fussulinid granistion, eight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceus, soft, calcareous. Shale to shaley limestone. Limestone: cream to vyl tan, micro- to crypto-win, micrite to mudstone, light, no shows. Argiliaceus limestone as above wi thin, irrog, streaks of shale. Oue Cher Hill 2954 (-1103) Shate: black, fusionaceus, soft, oraloareous, soft, calcareous Argiliaceus limestone as above wi thin, irrog, streaks of shale. Oue Cher Hill 2954 (-1103) Shate: black, fossilikinosa, vitrous. Argiliaceus limestone as above wi thin, irrog, streaks of shale. Cue Cher Hill 2954 (-1103) Shate: black, fossilikinosa, vitrous. Argiliaceus tan to it prown, coarse frags of fussulinids and other fossil debris set in a f-10 med-kin matrix, packstone, fair inter-win porosity, no shows. Limestone: tan to it grayish-tan, fussulinids is dataed in a micro-win matrix, fight mudstone to wacketone, no shows. Chert tan to it grayish-tan, fossiliencos, whoreous. Limestone: tan, nicro-win mudstone, some frags wi fussulinids and secondary pippoint porosity, stained wi live formatic, packstone, wi wask porosity, it graen hale iti d' irrogular surfaces, it styloitic matstone. Limestone: tan, f-to med-kin, brach, sparry calcite, packstone, wi wask porosity, it graen hale iti d' irrogular surfaces, it styloitic matstone, it tan micro-win mudstone, sparry calcite, packstone, wi wask porosity, it graen hale iti d' irrogular surfaces, it styloitic matstone, inter-win porosity, forth, one frag ha	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DMC: \$5,661.40 Deviation: 3/4 degrees DST # 2: 3032'-3137', Rec: 20' oil spotted mud, SIP: 207-236#. Mud-Co, Mud check 3137'/2013 Vis. 53, VI 9.2 PV 17.2, Cake 1/32" pH 1.0, Ca Depm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 DEVIATION: SIP: 1101-1085#. DST # 2: 3032'-3137', Rec: 20' oil spotted mud, SIP: 207-236#. DST # 3: 3140'-3202', Rec: 90' GIP, 30'
		Linestone: gray, argilizeous, f-sh matrix w/ coarser fossil frags, chinds, bran, wackstone. Tan mudstone, no shows. Linestone: It an, if sh matrix w/ few fossil frags, brach, wacketsone, no shows. Linestone: tan fragmental fossil debris, med- to f-sh, fair inter-sh por-, w' chert: tan to trans, the shale faminations, no shows. Linestone: tan bioclastic grainstone, fussulinds, f- to med-sh w/ good inter-sh porosity, thin shale faminations, no shows. Cherty linestone: gray to tan, motiled sail and peper granular chert, cinnodal-fussuling dirantone, tight no shows. Cherty linestone: gray to tan, motiled sail and peper granular chert, cinnodal-fussuling dirantone, tight no shows. Shale to shaley linestone. Linestone: cream to yit tan, micro- to crypto-sin, micrite to mudstone, tight, no shows. Micrite w/ ir crinoid. Micrite w/ ir crinoid. Linestone: tan to gray, f-sh, pellets, spicules, if pyrte, bryo, some are are wackestone, some are fossilferous packstone, no shows, chert: tan to btack, Gosilferoux, Wroos. Argilaceous linestone as above w/ thin, irreg, strasks of shale. Linestone: tan to it prown, carse frags of fussulinids and other fossil debris set in a l-to med-sh matrix, packstone, fair mer-sh parosity, no shows. Linestone: tan to it prown, throus. Micrite w/ ir crinoid. Linestone: it to its prown, shows. Chert: tan to it grayish tan, fossilferous, vitroous. Linestone: it an to tan, f- to med-sh, brach, sparry calcito, packstone w/ stagenericity, it green shale iff diregular surfaces, it spicilic accordary pinpint porosity, tained w/ live torown off, no furth but but good streaming u.t. fair ome and will be regular surfaces, tras spicilic accordary prostity will we land good cut. Ranges to cream-colored m/ widstone. The torown, dworm will be regular surfaces, tras spicilic accordary porosity, it green shale iff diregular surfaces, tras spicilic accordary porosity will we land good cut. Ranges to cream-colored m/ wids	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis. 53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$54.30 CMC: \$5,661.40 CMC: \$5,61.40 CMC: \$5,61.40 CMC
		Limestone: gray, argilizeous, f-win matrix wi coarser feesil frags, crindis, brach, wackestone. Tan mutatore, no shows. Limestone: It tan, vf-win matrix wi few fossil frags, brach, wackestone, no shows. Limestone: tan fragmental fossil debris, med- to f-win, fair inter-win por- wi chert: tan to tigray, vitrous. No shows. Limestone: tan biodcastic grainstone, fussulinids, f- to med-win wi good inter-win porosity, thin shale liminations, no shows. Cherty limestone: gray to tan, motifed sait and pepper granular chert, erionidal-fussulinid granistion, eight, no shows. King Hill Shale 2893 (-1042) Shale: black, carbonaceus, soft, calcareous. Shale to shaley limestone. Limestone: cream to vyl tan, micro- to crypto-win, micrite to mudstone, light, no shows. Argiliaceus limestone as above wi thin, irrog, streaks of shale. Oue Cher Hill 2954 (-1103) Shate: black, fusionaceus, soft, oraloareous, soft, calcareous Argiliaceus limestone as above wi thin, irrog, streaks of shale. Oue Cher Hill 2954 (-1103) Shate: black, fossilikinosa, vitrous. Argiliaceus limestone as above wi thin, irrog, streaks of shale. Cue Cher Hill 2954 (-1103) Shate: black, fossilikinosa, vitrous. Argiliaceus tan to it prown, coarse frags of fussulinids and other fossil debris set in a f-10 med-kin matrix, packstone, fair inter-win porosity, no shows. Limestone: tan to it grayish-tan, fussulinids is dataed in a micro-win matrix, fight mudstone to wacketone, no shows. Chert tan to it grayish-tan, fossiliencos, whoreous. Limestone: tan, nicro-win mudstone, some frags wi fussulinids and secondary pippoint porosity, stained wi live formatic, packstone, wi wask porosity, it graen hale iti d' irrogular surfaces, it styloitic matstone. Limestone: tan, f-to med-kin, brach, sparry calcite, packstone, wi wask porosity, it graen hale iti d' irrogular surfaces, it styloitic matstone, it tan micro-win mudstone, sparry calcite, packstone, wi wask porosity, it graen hale iti d' irrogular surfaces, it styloitic matstone, inter-win porosity, forth, one frag ha	Mud-Co, Mud check 2960'@ 1230 hrs. 3/24/2013 Vis.53, Wt. 9.1 PV 16, YP 22 WL 7.2, Cake 1/32" pH 11.0, Ca Tr ppm CHL 3,900 ppm Sol 5.6, LCM 2# DMC: \$5,661.40 DST # 1: 2814'-3025', Rec: 70' mud, SIP: 1101-1085#. DMC: \$5,661.40 Deviation: 3/4 degrees DST # 2: 3032'-3137', Rec: 20' oil spotted mud, SIP: 207-236#. Mud-Co, Mud check 3127/2013 Vis.53, Wt. 9.2 PV 12, Y 28 VI 7.2, Cake 1/32" pH 1.0, Ca 20 ppm CHL 5.71 LCM 2# DMC: \$6,017.25 CMC: \$6,017.25 DMC: \$6,017.25 CMC: \$6,017.25 CMC: \$6,017.25 DMC: \$6,017.25 CMC: \$



