

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460



APPLICATION TO TRANSFER PERMIT

NAME AND ADDRESS OF EXISTING PERMITTEE Damson Oil Corporation 396 West Greens Road, P. O. Box 4391 Houston, Texas 77210	NAME AND ADDRESS OF SURFACE OWNER Carl E. Brant 743 Sagamore Hill Road Greensburg, Pennsylvania 15601
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LOCATE WELL AND OUTLINE UNIT ON
SECTION PLAT — 640 ACRES

STATE PA	COUNTY Somerset	PERMIT NUMBER PAS2D561BSOM
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SURFACE LOCATION DESCRIPTION		Stonycreek
1/4 OF	1/4 OF	1/4 SECTION
		TOWNSHIP
		RANGE

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 5500 ft. from (N/S) _____ Line of quarter section West of 78 deg. 55' 00"
and 1350 ft. from (E/W) _____ Line of quarter section North of 40 deg. 02' 30"

WELL ACTIVITY	WELL STATUS	TYPE OF PERMIT
☐ Class I ☐ Class II ☒ Brine Disposal ☐ Enhanced Recovery ☐ Hydrocarbon Storage ☐ Class III ☐ Other	☐ Operating ☐ Modification/Conversion ☐ Proposed	☐ Individual ☐ Area Number of Wells <u>1</u>
West Shanksville SWD Facility		
Lease Name	Carl Brant	Well Number <u>1</u>

NAME(S) AND ADDRESS(ES) OF NEW OWNER(S) Cottonwood Operating Corp. One Berea Plaza P.O. Box 299 Bridgeport, West Virginia 26330	NAME AND ADDRESS OF NEW OPERATOR SAME
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Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The new permittee must show evidence of financial responsibility by the submission of surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the director.

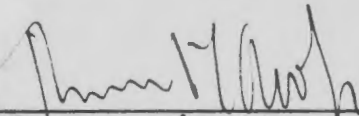
CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (Ref. 40 CFR 122.6).

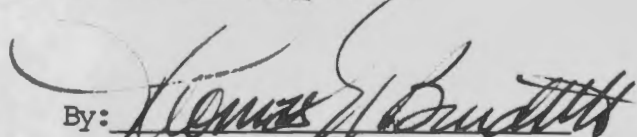
NAME AND OFFICIAL TITLE (Please type or print) Charles W. Gleeson Vice President-Production	SIGNATURE 	DATE SIGNED July 27, 1987
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Effective as of July 29, 1987, Damson Oil Corporation has assigned this permit to Cottonwood Operating Corp., and Cottonwood Operating Corp has accepted responsibility, coverage and liability under this permit.

COTTONWOOD OPERATING CORP.

By: 
Thomas H. O'Neill, Jr.
President

DAMSON OIL CORPORATION

By: 
Thomas N. Burdette
Assistant Vice President



Rec'd 3/11/85
Steve P.



March 8, 1985

United States Environmental
Protection Agency
Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Attn: Mr. Jon M. Capacasa, Chief
PA Implementation Section
Water Supply Branch (3WM43)

Re: Notice of Deficiency for
EPA Permit Application
PAS2D561BSOM

Dear Sir:

In response to subject Notice of Deficiency, we are
enclosing the following:

Addendum to Attachment H: Operator and Damson Working
Interest Data have been
superimposed in the remarks
column of the Original
Attachment H.

Revised Attachment M: Cementing data for the surface
and long strings of casing
have been superimposed onto
the Original Attachment M.

After talking to Mr. Steve Platt of your staff today
regarding Attachment P, we plan to run a standard pressure
test on the tubular goods in the near future. A
representative of Damson from our Yatesboro, Pennsylvania
office will be contacting Mr. Platt by March 15 in order to
set up the date for such test to be witnessed by an EPA
inspector.

Please feel free to call me at (713) 583-3170 if you have
any questions concerning this application.

Yours truly,

A handwritten signature in dark ink, appearing to read "Tom E. Bailey".

Tom E. Bailey
Production Manager - Acquisitions

Attachment
TEB:gw

ADDENDUM TO
ATTACHMENT H

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

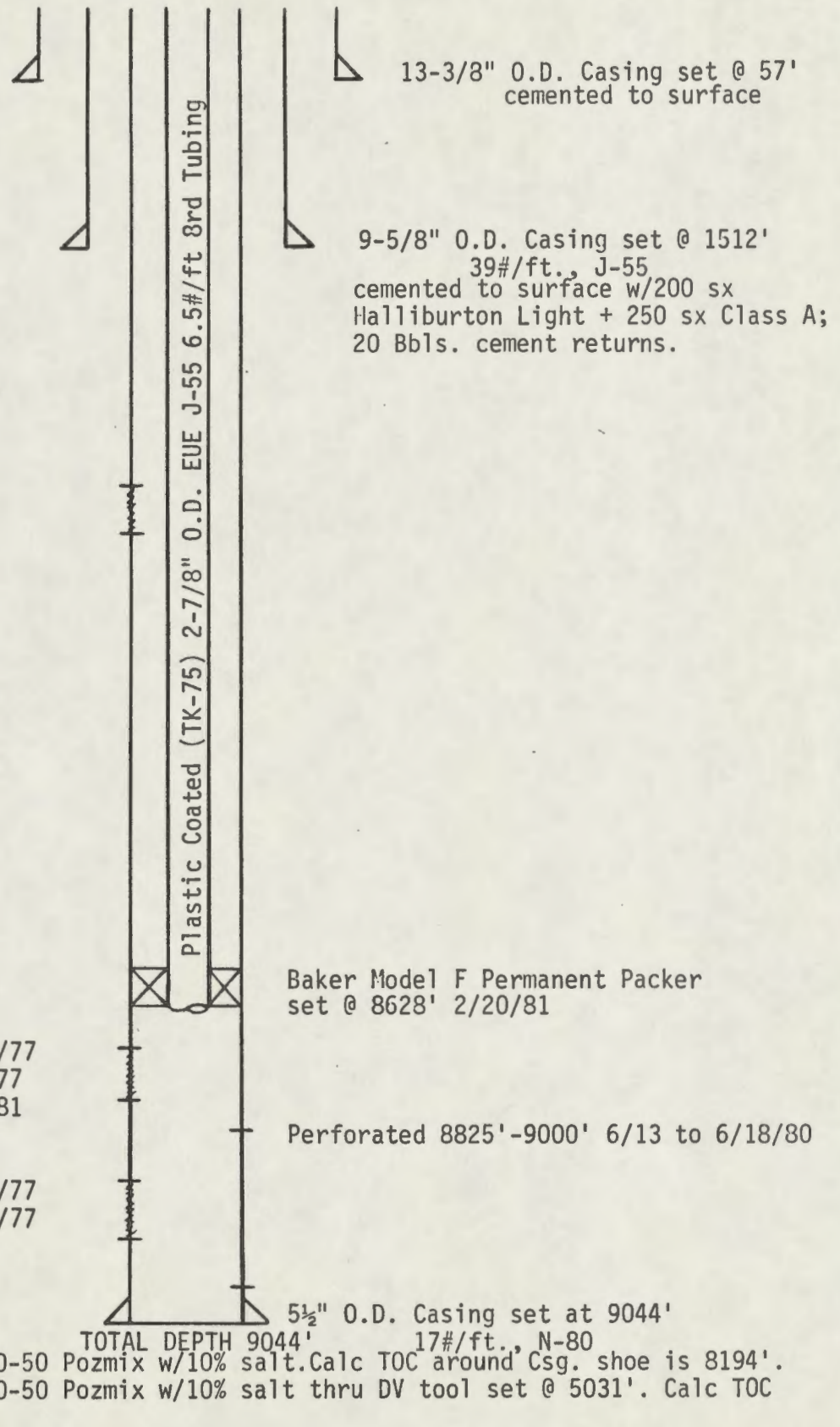
<u>WELL NAME</u>	<u>PRODUCING FORMATION</u>	<u>FIELD/ COUNTY/STATE</u>	<u>OPERATOR</u>	<u>DAMSON W.I.</u>
Dale S. Barron GU #1	Oriskany	Indiantown Somerset, PA	Ashtola	60%
Edward W. Beener GU #1	Oriskany	New Centerville Somerset, PA	Ashtola	60%
Thomas Benson GU #1	Oriskany	W. Shanksville Somerset, PA	Damson	100%
Levi Berkey GU #1	Oriskany	N. Somerset Somerset, PA	Ashtola	60%
Cambria Mining GU # 1	Oriskany	W. Decatur Clearfield, PA	Damson	100%
C & K Coal GU #1	Tuscarora	Marshcreek Centre, PA	Damson	100%
Commonwealth of PA #221	Oriskany	Brier Knob Somerset, PA	Damson	100%
Commonwealth of PA #247	Tuscarora	Rattlesnake Centre, PA	Damson	54.68%
James W. Crawford GU #1	Oriskany	Coxes Creek Somerset, PA	Ashtola	60%
Simon G. Engleka GU #1	Oriskany	S. Somerset Somerset, PA	Ashtola	60%
Robert M. Frazee GU #1	Oriskany	Coxes Creek Somerset, PA	Ashtola	60%
Francis R. Griffin GU #1	U. Devonian	Woodside Pad Fayette, PA	Damson Ashtola	100% 60%
Reuben Griffith GU #1	Tuscarora	Runville Centre, PA	Damson	100%
Texas Gulf GU #1	Tuscarora	Devil's Elbow Centre, PA	Damson	100%
Ralph Hemminger GU #1	Oriskany	Lavansville Somerset, PA	Damson	100%
North Hills Group GU #1	Weir	Plateau Fayette, W. VA	Damson	100%
Dean M. Hottle GU #1	U. Devonian	Enoch Somerset, PA	Damson	100%
R. J. Lambert GU #1	Oriskany & Huntersville	W. Shanksville Somerset, PA	Damson	100%
H. A. Landis GU #1	Oriskany	Friedens Somerset, PA	Damson	100%
Matthew B. Luce GU #B-1	Oriskany	E. Kimmel Somerset, PA	Damson	100%

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ADDEMDUM TO
ATTACHMENT H

<u>WELL NAME</u>	<u>PRODUCING FORMATION</u>	<u>FIELD/ COUNTY/STATE</u>	<u>OPERATOR</u>	<u>DAMSON W.I.</u>
Matthew B. Luce GU #2 ✓	Oriskany	E. Kimmel Somerset, PA	Damson	100%
Donald R. McCann GU #1 ✓	Oriskany	S. Bowood Fayette, PA	Ashtola	60%
Glenn R. Miller GU #1 ✓	Oriskany	Indiantown Somerset, PA	Ashtola	60%
Maude Mountain GU #1 ✓	Oriskany	Mill Run Fayette, PA	Ashtola	60%
Earl R. Naugle GU #1 ✓	Oriskany	Shadecreek Somerset, PA	Ashtola	60%
Herbert Nicholas GU #1 ✓	Oriskany & Huntersville	Kingsbridge Somerset, PA	Ashtola	60%
Lester W. Ott GU #1 ✓	Oriskany	Shadecreek Somerset, PA	Ashtola	60%
Harvey Romesburg GU #1 ✓	Oriskany	Coxes Creek Somerset, PA	Ashtola	60%
X William Schmidt GU #1	Oriskany	Allen Creek Somerset, PA	Ashtola	60%
Theodore C. Sipe GU #2-1 ✓	Huntersville	W. Rockwood Somerset, PA	Ashtola	60%
Wilbur Z. Snyder GU #1 ✓	Oriskany	Shamrock Somerset, PA	Ashtola	60%
James E. Spory GU #1 ✓	Oriskany	Heckman Hollow Somerset, PA	Ashtola	60%
Richard Svonavec GU #1 ✓	Oriskany	S. Lavansville Somerset, PA	Ashtola	60%
Harbison-Walker Refrac. GU #1 ✓	Oriskany	W. Decatur Clearfield, PA	Damson	100%
X John D. Weaver GU #1	Oriskany	Shamrock Somerset, PA	Ashtola	60%
Earl H. Weimer GU #C-1 ✓	Oriskany	Rice Run Somerset, PA	Damson	100%
X Amoco-Witco GU #1	Onondaga	Cyclone McKean, PA	Damson	72.75%
Helen Wolf GU #1 ✓	Oriskany	W. Rockwood Somerset, PA	Ashtola	60%
David W. Yoder GU #1 ✓	Oriskany	Heckman Hollow Somerset, PA	Ashtola	60%

ATTACHMENT M
 CARL BRANT WELL NO. 1
 SUBSURFACE SCHEMATIC



Perforated 4614'-4640' 9/6/77
 Squeezed w/55 sx cmt. 6/1/80

Perforated 8758'-8780' 8/22/77
 Squeezed w/100 sx cmt. 9/4/77
 Squeezed w/50 sx cmt. 2/14/81

Perforated 8898'-8938' 8/15/77
 Squeezed w/100 sx cmt. 8/22/77

5 1/2" Casing cement data:

1st Stage: 200 sx Class A 50-50 Pozmix w/10% salt. Calc TOC around Csg. shoe is 8194'.
 2nd Stage: 200 sx Class A 50-50 Pozmix w/10% salt thru DV tool set @ 5031'. Calc TOC is 4181'



February 14, 1986

RECEIVED

FEB 18 1986

WATER SUPPLY BRANCH
EPA - REGION III

Alvin R. Morris, Director
Pennsylvania Implementation Section
Water Supply Branch (3WM43)
U. S. Environmental Protection Agency
Region III
841 Chestnut Building
Philadelphia, PA 19107

RE: PAS2D561BSOM

Dear Mr. Morris:

We hereby respectfully request an amendment to the subject permit for the West Shanksville Salt Water Disposal Facility. Purpose of the amendment is to allow this facility to be used for disposal of produced brine from all of the Damson or Damson affiliate operated gas wells in the State of Pennsylvania, as well as some 77 wells in Pennsylvania operated by Ashtola Production Company.

Enclosed are four (4) Exhibits in support of the permit amendment:

Exhibit A is a list of 819 wells located in Pennsylvania operated by Damson or Damson affiliates. The list shows each well name and number, county, township and, where applicable, the State Permit Number. We estimate the total average daily brine production from these 819 wells is less than 100 barrels per day. All of these wells produce from the Upper Devonian formations ranging in depth from 2,000' to 4,500'. The average daily gas production per well is less than 15 MCF.

Exhibit B is some 76 water analyses of samples taken from the list of wells in Exhibit A. The specific gravities indicated by the analyses appear to average about the same as the average mixture of produced brine and natural precipitation pumped into the disposal well in 1985. The average weight of the mixture pumped in 1985 was between 9.7 and 9.8 lbs. per gallon, or a specific gravity approximating 1.17. A fluid density of 10.4 lbs. per gallon was used for calculating the maximum surface injection pressure stated in the permit for the injection well.

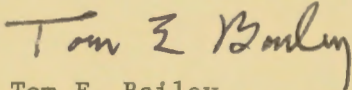
Alvin R. Morris, Director
February 14, 1986
Page -2-

Exhibit C is a list of 77 wells located in Pennsylvania operated by Ashtola Production Company. The first ten (10) wells shown on the list are produced from the Oriskany Sand. The remainder are Upper Devonian formation wells. Ashtola is the operator and co-owner of 21 of the 39 producing wells for which the subject disposal permit presently applies.

Exhibit D is eleven (11) water analyses of samples taken from the list of wells in Exhibit C.

Please feel free to call me at (713)873-3170 if you have any questions concerning this request.

Yours truly,

A handwritten signature in dark ink, appearing to read "Tom E. Bailey". The signature is written in a cursive, slightly slanted style.

Tom E. Bailey
Manager, Production-Acquisitions

cvs

Enclosure

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
	DAMSON OPERATED			
1				
2				
3				
4	B1091-1	MARY ALLISON ET AL	ALLEGHENY	INDIANA
5	1091-2	MARY ALLISON ET AL	INDIANA	INDIANA
6	1092-1	W G FISHER	INDIANA	ALL-21029-R
7	B1097-1	ROBERT BLUM ET UX	MCCANDLESS	
8	B1097-2	ROBERT BLUM ET UX	MCCANDLESS	ALL-20968-D
9	1130-1	H C REINHOLD	MCCANDLESS	Assigned
10	1131-1	JOSEPH A BROOKER ET UX	PINE	Assigned
11	1436-1	PLUM CREEK PRESBYTERIAN CHURCH	PLUM BORO	NONE
12				
13				
14	B137-1	ALICE M MCNAUGHTON ET AL	ARMSTRONG	ATWOOD BORO
15	B142-1	ELSIE E MCLEAN	ATWOOD BORO	ARM-21711
16	B500-1	CAROLINE HOOVER ET VIR	BOGGS	ARM-21718
17	B501-1	W S HOOVER ET UX	BOGGS	ARM-1192-R
18	B502-1	JOHN R MAGAN ET UX	BOGGS	ARM-1184-D
19	B503-1	F B MARTIN ET UX	BOGGS	ARM-1228-R
20	B503-2	F B MARTIN ET UX	BOGGS	ARM-517-R
21	B503-3	F B MARTIN ET UX	BOGGS	ARM-1206
22	B504-1	L C BAUM ET UX	BOGGS	
23	B504-2	L C BAUM ET UX	BOGGS	ARM-866-R
24	B505-1	J E MATEER ET AL	BOGGS	
25	B507-1	MRS JAMES MCKINLEY	BOGGS	ARM-632-R2
26	B507-2	MRS JAMES MCKINLEY	BOGGS	ARM-643
27	B508-1	W C CALHOUN ET UX	BOGGS	ARM-1001-R
28	B508-2	W C CALHOUN ET UX	BOGGS	
29	B509-1	J M SPENCE ET UX	BOGGS	ARM-21882-R
30	B509-2	J M SPENCE ET UX	BOGGS	ARM-1076-R2
31	B509-4	J M SPENCE ET UX	BOGGS	ARM-1351
32	B510-1	JENNIE M WHITE ET AL	BOGGS	
33	B510-2	JENNIE M WHITE ET AL	BOGGS	ARM-21902-R
34	B510-3	JENNIE M WHITE ET AL	BOGGS	ARM-635
35	510-4	JENNIE M WHITE ET AL	BOGGS	ARM-888-R2
36	B511-1	MRS NANCY BAUM	BOGGS	
37	B511-2	MRS NANCY BAUM	BOGGS	ARM-856-R2
38	B514-1	R J MOORE	BOGGS	ARM-21876-R
39	B518-1	W A DILL ET UX	BOGGS	ARM-21869-R
40	B518-2	W A DILL ET UX	BOGGS	ARM-864-R
41	B518-3	W A DILL ET UX	BOGGS	ARM-1546-R
42	B519-1	R W HEFFELFINGER ET AL	BOGGS	
43	B527-1	W S HOOVER ET AL	BOGGS	ARM-21652-R
44	B528-1	SALLY LOCKHART	BOGGS	
45	B529-1	E C BEST	BOGGS	ARM-1520-R
46	B529-2	E C BEST	BOGGS	
47	B529-3	E C BEST	BOGGS	ARM-1021-R
48	B529-4	E C BEST	BOGGS	
49	B529-5	E C BEST	BOGGS	
50	B532-1	W J ELKIN ET UX	BOGGS	ARM-1545-R
51	B532-2	W J ELKIN ET UX	BOGGS	ARM-1516-R
52	B532-3	W J ELKIN ET UX	BOGGS	
53	B533-1	JAMES MCKINLEY	BOGGS	
54	B533-2	JAMES MCKINLEY	BOGGS	
55	B536-1	J M DILL	BOGGS	
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3				
4	B536-2	J M DILL	BOGGS	ARM-574-R
5	B536-3	J M DILL	BOGGS	ARM-798-R
6	B538-2	WILLIAM MOORE ET UX	BOGGS	ARM-1296-D
7	B538-3	WILLIAM MOORE ET UX	BOGGS	ARM-591-D2
8	B539-1	F L POWERS	BOGGS	
9	B539-2	F L POWERS	BOGGS	
10	B540-1	W C MOORE	BOGGS	ARM-1267-R
11	B540-2	W C MOORE	BOGGS	
12	B540-3	W C MOORE	BOGGS	
13	B540-4	W C MOORE	BOGGS	
14	B541-1	WILLIAM MOORE ET UX	BOGGS	AKM-22204-D
15	B546-1	J A WILLIAMSON	BOGGS	
16	B546-2	J A WILLIAMSON	BOGGS	
17	B546-3	J A WILLIAMSON	BOGGS	
18	B546-4	J A WILLIAMSON	BOGGS	ARM-826
19	B547-1	M A LIGHTNER ET UX	BOGGS	
20	B549-1	P W ZIMMERMAN ET UX	BOGGS	
21	B549-2	P W ZIMMERMAN ET UX	BOGGS	ARM-844
22	B551-1	ROY S HEILMAN	BOGGS	ARM-21874-R2
23	B551-2	ROY S HEILMAN	BOGGS	ARM-21871-R
24	B551-3	ROY S HEILMAN	BOGGS	ARM-21872-R
25	B552-1	JOHN SECRIST ET UX	BOGGS	
26	B553-1	JOHN C ELLENBERGER ET AL	BOGGS	
27	B553-2	JOHN C ELLENBERGER ET AL	BOGGS	ARM-603
28	B553-3	JOHN C ELLENBERGER ET AL	BOGGS	ARM-859
29	B554-1	JOHN O PRIESTER ET UX	BOGGS	ARM-15
30	B555-1	S J WHITE ET UX	BOGGS	ARM-48
31	B555-2	S J WHITE ET UX	BOGGS	ARM-72
32	B558-1	HARRY BASSINGER ET AL	BOGGS	ARM-252
33	B558-2	HARRY BASSINGER ET AL	BOGGS	ARM-579
34	B559-1	ROBERT MARTIN	BOGGS	ARM-289
35	B560-1	BRUCE A ZIMMERMAN ET AL	BOGGS	ARM-326-R
36	B560-2	BRUCE A ZIMMERMAN ET AL	BOGGS	ARM-964-R
37	B561-1	EARL CORNMAN ET UX	BOGGS	ARM-348
38	B561-2	EARL CORNMAN ET UX	BOGGS	ARM-581-R
39	B563-1	JAMES A KAMMERDIENER ET UX	BOGGS	ARM-436
40	B564-1	IDA MARTIN ET AL	BOGGS	ARM-455-D
41	B567-1	JOE F SHERMAN COMPANY	BOGGS	ARM-531-D
42	B568-1	JOE F SHERMAN COMPANY	BOGGS	ARM-547
43	B571-1	LEE HOUSER ET UX	BOGGS	ARM-625
44	B573-1	W M ELLENBERGER ET UX	BOGGS	ARM-653
45	B574-1	M A LIGHTNER ET UX	BOGGS	ARM-690
46	B577-1	W FRANK MATEER ET UX	BOGGS	ARM-771
47	B578-1	G T ELKIN HEIRS	BOGGS	ARM-818
48	B580-1	BRUCE KAMMERDIENER ET UX	BOGGS	ARM-899-D
49	B581-1	JOHN O PRIESTER ET UX	BOGGS	ARM-910
50	B582-1	ROBERT R MCAULEY ET UX	BOGGS	ARM-941
51	B583-1	GEORGE W SOWERS ET UX	BOGGS	ARM-959
52	B585-2	ROSE MARIE SCHRECENGOST ET AL	BOGGS	ARM-1404
53	B609-1	JAMES A KAMMERDIENER ET UX	BOGGS	ARM-21638-D
54	B636-1	SAMUEL L CALHOUN ET UX	BOGGS	ARM-33
55	B70-1	ROBERT M MCILWAIN ET UX	HURRELL	ARM-21918-R
56	B70-2	ROBERT M MCILWAIN ET UX	BURRELL	NONE
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3				
4	B71-1	ROBERT M. MCILWAIN ET UX	BURRELL	ARM-21984-R
5	B72X-1	B A TOWNSEND ET AL	BURRELL	NONE
6	B72X-2	B A TOWNSEND ET AL	BURRELL	NONE
7	B78X-1	CHARLES O PETERS ET UX	BURRELL	ARM-95
8	B78X-2	CHARLES O PETERS ET UX	BURRELL	ARM-124
9	B79X-1	CHARLES RIGGLE ET AL	BURRELL	NONE
10	B26X-1	PARK REARICK ET UX	COWANSHANNOCK	ARM-21694-R
11	B26X-2	PARK REARICK ET UX	COWANSHANNOCK	ARM-21803
12	B26X-3	PARK REARICK ET UX	COWANSHANNOCK	ARM-21804
13	B28X-1	LELA HALL ET VIR	COWANSHANNOCK	ARM-1521-R
14	B49-1	FRANK SLAVICK ET UX	COWANSHANNOCK	ARM-808
15	B49-2	FRANK SLAVICK ET UX	COWANSHANNOCK	ARM-21835
16	B50-1	FRANK SLAVICK ET UX	COWANSHANNOCK	ARM-847
17	B50-2	FRANK SLAVICK ET UX	COWANSHANNOCK	ARM-21851
18	53-1	S READ MCLEAN ET UX	COWANSHANNOCK	ARM-944-R3
19	B109-1	WILDA M STEWART ET AL	COWANSHANNOCK	ARM-21738
20	109-3	WILDA M STEWART ET AL	COWANSHANNOCK	ARM-22349
21	110-1	WILDA M STEWART ET AL	COWANSHANNOCK	ARM-22270
22	B110-2	WILDA M STEWART ET AL	COWANSHANNOCK	ARM-21801
23	B123-1	BURTON J BUTKER ET UX	COWANSHANNOCK	ARM-21741
24	B148-1	LEASON Q COOPER ET UX	COWANSHANNOCK	ARM-21712
25	B149-1	ATLANTIC CITY ELECTRIC COMPANY ET AL	COWANSHANNOCK	ARM-21753
26	B150-1	ATLANTIC CITY ELECTRIC COMPANY ET AL	COWANSHANNOCK	ARM-21709
27	B159-1	DAVID EARNEST SELL ET UX	COWANSHANNOCK	ARM-21726
28	B286-1	LAURA E WILSON ET AL	COWANSHANNOCK	ARM-22142
29	B287-1	LAURA E WILSON ET AL	COWANSHANNOCK	ARM-22139
30	B292-2	H G GILLIS ET UX	COWANSHANNOCK	ARM-21745
31	B304-1	ROBERT W STEWART ET UX	COWANSHANNOCK	ARM-21706
32	B304-2	ROBERT W STEWART ET UX	COWANSHANNOCK	ARM-21746
33	B305-1	ROBERT W STEWART ET UX	COWANSHANNOCK	ARM-21748
34	B321-1	EVA H DEAN ET AL	COWANSHANNOCK	ARM-21783-R
35	B322-1	J WILLIAM MCCOLGIN	COWANSHANNOCK	ARM-21708
36	B324-1	FRED EAKMAN ET UX	COWANSHANNOCK	ARM-21769
37	B325-1	FRED EAKMAN ET UX	COWANSHANNOCK	ARM-21770-R
38	B331-1	RALPH W JEFFERIS ET UX	COWANSHANNOCK	ARM-21786
39	B332-1	ANTHONY DIMAIO ET UX	COWANSHANNOCK	ARM-21787
40	B332-2	ANTHONY DIMAIO ET UX	COWANSHANNOCK	ARM-22135
41	B341-1	F S BARTOE ET AL	COWANSHANNOCK	ARM-21802-R
42	354-1	NUMINE DISTRICT SPORTSMAN'S ASSN	COWANSHANNOCK	ARM-22468
43	B531-1	MARGARET STEWART	COWANSHANNOCK	
44	B790-1	LAIRD SHETLER ET UX	COWANSHANNOCK	ARM-22060
45	B807-1	FRED J MATTILIO ET UX	COWANSHANNOCK	ARM-22068
46	B1000-1	JOHN W MARSHALL	COWANSHANNOCK	
47	B1003-1	A A FARREN	COWANSHANNOCK	
48	B1004-1	J W SMAIL ET UX	COWANSHANNOCK	
49	1007-2	I N ERICK ET AL	COWANSHANNOCK	
50	B1008-1	GEORGE B AIKINS ET UX	COWANSHANNOCK	
51	1011-1	W H RANKIN ET UX	COWANSHANNOCK	
52	B1012-1	GEORGE RUPERT ET UX	COWANSHANNOCK	
53	1013-1	J A HOOVER ET UX	COWANSHANNOCK	
54	B565-1	ANNIE TARR	E FRANKLIN	ARM-487
55	1103-1	J H FISCUS ET AL	KITTANNING	ARM-22190-D
56	1112-1	JOHN MCCLISTER ET AL	KITTANNING	ARM-22191-R
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3				
4	B557-1	GEORGE SHILLING ET AL	MAHONING	ARM-117-R
5	B557-2	GEORGE SHILLING ET UX	MAHONING	ARM-156-R
6	B557-3	GEORGE SHILLING ET UX	MAHONING	ARM-157-R
7	B566-1	JAMES R GOULD ET UX	MAHONING	ARM-509-R2
8	B1031-1	ANN M HALL HEIRS	N BUFFALO	Lost by Court Order
9	B1045-1	PENN DIXIE CEMENT CORPORATION	N BUFFALO	
10	1049-1	J MAWLEY	N BUFFALO	Lost by Court Order
11	B1X-1	J C HARREN	PLUMCREEK	
12	B2X-1	AMOS BOYER ET UX	PLUMCREEK	ARM-732-R
13	B3X-1	PETER FENNELL ET UX	PLUMCREEK	ARM-1524-D
14	B3X-2	PETER FENNELL ET UX	PLUMCREEK	ARM-740-R
15	B5X-1	HARRISON HARKLERDAD ET UX	PLUMCREEK	NONE
16	B6X-1	T Q KIMMEL ET UX	PLUMCREEK	ARM-988-R
17	B6X-2	T Q KIMMEL ET UX	PLUMCREEK	NONE
18	B6X-3	T Q KIMMEL ET UX	PLUMCREEK	ARM-863
19	B6X-4	T Q KIMMEL ET UX	PLUMCREEK	ARM-391
20	B7X-1	F S BOYER ET UX	PLUMCREEK	ARM-21818
21	B7X-2	F S BOYER ET UX	PLUMCREEK	ARM-937-R
22	B15X-1	T B WINGARD ET UX	PLUMCREEK	ARM-21830
23	B15X-2	T B WINGARD ET UX	PLUMCREEK	ARM-1036-R
24	B18X-1	JAMES O BLYSTONE ET UX	PLUMCREEK	ARM-21962
25	B18X-2	JAMES O BLYSTONE ET UX	PLUMCREEK	NONE
26	B19X-1	T B WINGARD ET UX	PLUMCREEK	ARM-1455-R
27	B19X-2	T B WINGARD ET UX	PLUMCREEK	NONE
28	B20X-1	J N BLOSE	PLUMCREEK	ARM-21826
29	B20X-2	J N BLOSE	PLUMCREEK	NONE
30	20X-3	J N BLOSE	PLUMCREEK	ARM-369
31	B20X-4	J N BLOSE	PLUMCREEK	ARM-520
32	B20X-5	J N BLOSE	PLUMCREEK	ARM-21836-R
33	B23X-1	MARIA A KIMMEL ET AL	PLUMCREEK	ARM-22011
34	B24X-1	H O MILLER ET AL	PLUMCREEK	NONE
35	B24X-2	H O MILLER ET AL	PLUMCREEK	ARM-1447-R
36	B31X-1	J E KEELER ET AL	PLUMCREEK	ARM-21854
37	B31X-2	J E KEELER ET AL	PLUMCREEK	ARM-21687-R
38	B33X-1	J N RALSTON ET AL	PLUMCREEK	ARM-21778
39	B34X-1	F J BOYER ET UX	PLUMCREEK	NONE
40	B35X-1	MAE HARKLERDAD	PLUMCREEK	ARM-1089-R
41	B36X-1	JOE SCHRECEGOST ET UX	PLUMCREEK	NONE
42	B36X-2	JOE SCHRECEGOST ET UX	PLUMCREEK	ARM-190-R2
43	B37X-1	LAWRENCE B REARICK ET UX	PLUMCREEK	ARM-21956
44	B39X-1	BOYO P KNESS ET AL	PLUMCREEK	ARM-195-R2
45	B40X-1	WILLIAM L FRAZIER ET UX	PLUMCREEK	ARM-246-R
46	B41-1	EDGAR T KIMMEL ET UX	PLUMCREEK	ARM-828-R2
47	B42X-1	ELDER N PETERMAN ET UX	PLUMCREEK	ARM-350
48	B43X-1	RILLA REEFER ET AL	PLUMCREEK	ARM-403
49	B47X-1	BERT L MEYER	PLUMCREEK	ARM-477-D
50	B48X-1	HARRY WOHLWEND	PLUMCREEK	ARM-761-D
51	B51-1	VERNON MILLER ET UX	PLUMCREEK	ARM-793-D
52	B52-1	GEORGE D PETERMAN	PLUMCREEK	ARM-1031
53	B52-2	GEORGE D PETERMAN	PLUMCREEK	ARM-750-R
54	B61-1	WAYNE MILLER ET UX	PLUMCREEK	
55	B61-2	WAYNE MILLER ET UX	PLUMCREEK	ARM-913-R
56	B61-4	WAYNE MILLER ET UX	PLUMCREEK	ARM-952
57				ARM-21821-R

