CHECKLIST FOR FILING A UIC PERMIT APPLICATION

Please utilize this checklist to ensure you have prepared, completed, and enclosed all required documentation and payment to ensure a timely review of your submittal.

Operator	Base Petroleum, Inc.		
Existing UIC Permit ID Number	UIC2D0810281	UIC Well API Number	47-081-00281

Office of Oil and Gas Office Use Only	
Permit Reviewer	
Date Received	
Administratively Complete Date	
Approved Date	
Permit Issued	

Please check the fees and payment included.

Fees		Payment Type	
UIC Permit Fee: $500	✓	Check	✓
Groundwater Protection Plan (GPP) Fee: $50.00	☐	Electronic	☐
		Other	☐

Please check the items completed and enclosed.

- ✓ Checklist
- ✓ UIC-1
  - ✓ Section 1 – Facility Information
  - ✓ Section 2 – Operator Information
  - ✓ Section 3 – Application Information
  - ✓ Section 4 – Applicant/Activity Request and Type
  - ✓ Section 5 – Brief description of the Nature of the Business
  - ☐ CERTIFICATION
- ✓ Section 6 – Construction
  - ✓ Appendix A Injection Well Form
  - ☐ Appendix B Storage Tank Inventory
- ✓ Section 7 – Area of Review
  - ✓ Appendix C Wells Within the Area of Review

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- [ ] Appendix D Public Service District Affidavit
- [x] Appendix E Water Sources
- [ ] Appendix F Area Permit Wells
- [x] Section 8 – Geological Data on Injection and Confining Zones
- [x] Section 9 – Operating Requirements / Data
  - [x] Appendix G Wells Serviced by Injection Well
- [ ] Section 10 – Monitoring
- [x] Section 11 – Groundwater Protection Plan (GPP)
  - [x] Appendix H Groundwater Protection Plan (GPP)
- [ ] Section 12 – Plugging and Abandonment
- [ ] Section 13 – Additional Bonding
- [ ] Section 14 – Financial Responsibility
  - [ ] Appendix I Financial Responsibility
- [ ] Section 15 – Site Security Plan
  - [ ] Appendix J Site Security for Commercial Wells
- [ ] Section 16 – Additional Information
  - [ ] Appendix K Other Permit Approvals

NOTE: For all 2D wells an additional bond in the amount of $5,000 is required.

Reviewed by (Print Name): _____

Reviewed by (Sign): _____

Date Reviewed: _____

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UIC-1
(4/25)

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OFFICE OF OIL AND GAS
601 57th Street, SE
Charleston, WV 25304
(304) 926-0450
www.dep.wv.gov/oil-and-gas

UNDERGROUND INJECTION CONTROL (UIC) PERMIT APPLICATION

UIC PERMIT ID # UIC2D0810281 API # 47-081-00281 WELL # Daniel #2

Section I. Facility Information

Facility Name: Base Petroleum, Inc.

Address: 100 Wilcox Farm Lane

City: South Charleston State: WV Zip: 25309

County: Kanawha

Location description:

Claypool area of the Claypool Branch Watershed of the Trap Hill District of Raleigh County.

Location of well(s) or approximate center of field/project in UTM NAD 83 (meters):

Northing: 4182868.15 Easting: 469282.92

Environmental Contact Information:

Name: John Wilcox Title: Designated Agent

Phone: 304-546-5861 Email:

Section 2. Operator Information

Operator Name: Base Petroleum, Inc.

Operator ID: 305961

Address: 100 Wilcox Farm Lane

City: South Charleston State: WV Zip: 25309

County: Kanawha

Contact Name: John Wilcox Contact Title: Designated Agent

Contact Phone: 304-546-5861 Contact Email: Jhnwilcox@aol.com

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Section 3. Applicant Information

Ownership Status: ■ PRIVATE ☐ PUBLIC ☐ FEDERAL ☐ STATE
☐ OTHER (explain):

SIC code: ■ 1311 (2D, 2H, 2R) ☐ 1479 (3S) ☐ OTHER (explain):

Section 4. Applicant / Activity Request and Type:

A. Apply for a new UIC Permit: ☐ 2D ☐ 2H ☐ 2R ☐ 3S
B. Reissue existing UIC Permit: ■ 2D ☐ 2H ☐ 2R ☐ 3S
C. Modify existing UIC Permit: ☐ 2D ☐ 2H ☐ 2R ☐ 3S
(Submit only documentation pertaining to the modification request)

2D COMMERCIAL FACILITY: ■ YES ☐ NO

Section 5. Briefly describe the nature of business and the activities to be conducted:

Activities will consist of injecting produced brine water and pit fluids from various other wells in the area.

