

Final Field Report

Summary of Field Operations

Advanced Resources International Inc.

MPC 10-4 No. 1

Tuscaloosa Shale, Lower Tuscaloosa
Sand, Wash Fred Sands

Kemper Power Plant

Kemper County, Mississippi

USA

Prepared By:
Robert Javadian
Weatherford Laboratories
HH-95968

9/7/2017

Weatherford Laboratories (WFT Labs) has determined the field activity of collecting core as one of the most important elements when fully characterizing a target reservoir. WFT Labs has developed best practices to ensure core samples are handled, stabilized and preserved correctly in order to complete uncompromised field and laboratory testing. The following report will summarize wellsite activities.

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TABLE OF CON	ITENTS
LIST OF TABL	_ES
	Section
Coring Operation Summary	1
Core and Sample Inventories	2
Daily Field Reports	3
LIST OF APPENI	DICES
Coring Vendor Core Logs	Appendix I



Well and Formation Summary

LAB	ORATO														
								IH-95968 NFORMATI	ON						
		Operator Name:		Resources		County, State:		nty, Mississippi	ON	Hole Size:	8.5			Rig:	WT Drilling #17
		Well Name:	Internati	onal Inc. 0-4 No. 1		Country:		JSA		Hole Angle:	0.0		Flevation (G	Ground Level):	460'
		Field Designation:	Section 10 Town	nship 9N, Range		API #:		9-20015		Mud Type:	WBN			(elly Bushing):	475.5'
		n/Prospect Name:	15	5E over Plant		Reservoir Type:		entional		Lithology:	San		Lievation (N	AFE #:	
		rget Formation(s):		Ower Flatit		Keservoir Type.			wer Tuscaloosa Sa					ALL#.	NA
	Tal	iget i offilation(s).						IONS SUMN		anu, wasii rieu	Janus				
		Date of Departure:	08/2	23/17		Date of Coring ommencement:		3/2017		e of Last Core:	8/29/2	017	Date of	Arrival in Lab:	8/31/2017
	Total Len	gth of Job (days):	: 9	9		al Days Coring:			WFT Labs' Lead Hand:		: Robert Javadian		WFT Labs' Second Hand:		Kevin Milstea
	(Coring Contractor:	Devilbiss Corin	ng Services Inc.	Total Nu	ımber of Cores:	ores: 6		(Core Diameter:	4"		Retr	Drill String	
		Total Length Cut:	138	3.00	Total Len	gth Recovered:	122.35		Percent Recovered:		89%		Cori	ing Efficiency:	77%
		Liner Type:	Alum	ninum	Total Number	er of Desorption Samples:		О Т		Total Number of Whole Cores:			Total Number of Plugs:		0
Т	racer Chemic	al (Water Phase):	. N	IA	Tracer Chemi	cal (Oil Phase):	NA		Date 1	Tracers Added:	: NA		Total Number of Mud Samples:		0
							CORIN	IG SUMMA	RY					Gampies.	
ore Run	Core Barrel Length (Feet)	Cored Interval Top (Feet)	Cored Interval Bottom (Feet)	Core Recovered Top (Feet)	Core Recovered Bottom (Feet)	Corin	ig Data	Recovery Percentage	Formation	Sample	Information	Date & Tin	ne Start Coring	Date & Tin	ne Core at Surfa
						Length Cored:	30.00		Tuscaloosa	No. of Desorption	0	Date:	08/23/17	Date:	08/23/17
1	30	3,170.00	3,200.00	3,170.00	3,196.70	Length Recovered:	26.70	89.0%	Shale	No. of W/C's	0	Time:	3:00	Time:	18:30
						Length Cored:	10.00		Lower	No. of Desorption	0	Date:	08/24/17	Date:	08/24/17
2	30	3,200.00	3,210.00	3,200.00	3,207.65	Length Recovered:	7.65	76.5%	Tuscaloosa Sand	No. of W/C's	0	Time:	1:50	Time:	16:00
						Length	30.00			No. of	0	Date:	08/28/17	Date:	08/28/17
3	30	5,038.00	5,068.00	5,038.00	5,065.50	Cored: Length	27.50	91.7%	Wash Fred Sand	No. of	0	Time:	0:13	Time:	6:00
						Recovered: Length	31.00			W/C's No. of	0	Date:	08/28/17	Date:	08/28/17
4	30	5,068.00	5,099.00	5,068.00	5,098.45	Cored: Length		98.2%	Wash Fred Sand	Desorption No. of	0				
						Recovered: Length	30.45			W/C's No. of		Time:	11:24	Time:	16:30
5	30	5,100.00	5,131.00	5,100.00	5,125.45	Cored:	d: 31.00 82.1%		Wash Fred Sand	Desorption No. of	0	Date:	08/28/17	Date:	08/29/17
						Length Recovered:	25.45		Caria	W/C's	0	Time:	21:55	Time:	4:00
6	30	5.131.00	5.137.00	5.131.00	5.135.60	Length Cored:	6.00	76.7%	Wash Fred	No. of Desorption	0	Date:	08/29/17	Date:	08/29/17
•		0,101.00	5,.57.55	5,151.55	5,155.55	Length Recovered:	4.60	, 3	Sand	No. of W/C's	0	Time:	9:28	Time:	15:00



