State of West Virginia Department of Environmental Protection - Office of Oil and Gas Well Operator's Report of Well Work

API <u>47</u> - 590 - 2247	_ County <u>MIN</u>	District MAGNOLIA					
Quad MAJESTIC	Pad Name	Field/Pool Name					
Farm name LOGAN COAL & TIN	MBER CORP ET AL		_ Well Num	ber <u>235</u> 4	4		
Operator (as registered with the OOG	G) QUALITY NAT	URAL GAS, LLC					
Address P.O. BOX 480	City	ALLEN	State	KY	Zip _	41601	
As Drilled location NAD 83/UTM Top hole Landing Point of Curve Bottom Hole	Northing Northing Northing	Ea:	stingstingsting				
Elevation (ft) 794.2 GL	Type of Well	■New □ Existing	Type	of Report	□Interim	≜ Final	
Permit Type Deviated :	Horizontal Horizo	ontal 6A	Deptl	Туре	□ Deep	≜ Shallow	
Type of Operation □ Convert □	Deepen 🛢 Drill	□ Plug Back □ Red	rilling 🗆	Rework	□ Stimula	te	
Well Type □ Brine Disposal □ CB	M ■ Gas □ Oil □ Se	econdary Recovery 🗆 S	Solution Min	ing 🗆 Sto	orage 🗆 O	ther	
Type of Completion	.ir □ Mud □Fresh W	ater Intermediate			_		
Date permit issued9-30-2014 Date completion activities began Verbal plugging (Y/N)N	6-02-2015		tivities cease	ed	6-03-201	5	
Please note: Operator is required to	submit a plugging appli	ication within 5 days of	verbal perm	ission to p	lug		
Freshwater depth(s) ft		Open mine(s) (Y/N)	depths		N		
Salt water depth(s) ft		Void(s) encountered	(Y/N) depti	ns	N		
Coal depth(s) ft	N	Cavern(s) encountered	ed (Y/N) dep	oths	N		
Is coal being mined in area (Y/N)	N				Revie	wed by:	

WR-35 Rev. 8/23/13

API 47- <u>590</u>	- 2247	Farm na	me_LOGAN CO	OAL & TIMBE	R CORP	ET AL We	ll nun	nber <u>2354</u>										
CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft		Basket Depth(s)		Did cement circulate (Y/N) * Provide details below*									
Conductor	17 1/2"	13 3/8"	42'	New	LS													
Surface	12 1/4"	9 5/8"	425'	New		LS	84',	, 341'	YES, 5 BBLS									
Coal				-														
Intermediate 1	8 7/8"	7"	2077'	New		LS	NONE		YES, 7 BBLS									
Intermediate 2																		
Intermediate 3					<u> </u>													
Production	6 3/8"	4 1/2"	4305'	New	1	_ - -65	NONE		No	o - 500' up in 7"								
Tubing					L-00		110110											
Packer type and de	epth set				<u>. </u>		!	<u></u>										
Comment Details																		
CEMENT	Class/Type	Number			rield	Volume		Cement		woc								
DATA Conductor	of Cement Class A	of Sack	s wt (pp	pg) (f	³ /sks)	(ft. ³ .)		Top (MD))) 	(hrs)								
Surface	Class A	155	15.9	<u> </u>	1.18	182.9		Surface		8								
Coal	Class A	133	15	-	1.10	102.5	'	3411400										
Intermediate 1	Class A	100, 17	70 15.6, 1	123 1 15	3, 1.84	118, 3	313 Surfa			8								
Intermediate 2	Class A	100, 17	13.0, 1	12.5	J, 1.04	110, 3	13	- Carrago										
Intermediate 3						 												
Production	Class A	180	13.6	- -	1.90	342	500' up in 7"		7"	8								
Tubing	Glado / t																	
	ation penetrated	HARRELL SHALE		Loggers T Plug back	-	326'												
Kick off depth	ı (ft)																	
Check all wire	Check all wireline logs run Check all wireli																	
Well cored	⊃Yes ■ No	□ Convention	onal 🗆 Side	wall	W	ere cuttin	gs col	lected \square Y										
	THE CENTRAL 2957.80, 2789.40 and 2621	IZER PLACEMI	ENT USED FO	OR EACH C	ASING S				80, 3631									
WAS WELL	COMPLETED	AS SHOT HOLE	E □ Yes ■	No D	ETAILS													
WAS WELL	COMPLETED	OPEN HOLE?	□ Yes 🖶 N	No DET	AILS _													
WERE TRAC	ERS USED	Yes B No	TYPE OF T	TRACER(S)	USED _					WERE TRACERS USED □ Yes ■ No TYPE OF TRACER(S) USED								