Baumrucker 5 dst 1.jpg



Baumrucker 5 dst 2.jpg

RILOBITE	DRILL STEM TES	TREP	ORT	
	Pioneer Resources		25-14s-16w E	llis
ESTING , INC.	80 Windmill Dr		Baumrucker	#5
	Phillipsburg Ks 67661		Job Ticket: 5481	6 DST#:2
	ATTN: Roger Wells/ Charlie		Test Start: 2013	3.09.25 @ 15:20:41
GENERAL INFORMATION:				
Formation:Toronto-LKC "C"Deviated:NoWhipstock:Time Tool Opened:17:23:21Time Test Ended:22:48:05	ft (KB)		Tester: Ray Unit No: 70	
Interval: 3032.00 ft (KB) To 31 Total Depth: 3137.00 ft (KB) (TV) 31			Reference Eleva	ations: 1851.00 ft (KB) 1846.00 ft (CF)
Constant and a second s	e Condition: Fair		KB to C	80 SEC.
Se rial #: 8369 Inside Press@RunDepth: 72.21 psig Start Date: 2013.09.25 Start Time: 15:20:41	All and a second and a second	2013.09.25 22:48:05		8000.00 psig 2013.09.25 13.09.25 @ 17:21:06 13.09.25 @ 21:15:35
TEST COMMENT: 30-IFP-vy wk su 60-ISIP-no bl 15-FFP-wk bl , d 90-FSIP-no bl	rface bl thru-out id in 40min started at 3/4"bl			
Pressure vs. T	finne 5359 Iompositura		PRESSURE	
	AND INPORTANT	Time (Min.) 0 3 4 94 95 140 228 235	(psig) (deg F) 1513.55 92.77 In 54.90 92.49 O 61.71 93.40 S 207.85 94.75 E 59.10 94.71 O 72.21 95.44 S 236.38 96.57 E	Annotation hitial Hydro-static Open To Flow (1) shut-In(1) ind Shut-In(1) Open To Flow (2) shut-In(2) ind Shut-In(2) inal Hydro-static
Recovery			Gas I	Rates
Length (ft) Description	Volume (bbl)		Chole (inche	es) Pressure (psig) Gas Rate (McI/d)
20.00 Oil Spotted mud	0.00			
*Recovery from multiple tests Trilobite Testing, Inc	Ref. No: 54816		Printed: 20	013.09.26 @ 08:04:20