10

3,196.25

3,196.75

Liner

Wellsite Core Inventory

				HH-959						
				Core Numb						
Operator Name:	Advanced Resourc	es International Inc.	Start Coring:	Date 8/23/2017	3:00	Top Depth Cut:	3,170.00	Core Barrel Length:	30	
Well Name:	MPC 10)-4 No. 1	Stop Coring:	8/23/2017	15:39	Bottom Depth Cut:	3,200.00	Coring Efficiency:	100.00%	
County, State	Kemper Coun	ty, Mississippi	Start TOH:	8/23/2017	15:45	Total Footage Cut:	30.00	Percent Recovered:	89.00%	
Country:	U	SA	At Surface Date:	8/23/2017	18:30	Top Depth Recovered:	3,170.00	Mud Type:	WBM	
Desorption Samples:	ı	0	Processing Complete Date:	8/23/2017	23:00	Bottom Depth Recovered:	3,196.70	Mud Weight:	9.00	
Whole Core Samples		0	Plugs:	(0	Footage Recovered:	26.70	Mud Samples:	0	
Tube Number	Top Depth, Feet	Bottom Depth, Feet	Core Containment	Tube Length, Feet	Extruded Length, Feet		Comm	nents		
1	3,170.00	3,173.00	Liner	3.00						
2	3,173.00	3,176.00	Liner	3.00		3,173.00	3/8" Chip Sample T	aken from top o	f tube (Sand)	
3	3,176.00	3,179.00	Liner	3.00		3,176.00	3/8" Chip Sample T	aken from top o	f tube (Sand)	
4	3,179.00	3,182.00	Liner	3.00		3,179.00	3/8" Chip Sample T	aken from top o	f tube (Sand)	
5	3,182.00	3,185.00	Liner	3.00		3,182.00	3/8" Chip Sample T	f tube (Sand)		
6	3,185.00	3,188.00	Liner	3.00		3,185.00	5.00 3/8" Chip Sample Taken from top of to			
7	3,188.00	3,191.00	Liner	3.00		3,188.00	188.00 3/8" Chip Sample Taken from top of tube (S			
8	3,191.00	3,194.00	Liner	3.00		3,191.00	3/8" Chip Sample T	aken from top o	f tube (Sand)	
9	3,194.00	3,196.25	Liner	2.25		3,194.00	3/8" Chip Sample T	aken from top o	f tube (Sand)	

0.50



				HH-9590	58					
				Core Numb	er: 2					
				Date	Time (24hr)					
Operator Name:	Advanced Resource	es International Inc.	Start Coring:	8/24/2017	1:50	Top Depth Cut:	3,200.00	Core Barrel Length:	30	
Well Name:	MPC 10	-4 No. 1	Stop Coring:	8/24/2017	11:15	Bottom Depth Cut:	3,210.00	Coring Efficiency:	33.33%	
County, State	Kemper Coun	ty, Mississippi	Start TOH:	8/24/2017	11:30	Total Footage Cut:	10.00	Percent Recovered:	76.50%	
Country:	US	SA	At Surface Date:	8/24/2017	16:00	Top Depth Recovered:	3,200.00	Mud Type:	WBM	
Desorption Samples:	(ס	Processing Complete Date:	8/24/2017	18:30	Bottom Depth Recovered:	3,207.65	Mud Weight:	9.00	
Whole Core Samples		ס	Plugs:	()	Footage Recovered:	7.65	Mud Samples:	0	
Tube Number	Top Depth, Feet	Bottom Depth, Feet	Core Containment	Tube Length, Feet	Extruded Length, Feet		Comm	nents		
1	3,200.00	3,203.00	Liner	3.00						
2	3,203.00	3,206.00	Liner	3.00		3,203.00	3/8" Chip Sa	mple Taken fron	n top of tube	
3	3,206.00	3,207.65	Liner	1.65		3,206.00 3/8" Chip Sample Taken from top of tube				



