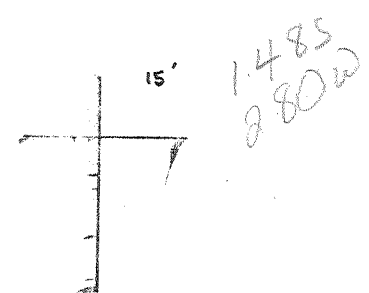
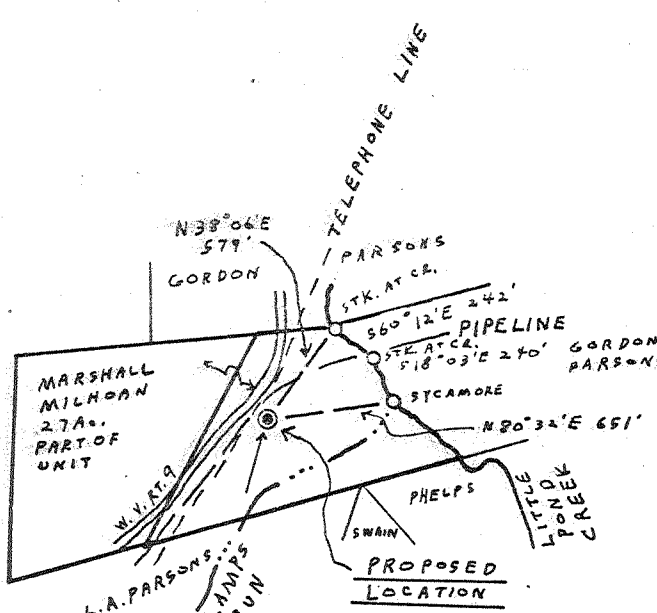


← 2,775'

NORTH



LONGITUDE 81° 42' 30"
81° 40'
1.465
0.52W
7,675'



3075' x TO
KEM 143

N 9 E 6

NO WELLS WITHIN 2,400 FT.

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 1,000'
MINIMUM DEGREE OF ACCURACY 1:200
PROVEN SOURCE OF ELEVATION ROAD INTER. ELEV. 670, S.W. OF SITE

II 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) Dennis L. Fisher
R.P.E. _____ L.L.S. 670

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
FORM IV-6
(8-78)



DATE APRIL 15, 1982
OPERATOR'S WELL NO. KEM 144
API WELL NO. _____
47 - 035 - 1697-F
STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

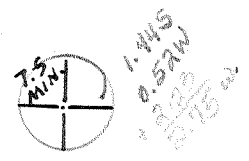
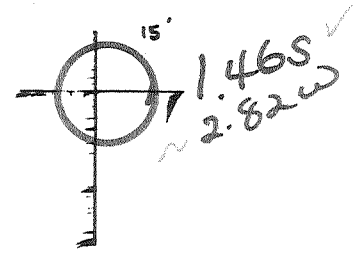
DEEP WELL

WELL TYPE: OIL _____ GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS.") PRODUCTION X STORAGE _____ DEEP X SHALLOW _____
LOCATION: ELEVATION 612 WATER SHED LAMPS RUN
DISTRICT GRANT 1 COUNTY JACKSON
QUADRANGLE POND CREEK 553 009 SW7 Belleville SW
SURFACE OWNER GORDON PARSONS ACREAGE 17
OIL & GAS ROYALTY OWNER GORDON PARSONS LEASE ACREAGE 38.75
LEASE NO. 89-09-362
PROPOSED WORK: DRILL X CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