Baumrucker 5 dst 3.jpg

RILOBITE	DRILL STEM TES	ST REPO	RT	
TESTING, INC.	Pioneer Resources		25-14s-16w Ellis	
	80 Windmill Dr Phillipsburg Ks 67661		Baumrucker #5 Job Ticket: 54817 D\$T#:3	
	ATTN: Roger Wells/ Charlie		Test Start: 2013.09.26 @ 11:15:19	
GENERAL INFORMATION:				
Formation: LKC "F" Deviated: No Whipstock:	ft (KB)		Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 12:56:14 Time Test Ended: 18:43:28	regist Column		Tester: Ray Schwager Unit No: 70	
Interval: 3140.00 ft (KB) To 32	:02.00 ft (KB) (TVD)		Reference Elevations: 1851.00 ft	
Total Depth:3202.00 ft (KB) (The Diameter:7.85 inchesHole	/D) > Condition: Fair		1846.00 ft KB to GR/CF: 5.00 ft	(CF)
Serial #: 8369 Inside				
Press@RunDepth:90.84 psigStart Date:2013.09.26	@ 3146.00 ft (KB) End Date:	2013.09.26	Capacity: 8000.00 ps Last Calib.: 2013.09.26	sig
Start Time: 11:15:19	End Time:	18:43:28	Time On Btm: 2013.09.26 @ 12:54:44 Time Off Btm: 2013.09.26 @ 17:02:13	
TEST COMMENT: 30-IFP-wikbl , 1/	4"to 1 1/4"bl			
60-ISIP-no bl 60-FFP-wkibl , 1	/4"to 1/2"bl			
90-FSIP-no bl				
Pressure vs. T 	ime LTJ 5334 Jarpaniana	Time	PRESSURE SUMMARY Pressure Temp Annotation	
9500	853	(Min.)	(psig) (deg F) 1547.28 90.60 Initial Hydro-static	
		2 33	22.26 90.13 Open To Flow (1) 40.47 91.07 Shut-In(1)	
		93 94	454.82 93.28 End Shut-in(1) 45.94 93.19 Open To Flow (2)	
		154 244	90.84 94.71 Shut-In(2) 446.02 95.98 End Shut-In(2)	
		248	1506.36 96.48 Final Hydro-static	
	L775			
TPAU 3PAU 3PAU 3PAU 3PAU 3PAU 3PAU 3PAU 3	THE STATE			
Recovery Length (ft) Description	Volume (bbl)		Gas Rates Chole (inches) Pressure (psig) Gas R	ate (Mc1/d)
0.00 90'GIP	0.00	-20	Chole (inches) Pressure (psig) Gas R	ate (inici/d)
30.00 SOCM 2% O98% M 60.00 OCM 10% O90% M	0.00			
	0.00			
* Recovery from multiple tests Trilobite Testing, Inc	Ref. No: 54817		Printed: 2013.09.26 @ 23:20:13	
model roomig, no				
	Baumrucker	5 dst 4.jpg		
	DRILL STEM TES	ST REPO	RT	
RILOBITE	Pioneer Resources		25-14s-16w Ellis	
ESTING , INC.			Baumrucker #5	
	Phillipsburg Ks 67661		Job Ticket: 54818 DST#:4	
	ATTN: Roger Wells/ Charlie		Test Start: 2013.09.27 @ 07:25:13	
GENERAL INFORMATION: Formation: LKC H-K				
Deviated: No Whipstock: Time Tool Opened: 09:25:23	ft (KB)		Test Type: Conventional Bottom Hole (Tester: Ray Schwager	Reset)
Time Test Ended: 13:11:37			Unit No: 70	
Interval: 3214.00 ft (KB) To 33 Total Depth: 3300.00 ft (KB) (T)	100.00 ft (KB) (TVD)		Reference Elevations: 1851.00 ft 1846.00 ft	
Hole Diameter: 7.85 inches Hole			KB to GR/CF: 5.00 ft	(01)
Serial #: 8369 Inside Press@RunDepth: 32.06 psig	@ 3218.00 ft (KB)		Capacity: 8000.00 ps	lia
Start Date: 2013.09.27 Start Time: 07:25:13	End Date: End Time:	2013.09.27	Last Calib.: 2013.09.27	ыy
Start line. 07.25.15		13:11:37	Time On Btm: 2013.09.27 @ 09:23:08 Time Off Btm: 2013.09.27 @ 12:04:37	
TEST COMMENT: 15-surface bl , d 60-ISIP-no bl	ied in 13min			
15-FFP-no bl 60-FSIP-no bl				
Pressure vs. T			PRESSURE SUMMARY	
1730 L T.J. 23399Hearure	5.559 (empositor	Time (Min.)	Pressure Temp Annotation (psig) (deg F)	
1500		0 3	1586.57 93.13 Initial Hydro-static 23.12 93.09 Open To Flow (1)	
		18 81	26.67 93.54 Shut-In(1) 616.59 95.06 End Shut-In(1)	
		81 96	28.42 94.91 Open To Flow (2) 32.06 95.02 Shut-In(2)	
			330.65 96.10 End Shut-In(2) 1541.00 96.93 Final Hydro-static	
		102		
a 974 27 fri Ge 283 Time(kas)				
Recovery			Gas Rates	
Length (ft) Description	Volume (bbl)		Received a construction of the second s	ate (Mcf/d)
5.00 Mud	0.04			
* Recovery from multiple tests				
Trilobite Testing, Inc	Ref. No: 54818		Printed: 2013.09.27 @ 13:46:59	
	Baumrucker	5 dst 5.jpg		
	DRILL STEM TES	ST REPO	RT	
RILOBITE	Pioneer Resources		25-14s-16w Ellis	
ESTING, INC	80 Windmill Dr Phillipsburg Ks 67661		Baumrucker #5	
	ATTN: Roger Wells/ Charlie		Job Ticket: 54819 DST#:5 Test Start: 2013.09.28 @ 01:30:34	
GENERAL INFORMATION:				
Formation: Pleasiton	22 stationer		303 30300 mm	2.5
Deviated: No Whipstock: Time Tool Opened: 03:49:59	ft (KB)		Test Type: Conventional Bottom Hole (Tester: Ray Schwager	Reset)
Time Test Ended: 08:15:13			Unit No: 70	(170)
Interval: 3300.00 ft (KB) To 33	30 00 to (100) (Reference Elevations: 1851.00 ft 1846.00 ft	
Total Depth: 3330.00 ft (KB) (TV				
Total Depth: 3330.00 ft (KB) (The Hole Diameter: 7.85 inches Hole			KB to GR/CF: 5.00 ft	
Total Depth:3330.00 ft (KB) (TrHole Diameter:7.85 inchesHoleSerial #:8369InsidePress@RunDepth:34.72 psig	/D) ∋ Condition: Fair @ 3302.00 ft (KB)	0010 250000	KB to GR/CF: 5.00 ft Capacity: 8000.00 ps	sig
Total Depth: 3330.00 ft (KB) (The Hole Diameter: 7.85 inchesHole Serial #: 8369 Inside	/D) ≥ Condition: Fair	2013.09.28 07:59:13	KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 ps Time On Btm: 2013.09.28 @ 03:48:14 ps	sig
Total Depth:3330.00 ft (KB) (TrHole Diameter:7.85 inchesHoldSerial #:8369Press@RunDepth:34.72 psigStart Date:2013.09.28Start Time:01:30:34	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time:		KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 ps	sig
Total Depth:3330.00 ft (KB) (TrHole Diameter:7.85 inchesHoleSerial #:8369InsidePress@RunDepth:34.72 psigStart Date:2013.09.28Start Time:01:30:34TE ST COMMENT:15-surface bl , d60-ISIP-no bl	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time:		KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 ps Time On Btm: 2013.09.28 @ 03:48:14 ps	sig
Total Depth:3330.00 ft (KB) (TrHole Diameter:7.85 inchesHolaSerial #:8369InsidePress@RunDepth:34.72 psigStart Date:2013.09.28Start Time:01:30:34TE ST COMMENT:15-surface bl, d	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time:		KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 ps Time On Btm: 2013.09.28 @ 03:48:14 ps	sig
Total Depth:3330.00 ft (KB) (TrHole Diameter:7.85 inchesHolaSerial #:8369InsidePress@RunDepth:34.72 psigStart Date:2013.09.28Start Time:01:30:34TE ST COMMENT:15-surface bl , d60-ISIP-no bl15-FFP-no bl	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time: ied in 12min	07:59:13	KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 03:48:14 Time On Btm: 2013.09.28 @ 06:28:58 1 Time Off Btm: 2013.09.28 @ 06:28:58 1 PRESSURE SUMMARY 1 1	sig
Total Depth: 3330.00 ft (KB) (Tr. Hole Diameter: 7.85 inchesHole Serial #: 8369 Press@RunDepth: 34.72 psig Start Date: 2013.09.28 Start Time: 01:30:34 TE ST COMMENT: 15-surface bl , d 60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl 60-FSIP-no bl	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time: ied in 12min	07:59:13 Time (Min.)	KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 Time On Btm: 2013.09.28 @ 03:48:14 Time Off Btm: 2013.09.28 @ 06:28:58 PRESSURE SUMMARY Pressure Temp (deg F)	sig
Total Depth: 3330.00 ft (KB) (Tr Hole Diameter: 7.85 inchesHole Serial #: 8369 Inside Press@RunDepth: 34.72 psig Start Date: 2013.09.28 Start Time: 01:30:34 TE ST COMMENT: 15-surface bl , d 60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time: ied in 12min	07:59:13 Time (Min.) 0 2	KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 @ Time On Btm: 2013.09.28 @ 03:48:14 Time Off Btm: 2013.09.28 @ 06:28:58 PRESSURE SUMMARY Pressure Temp (psig) Annotation (deg F) 1637.10 95.04 Initial Hydro-static 20.09 94.50 Open To Flow (1) 1	sig
Total Depth: 3330.00 ft (KB) (The Hole Diameter: 7.85 incheshold Serial #: 8369 Inside Press@RunDepth: 34.72 psig Start Date: 2013.09.28 Start Time: 01:30:34 TE ST COMMENT: 15-surface bl, of 60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl 60-FSIP-no bl 15-FFP-no bl 60-FSIP-no bl 15-FFP-no bl 60-FSIP-no bl 15-FFP-no bl 60-FSIP-no bl 15-FFP-no	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time: ied in 12min	07:59:13 Time (Min.) 0 2 17 78	KB to GR/CF: 5.00 ft Capacity: 8000.00 ps Last Calib.: 2013.09.28 @ Time On Btm: 2013.09.28 @ 03:48:14 Time Off Btm: 2013.09.28 @ 06:28:58 PRESSURE SUMMARY Pressure (deg F) 1637.10 95.04 Initial Hydro-static 20.09 94.50 Open To Flow (1) 27.08 94.80 Shut-In(1) 549.73 96.22 End Shut-In(1)	sig
Total Depth: 3330.00 ft (KB) (The Hole Diameter: 7.85 incheshold Serial #: 8369 Inside Press@RunDepth: 34.72 psig Start Date: 2013.09.28 Start Time: 01:30:34 TE ST COMMENT: 15-surface bl, of 60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl 60-FSIP-no bl 15-FFP-no bl 60-FSIP-no bl 15-FFP-no bl 60-FSIP-no bl 15-FFP-no bl 60-FSIP-no bl 15-FFP-no	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time: ied in 12min	07:59:13 Time (Min.) 0 2 17 78	KB to GR/CF: 5.00 ft Capacity: 8000.00 pt Last Calib.: 2013.09.28 @ 03:48:14 Time On Btm: 2013.09.28 @ 03:48:14 Time Off Btm: 2013.09.28 @ 06:28:58 Pressure Temp (deg F) Annotation 1637.10 95.04 20.09 94.50 Open To Flow (1) 27.08 94.80 Shut-In(1) 27.74 96.08 Open To Flow (2) 34.72 97.09	sig
Total Depth: 3330.00 ft (KB) (Tr Hole Diameter: 7.85 inchesHole Serial #: 8369 Inside Press@RunDepth: 34.72 psig Start Date: 2013.09.28 Start Time: 01:30:34 TE ST COMMENT: 15-surface bl , d 60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl	/D) e Condition: Fair @ 3302.00 ft (KB) End Date: End Time: ied in 12min	07:59:13 Time (Min.) 0 2 17 78 78 94 94 154	KB to GR/CF: 5.00 ft Capacity: 8000.00 pt Last Calib.: 2013.09.28 (dot 3) Time On Btm: 2013.09.28 (dot 3) Time Off Btm: 2013.09.28 (dot 3) Time Off Btm: 2013.09.28 (dot 3) Pressure Temp (deg F) Annotation 1637.10 95.04 20.09 94.50 Open To Flow (1) 27.08 94.80 Shut-In(1) 549.73 96.22 End Shut-In(1) 27.74 96.08 Open To Flow (2)	sig