				HH-9596	88					
				Core Numb						
				Date	Time (24hr)					
Operator Name:	Advanced Resource	es International Inc.	Start Coring:	8/28/2017	0:13	Top Depth Cut:	5,038.00	Core Barrel Length:	30	
Well Name:	MPC 10	-4 No. 1	Stop Coring:	8/28/2017	0:48	Bottom Depth Cut:	5,068.00	Coring Efficiency:	100.00%	
County, State	Kemper Coun	ty, Mississippi	Start TOH:	8/28/2017	1:00	Total Footage Cut:	30.00	Percent Recovered:	91.67%	
Country:	US	SA	At Surface Date:	8/28/2017	6:00	Top Depth Recovered:	5,038.00	Mud Type:	WBM	
Desorption Samples:	()	Processing Complete Date:	8/28/2017	8:15	Bottom Depth Recovered:	5,065.50	Mud Weight:	9.00	
Whole Core Samples	()	Plugs:	()	Footage Recovered:	27.50	Mud Samples:	0	
Tube Number	Top Depth, Feet	Bottom Depth, Feet	Core Containment	Tube Length, Feet	Extruded Length, Feet		Comm	Comments		
1	5,038.00	5,041.00	Liner	3.00		5,038.00	3/8" Chip Sa	mple Taken from top of tube		
2	5,041.00	5,044.00	Liner	3.00		5,041.00	3/8" Chip Sa	/8" Chip Sample Taken from top of tub		
3	5,044.00	5,047.00	Liner	3.00		5,044.00	3/8" Chip Sa	mple Taken fron	n top of tube	
4	5,047.00	5,050.00	Liner	3.00		5,047.00	3/8" Chip Sa	mple Taken fron	n top of tube	
5	5,050.00	5,053.00	Liner	3.00		5,050.00	3/8" Chip Sa	mple Taken fron	n top of tube	
6	5,053.00	5,056.00	Liner	3.00		5,053.00	3/8" Chip Sa	mple Taken fron	n top of tube	
7	5,056.00	5,059.00	Liner	3.00		5,056.00	56.00 3/8" Chip Sample Taken from top of to			
8	5,059.00	5,062.00	Liner	3.00		5,059.00	.00 3/8" Chip Sample Taken from top of tube			
9	5,062.00	5,065.05	Liner	3.05		5,062.00	3/8" Chip Sa	mple Taken fron	n top of tube	
10	5,065.05	5,065.50	Liner	0.45		5,065.05	3/8" Chip Sa	mple Taken fron	n top of tube	