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CERTIFICATION

All permit applications must be signed by a responsible corporate officer for a corporation, by a general partner for a partnership, by the proprietor of a sole proprietorship, or by a principal executive or ranking elected official for a public agency, or a [1]duly authorized representative in accordance with 47CSR13-13.11.b.

A. Name and title of person applying for permit:

Print Name: John Wilcox

Print Title: Designated Agent

B. Signature and Date.

I certify under 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.

Signature: John P Wilcox

Date: 6/23/14

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[1] A person is a duly authorized representative if:

The authorization is made in writing by a person described in subdivision 47CSR13-13.11.a.

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of the plant manager, operator of a well or a well field superintendent, or position of equivalent responsibility.

The written authorization is submitted to the Director.

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APPENDIX A
Injection Well Form

1) GEOLOGIC TARGET FORMATION Weir Sand

Depth 3106 Feet (top) 3242 Feet (bottom)

2) Estimated Depth of Completed Well, (or actual depth of existing well): 3283 Feet

3) Approximate water strata depths: Fresh 400 Feet Salt 1523 Feet

4) Approximate coal seam depths: 83', 832', 1010', 1044'

5) Is coal being mined in the area? Yes ☐ No ☑

6) Virgin reservoir pressure in target formation 70 psig Source well record

7) Estimated reservoir fracture pressure N/A psig (BHFP)

8) MAXIMUM PROPOSED INJECTION OPERATIONS:

Injection rate (bbl/hour) 15

Injection volume (bbl/day) 360

Injection pressure (psig) Gravity feed

Bottom hole pressure (psig) 2552

9) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES:

Produced brine fluid

Temperature of injected fluid: (°F) 70

10) FILTERS (IF ANY)

50 Micron

11) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL

N/A

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APPENDIX A (cont.)

12. Casing and Tubing Program

TYPE	Size	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill-up (Cu. Ft.)
Conductor	13 3/8"				22'		
Fresh Water	9 5/8			32#	1498'	1498'	40 sks
Coal							
Intermediate 1	7"			20#	2504'	2200'-2504'	30 sks
Intermediate 2							
Production	4 1/2"		J-55	10.5#	3283'	3283'	
Tubing	2 3/8"		J-55	4.6#		3074'	
Liners							

TYPE	Wellbore Diameter	Casing Size	Wall Thickness	Burst Pressure	Cement Type	Cement Yield (cu. ft./sk)	Cement to Surface ? (Y or N)
Conductor							
Fresh Water							
Coal							
Intermediate 1							
Intermediate 2							
Production							
Tubing							
Liners							

PACKERS	Packer #1	Packer #2	Packer #3	Packer #4
Kind:	Parmaco			
Sizes:	2 3/8" X 4 1/2"			
Depths Set:	3074			

