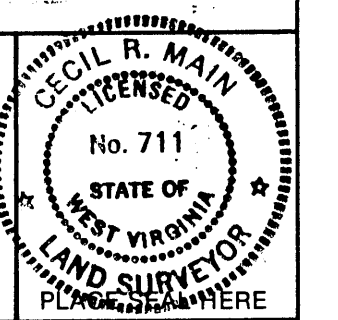


FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1 PART IN 200'  
 PROVEN SOURCE OF ELEVATION WELL API # 7433  
ELEV. 995'

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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 DEPARTMENT OF MINES.  
 (SIGNED) Cecil R. Main  
 R.P.E. \_\_\_\_\_ L.L.S. 711



**STATE OF WEST VIRGINIA**  
 DEPARTMENT OF MINES  
**OIL AND GAS DIVISION**

DATE APRIL 18, 1987  
 OPERATOR'S WELL NO. THOMAS #3  
 API WELL NO. 47-085-7657  
 STATE COUNTY PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS,") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 1042' WATERSHED MARSH RUN OF NORTH FORK HUGHES RIVER  
 DISTRICT CLAY COUNTY RITCHIE  
 QUADRANGLE PENNSBORO 7.5' 539 1335

SURFACE OWNER MILLARD E. & DORIS J. WINKLER ACREAGE 129.32  
 OIL & GAS ROYALTY OWNER MARGARET A. THOMAS LEASE ACREAGE 135  
 LEASE NO. \_\_\_\_\_

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON  CLEAN OUT AND REPLUG

TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5900'  
 WELL OPERATOR TREK INC. DESIGNATED AGENT GEORGE WILLIAMS  
 ADDRESS Rt. 2 Box 499 ADDRESS Rt. 2 Box 499  
GRAFFON, W.Va. 26354 GRAFFON, W.Va. 26354

**JUN 29 1987**

FORM IV-6 (8-78)

NORTH  
 LONGITUDE 80° 52' 30"  
 141.225  
 COUNTY NAME  
 PERMIT

*PERC  
8/15/87*



State of West Virginia  
Department of Mines  
Oil and Gas Division

Date July 27, 1987  
Operator's  
Well No. 3  
Farm Margaret Thomas  
API No. 47 - 085 - 7657

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil \_\_\_ / Gas x / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas," Production x / Underground Storage \_\_\_ / Deep \_\_\_ / Shallow x /)

LOCATION: Elevation: 1042' Watershed Marsh Run of North Fork Hughes River  
District: Clay County Ritchie Quadrangle Pennsboro 7.5'

COMPANY TREK, Inc.  
ADDRESS Rt. 2, Box 499, Grafton, WV 26354  
DESIGNATED AGENT George Williams  
ADDRESS same  
SURFACE OWNER Millard E. & Doris J. Winkler  
ADDRESS \_\_\_\_\_  
MINERAL RIGHTS OWNER Margaret A. Thomas  
ADDRESS \_\_\_\_\_  
OIL AND GAS INSPECTOR FOR THIS WORK Samuel  
Hersman ADDRESS P.O. Box 66  
Smithville, WV 26178  
PERMIT ISSUED 6/26/87  
DRILLING COMMENCED 7/ 9/87  
DRILLING COMPLETED 7/15/87  
IF APPLICABLE: PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
REWORKING. VERBAL PERMISSION OBTAINED  
ON \_\_\_\_\_

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"	282'	282'	148 CF
9 5/8			
8 5/8	1756'	1756'	460 CF
7			
5 1/2			
4 1/2	—	5293'	355 CF
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5183-5206 feet  
Depth of completed well \_\_\_\_\_ feet Rotary x / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 120 feet; Salt 485 feet  
Coal seam depths: 674 - 676 Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Riley, Benson, Alexander Pay zone depth 5184 - 5192 feet  
Gas: Initial open flow 67 Mcf/d Oil: Initial open flow — Bbl/d  
Final open flow (200) (est) Mcf/d Oil: Final open flow — Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ hours  
Static rock pressure 1625 psig (surface measurement) after 24 hours shut in  
(If applicable due to multiple completion--)  
Second producing formation \_\_\_\_\_ Pay zone depth \_\_\_\_\_ feet  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ Mcf/d Oil: Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ hours  
Static rock pressure \_\_\_\_\_ psig (surface measurement) after \_\_\_\_\_ hours shut in

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

FIRST STAGE: Alexander 5194 - 5202' (16 holes): 70 quality foam frac w/50,000# 20/40 sand  
BKDN: 1800 psi, ATP 3000 psi, AIR 21 BPM (foam), ISIP 1350 psi. Total N<sub>2</sub> 520,000 Scf