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	B65X-1	J M STEWART HEIRS	PLUMCREEK	ARM-1381-R
4	B65X-2	J M STEWART HEIRS	PLUMCREEK	ARM-960-R
5	B65X-3	J M STEWART HEIRS	PLUMCREEK	ARM-733-R
6	B65X-4	J M STEWART HEIRS	PLUMCREEK	ARM-21825
7	B65X-5	J M STEWART HEIRS	PLUMCREEK	ARM-21968
8	B66X-1	JOHN HOTHAM ET UX	PLUMCREEK	NONE
9	B66X-2	JOHN HOTHAM ET UX	PLUMCREEK	ARM-1075-R
10	B66X-3	JOHN HOTHAM ET UX	PLUMCREEK	ARM-21951
11	B67X-1	H W SHELLING	PLUMCREEK	NONE
12	B74X-1	MAUDE E CUMMINS ET AL	PLUMCREEK	NONE
13	B74X-2	MAUDE E CUMMINS ET AL	PLUMCREEK	NONE
14	B74X-3	MAUDE E CUMMINS ET AL	PLUMCREEK	NONE
15	B75X-1	LLOYD SILVIS ET UX	PLUMCREEK	ARM-25
16	B76X-1	EDWIN HANKINSON ET UX	PLUMCREEK	ARM-73
17	B77X-1	CHRIST KROMER ET UX	PLUMCREEK	ARM-85
18	B77X-2	CHRIST KROMER ET UX	PLUMCREEK	ARM-21811
19	B77X-3	CHRIST KROMER ET UX	PLUMCREEK	ARM-21812
20	B80X-1	I L SMITH ET UX	PLUMCREEK	ARM-21937-R
21	B80X-2	I L SMITH ET UX	PLUMCREEK	ARM-21866-R2
22	B80X-3	I L SMITH ET UX	PLUMCREEK	ARM-22220
23	B81X-1	ROBERT C YOUNG ET UX	PLUMCREEK	NONE
24	B83X-1	MAUDE E CUMMINS ET AL	PLUMCREEK	NONE
25	B83X-2	MAUDE E CUMMINS ET AL	PLUMCREEK	ARM-21944
26	B84X-1	G C ROWLEY ET UX	PLUMCREEK	NONE
27	B101X-1	ISABELLA KAUFMAN ET AL	PLUMCREEK	ARM-628
28	B102X-1	ANNIE A MILLER ET AL	PLUMCREEK	ARM-652
29	B117-1	BRYAN L GRAFF ET UX	PLUMCREEK	ARM-21856-R
30	B127-1	HOWARD MILBY ET UX	PLUMCREEK	ARM-21723
31	B136-1	JOHN K BEESON JR ET UX	PLUMCREEK	ARM-21724
32	B140-1	HALE O MCQUILKIN ET UX	PLUMCREEK	ARM-21707
33	B192-1	BRYAN L GRAFF ET UX	PLUMCREEK	ARM-21857
34	B196-1	LEWIS C GIBSON	PLUMCREEK	ARM-21773
35	B197-1	PETER REARICK	PLUMCREEK	ARM-21781-R
36	A221-1	FLEMING GALLAS	PLUMCREEK	ARM-1563 assigned
37	B1005-1	FRANK J FISHER ET UX	PLUMCREEK	
38	B1006-1	B H FITZGERALD ET AL	PLUMCREEK	
39	B64-1	ANNIE E NEALE	REDBANK	
40	B64-2	ANNIE E NEALE	REDBANK	
41	B64-3	ANNIE E NEALE	REDBANK	ARM-21625-R
42	B64-4	ANNIE E NEALE	REDBANK	
43	B64-5	ANNIE E NEALE	REDBANK	ARM-21797
44	B162-1	JOHN P ROBERTS	REDBANK	ARM-21823-R
45	B173-1	HAROLD J HEFFNER ET UX	REDBANK	ARM-21843-R
46	B234-1	STANLEY D DOVERSPIKE ET UX	REDBANK	ARM-21699-R
47	B1048-1	ROBERT RHEA ET AL	S BUFFALO	
48	B1101-1	DESALVO	S BUFFALO	
49	B1119-1	WILLIAM H MYERS	S BUFFALO	
50	B4X-1	ANNIE E REARICK ET VIR	SOUTH BEND	ARM-503-D
51	B4X-2	ANNIE E REARICK ET VIR	SOUTH BEND	NONE
52	B4X-3	ANNIE E REARICK ET VIR	SOUTH BEND	NONE
53	B4X-4	ANNIE E REARICK ET VIR	SOUTH BEND	ARM-22006-R
54	B4X-5	ANNIE E REARICK ET VIR	SOUTH BEND	ARM-21954
55	B8X-1	A L SCOTT ET AL	SOUTH BEND	NONE

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3				
4	B9X-1	L G SMELTZER ET UX	SOUTH BEND	NONE
5	B10X-1	JACOB RUPERT	SOUTH BEND	NONE
6	B11X-1	SADIE HOUSER ET AL	SOUTH BEND	NONE
7	B12X-1	SUSANNA DUNMIRE ET AL	SOUTH BEND	NONE
8	B13X-1	M B SMELTZER ET UX	SOUTH BEND	NONE
9	B14X-1	ANNIE M KLINGENSMITH ET VIR	SOUTH BEND	NONE
10	B16X-1	WALTON B SMITH ET AL	SOUTH BEND	NONE
11	B17X-1	H J REEFER ET UX	SOUTH BEND	NONE
12	B21X-1	H M YOUNG ET UX	SOUTH BEND	NONE
13	B21X-2	H M YOUNG ET UX	SOUTH BEND	ARM-21943
14	B22X-1	J C SCHRECONGOST ET UX	SOUTH BEND	NONE
15	B25X-1	FRANK CESSNA ET UX	SOUTH BEND	NONE
16	B27X-1	L M RUPERT ET UX	SOUTH BEND	NONE
17	B29X-1	A DUFF RUPERT ET UX	SOUTH BEND	ARM-1466-D
18	B30X-1	A T AMBROSE ET UX	SOUTH BEND	NONE
19	B32-1	PETER T GEORGE	SOUTH BEND	NONE
20	B32-2	PETER T GEORGE	SOUTH BEND	NONE
21	B38X-1	CARL R SCOTT ET AL	SOUTH BEND	ARM-261-D2
22	B68X-1	R H GEORGE ET UX	SOUTH BEND	NONE
23	B68X-2	R H GEORGE ET UX	SOUTH BEND	NONE
24	B69X-1	B A TOWNSEND ET UX	SOUTH BEND	ARM-21915-R
25	B87-1	B R KEPPEL ET UX	SOUTH BEND	NONE
26	B517-1	G F CULBERTSON	VALLEY	
27	B517-2	G F CULBERTSON	VALLEY	
28	B521-1	G M SLEASE ET AL	VALLEY	
29	B521-2	G M SLEASE ET AL	VALLEY	ARM-144-D
30	B522-1	M H TROUTMAN	VALLEY	
31	B522-2	M H TROUTMAN	VALLEY	ARM-66
32	B523-1	T F MCKINLEY ET UX	VALLEY	
33	B523-2	T F MCKINLEY ET UX	VALLEY	ARM-777-R
34	B526-1	GUY ADAMS ET AL	VALLEY	
35	B526-2	GUY ADAMS ET AL	VALLEY	
36	B530-1	WITTMER	VALLEY	
37	B535-1	S LEE MATEER	VALLEY	
38	B535-2	S LEE MATEER	VALLEY	ARM-140
39	644-1	TURNER GEIGER ET AL	VALLEY	
40	1122-1	E L SHULTZ ET UX	W FRANKLIN	ARM-1294-R2 Assigned
41	1127-1	MARIE CLARK	W FRANKLIN	
42	B73X-1	ARTHUR L GALLAGHER	WAYNE	ARM-21913-R3
43	B124-1	P F HOLLENBAUGH ET UX	WAYNE	ARM-21750
44	B152-1	GEORGE W REESMAN ET UX	WAYNE	ARM-21704
45	B279-1	GENE N REESMAN ET UX	WAYNE	ARM-22268
46	B506-1	PETER KAMMERDIENER	WAYNE	
47	B506-2	PETER KAMMERDIENER	WAYNE	ARM-21817-R
48	B506-3	PETER KAMMERDIENER	WAYNE	
49	B509-3	J M SPENCE ET UX	WAYNE	ARM-1077
50	B512-1	MARGARET A COGLEY ET VIR	WAYNE	ARM-1346-R
51	B512-2	MARGARET A COGLEY ET VIR	WAYNE	ARM-1276
52	B512-3	MARGARET A COGLEY ET VIR	WAYNE	ARM-1327
53	B512-4	MARGARET A COGLEY ET VIR	WAYNE	ARM-1389
54	B513-1	E M COGLEY ET UX	WAYNE	
55	B513-2	E M COGLEY ET UX	WAYNE	
56	B513-3	E M COGLEY ET UX	WAYNE	ARM-1391-R
57				

ENG Well. Doc owns
1/4 interest in oil
and gas rights
under the lease.

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	B515-1		WAYNE	
4	B515-2		WAYNE	
5	B515-3		WAYNE	
6	B516-1		WAYNE	
7	B520-1		WAYNE	
8	B520-2		WAYNE	
9	B524-1		WAYNE	ARM-21767-R
10	B525-1		WAYNE	ARM-981-D3
11	B525-2		WAYNE	
12	B534-1		WAYNE	ARM-1383-R
13	B537-1		WAYNE	
14	B542-1		WAYNE	ARM-361-D
15	B542-2		WAYNE	ARM-928
16	B543-1		WAYNE	
17	B543-2		WAYNE	ARM-927
18	B544-1		WAYNE	
19	B545-1		WAYNE	ARM-21879-R
20	B545-2		WAYNE	ARM-1006-R
21	B545-3		WAYNE	ARM-1136
22	B545-4		WAYNE	ARM-1155-K
23	B548-1		WAYNE	ARM-21790-R
24	B548-2		WAYNE	ARM-619-R
25	B550-1		WAYNE	
26	B556-1		WAYNE	ARM-100
27	B562-1		WAYNE	ARM-399
28	B562-2		WAYNE	ARM-407
29	B563-2		WAYNE	ARM-446-R
30	B563-3		WAYNE	
31	B569-1		WAYNE	ARM-554-R
32	B570-1		WAYNE	ARM-592
33	B570-2		WAYNE	ARM-606
34	B570-3		WAYNE	ARM-621
35	B572-1		WAYNE	ARM-673
36	B572-2		WAYNE	ARM-986-R
37	B572-3		WAYNE	ARM-1016-R
38	B575-1		WAYNE	ARM-726
39	B576-1		WAYNE	ARM-754
40	B579-1		WAYNE	ARM-837-R
41	B579-2		WAYNE	ARM-886-D2
42	B584-1		WAYNE	ARM-977
43	B584-2		WAYNE	ARM-1241-R2
44	B585-1		WAYNE	ARM-1373-K
45	B611-1		WAYNE	ARM-22345
46	B643-1		WAYNE	ARM-1604
47	B702-1		WAYNE	ARM-22225
48	B98-1		WAYNE	ARM-22389-D
49				
50				
51				
52	B1075-1	BUTLER	BUFFALO	
53	B1082-1		BUFFALO	
54	B1082-2		BUFFALO	
55	B1083-1		BUFFALO	
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	B1084-1	WILLARD G FULLERTON ET UX	BUFFALO	
4	B1102-1	ROSELLA ELLIOTT	BUFFALO	
5	B1117-1	PATRICIA PARKINSON ET AL	BUFFALO	Assigned
6	B1121-1	BART SELL ET UX	BUFFALO	
7	1426-1	PHILIP K JONES	BUFFALO	NONE
8	1434-1	THOMAS THROWER	BUFFALO	NONE Assigned
9	B1053-1	ANNA BOWSER ET AL	CLEARFIELD	
10	B1053-2	ANNA BOWSER ET AL	CLEARFIELD	
11	B1059-1	MARY O'NEILL ET AL	CLEARFIELD	
12	B1059-2	MARY O'NEILL ET AL	CLEARFIELD	
13	BA1060-1	MRS HART GRAHAM	CLEARFIELD	
14	B1061-1	C F KEASEY	CLEARFIELD	
15	B1062-1	WM C FINDLEY	CLEARFIELD	
16	B1065-1	SARAH LOGUE ET AL	CLEARFIELD	BUT-654-R Assigned
17	B1072-1	WILLIAM MCGAGUE	CLEARFIELD	Assigned
18	B1074-1	THERESA MCMAHON	CLEARFIELD	
19	B1074-2	THERESA MCMAHON	CLEARFIELD	
20	B1074-3	THERESA MCMAHON	CLEARFIELD	BUT-20793-R
21	B1081-1	GEORGE W SIPE ET AL	CLEARFIELD	BUT-102-D Assigned
22	B1085-1	CATHERINE MILLHISLER ET VIR	CLEARFIELD	BUT-681-R
23	B1085-2	CHRISTEENA F HEMBOLD ET AL	CLEARFIELD	
24	B1093-1	ANDREW BAULDAUF	CLEARFIELD	
25	B1093-2	ANDREW BAULDAUF	CLEARFIELD	
26	B1094-1	KATHERINE MCMAHON	CLEARFIELD	
27	B1109-1	CLEMENT J MCLAFFERTY	CLEARFIELD	Assigned
28	1109-2	CLEMENT J MCLAFFERTY	CLEARFIELD	BUT-20853-R Assigned
29	B1110-1	ANNA M MCBRIDE	CLEARFIELD	Assigned
30	1111-1	CHARLES W MCCRADY ET UX	CLEARFIELD	BUT-20857-R Assigned
31	B1113-1	GEORGE MCCREA ET AL	CLEARFIELD	Assigned
32	B1124-1	DENNIS L GALLAGHER	CLEARFIELD	
33	B1124-2	DENNIS L GALLAGHER	CLEARFIELD	
34	B1124-3	DENNIS L GALLAGHER	CLEARFIELD	
35	B1137-1	DONALD J BERGBIGLER ET UX	CLEARFIELD	Assigned
36	B1137-2	DONALD J BERGBIGLER ET UX	CLEARFIELD	BUT-20791-R Assigned
37	1137-3	DONALD J BERGBIGLER ET UX	CLEARFIELD	Assigned
38	1259-1	LUKE D CYPHER ET UX	CLEARFIELD	BUT-20079-D Assigned
39	1259-2	LUKE D CYPHER ET UX	CLEARFIELD	Assigned
40	1507	JOHN R BOSAK ET UX	CLEARFIELD	No well
41	B1070-2	R M LOVE	CLINTON	
42	B1076-1	WILLIAM REINHOLD	CLINTON	
43	B1077-1	JOHN W RIDDLE ET AL	CLINTON	
44	B1104-1	JOSEPH V FISHER ET UX	CLINTON	
45	B1116-1	WALTER E MORRISON	CLINTON	
46	B1120-1	MRS SEFTON ET AL	CLINTON	
47	B1152-1	JENNIE S FRANK	CLINTON	
48	B1153-1	JOHN CUNNINGHAM	CLINTON	
49	1153-2	JOHN CUNNINGHAM	CLINTON	
50	1421-1	L S LARDIN	CLINTON	NONE
51	1422-1	ETTA HALSTEAD	CLINTON	NONE Assigned
52	1424-1	S M PEARL HALSTEAD	CLINTON	NONE Assigned
53	1427-1	W H LOVE	CLINTON	NONE
54	1429-1	CHARLES WOOD ET AL	CLINTON	NONE
55	1431-1	ANNA L HARVEY ET AL	CLINTON	NONE
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1437-1	EVERETT ANDERSON ET UX		CLINTON	NONE <i>Assigned</i>
B1128-1	FRANK FISHPAW		JEFFERSON	
B1128-2	FRANK FISHPAW		JEFFERSON	BUT-20871-R
B1129-1	HENRY G SAUNDERS ET UX		JEFFERSON	
B1129-2	HENRY G SAUNDERS ET UX		JEFFERSON	
B1134-1	NORWICKI		JEFFERSON	
B1114-1	MARY SPOHN		SUMMIT	
B1114-2	MARY SPOHN		SUMMIT	
B1115-1	MARY SPOHN		SUMMIT	
1015-1	E E BERNSDORFF		WINFIELD	<i>Assigned</i>
B1016-1	JOHN F BICKER		WINFIELD	
B1017-1	GEORGE H BICKER ET UX		WINFIELD	BUT-77-D
B1018-1	J M CRUIKSHANK		WINFIELD	
1019-1	GEORGE BREWER ET UX		WINFIELD	
B1020-1	VICTOR E DARLING ET UX		WINFIELD	
B1020-2	VICTOR E DARLING ET UX		WINFIELD	
B1020-3	VICTOR E DARLING ET UX		WINFIELD	
B1021-1	WM M CYPHER ET UX		WINFIELD	
B1022-1	GEORGE LUCAS ET UX		WINFIELD	
B1023-1	RAYMOND W DENNY ET AL		WINFIELD	
B1023-2	RAYMOND W DENNY ET AL		WINFIELD	BUT-20789-R
B1024-1	A C FREEHLING ET UX		WINFIELD	<i>assigned</i>
B1025-1	CHESTER FREEHLING ET UX		WINFIELD	
B1026-1	ANNIE H GREENERT ET AL		WINFIELD	
B1027-1	IVAN W FREY ET AL		WINFIELD	
B1028-1	TILLIE GRELLING		WINFIELD	
B1029-1	ELVIA COE GROHMAN ET AL		WINFIELD	
B1029-2	ELVIA COE GROHMAN ET AL		WINFIELD	
B1030-1	ELIZABETH HOAK ET AL		WINFIELD	
BA1033-1	JOHN BRICKER		WINFIELD	
B1034-1	MILTON H HELLER		WINFIELD	
B1035-1	ALBERT H HEIM ET UX		WINFIELD	
B1036-1	ANDREW J LANG		WINFIELD	
B1037-1	GEORGE W KULP		WINFIELD	
B1038-1	AUGUSTA HOLL		WINFIELD	
B1039-1	WILBUR L BURTNER ET AL		WINFIELD	
B1039-2	WILBUR L BURTNER ET AL		WINFIELD	
B1040-1	JOHN MALARKY ET AL		WINFIELD	
B1041-1	NATHAN MOSER ET UX		WINFIELD	
B1042-1	ANDREW C MOSER ET UX		WINFIELD	
B1043-1	WILLIAM MCGUIGAN		WINFIELD	
B1044-1	MELISSA P MCKEE ET AL		WINFIELD	
B1046-1	JAY REED ET AL		WINFIELD	
B1047-1	C Y NOBLE ET UX		WINFIELD	
B1050-1	GEO W WATSON ET UX		WINFIELD	
B1050-2	GEO W WATSON ET UX		WINFIELD	
B1051-1	WILLIAM ZIER ET UX		WINFIELD	
B1052-1	ELSIE ZELLSMAN ET AL		WINFIELD	
B1052-2	ELSIE ZELLSMAN ET AL		WINFIELD	
B1054-1	HENRY B SCHMIDT ET UX		WINFIELD	
B1055-1	MARY E DENNY		WINFIELD	
B1056-1	ROBERT BURNS		WINFIELD	
B1057-1	KARL F DIVENER ET AL		WINFIELD	