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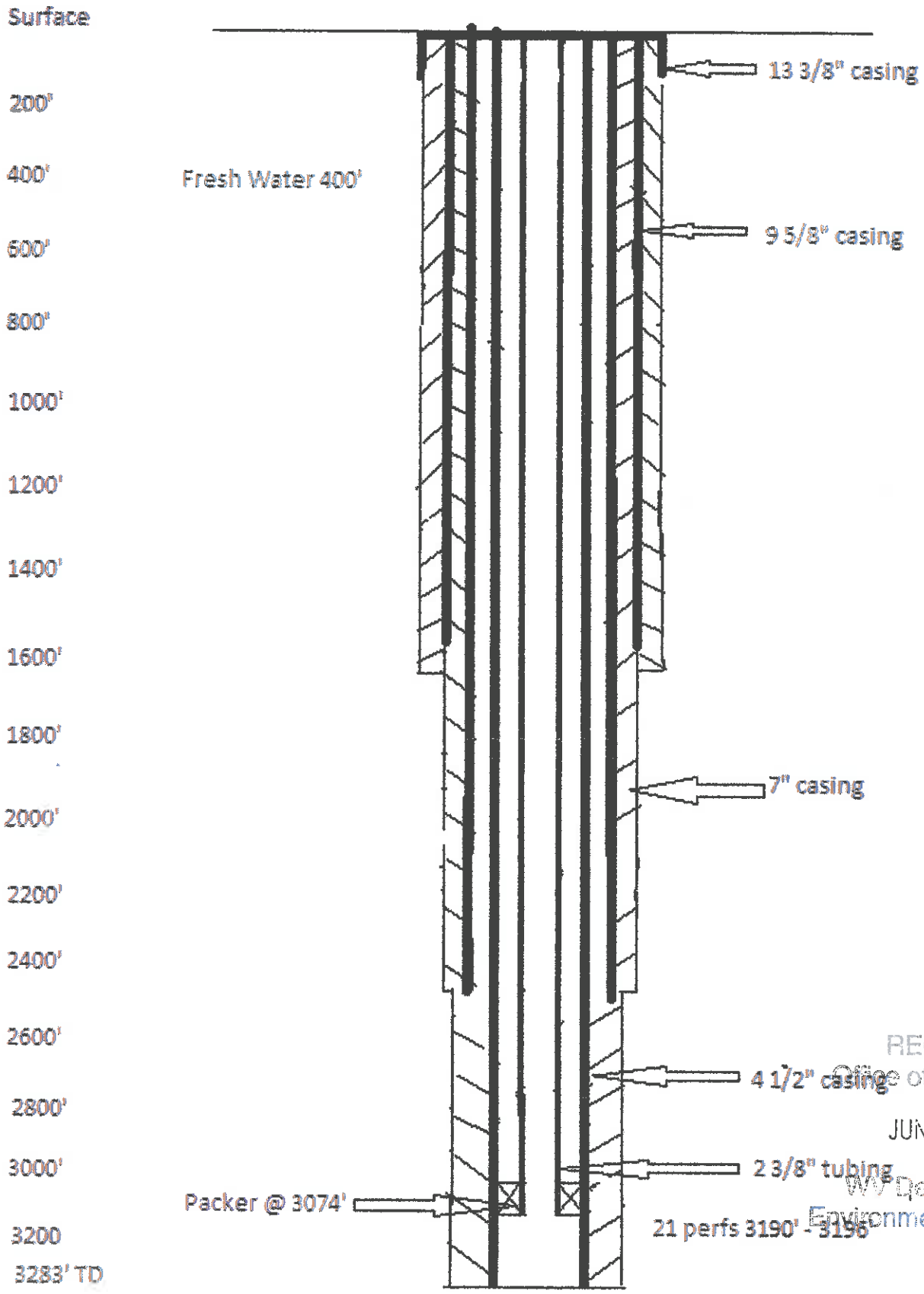
Daniel #2



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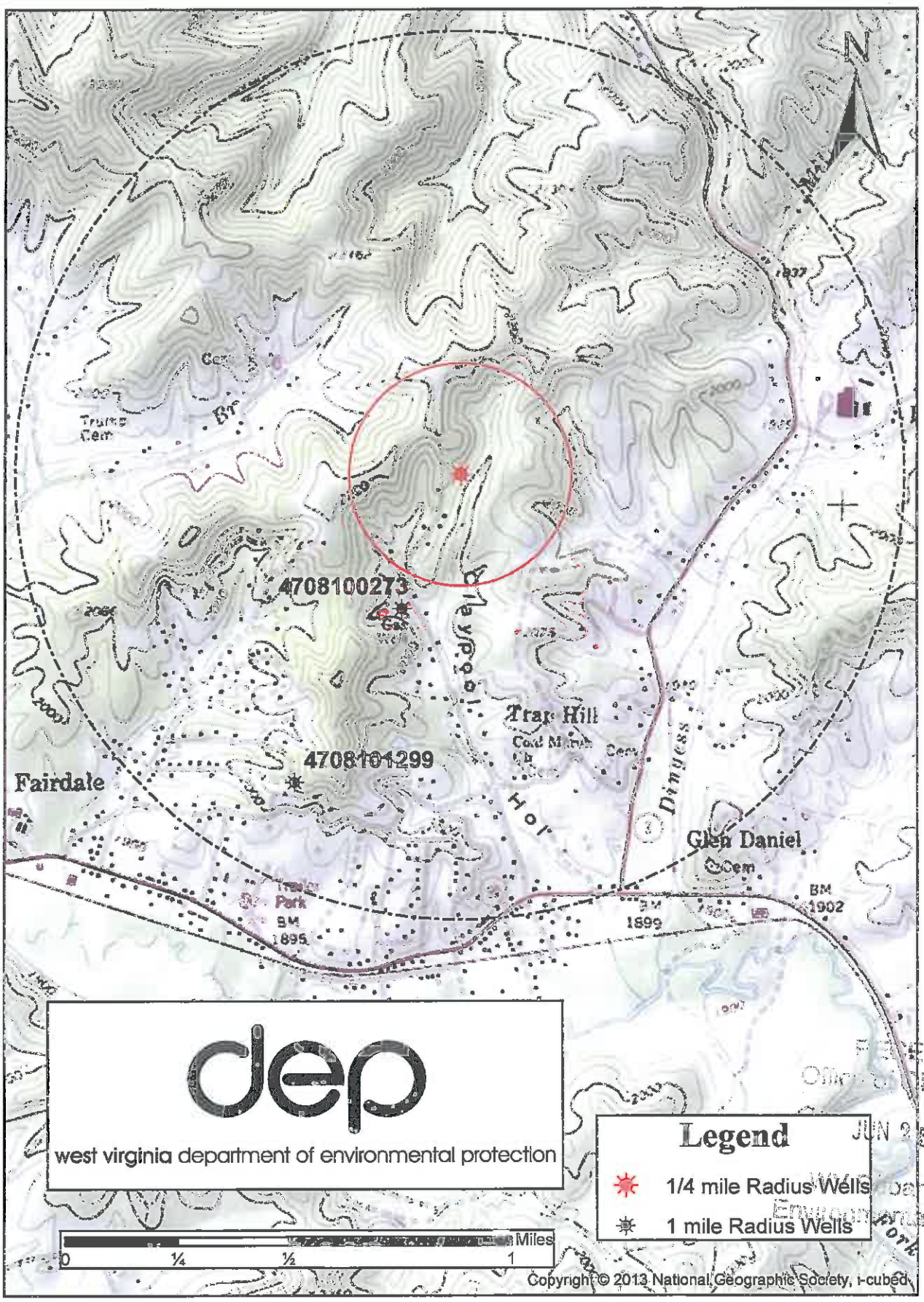
UIC2D0810281