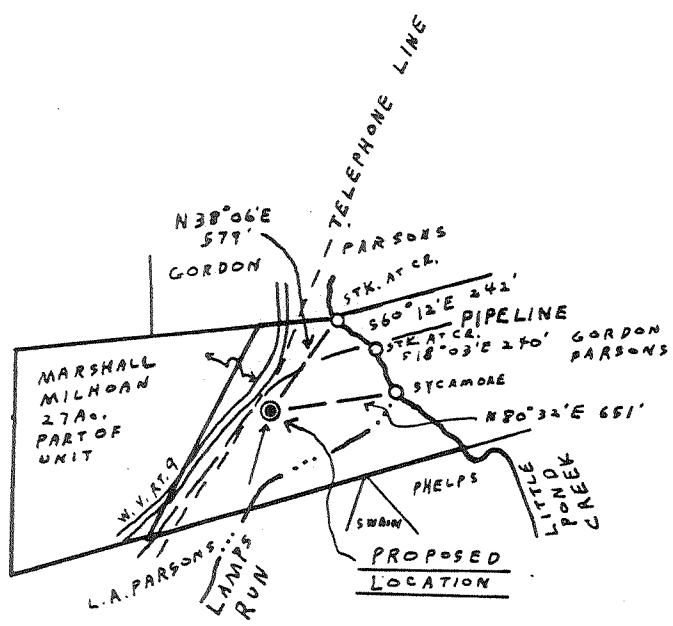
PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
TARGET FORMATION ORISKANY ESTIMATED DEPTH 4364'
WELL OPERATOR KAISER EXPLOR. & MIN. CO. DESIGNATED AGENT KAISER EXPLORATION AND MINING CO.
ADDRESS P.O. BOX 8 405 ADDRESS P.O. BOX 8
RAVENSWOOD, W. V. 26164 RAVENSWOOD, W. V. 26164

MAR 17 1986

6WWD 6-6 Neptune (255)



NORTH



3,075' x 70'
KEM 143

N 9 E 6

NO WELLS WITHIN 2,400 FT.

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1,000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION ROAD INTER. ELEV. 670, S.W. OF SITE

/// 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) Dennis L. Fisher
 R.P.E. _____ L.L.S. 670

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE APRIL 15, 1982
 OPERATOR'S WELL NO. KEM 144
 API WELL NO. _____
47 - 035 - 1697
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 612 WATER SHED LAMPS RUN
 DISTRICT GRANT COUNTY JACKSON
 QUADRANGLE POND CREEK Belleville SW
 SURFACE OWNER GORDON PARSONS ACREAGE 17
 OIL & GAS ROYALTY OWNER GORDON PARSONS LEASE ACREAGE 38.75
 LEASE NO. 89-09-362
 PROPOSED WORK: DRILL X 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 ORISKANY ESTIMATED DEPTH 4364' 6-Neptune (255)
 WELL OPERATOR KAISER EXPLOR. & MIN. CO. DESIGNATED AGENT KAISER EXPLORATION AND MINING CO.
 ADDRESS P.O. BOX 8 RAVENSWOOD, W. V. 26164 ADDRESS P.O. BOX 8 RAVENSWOOD, W. V. 26164

MAY 10 1982

→ deep ←



IV-35
(Rev 8-81)

RECEIVED
MAY 29 1986

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

State of West Virginia
Department of Mines
Oil and Gas Division

Date May 22, 1986
Operator's
Well No. KEM #144
Farm Gordon Parsons
API No. 47 - 035 - 1697
Frac

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: 612' Watershed Lamps Run
District: Grant County Jackson Quadrangle Pond Creek

COMPANY Kaiser Exploration and Mining Company

ADDRESS P. O. Box 8, Ravenswood, WV 26164

DESIGNATED AGENT R. A. Pryce

ADDRESS Same

SURFACE OWNER Gordon Parsons

ADDRESS Rt. 1, Box 63, Murraysville, WV

MINERAL RIGHTS OWNER Same

ADDRESS _____

OIL AND GAS INSPECTOR FOR THIS WORK Jerry

Tephabock ADDRESS Rt. 1, Box 101A, Ripley, WV

PERMIT ISSUED 5/05/82

DRILLING COMMENCED 6/30/82 *05/09/86*

DRILLING COMPLETED 7/06/82 *05/15/86*

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"		249'	50 sks
9 5/8			
8 5/8			
7		1876'	165 sks
5 1/2			
4 1/2		4349'	225 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Oriskany Sandstone Depth 4224 feet

