



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 26, 2014

BUCKEYE OIL PRODUCING CO
POST OFFICE BOX 129
WOOSTER, OH 44691

Re: Permit Modification Approval for API Number I304747 , Well #: J.M. BENNETT 1HA
7" CASING REVISION TO 1500 FEET

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 *gsm*
Assistant Chief of Permitting
Office of Oil and Gas

WW - 2B
(Rev. 8/10)

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

1) Well Operator BUCKEYE OIL PRODUCING CO 306103 CALHOUN SHERIDAN GRANTSVILLE T.D.
Operator ID County District Quadrangle

2) Operator's Well Number J M BENNETT1-H-A 3) Elevation 1002

4) Well Type: (a) Oil or Gas
(b) If Gas Production / Underground Storage _____
Deep _____ / Shallow

5) Proposed Target Formation(s): BEREA Proposed Target Depth: 2467' V.D.

6) Proposed Total Depth 4840 Feet Formation at Proposed Total Depth: BEREA

7) Approximate fresh water strata depths: 61

8) Approximate salt water depths: 2011

9) Approximate coal seam depths: NONE

10) Approximate void depths, (coal, 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&SET 30' CONDUCTOR, DRILL&SET 300' 9 5/8" CASING C.T.S., DRILL&SET 1500' 7" CASING, C.T.S.
K.O.P. 1550 START BUILDING CURVE @ DEGREES -100'. AT 90 DEGREES DRILL TO T.D. RUN 4 1/2" CASING& SET 8-10 PACKERS
SEE ATTACHED SHEET. CEMENT ABOVE K.O.P. ALSO SEE WELL BORE SCHEMATIC

13) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill-up (Cu. Ft.)
Conductor	113/4"	J-55	38#	30	30	CTS GROUT
Fresh Water	9 5/8"	J-55	29#	300	300	C.T.S.
Coal						
Intermediate	7	J-55	20#	1500	1500	C.T.S.
Production	4 1/2	J-55	11.6#	4840	4840	BY RULE 35 CSR4-11.1
Tubing						
Liners						

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Office of Oil and Gas

Packers Kind: PEAK
Sizes: 4 1/2X 5 7/8" OPEN HOLE PACKER
Depths Set: 1400 TO 4840' SETTING 10 PACKERS