Wellsite Core Inventory

				HH-9596	68					
				Core Numb	Der: 4 Time (24hr)					
Operator Name:	Advanced Resource	es International Inc.	Start Coring:		11:24	Top Depth Cut:	5,068.00	Core Barrel Length:	30	
Well Name:	MPC 10	-4 No. 1	Stop Coring:	8/28/2017	12:01	Bottom Depth Cut:	5,099.00	Coring Efficiency:	103.33%	
County, State	Kemper Coun	ty, Mississippi	Start TOH:	8/28/2017	12:25	Total Footage Cut:	31.00	Percent Recovered:	98.23%	
Country:	US	SA	At Surface Date:	8/28/2017	16:30	Top Depth Recovered:	5,068.00	Mud Type:	WBM	
Desorption Samples:	(0	Processing Complete Date:	8/28/2017	18:15	Bottom Depth Recovered:	5,098.45	Mud Weight:	9.10	
Whole Core Samples	(0	Plugs:	()	Footage Recovered:	30.45	Mud Samples:	0	
Tube Number	Top Depth, Feet	Bottom Depth, Feet	Core Containment	Tube Length, Feet	Extruded Length, Feet		Comm	ents		
1	5,068.00	5,071.00	Liner	3.00		5,068.00	3/8" Chip Sa	Chip Sample Taken from top of tube		
2	5,071.00	5,074.00	Liner	3.00		5,071.00	3/8" Chip Sa	8" Chip Sample Taken from top of tube		
3	5,074.00	5,077.00	Liner	3.00		5,074.00	3/8" Chip Sa	3/8" Chip Sample Taken from top of tul		
4	5,077.00	5,080.00	Liner	3.00		5,077.00	3/8" Chip Sa	mple Taken fron	n top of tube	
5	5,080.00	5,083.00	Liner	3.00		5,080.00	3/8" Chip Sa	mple Taken fron	n top of tube	
6	5,083.00	5,086.00	Liner	3.00		5,083.00	3/8" Chip Sa	mple Taken fron	top of tube	
7	5,086.00	5,089.00	Liner	3.00		5,086.00	3/8" Chip Sa	mple Taken fron	top of tube	
8	5,089.00	5,092.00	Liner	3.00		5,089.00 3/8" Chip Sample Taken from top				
9	5,092.00	5,095.00	Liner	3.00		5,092.00 3/8" Chip Sample Taken from top of tu				
10	5,095.00	5,097.80	Liner	2.80		5,095.00	3/8" Chip Sa	mple Taken fron	n top of tube	
11	5,097.80	5,098.45	Liner	0.65		5,097.80 3/8" Chip Sample Taken from top of to				



				HH-9596						
				Core Numb						
				Date	Time (24hr)	Note:	Hole Dept	h Adjusted to F	Pipe Tally	
Operator Name:	Advanced Resource	es International Inc.	Start Coring:	8/28/2017	21:55	Top Depth Cut:	5,100.00	Core Barrel Length:	30	
Well Name:	MPC 10	-4 No. 1	Stop Coring:	8/28/2017	22:26	Bottom Depth Cut:	5,131.00	Coring Efficiency:	103.33%	
County, State	Kemper Coun	ty, Mississippi	Start TOH:	8/28/2017	22:30	Total Footage Cut:	31.00	Percent Recovered:	82.10%	
Country:	US	SA	At Surface Date:	8/29/2017	4:00	Top Depth Recovered:	5,100.00	Mud Type:	WBM	
Desorption Samples:	()	Processing Complete Date:	8/29/2017	5:45	Bottom Depth Recovered:	5,125.45	Mud Weight:	9.10	
Whole Core Samples	()	Plugs:	()	Footage Recovered:	25.45	Mud Samples:	0	
Tube Number	Top Depth, Feet	Bottom Depth, Feet	Core Containment	Tube Length, Feet	Extruded Length, Feet		Comm	Comments		
1	5,100.00	5,103.00	Liner	3.00		5,100.00	3/8" Chip Sai	ample Taken from top of tube		
2	5,103.00	5,106.00	Liner	3.00		5,103.00	3/8" Chip Sai	8/8" Chip Sample Taken from top of tub		
3	5,106.00	5,109.00	Liner	3.00		5,106.00	3/8" Chip Sai	mple Taken fron	n top of tube	
4	5,109.00	5,112.00	Liner	3.00		5,109.00	3/8" Chip Sai	mple Taken fron	n top of tube	
5	5,112.00	5,115.00	Liner	3.00		5,112.00	3/8" Chip Sai	mple Taken fron	n top of tube	
6	5,115.00	5,118.00	Liner	3.00		5,115.00	3/8" Chip Sai	mple Taken fron	n top of tube	
7	5,118.00	5,121.00	Liner	3.00		5,118.00	5,118.00 3/8" Chip Sample Taken from top of tu			
8	5,121.00	5,124.00	Liner	3.00		5,121.00	5,121.00 3/8" Chip Sample Taken from top of tube			
9	5,124.00	5,125.05	Liner	1.05		5,124.00	5,124.00 3/8" Chip Sample Taken from top of tube			
10	5,125.05	5,125.45	Liner	0.40		5,125.05 3/8" Chip Sample Taken from top of tul				