API 47- 590 - 2247 Farm name LOGAN COAL & TIMBER CORP ET AL Well number 2354

PERFORATION RECORD

Stage		Perforated from	Perforated to	Number of	
No.	Perforation date	MD ft.	MD ft.	Perforations	Formation(s)
1	6/2/15	3917	4179	59	SHALE
2	6/3/15	2990	2995	16	BEREA
3	6/3/15	2294	2326	36	LIME
				_	

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	6/3/15	107	2992	3213	1323	NONE	NONE	1mmscf/12bbl acid
2	6/3/15	101	3712	3764	2150	NONE	NONE	1mmscf12bbl acid
3	6/3/15	14	1250	1349	1220	NONE	NONE	250mcsf/20bbl acid
			-					

Please insert additional pages as applicable.

API 47- <u>590</u>	- 2247	Farm	name LOGAN Co	OAL & TIM	MBER CORP ET	AL Well r	number	2354		
PRODUCING	FORMATION(S	<u>S)</u>	DEPTHS							
BIG LIME			2296-2328'	_TVD		MD				
BEREA			2992-2997'							
DEVONIAN SH	ALE (BROWN)		3917-4179'							
Please insert ad	lditional pages as	s applicable.								
GAS TEST	□ Build up □	Drawdown	■ Open Flow		OIL TEST	Flow	Pump			
SHUT-IN PRE	SSURE Surfa	ace 485	psi Botto	m Hole_	psi	DURAT	TION C	F TEST	96	hrs
OPEN FLOW	Gas 650 mcfj	Oil pd	NGL bpd	bpd	Water bpd			RED BY Orifice	□ Pil	ot
LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	MD	BOTTO DEPTH IN MD	N FT DESCRIB			RECORD QUA		
SEE ATTACHED	0		0							
OLL ATTAONED										
Please insert ac	dditional pages a	s applicable.								
Drilling Contra	actor MOUNTAIN	RIDGE								
Address 72 OLI			City	BARBOU	IRVILLE	State	KY	Zip 4090	06	
		-0.00								
	oany WEATHERF	-ORD	O.L.	LONDON	1		KV	7: 4074	11	
Address			City	LONDON		State	KI	Zip 4074		
Cementing Co.	mpany UNIVERS	SAL WELL SE	RVICES INC							
Address PO BC	OX 686		City	ALLEN		State	KY	Zip 4160)1	
Stimulating Ca	ompany C&JE	NERGY SER	VICES							
Address 580 H	AWTHORN DR	TITLE TO LET	City	NORTON	1	State	VA	Zip 2427	'3	
	dditional pages a	s applicable.	City			State		iP		
					20 2	606 074	0044	Call ede E40	1015	
	Darrell Fluharty		Tin E	eld Supervi	Telephor			Cell 606-548-		
Signature			Title	c.a Capervi			Date _	1-23-26		

WELL #2354

API# 47-5902247

WELL #2534			API# 47-5902	L4/	
	700				DESCRIBE ROCK TYPE AND RECORD
	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	QUANTITY AND TYPE OF FLUID
LITHOLOGY/ FORMATION	NAME TVD	TVD	MD	MD	(FRESHWATER, BRINE, OIL, GAS, H2S, ETC)
FILL	0	12			,
SAND	12	120			
SAND/SHALE	120	365			
SAND	365	480			
SAND/SHALE	480	570			
SAND	570	660			
SHALE	660	750			
SAND/SHALE	750	930			
SAND	930	980			
SAND/SHALE	980	1150			
SAND	1150	1230			
SAND/SHALE	1230	1325			
SAND	1325	1440			
RED ROCK	1440	1500			
SAND/SHALE/RED ROCK	1500	1710	, -		
SAND/SHALE	1710	1818			
SAND	1818	1890			
SAND/SHALE/LIME/RR	1890	1980			
SAND/SHALE	1980	2008			
LITTLE LIME	2008	2068			
BIG LIME	2068	2355			
NUUN	2355	2432			
WEIR	2432	2935			
COFFEE SHALE	2935	2973			
BEREA	2973	3100			
BROWN SHALE	3100	4190			
HARRELL SHALE	4190	4326			
				-	
-44					