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Google earth

feet 200

meters 90

Water Supply ?

APPENDIX G

Wells Serviced by Injection Wells

API #	Operator	Producing Formation
See Attached		

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Make as many copies as necessary and include page numbers as appropriate.

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MOUNTAINEER GAS SERVICES
BRINE WATER HAULED

API #	WELL NAME & #	FORMATION	BARRELS PER MONTH
47-079-0607	ARBUCKLE ,A.A. #615	SHALE	3
47-035-2292	BROWN #9407	SHALE	5
47-035-1087	CITY OF RIPLEY #739	ORISKANY	8
47-035-1445	CLICK, K.M. #922	ORISKANY	6
47-079-0501	COREY M 2 #606	SHALE	3
47-079-0539	COREY M 6 #608	SHALE	3
47-079-0618	CREIGHTON PAUL #618	SHALE	3
47-035-1931	CUNNINGHAM #1042	SHALE	4
47-079-0744	CYRUS GERTRUDE #766	ORISKANY	3
47-079-0500	FISHER JM 1 #602	SHALE	6
47-079-0848	FOSTER DELMAR 1 #844	SHALE	4
47-079-0802	GATES F C #840	SHALE	5
47-079-0790	HARMON CK #830	SHALE	3
47-079-0903	HENSON LM #879,882	SHALE	8
47-079-0847	HIGGINBOTHAM #862	SHALE	50
47-079-0630	HILL ROSS #623	SHALE	8
47-035-1659	HOPKINS E1 #1020	SHALE	4
47-035-1564	HUGHES WAYNE #985	SHALE	18
47-079-0750	JONES LEVI 2 #776	SHALE	4
47-035-1065	KELLY ARCHIE #727	ORISKANY	3
47-035-2137	KESSEL KAY #1043	SHALE	8
47-053-0168	MOLZE ELSIE #915	ORISKANY	4
47-079-0784	NULL FARLEY #828	SHALE	2
47-079-0788	PARSONS A G #831	SHALE	6
47-035-2138	PIGNATO CARL #1046	SHALE	3
47-035-2178	PIGNATO CARL #1059	SHALE	3
47-079-0657	PRITT HD #646	SHALE	3
47-079-0698	RANSON SY #720	SHALE	2
47-035-2136	RILEY HARRY #1051	SHALE	4
47-053-0206	SAYRE PEARLY #940	ORISKANY	7
47-079-0635	SAYRE ROY #627	SHALE	4
47-035-1123	SAYRE STEWART #748	NEWBURG	4
47-035-1075	WENDELL OLLIE #732	ORISKANY	4
47-079-0604	WILLIAMS DEWEY #613	SHALE	4
47-079-0641	WILLIAMS HA #630	SHALE	4
		TOTAL BBL/MONTH	216