Depth of completed well 4404 feet Rotary X / Cable Tools _____

Water strata depth: Fresh _____ feet; Salt _____ feet Drilled on fluid,
not known

Coal seam depths: _____ Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Huron Brown Shale Pay zone depth 3426'-3610' feet

Gas: Initial open flow -- Mcf/d Oil: Initial open flow -- Bbl/d

* Final open flow 500 Mcf/d Final open flow -- Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 700 psig (surface measurement) after 48 hours shut in
(If applicable due to multiple completion--)

Second producing formation Berea Pay zone depth 1966'-1970' feet

Gas: Initial open flow -- Mcf/d Oil: Initial open flow -- Bbl/d

* Final open flow 500 Mcf/d Oil: Final open flow -- Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 700 psig (surface measurement) after 48 hours shut in

* Rock pressure and open flows are commingled

(Continue on reverse side)

JUN 2 1986

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

5/9/86: McCullough perforated the Brown Shale from ^{Huron} 3426' to 3610' with 20 holes.

5/15/86: Halliburton 75% foam fractured with 60,000# of 20/40 sand, 704,000 SCF of nitrogen and 327 bbl water at 2738 psig.

McCullough perforated the Berea from 1966' to 1970' with 10 holes.

Halliburton 75% foam fractured with 45,000# of 20/40 sand, 476,000 SCF of nitrogen and 254 bbl of water at 1928 psig.

Rig Back to 3680'

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
See original OG-10					

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY
Well Operator

By: R. A. P.

Date: May 22, 1986

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."

RECEIVED

MAR 19 1984



IV-35
(Rev 8-81)

OIL & GAS DIVISION
DEPT. OF MINES
State of West Virginia
Department of Mines
Oil and Gas Division

Date 9/27/82
Operator's
Well No. KEM - 144
Farm Gordon Parsons
API No. 47 - 035 - 1697

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 ___ /)

LOCATION: Elevation: 612' Watershed Lamps Run
District: Grant County Jackson Quadrangle Pond Creek

COMPANY KAISER EXPLORATION & MINING COMPANY

ADDRESS P.O. Box 8, Ravenswood, WV 26164

DESIGNATED AGENT R. A. Pryce

ADDRESS P.O. Box 8, Ravenswood, WV 26164

SURFACE OWNER Gordon Parsons

ADDRESS Rt. 1, Box 63, Murraysville, WV 26153

MINERAL RIGHTS OWNER Same

ADDRESS _____

OIL AND GAS INSPECTOR FOR THIS WORK Richard

Morris ADDRESS Box 372, Grantsville

PERMIT ISSUED 5/05/82

DRILLING COMMENCED 6/30/82

DRILLING COMPLETED 7/06/82

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"		249'	150 sks
9 5/8			
8 5/8			
7		1876'	165 sks
5 1/2			
4 1/2		4349'	225 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Oriskany S.S. Depth 4224 feet

Depth of completed well 4404 feet Rotary X / Cable Tools _____

Water strata depth: Fresh _____ feet; Salt _____ feet

Coal seam depths: _____ Is coal being mined in the area? _____

OPEN FLOW DATA

Producing formation Oriskany S.S. Pay zone depth 4294-4304 feet

Gas: Initial open flow trace Mcf/d Oil: Initial open flow --- Bbl/d

Final open flow Est. 200 Mcf/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- hours

Static rock pressure 1050 psig (surface measurement) after --- 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

(Continue on reverse side)

APR 2 1984

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

7/12/82 Oriskany S.S. Perforation
4294-4304
20 shots

7/13/82 Oriskany S.S. Frac:
60,000 # 20/40 sand
Treatment pressure = 3200 psig
ISIP = 2500 psig
Total of 888 bbl of water and
120,000 SCF of N₂ used

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sandstone and shale			0	1510	
Shale			1510	1952	
Coffee shale			1952	1973	
Berea S.S.			1973	1975	s/g @ 1974
Shale			1975	3128	
Brown shale			3128	3629	
Shale			3629	3974	
Marcellus			3974	4196	
Onondaga L.S.			4196	4224	
Oriskany S.S.			4224	4293	s/g @ 4235, 4268, 4289
Helderberg			4293	4404-TD	s/g @ 4303

bp.
up
1975
3128
3629
3774
3974
4174
4196

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY
Well Operator

By: R.A.P.