AUG 25 2014

1304747H

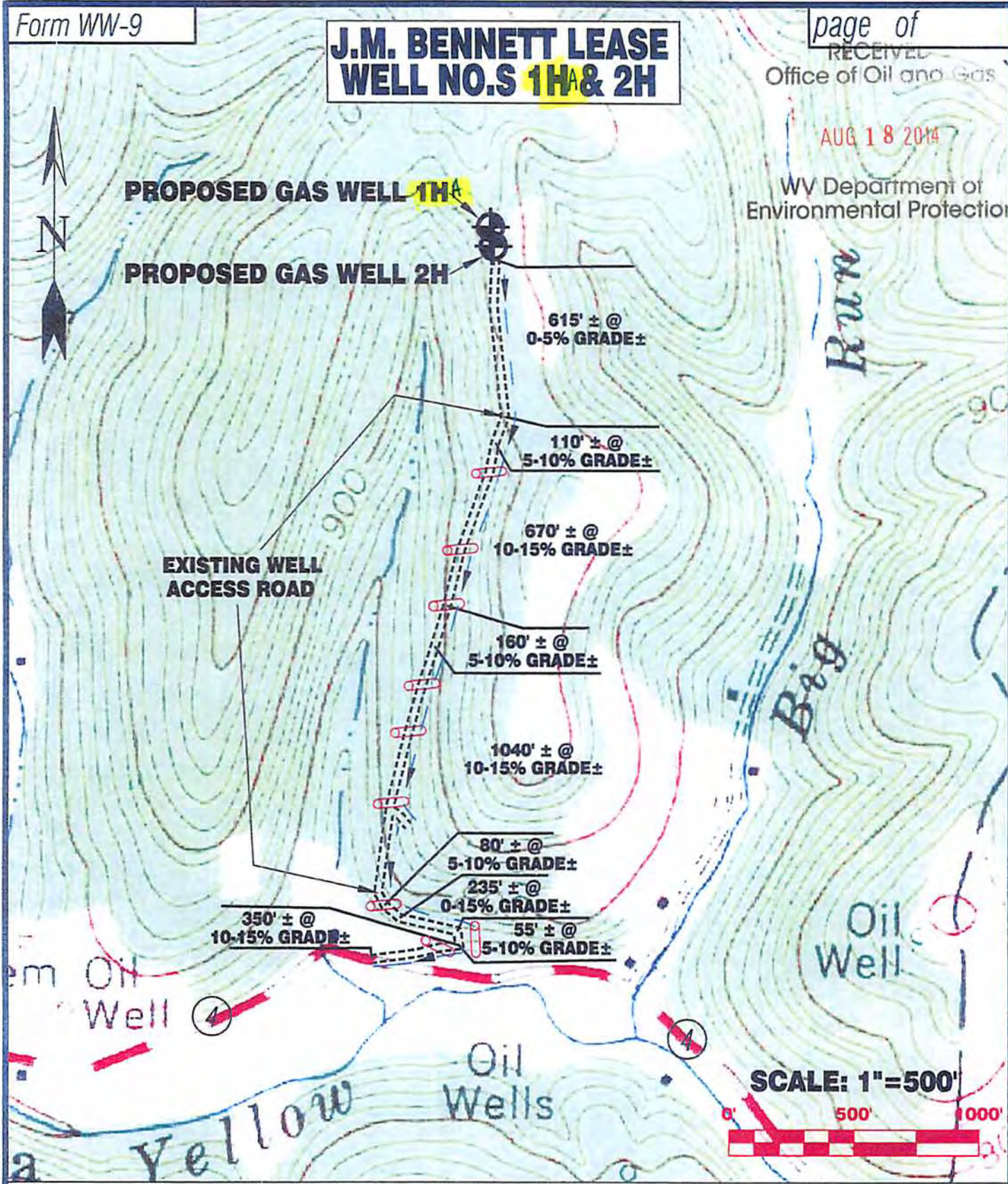
Form WW-9

J.M. BENNETT LEASE WELL NO.S 1H & 2H

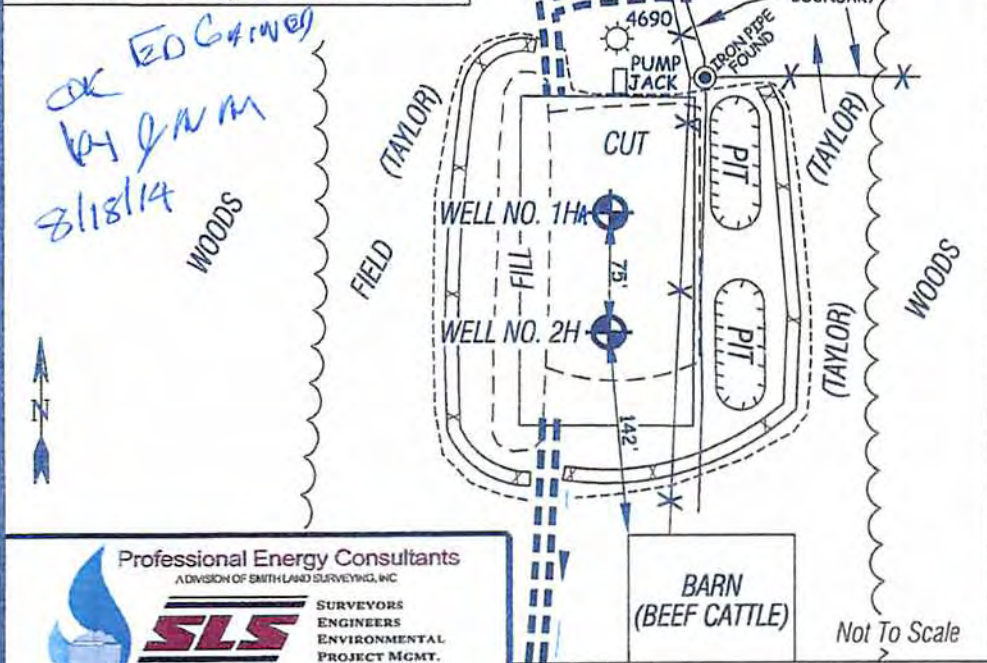
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AUG 18 2014

WV Department of
Environmental Protection



Detail Sketch for Proposed Wells 1H & 2H



ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL

APPLICATIONS FOR SEPARATE PLC PERMITS ON THE ACCESS ROAD STREAM CROSSINGS HAVE BEEN PREPARED (IF APPLIES).

08/29/2014

- EXISTING CULVERT
- PROPOSED CULVERT 15' MIN UNLESS OTHERWISE NOTED
- PROPOSED STREAM CROSSING
- APPROXIMATE LIMITS OF DISTURBANCE

Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.

SLS

SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.

(304) 452-9634
WWW.SLSSURVEYS.COM

DRAWN BY: K.D.W. FILE NO.: 8040 DATE: 06/09/14 CADD FILE:

TOPO SECTION OF GRANTSVILLE 7.5'
USGS TOPO QUADRANGLE

NOTES ON SURVEY

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL.