				HH-959	68					
				Core Numb	per: 6					
				Date	Time (24hr)					
Operator Name:	Advanced Resource	es International Inc.	Start Coring:	8/29/2017	9:28	Top Depth Cut:	5,131.00	Core Barrel Length:	30	
Well Name:	MPC 10	-4 No. 1	Stop Coring:	8/29/2017	9:32	Bottom Depth Cut:	5,137.00	Coring Efficiency:	20.00%	
County, State	Kemper Coun	ty, Mississippi	Start TOH:	8/29/2017	9:45	Total Footage Cut:	6.00	Percent Recovered:	76.67%	
Country:	US	SA	At Surface Date:	8/29/2017	15:00	Top Depth Recovered:	5,131.00	Mud Type:	WBM	
Desorption Samples:	(ס	Processing Complete Date:		17:00	Bottom Depth Recovered:	5,135.60	Mud Weight:	9.10	
Whole Core Samples	()	Plugs:		0	Footage Recovered:	4.60	Mud Samples:	0	
Tube Number	Top Depth, Feet	Bottom Depth, Feet	Core Containment	Tube Length, Feet	Extruded Length, Feet		nents			
1	5,131.00	5,134.00	Liner	3.00						
2	5,134.00	5,134.50	Liner	0.50						
3	5,134.50	5,135.60	Вох	1.10			Boxed Sho	e (Rubble)		



Daily Field Report

HH-95968

Operator Name: Advanced Resources International Inc.

Well Name: MPC 10-4 No. 1

Location: Kemper County, Mississippi, USA

	Cation: Kemper County, Mississippi, USA	
Date	Activity Log & Status Notes	Initials
8/23/2017	 07:45 - Spoke with Co. Man Dale. Rig had 20 out of 30' cut. Advised to mobilize ASAP. 08:17 - Robert Javadian and Kevin Milstead departed Houston with truck, trailer and all equipment. 19:30 - Arrived at location just as shoe was removed from bottom of inner tube. Checked in, unloaded, and set up processing equipment to start work on Core 1. 21:30 - Started processing Core 1. Core was under gauge and received more epoxy than expected) 23:00 - Finished processing Core 1 (26.7') and loading all samples into rock vault for climate control. 23:30 - Checked out with co. man and went to hotel. Rig just finished cement bond log and was preparing to RIH for Core 2 	
8/24/2017	15:00 - Bit depth 3500' - POOH with Core 2. (Cut 10') 16:30 - Arrived on location 18:00 - Finished processing Core 2 (7.65'). Rig was already back on bottom to drill ahead to next core point ~5100'.	
8/25/2017	15:30 - Spoke with Co. man Dale. Rig had to make a bit trip at 3800' after encountering a thicker than anticipated chert bed	
8/26/2017	06:00 - Current Depth 4200' 16:00 - Current Depth 4500'. Rig had to make BHA trip due to hole angle deviation. Rig POOH to LD packed hole assembly and PU pendulum assembly to walk back deviated hole.	
8/27/2017	12:00 - Standby while finished drilling to core point.	
8/28/2017	00:13 - Rig reached bottom and started cutting Core 3. 00:41 - Finished coring - Core 3 cut 1' / min Started out of hole with 30' cut 04:00 - Arrived on location for Core 3. 06:00 - Core 3 surfaced. 08:15 - Finished processing Core 3 (27.5') 11:30 - Rig reached bottom and started cutting Core 4. 12:00 - Rig finished cutting Core 4 and started out of hole with 31' cut. 16:30 - Arrived on location 17:00 - Core 4 surfaced. 18:15 - Finished processing Core 4 (30.45') 21:50 - Rig Reach bottom and started cutting Core 5. 22:27 - Rig finished cutting Core 5 and started out of hole with 31' cut.	
8/29/2017	03:00 - Arrived on location for Core 5. 04:30 - Core 5 surfaced. 05:45 - Finished processing Core 5 (25.45')	
8/30/2017	08:00 - Went to location to load up truck and pick up trailer. 08:45 - Arrived at location 10:00 - Left location with core and equipment 20:45 - Shut down journey back to Houston in Longview, Tx	
8/31/2017	08:45 - Continue journey back to Houston. 16:50 - Dropped off core in refrigerated storage at Fallbrook location.	

