

(+) DENOTES LOCATION OF WELL ON 7.5' TOPOGRAPHIC MAP

8" LOCUST  
 N 38°39'51" E  
 87.08'  
 N 89°35'02" E  
 118.58'  
 8" LOCUST  
 PROPOSED JAMES HARMAN  
 116-119-090

REFERENCES	SCALE 1"=100'
WELL COORDINATES WV STATE PLANE SOUTH ZONE NAD 1927 N. 139157.75 E. 1790480.72	

**TEE Engineering Company, Inc.**  
 320 Cuckoo Hill Court  
 Lexington, KY 40509  
 (606) 261-5190  
 Fax (606) 263-5343

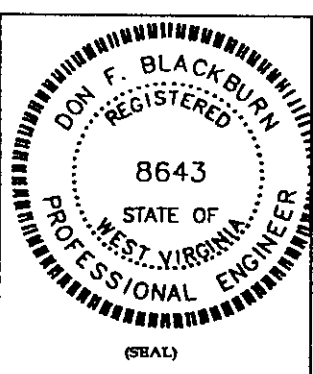
**GeoMet Operating Company, Inc.**  
 Well No. J. Harman 116-119-090

FILE NO. 1899/2003 WELLS  
 DRAWING NO. HARMAN 90 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 OCTOBER 20, 2003  
 OPERATOR'S WELL NO. JAMES HARMAN 116-119-090  
 API WELL NO. 47 - 047 01844-C  
 STATE COUNTY PERMIT

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

LOCATION: ELEVATION 2,212.46' NORTHING 139157.75 EASTING 1790480.72  
 DISTRICT BIG CREEK WATER SHED BUCK FORK OF BARTLEY CREEK  
 QUADRANGLE DAVY COUNTY McDOWELL

SURFACE OWNER JAMES W. & LETA HARMAN ACREAGE 1,500  
 CBM ROYALTY OWNER JAMES W. HARMAN JR. et al LEASE ACREAGE 1,500  
 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 1,933'  
 WELL OPERATOR GEOMET OPERATING COMPANY, INC. DESIGNATED AGENT KERRY HILL  
 ADDRESS 5336 STADIUM TRACE PARKWAY SUITE 206 ADDRESS 330 HARPER PARK DRIVE SUITE A  
BIRMINGHAM, ALABAMA 35244 BECKLEY, WV 25801

(Big Sandy 285) 6-6

NOV 2 2003

Mc Dow 1844-C

47-018444

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

Well Operator's Report of Well Work

FARM NAME: James & Leta Harmon OPERATOR WELL NO.: James Harmon 116-119-090

LOCATION:

Elevation: 2,212.46' Quadrangle: Davy

District: Big Creek County: McDowell  
Latitude: 3,561' Feet South of 37 Deg. 25 Min. 00 Sec.  
Longitude: 13,080' Feet West of 81 Deg. 42 Min. 30 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>	<u>13-3/8"</u>	<u>28.6'</u>	<u>28.6'</u>	
Agent: <u>Gregg Cleary</u>				
Inspector: <u>Carlos Hively</u>	<u>8-5/8"</u>	<u>332'</u>	<u>332'</u>	<u>137/Pumped 198</u>
Date Permit Issued: <u>November 21, 2003</u>				
Date Well Work Commenced: <u>December 12, 2003</u>	<u>5-1/2"</u>	<u>1941'</u>	<u>1941'</u>	<u>336/Pumped 312</u>
Date Well Work Completed: <u>August 6, 2004</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <u>XXXX</u> Cable Rig				
Total Depth (feet): <u>1952'</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>				

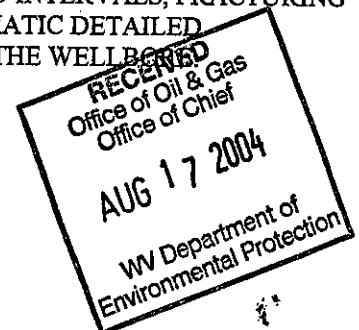
Coal Depths (feet): 351, 352, 353, 389, 390, 405, 406, 464, 767, 892, 893, 894, 895, 967, 968, 1053, 1090, 1100, 1130, 1144, 1259, 1260, 1261, 1262, 1263, 1295, 1367, 1368, 1383, 1394, 1497, 1498, 1499, 1526, 1651, 1653, 1654, 1773, 1774

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 205 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 WELL LOG.