				- 75 - 75 - 75 - 78 - 78 - 78	78 94 154 161	27.74 34.72 549.63 1609.33	97.09 97.60	Shut End	n To Flow (2) I-In(2) Shut-In(2) I Hydro-static	
20 Cal Sep 200	Recove	eny		_			Gas	a Rat	tes	
Length (ft)	Description	n	Volume (bbl)	$I \mid L$			Choke (in	ches)	Pressure (psig)	Gas Rate (Mcf/d)
20.00	Oil spotted mud		0.14							

*Re Trilobite Testing, Inc

Ref. No: 54819

Printed: 2013.09.29 @ 00:33:27

	DRILL STEM TES		ORT				
RILOBITE	Pioneer Resources		25-	14s-16w	Ellis		
ESTING , INC			Ва	umruck	er #5		
	Phillipsburg Ks 67661		Job	Ticket: 54	1815	DST	#:1
	ATTN: Roger Wells		Tes	t Start: 20)13.09.24	@ 21:30:1	3
GENERAL INFORMATION:	•						
Formation:Topeka-OreadDeviated:NoWhipstock:Time Tool Opened:23:48:53Time Test Ended:04:13:37	ft (KB)		Tes	ter: I	Conventic Ray Schv 70		Hole (Initial)
Interval:2814.00 ft (KB) To3Total Depth:3025.00 ft (KB) (*Hole Diameter:7.85 inches Hole			Ref	erence Ele KB t	evations: to GR/CF:	1846.	00 ft (KB) 00 ft (CF) 00 ft
Serial #: 8369InsidePress@RunDepth:136.87 psigStart Date:2013.09.24Start Time:21:30:13TEST COMMENT:15-IFP-very wh00 IPIP as block	End Date: End Time:	2013.09.25 04:13:37	Capacity Last Cali Time On Time Off	b.: Btm: 2		8000. 2013.09. 24 @ 23:46: 25 @ 02:25:	53
60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl Pressure vs			PI	RESSUR	RE SUM	IMARY	
1500	8389 Temperature ———————————————————————————————————	Time	Pressure	Temp	Annot		
	- 50	(Min.) 0	(psig) 1443.02	(deg F) 91.86	Initial Hy	dro-static	
		2	105.33	92.01		o Flow (1)	
		18 77	122.13 1101.20	92.77 93.64	Shut-In(End Shu		
		77	124.70		-	o Flow (2)	
			136.87 1085.72	93.82 94.45	Shut-In(End Shu		
500 270 270 270 270 270 270 270 270 270 2		159	1409.16	94.39		dro-static	
Recovery			ļ	Ga	s Rates		
Length (ft) Description	Volume (bbl)			Choke (i		essure (psig)	Gas Rate (Mcf/d)
70.00 Mud	0.00				Į		ļ
Trilohite Testing Inc	Ref No: 54815					25 @ 07·4?	

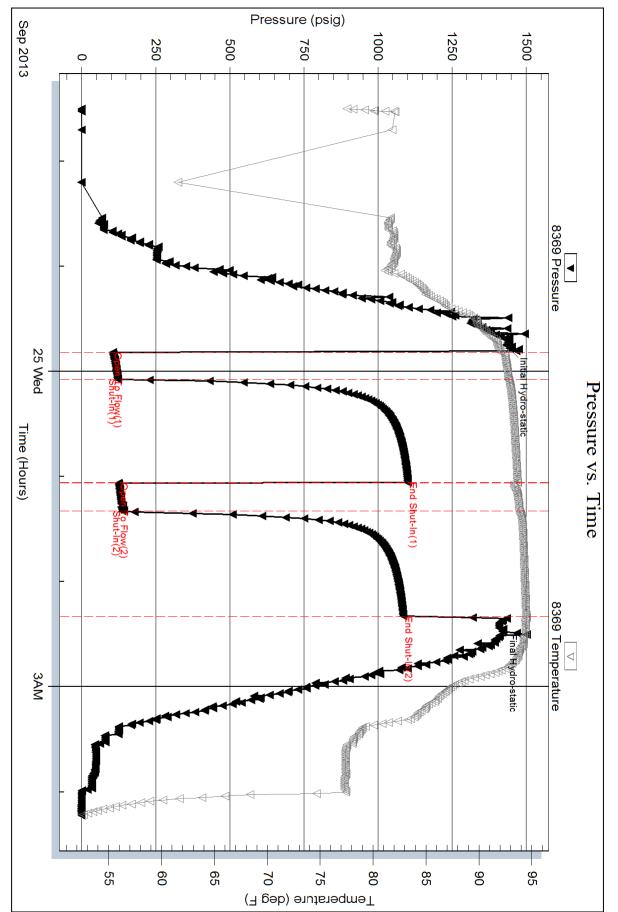
RILOBITE	DRILL STEM TEST REPO	RT	FLUID SUMMARY
HILUDITE	Pioneer Resources	25-14s-16w Ellis	
TESTING , INC.	80 Windmill Dr Phillipsburg Ks 67661	Baumrucker #5 Job Ticket: 54815	DST#:1
	ATTN: Roger Wells	Test Start: 2013.09.24 @	
Mud and Cushion Information			
Mud Type:Gel ChemMud Weight:9.00 lb/galViscosity:59.00 sec/qtWater Loss:7.20 in ³ Resistivity:ohm.mSalinity:3900.00 ppmFilter Cake:1.00 inches	Cushion Type: Cushion Length: Cushion Volume: Gas Cushion Type: Gas Cushion Pressure:	Oil API: ft Water Salini bbl psig	deg API ity: ppm
Recovery Information			
· · · ·	Recovery Table	V a borra	
Leng ft		Volume bbl	
Total Length:	70.00 Mud 70.00 ft Total Volume:	0.000	
Laboratory Nan Recovery Com			