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	B1058-1	J MCWILLIAMS ET AL	WINFIELD	
4	B1063-1	J M PAINTER	WINFIELD	
5	B1064-1	HENRY H LERNER	WINFIELD	
6	B1064-2	HENRY H LERNER	WINFIELD	
7	B1066-1	WINFIELD MINERAL COMPANY	WINFIELD	
8	B1066-2	WINFIELD MINERAL COMPANY	WINFIELD	
9	B1066-3	WINFIELD MINERAL COMPANY	WINFIELD	
10	B1066-4	WINFIELD MINERAL COMPANY	WINFIELD	
11	B1066-5	WINFIELD MINERAL COMPANY	WINFIELD	
12	B1067-1	JOHN MILLER	WINFIELD	
13	B1068-1	CHART W PAINTER	WINFIELD	
14	B1069-1	WM E MARKS	WINFIELD	
15	B1071-1	JOHN W THOMPSON ET AL	WINFIELD	
16	B1071-2	JOHN W THOMPSON	WINFIELD	
17	B1071-3	JOHN W THOMPSON	WINFIELD	
18	B1073-1	JOHN C MCGEE	WINFIELD	
19	B1078-1	H L RUMBAUGH	WINFIELD	
20	B1079-1	CHARLES G RUMMEL	WINFIELD	
21	B1080-1	O W O HARDMAN	WINFIELD	
22	B1086-1	RATH	WINFIELD	
23	B1087-1	CHARLES C MARTIN ET UX	WINFIELD	
24	B1088-1	S W MILLER	WINFIELD	
25	B1089-1	BERNARD L FOX	WINFIELD	
26	B1090-1	DORETTA L KAUFOLD	WINFIELD	
27	B1095-1	PHILLIP BAUER ET UX	WINFIELD	
28	B1096-1	MARGARET BERG ET AL	WINFIELD	
29	B1096-2	MARGARET BERG ET AL	WINFIELD	
30	B1096-3	MARGARET BERG ET AL	WINFIELD	BUT-20777-D
31	B1096-4	MARGARET BERG ET AL	WINFIELD	
32	B1098-1	GAYLE A BRICKER ET AL	WINFIELD	BUT-20788-R
33	B1099-1	ROBERT D SHEARER ET UX	WINFIELD	
34	B1105-1	MRS EUGENE JACK	WINFIELD	
35	B1106-1	CLIFFORD KENNEDY	WINFIELD	
36	B1106-2	CLIFFORD KENNEDY	WINFIELD	BUT-20792-R
37	B1118-1	LILLIAN WALLACE ET AL D/B/A	WINFIELD	
38	B1118-2	LILLIAN WALLACE ET AL	WINFIELD	BUT-20781-R
39	B1118-3	LILLIAN WALLACE ET AL	WINFIELD	
40	B1118-4	LILLIAN WALLACE ET AL	WINFIELD	
41	B1118-5	LILLIAN WALLACE ET AL	WINFIELD	BUT-20785-D
42	B1118-6	LILLIAN WALLACE ET AL	WINFIELD	
43	B1123-1	CONRAD WIEGAND	WINFIELD	
44	B1123-2	CONRAD WIEGAND	WINFIELD	
45	B1125-1	MARY M SELL	WINFIELD	
46	B1126-1	DANIEL DENNY HRS ET AL	WINFIELD	
47	B1126-2	DANIEL DENNY HRS ET AL	WINFIELD	
48	B1126-3	DANIEL DENNY HRS ET AL	WINFIELD	
49	B1132-1	O H SASSE	WINFIELD	
50	B1133-1	GEORGE AMBROSE ET UX	WINFIELD	
51	B1135-1	W L S FREEHLING ET UX	WINFIELD	
52	B1150-1	HOLMAN	WINFIELD	
53	B1150-2	HOLMAN	WINFIELD	
54	B1151-1	HENRY MONTAG	WINFIELD	
55	B1154-1	W M ALTMAN	WINFIELD	
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	81155-1		WINFIELD	
4	81157-1		WINFIELD	
5	1423-1		WINFIELD	NONE
6	1425-1		WINFIELD	NONE
7	1428-1		WINFIELD	NONE
8	1430-1		WINFIELD	NONE
9	1432-1		WINFIELD	NONE
10	1433-1		WINFIELD	NONE
11	1435-1		WINFIELD	NONE
12	1438-1		WINFIELD	NONE
13				
14				
15				
16	1673-3	CLEARFIELD	GIRARD	CLE-22084 <i>not in line</i>
17	1641-1		GOSHEN	CLE-22072 <i>not in line</i>
18	1663-1		GRAHAM	CLE-21855 <i>not in line</i>
19	1663-4		GRAHAM	CLE-21856 <i>not in line</i>
20	658-1		HUSTON	<i>assigned</i>
21	658-2		HUSTON	CLE-222 <i>assigned</i>
22	763		WESTOVER BORO	<i>No DOL well</i>
23				
24				
25				
26	B383-1	FAYETTE	FRANKLIN	FAY-20216
27	B384-1		FRANKLIN	FAY-20218
28	B396-1		FRANKLIN	FAY-20217
29	B825-1		GERMAN	FAY-20185
30	B841-1		GERMAN	FAY-20192
31	B422-1		MENALLEN	FAY-20184
32	B839-1		MENALLEN	FAY-20174 <i>assigned</i>
33	895-1		MENALLEN	FAY-20256
34	B380-2		PERRY	FAY-20175
35	B403-1		PERRY	FAY-20173
36	B434-1		PERRY	FAY-20174
37				
38				
39				
40	B444-1	GREENE	CUMBERLAND	GRE-21424
41				
42				
43				
44	B45-1	INDIANA	ARMSTRONG	IND-361
45	45-2		ARMSTRONG	IND-467-D2
46	B45-3		ARMSTRONG	IND-23108-R
47	B46-1		ARMSTRONG	IND-547
48	B54X-1		ARMSTRONG	IND-2224-R
49	B55-1		ARMSTRONG	IND-410
50	B55-2		ARMSTRONG	IND-731
51	B55-3		ARMSTRONG	IND-1077-R
52	B55-4		ARMSTRONG	IND-23128
53	B56X-1		ARMSTRONG	IND-494
54	B56X-2		ARMSTRONG	IND-1081
55	B57-1		ARMSTRONG	IND-524
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	B57-3	M I BOYER	ARMSTRONG	IND-23109
4	B58-1	WILMER SHARP ET AL	ARMSTRONG	IND-528-R
5	B58-3	WILMER SHARP ET AL	ARMSTRONG	IND-23076
6	B59-1	ALBERT G MILLER	ARMSTRONG	IND-634
7	B60-1	GRACE N DICK ET VIR	ARMSTRONG	IND-687-R
8	B60-2	GRACE N DICK ET VIR	ARMSTRONG	IND-23190
9	62-1	A WILMER SHARP ET AL	ARMSTRONG	IND-579-D
10	86-1	SARAH E SCHRECENGOST ET VIR	ARMSTRONG	NONE
11	B128-1	T W WIGGINS ET UX	ARMSTRONG	IND-2207-D
12	B128-2	T W WIGGINS ET UX	ARMSTRONG	IND-23063-R
13	B129-1	T W WIGGINS ET UX	ARMSTRONG	IND-2123
14	B129-2	T W WIGGINS ET UX	ARMSTRONG	IND-2124
15	B129-3	T W WIGGINS ET UX	ARMSTRONG	IND-2159
16	B143-1	HAZEL M FLEMING	ARMSTRONG	IND-2079
17	B143-2	HAZEL M FLEMING	ARMSTRONG	IND-2370
18	B144-1	MYRTLE M KIMMEL	ARMSTRONG	IND-2080
19	B198-1	JOHN L HAZLETT ET UX	ARMSTRONG	IND-2271
20	B199-1	BLAINE D STAKE ET UX	ARMSTRONG	IND-2270
21	B200-1	C ELIZABETH MCCAULIFF	ARMSTRONG	IND-2273
22	B201-1	H H SHIREY	ARMSTRONG	IND-23703
23	B202-1	DANIEL N CRAIG ET UX	ARMSTRONG	IND-22508
24	B204-1	JOHN C CRAIG ET UX	ARMSTRONG	IND-22509
25	B205-1	B D HAMILTON ET AL	ARMSTRONG	IND-22510
26	B212-1	HELEN L SCHRECENGOST	ARMSTRONG	IND-23064
27	B212-2	HELEN L SCHRECENGOST	ARMSTRONG	IND-2329
28	B213-1	C BURT KERR ET UX	ARMSTRONG	IND-24062
29	B217-1	JOE CANALE	ARMSTRONG	IND-2263
30	B218-1	JOE CANALE	ARMSTRONG	IND-2321
31	B218-2	JOE CANALE	ARMSTRONG	IND-24372
32	B222-2	LEROY SPON ET UX	ARMSTRONG	IND-2322
33	B223-1	LYLE BRANDON ET UX	ARMSTRONG	IND-2297
34	B224-1	MARY K BOYER	ARMSTRONG	IND-2238
35	B233-1	T K FLEMING	ARMSTRONG	IND-2376
36	B241-1	STANLEY W LONG, JR	ARMSTRONG	IND-22539
37	B242-1	HELEN M LONG	ARMSTRONG	IND-22537
38	B242-U	JOSEPH D JOSEPH ET AL	ARMSTRONG	IND-22754
39	B245-2	FRED E LONG	ARMSTRONG	IND-22538
40	B247-1	J CLOID RINN ESTATE	ARMSTRONG	IND-2437
41	B271-1	W PEARL WIGGINS ET UX	ARMSTRONG	IND-22514
42	B271-2	W PEARL WIGGINS ET UX	ARMSTRONG	IND-23067
43	B272-1	MUSSER FORESTS, INC.	ARMSTRONG	IND-22994
44	B272-2	MUSSER FORESTS, INC.	ARMSTRONG	IND-24832
45	B273-1	THOMAS W PETERMAN ET UX	ARMSTRONG	IND-22511
46	B296-1	ANTHONY GEORGIANA, JR ET UX	BANKS	IND-22613-D2
47	B296-2	ANTHONY GEORGIANA, JR ET UX	BANKS	IND-22614-D
48	B296-3	ANTHONY GEORGIANA, JR ET UX	BANKS	IND-23642
49	B362-2	FRANCES DEMARIA	CONEMAUGH	IND-24067
50	B586-1	RALPH V PINO ET UX	S MAHONING	IND-1769
51	B586-2	RALPH V PINO ET UX	S MAHONING	IND-1968
52	B587-1	BERYL LYDIC ET UX	S MAHONING	IND-1805
53	B587-2	BERYL LYDIC ET UX	S MAHONING	IND-2139
54	B588-1	DAVID W SIMPSON ET AL	S MAHONING	IND-1822
55	B589-1	NANNIE W MCMILLEN ET VIR	S MAHONING	IND-1652
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	B590-1	JACK R STEFFY ET UX	S MAHONING	IND-2041
4	B591-1	WILMER M REEFER ET UX	S MAHONING	IND-2245
5	B596-1	FLOYD L SMITH ET UX	S MAHONING	IND-23783
6	B597-1	ELMER L STREAMS ET UX	S MAHONING	IND-23827
7	B645-1	JACK R STEFFY ET UX	S MAHONING	IND-2293
8	B1100-1	H J CROOKS	S MAHONING	IND-1291-R
9	1100-2	H J CROOKS	S MAHONING	
10	B1107-1	STANLEY W LECZNER ET UX	S MAHONING	
11	B600-1	PHILIP J MARSHALL ET UX	W MAHONING	IND-2464
12	B44-1	GRACE N DICK ET VIR	WASHINGTON	IND-268
13	B63-1	JOHN J FISHER ET AL	WASHINGTON	IND-273
14	B99X-1	GEORGE I PEARCE ET UX	WASHINGTON	IND-511 <i>Sold</i>
15	B99X-2	GEORGE I PEARCE ET UX	WASHINGTON	IND-22968-R
16	B115-1	EARL T FRICK	WASHINGTON	IND-22951
17	B134-1	CARL M HAGGERTY ET UX	WASHINGTON	IND-2090
18	B134-2	CARL M HAGGERTY ET UX	WASHINGTON	IND-2335
19	B134-3	CARL M HAGGERTY ET UX	WASHINGTON	IND-24371
20	B134-4	CARL M HAGGERTY ET UX	WASHINGTON	IND-22727
21	B134-5	CARL M HAGGERTY ET UX	WASHINGTON	IND-23692
22	144-2	MYRTLE M KIMMEL	WASHINGTON	IND-25405
23	B317-1	B & G LEASING, INC.	WASHINGTON	IND-22975
24	B317-2	B & G LEASING, INC.	WASHINGTON	IND-24344
25	971-1	BYRON M FRICK ET AL	WASHINGTON	IND-26019
26	1001-1	FRANK SZYMANSKI ET UX	WASHINGTON	
27	B1002-1	CALVIN CRIBBS ET UX	WASHINGTON	
28	B1005-2	FRANK J FISHER ET UX	WASHINGTON	
29	B1007-1	I N FRICK ET AL	WASHINGTON	
30	B1009-1	WILLIAM KELLY	WASHINGTON	
31	B1010-1	SAMUEL CARPENTER	WASHINGTON	
32	B209-1	CLIFFORD P FLEMING ET UX	WHITE	IND-2217
33	B222-1	LEROY SPON ET UX	WHITE	IND-2254
34	B274-1	RONALD D MCANULTY ET AL	WHITE	IND-22729
35	B274-2	RONALD D MCANULTY ET AL	WHITE	IND-23693
36	B283-1	S T MCHENRY HEIRS	WHITE	IND-22713
37	B290-1	JOHN C KERZAN ET UX	WHITE	IND-22800
38	B290-2	JOHN C KERZAN ET UX	WHITE	IND-23706
39	B291-1	DOROTHY L KERZAN	WHITE	IND-22799
40	B291-2	DOROTHY L KERZAN	WHITE	IND-23705
41	783-1	ERNEST L GOUD ET AL	WHITE	IND-25064
42	B215-2	C MEADE MILLEN ET UX	YOUNG	IND-22689
43	B228-1	NORMAN L FLEMING ET UX	YOUNG	IND-22805
44	B228-5	NORMAN L FLEMING ET UX	YOUNG	IND-22871
45	B262-1	JOHN M HANCOCK ET UX	YOUNG	IND-22531
46	B262-2	JOHN M HANCOCK ET UX	YOUNG	IND-23664
47	B263-1	JOHN M HANCOCK ET UX	YOUNG	IND-22532-R
48	B263-3	JOHN M HANCOCK ET UX	YOUNG	IND-23704
49	B264-2	PAUL A CAMPBELL ET UX	YOUNG	IND-2475
50	B289-1	ELMER T LIBENGOOD ET UX	YOUNG	IND-22866

B175-2 ROBERT A KECK ET UX

JEFFERSON

CLOVER

JEF-21284

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
B667-1	BETHLEHEM-CUBA IRON MINES COMPANY	WASHINGTON	BENTLEYVILLE BO	
B656-1	CRESCENT BLASTING COMPANY		CARROLL	<i>Assigned</i>
B671-1	DAVID LIPTAK ET UX		CARROLL	<i>Assigned</i>
B719-1	JOHN R MARCHANDO ET UX		CENTERVILLE BOR	WAS-21062
B723-1	ROBERT G THEAKSTON ET UX		CENTERVILLE BOR	WAS-21135
B787-1	SAMUEL L HOOD ET UX		CENTERVILLE BOR	WAS-21064
B651-1	CHARLES W BAKER ET AL		DEEMSTON BORO	
B652-1	R E CRUMRINE ET AL		DEEMSTON BORO	
B652-2	R E CRUMRINE ET AL		DEEMSTON BORO	
B669-1	PAUL VLCEK ET UX		DEEMSTON BORO	
670-1	ETTA M DUNLEVY ET AL		DONLEVY BOROUGH	
B650-1	E E DANNELS ET UX		FALLOWFIELD	
B650-2	E E DANNELS ET UX		FALLOWFIELD	
B655-1	GERALDINE N BILLEN		NOTTINGHAM	
B657-1	MICHAEL KRISTON ET UX		NOTTINGHAM	
B659-1	C L BALLEIN ET UX		NOTTINGHAM	
B660-1	JAMES L SUMNEY		NOTTINGHAM	
B661-1	ROBERT L MCNALL ET UX		NOTTINGHAM	
B661-2	ROBERT L MCNALL ET UX		NOTTINGHAM	
B661-3	ROBERT L MCNALL ET UX		NOTTINGHAM	
B662-1	JOHN E GAMBLE ET UX		NOTTINGHAM	
B662-2	JOHN E GAMBLE ET UX		NOTTINGHAM	
B663-1	CLARENCE B ASHCRAFT ET UX		NOTTINGHAM	
B665-1	G F EARNEST ET UX		W BETHLEHEM	
B665-2	G F EARNEST ET UX		W BETHLEHEM	
B653-1	CLYDE E WEAVER ET UX		WEST PIKE RUN	
B664-1	MARY E MOFFITT ET AL		WEST PIKE RUN	
B664-2	MARY E MOFFITT ET AL		WEST PIKE RUN	
B666-1	SARAH BELLE MORRIS ET AL		WEST PIKE RUN	
B666-2	SARAH BELLE MORRIS ET AL		WEST PIKE RUN	
B82-1	PAUL F CARNAHAN ET UX	WESTMORELAND	ALLEGHENY	
B6-1	ROSWELL MILLER ET UX		ALLEGHENY	NONE
B6-2	ROSWELL MILLER ET UX		ALLEGHENY	WES-298-D
B86-3	ROSWELL MILLER ET UX		ALLEGHENY	NONE
B6-4	ROSWELL MILLER ET UX		ALLEGHENY	NONE
B86-5	ROSWELL MILLER ET UX		ALLEGHENY	NONE
448-1	HELEN M WHITESELL		BELL	WES-21077- <i>Assigned</i>
B330-1	FLORENCE J CAIRNS ET VIR		DERRY	WES-20797
B333-1	JOSEPH L DURIKA ET UX		DERRY	WES-20793
B347-1	PAUL J CLINE ET UX		DERRY	WES-20818-R
B348-1	PAUL J CLINE ET AL		DERRY	WES-20819
364-1	CARNET I MALONE		E HUNTINGDON	WES-20937 <i>Assigned</i>
B368-1	GEORGE F CROUSHORE, JR ET UX		E HUNTINGDON	WES-20941
B374-2	SAMUEL H LYNN, JR ET AL		E HUNTINGDON	WES-21007
B388-1	MABEL S CROUSHORE		E HUNTINGDON	WES-20940
B411-1	JACK E LYNCH ET UX		E HUNTINGDON	WES-21105
415-1	JOSEPH HAZY ET UX		E HUNTINGDON	WES-21836
419-1	HERBERT E NEWLIN ET UX		E HUNTINGDON	WES-21428
B425-1	DONALD N MILLER ET AL		E HUNTINGDON	WES-20959
B429-1	MICHAEL L KOMENDA ET AL		E HUNTINGDON	WES-21120

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
429-2	MICHAEL L KOMENDA ET AL	E	HUNTINGDON	WES-21905
429-3	MICHAEL L KOMENDA ET AL	E	HUNTINGDON	WES-21904
8430-1	ARNOLD W CRESSMAN ET UX	E	HUNTINGDON	WES-21131
8451-1	ALVIN B VANCE ET UX	E	HUNTINGDON	WES-21106
451-2	ALVIN B VANCE ET UX	E	HUNTINGDON	WES-21901
8716-2	MARY LONG ET AL	E	HUNTINGDON	WES-21135
8748-1	SOUTHMORELAND SCHOOL DISTRICT	E	HUNTINGDON	WES-21257
748-2	SOUTHMORELAND SCHOOL DISTRICT	E	HUNTINGDON	WES-21825
748-3	SOUTHMORELAND SCHOOL DISTRICT	E	HUNTINGDON	WES-21824
748-4	SOUTHMORELAND SCHOOL DISTRICT	E	HUNTINGDON	WES-22042
8761-1	F N STONER, TRUST	E	HUNTINGDON	WES-21024
761-2	F N STONER, TRUST	E	HUNTINGDON	WES-21761
761-3	F N STONER, TRUST	E	HUNTINGDON	WES-21783
761-4	F N STONER, TRUST	E	HUNTINGDON	WES-21864
761-5	F N STONER, TRUST	E	HUNTINGDON	WES-21902
761-6	F N STONER, TRUST	E	HUNTINGDON	WES-21912
8764-1	RICHARD O LOVE ET UX	E	HUNTINGDON	WES-21116
8765-1	EARLE R BRILHART ET UX	E	HUNTINGDON	WES-21339
768-1	WALTER EARL STILLMAN ET AL	E	HUNTINGDON	WES-21800
8779-1	ROBERT E GAUT ET UX	E	HUNTINGDON	WES-21268
8779-2	ROBERT E GAUT ET UX	E	HUNTINGDON	WES-21385
779-3	ROBERT E GAUT ET UX	E	HUNTINGDON	WES-21761
8788-1	JAMES H BROWN ET UX	E	HUNTINGDON	WES-21246
8789-1	KENNETH HIXSON ET UX	E	HUNTINGDON	WES-21146
8789-2	KENNETH HIXSON ET UX	E	HUNTINGDON	WES-21392
8793-1	ELLIS A KOCH ET UX	E	HUNTINGDON	WES-21242
793-2	ELLIS A KOCH ET UX	E	HUNTINGDON	WES-21861
8796-1	ERNEST S BYERS ET UX	E	HUNTINGDON	WES-21247
8797-1	GILBERT W POORBAUGH ET AL	E	HUNTINGDON	WES-21272
797-2	GILBERT W POORBAUGH ET AL	E	HUNTINGDON	WES-21773
797-3	GILBERT W POORBAUGH ET AL	E	HUNTINGDON	WES-21862
797-4	GILBERT W POORBAUGH ET AL	E	HUNTINGDON	WES-22019
8798-1	DANIEL W CRAMER ET UX	E	HUNTINGDON	WES-21322
8800-1	JOHN W GAUT ET UX	E	HUNTINGDON	WES-21133
800-2	JOHN W GAUT ET UX	E	HUNTINGDON	WES-21777
800-3	JOHN W GAUT ET UX	E	HUNTINGDON	WES-21844
802-1	JOHN C MCGILL ET UX	E	HUNTINGDON	WES-21561
8809-1	THOMAS J SIDLOVSKY	E	HUNTINGDON	WES-21343
817-1	THEODORE R LEAMAN ET UX	E	HUNTINGDON	WES-21643
8818-1	JOSEPH H MOORE ET UX	E	HUNTINGDON	WES-21138
8818-2	JOSEPH H MOORE ET UX	E	HUNTINGDON	WES-21434
818-3	JOSEPH H MOORE ET UX	E	HUNTINGDON	WES-21790
818-4	JOSEPH H MOORE ET UX	E	HUNTINGDON	WES-21906
8819-1	IRENE BOWSER	E	HUNTINGDON	WES-21137
819-2	IRENE BOWSER	E	HUNTINGDON	WES-21786
819-3	IRENE BOWSER	E	HUNTINGDON	WES-21903
822-2	THOMAS J CATALINA ET UX	E	HUNTINGDON	WES-21821
8823-1	WENDELL C LAYMAN ET UX	E	HUNTINGDON	WES-21321
823-2	WENDELL C LAYMAN ET UX	E	HUNTINGDON	WES-21766
823-3	WENDELL C LAYMAN ET UX	E	HUNTINGDON	WES-21822
823-4	WENDELL C LAYMAN ET UX	E	HUNTINGDON	WES-21835
8824-1	HAZEL MAE GRIMM	E	HUNTINGDON	WES-21215
827-1	RUTH A FELGAR	E	HUNTINGDON	WES-21816

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1				
2				
3	828-1	JAMES D POORBAUGH ET UX	E HUNTINGDON	WES-21797
4	829-1	CLAYTON L UBER, JR ET UX	E HUNTINGDON	WES-21651
5	829-2	CLAYTON L UBER, JR ET UX	E HUNTINGDON	WES-22013
6	832-1	H RALPH HERNLEY ET AL	E HUNTINGDON	WES-21669
7	8833-1	GARNET FELGAR	E HUNTINGDON	WES-21391
8	843-1	HAROLD E DILLINGER ET UX	E HUNTINGDON	WES-21641
9	8846-1	ELLWOOD C BAKER ET UX	E HUNTINGDON	WES-21384
10	846-2	ELLWOOD C BAKER ET UX	E HUNTINGDON	WES-21765
11	846-3	ELLWOOD C BAKER ET UX	E HUNTINGDON	WES-21841
12	850-1	BEN F AIKIN ET UX	E HUNTINGDON	WES-21627
13	851-1	DONALD S LOUCKS ET AL	E HUNTINGDON	WES-21626
14	8877-1	WELTY M ADAMS ET UX	E HUNTINGDON	WES-21325
15	877-2	WELTY M ADAMS ET UX	E HUNTINGDON	WES-21823
16	881-1	PATRICK J MCSHANE ET UX	E HUNTINGDON	WES-21642
17	881-2	PATRICK J MCSHANE ET UX	E HUNTINGDON	WES-21762
18	8882-1	HELEN LEIGHTY	E HUNTINGDON	WES-21455
19	882-2	HELEN LEIGHTY	E HUNTINGDON	WES-21909
20	8890-1	DAVID A PORTER ET AL	E HUNTINGDON	WES-21422
21	890-2	DAVID A PORTER ET AL	E HUNTINGDON	WES-21764
22	8891-1	JAMES P SKOVIRA ET UX	E HUNTINGDON	WES-21340
23	891-2	JAMES P SKOVIRA ET UX	E HUNTINGDON	WES-21768
24	891-3	JAMES P SKOVIRA ET UX	E HUNTINGDON	WES-21842
25	891-4	JAMES P SKOVIRA ET UX	E HUNTINGDON	WES-21976
26	892-1	BARTHOLOMEW M TULLIO ET UX	E HUNTINGDON	WES-21955
27	893-1	ROY E LYNCH ET UX	E HUNTINGDON	WES-21629
28	901-1	JOEL B SUTER ET UX	E HUNTINGDON	WES-21500
29	901-2	JOEL B SUTER ET UX	E HUNTINGDON	WES-21763
30	909-1	RONALD E FRETTS ET UX	E HUNTINGDON	WES-21628
31	919-1	JOHN N LORI ET UX	E HUNTINGDON	WES-21775
32	933-1	C RICHARD HENNON ET UX	E HUNTINGDON	WES-21779
33	997-1	FENTON O KEISTER ET UX	E HUNTINGDON	WES-21638
34	997-2	FENTON O KEISTER ET UX	E HUNTINGDON	WES-22046
35	1209-1	CLAY G STROHM ET UX	E HUNTINGDON	WES-21863
36	1209-2	CLAY G STROHM ET UX	E HUNTINGDON	WES-21796
37	1209-3	CLAY G STROHM ET UX	E HUNTINGDON	WES-21911
38	1229-1	FRED W STREET, JR ET UX	E HUNTINGDON	WES-21847
39	1229-2	FRED W STREET, JR ET UX	E HUNTINGDON	WES-22021
40	1244-1	THOMAS L BROOKS ET UX	E HUNTINGDON	WES-21780
41	1254-1	JAMES G SCHENCK ET UX	E HUNTINGDON	WES-22027
42	1254-2	JAMES G SCHENCK ET UX	E HUNTINGDON	WES-22014
43	1452-1	JAMES L MILLER ET UX	E HUNTINGDON	WES-21792
44	1462-1	DAVID S BRILHART ET UX	E HUNTINGDON	WES-21778
45	1522-1	PARK S STONER ESTATE	E HUNTINGDON	WES-21918
46	1546-1	C D ADAMS ET UX	E HUNTINGDON	WES-21839
47	1550-1	JOSEPH J KOLAR ET UX	E HUNTINGDON	WES-21837
48	1551-1	LOUIS M BEHANNA	E HUNTINGDON	WES-22024
49	1551-2	LOUIS M BEHANNA	E HUNTINGDON	WES-22025
50	1551-3	LOUIS M BEHANNA	E HUNTINGDON	WES-22026
51	1554-1	CHARLES M PETERSON	E HUNTINGDON	WES-21917
52	1560-1	WALLACE L LOWE ET UX	E HUNTINGDON	WES-22034
53	1560-2	WALLACE L LOWE ET UX	E HUNTINGDON	WES-22035
54	1590-1	FRANK L SMITH ET UX	E HUNTINGDON	WES-22030
55	1590-2	FRANK L SMITH ET UX	E HUNTINGDON	WES-22031
56				
57				

WELL NUMBER	FARM NAME	COUNTY	TOWNSHIP	STATE PERMIT NUMBER
1590-3	FRANK L SMITH ET UX		E HUNTINGDON	WES-22053
1590-4	FRANK L SMITH ET UX		E HUNTINGDON	WES-22054
1592-1	ROBERT D MILLER ET AL		E HUNTINGDON	WES-21935
1616-1	WILLIAM MITCHELL SEAMAN ET AL		E HUNTINGDON	WES-22018
1616-2	WILLIAM MITCHELL SEAMAN ET AL		E HUNTINGDON	WES-22015
B4376-1	KENNETH V TROUT ET UX		HEMPFIELD	WES-21010
B377-1	CAROLINA BARONI		HEMPFIELD	WES-21011
B398-1	RUSSELL E WOODWARD ET UX		HEMPFIELD	WES-21030
B408-1	JOHN W MOTTO, JR ET UX		HEMPFIELD	WES-21020
B420-1	PHILLIP P FOX ET UX		HEMPFIELD	WES-21021
B610-1	RALPH E PARKS ET AL		HEMPFIELD	WES-21170
B815-1	ROSEMARY G DEMIS		HEMPFIELD	WES-21169
B45-1	PHILLIP ABRAMSON ET AL		HEMPFIELD	WES-21554-D
B845-2	PHILLIP ABRAMSON ET AL		HEMPFIELD	WES-21219
B853-1	MARION BARON ET AL		HEMPFIELD	WES-21238
389-1	CARSON E STEELE HRS		LOYALHANNA	WES-21314
390-1	CARSON E STEELE HRS		LOYALHANNA	WES-21815
B668-2	ROBERT DEMPSTER ET UX		ROSTRAVER	
B387-1	PETER URICK ET UX		S HUNTINGDON	WES-21250
B400-2	DONALD W LEONARD ET UX		S HUNTINGDON	WES-21271
B401-1	CHARLES P LYNN ET UX		S HUNTINGDON	WES-21323
B654-1	MAX SAPINSKY ET UX		S HUNTINGDON	
B842-1	RUSSELL L BYERS ET UX		S HUNTINGDON	WES-21214
B80-1	WESTMORELAND-FAYETTE COUNCIL, INC		S HUNTINGDON	WES-21634
1552-1	HENRY W LANE ET AL		S HUNTINGDON	WES-22043
B232-2	EARL W PALMER ET UX		UNITY	WES-20767
B238-1	FRANK L STEWART SR ET UX		UNITY	WES-20809-R
238-2	FRANK L STEWART SR ET UX		UNITY	WES-21577
B238-3	FRANK L STEWART SR ET UX		UNITY	WES-21047
B353-1	DR DONALD PAXTON ET AL		UNITY	WES-20856
B386-1	STEPHEN E SOVA ET UX		UNITY	WES-21023
B404-1	RALPH B KNOUSE, SR ET AL		UNITY	WES-20891
B414-1	LLOYDSVILLE SPORTSMEN'S ASSOC		UNITY	WES-21237
414-2	LLOYDSVILLE SPORTSMEN'S ASSOC		UNITY	WES-21516
B426-1	NATHAN PAUL LEMMON, JR ET AL		UNITY	WES-21354

TOTAL NUMBER OF RECORDS PROCESSED 858

-39

819



January 18, 1985

United States Environmental
Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Attn: Mr. Jon M. Capacasa, Chief
PA Implementation Section
Water Supply Branch (3WM43)

Dear Sir:

Per my letter of January 4, 1985, enclosed is Attachment R
in the form of a Chief Financial Officer's Letter as
promised.

