

### west virginia department of environmental protection

Office of Oil and Gas 601 57th Street SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax

Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary www.dep.wv.gov

### PERMIT MODIFICATION APPROVAL

August 14, 2013

RAVEN RIDGE ENERGY 3230 PENNSYLVANIA AVENUE CHARLESTON, WV 25302

Re: Permit Modification Approval for API Number 3906350 , Well #: CRUM 2A MODIFY CASING TO FRACTURE

# Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Gene Smith

Regulatory/Compliance Manager

Office of Oil and Gas

08/16/2013



WW - 2B (Rev. 8/10)

# STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS WELL WORK PERMIT APPLICATION

1) Well Operat	tor: RAV	EN RIDO	GE ENERGY	494485865	KANAWHA - 3	9 BIG SANDY - 1	CLENDENIN - 299
	-			Operator ID	County	District	Quadrangle
2) Operator's Well Number: CRUM 2A 3) Elevation: 1052'							
4) Well Type: (	(a) Oil <u>X</u>	or G	as X				
(	(b) If Gas:	Produ	uction <u>X</u> / Un	derground Sto	orage		
		Dee	p/ \$	Shallow X			
5) Proposed To 6) Proposed To 7) Approximate 8) Approximate	otal Depth e fresh wa	n: 2,500' ater strata	Feet a depths: 200'	Formation at	Proposed Ta Proposed Tot	rget Depth: 220	2,300'
9) Approximate	e coal sea	ım depth	s: NO COAL L	ISTED IN TIT	LE		
10) Approxima	te void de	pths,(co	al, Karst, other):	NONE			
11) Does land contain coal seams tributary to active mine? NO							
12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed) DRILL, STIMULATE AND FRAC (ACID & WATER) A NEW WELL.							
					-/1	my w N	13
13)		Control of the Contro	SING AND TU	BING PROGR	AM	10	6
13) CASING AND TUBING PROGRAM  TYPE SPECIFICATIONS FOOTAGE INTERVALS CEMENT  Size Grade Weight per ft For Drilling Left in Well Fill -up (Cu. FO)  Conductor							
	<u>Size</u>	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu.	EQ.
Conductor						N	6 2013
Fresh Water	9 5/8"	LS	17LBS	350'	350'	CTS	AUG and Gas
Coal							Office of Oil onmente
Intermediate	7"	J55	23LBS	1,850'	1,850'	CTS	ANG Office of Oil and Gas will Deat of Environmental F
Production	4 1/2"	J55	10.5LBS	2200'	2200'	150 Sacks	Cmt.
Tubing							
Liners							
Packers: Kind Size Dep		We	1115 Dril	led Run.	ning Cas	ing 40	

# Nottingham, Justin E

From: Danielle Boggs <dani.bays@cunninghamenergy.com>

Sent: Tuesday, August 06, 2013 1:44 PM

To: Nottingham, Justin E

Cc: Smith, Gene C; Urban, Terry W; ryan.cunningham@cunninghamenergy.com

Subject: Modifications

Attachments: SKMBT\_C35130806130900.pdf

Hey Justin -

Please see attached modified WW-2B forms for the following wells:

White 1A - API 47-3906354

White 2A - API 47-3906351

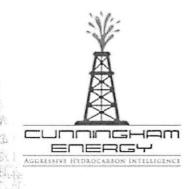
Osborne 1A - API 47-3906347

Osborne 2A – API 47-3906350 Crum 1A – API 47-3906349

We wish to modify these permits to show that we wish to stimulate these wells rather than shoot them as we had first requested.

Thank you,
Danielle N. Boggs
Cumingham Energy
3230 Pennsylvania Ave
Charleston, WV 25302
Direct: (304) 344-9291
Cell: (304) 553-5850
Fax: (304) 344-9290

www.cunninghamenergy.com



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