SIGNED: \_\_\_\_\_  
BY: Ramon Dye  
DATE: August 16, 2004



McDowell 18444

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

COMPANY: GEOMET OPERATIONS	HOLE NO. JAMES HARMAN 090
LOCATION: BARTLEY	DRILL: RIG 94
DATE STARTED: 12-12-03	ELECTRIC LOGGED: YES
DATE COMPLETED: 12-15-03	GROUTED: YES

DEPTH		THICKNESS	STRATA	REMARKS
FROM	TO	FT.	DESCRIPTION	VOIDS, ETC
0	10	10	OVERBURDEN	
10	28	18	SHALE/SANDSTONE	28.60' W/13-3/8"
28	61	33	SANDSTONE/SANDY SHALE	
61	92	31	SANDY SHALE/COAL STR.	
92	123	31	SANDY SHALE/SANDSTONE	
123	154	31	SANDY SHALE/COAL STR./SANDY SHALE	
154	185	31	SANDSTONE/SANDY SHALE STR.	
185	215	30	SANDSTONE	
215	245	30	SANDSTONE/SANDY SHALE STR.	
245	275	30	SANDY SHALE/SANDSTONE	
275	305	30	SANDY SHALE	
305	335	30	SANDSTONE/SANDY SHALE	
335	350	15	SANDSTONE	T.D. 12-3/8" HOLE 332' W/ 8-5/8" CASING
350	360	10	SANDSTONE	
360	390	30	SANDY SHALE/COAL STR.	
390	420	30	SANDY SHALE/COAL STR./SANDY SHALE/ COAL STR.	
420	450	30	SANDY SHALE/SANDSTONE	
450	480	30	SANDY SHALE/COAL STR./SANDY SHALE	
480	510	30	SANDY SHALE	
510	540	30	SANDY SHALE/SANDSTONE	
540	570	30	SANDSTONE	
570	600	30	SANDSTONE/SANDY SHALE	
600	630	30	SANDSTONE/SANDY SHALE/SANDSTONE	
630	660	30	SANDY SHALE/SANDSTONE	
660	690	30	SANDY SHALE	
690	720	30	SANDY SHALE/SANDSTONE	
720	750	30	SANDSTONE/SANDY SHALE	
750	780	30	COAL STR./SANDSTONE	
780	840	60	SANDSTONE	
840	870	30	SANDY SHALE	
870	900	30	SANDY SHALE/SANDSTONE STR.	
900	930	30	SANDY SHALE/COAL STR./SANDSTONE	
930	960	30	SANDSTONE	
960	990	30	SANDY SHALE/SANDSTONE	
990	1020	30	SANDY SHALE/COAL STR.	

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

Well Name James Harmon 090

PBTD

1900'

**Zone and Perforation Table**

Frac Stage 1 Interval	1772' - 1775'		Ball Out no	Bridge Plug Set @	Est Sand Weight	Actual Sand Weight
	1663'	1665'				
N2 Scf	118,000		Packer @ 1560'		25,000	
Acid	600	15%				
Gel Volume	6,006	GAL				
ISIP	3023					
ATP	3995					
AIR	8	BPM				
Stage 2 Interval	1497	1499				
N2 Scf	567,513		1525' - 1528' Fiberglass Casing			
Acid	200	15%				
Gel Volume	10248	GAL				
ISIP	2002					
ATP	4015					
AIR	22	BPM				
Stage 3 Interval	1367	1369				
N2 Scf	415,000		1385' - 1387'			
Acid	200	15%				
Gel Volume	8142	GAL				
ISIP	1562					
ATP	3762					
AIR	25	BPM				
Stage 4 Interval	1259	1262				
N2 Scf	595,000		1294' - 1298' Fiberglass Casing			
Acid	200	15%				
Gel Volume	11,820					
ISIP	1394					
ATP	3512					
AIR	31	BPM				
Stage 5 Interval	1129	1131				
N2 Scf	443,000		1143' - 1145'			
Acid	200	15%				
Gel Volume	8,400	GAL				
ISIP	1162					
ATP	3608					
AIR	27	BPM				