Please feel free to call me at (713) 583-3170 if you have
any questions concerning this application.

Yours truly,

A handwritten signature in cursive script that reads "Tom E. Bailey".

Tom E. Bailey
Production Manager - Acquisitions

Attachment

TEB:gw

RECEIVED

FEB 05 1985

WATER SUPPLY BRANCH
EPA REGION III

C H I E F F I N A N C I A L O F F I C E R ' S L E T T E R

**U.S. Environmental Protection Agency
Underground Injection Control
Class II Injection Well Operators**

This letter contains information submitted as evidence of financial responsibility for the Environmental Protection Agency's underground injection control requirements.

Submitted to: **Regional Administrator**
Environmental Protection Agency Region III

6th and Walnut Streets, Philadelphia, PA 19106
(Address of EPA Regional Office)

Submitted for: Damson Oil Corporation
(Legal name of owner or operating company)

396 West Greens Road, P.O. Box 4391, Houston, TX 77210
(Business address of owner or operator)

Type of organization: Corporation
**(Individual, joint venture, partnership,
or corporation)**

Date of incorporation: October 2, 1963

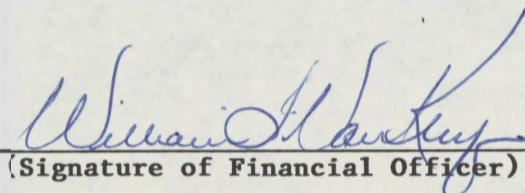
State of incorporation: Delaware

Submitted by: William T. Van Kleeft
(Name of Chief Financial Officer)

Damson Oil Corporation
(Name of Firm)

396 West Greens Road, P.O. Box 4391, Houston, TX 77210
(Business Address)

I hereby certify that the financial information contained on the following pages is correct and derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year ended September 30, 1984.


(Signature of Financial Officer)

1/16/85
(Date)

- I. (Firm name) Damson Oil Corporation
is the owner or operator of Class II injection wells in the
following states within EPA Region III:

State names: Pennsylvania

- II. This firm guarantees the plugging and abandonment of injection
wells owned or operated by the following subsidiaries:

Subsidiary name:

Subsidiary address:

_____	_____
_____	_____
_____	_____
_____	_____

- III. This firm is (☒) required () not required to file a Form 10-K
with the Securities and Exchange Commission (SEC) for the latest
fiscal year.

- IV. The fiscal year of this firm ends on (month/day) September 30.
The financial information contained in this letter is derived
from this firm's independently audited, year-end financial
statements for the latest completed fiscal year ended
(date) September 30, 1984.

The name and address of the accounting firm auditing these
financial statements:

Touche Ross & Co.
(Name of auditing firm)

1200 Smith Street, Houston, TX 77002
(Address of auditing firm)

V. The dollar amounts below are stated in () actual (✓) thousands of dollars.

Financial Information

Balance Sheet Information:

1. Current Assets	105,891
2. Total Assets	323,676
3. Current Liabilities	79,494
4. Total Liabilities	235,735
5. Net Worth or Stockholders' Equity	87,941

Income Statement Information:

6. Depreciation, Depletion, and Amortization	18,828
7. Net Income	14,219

Calculations:

8. Total Liabilities less Current Liabilities (Item 4 - Item 3)	156,241
9. Depreciation, Depletion, and Amortization plus Net Income (Item 6 + Item 7)	33,047
10. Current Assets less Current Liabilities (Item 1 - Item 3; indicate negative numbers with parentheses)	26,397
11. Current Liabilities divided by Net Worth (Item 3 ÷ Item 5; round to two decimal places)	.90
12. Total Liabilities less Current Liabilities, all divided by Net Worth (Item 8 ÷ Item 5; round to two decimal places)	1.78
13. Depreciation, Depletion, and Amortization plus Net Income, all divided by Total Liabilities (Item 9 ÷ Item 4; round to three decimal places)	.140
14. Current Assets less Current Liabilities, all divided by Total Assets (Item 10 ÷ Item 2; round to two decimal places, indicate negative numbers with parentheses)	.08

VI. Based on the information in Part V, the company meets or does not meet the financial ratio requirements, as indicated.

	<u>Yes</u>	<u>No</u>
1. Current Liabilities + Net Worth less than 1.0 (Item V-11 less than 1.0)	<u>X</u>	<u> </u>
2. Long-Term Liabilities + Net Worth less than 2.0 (Item V-12 less than 2.0)	<u>X</u>	<u> </u>
3. Net Income greater than zero. (Item V-7 greater than 0)	<u>X</u>	<u> </u>
4. Net Income + depreciation, depletion and amortization total + total liabilities greater than 0.10 (Item V-13 is greater than 0.10)	<u>X</u>	<u> </u>
5. Working Capital + Total Assets greater than -0.10 (Item 14 greater than -0.10)	<u>X</u>	<u> </u>

VII. This firm (X) has () has not received a rating by either Standard and Poor's or Moody's.

The current bond rating of most recent issuance of this firm

BII

The name of the rating service

Moody's

The date of issuance of bond

May 1983

The date of maturity of bond

May 2003

	<u>Yes</u>	<u>No</u>	<u>Not Available</u>
VIII. This firm's bond rating by Standard and Poor's is AAA, AA, A, or BBB	<u> </u>	<u> </u>	<u>X</u>
This firm's bond rating by Moody's is Aaa, Aa, A, or Baa	<u>BII</u>	<u> </u>	<u> </u>

A U D I T O R ' S V E R I F I C A T I O N O F
C H I E F F I N A N C I A L O F F I C E R ' S L E T T E R

This letter is verification of the financial information and calculations in the chief financial officer's letter submitted to the Environmental Protection Agency.

Submitted to: The Regional Administrator
 Environmental Protection Agency Region III

6th and Walnut Streets, Philadelphia, PA 19106
(Address of EPA Regional Office)

We have examined the financial officer's letter submitted by (legal name of owner or operating company) Damson Oil Corporation
to the Environmental Protection Agency, dated _____.

The financial information corresponds to the data contained in the firm's audited financial statements for the fiscal year ending September 30, 1984.
As a result of our examination, we verify that the financial information and calculations contained in this letter are correct and accurate.

Touche Ross & Co.

(Name of accounting firm)

1200 Smith Street, Houston, TX 77002

(Business Address)

(Signature)

(Date)

(Name)

(Title)

Touche Ross & Co.

January 18, 1985

Board of Directors
Damson Oil Corporation
New York, New York

We have examined the consolidated financial statements of Damson Oil Corporation and subsidiaries (the "Company") as of September 30, 1984, and the related statements of income, changes in stockholders' equity, and changes in financial position for the year then ended, and have issued our report thereon dated December 21, 1984. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We have read the attached letter dated January 16, 1985 from Mr. William T. Van Kleef, Chief Accounting Officer of the Company, to the Regional Administrator of the Environmental Protection Agency. We have compared the financial data specified in items 1 through 7 of Section V of such letter to the corresponding amounts as set forth in the consolidated financial statements referred to above. Nothing came to our attention as a result of performing this procedure that has caused us to believe that such specified data should be adjusted. We have recalculated the data specified in items 8 through 14 of Section V of such letter. Nothing has come to our attention as a result of performing this procedure that has caused us to believe that such specified data should be adjusted.

Touche Ross & Co.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Bill Lloyd
Damson
P.O. Box 235
Yatesboro, PA 16263

Date 1-15-86

Company Damson

Lease McAnulty Well No. B274-2 Formation _____

~~Box~~ Township - White County Indiana State PA

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.13 @ 68 °F

pH 4.6

Chloride (Cl) 110,000 ppm

Total Hardness (CaCO₃) 60,000 ppm

Calcium (Ca) _____ ppm

Magnesium (Mg) _____ ppm

Sulfide (S) _____

Sulfate (SO₄) _____ ppm

Iron (Fe) dissolved _____ ppm

total 224 ppm

Bicarbonate (HCO₃) _____ ppm

Nessler's NH₃ (N) _____ ppm

Comment:

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

Tom Lester
ANALYST

By _____
DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 1-15-86

Bill Lloyd
Damson
P.O. Box 235
Yatesboro, PA 16263

Company Damson

Lease Georgiana Well No. B296-1 Formation _____

Field Township - Banks County Indiana State PA

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.155 @ 68°F

pH 4.7

Chloride (Cl) 120,000 ppm

Total Hardness (CaCO₃) 58,000 ppm

Calcium (Ca) _____ ppm

Magnesium (Mg) _____ ppm

Sulfide (S) _____

Sulfate (SO₄) _____ ppm

Iron (Fe) dissolved _____ ppm

total 157 ppm

Bicarbonate (HCO₃) _____ ppm

Nessler's NH₃ (N) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Tom Barry
ANALYST

By _____
DIVISION CHEMIST

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Bill Lloyd
Damson
P.O. Box 235
Yatesboro, PA 16263

Date 1-15-86

Company Damson

Lease Ida Martin Well No. B542-1 Formation _____

~~XXX~~ Township - Wayne County Armstrong State PA

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.00 @ 68 °F

pH 6.6

Chloride (Cl) 600 ppm

Total Hardness (CaCO₃) 450 ppm

Calcium (Ca) _____ ppm

Magnesium (Mg) _____ ppm

Sulfide (S) _____

Sulfate (SO₄) _____ ppm

Iron (Fe) dissolved _____ ppm

total 20 ppm

Bicarbonate (HCO₃) _____ ppm

Nessler's NH₃ (N) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Tom Batty
ANALYST

By _____
DIVISION CHEMIST

NOTICE:

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JAN 21 1986

G. COLAVECCHIO

R. W. WOODS

(DWLBKLE) (DWLBKLE)

(DWLBKLE) (DWLBKLE)

DOWELL SCHLUMBERGER INCORPORATED
LABORATORY REPORT

TO: R. W. WOODS
BLACKLICK, PENNSYLVANIA

JANUARY 20, 1970
EAST DIVISION LAB
LAB #11000

4 - WATER

SAMPLE 104004

WILSON OIL CORPORATION
PENNSYLVANIA

C. L. DITTMER

PURPOSE:

API WATER ANALYSES WERE REQUESTED ON EACH OF THE FOUR WATER SAMPLES.

	T. G. KIMMEL #X4 PLUMCREEK TOWNSHIP ARMSTRONG COUNTY	CARL SCOTT #140 3 XI SOUTH END TOWNSHIP ARMSTRONG COUNTY
DISSOLVED SOLIDS	MG/L	MG/L
SODIUM, NA	86.7	13.2
CALCIUM, CA	0.0	0.0
MAGNESIUM, MG	3.4	3.2
POTASSIUM, KA	0	0
CHLORIDE, CL	20.0	10.0
SULFATE, SO4	140.0	0
CARBONATE, CO3	0	0
BICARBONATE, HCO3	35.0	20.0
TOTAL DISSOLVED SOLIDS	265.0	57.4
PH	8.0	8.70
SPECIFIC GRAVITY	1.000	1.004
TOTAL IRON, FE	2.0	3.0

W. J. MILLER
DEER CREEK TOWNSHIP
ARMSTRONG COUNTY
MS/L

M. H. SHILBY
ARMSTRONG TOWNSHIP
INDIANA COUNTY
MS/L

DISSOLVED SOLIDS

SODIUM, NA	13.7	1,227.9
CALCIUM, CA	0.7	173.5
MAGNESIUM, MG	3.3	90.2
BARIUM, BA	0	0
CHLORIDE, CL	20.0	2,500.0
SULFATE, SO ₄	0	0
CARBONATE, CO ₃	0	0
BICARBONATE, HCO ₃	20.0	0
TOTAL DISSOLVED SOLIDS	57.3	4,011.6

PH	6.60	3.30
SPECIFIC GRAVITY	1.004	1.000
TOTAL IRON, FE	2.1	65.7

*THIS SAMPLE WAS PLACED IN A SEPARATORY FUNNEL AND WAS FOUND TO CONTAIN 84% CONDENSATE AND 16% WATER. THE CONDENSATE HAD AN API GRAVITY OF 60.0 @ 60 F.

C. L. DITTMAN



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Bill Lloyd
Damson
P.O. Box 235
Yatesboro, PA 16263

Date 1-15-86

Company Damson

Lease Shetler Well No. B790-1 Formation _____

~~XXX~~ Township - Cowanshannon County Armstrong State PA

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.11 @ 68 °F

pH 4.6

Chloride (Cl) 95,000 ppm

Total Hardness (CaCO₃) 56,000 ppm

Calcium (Ca) _____ ppm

Magnesium (Mg) _____ ppm

Sulfide (S) _____

Sulfate (SO₄) _____ ppm

Iron (Fe) dissolved _____ ppm

total 515 ppm

Bicarbonate (HCO₃) _____ ppm

Nessler's NH₃ (N) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

ANALYST

By

DIVISION CHEMIST

NOTICE:

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JAN 21 1986

G. COLAVECCHIO

R. W. WOODS

(DWLCLRLU)(DWLCRLW

(DWLPLKLF)(DWLPLKLF

DOWELL SCHLUMBERGER INCORPORATED
LABORATORY REPORT

TO: R. W. WOODS

BLACKLICK, PENNSYLVANIA

JANUARY 20, 1986
EAST DIVISION LAB
LAB #11603

4 - WATER

SAMPLE 109004

DAYSON OIL CORPORATION
PENNSYLVANIA

C. L. DITTMAN

PURPOSE:

API WATER ANALYSES WERE REQUESTED ON EACH OF THE FOUR WATER SAMPLES.

T. G. KINNEL FAX
PLYMCREAK TOWNSHIP
ARMSTRONG COUNTY

CARL SCOTT ETAL FAX
SOUTH END TOWNSHIP
ARMSTRONG COUNTY

DISSOLVED SOLIDS

MG/L

MG/L

SODIUM, NA 86.7

13.3

CALCIUM, CA 0.0

0.0

MAGNESIUM, MG 3.4

3.2

BARIUM, BA 0

0

CHLORIDE, CL 20.0

20.0

SULFATE, SO4 140.0

0

CARBONATE, CO3 0

0

BICARBONATE, HCO3 35.0

20.0

TOTAL DISSOLVED SOLIDS 286.0

57.4

PH 5.85

5.70

SPECIFIC GRAVITY 1.004

1.004

TOTAL IRON, PPM 20.3

2.9

VERNON MILLER
PLUMCREEK TOWNSHIP
ARMSTRONG COUNTY

H. H. FULLY
ARMSTRONG TOWNSHIP
INDIANA COUNTY

DISSOLVED SOLIDS

MG/L

MG/L

SODIUM, NA	13.5	1,227.0
CALCIUM, CA	0.7	173.0
MAGNESIUM, MG	3.3	90.2
BARIUM, BA	0	0
CHLORIDE, CL	20.0	2,500.0
SULFATE, SO ₄	0	0
CARBONATE, CO ₃	0	0
BICARBONATE, HCO ₃	20.0	0
TOTAL DISSOLVED SOLIDS	57.3	4,011.0

PH	6.60	3.3
SPECIFIC GRAVITY	1.004	1.00
TOTAL IRON, FE	2.1	65.7

*THIS SAMPLE WAS PLACED IN A SEPARATORY FUNNEL AND WAS FOUND TO CONTAIN 84% CONDENSATE AND 16% WATER. THE CONDENSATE HAD AN API GRAVITY OF 60.0 @ 60 F.

C. L. DITTMAN



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: _____

Date JANUARY 26, 1981

Company DOCNCC East Huntingdon Twp

Lease NEWLIN Well No. 419-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.155 @ 65 °F

pH 3.0

Chloride (Cl) 170,000 ppm

Total Hardness (CaCO₃) 36,000 ppm

Calcium (Ca) 14,000 ppm

Magnesium (Mg) 240 ppm

Sulfide (S) NONE

Sulfate (SO₄) NONE ppm

Iron (Fe) dissolved 224 ppm

total - ppm

Bicarbonate (HCO₃) - ppm

Nessler's NH₃ (N) - ppm

Comment: _____

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

JAN VRSO
ANALYST

By _____
DIVISION CHEMIST

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

JAN 28 1981



WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date January 14, 1982Company DOC-NCC Service CompanyEast Huntingdon Twp.Lease Komeada Well No. 429-3 Formation _____Field Alverton County Westmoreland State Pennsylvania

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.155 @ 64 °F
pH 4.21
Chloride (C) 150,000 ~~ppm~~ mpl
Total Hardness (CaCO₃) 49,000 ~~ppm~~ mpl
Calcium (Ca) 19,600 ~~ppm~~ mpl
Magnesium (Mg) Negligible ~~ppm~~

Nessler NH₃ (N) ---- ppm
Sulfate (SO₄) ---- ppm
Iron (Fe) 1120 ~~ppm~~ mpl
Sulfide (S) ----
Bicarbonate (HCO₃) ---- ppm

Comment: Black sediment on bottom. Sediment is an acid insoluble scale.

Fercheck was used

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

JAN 18 1982

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 1-5-81

Company DOCNCC

East Huntingdon Twp

Lease VANCE

Well No. 451-1

Formation _____

Field _____

County Westmoreland

State Penna.

Sample source _____

Depth _____

Submitted by BILL LLOYD

Date _____

District _____

Marked _____

Specific Gravity 1.17 @ 68 °F

pH 2.0

Chloride (Cl) 205,000 ppm

Total Hardness (CaCO₃) 113,000 ppm

Calcium (Ca) 34,000 ppm

Magnesium (Mg) 6,804 ppm

Sulfide (S) NONE

Sulfate (SO₄) NONE ppm

Iron (Fe) dissolved 672 ppm

total - ppm

Bicarbonate (HCO₃) - ppm

Nessler's NH₃ (N) - ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

BILL GREGG, JAN URSO

ANALYST

By

DIVISION CHEMIST

JAN 9 1981

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
P. O. Box 235
Yatesboro, PA 16263

Date January 1, 1982

Company DOC-NCC

East Huntingdon Twp.

Lease Vance

Well No. 451-2

Formation _____

Field Alverton

County Westmoreland

State Pennsylvania

Sample source _____ Depth _____

Submitted by Larry Hart

Date 12/22/81

District Indiana

Marked Vance 451-2

Specific Gravity 1.105 @ 85 °F

pH 3

Chloride (C) 84,500 mpl

Total Hardness (CaCO₃) 49,000 mpl

Calcium (Ca) 18,400 mpl

Magnesium (Mg) 730 mpl

Nessler NH₃ (N) _____ ppm

Sulfate (SO₄) _____ ppm

Iron (Fe) 400 mpl

Sulfide (S) None

Bicarbonate (HCO₃) _____ ppm

Comment: Sample was orange in color, and contained a slight amount of orange precipitate which was acid soluble.

This sample turned from clear to blue to dark purple to orange
This is Ferchuk Treated

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

JAN 5 1982

M. J. McKee

ANALYST

By

Michael McKee

~~SENIOR CHEMIST~~

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date JANUARY 26, 1981

Company DOC MCC East Huntingdon Twp.

Lease Sch. Dist. Well No. 748-1 Formation _____

Field _____ County Westmoreland State Penn.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.15 @ 65 °F

pH 2.0

Chloride (Cl) 160,000 ppm

Total Hardness (CaCO₃) 40,000 ppm

Calcium (Ca) 15,200 ppm

Magnesium (Mg) 486 ppm

Sulfide (S) NONE

Sulfate (SO₄) NONE ppm

Iron (Fe) dissolved 336 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

JAN VRSO

ANALYST

By

DIVISION CHEMIST

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

JAN 28 1981



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
P. O. Box 235
Yatesboro, PA 16243

Date December 29, 1981

Company DOC-NCC

East Huntingdon Twp

Lease Southmoreland School District Well No. 748-3 Formation _____

Field Alverton County Westmoreland State Pennsylvania

Sample source School Depth _____

Submitted by Bill Lloyd Date 12-23-81 District Indiana

Marked 748-3

Specific Gravity: 1.110 @ 60 °F

pH

4

Chloride (C)

95,000 mpl
ppm

Total Hardness (CaCO₃)

47,000 mpl
ppm

Calcium (Ca)

18,000 mpl
ppm

Magnesium (Mg)

500 mpl
ppm

Nessler's NH₃ (N)

---- ppm

Sulfate (SO₄)

---- ppm

Iron (Fe)

620 mpl
ppm

Sulfide (S)

None

Bicarbonate (HCO₃)

---- ppm

Comment:

Sample was orange in color and contained a small amount of orange and black sediments. Black sediment was magnetic. Both sediments were completely acid soluble.

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Tom Weller

ANALYST

By

DIVISION CHEMIST

JAN 4 1982

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
Box 235
Yatesboro, PA 16263

Date December 17, 1981

Company DOC-NCC

East Huntingdon Twp.

Lease School District Well No. 748-3 Formation _____

Field Alverton County Westmoreland State Pennsylvania

Sample source _____ Depth _____

Submitted by Bill Lloyd Date 12-16-81 District _____

Marked _____

Specific Gravity 1.125 @ 60 °F
pH 3.88
Chloride (C) 120,000 ppm
Total Hardness (CaCO₃) 60,000 ppm
Calcium (Ca) 23,600 ppm
Magnesium (Mg) 240 ppm

Nessler NH₃ (N) _____ ppm
Sulfate (SO₄) _____ ppm
Iron (Fe) 1790 ppm
Sulfide (S) None
Bicarbonate (HCO₃) _____ ppm

Comment:

cc: M. J. McKee
J. E. Urso
W. Gregg

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

DEC 21 1981

Ted Weller

By _____
DIVISION CHEMIST

ANALYST

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date April 23, 1982Company DOC-NCC Service CompanyEast Huntingdon TwpLease SPRINGER Well No. 761-2 Formation _____Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity	<u>1.15</u> @ <u>61</u> °F	Nessler's NH ₃ (N)	_____ ppm
pH	<u>4.5</u>	Sulfate (SO ₄)	_____ ppm
Chloride (C)	<u>130,000</u> ppm	Iron (Fe)	<u>728</u> ppm
Total Hardness (CaCO ₃)	_____ ppm	Sulfide (S)	_____
Calcium (Ca)	_____ ppm	Bicarbonate (HCO ₃)	_____ ppm
Magnesium (Mg)	_____ ppm		_____

Comment: Oil layer on top. Approximately 1/5 of sample. Light orange in color.
44° API at 64.5° F. Some participate in oil which was analyzed to be
iron oxide.

NOT TESTED

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

APR 27 1982

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date March 2, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease F.N. Stoner, Trust Well No. 761-2 Formation _____

Field _____ County Westmoreland State Penna

Sample source _____ Depth _____

Submitted by Bill Lloyd Date 3-1-82 District _____

Marked 761-2 STONER

Specific Gravity _____ @ _____ °F

Nessler NH₃ (N) _____ ppm

pH 2.5

Sulfate (SO₄) _____ ppm

Chloride (C) 110,000 ppm

Iron (Fe) 392 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By _____
DIVISION CHEMIST Jan U 1982

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



WATER ANALYSIS

A Division of Halliburton Company

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date August 4, 1982

Company DOC-NCC

East Huntingdon Twp.

Lease F.W. Storace, Trust Well No. 761-4 Formation _____

Field _____ County Westmoreland State Penn.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.145 @ 80 °F

Nessler's NH_3 (N) _____ ppm

pH 3.5

Sulfate (SO_4) _____ ppm

Chloride (C) 117,000 ppm

Iron (Fe) 784 ppm

Total Hardness (CaCO_3) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO_3) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

AUG 6 1982

ANALYST

By Tom Wells
DIVISION CHEMIST

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: _____

Date 12-16-80

D

Company DOCNCC East Huntingdon Twp.

Lease BRILHART, Earle Well No. 765-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.165 @ 68 °F

pH 3.0

Chloride (Cl) 170,000 ppm

Total Hardness (CaCO₃) 84,000 ppm

Calcium (Ca) 30,800 ppm

Magnesium (Mg) 1,701 ppm

Sulfide (S) NONE

Sulfate (SO₄) 63 (cloudy) ppm

Iron (Fe) dissolved 896 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment: _____

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

BILL GREGG, JAN URSO -
ANALYST

By _____
DIVISION CHEMIST

DEC 19 1980

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 12-16-80

D

Company DOCNICE

East Huntingdon Twp.

Lease BROWN

Well No. 788-1 Formation _____

Field _____ County Westmoreland State Penn

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.150 @ 68 °F

pH 3.0

Chloride (Cl) 165,000 ppm

Total Hardness (CaCO₃) 99,000 ppm

Calcium (Ca) 34,400 ppm

Magnesium (Mg) 3159 ppm

Sulfide (S) NONE

Sulfate (SO₄) 45 (cloudy) ppm

Iron (Fe) dissolved 728 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

BILL GREGG, JAN. URSO
ANALYST

By _____
DIVISION CHEMIST

DEC 19 1980

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 12-16-80

H

Company DOCNCC

East Huntingdon Twp.

Lease HIXON

Well No. 789-2 Formation _____

Field _____

County Westmoreland

State Penn.

Sample source _____

Depth _____

Submitted by BILL LLOYD

Date _____

District _____

Marked _____

Specific Gravity 1.200 @ 68 °F

pH 3.0

Chloride (Cl) 195,000 ppm

Total Hardness (CaCO₃) 62,000 ppm

Calcium (Ca) 16,800 ppm

Magnesium (Mg) 4,860 ppm

Sulfide (S) NONE

Sulfate (SO₄) NONE ppm

Iron (Fe) dissolved 448 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

BILL GREGG, JAN URSD
ANALYST

By

DIVISION CHEMIST

DEC 19 1980

NOTICE:

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WATER ANALYSIS

Report No. _____

To: _____

Date JANUARY 26, 1981

Company DOCNCC East Huntingdon Twp

Lease E. BYERS Well No. 796-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.16 @ 65 °F

Sulfide (S) NONE

pH 2.0

Sulfate (SO₄) NONE ppm

Chloride (Cl) 155,000 ppm

Iron (Fe) dissolved 224 ppm

Total Hardness (CaCO₃) 32,000 ppm

total — ppm

Calcium (Ca) 12,000 ppm

Bicarbonate (HCO₃) — ppm

Magnesium (Mg) 486 ppm

Nessler's NH₃ (N) — ppm

Comment: _____

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

JAN URSO
ANALYST

By _____
DIVISION CHEMIST

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

JAN 28 1981



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 12-16-80

D

Company DOC NCC East Huntingdon Twp.

Lease POORBAUGH Well No. 797-1 Formation _____

Field _____ County Westmoreland State Penn.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.165 @ 68 °F

pH 3.0

Chloride (Cl) 185,000 ppm

Total Hardness (CaCO₃) 77,000 ppm

Calcium (Ca) 22,000 ppm

Magnesium (Mg) 5,346 ppm

Sulfide (S) NONE

Sulfate (SO₄) NONE ppm

Iron (Fe) dissolved 392 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment:

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

BILL GREGG, JAN URSO

ANALYST

By _____

DIVISION CHEMIST

DEC 19 1980

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date February 25, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Poorbaugh Well No. 797-2 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.16 @ 66 °F

Nessler's NH_3 (N) _____ ppm

pH 3

Sulfate (SO_4) _____ ppm

Chloride (C) 245,000 ppm

Iron (Fe) 672 ppm

Total Hardness (CaCO_3) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO_3) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By

Jan Urso
DIVISION CHEMIST

MAR 3 1982

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
P. O. Box 235
Yatesboro, PA 16263

Date April 7, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Bonbrugh Well No. 797-4 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.13 @ 67 °F

Nessler NH₃ (N) _____ ppm

pH 4.8

Sulfate (SO₄) _____ ppm

Chloride (C) 125,000 ppm

Iron (Fe) 1456 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

cc: McKee
Gregg
Weller

Handwritten note: 100% correct with 500000

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By [Signature]

DIVISION CHEMIST

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: _____

Date 12-16-80

Company DOCNCC East Huntingdon Twp

Lease CRAMER Well No. 798-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.180 @ 68 °F

pH 3.0

Chloride (Cl) 160,000 ppm

Total Hardness (CaCO₃) 117,000 ppm

Calcium (Ca) 36,400 ppm

Magnesium (Mg) 6,318 ppm

Sulfide (S) NONE

Sulfate (SO₄) 42 (CLOUDY) ppm

Iron (Fe) dissolved 336 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment: _____

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

BILL LLOYD, JAN URSO
ANALYST

By _____
DIVISION CHEMIST

DEC 19 1980

NOTICE:

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Per Itch #5

WATER QUALITY FIELD COLLECTION REPORT

TAB

PROJECT NAME DRAC. PRET
PROJECT NUMBER _____
DATE COLLECTED 2/15/83
TIME COLLECTED 11:00 AM
DATE RECEIVED BY LAB _____
COLLECTED BY R. E. J. T. M. H.