Total Length

											rin	_					NC				ING					
Cor	re No.	1						nchard, Okla. • (405) 392-2515 Section 10-910-154										Da	Date 8-23-17 Well Name MPC 10-4-31							
Cor	re Eng	ineer V. D	evilb	155					Sect	ion	10) (9,	N	./	5	u	W	eli Name.	mp	0 10	Donly	1-31	-		
		FORMATIO							PMEN										RFORM							
Col	mpany	ART	Date	# 1	-,		_ (Core	Barre	I No.	1 4	30						Co	onv	ore - Finis	other	20		-		
Co	unty 🚣	n Name	2_ State	ms			_ F	T_	7		PL_	3 300		_ A	L_	×				Star	1 3/5	20				
For	rmatio	n Name _		3/		r	. (Core	Bit N	o. <u>/</u>	FL	7	95	20:	22	8	-	C								
Mu	d Wt.	9.0	Vis.	9.4	/		_ S	Size (Previ	ous F	10 E	0	_ Ту	pe_					Fo								
Pur	mp psi	On 600	9Of	1 600	0		_ F	tg.	This C	Core	30							C	ore Time	12.5	1185	,				
Lin	er Size	e	Strok	es			_ 1	Total	Foot	age	30						_				ONU.	ha	SHOT	_		
	NO FEET	INTERVAL	2:59																NG CONE			L				
	CORED		2	3	++	+ ++	ĤH	7 8 9	10	15	20	30	40					WEIGHT	RPM	FLUID GPM						
2	0	3170			-	+	+			+	+	+	+	+	H		H									
2	2	72											T	I			I				4		X-OVER			
1	3	73			-	+	+		-	+	+	+	+	+	+	+	+				1		SUB			
3	5	3/25				士					A.		1	1			廿				1					
2	6	76				_	+	-	-	+	-	+	+	+			+									
3	7 8	77		Andrew Control	The Park Street or the Park Stre	-			+	+	+	+	+	+	H		+									
20	9	79					I			NATIONAL PROPERTY.	1		1	1			1									
20	10	3180				+	+	-		+	1	+	+	+	+	+	+						JARS			
31	-	89										1										+				
52	13	83					1				-	_		1			1				+	-				
52	15	3185					+	++		-		A TO SERVICE AND ADDRESS OF	-		+	+	+						X-OVER			
12	16	3183							1			工			I		1				+	_	SUB			
9	17	37				-	+		1	+	-	+	+	+	+	+	+				Ť					
8	18	88					+			+				1	+	1	+				1		SAFETY			
12	20	3190						\prod	1		-	-		+		П					+	-	JOINT			
19	21	91		-			-	+		1	May married and		+	+	+	H	+									
38	23	93										1	1		1						+	-	SUB	1		
49	24	94		-			+	+		-	-	+	1	1	+	H	+									
54		3195					+	+		+	+		+	1]	+	+				1	4				
59		97						I							1	П							OUTER			
5	28	99	-	-			+	++		+	+	+	-	1	+	H	+						TUBE	-		
63		3200					1							T	1		П									
	31			-			+	++	+	+	+	+	+	+	+	H	+									
	32			-			+	11		+					1									+		
	34						1	H		-	+	-		-	+	\square								-		
	35		-	+			+	++	-	+	+	+	+	+	+	-										
	37						1	1														-	CUB	1		
	38			+			+	++	+	+	+	+	+	+	+	+							SUB			
	40							#							1									1		
	41							+	+	-	+	-	-	1	+	H	-						OUTER			
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Devilbiss Coring ServiceBlanchard, Okla. • (405) 392-2515

CORING LOG

Total Length_

Cor	re No.	ineer//	- '//			Di				ection of the section		,	,						Date 8-	29-1,	10-4	. 2 /		_	
				55				Section 10.910-15W											PERFORMANCE						
		FORMATIO						Core Barrel No. Size													Other				
Coi	ntracto	or wit	1)010	#17	7		_	Size	e 🚣	3	VO	1 × 3	0						Depth of C	ore - Finis	Other				
Co	unty 🍕	Compee.	State	ms			_	FT.		7	P	L			AL.	X			3 20	Sta	rt 3200	, ,			
For	matio	n Name _	\/:-	110			-	Cor	re E	Bit No.	88	9-16-6	1-B	FL	7	97	103	7.0	Core Reco	vered	1	9		_	
Tyr	d Wt.	7,0 00 10150	W.L.	9.4	,	-	_	Pre	e	us Fta	Jan 6 g	30	Туре		Ç/ c	44*	10		% Recove	ry 7	9%			_	
Pur	mp psi	On 600	Of	f /	00			Fta	. TI	his Co	re	10									25				
Lin	er Size		Strok	es _			_	Tot	al I	Footag	е .	40	19	Ten P	2 1	3 4			Core Catci	ner Type Z	modely			_	
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Devilbiss Coring Service

