

**TEE Engineering Company, Inc.**

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Lexington, KY 40509  
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Suttonville, KY 41659  
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**GeoMet Operating Company, Inc.**  
Well No. PMC South 110-104-078

FILE NO. 1883-08/2003 WELLS

DRAWING NO. WELL PMC SOUTH 78 PLAT

SCALE: 1" = 2,000'

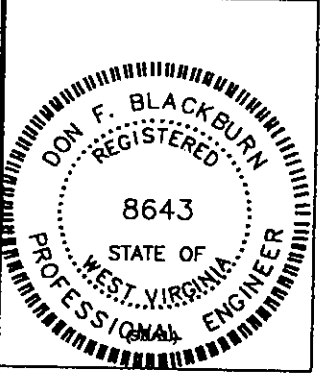
MIN. DEGREE OF ACCURACY 1 : 2,500

PROVEN SOURCE OF ELEVATION  
GPS STATION TEC-1 (ELEV. 2406.60)

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.

*Don F. Blackburn*  
(SIGNATURE)

R.P.E. 8643 R.P.S.



**STATE OF WEST VIRGINIA**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

DATE FEBRUARY 6, 2003  
OPERATOR'S WELL NO. PMC SOUTH 110-104-078

API WELL NO. 47 - 047 - 017666C  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 2,241.28' NORTHING 106529.67 EASTING 1776431.70  
DISTRICT BIG CREEK WATER SHED MUDLICK BR. OF LITTLE SLATE CREEK  
QUADRANGLE BRADSHAW COUNTY McDOWELL

SURFACE OWNER POCAHONTAS MINING, LLC. ACREAGE 1,108  
CBM ROYALTY OWNER POCAHONTAS MINING, LLC. LEASE ACREAGE 1,108  
LEASE NO. RECORDING IN PROGRESS

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 NEW RIVER AND POCAHONTAS COALS ESTIMATED DEPTH 2,191'

WELL OPERATOR GEOMET OPERATING COMPANY, INC. DESIGNATED AGENT KERRY HILL

ADDRESS 5336 STADIUM TRACE PARKWAY SUITE 3206 BIRMINGHAM, ALABAMA 35244 ADDRESS 330 HARPER PARK DRIVE SUITE A BECKLEY, WV 25801

M-Don 17666C

b-b(0)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

*KS*  
Office of Oil & Gas  
Office of Chief  
OCT - 6 2003  
WV Department of  
Environmental Protection

Well Operator's Report of Well Work

FARM NAME: Pocahontas Mining, LLC. OPERATOR WELL NO.: 110-104-078

LOCATION:

Elevation: 2,241.28' Quadrangle: Bradshaw

District: Big Creek County: McDowell  
Latitude: 5365' Feet South of 37 Deg. 17 Min. 30 Sec.  
Longitude: 606' Feet West of 81 Deg. 45 Min. 00 Sec.

Company: <u>GeoMet Operating Company</u>	Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. Ft.
Address: <u>5336 Stadium Trace Parkway, Suite 206 Birmingham, Alabama 35244</u>	13 3/8"	23'	23'	
Agent: <u>Gregg Cleary</u>				
Inspector: <u>Ronnie Scott</u>	8-5/8"	311'	311'	70/Pumped 120
Date Permit Issued: <u>April 10, 2003</u>				
Date Well Work Commenced: <u>June 24, 2003</u>	5-1/2"	2024.92'	2024.92'	351/Pumped 390
Date Well Work Completed: <u>July 10, 2003</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <u>XXXX</u> Cable Rig				
Total Depth (feet): <u>2070'</u>				
Fresh Water Depth (feet): <u>Unknown</u>				
Salt Water Depth (feet): <u>Unknown</u>				
Is coal being mined in area (N/Y)? <u>No</u>				

Coal Depths (feet): 315, 318, 322, 325, 331, 370, 493, 562, 563, 566, 580, 591, 594, 731, 755, 756, 831, 872, 993, 1096, 1133, 1134, 1135, 1200, 1223, 1250, 1302, 1394, 1428, 1429, 1462, 1463, 1503, 1604, 1695, 1789, 1850, 1851, 1852, 1990, 1991, 2007, 2020, 2025, 2026

OPEN FLOW DATA

Producing formation All Zones Commingled Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial Open Flow N/A MCF/d Oil: Initial Open Flow \_\_\_\_\_ Bbl/d  
Final Open Flow N/A MCF/d Final Open Flow \_\_\_\_\_ Bbl/d  
Time of Open Flow between initial and final tests N/A Hours  
Static Rock Pressure 11 psig (surface pressure) after 96 Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

SIGNED:

BY:

Andrea Smith

DATE:

\_\_\_\_\_

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## GeoMet Operating Company, Inc. Perforation and Frac Volume Specification

Well Name PMC South 078

PBTD

2030'

### Zone and Perforation Table

Frac Stage	Interval		Ball Out	Bridge Plug Set @	Est Sand Weight	Actual Sand Weight
	1778	1797				
Stage 1 Interval	1778	1797				
N2 Scf	36,000		1849' -1852'  No Plug Together			
Acid	400	15%				
Gel Volume	9,300					
ISIP						
ATP	3,950					
AIR	6	BPM				
Stage 2 Interval	1,602	1604				
N2 Scf			1695' -1697'  Together No Plug			
Acid	300	15%				
Gel Volume						
ISIP						
ATP	3,950					
AIR	6	BPM				
Stage 3 Interval	1,461	1463				
N2 Scf	369,000		1502' -1697'  24 Balls On Plug @ 450'			
Acid	450	15%				
Gel Volume	15,400					
ISIP	1,631					
ATP	2,644					
AIR	22	BPM				
Stage 4 Interval	1,394	1396				
N2 Scf	324,000		1427' -1429'  1350'			
Acid	450	15%				
Gel Volume	14,000					
ISIP	1,581					
ATP	2,886					
AIR	22	BPM				
Stage 5 Interval	1,199	1201				
N2 Scf	272,000		1222' -1224' 1248' -1250'			
Acid	450	15%				
Gel Volume	10,950					
ISIP	1,012					
ATP	2,174					
AIR	25	BPM				