Date: September 27, 1982

Note: Regulation 2.03(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."

RECEIVED



Date: April 22, 19 82

FORM IV-2 (Obverse) (12-81)

APR 23 1982

OIL AND GAS DIVISION WV DEPARTMENT OF MINES

Operator's Well No. KEM #144

API Well No. 47 035 1697 State County Permit

STATE OF WEST VIRGINIA DEPARTMENT OF MINES, OIL AND GAS DIVISION OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil / Gas X (If "Gas", Production X / Underground storage / Deep X / Shallow /)

LOCATION: Elevation: 612' Watershed: Lamps Run District: Grant County: Jackson Quadrangle: Pond Creek

WELL OPERATOR Kaiser Exploration and Mining Co. DESIGNATED AGENT R. A. Pryce Address P. O. Box 8 Ravenswood, WV 26164

OIL & GAS ROYALTY OWNER Gordon Parsons Address Rt. 1, Box 63, Murraysville, WV 26153 Acreage 38.75

COAL OPERATOR None Address

SURFACE OWNER Same Address Acreage

COAL OWNER(S) WITH DECLARATION ON RECORD: Name Same Address

FIELD SALE (IF MADE) TO: Address

Name Address

OIL & GAS INSPECTOR TO BE NOTIFIED Name Richard Morris Address P. O. Box 372 Grantsville, WV

COAL LESSEE WITH DECLARATION ON RECORD: Name Address

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease X other contract / dated November 20, 19 78, to the undersigned well operator from Gordon & Mona Parsons (If said deed, lease, or other contract has been recorded:)

Recorded on September 19 19 79, in the office of the Clerk of the County Commission of Jackson County, West Va., in Lease Book 153 at page 679. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill deeper / Redrill / Fracture or stimulate / Plug off old formation / Perforate new formation / Other physical change in well (specify) -planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO: WEST VIRGINIA OIL AND GAS CONSERVATION COMMISSION 1615 WASHINGTON STREET EAST CHARLESTON, WV 25311 TELEPHONE: (304) 348-3092

BLANKET BOND

KAISER EXPLORATION AND MINING COMPANY Well Operator By R.A.P. Its General Manager

DRILLING CONTRACTOR (IF KNOWN) Clint Hurt & Associates, Inc.

Address P. O. Box 388

Elkview, WV 25071

GEOLOGICAL TARGET FORMATION, Oriskany

Estimated depth of completed well, 4364' feet Rotary X / Cable tools _____ /

Approximate water strata depths: Fresh, _____ feet; salt, _____ feet.

Approximate coal seam depths: _____ Is coal being mined in the area? Yes _____ / No X /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS			New	Used	FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft			For drilling	Left in well		
Conductor									Kinds
Fresh Water	10 3/4"					250'	250'	150 sks class	A (to surface)
Coal									Sizes
Intermediate	7"					1874'	1874'	65 sks 50/50 100 sks class	pozmix A
Production	4 1/2"					4364'	4364'	225 sks 50/50	pozmix set
Tubing									
Liners									Perforations:
									Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE.
ALL PROVISIONS BEING IN ACCORDANCE WITH CHAPTER 22,
ARTICLE 4 OF THE W. VA. CODE, THE LOCATION IS HEREBY
APPROVED FOR drilling. THIS PERMIT SHALL EXPIRE
IF OPERATIONS HAVE NOT COMMENCED BY 1-5-83
BY [Signature]

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof.

WAIVER

The undersigned coal operator _____ / owner _____ / lessee _____ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: _____, 19 _____

By _____

Its _____