Printed: 2013.09.25 @ 07:43:43

Ref. No: 54815



Trilobite Testing, Inc



Baumrucker #5

DST Test Number: 1

Serial #: 8369 Inside

Pioneer Resources

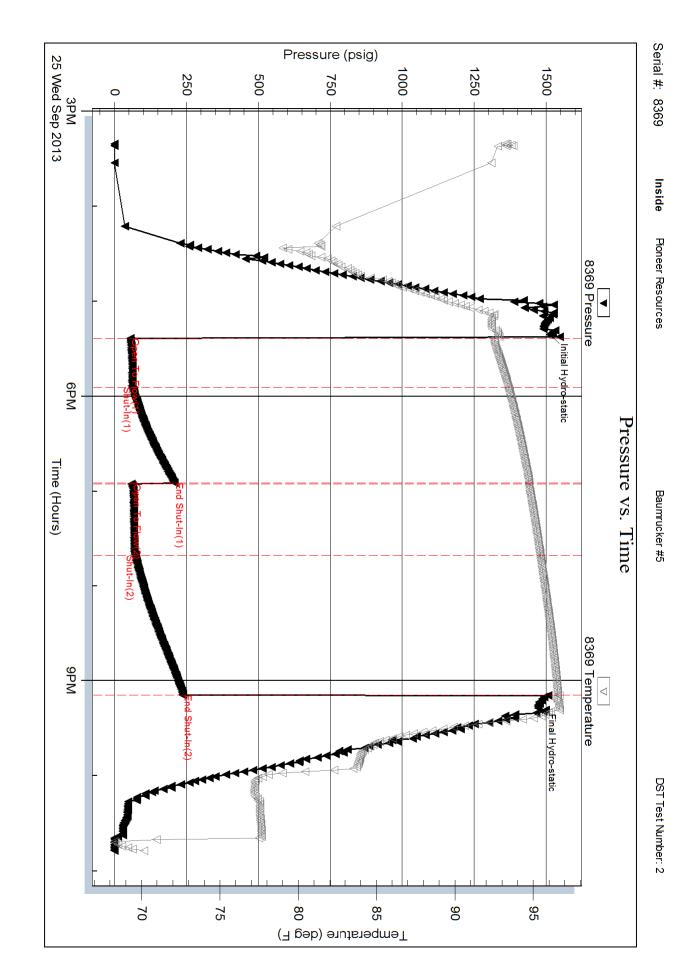
RILOBITE	DRILL STEM TES	TREPO	ORT				
	Pioneer Resources		25-1	4s-16w	Ellis		
ESTING , INC.	80 Windmill Dr Phillipsburg Ks 67661			mrucke		D07/	
	ATTN: Roger Wells/ Charlie			Ticket: 54 Start: 20	13.09.25 @	DST#	:: 2
			1631		10.00.20 @	10.20.41	
GENERAL INFORMATION: Formation: Toronto-LKC "C"							
Deviated: No Whipstock: Time Tool Opened: 17:23:21 Time Test Ended: 22:48:05	ft (KB)		Test Teste Unit I	er: F	Conventiona Ray Schwaę 70		lole (Reset)
Interval:3032.00 ft (KB) To3137Total Depth:3137.00 ft (KB) (TVEHole Diameter:7.85 inchesHole C))		Refe	rence Ele KB te	vations: o GR/CF:	1846.0	00 ft (KB) 00 ft (CF) 10 ft
Serial #: 8369InsidePress@RunDepth:72.21 psig @Start Date:2013.09.25Start Time:15:20:41TEST COMMENT:30-IFP-vy w k surface	End Date: End Time:	2013.09.25 22:48:05	Capacity: Last Calib Time On E Time Off B	.: Btm: 2	2013.09.25 (2013.09.25 (2013.09.2 @ 17:21:0	6
60-ISIP-no bl	in 40min started at 3/4"bl		מח				
8309 Pessue	ac. ⊽ 8369 Temperature	Time	Pressure	Temp	Annotatic		
	- 95	(Min.) 0	(psig) 1513.55	(deg F) 92.77	Initial Hydro	o ototio	
		3	54.90	92.49	-		
1000		34 94	61.71 207.85	93.40 04.75	Shut-In(1) End Shut-Ir	(1)	
	- 16 mg	94 95	59.10		Open To Fl	. ,	
		140	72.21	95.44	. ,		
		228 235	236.38 1471.86	96.57 96.65	End Shut-Ir Final Hydro		
20 31 25 Wed Sep 2013	- 75 - 75 - 75 - 75 - 75 - 75 - 75 - 75	200		00.00	, include the second		
Recovery			<u> </u>	Gas	s Rates		
Length (ft) Description	Volume (bbl)			Choke (ii	nches) Pressu	re (psig)	Gas Rate (Mcf/d)
20.00 Oil Spotted mud	0.00						
* Recovery from multiple tests Trilobite Testing, Inc	Ref. No: 54816			Drintadi	2013.09.26	@ 00.04.	20

ud and Cushion Info ad Type: Gel Chem ad Weight: 9.00 lb, scosity: 53.00 se ater Loss: 7.18 in	ATTN: /gal ec/qt 3 hm.m priolice 80 Win Phillips ATTN:	r Resources Idmill Dr burg Ks 67661 Roger Wells/ Charlie Cushion Type: Cushion Length: Cushion Volume: Gas Cushion Type:	25-14s-16 Baumrud Job Ticket: Test Start: ft bbl	cker #5	
ud and Cushion Info ad Type: Gel Chem ad Weight: 9.00 lb, scosity: 53.00 se ater Loss: 7.18 in sistivity: of linity: 5700.00 pp ter Cake: 1.00 in	/gal ec/qt 3 hm.m om	burg Ks 67661 Roger Wells/ Charlie Cushion Type: Cushion Length: Cushion Volume: Gas Cushion Type:	Job Ticket: Test Start: ft	54816 DST 2013.09.25 @ 15:20:4 ⁻ Oil API:	1
Id Type: Gel Chem Id Weight: 9.00 lb, scosity: 53.00 se ater Loss: 7.18 in sistivity: of linity: 5700.00 pp rer Cake: 1.00 in	/gal ec/qt a hm.m pm	Cushion Type: Cushion Length: Cushion Volume: Gas Cushion Type:	Test Start:	2013.09.25 @ 15:20:4 [.] Oil API:	1
Id Type: Gel Chem Id Weight: 9.00 lb, scosity: 53.00 se ater Loss: 7.18 in sistivity: of linity: 5700.00 pp rer Cake: 1.00 in	/gal ec/qt ₃ hm.m pm	Cushion Length: Cushion Volume: Gas Cushion Type:			deg A Pl
ad Weight: 9.00 lb. scosity: 53.00 se ater Loss: 7.18 in sistivity: of linity: 5700.00 pp er Cake: 1.00 in	ec/qt ³ hm.m pm	Cushion Length: Cushion Volume: Gas Cushion Type:			deg A Pl
covery Information		Gas Cushion Pressure:	psig		ppm
г		D			
		Recovery Table		_	
	Length ft	Description	Volume bbl		
[20.00	Oil Spotted mud	0.0	00	
Tota	al Length: 20	0.00 ft Total Volume:	bbl		