GEOMET OPERATIONS  
HOLE #JAMES HARMAN 090  
PAGE 2

1020	1050	30	SANDY SHALE
1050	1080	30	SANDSTONE/SANDY SHALE
1080	1110	30	SANDSTONE/SANDY SHALE/SANDSTONE
1110	1140	30	SANDSTONE/SANDY SHALE/COAL STR.
1140	1170	30	SANDY SHALE/SANDSTONE STR.
1170	1200	30	SANDSTONE STR./SANDY SHALE
1200	1230	30	SANDY SHALE/COAL STR./SANDSTONE
1230	1260	30	SANDSTONE/SANDY SHALE/COAL
1260	1290	30	SANDSTONE/SANDY SHALE/POSS.COAL OR SHALE STR.
1290	1320	30	SANDY SHALE STR./SANDSTONE/POSS. COAL OR SHALE STR.
1320	1350	30	SANDSTONE/SANDY SHALE
1350	1380	30	SANDY SHALE/COAL 1360-1363/SANDST.
1380	1410	30	SANDY SHALE STR./SANDSTONE
1410	1440	30	SANDSTONE/COAL/1414-1416/SANDY SH.
1440	1470	30	SANDSTONE/COAL-1460-1462/SANDY SH.
1470	1500	30	SANDY SHALE/COAL-1486-1488/SANDST.
1500	1530	30	COAL STR./SANDY SH./COAL-1515-1518/ SANDY SHALE
1530	1560	30	SANDY SHALE/COAL STR.
1560	1590	30	SANDY SHALE/SANDSTONE
1590	1650	60	SANDSTONE
1650	1680	30	SANDY SHALE/COAL-1655-1658/SANDY SH. SANDSTONE
1680	1710	30	SANDSTONE/POSS.COAL OR SHALE/COAL 1700-1702/SANDSTONE
1710	1740	30	SANDSTONE/SANDY SHALE STR.
1740	1770	30	SANDY SHALE/COAL-1757-1763/SANDST.
1770	1800	30	SANDY SHALE/SANDSTONE
1800	1860	60	SANDSTONE/SANDY SHALE
1860	1890	30	SANDY SHALE/SANDSTONE/SANDY SH.
1890	1920	30	SANDY SHALE/SANDSTONE
1920	1940	20	SANDY SHALE 1941' W/5-1/2" CASING T.D. 8" HOLE

TOTAL DEPTH: 1940'  
28.60' W/13-3/8" CASING  
332' W/8-5/8" CASING  
1941' W/5-1/2" CASING

Mc Dow 1744

Well Name James Harmon 090

PBTD

1900'

**Zone and Perforation Table**

			Ball Out yes	Bridge Plug Set @	Est Sand Weight	Actual Sand Weight
Stage 6 Interval	1054	1056				
N2 Scf	355,000				20,000	20,400
Acid	125	15%				
Gel Volume	7,938	GAL				
ISIP	1454					
ATP	3408					
AIR	29	BPM				
Stage 7 Interval	891	895			30,000	31,000
N2 Scf	372,000		966' - 969'  Down 5.5 Casing			
Acid	125	15%				
Gel Volume	11,760	GAL				
ISIP	1074					
ATP	1738					
AIR	42	BPM				
Stage 8 Interval						
N2 Scf						
Acid		15%				
Gel Volume		GAL				
ISIP						
ATP						
AIR		BPM				
Stage 9 Interval						
N2 Scf						
Acid						
Gel Volume						
ISIP						
ATP						
AIR						
Stage 10 Interval						
N2 Scf						
Acid						
Gel Volume						
ISIP						
ATP						
AIR						

Mc Dow 1844