POSSIBLE 109 ACRES± TRACT

LATITUDE 39°00'00"

LONGITUDE 81°05'00"

NAD'27 GRID NORTH

BUCKEYE OIL PRODUCING 34.25 ACRES±

HEARTWOOD FORESTLAND FUND IV LIMITED PARTNERSHIP 199.15 ACRES± TM 08-07

DOUGLAS & SHIRLEY TAYLOR 69 ACRES±

DOUGLAS E. & SHIRLEY TAYLOR 62 ACRES± TM 08-12

DOUGLAS & SHIRLEY TAYLOR 99.44 ACRES± TM 08-15

DOUGLAS TAYLOR 105.59 ACRES±

LEGEND

LEASE LINE	---
SURFACE LINE	----
WELL LATERAL	-----
OFFSET LINE	- - - - -
TIE LINE	=====
CREEK	~~~~~
FENCE	* * * * *
PROPOSED WELL	⊙
EXISTING WELL	⊙
PERMITTED WELL	⊙
TAX MAP-PARCEL	00-00

**J.M. BENNETT LEASE
700 ACRES±
WELL NO. 1HA**

(S.P.C. SOUTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 724,083	E. 1,967,824
NAD'27 GEO.	LAT-(N) 38.98839	LONG-(W) 81.11319
NAD'83 UTM (M)	N. 4,315,503	E. 490,211
BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 726,085	E. 1,966,135
NAD'27 GEO.	LAT-(N) 39.99388	LONG-(W) 81.11914
NAD'83 UTM (M)	N. 4,316,113	E. 489,697

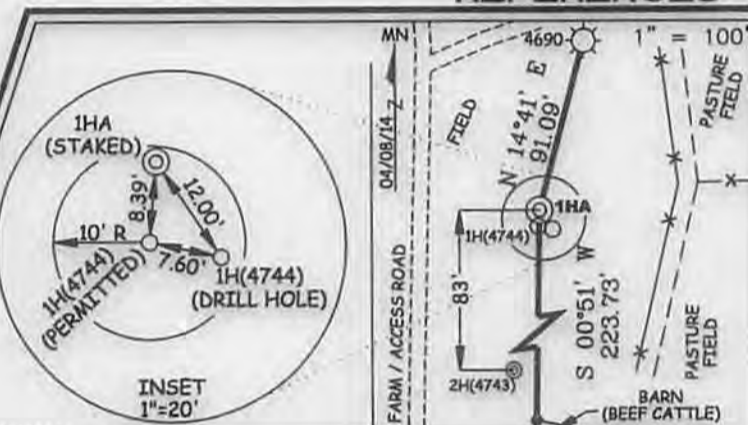


I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677 *Gregory A. Smith*



REFERENCES



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE	JUNE 09	20	14
REVISED	AUGUST 12	20	14
OPERATORS WELL NO.	J.M. BENNETT 1HA		
API WELL NO.	47-013	04747	
	STATE	COUNTY	PERMIT

MINIMUM DEGREE OF ACCURACY	1/200	FILE NO.	8040P1HA
HORIZONTAL & VERTICAL CONTROL DETERMINED BY	DGPS (MAPPING GRADE TIE TO CORS NETWORK)		
SCALE	1" = 500'		

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

WELL TYPE:	OIL	GAS <input checked="" type="checkbox"/>	LIQUID INJECTION	WASTE DISPOSAL	IF "GAS" PRODUCTION <input checked="" type="checkbox"/>	STORAGE	DEEP	SHALLOW <input checked="" type="checkbox"/>		
LOCATION:	ELEVATION	1,002'	WATERSHED	UNNAMED DRAIN & BIG RUN OF YELLOW CREEK						
	DISTRICT	SHERIDAN	COUNTY	CALHOUN	QUADRANGLE	GRANTSVILLE 7.5'				
SURFACE OWNER	DOUGLAS E. AND SHIRLEY TAYLOR				ACREAGE	62±				
ROYALTY OWNER	J.M. BENNETT HEIRS AND/OR ASSIGNS				ACREAGE	700±				
PROPOSED WORK:	DRILL <input checked="" type="checkbox"/>	CONVERT	DRILL DEEPER	REDRILL	FRACTURE OR STIMULATE <input checked="" type="checkbox"/>	PLUG OFF OLD FORMATION	PERFORATE NEW FORMATION	PLUG AND ABANDON	CLEAN OUT AND REPLUG	OTHER
PHYSICAL CHANGE IN WELL (SPECIFY)					TARGET FORMATION	BEREA				
					ESTIMATED DEPTH	TVD 2,467' TMD 4,840'				

WELL OPERATOR	BUCKEYE OIL PRODUCING CO.	DESIGNATED AGENT	HENRY W. SINNETT
ADDRESS	P.O. BOX 129 WOOSTER, OH 44691	ADDRESS	RT. 1 BOX 150A BIG BEND, WV 26136

08/29/2014

COUNTY NAME
PERMIT