SAMPLE DESCRIPTION

SAMPLE NUMBER _____
SAMPLE TYPE
CHEM. _____ BACT. _____
FIXED _____ D.O. _____

SAMPLING INFORMATION:

AIR TEMPERATURE 25.5
WATER TEMPERATURE 25.5
DEPTH OF SAMPLE 41.5' Riverbank
pH _____ μ _____ D.O. _____

METER CALIBRATION FOR WOL					
pH TEMP	pH STD	pH STD	D.O. TEMP	D.O. @ 0	D.O. @ STD
OK ✓			OK ✓		

LOCATION SKETCH

Grout #1
not applicable
supplied to Dr. H.

800-1

EXACT LOCATION

Grout #1
not applicable

WEATHER CONDITIONS

not applicable

SOURCES OF POLLUTION

not applicable

ADDITIONAL REMARKS

collected from riverbank
well water
at 41.5' depth
not applicable
not applicable

Per Item #5

TABLE 1
WATER QUALITY SUMMARY

PARAMETER	UNITS ⁽¹⁾	SAMPLE IDENTIFICATION DRAVO #1
Acidity (Free)	mg/l CaCO_3	950
Acidity (Total)	mg/l CaCO_3	1250
Alkalinity (Phenolphthalein)	mg/l CaCO_3	<1
Alkalinity (Total)	mg/l CaCO_3	<1
Biochemical Oxygen Demand (BOD ₅)	mg/l	5
Bromide	mg/l	150(2)
Carbonate	mg/l CO_3	<1
Carbon Dioxide	mg/l CO_2	<1
Chemical Oxygen Demand (COD)	mg/l	6,800(2)
Chloride	mg/l	150,000(2)
Nitrogen:		
Ammonia	mg/l $\text{NH}_3\text{-N}$	170(2)
Nitrate	mg/l $\text{NO}_3\text{-N}$	4.0
Nitrite	mg/l $\text{NO}_2\text{-N}$	<0.01(2)
pH		3.85
Phosphorous (Total)	mg/l $\text{PO}_4\text{-P}$	0.05
Residue:		
Nonfilterable @ 105°C	mg/l	540
Total @ 105°C	mg/l	250,000
Specific Conductance	$\mu\text{mhos/cm}$ @ 25°C	374,000
Sulfate	mg/l SO_4	5
Sulfide	mg/l S	<0.2(2)
Surfactants (MBAS)	mg/l	1200(2)
Total Organic Carbon (TOC)	mg/l	2(2)
Weight	lbs/gallon	9.55

TABLE 1
(Continued)

PARAMETER	UNITS ⁽¹⁾	SAMPLE IDENTIFICATION DRAVO #1
Metals (Total):		
Aluminum	mg/l	0.6 ⁽²⁾
Arsenic	mg/l	0.30
Barium	mg/l	670 ⁽²⁾
Boron	mg/l	45 ⁽²⁾
Cadmium	mg/l	0.39 ⁽²⁾
Calcium	mg/l	28,500 ⁽²⁾
Chromium	mg/l	0.25 ⁽²⁾
Cobalt	mg/l	3.1 ⁽²⁾
Iron	mg/l	680 ⁽²⁾
Lead	mg/l	10.2 ⁽²⁾
Lithium	mg/l	83 ⁽²⁾
Magnesium	mg/l	2800 ⁽²⁾
Manganese	mg/l	65
Mercury	mg/l	0.030
Nickel	mg/l	2.5 ⁽²⁾
Potassium	mg/l	225 ⁽²⁾
Selenium	mg/l	0.28
Silver	mg/l	0.35 ⁽²⁾
Sodium	mg/l	56,000 ⁽²⁾
Strontium	mg/l	5,000 ⁽²⁾
Zinc	mg/l	0.20 ⁽²⁾

(1) mg/l = milligrams per liter or parts per million.

(2) The indicated result is the average of two determinations.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 12-16-80

Company DOCNCC East Huntingdon Twp.

Lease J. GAUT Well No. 800-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date _____ District _____

Marked _____

Specific Gravity 1.160 @ 68 °F

pH 3.0

Chloride (Cl) 180,000 ppm

Total Hardness (CaCO₃) 75,000 ppm

Calcium (Ca) 26,000 ppm

Magnesium (Mg) 2,430 ppm

Sulfide (S) NONE

Sulfate (SO₄) NONE ppm

Iron (Fe) dissolved 560 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

BILL GREGG, JAN URSO
ANALYST

By _____
DIVISION CHEMIST

DEC 19 1980

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date February 25, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease J. Gaut

Well No. 800-2

Formation _____

Field _____

County Westmoreland

State Penn.

Sample source _____

Depth _____

Submitted by _____

Date _____

District _____

Marked _____

Specific Gravity 1.13 @ 66 °F

Nessler NH₃ (N) _____ ppm

pH 3

Sulfate (SO₄) _____ ppm

Chloride (C) 220,000 ppm

Iron (Fe) 616 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

HALLIBURTON CHEMIST

MAR 3 1982

NOTICE:

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800-3

HALLIBURTON DIVISION LABORATORY
HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

Mr. Bill Lloyd

Date March 30, 1982

DOC-NCC Service Company

Box 235

Yatesboro, PA 16263

This report is the property of Halliburton Services, a Division of Halliburton Company and neither it nor any part thereof nor copy thereof is to be published or disclosed without first securing the express written approval of laboratory management, may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Services, a Division of Halliburton Company.

Give below results of our examination of two water samples

Submitted by Bill Lloyd

Worked Felgar 827-1 800-3

East Huntingdon Twp. Westmoreland Cty

Felgar 827-1

800-3

pH

3

3

Chloride, mpl

124,000

100,000

Iron, mpl

1,450

1,060

Sample was yellow in color

Sample was orange in color

Respectfully submitted,

Laboratory Analyst

M. J. McKee

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANY

By

Michael McKee

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

APR 1 1982



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
P. O. Box 235
Yatesboro, PA 16263

Date December 4, 1981

Company DOC-NCC

East Huntingdon Twp.

Lease John Gault Well No. 800-3 Formation _____

Field _____ County Westmoreland State Penna

Sample source _____ Depth _____

Submitted by Bill Lloyd Date _____ District _____

Marked Gault

Specific Gravity 1.125 @ 60 °F

Nessler NH₃ (N) _____ ppm

pH 3.5

Sulfate (SO₄) _____ ppm

Chloride (C) 97,000 ppm

Iron (Fe) 1900 ppm

Total Hardness (CaCO₃) 56,000 ppm

Sulfide (S) None

Calcium (Ca) 20,800 ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) 972 ppm

Comment:

SPILLEN OFF 1" HEAD
NO FEECHECK RAN

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Tom Weller, Field Engineer

ANALYST

By _____
DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date 11-26-80

Company DOCNCC

East Huntingdon Twp

Lease MCGILL

Well No. 802-1

Formation _____

Field _____

County Westmoreland

State Penna

Sample source _____

Depth _____

Submitted by BILL LLOYD

Date 11-25-80

District _____

Marked _____

Specific Gravity 1.170 @ 68 °F

Sulfide (S) _____

NONE

pH 3.0

Sulfate (SO₄) _____

Too Cloudy ppm

Chloride (Cl) 135,000 ppm

Iron (Fe) dissolved _____

450 ppm

Total Hardness (CaCO₃) 91,000 ppm

total _____

_____ ppm

Calcium (Ca) 36,400 ppm

Bicarbonate (HCO₃) _____

_____ ppm

Magnesium (Mg) Negligible ppm

Nessler's NH₃ (N) _____

_____ ppm

Comment:

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

Ronald L. Miller

ANALYST

By _____

DIVISION CHEMIST

DEC 2 1980

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To DOC-NCC
Box 235
Yatesboro, PA 16263

Date July 13, 1981

This report is the property of Halliburton Services, a Division of Halliburton Company, and neither this report nor any part hereof may be disclosed to any third party without the express written approval of Halliburton Services.

We give below results of our examination of water analysisBowser 819-2

East Huntingdon Twp
Westmoreland Cty
Penna.

Submitted by Bill LloydMarked ~~Gramer 798-2~~ Bowser 819-2

pH: 3.5

Iron: 560 mp1

Chloride: 125,000 mp1

Respectfully submitted,

Laboratory Analyst

Bill GreggHALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANYBy M J McKee**NOTICE:**

This report is for information only and the content is limited to the sample described. Halliburton makes no warranties, express or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

827-1

HALLIBURTON DIVISION LABORATORY
HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date March 30, 1982

This report is the property of Halliburton Services, a Division of Halliburton Company and neither it nor any part thereof is to be published or disclosed without first obtaining the express written approval of laboratory management. It may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Services, a Division of Halliburton Company.

We give below results of our examination of two water samples

Submitted by Bill Lloyd

Marked Felgar 827-1 800-3 East Huntingdon Twp. Westmoreland Co

	<u>Felgar 827-1</u>	<u>800-3</u>
pH	3	3
Chloride, mgl	124,000	100,000
Iron, mgl	1,450	1,060
	Sample was yellow in color	Sample was orange in color

Respectfully submitted,

Laboratory Analyst

M. J. McKee

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANY

By Michael McKee

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

APR 1 1982

HALLIBURTON DIVISION LABORATORY
HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date March 30, 1982

This report is the property of Halliburton Services, a Division of Halliburton Company and neither it nor any part thereof nor copy thereof is to be published or disclosed without first securing the express written approval of laboratory management. It may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Services, a Division of Halliburton Company.

We give below results of our examination of submitted water sample

Submitted by Bill Lloyd

Marked Uber 829-1

East Huntingdon Twp, Westmoreland Co

pH	3
Chlorides	120,000 mp1
Iron	970 mp1

Sample was orange in color.

Respectfully submitted,

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANY

Laboratory Analyst

M. J. McKee

By

Michael McKee

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

APR 1 1982



WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date April 23, 1982

Company DOC-NCC Service Company

East Huntingdon Twp

Lease UBER Well No. 829-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.165 @ 59 °F

Nessler's NH_3 (N) _____ ppm

pH 4.58

Sulfate (SO_4) _____ ppm

Chloride (C) 150,000 ppm

Iron (Fe) 1680 ppm

Total Hardness (CaCO_3) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO_3) _____ ppm

Magnesium (Mg) _____ ppm

Comment: Test Results

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By

Jan Urso
DIVISION CHEMIST

NOTICE:

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HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To DOCNCCDate 11-26-80

This report is the property of Halliburton Services, a Division of Halliburton Company, and neither this report nor any part hereof may be disclosed to any third party without the express written approval of Halliburton Services.

We give below results of our examination of AIKEN 850-1, WATER SAMPLES FROM AIKEN 850-1, McSHANE 881-1, LYNCH 893-1, McShane 881-1

Submitted by BILL LLOYD

Marked _____

* AIKEN 850-1
 Chlorides: 155,000 ppm
 Iron: 504 ppm
 pH: 3.0

* McSHANE 881-1
 Chlorides: 170,000 ppm
 Iron: 280 ppm
 pH: 2.5

* LYNCH 893-1
 Chlorides: 175,000 ppm
 Iron: 672 ppm
 pH: 2.5

East Huntingdon
 Twp.
 Westmoreland
 City.

Respectfully submitted,

Laboratory Analyst

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANYBy DEC 2 1980**NOTICE:**

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date August 6, 1981

Company DOC NCC SERVICE Co.

East Huntingdon Twp.

Lease Lowcks

Well No. 851-1

Formation _____

Field _____

County Westmoreland

State Penna

Sample source _____

Depth _____

Submitted by _____

Date _____

District _____

Marked _____

Specific Gravity 1.175 @ 75 °F

Sulfide (S) _____

NONE

pH 3.0

Sulfate (SO₄) _____

NONE

ppm

Chloride (Cl) 160,000

ppm

Iron (Fe) dissolved 336

ppm

Total Hardness (CaCO₃) 85,000

ppm

total _____

ppm

Calcium (Ca) 34,000

ppm

Bicarbonate (HCO₃) _____

ppm

Magnesium (Mg) NEGLECTIBLE

ppm

Nessler's NH₃ (N) _____

ppm

Comment:

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

Jon Urso

ANALYST

By _____

DIVISION CHEMIST

AUG 10 1981

cc
McLIE
GREGG

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To DOCNCCDate 11-26-80

This report is the property of Halliburton Services, a Division of Halliburton Company, and neither this report nor any part hereof may be disclosed to any third party without the express written approval of Halliburton Services.

We give below results of our examination of Aiken 850-1, WATER SAMPLES FROM AIKEN 850-1, McSHANE 881-1, LYNCH 893-1, McShane 881-1

Submitted by BILL LLOYD

Marked _____

* AIKEN 850-1
 Chlorides: 155,000 ppm
 Iron: 504 ppm
 pH: 3.0

* McSHANE 881-1
 Chlorides: 170,000 ppm
 Iron: 280 ppm
 pH: 2.5

* LYNCH 893-1
 Chlorides: 175,000 ppm
 Iron: 672 ppm
 pH: 2.5

East Huntingd
 Twp.
 Westmoreland
 City.

Respectfully submitted,

Laboratory Analyst

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANY

By _____

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
P. O. Box 235
Yatesboro, PA 16263

Date January 6, 1982

Company DOC-NCC East Huntingdon Twp.
Lease McShane Well No. _____ Formation _____
Field _____ County Westmoreland State Penna.
Sample source _____ Depth _____
Submitted by Bill Lloyd Date _____ District _____
Marked Sample from 881-2 McShane

Specific Gravity 1.155 @ 69 °F

pH 2.25

Chloride (C) 165,000 ppm

Total Hardness (CaCO₃) 54,000 ppm

Calcium (Ca) 21,600 ppm

Magnesium (Mg) Negligible ppm

Nessler NH₃ (N) --- ppm

Sulfate (SO₄) 72 ppm

Iron (Fe) 1008 ppm

Sulfide (S) None

Bicarbonate (HCO₃) --- ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

JAN 11 1982

Jan Urso

ANALYST

By

DIVISION CHEMIST *Enc.*

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

Date January 4, 1982

To: Mr. Bill Lloyd
DOC-NCC Service Company
P. O. Box 235
Yatesboro, PA 16263

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Porter

Well No. 2

Formation _____

Field _____

County Westmoreland

State Penn.

Sample source _____

Depth _____

Submitted by _____

Date 12-26-81

District _____

Marked 890-2

Specific Gravity 1.155 @ 71 °F

Nessler NH₃ (N) --- ppm

pH 2.98

Sulfate (SO₄) 55 ppm

Chloride (C) 190,000 ppm

Iron (Fe) --- 560 ppm

Total Hardness (CaCO₃) 60,000 ppm

Sulfide (S) None

Calcium (Ca) 24,000 ppm

Bicarbonate (HCO₃) --- ppm

Magnesium (Mg) Negligible ppm

Comment:

(ppm not corrected for gravity)

cc: McKee
Gregg
Weller

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

JAN 7 1982

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To:

Date JANUARY 26, 1981

Company DOC-NCC

East Huntingdon Twp.

Lease SKOUIRA

Well No. 891-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD

Date _____ District _____

Marked _____

Specific Gravity 1.185 @ 65 °F

Sulfide (S) NONE

pH 2.0

Sulfate (SO₄) NONE ppm

Chloride (Cl) 180,000 ppm

Iron (Fe) dissolved 392 ppm

Total Hardness (CaCO₃) 38,000 ppm

total _____ ppm

Calcium (Ca) 14,800 ppm

Bicarbonate (HCO₃) — ppm

Magnesium (Mg) 243 ppm

Nessler's NH₃ (N) — ppm

Comment:

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

JAN VRSO
ANALYST

By _____
DIVISION CHEMIST

NOTICE:

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JAN 28 1981



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date March 2, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Skoveria Well No. 891-2 Formation _____

Field _____ County Westmoreland State Penn.

Sample source _____ Depth _____

Submitted by Bill Lloyd Date 3-1-82 District _____

Marked _____

Specific Gravity _____ @ _____ °F

Nessler NH₃ (N) _____ ppm

pH 4.5

Sulfate (SO₄) _____ ppm

Chloride (C) 165,000 ppm

Iron (Fe) 448 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By _____

DIVISION CHEMIST

MAR 8 1982

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
P. O. Box 235
Yatesboro, PA 16263

Date December 4, 1981

Company DOC-NCC

East Huntingdon Twp.

Lease SKovira Well No. 891-3 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by Bill Lloyd Date _____ District _____

Marked _____ Unmarked _____

Specific Gravity 1.140 @ 62 °F

Nessler NH₃ (N) _____ ppm

pH 3

Sulfate (SO₄) _____ ppm

Chloride (C) 115,000 ppm

Iron (Fe) 1060 ppm

Total Hardness (CaCO₃) 74,000 ppm

Sulfide (S) None

Calcium (Ca) 28,400 ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) 729 ppm

Comment:

out of tank at SKovira 891-3
no feedback and

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Tom Weller, Field Engineer

ANALYST

By _____

DIVISION CHEMIST

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date April 23, 1982

Company DOC-NCC Service Company

East Huntingdon Twp

Lease Tullio Well No. 892-1 Formation _____

Field _____ County Westmoreland State Penna

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.185 @ 59 °F

pH 4.25

Chloride (C) 155,000 ppm

Total Hardness (CaCO₃) _____ ppm

Calcium (Ca) _____ ppm

Magnesium (Mg) _____ ppm

Nessler's NH₃ (N) _____ ppm

Sulfate (SO₄) _____ ppm

Iron (Fe) 896 ppm

Sulfide (S) _____

Bicarbonate (HCO₃) _____ ppm

Comment: TULLIO

(ppm not corrected for gravity)

CC make
Gregg
Wilson

Respectfully submitted,

HALLIBURTON SERVICES

APR 28 1982

Jan Urso

ANALYST

By

Jan Urso
DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

892-1

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To Bill Lloyd
DOC-NCCDate 31 May 81

This report is the property of Halliburton Services, a Division of Halliburton Company, and neither this report nor any part hereof may be disclosed to any third party without the express written approval of Halliburton Services.

We give below results of our examination of two water samples

<u>Loyalhanna Twp.</u> <u>Westmoreland Cty.</u>	<u>East Huntingdon Twp.</u> <u>Westmoreland Cty.</u>
--	---

Submitted by _____

Marked 390-1 890-2 Before Closed InSteele
390-1Porter
890-2

pH

4

3

Cl⁻

101,000 mpl

99,000 mpl

Oil

None

None

Sample marked 390-1 was orange in color.
Dissolved Iron was 504 mpl. Total Iron was 705mpl.

Respectfully submitted,

Laboratory Analyst

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANYBy M J McKee**NOTICE:**

This report is for information only and the content is limited to the sample described. Halliburton makes no warranties, express or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To DOCNCC

Date 11-26-80

This report is the property of Halliburton Services, a Division of Halliburton Company, and neither this report nor any part hereof may be disclosed to any third party without the express written approval of Halliburton Services.

We give below results of our examination of AIKEN 850-1, WATER SAMPLES FROM AIKEN 850-1, McSHANE 881-1, LYNCH 893-1, McShane 881-1

Submitted by BILL LLOYD

Marked _____

* AIKEN 850-1

Chlorides: 155,000 ppm
Iron: 504 ppm
pH: 3.0

* McSHANE 881-1

Chlorides: 170,000 ppm
Iron: 280 ppm
pH: 2.5

* LYNCH 893-1

Chlorides: 175,000 ppm
Iron: 672 ppm
pH: 2.5

East Huntingd
Twp.
Westmoreland
City.

Respectfully submitted,

Laboratory Analyst

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANY

By _____

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
P. O. Box 235
Yatesboro, PA 16263

Date December 28, 1981

Company DOC-NCC

East Huntingdon Twp

Lease Sutter Well No. 901-1 ~~101-9~~ Formation _____

Field Alverton County Westmoreland State Pennsylvania

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.135 @ 60 °F

Nessler NH₃ (N) N/A ppm

pH 4.15

Sulfate (SO₄) N/A ppm

Chloride (Cl) 115,000 ppm

Iron (Fe) 728 ppm

Total Hardness (CaCO₃) 59,000 ppm

Sulfide (S) None

Calcium (Ca) 22,800 ppm

Bicarbonate (HCO₃) N/A ppm

Magnesium (Mg) 486 ppm

Comment:

cc: McKee
Urso
Gregg

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Tom Weller

ANALYST

By _____
DIVISION CHEMIST

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: _____

Date 11-26-80

Company DOCNCC East Huntingdon Twp

Lease FRETTS Well No. 909-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by BILL LLOYD Date 11-25-80 District _____

Marked _____

Specific Gravity 1.270 @ 68 °F

pH 3.0

Chloride (Cl) 255,000 ppm

Total Hardness (CaCO₃) 285,000 ppm

Calcium (Ca) 102,000 ppm

Magnesium (Mg) 7,290 ppm

Sulfide (S) NONE

Sulfate (SO₄) TOO CLOUDY ppm

Iron (Fe) dissolved 1344 ppm

total — ppm

Bicarbonate (HCO₃) — ppm

Nessler's NH₃ (N) — ppm

Comment: _____

(ppm not corrected for gravity) _____

Respectfully submitted,

HALLIBURTON SERVICES

Ronald L. Miller
ANALYST

By _____
DIVISION CHEMIST

DEC 2 1980

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
P. O. Box 235
Yatesboro, PA 16263

Date January 20, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Hennon Well No. 933-1 Formation _____

Field Alverton County Westmoreland State Pennsylvania

Sample source _____ Depth _____

Submitted by Bill Lloyd Date Dec. 30, 1981 District _____

Marked _____

Specific Gravity 1.215 @ 46 °F

Nessler NH₃ (N) _____ ppm

pH 2.7

Sulfate (SO₄) _____ ppm

Chloride (C) 170,000 ppm

Iron (Fe) 1232 ppm

Total Hardness (CaCO₃) 73,000 ppm

Sulfide (S) _____

Calcium (Ca) 29,200 ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) Negligible ppm

Comment:

Rust colored precipitate in sample. Precipitate has some iron oxide, but mainly is acid insoluble scale.

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By San Hoot

DIVISION CHEMIST

JAN 25 1982

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date April 6, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Stratum Well No. 1209-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.14 @ 63 °F

Nessler's NH_3 (N) _____ ppm

pH 3.58

Sulfate (SO_4) _____ ppm

Chloride (C) 135,000 ppm

Iron (Fe) 1120 ppm

Total Hardness (CaCO_3) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO_3) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

For check

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

APR 8 1982

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC
Box 235
Yatesboro, PA 16263

Date March 10, 1982Company DOC-NCC Service CompanyEast Huntingdon TwpLease Strohm Well No. 1209-3 Formation _____Field _____ County Westmoreland State Penn.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked HAD A smell of oilSpecific Gravity 1.185 @ 71 °FNessler's NH_3 (N) _____ ppmpH 5.45Sulfate (SO_4) _____ ppmChloride (C) 85,000 ppmIron (Fe) 523 ppmTotal Hardness (CaCO_3) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO_3) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

Acid insoluble brown sediment.

cc: M. J. McKee
W. Gregg
T. Weller

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

MAR 15 1982

NOTICE:

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A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
P. O. Box 235
Yatesboro, PA 16263

Date January 4, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease ~~Street~~ Street Well No. 1229-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by Bill Lloyd Date 12-26-81 District _____

Marked _____

Specific Gravity 1.195 @ 70 °F

Nessler NH₃ (N) ---- ppm

pH 3.33

Sulfate (SO₄) 57 ppm

Chloride (C) 125,000 ppm

Iron (Fe) 672 ppm

Total Hardness (CaCO₃) 61,000 ppm

Sulfide (S) None

Calcium (Ca) 24,400 ppm

Bicarbonate (HCO₃) ---- ppm

Magnesium (Mg) Negligible ppm

Comment:

Treated with Fercheck

(ppm not corrected for gravity)

cc: McKee
Gregg
Weller

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

JAN 6 1982

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date March 2, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.
Street

Lease Street Well No. 1229-2 Formation _____

Field _____ County Westmoreland State Penn

Sample source _____ Depth _____

Submitted by Bill Lloyd Date 3-1-82 District _____

Marked 1229-2

Specific Gravity _____ @ _____ °F

Nessler NH₃ (N) _____ ppm

pH 4.1

Sulfate (SO₄) _____ ppm

Chloride (C) 115,000 ppm

Iron (Fe) 616 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By APR 8 1982
DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date April 23, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease BROOKS Well No. 1244-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.17 @ 62 °F

Nessler NH₃ (N) _____ ppm

pH 4.38

Sulfate (SO₄) _____ ppm

Chloride (C) 150,000 ppm

Iron (Fe) _____ 952 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment: TH

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

NOTICE:

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HALLIBURTON
SERVICES

A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
P. O. Box 235
Yatesboro, PA 16263

Date April 7, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Schenck Well No. 1254-1 Formation _____

Field _____ County Westmoreland State Penn

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.185 @ 66 °F

Nessler NH₃ (N) _____ ppm

pH 3.25

Sulfate (SO₄) _____ ppm

Chloride (C) 175,000 ppm

Iron (Fe) 1288 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

cc: McKee
Gregg
Weller

was treated with Senechal

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Ja. Urso

DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date March 2, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Schenck Well No. 1254-2 Formation _____

Field _____ County Westmoreland State Penna

Sample source _____ Depth _____

Submitted by Bill Lloyd Date 3-1-82 District _____

Marked 1254-2

Specific Gravity _____ @ _____ °F

Nessler's NH_3 (N) _____ ppm

pH 5.07

Sulfate (SO_4) _____ ppm

Chloride (C) 140,000 ppm

Iron (Fe) 504 ppm

Total Hardness (CaCO_3) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO_3) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By MAR 8 1982

DIVISION CHEMIST

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



WATER ANALYSIS

Report No. _____

To: _____

Date FEB. 10, 1982Company DOC NCC SERVICE Co. East Huntingdon Twp.Lease Brilhart, David Well No. 1462-1 Formation _____Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked NO SOAPSpecific Gravity 1.15 @ 52 °FNessler NH₃ (N) _____ ppmpH 5Sulfate (SO₄) _____ ppmChloride (C) 95,000 ppmIron (Fe) 448 ppmTotal Hardness (CaCO₃) 36,000 ppm

Sulfide (S) _____

Calcium (Ca) 14,400 ppmBicarbonate (HCO₃) _____ ppmMagnesium (Mg) NEGLECTABLE ppmComment: WAS NOT TREATED WITH FENCHOCK

(ppm not corrected for gravity) _____

cc McKee
Grogg
Willson

Respectfully submitted,

HALLIBURTON SERVICES

By [Signature]
DIVISION CHEMIST

FEB 12 1982

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



HALLIBURTON
SERVICES

A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date August 4, 1982

Company DOC-NCC Service Company

East Huntingdon Twp

Lease Frank L. Smith Well No. 1590-1 Formation _____

Field _____ County Westmoreland State Penn

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.115 @ 80 °F

pH 3.1

Chloride (C) 95,000 ppm

Total Hardness (CaCO₃) _____ ppm

Calcium (Ca) _____ ppm

Magnesium (Mg) _____ ppm

Nessler NH₃ (N) _____ ppm

Sulfate (SO₄) _____ ppm

Iron (Fe) 728 ppm

Sulfide (S) _____

Bicarbonate (HCO₃) _____ ppm

Comment:

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

AUG 6 1982

By Tom Weller
DIVISION CHEMIST

ANALYST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
P. O. Box 235
Yatesboro, PA 16263

Date April 7, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Miller Well No. 1592-1 Formation _____

Field _____ County Westmoreland State Penn.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.13 @ 66 °F

Nessler NH₃ (N) _____ ppm

pH 5.06

Sulfate (SO₄) _____ ppm

Chloride (C) 110,000 ppm

Iron (Fe) 784 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

cc: McKee
Gregg
Weller

was treated with Ferricheck

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By [Signature]

DIVISION CHEMIST

NOTICE:

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WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date April 23, 1982

Company DOC-NCC Service Company

East Huntingdon Twp.