SECOND STAGE: Benson 4902 - 4908' (18 holes): 70 quality foam frac w/40,000# 20/40 sand  
BKDN: 1600 psi, ATP 3100 psi, AIR 21 BPM(foam), ISIP 1200 psi, Total N<sub>2</sub> 420,000 Scf

THIRD STAGE: Riley 4509 - 4548' (20 holes) 70 quality foam frac w/40,000# 20/40 sand  
BKDN: 1800 psi, ATP 3400 psi, AIR 25 BPM (foam), ISIP 1300 psi, Total N<sub>2</sub> 680,000 Scf

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
FOLLOWING DEPTHS TAKEN FROM DRILLERS LOG BOOK:					
Fill			0	5	
Shale			5	81	
Sand			81	119	
Shale			119	125	FW @ 120'
Sand & Shale			125	139	
Shale & Redrock			139	209	
Sand & Shale			209	279	
Redrock			279	291	
Redrock & Shale			291	495	SW @ 485'
Sand & Shale			495	600	
Shale & Redrock			600	674	
Coal			674	676	
Sandstone & Shale			676	1860	
FOLLOWING DEPTHS TAKEN FROM GAMMA RAY LOG:					
Big Lime			1860	1912	Gas Checks:
Keener			1912	2000	
Big Injun			2000	2077	
Shale			2077	2240	2143' no show
Weir			2240	2356	
Siltstone & Shale			2356	4500	4400' no show
Riley			4500	4549	
Siltstone & Shale			4549	4892	4850' 42 Mcf/d
Benson			4892	4898	
Shale			4898	5141	5000' 54 Mcf/d
Alexander			5141	5206	
Shale			5206	5350 TD	5300' 75 Mcf/d TD 67 Mcf/d
Well logged by Hitwell Surveys, Inc.					

(Attach separate sheets as necessary)

TREK, Inc.

Well Operator

By: Andrew D. Waggaman, Consultant

Date: \_\_\_\_\_

Note: Regulation 2.02(i) provides as follows:  
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

NOV 9 1987

RECEIVED JUN 25 1987



1) Date: June 16, 19 87  
 2) Operator's Well No. Thomas #3  
 3) API Well No. 47-085-7657 State County Permit

STATE OF WEST VIRGINIA  
 DIVISION OF OIL & GAS DEPARTMENT OF ENERGY, OIL AND GAS DIVISION  
 DEPARTMENT OF ENERGY APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil / Gas XX  
 B (If "Gas", Production XX / Underground storage / Deep / Shallow XX)  
 5) LOCATION: Elevation: 1042' Watershed: Marsh Run of North Fork Hughes River  
 District: Clay / County: Ritchie 085 Quadrangle: Pennsboro 7.5' 538  
 6) WELL OPERATOR: TREK LNC CODE: 49000 7) DESIGNATED AGENT: George Williams  
 Address: Rt 2 Box 499 Grafton, WV 26354 Address: Route 2 Box 499 Grafton, WV 26354  
 8) OIL & GAS INSPECTOR TO BE NOTIFIED: Name: Robert Lowther Address: General Delivery Middlebourne, WV 26149  
 9) DRILLING CONTRACTOR: Name: NA Address: \_\_\_\_\_  
 10) PROPOSED WELL WORK: Drill XX / Drill deeper / Redrill / Stimulate XX / Plug off old formation / Perforate new formation / Other physical change in well (specify) \_\_\_\_\_  
 11) GEOLOGICAL TARGET FORMATION: Alexander  
 12) Estimated depth of completed well, 5900' feet  
 13) Approximate strata depths: Fresh, NA feet; salt, NA feet.  
 14) Approximate coal seam depths: NA Is coal being mined in the area? Yes / No XX

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS as per rule. Kinds 15.05
	Size	Grade	Weight per ft.	New	Used	For drilling		
Conductor	11 3/4"			X			250	Cemented to surface
Fresh water								
Coal								Sizes
Intermediate	8 5/8"			X		1200"	1200'	Cement to surface
Production	4 1/2"			X			5900"	as required
Tubing								Depths set by rule 15.01
Liners								Perforations: Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-085-7657 Date June 26, 1987

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires June 26, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond	Agent	Plat	Casing	Fee 244.807	WPOP	S&E	Other
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NOTE: Keep one copy of this permit posted at the drilling location.

John L. Johnston  
 Director, Division of Oil and Gas