CORING LOG

Core No. 3 Core Engineer 1. Devilhis S	Blanchard, Okla. • (405) 392-2515 Section	Date_ 8-28-17 Well Name_MPC_10-4-31
WELL INFORMATION	EQUIPMENT	PERFORMANCE
Company ARI/MIC	Core Barrel No.	Conv Other
Contractor WIDAG #17	Size 6 7/1 4 x 3 0	Depth of Core - Finish 50 68
County Kenne State 1115	FTPLAL	Start <u>5038</u>
Formation Name PAke y y	Core Bit No. 85 9 01196 28	Core Recovered
Mud Wt. 9.0 Vis. 40	Size Sty Y Type	Footage Cored
T 00	Dravious The 640	0/ Passyon/ 019

Muc	VVI.		VIS.	200			. OI	ovio	us Eta	la	10	Type					- 6	Passyar	, , , , , , , , , , , , , , , , , , ,	C	10	Po .	
Тур	e		W.L	and the second			. Pr	evio	us Ftg		30							Hecover	/- 1/	0	11	<u> </u>	
Pun	ip psi	On	Off				. +1	g. 11	nis Co	re _	20		-			-	_ 0	ore Time_	1 40 pt	/ Com			
Line	er Size	9	Stroke	es			. 10	otal F	-ootag	е _	10						0	ore Catch	er Type _	DRIVI			
			12:13 4	2 400	PENE	TRAT	ION	RATE	MINUT	ES PEI	R FOOT	10	419	y			OPERAT	NG COND	ITIONS				
	NO FEET	INTERVAL	14.124	20								14	70					ROTATING			L		
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Devilbiss Coring Service anchard, Okla. • (405) 392-2515

CORING LOG

Total Length_

Cor	e No.	4		/.						ı, Ok		(40	13) 3	92	- 4:	01.)		Da	ate 8.	28-1	7	>		_
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		APE/								MENT										PERFORMANCE Conv Other					
-		the Light		with a "	9			0.		1 30			3 00						-						
Co	unty 🥕	Kemper	State	1115			_	FT			P	L		- 6/	AL	K	-			Core Recovered					_
For	matio	n Name	Malux,	4 616	2		_	Co	re l	Bit No.	0	119	La si	3	7)			_	C	ore Recov	ered		30,	5	_
Тур	e		Vis. W.L	8.2			_	Pre	e _	us Ftg		70	туре		1				%	Recover	y		9	8%	_
Pur	np psi	On 350	Of	1_350	0			Ftg	j. T	his Co	re _	31							C	ore Time_	16 HR				
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Devilbiss Coring Service

CORING LOG

Total Length_

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	49	-	<u> </u>	-	-	-	-	4	+	-	+	+	+	-	+		+	H								
	50	-		1	+	-	+	+	+		+	+-	+	+	+	-	+	H								
	51	+	-	+	+-	-	+	+	+	+	+	+	-	+	+	H	+	H					1	SUB	+	
	53			-	1	-	1	+	+		1	1	1		-		+	1		-		1	'			
	54										I									-		-	1			
	55								П			1	-	1				1		+			1		1	
	56			1	1	-	1	H	4	-	1	-	-	1	1	H	1	+		1			1		7	
	57	-		-	+	-	+	1	+	-	+	+	+	+	+	H	+	H						BIT		

Devilbiss Coring Service

CORING LO	CU	n	N	u	L	U	C
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Core No Bla	anchard, Okla. • (405) 392-2515	Date_8-29-17
Core Rogineer V Devil 6/55	Section	Well Name_MPC 10-4-31
WELL INFORMATION	EQUIPMENT	PERFORMANCE
Company ART / MRC	Core Barrel No.	Conv Other
Contractor WT Daly #17	Size 6 7444 x 30	Depth of Core - Finish
County Kemper State m5	_ FT PL AL	Start 5731
Formation Name PA/UXY	Core Bit No. 0119628	Core Recovered
Mud Wt. 9.1 Vis. 40	Size Size Type	Footage Cored
TypeW.LW.	Previous Ftg. 132	% Recovery
Pump psi On 400 Off 100	Ftg. This Core	Core Time
Liner Size Strokes	Total Footage 138	Core Catcher Type
DENIETO DENIETO	TION DATE WHITE BED SOON TO THE	DER ATILLE CONDITIONS