Lease Seaman Well No. 1616-1 Formation _____

Field _____ County Westmoreland State Penna

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.17 @ 59 °F

Nessler NH₃ (N) _____ ppm

pH 3.02

Sulfate (SO₄) _____ ppm

Chloride (C) 145,000 ppm

Iron (Fe) 2296 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment: For info

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

Jan Urso

ANALYST

By Jan Urso

DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

390-1

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES, A DIVISION OF HALLIBURTON COMPANY

LABORATORY REPORT

No. _____

To Bill Lloyd
DOC-NCCDate 31 May 81

This report is the property of Halliburton Services, a Division of Halliburton Company, and neither this report nor any part hereof may be disclosed to any third party without the express written approval of Halliburton Services.

We give below results of our examination of two water samples

<u>Loyalhanna Twp.</u> <u>Westmoreland Cty.</u>	<u>East Huntingdon Twp.</u> <u>Westmoreland Cty.</u>
--	---

Submitted by _____

Marked 390-1 890-2 Before Closed In

	<u>Spiele</u> <u>390-1</u>	<u>Porter</u> <u>890-2</u>
pH	4	3
Cl ⁻	101,000 mpl	99,000 mpl
Oil	None	None

Sample marked 390-1 was orange in color.
Dissolved Iron was 504 mpl. Total Iron was 705mpl.

Respectfully submitted,

Laboratory Analyst

HALLIBURTON SERVICES, A DIVISION OF
HALLIBURTON COMPANYBy M. J. McKee

NOTICE:

This report is for information only and the content is limited to the sample described. Halliburton makes no warranties, express or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.



A Division of Halliburton Company

WATER ANALYSIS

Report No. _____

To: Mr. Bill Lloyd
DOC-NCC Service Company
Box 235
Yatesboro, PA 16263

Date August 4, 1982

Company DOC-NCC Service Company

South Huntingdon Twp

Lease Henry Lane Well No. 1552-1 Formation _____

Field _____ County Westmoreland State Penna.

Sample source _____ Depth _____

Submitted by _____ Date _____ District _____

Marked _____

Specific Gravity 1.120 @ 80 °F

Nessler NH₃ (N) _____ ppm

pH 3.2

Sulfate (SO₄) _____ ppm

Chloride (C) 102,000 ppm

Iron (Fe) 2744 ppm

Total Hardness (CaCO₃) _____ ppm

Sulfide (S) _____

Calcium (Ca) _____ ppm

Bicarbonate (HCO₃) _____ ppm

Magnesium (Mg) _____ ppm

Comment:

speckled
u. speckled
Bayard

(ppm not corrected for gravity)

Respectfully submitted,

HALLIBURTON SERVICES

AUG 6 1982

ANALYST

By

Tom Wells

DIVISION CHEMIST

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage, whether due to act or omission, resulting from such report or its use.

Ashtola Interest Wells

<u>Well</u>	<u>Field</u>	<u>Twp.</u>	<u>County</u>
Barkley #1	Enoch	Lincoln	Somerset
Critchfield #1	Gideon	Somerset	Somerset
Commonwealth of Pa. (Hayes #1)	Laurel Summit	Jefferson	Somerset
Vought #1	Yellow Creek	Milford	Somerset
Doolittle #2	N. Branch	Jefferson	Somerset
Sechler #1	Paddytown	Upper Turkeyfoot	Somerset
Sanner #1	Paddytown	Upper Turkeyfoot	Somerset
Eberly #1	Buck Run	Springfield	Fayette
Morris #1	Meyersbrook	Donegal	Westmoreland
Commonwealth of Pa. Tract 350 #1	Meyersbrook	Donegal	Westmoreland
Perkey #1	Scottsdale	E. Huntington	Westmoreland
Lauffer #1	Scottsdale	E. Huntington	Westmoreland
Lauffer #2	Scottsdale	E. Huntington	Westmoreland
Lauffer #3	Scottsdale	E. Huntington	Westmoreland
Lauffer #4	Scottsdale	E. Huntington	Westmoreland
Cole #1	Scottsdale	E. Huntington	Westmoreland
Cole #2	Scottsdale	E. Huntington	Westmoreland
Cole #3	Scottsdale	E. Huntington	Westmoreland
Guzy #1	Scottsdale	E. Huntington	Westmoreland
Fretts #1	Scottsdale	E. Huntington	Westmoreland
Fretts #2	Scottsdale	E. Huntington	Westmoreland
Zgorecki #1	Scottsdale	E. Huntington	Westmoreland
Zgorecki #2	Scottsdale	E. Huntington	Westmoreland
Lapotovsky #1	Scottsdale	E. Huntington	Westmoreland
Lapotovsky #2	Scottsdale	E. Huntington	Westmoreland
Smouse #1	Scottsdale	E. Huntington	Westmoreland
Smouse #2	Scottsdale	E. Huntington	Westmoreland
Lowe #1	Scottsdale	E. Huntington	Westmoreland
Hixson #1	Scottsdale	E. Huntington	Westmoreland
Pavick #1	Scottsdale	Unity	Westmoreland
Pavick #2	Scottsdale	Unity	Westmoreland
Bassinger #1	E. Connelville	Franklin	Fayette
Jarret #1	Morris Crossrds.	Springhill	Fayette
Turner #1	Waynesburg	Franklin	Greene
Sinal #1	Flatwoods	Perry	Fayette
King #1	Flatwoods	Perry	Fayette
Best Foods #1	Flatwoods	Franklin	Fayette
D'Isadora #1	Flatwoods	Franklin	Fayette
Yocum #1	Waltersburg	Franklin	Fayette
Yocum #2	Waltersburg	Franklin	Fayette
Arnold #1	Waltersburg	Franklin	Fayette
Arnold #2	Waltersburg	Franklin	Fayette
Arnold #3	Waltersburg	Franklin	Fayette
Arnold #4	Waltersburg	Franklin	Fayette
Arnold #5	Waltersburg	Franklin	Fayette
Coldren #1	Waltersburg	Franklin	Fayette
D. Cottom #1	Waltersburg	Franklin	Fayette
D. Cottom #2	Waltersburg	Dunbar	Fayette
D. Cottom #3	Waltersburg	Dunbar	Fayette

<u>Well</u>	<u>Field</u>	<u>Twp.</u>	<u>County</u>
Galica #1	Woodside	Nicholson	Fayette
Bonsaker #1	Woodside	Nicholson	Fayette
Wedge #1	Woodside	Nicholson	Fayette
Demaske #1	Woodside	Nicholson	Fayette
McCracken #1	Waltersburg	Franklin	Fayette
C. Cotton #1	Waltersburg	Franklin	Fayette
C. Cotton #2	Waltersburg	Franklin	Fayette
C. Cotton #3	Waltersburg	Dunbar	Fayette
Herman & Patrick #1	Waltersburg	Franklin	Fayette
Herman & Patrick #2	Waltersburg	Franklin	Fayette
Herman & Patrick #3	Waltersburg	Franklin	Fayette
Murphy #1	Waltersburg	Franklin	Fayette
Shirocky #1	Waltersburg	Franklin	Fayette
Zitney #1	Waltersburg	Franklin	Fayette
(No Zitney #2 well)			
Zitney #3	Waltersburg	Dunbar	Fayette
Tabaj #1	Waltersburg	Dunbar	Fayette
Duncan #2	Waltersburg	Franklin	Fayette
Hanson #1	Greensboro	Franklin	Fayette
Mickey #1	High House	German	Fayette
Hustead #1	High House	Georges	Fayette
Hustead #2	High House	Georges	Fayette
Migyanko #1	High House	Georges	Fayette
McClanahan #1	High House	German	Fayette
Swenglish #1	High House	German	Fayette
Swenglish #2	High House	German	Fayette
Pleva #1	Dawson	Franklin	Fayette
Marchewka #1	Dawson	Upper Tyrone	Fayette
Bonsacker #1	Masontown	German	Fayette

Exhibit D

DEC 28 1982

TABLE 1
WATER QUALITY SUMMARY
FOR ASHTOLA PRODUCTION COMPANY

PARAMETER	UNITS(1)	SAMPLE IDENTIFICATION BARKLEY #1 WELL
Alkalinity (Total)	mg/l CaCO_3	59
Biochemical Oxygen Demand (BOD ₅)	mg/l	330
Chemical Oxygen Demand (COD)	mg/l	9,000
Chloride	mg/l	150,000 137,315 in h-m-h of 500
Nitrogen:		
Ammonia	mg/l $\text{NH}_3\text{-N}$	390
Nitrate	mg/l $\text{NO}_3\text{-N}$	1.6
Nitrite	mg/l $\text{NO}_2\text{-N}$	<0.1
pH	--	5.50
Phosphorous (Total)	mg/l $\text{PO}_4\text{-P}$	<1
Residue (Total) @ 105°C	mg/l	288,000
Specific Conductance	$\mu\text{mhos/cm}$ @ 25°C	387,000
Sulfate	mg/l SO_4	4
Surfactants (MBAS)	mg/l	0.1
Weight	lbs/gallon	9.62

FEB 1 REC'D

To _____

TABLE 1
WATER QUALITY SUMMARY
FOR ASHTOLA PRODUCTION COMPANY

PARAMETER	UNITS ⁽¹⁾	SAMPLE IDENTIFICATION BARKLEY #1 WELL SEPARATOR
Alkalinity (Total)	mg/l CaCO_3	76
Biochemical Oxygen Demand (BOD_5)	mg/l	12
Chemical Oxygen Demand (COD)	mg/l	6,800 ⁽²⁾
Chloride	mg/l	155,000
Nitrogen:		
Ammonia	mg/l $\text{NH}_3\text{-N}$	340
Nitrate	mg/l $\text{NO}_3\text{-N}$	3.8
Nitrite	mg/l $\text{NO}_2\text{-N}$	<0.1
Oil and Grease	%	100 ⁽³⁾
pH	--	5.80
Phosphorous (Total)	mg/l $\text{PO}_4\text{-P}$	<1
Residue (Total) @ 105°C	mg/l	246,000
Specific Conductance	$\mu\text{mhos/cm}$ @ 25°C	382,000
Sulfate	mg/l SO_4	<1
Surfactants (MBAS)	mg/l	0.8
Total Organic Carbon (TOC)	mg/l	120
Weight	lbs/gallon	9.63

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Lab No. W18059

Client: Ashtola Production Co.

Sampled by: Jay Svonavec

Sampling date: 6/6/83

Analysis completed: 06/06/83

Description: Laufter #2 & #3

pH	5.0	
Total Suspended Solids	530	mg/l
Iron	900	mg/l
Manganese	92.	mg/l
Aluminum	2.8	mg/l
Alkalinity to pH 4.5	9.	mg/l as CaCO ₃
Acidity to pH 8.2	1546.	mg/l as CaCO ₃
Sulfate	1.	mg/l
Specific Conductance	398000	micromhos/cm
Calcium	26000	mg/l
Magnesium	3430	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	80840	mg/l as CaCO ₃
Sodium	53800	mg/l
Chloride	197000	mg/l

Forrest E. Walker

Forrest E. Walker
Director of Technical Services

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Lab No. W18060

Client: Ashtola Production Co.

Sampled by: Jay Svonavec

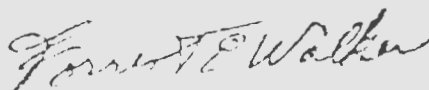
Sampling date: 6/6/83

Analysis completed: 06/06/83

Description: Fretts #2

Smouse #1

pH	4.3	
Total Suspended Solids	355	mg/l
Iron	430	mg/l
Manganese	59.	mg/l
Aluminum	1.6	mg/l
Alkalinity to pH 4.5	0.	mg/l as CaCO ₃
Acidity to pH 8.2	788.	mg/l as CaCO ₃
Sulfate	1.	mg/l
Specific Conductance	394000	micromhos/cm
Calcium	24000	mg/l
Magnesium	3610	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	75670	mg/l as CaCO ₃
Sodium	54100	mg/l
Chloride	171000	mg/l



Forrest E. Walker
Director of Technical Services



Laboratory Services Division
5350 Campbells Run Road
Pittsburgh, PA 15205

REMIT TO:
Park West Two
Cliff Mine Road
Pittsburgh, PA 15275

412-788-1080

LAB ANALYSIS REPORT

CLIENT NAME: ASHTOLA PRODUCTION COMPANY

ADDRESS: 1200 HIGH TOWER BLVD.

PITTSBURGH, PA 15205

ATTENTION: DR. DANA R. KELLY

REPORT DATE: 04.22.82

NUS PROJECT NO: Q

NUS CLIENT NO: 13010101

NUS SAMPLE NO: 12040327

DATE RECEIVED: 04.05.82

SAMPLE IDENTIFICATION: LOWE #1 SEPARATOR T-2 4-3-82

PARAMETER	SYMBOL	RESULTS	UNITS
FREE ACIDITY TO pH 4	ACID-pH4	3	MG/L
ACIDITY, HOT TO pH 8.3	HOT ACID	1025	MG/L
ALKALINITY, TOTAL TO pH 4	ALK	0	MG/L
CARBON DIOXIDE	CO2	1229	MG/L
ALKALINITY, CARBONATE	ALK-CO3	0	MG/L
ALKALINITY, PHENOLPHTHALEIN	ALK-PHT.	0	MG/L
TOTAL ORGANIC CARBON	TOC	260	MG/L
CHLORIDE	CL	149760	MG/L
NITRATE NITROGEN	NO3-N	8.5	MG/L
pH	pH	3.8	
SUSPENDED SOLIDS @ 103C	S.S.	1170	MG/L
TOTAL SOLIDS @ 103 C	T.S.	305000	MG/L
SPECIFIC CONDUCTANCE	SP COND	> 12000	umhos/CM
SULFATE	SO4	36	MG/L
SULFIDES	S=	INTERFERENCE	MG/L
BARIUM	BA	< .1	MG/L
CALCIUM	CA	30800	MG/L
TOTAL IRON	FE TOTAL	56	MG/L
MAGNESIUM	MG	2190	MG/L
MANGANESE	MN	56	MG/L
POTASSIUM	K	986	MG/L
SODIUM	NA	54000	MG/L

COMMENTS:

Reviewed and Approved by: *[Signature]*



A Halliburton Company

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Lab No. W18314

Client: Ashtola Production Co.

Sampled by: Svonavec

Sampling date: 6/24/83

Analysis completed: 06/24/83

Description: Gussy - well #1
Laufer - well #1 & #3
Lowe - well #1

pH	5.5	
Total Suspended Solids	826	mg/l
Iron	8030	mg/l
Manganese	81	mg/l
Aluminum	3.6	mg/l
Alkalinity to pH 4.5	25	mg/l as CaCO ₃
Acidity to pH 8.2	1241	mg/l as CaCO ₃
Sulfate	5	mg/l
Specific Conductance	359000	micromhos/cm
Calcium	26400	mg/l
Magnesium	3860	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	96370	mg/l as CaCO ₃
Sodium	56000	mg/l
Chlorine	171000	mg/l

Forrest L. Walker

Forrest L. Walker
Director of Technical Services

Ashtola Production Co.

JUN 30 REC'D

To _____

*Dave
FYI
File
Water Dist.
3rd Division
Mark*

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Lab No. W10704

Client: Ashtola Production Co.

Sampled by: Svonavec

Sampling date: 7/14/83

Analysis completed: 07/15/83

Description: Smouse #1
Lauffer #1 & #3

pH	6.0	
Total Suspended Solids	1190	mg/l
Iron	450	mg/l
Manganese	50.	mg/l
Aluminum	5.0	mg/l
Alkalinity to pH 4.5	130.	mg/l as CaCO ₃
Acidity to pH 8.2	589.	mg/l as CaCO ₃
Sulfate	5.	mg/l
Specific Conductance	416000	micromhos/cm
Calcium	22200	mg/l
Magnesium	2610	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	67120	mg/l as CaCO ₃
Chloride	151000	mg/l
Sodium	54000	mg/l

Forrest E. Walker

Forrest E. Walker
Director of Technical Services

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Lab No. W18977

Client: Ashtola Production Co.

Sampled by: Svonavec

Sampling date: 8/4/83

Analysis completed: 08/04/83

Description: Pavick 1-2 Lauffer 1-2-3 Zgrecki 1
Smouse 1 Hixison 1

Invoice # 8313009

pH	6.2	
Total Suspended Solids	4260	mg/l
Iron	280	mg/l
Manganese	43.	mg/l
Aluminum	2.0	mg/l
Alkalinity to pH 4.5	59.	mg/l as CaCO3
Acidity to pH 8.2	565.	mg/l as CaCO3
Sulfate	8.	mg/l
Specific Conductance	273000	micromhos/cm
Calcium	24900	mg/l
Magnesium	1870	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	70470	mg/l as CaCO3
Chloride	154000	mg/l
Sodium	58000	mg/l

Forrest E. Walker

Forrest E. Walker
Director of Technical Services

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Lab No. W20143

Client: Ashtola Production Co.

Sampled by: Svonavec

Sampling date: 10/7/83

Analysis completed: 10/07/83

Description: Hixon #1

Dave

*Was Svonavec told the
load limit?*

Yes

10/19

*10-18-83
Old in the
copy of this*

*Sample for Hixon #1
Lab Day*

pH	7.0	
Total Suspended Solids	1004	mg/l
Iron	260	mg/l
Manganese	48.	mg/l
Aluminum	2.0	mg/l
Alkalinity to pH 4.5	261.	mg/l as CaCO ₃
Acidity to pH 8.2	40.	mg/l as CaCO ₃
Sulfate	32.	mg/l
Specific Conductance	562000	micromhos/cm
Calcium	33280	mg/l
Magnesium	3290	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	97220	mg/l as CaCO ₃
Chloride	276000	mg/l
Sodium	68000	mg/l

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Director of Technical Services

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Ashtola Production Co.
Somerset, PA

MAY 5 REC'D

From Riv

Lab No. W17288

Client: Ashtola Production Co.

Sampled by: client

Sampling date: 4/27/83

Analysis completed: 04/27/83

Description: Hixson #1

pH	5.3	
Total Suspended Solids	854	mg/l
Iron	300	mg/l
Manganese	38.	mg/l
Aluminum	1.4	mg/l
Alkalinity to pH 4.5	12.	mg/l as CaCO3
Acidity to pH 8.2	719.	mg/l as CaCO3
Sulfate	2.	mg/l
Specific Conductance	18950	micromhos/cm
Calcium	29200	mg/l
Magnesium	3290	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	87090	mg/l as CaCO3
Chloride	207000	mg/l
Sodium	63600.	mg/l

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GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Ashtola Production Co.
Somerset, PA

MAY 5 REC'D

to IPH 5/11

Lab No. W17266

Client: Ashtola Production

Sampled by: client

Sampling date: 4/27/83

Analysis completed: 04/27/83

Description: Zgorecki #1

pH	5.6	
Total Suspended Solids	946	mg/l
Iron	280	mg/l
Manganese	39.	mg/l
Aluminum	1.3	mg/l
Alkalinity to pH 4.5	25.	mg/l as CaCO ₃
Acidity to pH 8.2	610.	mg/l as CaCO ₃
Sulfate	3.	mg/l
Specific Conductance	18900	micromhos/cm
Calcium	29000	mg/l
Magnesium	3330	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	86700	mg/l as CaCO ₃
Chloride	195000	mg/l
Sodium	61200.	mg/l

Forrest E. Walker

Forrest E. Walker
Director of Technical Services

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

Ashtola Production Co.
Somerset, PA

MAY 5 REC'D

To John E. ...

Lab No. W17287

Client: Ashtola Production

Sampled by: client

Sampling date: 4/27/83

Analysis completed: 04/27/83

Description: Mix: Smouse #1 Lauffer #2

pH	5.5	
Total Suspended Solids	1100	mg/l
Iron	310	mg/l
Manganese	42.	mg/l
Aluminum	1.3	mg/l
Alkalinity to pH 4.5	15.	mg/l as CaCO ₃
Acidity to pH 8.2	644.	mg/l as CaCO ₃
Sulfate	3.	mg/l
Specific Conductance	19000	micromhos/cm
Calcium	30000	mg/l
Magnesium	3400	mg/l
Hardness (Ca, Mg, Fe, Mn, Al) ...	69560	mg/l as CaCO ₃
Chloride	209000	mg/l
Sodium	64800.	mg/l

Forrest E. Walker

Forrest E. Walker
Director of Technical Services



December 28, 1984

United States Environmental
Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Attn: Mr. Jon M. Capacasa, Chief
PA Implementation Section
Water Supply Branch (3WM43)

Dear Sir:

I hereby designate and authorize Tom E. Bailey, Manager
Production-Acquisitions, as the Damson Oil Corporation
representative responsible for all permit applications and
reports to the United States Environmental Protection Agency
for Underground Injection Control for Class II wells in the
State of Pennsylvania.

Yours truly,

A handwritten signature in cursive script, appearing to read "William T. Ouzts".

William T. Ouzts
Senior Vice President and Director

WTO:gw

Form 4 UIC	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY UNDERGROUND INJECTION CONTROL PERMIT APPLICATION <i>(Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)</i>	I. EPA ID NUMBER 																																																			
READ ATTACHED INSTRUCTIONS BEFORE STARTING FOR OFFICIAL USE ONLY																																																					
Application approved mo day year	Date Received mo day year	Permit/Well Number	Comments																																																		
II. FACILITY NAME AND ADDRESS Facility Name West Shanksville Salt Water Disposal Facility Street Address West Shanksville Field City Somerset County		III. OWNER/OPERATOR AND ADDRESS Owner/Operator Name Damson Oil Corporation Street Address 396 West Greens Road, P.O. Box 4391 City Houston																																																			
State PA		State TX																																																			
ZIP Code 77210																																																					
IV. OWNERSHIP STATUS (Mark 'x') ☐ A. Federal ☐ B. State ☒ C. Private ☐ D. Public ☐ E. Other (Explain)		V. SIC CODES 1311																																																			
VI. WELL STATUS (Mark 'x') ☒ A. Operating Date Started: mo 2 day 25 year 81 ☐ B. Modification/Conversion ☐ C. Proposed																																																					
VII. TYPE OF PERMIT REQUESTED (Mark 'x' and specify if required) ☒ A. Individual ☐ B. Area Number of Existing wells: One Number of Proposed wells: Name(s) of field(s) or project(s):																																																					
VIII. CLASS AND TYPE OF WELL (see reverse) A. Class(es) (enter code(s)) II B. Type(s) (enter code(s)) D C. If class is "other" or type is code 'x,' explain D. Number of wells per type (if area permit)																																																					
IX. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="10">A. Latitude</th> <th colspan="4">B. Longitude</th> <th colspan="4">Township and Range</th> <th colspan="4"></th> </tr> <tr> <th>Deg</th><th>Min</th><th>Sec</th><th>Deg</th><th>Min</th><th>Sec</th><th>Twsp</th><th>Range</th><th>Sec</th><th>1/4 Sec</th><th>Feet from</th><th>Line</th><th>Feet from</th><th>Line</th> </tr> <tr> <td>78</td><td>56</td><td>10.4</td><td>40</td><td>02</td><td>43.4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				A. Latitude										B. Longitude				Township and Range								Deg	Min	Sec	Deg	Min	Sec	Twsp	Range	Sec	1/4 Sec	Feet from	Line	Feet from	Line	78	56	10.4	40	02	43.4								
A. Latitude										B. Longitude				Township and Range																																							
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78	56	10.4	40	02	43.4																																																
X. INDIAN LANDS (Mark 'x') ☐ Yes ☒ No																																																					
XI. ATTACHMENTS (Complete the following questions on a separate sheet(s) and number accordingly; see instructions) FOR CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application: A, E, G, H, K, M, O, P, Q, R, T																																																					
XII. CERTIFICATION <i>I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)</i>																																																					
A. Name and Title (Type or Print) Tom E. Bailey, Mgr. Production-Acquisitions			B. Phone No. (Area Code and No.) (713) 583-3333																																																		
C. Signature <i>Tom E. Bailey</i>			D. Date Signed 12/28/84																																																		

Well Class and Type Codes

Class I	Wells used to inject waste below the deepest underground source of drinking water.
Type "I"	Nonhazardous industrial disposal well
"M"	Nonhazardous municipal disposal well
"W"	Hazardous waste disposal well injecting below USDWs
"X"	Other Class I wells (not included in Type "I," "M," or "W")
Class II	Oil and gas production and storage related injection wells.
Type "D"	Produced fluid disposal well
"R"	Enhanced recovery well
"H"	Hydrocarbon storage well (excluding natural gas)
"X"	Other Class II wells (not included in Type "D," "R," or "H")
Class III	Special process injection wells.
Type "G"	Solution mining well
"S"	Sulfur mining well by Frasch process
"U"	Uranium mining well (excluding solution mining of conventional mines)
"X"	Other Class III wells (not included in Type "G," "S," or "U")
Other Classes	Wells not included in classes above.
	Class V wells which may be permitted under §144.12
	Wells not currently classified as Class I, II, III, or V.

Attachments to Permit Application

Class	Attachments
I new well	A, B, C, D, F, H — S, U
existing	A, B, C, D, F, H — U
II new well	A, B, C, E, G, H, M, Q, R; optional — I, J, K, O, P, U
existing	A, E, G, H, M, Q, R — U; optional — J, K, O, P, Q
III new well	A, B, C, D, F, H, I, J, K, M — S, U
existing	A, B, C, D, F, H, J, K, M — U
Other Classes	To be specified by the permitting authority

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

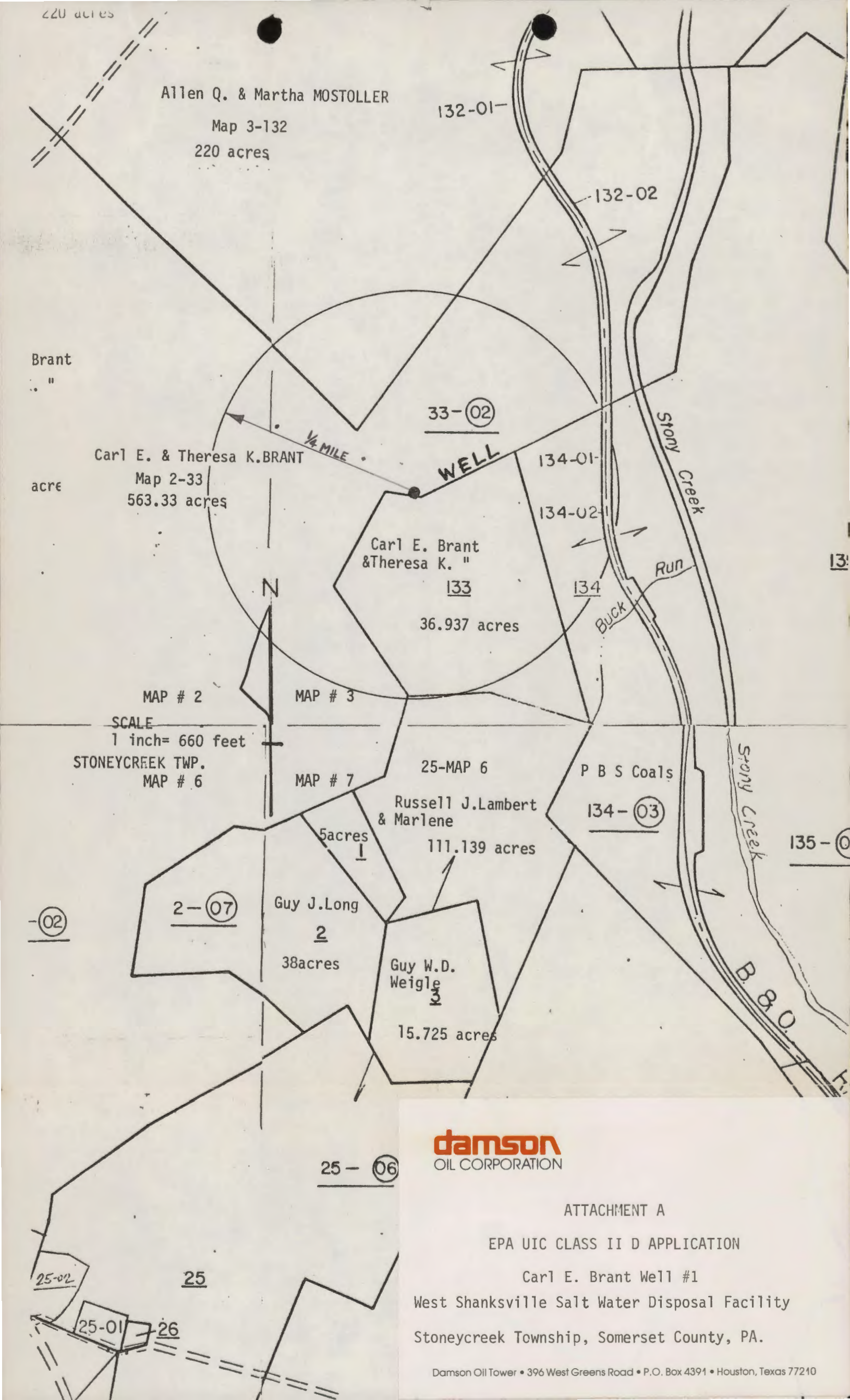
ATTACHMENT A

AREA OF REVIEW METHODS

The size of the area of review is a fixed radius of 1/4 mile from the wellbore as shown by the attached copy of the Somerset County Tax Map for the immediate area on which a circle of 1/4 mile radius has been drawn around the wellbore.