Printed: 2013.09.26 @ 08:04:21

Ref. No: 54816





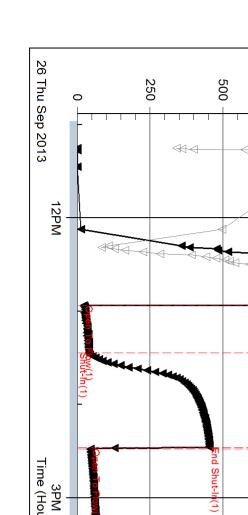
RILOBITE	DRILL STEM TES	TREP	ORT				
	Pioneer Resources		25-	14s-16w	Ellis		
ESTING , INC	80 Windmill Dr Phillipsburg Ks 67661			umruck Ticket: 54		DST#:3	
	ATTN: Pagar Malla/ Charlia				+o17)13.09.26 @		
. Weather	ATTN: Roger Wells/ Charlie		Tes	t Start: 20	J13.09.26 @	11:15:19	
GENERAL INFORMATION:							
Formation:LKC "F"Deviated:NoWhipstock:Time Tool Opened:12:56:14Time Test Ended:18:43:28	ft (KB)		Tes	ter: I	Conventiona Ray Schwag 70		e (Reset)
Interval:3140.00 ft (KB) To3Total Depth:3202.00 ft (KB) (THole Diameter:7.85 inchesHo			Ref	erence Ele	evations:	1851.00 1846.00 5.00	ft (CF)
				הטו		5.00	
Serial #: 8369InsidePress@RunDepth:90.84 psigStart Date:2013.09.26Start Time:11:15:19	 @ 3146.00 ft (KB) End Date: End Time: 	2013.09.26 18:43:28	Capacity Last Cali Time On Time Off	b.: Btm: 2	2013.09.26		psig
TEST COMMENT: 30-IFP-w k bl , 1 60-ISIP-no bl 60-FFP-w k bl , 90-FSIP-no bl							
Pressure vs. 339 Pressure	Time 3369 Temperature		PI	RESSUF	RE SUMM	ARY	
839 Prosue	SSB Temperature 0.000 0.00 0.00 0.00 0.0000 0.0000 0.000 0.000 0.0000 0.0000 0.0000 0.0	Time (Min.) 0 2 33 93 94 154 244 244 248	Pressure (psig) 1547.28 22.26 40.47 454.82 45.94 90.84 446.02 1506.36		Open To Fl Shut-In(1) End Shut-Ir Open To Fl Shut-In(2) End Shut-Ir	o-static low (1) n(1) low (2) n(2)	
Recovery			ļļ	Ga	s Rates		
Length (ft) Description	Volume (bbl)			Choke (i		re (psig) Ga	s Rate (Mcf/d)
0.00 90'GIP	0.00			+	ł	I	
30.00 SOCM 2% O98% M	0.00						
60.00 OCM 10%O90%M	0.00						
* Recovery from multiple tests							

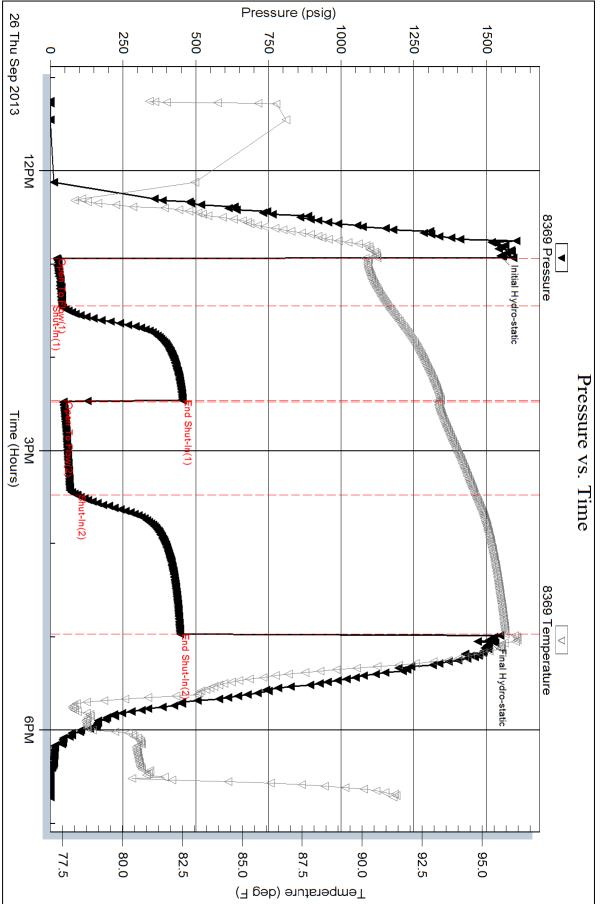
(D)		DRI	LL STEM TEST REPO	DRT		FLUID SUN	MARY
	RILOBITE	Pionee	r Resources	25-14s-1	6w Ellis		
	ESTING , INC.	80 Win	dmill Dr	Baumru	cker #5		
		Phillips	burg Ks 67661	Job Ticket:	54817	DST#:3	
		ATTN:	Roger Wells/ Charlie	Test Start:	2013.09.26 @	11:15:19	
Mud and Cu	ushion Information						
Mud Type: Ge	el Chem		Cushion Type:		Oil A PI:	d	eg API
Mud Weight:	9.00 lb/gal		Cushion Length:	ft	Water Salinity		pm
Viscosity:	54.00 sec/qt		Cushion Volume:	bbl			
Water Loss:	7.80 in ³		Gas Cushion Type:				
Resistivity:	ohm.m		Gas Cushion Pressure:	psig			
Salinity:	6900.00 ppm						
Filter Cake:	1.00 inches						
Recovery In	iformation		Recovery Table				
	Leng	th	Description	Volume			
	ft		90'GIP	bbl	000		
		0.00 30.00	SOCM 2% O98% M	0.0			
		60.00	OCM 10%O90%M	0.0			
	Total Length:		.00 ft Total Volume:	bbl			
	Num Fluid Samp		Num Gas Bombs: 0	Seria	#:		
	Laboratory Nan		Laboratory Location:				
	Recovery Com	ments:					

Printed: 2013.09.26 @ 23:20:13

Ref. No: 54817

Trilobite Testing, Inc





Serial #: 8369 Inside

Pioneer Resources

Baumrucker #5

DST Test Number: 3

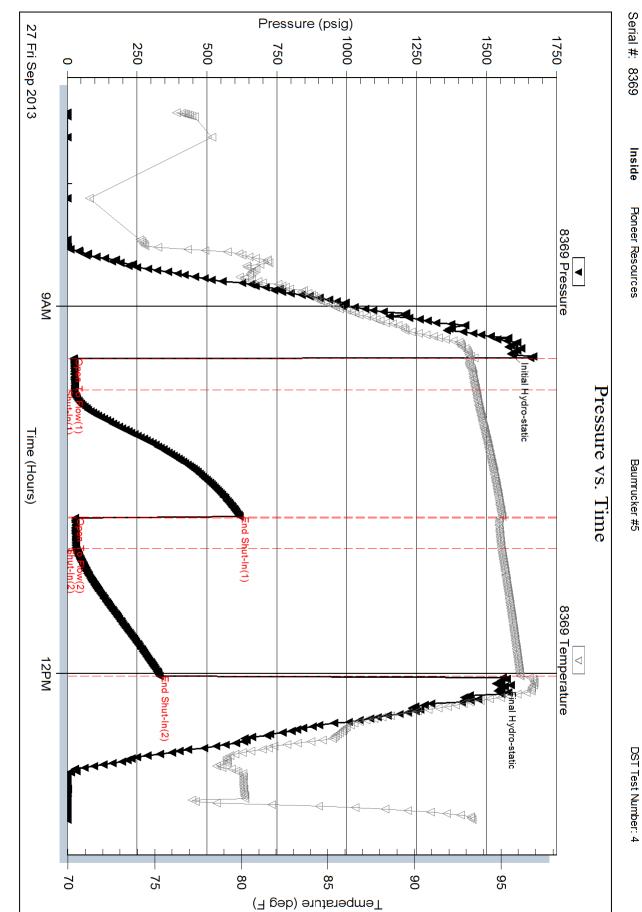
RILOBITE	DRILL STEM TES	TREP	ORT	
	Pioneer Resources		25-14s-7	16w Ellis
ESTING , INC	80 Windmill Dr Phillipsburg Ks 67661		Baumr Job Ticke	ucker #5 at: 54818 DST#:4
	ATTN: Roger Wells/ Charlie		Test Star	t: 2013.09.27 @ 07:25:13
GENERAL INFORMATION:	<u> </u>			
Formation:LKC H-KDeviated:NoWhipstock:Time Tool Opened:09:25:23Time Test Ended:13:11:37	ft (KB)		Test Type Tester: Unit No:	e: Conventional Bottom Hole (Reset) Ray Schwager 70
Interval:3214.00 ft (KB) To3Total Depth:3300.00 ft (KB) (THole Diameter:7.85 inches Ho				e Elevations: 1851.00 ft (KB) 1846.00 ft (CF) KB to GR/CF: 5.00 ft
Serial #: 8369 Inside				
Press@RunDepth: 32.06 psig Start Date: 2013.09.27 Start Time: 07:25:13	· · /	2013.09.27 13:11:37	Capacity: Last Calib.: Time On Btm: Time Off Btm:	8000.00 psig 2013.09.27 2013.09.27 @ 09:23:08 2013.09.27 @ 12:04:37
15-FFP-no bl 60-FSIP-no bl Pressure vs.		I	PRES	SURE SUMMARY
27 Filsp 283	S39 Tempmare 539 Tempmare 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Time (Min.) 0 3 18 81 81 96 158 162	Pressure Ter (psig) (deg 1586.57 93 23.12 93 26.67 93 616.59 94 32.06 95 330.65 94	mp Annotation
Recovery			ļļ	Gas Rates
Length (ft) Description 5.00 Mud	Volume (bbl) 0.04		С	hoke (inches) Pressure (psig) Gas Rate (Mcf/d)
	0.04			
* Recovery from multiple tests				
Trilobite Testing, Inc	Ref. No: 54818	1	Prir	nted: 2013.09.27 @ 13:46:59