Typ	e		W.L	8.2			Pre	evio	us Ftg		32	. , , , ,				No.	% Recov	ery	
Pun	no psi	On 400	Of	1 400	9		Fto	a. Th	is Co	re	1						Core Tim	е	
Line	er Size	9	Strok	es			То	tal F	ootag	е _	136	3					Core Cat	cher Type Z	-oull.
	NO		9,28	7	PENET	RATI	ON R	ATE	MINUT	ES PE	R FOO	19	.3.	L			OPERATING COL	NDITIONS	
	PEET CORED	INTERVAL		3												90	WEIGHT ROTATING	FLUID	-
		5731		+ 1	++1	+	1+++	1111	+++	HHH	-	-	+	+++	111	+++	RPM	GPM	
,	0	3737		-	-	+	++							+	++	+			
34	2	7.3	1		+	+	++	H						+	++	+		-	
气	3	34	1			+	1							1	11				X-OVER SUB
19	4	35	1															+	1 = 7
七七万	5	36													П			-	
10	6	37													\coprod			+	
	7													1	11	4			
	8				-	-	1		-					+	1	4			
	9				+	+	10	14	61		1 14	11	111	100	1	+			
	10			-	-	+	++	-		100	/ /	ou f		47	++	+			JARS
	11			-	-+	+	++	H	-/	0	-/-		12	4	6	+			-
	12			-	+	+	++	++				-		+	++	+			1
	14			1	+	+	1	1						-	++	+			
	15				-		1	1						1	1	+		-	X-OVER
	16													I	П				SUB
	17						П							T	П			+	
	18						1				-			1	1				
	19			-	-	-	++	+	-		-	-		-	+	+			SAFETY
	20		-	-	-	-	++	+	-	-	-	-		-	+	+			JOINT
	21			+-+	-+	+	++	+	-		-	-		+	++	+			
	22	-		+ +	+	+	++	++						+	+	+			
	23			++	+	+	++	++						+	+				SUB
	25			1	-	+	++	+				1		+					-
	26			1 1	+		++	+											
	27				1		11	11											OUTER
	28																		TUBE
	29							\prod											
	30			1	_	-	11	11		-		-		-	+				
	31			-	-	-	++	++-	-	-	-	-	-	-	+	-			
	32			+	-	+	++	++	-	-		+	-	-	+				
	33			+	-	+	++	++		-	-	+	+	+	+	+			
	34			++	-+	+	++	++				+	-		+	+			
	35			+	-+	+	++	++							+				
	37						11	11											
	38						11												SUB
	39																		
	40							Ш		_	-	_	_		1	1			
	41	-	-		_	-	++	++	-	-	-	+	+	1	+	1			OUTER
	42					+	++	++	-	-	-	+	-	1	+	+			TUBE
	43	-				-	++	++	+	-	-	+	+	+	+	+			
	44	-	-		+	+	++	+	1	-	1			1	+	1			
	45	1			1	+	++	#		1	1	1	1	1	1	1	1		
	46	+	-			+	++	+		-	1	+	1	1	+	1			
	48	 	-		+	+	++	++	1	-			1	1	1	1	1		
	49	1			\neg	1	++	11								I			
	50						T											-	
	51						П							П					
	52						\coprod	\coprod			-	-	-		1	1			SUB
	53	-		1	1	1	11	11	-	-	-	+	-	1	+	1			1 +
	54	-	-	-	-	-	++	++	-	-	-	+	-	1	+	1			
	55	-	-	-	-	+	++	++	-	-	-	+	+	-	+	+			
	56	-	-		-	-	++	++	-	+	-	+	+	-	+	+			
	57	-	-	-	-	+	++	++	+	+-	+	+	+	-	+	+			BIT
	58	+	 	-	-	+	++	++	-	+	+-	+	+	++	+	+			
	59	+	 			+	++	++	+	-	1	+	+		+	1			
	60			_		=	++	-	+	+	+	+	+		+	1			Total Length