A list of the owners of property within 1/4 mile of the wellbore is as follows:

1. Carl E. Brant & Theresa K. Brant 563.33ac.
743 Sagamore Hill Rd.
Greensburg, PA. 15601
2. Allen Q. & Martha Mostoller 220ac.
Box 68, c/o Marmon Coal Company
Boswell, PA 15531
3. P. B. S. Coals 48ac.
Box 210
Mercersburg, PA 17236
4. Russell J. & Marlene Lambert 111.139ac
RD #2
Friedens, PA 15501



Allen Q. & Martha MOSTOLLER

Map 3-132

220 acres

132-01

132-02

Brant

"

Carl E. & Theresa K. BRANT

Map 2-33

563.33 acres

acre

33-02

WELL

134-01

134-02

Stony Creek

Run

134

Buck

Carl E. Brant
& Theresa K. "

133

36.937 acres

N

MAP # 2

MAP # 3

SCALE

1 inch = 660 feet

STONEYCREEK TWP.

MAP # 6

MAP # 7

25-MAP 6

Russell J. Lambert
& Marlene

111.139 acres

P B S Coals

134-03

135-0

5 acres

Guy J. Long

2

38 acres

Guy W.D.
Weigle

3

15.725 acres

Stony Creek

B. & O.

25-06

damson
OIL CORPORATION

ATTACHMENT A

EPA UIC CLASS II D APPLICATION

Carl E. Brant Well #1

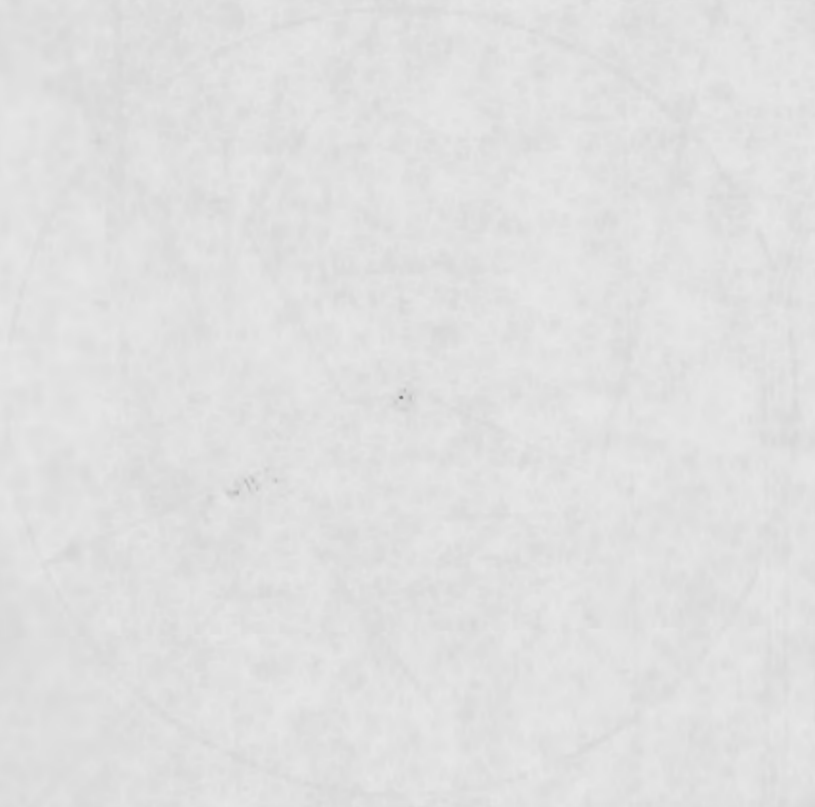
West Shanksville Salt Water Disposal Facility

Stoneycreek Township, Somerset County, PA.

Damson Oil Tower • 396 West Greens Road • P.O. Box 4391 • Houston, Texas 77210

PAS2D561BSOM

30



DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT E

NAME AND DEPTH OF USDWs

Fresh Water Zones

The Carl Brant #1 (W. Shanksville S.W.D.) well is located on the western flank of the Negro Mountain anticline with a topographic relief of approximately 2,288 feet above sea level. Aquifers of this area would be present in the Pennsylvanian and Upper Mississippian Periods.

In the Pennsylvanian Period, the aquifers would occur in the Allegheny Group and the Pottsville Group. The Allegheny Group consists of several minable coal beds, shales, sandstones, and limestones, is approximately 225 feet thick and outcrops on the surface at the well location. The Pottsville Group lies under the Allegheny Group and consists of massive sandstones with interbedded shales. The Pottsville Group is approximately 200 feet thick and is at a depth of approximately 130 to 140 feet.

In the Upper Mississippian Period, aquifers would occur in the Mauch Chunk Formation and the Loyalhanna Formation of the Pocono Group. The Mauch Chunk Formation is approximately 200 feet thick consisting mostly of shales and interbedded sandstones and limestones at a depth of approximately 320 feet. The Loyalhanna Formation of the Pocono Group is a sandy limestone approximately 60 to 80 feet thick found at a depth of approximately 525 feet but is relatively unimportant as an aquifer in Somerset County.

Ground water occurrences in these thick sections of permeable beds would most likely be found in the sandstones and siliceous limestones of the Allegheny and Pottsville Groups. As a general rule, fresh ground water quantities can be found at depths between 100 and 200 feet and usually not below 300 feet. In wells drilled for natural gas, logs indicate that connate salt water from formations begins to occur between 800 and 1,000 feet.

References

Lohman, Stanley W. (1938) Ground Water in South-Central Pennsylvania, Pennsylvania Geological Survey, Ground Water Report W. 5.

DeWitt, Jr. Wallace and Colton, George W. (1979) Bedrock Geology of the Evitts Creek and Pattersons Creek Quadrangles, Maryland, Pa. and West Virginia, Pennsylvania Geological Survey, Bulletin 1173.

Shaffner, Marchant N., Geology and Mineral Resources of the Donegal Quadrangle, Pennsylvania, Pennsylvania Geological Survey, Atlas No. 48.

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT G

GEOLOGICAL DATA ON INJECTION AND CONFINING ZONES

I. Oriskany Sand (a.k.a. Ridgely Sand)

In the Lower Devonian Epoch, a formation of Oriskany sandstone has been chosen for salt water disposal by injection. The Oriskany sandstone is approximately 160 feet thick at a depth of 8,836 feet taken from a geophysical log recorded by Schlumberger on August 27, 1977.

From cores taken of the Oriskany Sandstone, it can be described as gray to dark gray with fine to medium subangular grains, poorly to moderately sorted having a calcareous matrix cement. The Oriskany is highly fossiliferous and locally conglomeritic. Fracture traces are present with a very minute amount of pinpoint porosity visible at different intervals of the formation. Also, some argillaceous streak and interbedding of siltstones are present.

II. Needmore Shale Zone

The Oriskany sandstone is bound on the top of the formation by the lowest member of the Needmore shale, the Beaverdam shale. The Beaverdam shale is approximately 12 feet thick at a depth of 8,816 feet taken from a geophysical log recorded by Schlumberger on August 27, 1977.

The Beaverdam shale can be described as a dark grayish black thinly laminated, generally noncalcitic, sparsely fossiliferous, clay shale. The Beaverdam black shale facies has a fine texture of medium hardness. At the top of the black shale is an intertonguing of chert nodules and chert beds. This represents a gradation into the Huntersville Chert above the Beaverdam shale.

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT H

OPERATING DATA

- (1) Average daily rate: 500 Bbls/day 21,000 Gals/day
Maximum daily rate: 905 Bbls/day 38,000 Gals/day
Cumulative Volume to be injected: 1,800,000 Bbls.
- (2) Average injection pressure (surface) 3200 psig assuming 9.6#/gal. water
Maximum injection pressure (surface) 3400 psig assuming 9.6#/gal. water
- (3) Annulus Fluid: Salt water treated with 10 gallons #840 corrosion inhibitor and 2 quarts #872 oxygen scavenger
- (5) Source and analysis of injection fluid:
 - a. Attached list of 39 wells
 - b. Analyses of Typical Oriskany produced salt water - Attached
 - c. Analyses of Typical Tuscarora produced salt water - Attached

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT H

<u>WELL NAME</u>	<u>PRODUCING FORMATION</u>	<u>FIELD/ COUNTY/STATE</u>	<u>REMARKS</u>
Dale S. Barron GU #1 ✓	Oriskany	Indiantown Somerset, PA	
Edward W. Beener GU #1 ✓	Oriskany	New Centerville Somerset, PA	
Thomas Benson GU #1 ✓	Oriskany	W. Shanksville Somerset, PA	
Levi Berkey GU #1 ✓	Oriskany	N. Somerset Somerset, PA	
Cambria Mining GU # 1 ✓	Oriskany	W. Decatur Clearfield, PA	Shut-in, not tied to gas line
NO C & K Coal GU #1	Tuscarora	Marshcreek Centre, PA	Shut-in, not tied to gas line
Commonwealth of PA #221 ✓	Oriskany	Brier Knob Somerset, PA	Shut-in, not tied to gas line
Commonwealth of PA #247 ✓	Tuscarora	Rattlesnake Centre, PA	Shut-in, not tied to gas line
James W. Crawford GU #1 ✓	Oriskany	Coxes Creek Somerset, PA	
Simon G. Engleka GU #1 ✓	Oriskany	S. Somerset Somerset, PA	
Robert M. Frazee GU #1 ✓	Oriskany	Coxes Creek Somerset, PA	
Francis R. Griffin GU #1 ✓	U. Devonian	Woodside Pad Fayette, PA	
Reuben Griffith GU #1 ✓	Tuscarora	Runville Centre, PA	
Texas Gulf GU #1 ✓	Tuscarora	Devil's Elbow Centre, PA	
Ralph Hemminger GU #1 ✓	Oriskany	Lavansville Somerset, PA	
NO North Hills Group GU #1	Weir	Plateau Fayette, W. VA	
Dean M. Hottle GU #1 ✓	U. Devonian	Enoch Somerset, PA	
R. J. Lambert GU #1 ✓	Oriskany & Huntersville	W. Shanksville Somerset, PA	
H. A. Landis GU #1 ✓	Oriskany	Friedens Somerset, PA	Shut-in, not tied to gas line
Matthew B. Luce GU #B-1 ✓	Oriskany	E. Kimmel Somerset, PA	

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT H

<u>WELL NAME</u>	<u>PRODUCING FORMATION</u>	<u>FIELD/ COUNTY/STATE</u>	<u>REMARKS</u>
Matthew B. Luce GU #2 ✓	Oriskany	E. Kimmel Somerset, PA	
Donald R. McCann GU #1 ✓	Oriskany	S. Bowood Fayette, PA	Shut-in, not tied to gas line
Glenn R. Miller GU #1 ✓	Oriskany	Indiantown Somerset, PA	
Maude Mountain GU #1 ✓	Oriskany	Mill Run Fayette, PA	Shut-in, not tied to gas line
Earl R. Naugle GU #1 ✓	Oriskany	Shadecreek Somerset, PA	
Herbert Nicholas GU #1 ✓	Oriskany & Huntersville	Kingsbridge Somerset, PA	Shut-in, not tied to gas line
Lester W. Ott GU #1 ✓	Oriskany	Shadecreek Somerset, PA	
Harvey Romesburg GU #1 ✓	Oriskany	Coxes Creek Somerset, PA	
William Schmidt GU #1 ✓	Oriskany	Allen Creek Somerset, PA	
Theodore C. Sipe GU #2-1 ✓	Huntersville	W. Rockwood Somerset, PA	Shut-in, not tied to gas line
Wilbur Z. Snyder GU #1 ✓	Oriskany	Shamrock Somerset, PA	
James E. Spory GU #1 ✓	Oriskany	Heckman Hollow Somerset, PA	
Richard Svonavec GU #1 ✓	Oriskany	S. Lavansville Somerset, PA	
Harbison-Walker Refrac. GU #1 ✓	Oriskany	W. Decatur Clearfield, PA	Shut-in, no gas market
100 John D. Weaver GU #1	Oriskany	Shamrock Somerset, PA	
Earl H. Weimer GU #C-1 ✓	Oriskany	Rice Run Somerset, PA	
100 Amoco-Witco GU #1	Onondaga	Cyclone McKean, PA	
Helen Wolf GU #1 ✓	Oriskany	W. Rockwood Somerset, PA	
David W. Yoder GU #1 ✓	Oriskany	Heckman Hollow Somerset, PA	

CORE LABORATORIES, INC.

DALLAS CHEMICAL LABORATORY

DALLAS TEXAS 75229

214/350-7893

ATTACHMENT H

DRISKANY PRODUCED WATER

WATER ANALYSIS

File DCL 806-266

Company Amoco Production Company Well Name Thomas Benson No. 1 Sample No. 1

Formation _____ Depth _____ Sampled From _____

Location _____ Field _____ County _____ State _____

Date Sampled _____ Date Analyzed Jan. 9, 1981 Analyst J.A. Lutkenhaus
R.A. Law

Total Dissolved Solids 326300 mg/L calculated

Sp. Gr. 1.2259 @ 75 °F

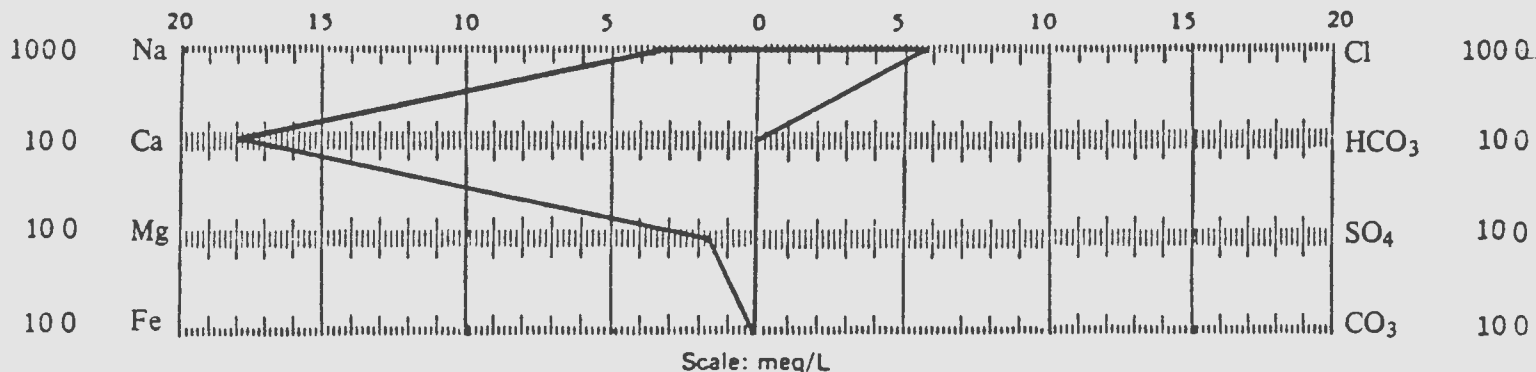
Resistivity 0.0524 ohm-meters @ 75 °F measured

1.2268 @ 20 °C (68°F)

Hydrogen Sulfide absent

pH 4.25 @ 74 °F

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	<u>3609.59</u>	<u>82985</u>	Chloride	<u>5653.85</u>	<u>200420</u>
Calcium	<u>1795.15</u>	<u>35975</u>	Bicarbonate	<u>0.0</u>	<u>0.0</u>
Magnesium	<u>175.63</u>	<u>2135</u>	*Sulfate	<u>0.0</u>	<u>0.0</u>
Iron	<u>6.37</u>	<u>178</u>	Carbonate	<u>0.0</u>	<u>0.0</u>
*Barium	<u>67.11</u>	<u>4609</u>	Hydroxide	<u>0.0</u>	<u>0.0</u>



Sodium value above is calculated
Sodium by analysis = 84000 mg/l as Na
Potassium by analysis = 5100 mg/l as K

* Gravimetric Analysis

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted), but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
DALLAS CHEMICAL LABORATORY
DALLAS, TEXAS 75229
214/350-7893

WATER ANALYSIS

File DCL 806-266

Company Amoco Production Company Well Name James Crawford No. 1 Sample No. 2

Formation _____ Depth _____ Sampled From _____

Location _____ Field _____ County _____ State _____

Date Sampled _____ Date Analyzed Jan. 9, 1981 Analyst J.A. Lutkenhaus

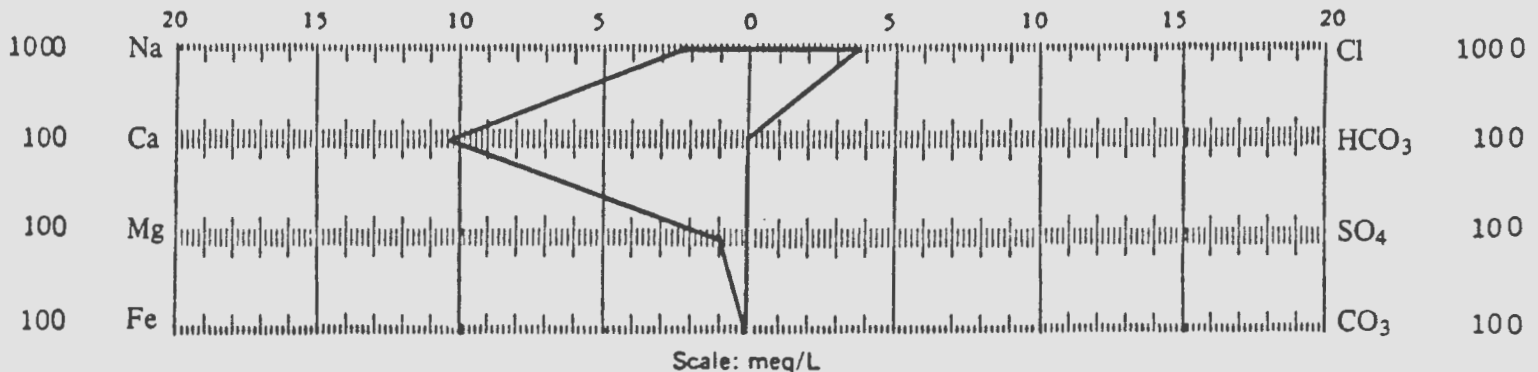
Total Dissolved Solids 209461 mg/L calculated Sp. Gr. 1.1448 @ 75 °F

Resistivity 0.0594 ohm-meters @ 75 °F measured 1.1457 @ 20 °C (68°F)

Hydrogen Sulfide absent

pH 3.82 @ 74 °F

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	<u>2426.54</u>	<u>55786</u>	Chloride	<u>3613.31</u>	<u>128086</u>
Calcium	<u>1023.10</u>	<u>20503</u>	Bicarbonate	<u>0.0</u>	<u>0.0</u>
Magnesium	<u>100.27</u>	<u>1219</u>	*Sulfate	<u>0.0</u>	<u>0.0</u>
Iron	<u>11.96</u>	<u>334</u>	Carbonate	<u>0.0</u>	<u>0.0</u>
* Barium	<u>51.44</u>	<u>3533</u>	Hydroxide	<u>0.0</u>	<u>0.0</u>



Sodium value above is calculated
Sodium by analysis = 55600 mg/l as Na
Potassium by analysis = 3200 mg/l as K

* Gravimetric Analysis

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted), but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.

DALLAS CHEMICAL LABORATORY

DALLAS, TEXAS 75229

214/350-7893

WATER ANALYSIS

File DCL 806-266

Company Amoco Production Company Well Name Earl R. Naugle No. 1 Sample No. 3

Formation _____ Depth _____ Sampled From _____

Location _____ Field _____ County _____ State _____

Date Sampled _____ Date Analyzed Jan. 12, 1981 Analyst J.A. Lutkenhaus
R.A. Law

Total Dissolved Solids 169020 mg/L calculated

Sp. Gr. 1.1201 @ 75 °F

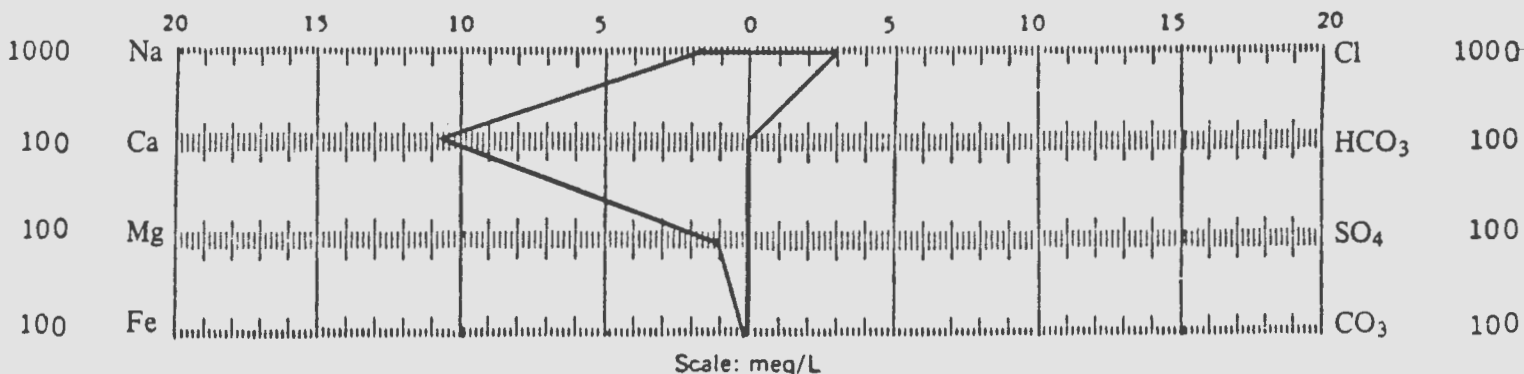
Resistivity 0.0666 ohm-meters @ 75 °F measured

1.1210 @ 20 °C (68°F)

Hydrogen Sulfide absent

pH 3.53 @ 74 °F

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	<u>1701.57</u>	<u>39119</u>	Chloride	<u>2924.93</u>	<u>103684.</u>
Calcium	<u>1057.53</u>	<u>21193</u>	Bicarbonate	<u>0.0</u>	<u>0.0</u>
Magnesium	<u>104.22</u>	<u>1267</u>	*Sulfate	<u>0.0</u>	<u>0.0</u>
Iron	<u>11.64</u>	<u>325</u>	Carbonate	<u>0.0</u>	<u>0.0</u>
*Barium	<u>49.97</u>	<u>3432</u>	Hydroxide	<u>0.0</u>	<u>0.0</u>



Sodium value above is calculated
Sodium by analysis = 39500 mg/l as Na
Potassium by analysis = 1900 mg/l as K

* Gravimetric Analysis

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DALLAS CHEMICAL LABORATORY
DALLAS, TEXAS 75229
214/350-7893

WATER ANALYSIS

File DCL 806-266

Company Amoco Production Company Well Name Wilbur Snyder No. 1 Sample No. 4

Formation _____ Depth _____ Sampled From _____

Location _____ Field _____ County _____ State _____

Date Sampled _____ Date Analyzed Jan. 12, 1981 Analyst J.A. Lutkenhaus
R.A. Law

Total Dissolved Solids 248870 mg/L calculated

Sp. Gr. 1.1728 @ 74 °F

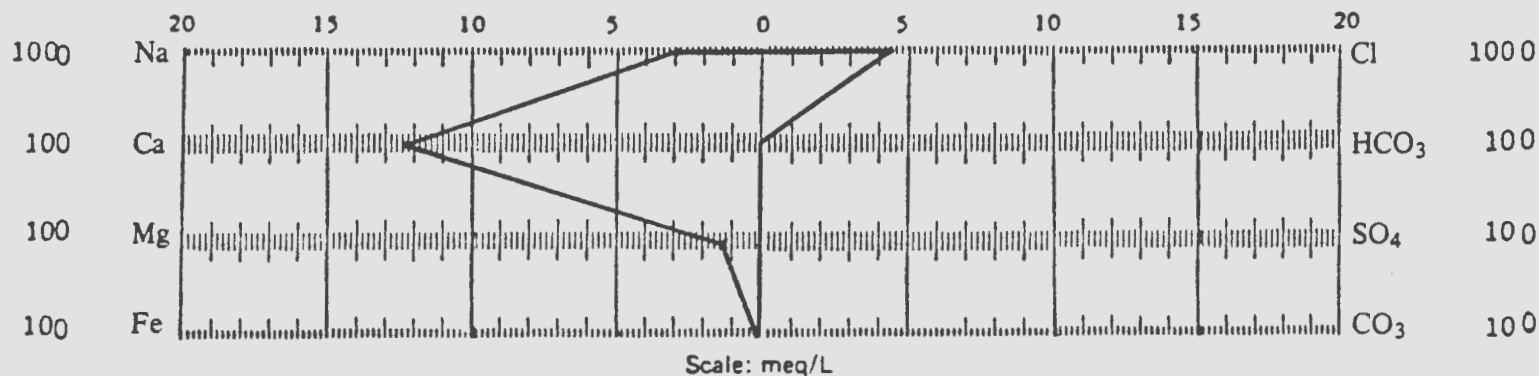
Resistivity 0.0553 ohm-meters @ 74 °F measured

1.1736 @ 20 °C (68°F)

Hydrogen Sulfide absent

pH 4.74 @ 74 °F

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	<u>2877.15</u>	<u>66146</u>	Chloride	<u>4296.75</u>	<u>152313</u>
Calcium	<u>1231.13</u>	<u>24672</u>	Bicarbonate	<u>0.14</u>	<u>8.5</u>
Magnesium	<u>121.25</u>	<u>1474</u>	*Sulfate	<u>0.0</u>	<u>0.0</u>
Iron	<u>9.06</u>	<u>253</u>	Carbonate	<u>0.0</u>	<u>0.0</u>
*Barium	<u>58.30</u>	<u>4004</u>	Hydroxide	<u>0.0</u>	<u>0.0</u>



Sodium value above is calculated
Sodium by analysis = 65600 mg/l as Na
Potassium by analysis = 4800 mg/l as K

* Gravimetric Analysis

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DALLAS, TEXAS 75229
214/350-7893

WATER ANALYSIS

File DCL 806-266

Company Amoco Production Company Well Name James Spory No. 1 Sample No. 5

Formation _____ Depth _____ Sampled From _____

Location _____ Field _____ County _____ State _____

Date Sampled _____ Date Analyzed Jan. 13, 1981 Analyst J.A. Lutkenhaus
R.A. Law

Total Dissolved Solids 89895 mg/L calculated

Sp. Gr. 1.0648 @ 74 °F

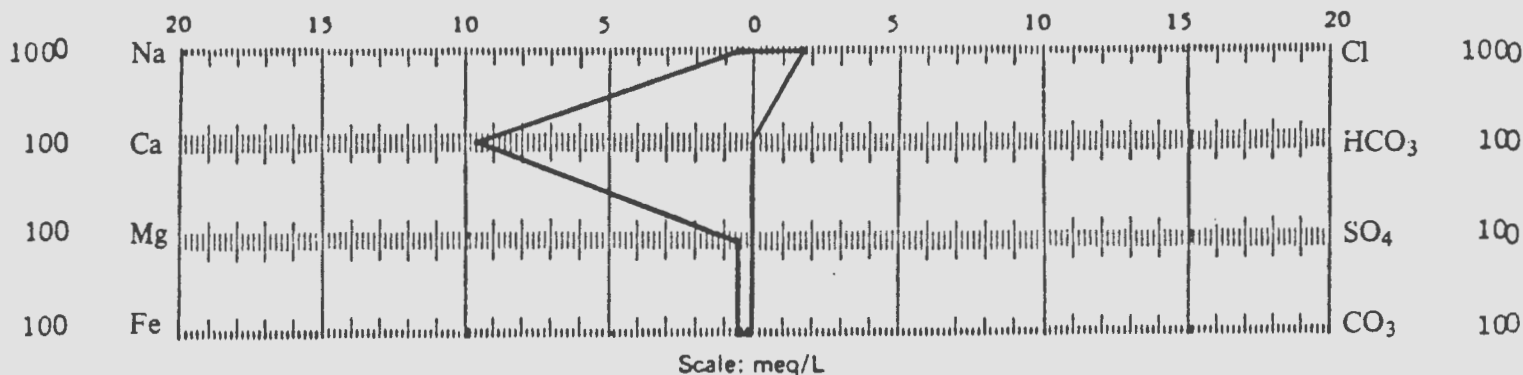
Resistivity 0.1015 ohm-meters @ 74 °F measured

1.0656 @ 20 °C (68°F)

Hydrogen Sulfide absent

pH 3.51 @ 74 °F

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	<u>529.61</u>	<u>12176</u>	Chloride	<u>1589.86</u>	<u>56358</u>
Calcium	<u>963.77</u>	<u>19314</u>	Bicarbonate	<u>0.0</u>	<u>0.0</u>
Magnesium	<u>47.88</u>	<u>582</u>	*Sulfate	<u>1.28</u>	<u>61.7</u>
Iron	<u>49.60</u>	<u>1385</u>	Carbonate	<u>0.0</u>	<u>0.0</u>
*Barium	<u>0.28</u>	<u>19.0</u>	Hydroxide	<u>0.0</u>	<u>0.0</u>



Sodium value above is calculated
Sodium by analysis = 12150 mg/l as Na
Potassium by analysis = 900 mg/l as K

* Gravimetric Analysis

AMOCO PRODUCTION COMPANY

Job No. DCL 806-266

CONSTITUENTS	No. 1	No. 2	No. 3	No. 4	No. 5
Total solids, mg/l	327534	210574	170128	249227	90546
Total dissolved solids, mg/l	326300	209461	169020	248870	89895
Total suspended solids, mg/l	1234	1113	1108	357	651
P alkalinity as CaCO ₃ , mg/l	0.0	0.0	0.0	0.0	0.0
M alkalinity as CaCO ₃ , mg/l	0.0	0.0	0.0	7.0	0.0
Free acidity as CaCO ₃ , mg/l	3.8	11.5	14.0	0.0	39.5
Total acidity as CaCO ₃ , mg/l	663	494	498	437	2119
Sulfide as S, mg/l	<0.1	6.17	<0.1	0.68	2.66
Nitrate as NO ₃ -N, mg/l	4.6	19.5	5.6	11.9	19.0
Manganese as Mn, mg/l	7.2	8.25	7.15	6.3	21.3
Resistivity at 60°F, ohm-meters	0.0607	0.0691	0.0781	0.0638	0.1158

NOTE: Total acidity as CaCO₃ includes any free mineral acidity present.
NO₃-N to NO₃ = above NO₃-N value x 4.43 = NO₃
Resistivity at room temperature appears on the water data sheet.