		DRI	LL STEM TEST R	EPORT	-			JMMAR
	LOBITE ESTING , INC	Pioneer	r Resources		25-14s-16v	w Ellis		
	ESTING , INC	80 Win	dmill Dr		Baumrucl	ker #5		
		Phillipst	burg Ks 67661		Job Ticket: 5	54818	DST#:4	
		ATTN:	Roger Wells/ Charlie		Test Start: 2	2013.09.27 @ 0	7:25:13	
Mud and Cushior	n Information							
/lud Type: Gel Cher			Cushion Type:			Oil A PI:		deg API
	9.00 lb/gal		Cushion Length:		ft	Water Salinity:		ppm
	0.00 sec/qt 7.78 in³		Cushion Volume: Gas Cushion Type:		bbl			
Resistivity:	ohm.m		Gas Cushion Pressure:		psig			
	0.00 ppm 1.00 inches							
Recovery Informa								
-			Recovery Table			-		
	Leng ft		Description		Volume bbl			
		5.00	Mud		0.035	5		
	Total Length:	5	.00 ft Total Volume:	0.035 bbl				
	Recovery Con	ments.						

Printed: 2013.09.27 @ 13:47:00

Ref. No: 54818



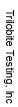


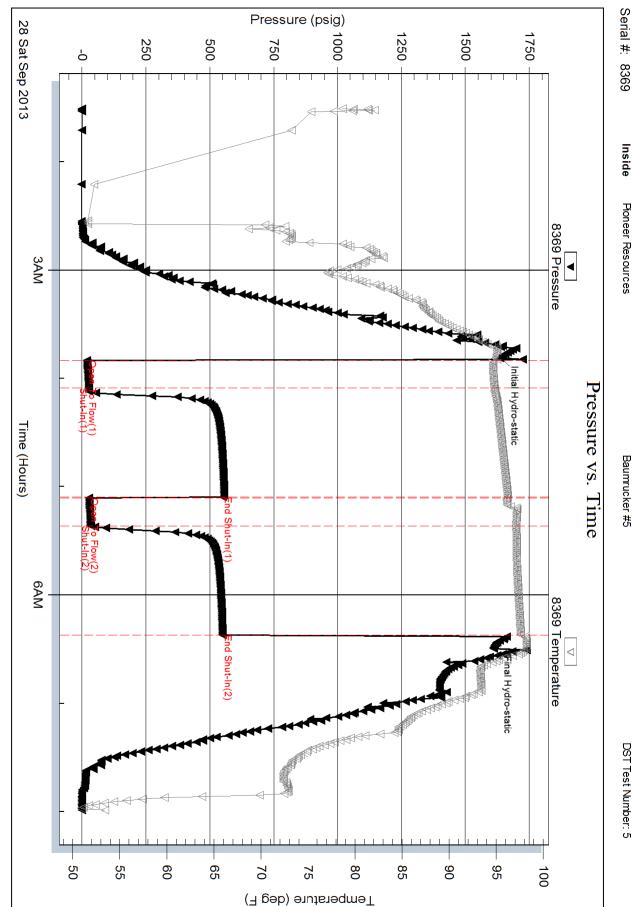
RILOBITE	DRILL STEM TES	T REP	ORT				
	Pioneer Resources		25-1	14s-16w	Ellis		
ESTING , INC	80 Windmill Dr Phillipsburg Ks 67661 ATTN: Roger Wells/ Charlie		Job ⁻	umruck Ticket: 54		DST#: 5 01:30:34	
					10.00.20	01.00.01	
GENERAL INFORMATION: Formation: Pleasiton Deviated: No Whipstock: Time Tool Opened: 03:49:59 Time Test Ended: 08:15:13 Interval: 3300.00 ft (KB) To 33			Test Unit	er: I	Conventiona Ray Schwaç 70 evations:	ger 1851.00	ft (KB)
Total Depth:3330.00 ft (KB) (T\Hole Diameter:7.85 inchesHole				KB t	o GR/CF:	1846.00 5.00	
Serial #: 8369 Inside Press@RunDepth: 34.72 psig Start Date: 2013.09.28 Start Time: 01:30:34 TEST COMMENT: 15-surface bl , d 60-ISIP-no bl 15-FFP-no bl 60-FSIP-no bl 60-FSIP-no bl	End Date: End Time:	2013.09.28 07:59:13	Capacity: Last Calib Time On E Time Off I	o.: Btm: 2	2013.09.28(2013.09.28(psig
Pressure vs. T			PR	RESSUR	RE SUMM	ARY	
1500 Hesure	B339 temperature B339 temperature 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Time (Min.) 0 2 17 78 78 94 154 161	Pressure (psig) 1637.10 20.09 27.08 549.73 27.74 34.72 549.63 1609.33	Temp (deg F) 95.04 94.50 94.80 96.22	Annotatio Initial Hydro Open To Fl Shut-In(1) End Shut-Ir Open To Fl Shut-In(2)	n o-static ow (1) n(1) ow (2) n(2)	
Recovery			Į	Ga	s Rates		
Length (ft) Description 20.00 Oil spotted mud	Volume (bbl)			Choke (i	nches) Pressu	re (psig) Ga	s Rate (Mcf/d)