**DRILL DATA HOLE - NOAH HORN WELL DRILLING, INC.**

**COMPANY: GEOMET OPERATING CO      HOLE NO.: PMC-078 South**

**LOCATION: BUG HURLEY HOLLOW      DRILL: RIG # 25**  
**LITTLE SLATE CREEK**

**DATE STARTED: 06-23-2003      DATE COMPLETED: 06-26-2003**

DEPTH		THICKNESS	STRATA	REMARKS
FROM	TO	FT.	DESCRIPTION	VOIDS, ETC
0	22.25	22.25	OVERBURDEN	22.25' W/ 13 3/8" CASING
22.25	30	7.75	SANDSTONE	
30	61	31	SANDSTONE / SANDY SHALE / COAL STR	
61	92	31	SANDY SHALE / SANDSTONE	
92	123	31	SANDSTONE / COAL STR	
123	154	31	SANDSTONE	
154	185	31	SANDSTONE / SANDY SHALE	
185	215	30	SANDSTONE / COAL STR / SANDSTONE	
215	245	30	COAL 2 / SANDSTONE	
245	275	30	SANDSTONE / SANDY SHALE	
275	320	45	SANDSTONE	TD 10 1/2" DRILLING 310.81' W/ 8 5/8" CASING
320	330	10	DRILL OUT CEMENT	BEGIN 8" DRILLING
330	360	30	SANDY SHALE	
360	390	30	SANDY SHALE / COAL / SANDY SHALE	
390	450	60	SAND / SANDY SHALE	
450	540	90	SAND	
540	570	30	SAND / COAL / SANDY SHALE / SAND	
570	600	30	SAND / COAL / SANDY SHALE	
600	630	30	SAND / SANDY SHALE	
630	660	30	SANDY SHALE / COAL STR / SANDY SHALE	
660	690	30	SANDY SHALE / SANDSTONE	
690	720	30	SANDSTONE / SANDY SHALE	
720	750	30	SANDY SHALE / COAL 2 / SANDSTONE	
750	780	30	SANDSTONE / SANDY SHALE / COAL STR	
780	810	30	SANDSTONE / SANDY SHALE	
810	840	30	SANDY SHALE / SANDSTONE	
840	870	30	SANDSTONE / COAL STR / SANDY SHALE	
870	900	30	SANDY SHALE / COAL 3 SEAM	
900	930	30	SANDY SHALE / SANDSTONE	
930	960	30	SANDSTONE / SANDY SHALE	
960	990	30	SANDY SHALE / SANDSTONE	
990	1020	30	SANDSTONE / SANDY SHALE	
1020	1050	30	SANDY SHALE / SANDSTONE	
1050	1080	30	SANDSTONE / SANDY SHALE / SANDSTONE	
1080	1110	30	COAL 2 SEAM / SANDY SHALE / SANDSTONE	
1110	1140	30	SANDSTONE / SANDY SHALE / SANDSTONE	
1140	1170	30	SANDSTONE / SANDY SHALE	

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FROM	TO	FT.	DESCRIPTION
1170	1185	15	SANDY SHALE / SANDSTONE
1185	1200	15	SAND / SANDY SHALE
1200	1230	30	SANDY SHALE / COAL STR / SANDY SHALE
1230	1245	15	SANDY SHALE / SANDSTONE
1245	1247	2	COAL 2 SEAM
1247	1260	13	SANDY SHALE / SANDSTONE
1260	1290	30	SAND / SANDY SHALE
1290	1320	30	SANDSTONE / SANDY SHALE STR
1320	1350	30	SANDSTONE / COAL / SANDSTONE
1350	1380	30	SANDY SHALE STR/COAL STR / SANDSTONE
1380	1385	5	SANDY SHALE / SANDSTONE
1385	1387	2	COAL
1387	1410	23	SANDY SHALE / SANDSTONE
1410	1440	30	SANDSTONE / COAL STR / SANDY SHALE / SANDSTONE
1440	1470	30	SANDY SHALE
1470	1500	30	SANDY SHALE / COAL / SAND
1500	1530	30	SANDY SHALE / SAND
1530	1560	30	SANDSTONE
1560	1620	60	SANDSTONE / SANDY SHALE
1620	1650	30	SANDSTONE / COAL STR / SANDY SHALE
1650	1680	30	SANDY SHALE / COAL / SANDY SHALE
1680	1710	30	SAND / SANDY SHALE / SAND
1710	1740	30	SANDSTONE / SANDY SHALE
1740	1770	30	SANDY SHALE / SANDSTONE
1770	1800	30	SAND / COAL STR / SANDY SHALE
1800	1830	30	SAND / SANDY SHALE
1830	1860	30	SAND / RED SHALE / SANDSTONE
1860	1920	60	SANDSTONE
1920	1950	30	SANDSTONE / SANDY SHALE STR / SANDSTONE
1950	1980	30	SANDY SHALE / SAND
1980	2010	30	SANDY SHALE / SANDSTONE STR / RED SHALE
2010	2040	30	SANDY SHALE / SAND STR
2040	2070	30	SANDSTONE / SANDY SHALE / SHALE TD 7 7/8" DRILLING

2070.00 FT. TOTAL DEPTH  
 22.25 FT. OF 13 3/8" CASING  
 310.81 FT. OF 8 7/8" CASING