GEOCHEMICAL TESTING

COAL, WATER, AND MATERIALS ANALYSIS

R.D. 2, BOX 124

Somerset, Pennsylvania 15501

Phone: (814) 445-6666 or 443-1671

WATER ANALYSIS REPORT

ATTACHMENT H

TUSCARORA WATER

Lab No, W11876

Client: Amoco Production Co.

Sampled by: Lou Harvey

Sampling date: 5/6/82

Analysis completed: 05/26/82

Description: Texas Gulf #1

pH	4.9	
Total Suspended Solids	383	mg/l
Iron	770	mg/l
Manganese	180	mg/l
Aluminum	3.2	mg/l
Alkalinity to pH 4.5	10,	mg/l as CaCO3
Acidity to pH 8.2	1753.	mg/l as CaCO3
Sulfate	< 0.1	mg/l
Special Conductance	112860000	micromhos/cm
Chloride	2720000	mg/l

Forrest E. Walker

Forrest E. Walker
Director of Technical Services

NOTE: This is the only water analysis of a Tuscarora formation water sample found in the Amoco files as of December 31, 1984. Another sample of Tuscarora formation water is to be taken by Damson Oil Corporation and analyzed. This analysis will be forwarded under separate cover.

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT K

INJECTION PROCEDURES

General Description

The West Shanksville Salt Water Disposal Facility is a closed system composed of primary and secondary settling facilities, a filtering system, chemical conditioning and injection pump (see Attachment M for schematic). The system operates as follows: Water is trucked to the facility and pumped into the primary settling tanks where most of the solids are separated by gravity. As the water is displaced through the primary settling tanks, it flows to a secondary settling pond. As the finer particulate settle out in the pond, the fluid is decanted, filtered, chemically conditioned and injected into the disposal well.

Physical Plant/Operations

The primary settling system consists of two 400 barrel (16,800 gallons) totally enclosed steel tanks connected in series. The tanks are plumbed such that the water which is transported to the site is pumped into the first tank. The fluid being displaced by this operation flows into the second tank where again the fluid is displaced and flows (by gravity) into the secondary settling pond. This pond which has a 680,000 gallon capacity plus three feet of freeboard, is of earthen dike construction with a reinforced hypalon liner. The pond is decanted through a submerged inlet which is connected to a centrifugal pump. Immediately downstream of the submerged inlet is a normally closed motor control valve. Should a major leak occur in the piping between the pond and the centrifugal pump, the low pressure discharge sensor, downstream of the centrifugal pump, would activate and terminate injection operations and the motor control valve would move to its normally closed position.

The centrifugal pump transfers the fluids through a primary filtering system into a 8,800 gallon totally enclosed steel surge tank. Between the centrifugal pump and the surge tank a chemical treatment (bacteria control) is injected into the flow system. Another centrifugal pump, also controlled by high and low level controllers on the surge tank, will then pump the treated water through a secondary filtering system and chemical treatment (oxygen scavenger and corrosion inhibitor) is injected into the flow system. If the high and low level controllers (for the first centrifugal pump) on the surge tank would malfunction there is a backup-high level controller which would deactivate the complete system, prior to overflowing (overflowing) the surge tank. After passing through the secondary filtering system the fluid is then boosted through a third filter (tertiary) with a third centrifugal pump. This pump is simultaneously operated with the second pump. Finally the fluid is injected into the disposal well with a positive displacement pump.

(cont'd)

DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

Page 2 ATTACHMENT K

Downstream of the positive displacement pump a continuous pressure recorder documents the injection pressure. A high pressure shut off controller is also utilized to deactivate the system should the injection pressure approach 3900 PSIG. Immediately downstream of the pressure recorder a 3900 PSIG pressure relief valve is also set. This is primarily utilized to protect the piping but may also act as a backup for the high pressure electronic controller. The pressure relief valve drains back to the surge tank. At the wellhead, a check valve has been utilized to prevent the well from flowing back, should a leak occur in the system.

The annular space around the injection tubing has been filled with water and this zone has been connected to the annular space monitoring tank. Should a leak develop in the injection tubing the flow is piped to the monitoring tank. This leakage will activate a high level controller which will deactivate the injection system.

Once the injection system has been deactivated because of high level in the surge tank, low discharge pressure on the centrifugal pumps, high injection pressure, or fluid leakage into the annular space, the system cannot be restarted without being manually reset.

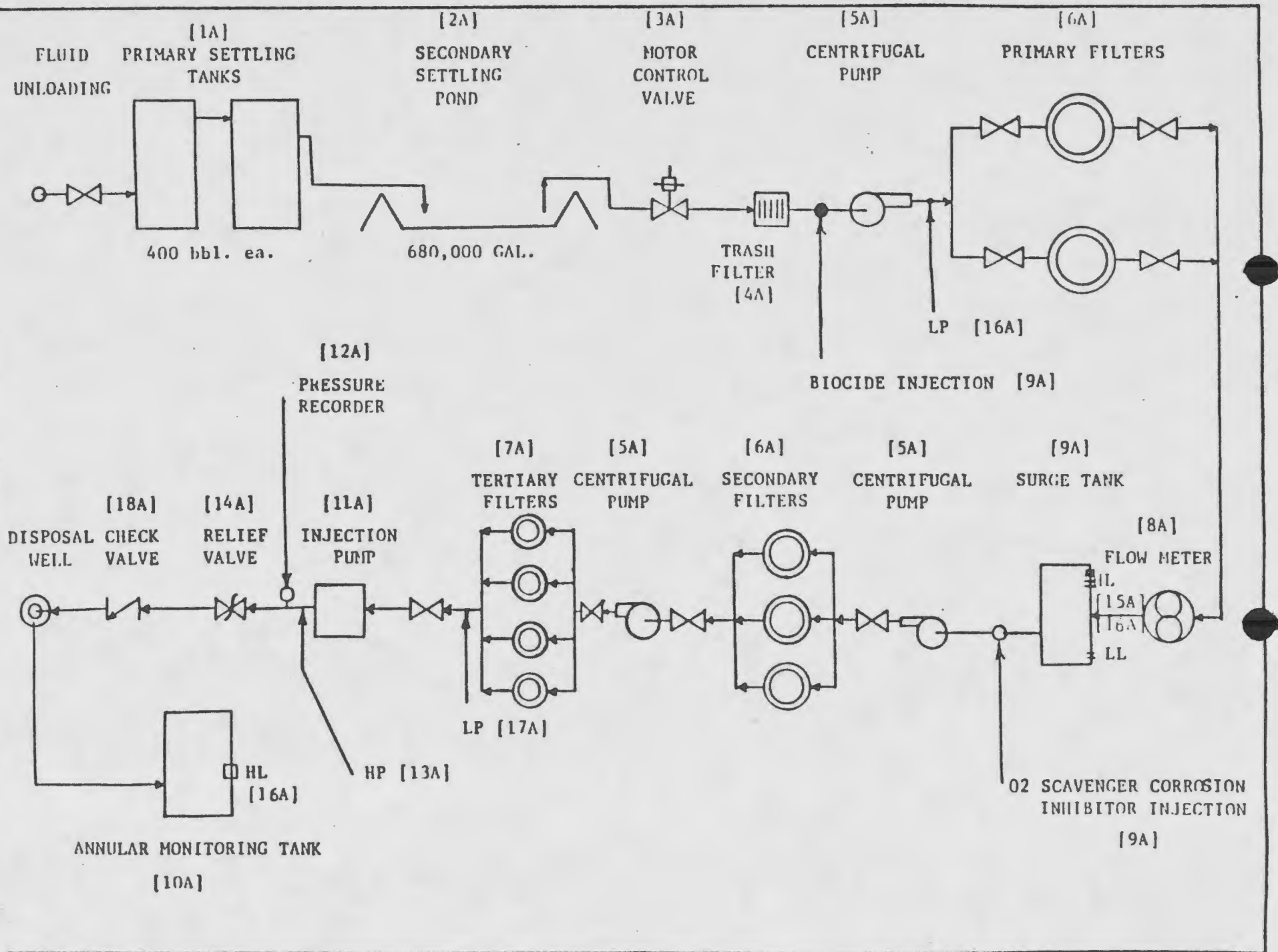
DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT M
EQUIPMENT LIST
West Shanksville Salt Water Disposal Facility

<u>Item</u>	<u>Article</u>	<u>Description</u>
[1A]	Primary Settling Tanks	400 Barrel Bremco Storage tank 12' Dia. x 20' High API Cone Top
[2A]	Secondary Settling Pond	36 mil reinforced hypalon liner
[3A]	Motor Control Valve	2" Full open, normally closed Motor Valve, Raymond Control System, Model AAA 160-8-7
[4A]	Trash Filter	Field fabricated to remove particles 0.1 inch.
[5A]	Centrifigal Pump(s)	Ampco centrifugal corrosion resistant pump 2 HP 3600 RPMS w/ 5-inch diameter impeller 240480V Nema B Electric Motor
[6A]	Filter(s) (Primary & Secondary)	Ronningen Petter Model CST-224-SE Fabri-Basket filter, ASME Code for 150 PSI @ 180°F.
[7A]	Filter(s) (Tertiary)	Peco Model 65-4-336 filters w/ gauge w/o relief valve. AMSE Code for 275 psi @ 100°F.
[8A]	Flow Meter	Niagaran Liquid Meter - Brine or salt water: Harsey Products, Inc. Model 8017385.
[9A]	Chemical Injection Pump(s)	Morr V-6 Mini pump corrosion resistant pump 6 RPM, 250 psi max. - Rate = 0 to 1 pint/hour 115 V single phase Electric Motor
[10A]	Annual Monitoring & Surge Tank(s)	210 Bbl Westerman Steel Storage Tank #WOT-210 10' X 15'
[11A]	Injection Pump	Wheatley 5P-313 3 1/8" stroke w/ 1" dia. @ 370 RPM = 28 BPH w/ Marathon 60 HP, 1800 RPM, 3-phase 230460 V Nema B Efec Electric Motor.
[12A]	Pressure Recorder	Barton 0-5000 PSI static pressure element, Model 202A-190-181
[13A]	High Pressure Shutdown Switch	Static-O-Ring Model 3LK454CIA 1500 to 7500 PSIA range.

Equipment List (Cont.)

<u>Item</u>	<u>Article</u>	<u>Description</u>
[14A]	Relief Valve	Baird Relief Valve, 3000 to 6000 PSI - Model 7801-1-HR Set at 4500 PSI.
[15A]	High & Low Level Control Switch for centrifugal Pumps	Major head switch - Multiduty Model 6855F-409-BN
[16A]	High Level Switches surge & annular monitoring tanks	C. E. Natco electric CMEAQX401 SPDT.
[17A]	Low Pressure Discharge Control Switch	Static-O-Ring Model 3LK 454C1A 20 to 100 PSIA range.
[18A]	Check Valve	Prince check valve, 2 in., Coded 21629 Model 250P ZWP 6000, Flange 2500 Series.



DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT O

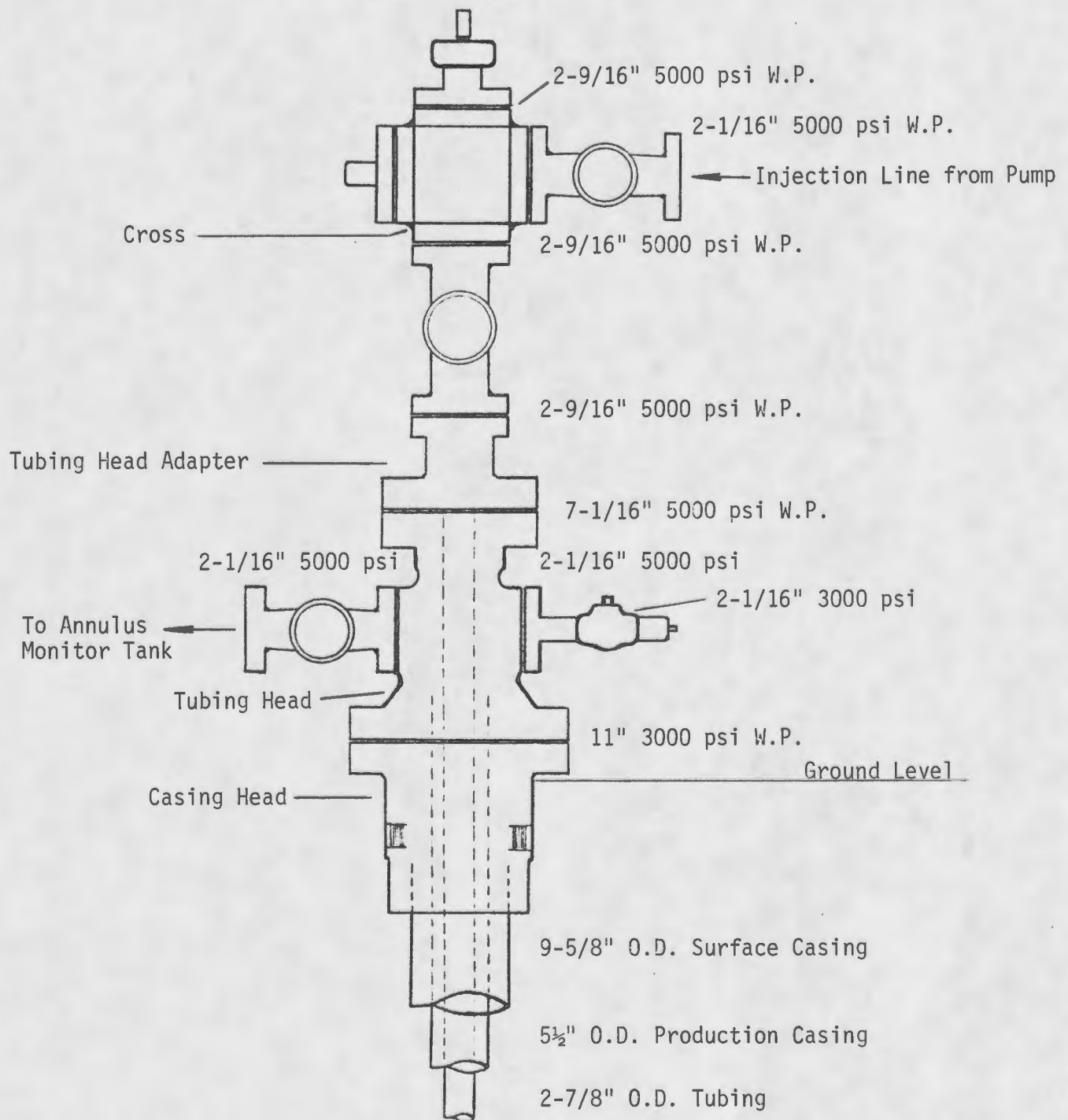
PLANS FOR WELL FAILURES

The only well within a distance of 5400' from the subject disposal well is a water well shallower than 300' and located 3450' from the subject well. Accordingly, contingency plans for well failure are limited to the subject disposal well itself.

As shown on Page 2 of the narrative description of Physical Plant/Operations (ATTACHMENT K) and the equipment schematic, in the event of tubing failure in the disposal well, the injection plant will automatically shut down. If necessary to kill the well, appropriate service companies such as Halliburton will be called on location as well as transportation of workover fluid of sufficient density. A workover rig will be used to pull, replace defective joint(s) and run tubing back in the hole in order to repair the tubing failure itself.

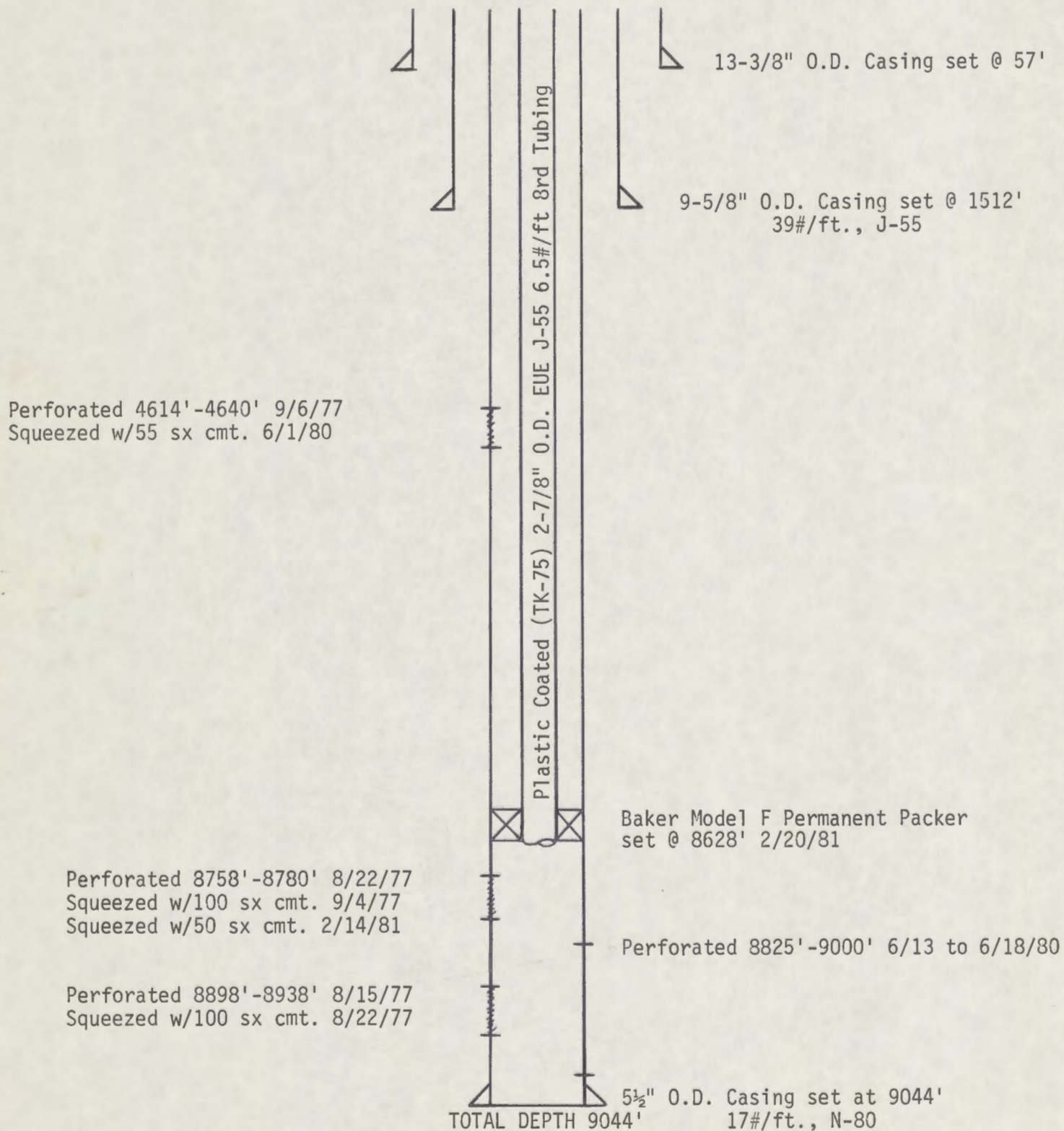
ATTACHMENT M

WELLHEAD SCHEMATIC
CARL BRANT WELL NO. 1



EQUIP CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT M
CARL BRANT WELL NO. 1
SUBSURFACE SCHEMATIC



DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT P

MONITORING PROGRAM

The injection fluid will be analyzed once within the first year of authorization and each year thereafter if fluids from new producing wells are added to the disposal system since the previous analysis. At present some 29 producing wells may contribute produced water to this facility, and at least another 10 productive wells presently shut-in may contribute water in the future.

The injection rate, surface injection pressure and cumulative injection volume will be recorded daily. A sample of the injected fluid will be weighed with a mud balance each day that fluid is injected.

At present one of the two valves on the tubinghead is left open to monitor the annular space between the 2-7/8" O.D. tubing and 5-1/2" O.D. production casing. The normally open valve is piped to an annular space monitoring tank of 210 barrel capacity. Should the treated salt water in the annulus start to flow for any reason, a liquid level control in the monitoring tank will shut down the injection system.

A Water-in-Annulus test will be conducted, as required, to test the integrity of the tubular goods and packer in the well and monitor the absence of vertical fluid movement between the casing and wellbore.


 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 WASHINGTON, DC 20460

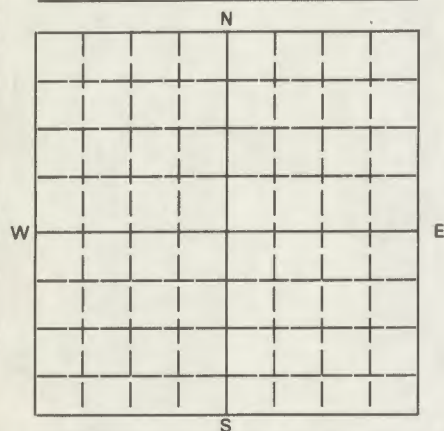
PLUGGING AND ABANDONMENT PLAN

NAME AND ADDRESS OF FACILITY

 West Shanksville Salt Water Disposal Facility
 West Shanksville Field
 Somerset County, Pennsylvania

NAME AND ADDRESS OF OWNER/OPERATOR

 Damson Oil Corporation
 396 West Greens Road, P. O. Box 4391
 Houston, Texas 77210

 LOCATE WELL AND OUTLINE UNIT ON
 SECTION PLAT — 640 ACRES


STATE

PA

COUNTY

Somerset

PERMIT NUMBER

SURFACE LOCATION DESCRIPTION

1/4 OF

1/4 OF

1/4 SECTION

TOWNSHIP

RANGE

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 5500 ft. from (N/S) _____ Line of quarter section

West of 78 deg.55'00"

and 1350 ft. from (E/W) _____ Line of quarter section

North of 40 deg.02'30"

TYPE OF AUTHORIZATION

- ☒ Individual Permit
☐ Area Permit
☐ Rule

 Number of Wells 1
WELL ACTIVITY

- ☐ CLASS I
☒ CLASS II
☒ Brine Disposal
☐ Enhanced Recovery
☐ Hydrocarbon Storage
☐ CLASS III

Lease Name Carl Brant

Well Number 1

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT(LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
5 1/2	17	9044	5044	8-3/4
9-5/8	36	1512	1512	12 1/4
13-3/8	NA	57	57	17 1/2

METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☒ The Balance Method
☐ The Dump Bailer Method
☐ The Two-Plug Method
☐ Other

CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	5 1/2	8-3/4	8-3/4				
Depth to Bottom of Tubing or Drill Pipe (ft.)	8700	4000	1630				
Sacks of Cement To Be Used (each plug) Bridge Plug +	20 sx	20	40				
Slurry Volume To Be Pumped (cu. ft.)	21.4	21.4	42.8				
Calculated Top of Plug (ft.)	8536	3950	1530				
Measured Top of Plug (if tagged ft.)	-	-	-				
Slurry Wt. (Lb./Gal.)	15.1	15.1	15.1				
Type Cement or Other Material (Class III)	"A"	"A"	"A"				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
4614	4640	Squeezed w/55 sx cmt	6/1/80
8758	8780	Squeezed w/50 sx cmt	2/14/81
8898	8938	Squeezed w/100 sx cmt	8/22/77
8825	9000		

Estimated Cost to Plug Wells

Ten thousand (\$10,000) dollars

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

 Tom E. Bailey
 Mgr. Production-Acquisitions

SIGNATURE

DATE SIGNED

12/28/84

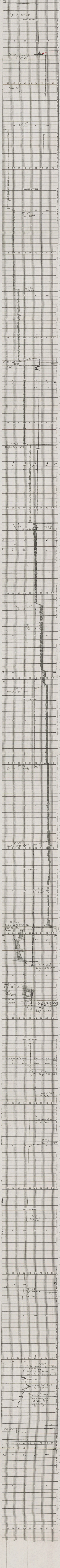
DAMSON OIL CORPORATION
EPA UIC CLASS II D APPLICATION
WEST SHANKSVILLE SWD FACILITY
SOMERSET COUNTY, PA.

ATTACHMENT T

EXISTING EPA PERMITS

Damson Oil Corporation has no existing EPA permits as of December 31, 1984.

Fluid Density 10.4 lb/gal
Somerset County, PA



Fluid Density 9.9 lb/gal
Somerset County, PA