	DR	ILL STEM TEST RI	EPORT	-		FLUID SI	UMMARY
RILOBITE	Pionee	er Resources		25-14s-16v	v Ellis		
ESTING , IN	00	ndmill Dr sburg Ks 67661		Baumruck		D07# 5	
		Roger Wells/ Charlie		Job Ticket: 5	2013.09.28 @ 0'	DST#:5	
uh-dli.					.010.00.20 @ 0	1.00.04	
Mud and Cushion Information	า	Quebles T					
Mud Type: Gel Chem Mud Weight: 9.00 lb/gal		Cushion Type: Cushion Length:		ft	Oil A PI: Water Salinity:		deg API ppm
Viscosity: 44.00 sec/qt		Cushion Volume:		bbl			PP
Water Loss: 9.97 in ³		Gas Cushion Type:					
Resistivity: ohm.m		Gas Cushion Pressure:		psig			
Salinity: 8300.00 ppm Filter Cake: 1.00 inches							
Recovery Information							
		Recovery Table					
Le	ngth ft	Description		Volume bbl			
	20.00	Oil spotted mud		0.142	2		
Total Length:	20	0.00 ft Total Volume:	0.142 bbl				
Recovery Co	mments:						

Printed: 2013.09.29 @ 00:33:28

Ref. No: 54819





Baumrucker #5

DST Test Number: 5

Serial #: 8369 Inside

EMIT TO P.O. BOX 93999		SERV	ICE POINT:	
SOUTHLAKE, TEXAS 76092			114SPM	Bend, K. 9-21-17
DATE 9-21-13 SEC. TWP. RANGE	ALLED OUT	ID ON LOCATION	JOB START	JOB FINISH
BRUIL WIX Ken			COUNTY	STATE
LEASE IWELL # 5-5 LOCATION 3-70			Elle	14
OLD OR NEW (Circle one) 3.2 South	14 East	Sinto		
CONTRACTORSfulles	OWNER S	Same.		
TYPE OF JOB Sugar				
HOLE SIZE 12 44" T.D. 223'	CEMENT	DEDED I FA	-0 /	25. 60
CASING SIZE S'S' DEPTH 223'	2% AND	DERED 150	asur	270 60
DRILL PIPE DEPTH	diordan,			
TOOL DEPTH			14	
PRES. MAX MINIMUM	COMMON	150		2.685.
MEAS. LINE SHOE JOINT	POZMIX		_@	74 34
CEMENT LEFT IN CSG. 15	GEL	2		320,00
DISPLACEMENT 13 19	CHLORIDE _ ASC	0	@	0401-2
EOUIPMENT			@	
			@	
PUMPTRUCK CEMENTER Jun Dichoon			_@	
# Slole HELPER Charles Kinger			_@	
BULK TRUCK		1	@	
# 609-112 DRIVER Don Carper			@	
BULK TRUCK				
# DRIVER	HANDLING	162.09	@ 2.78	401. 20
REMARKS:	MILEAGE _	7.4×20×	2.00	384, 20
With 3800 280 All Displand	DEPTH OF J PUMP TRUC EXTRA FOO	K CHARGE TAGE	_@	
Coment Did Circulate	MILEAGE .		- 7 7 6	154.00
Condens bass Conducando	MILEAGE _	TUNI AS	@ 7.70	
	MANIFOLD			
	MANIFOLD			
Thereby	MANIFOLD		@@ @0	88.00
CHARGE TO: Promeer Perowees	MANIFOLD		@@ @0	88.00
CHARGE TO: Promeer Peromeer	MANIFOLD		@@ @0	88.00
CHARGE TO: Promeer Perowees	MANIFOLD		@ <u></u>	88. ec
CHARGE TO: Promeer Peromeer	MANIFOLD	Um 22	@ @ @ TOTAI	88. ec
CHARGE TO: Promeer Peromeer	MANIFOLD	Um 22	© <u>y. yo</u> © Totai NT EQUIPME	<u>88. 99</u> <u>1. 759</u> . NT
CHARGE TO: Promeer Peromeer	MANIFOLD	Um 22	@ @ TOTAI	<u>88. 99</u>
CHARGE TO: Promeer Peromeer	MANIFOLD	Um 22	@ @ TOTAI	<u>88. 99</u>
CHARGE TO: <u>Provess</u> <u>Percenses</u> STREET	MANIFOLD	Um 22	@ @ TOTAI MT EQUIPME @ @ @ @ @	<u>88. 99</u>
CHARGE TO: <u>Provess</u> <u>Percenses</u> STREET	MANIFOLD	Um 22	@ @ TOTAI	<u>88. 99</u>
CHARGE TO: <u>Provess</u> <u>Percenses</u> STREET	MANIFOLD	Um 22	@ @ TOTAI AT EQUIPME @ @ @ @ @	<u>88.</u> <u>e</u> <u>1. 754</u> NT
CHARGE TO: Process Personness STREET	MANIFOLD	Um 22	@ @ TOTAI AT EQUIPME @ @ @ @ @	<u>88. 99</u>
CHARGE TO: <u>Decrees Percenses</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: Process Personness STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees Percenses</u> STREET	MANIFOLD	PLUG & FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT
CHARGE TO: <u>Decrees</u> <u>Parameter</u> STREET	MANIFOLD	PLUG&FLOA	@ @ TOTAI	<u>88.</u> <u>1. 754</u> NT

RUSSELL, KANSAS 67665		SER	VICE POINT:	alf	
JE 9.29.13 25 14 16	CALLED OUT	ON LOCATION	JOB START	JOB FINISH STATE	
ASE WELL # 5 LOCATION Well # 5 LOCATION Well # 5 LOCATION W		east s in	CETT'S	AS	
ONTRACTOR Shields	OWNER				
DLE SIZE 75 T.D.	CEMENT				
ASING SIZE DEPTH JBING SIZE DEPTH	AMOUNT OI	1001	130 5/6	0 t-le	
RILL PIPE 412 DEPTH 3364 DOL DEPTH		140	41. ge	4 Ho-	S.
RES. MAX MINIMUM EAS. LINE SHOE JOINT	COMMON	138.sk 92.sk	@ <u>17.9</u> @9.35	\$ 860.2	
EMENT LEFT IN CSG.	GEL	9 5K	@ 23,4	\$ 210,6	
ISPLACEMENT See Remarks	ASC		@		
EQUIPMENT	2se TH	6-50 2	_@		
409 HELPER Callon D	# 50		@ 2.97	\$1485	
181 DRIVER Jesse C			@		
ULK TRUCK			@		
DRIVER	HANDLING	167.9	_@ <u>2.48</u> 2,60	\$ 303.18	
PI= 33640 50515 = 8.21 500			TOTA	194408-19	2
25= 4.91 20 min		SERV	ICE	4409.07	
P2= 94012 \$551 = 4.10 mps.	DEPTH OF	OB		3364	
P3= 420/2 1005K = 16,42 mix	PUMP TRUC	K CHARGE	@	\$2600.4	7
X8 % Wooden Plun	MILEAGE		@ 7.70	\$ 70,40	
reneet to Surface 15 -2	AND		_@		
HARGETO: Pioneer Resources	nor I			20 1791/N	7
IREET			TOTA	\$2,7940	1
TTYSTATEZIP				101	
01/11 21 21		PLUG & FLOA	T EQUIPMI	INI	
	1-2 8%			6-	
	7×8%	PLUG & FLON 5 Urvolen, T.	4 <u>0</u>	\$ 89.63	
o: Allied Oil & Gas Services, LLC.	<u>1.× 8%</u>		6 <u>.</u>	6-	
o: Allied Oil & Gas Services, LLC. ou are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or	<u>7.x 8</u> %		6. 	\$ 89.63	
To: Allied Oil & Gas Services, LLC. You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was one to satisfaction and supervision of owner agent or	<u>7×8</u> %		6. 	6-	
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