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EASTERN AMERICAN ENERGY CORPORATION
BRINE WATER WELLS

WELL NAME & NUMBER	API #	PRODUCING FORMATIONS	BARRELS PER MONTH
IMPERIAL #4	47-039-3359	B.L., WEIR	5
IMPERIAL #7	47-039-3363	B.L., WEIR	8
IMPERIAL #35	47-039-4134	WEIR, BEREA	35
IMPERIAL #42	47-039-4153	WEIR, BEREA	6
IMPERIAL #44	47-039-4158	WEIR, BEREA	8
IMPERIAL #46	47-039-4156	WEIR, BEREA	5
IMPERIAL #47	47-039-4160	WEIR, BEREA	4
EASTERN #24	47-039-4183	WEIR, BEREA	2
SCHOLL #35	47-039-4402	B.L., WEIR, BEREA	5
SCHOLL #45	47-039-4431	B.L., WEIR, BEREA	6
SCHOLL #67	47-039-4545	B.L., WEIR, BEREA	5
SCHOLL/WILCHER #1	47-039-4436	B.L., WEIR, BEREA	7
SCHOLL/WILCHER #2	47-039-4437	B.L., WEIR, BEREA	10
DICKINSON #78	47-039-4409	B.L., INJUN, WEIR	3
OHLEY #1	47-039-3371	WEIR	8
OHLEY #2	47-039-3372	WEIR	7
OHLEY #3	47-039-3376	WEIR	3
BLUE CREEK COAL #16	47-039-4537	B.L.,WEIR,BEREA	2
BLUE CREEK COAL #18	47-039-4544	B.L.,WEIR,BEREA	2
LLOYD JACKSON #1	47-007-1135	B.L.,INJUN	8
LLOYD JACKSON #2	47-007-1142	B.L.,INJUN	8
LUCY JACKSON #1	47-007-1352	B.L.,INJUN	8
TETRICK #1	47-007-0548	B.L., INJUN	2
POCA LAND C-18	47-047-0751	WEIR	8
TASA #3	47-005-1547	B.L., INJUN	8
SERGENT #510	47-043-1616	BEREA	6
SERGENT #563	47-043-1655	BEREA	7
LIVELY #1	47-081-0972	RAVENCLIFF	3
		TOTAL BBL/MONTH	189

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Rowland #B-19	081-0763	Raleigh	Shale	3	MO.
Eastern States	Rowland #B-20	081-0769	""	Shale	2	MO.
Eastern States	Rowland #B-23	081-0751	""	Weir	1	Mo.
Eastern States	Rowland #B-32	081-0794	""	Shale	1	Mo.
Eastern States	Rowland #B-35	081-0793	""	Shale	3	Mo.
Eastern States	Rowland #B-36	081-0766	""	Weir	3	Mo.
Eastern States	Rowland #B-37	081-0767	""	Shale	5	Mo.
Eastern States	Rowland #B-39	081-0828	""	Weir	3	Mo.
Eastern States	Rowland #B-42	081-0819	""	Gordon	2	Mo.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Rowland	081-0822	Raleigh	Big Lime Weir	3	MO.
	A-51					
Eastern States	Rowland	081-0841	""	Weir, Shale	3	MO.
	A-60					
Eastern States	Rowland	081-0949	""	Weir, Shale,	4	MO.
	A-91			Gordon		
Eastern States	Rowland	081-1012	""	Big Lime, Maxton	10	MO.
	A-96R					
Eastern States	Rowland 99	081-1002	""	Shale	3	MO.
Eastern States	Rowland	081-0996	""	Weir, Big Lime	2	MO.
	#101					
Eastern States	Rowland	081-0948	""	Weir, Big Lime	5	MO.
	#102					
Eastern States	Rowland	081-0950	""	Weir, Gordon,	6	MO.
	#103			Shale		
Eastern States	Rowland	081-0985	""	Maxton, Gordon,	7	MO.
	#104			Shale		
Eastern States	Rowland	081-0985	""	Gordon, Shale	10	MO.
	#106					
Eastern States	Rowland	081-0951	""	Gordon, Shale	5	MO.
	#107					
Eastern States	Rowland	081-0964	""	Shale	5	MO.
	#110					
Eastern States	Rowland	081-0968	""	Big Lime	6	MO.
	#112					
Eastern States	Rowland	081-0808	""	Big Lime	2	MO.
	#B-9					
Eastern States	Rowland	081-0756	""	Weir	2	MO.
	#B-11					
Eastern States	Rowland	081-0750	""	Weir	2	MO.
	#b-13					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY Clay	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Eastern States	Thompson #2	47-015-2527	""	Big Injun, Squaw	5	MO.
Eastern States	Thompson #6	47-015-2532	""	Squaw	2	MO.
Eastern States	Thompson #5	47-105-2531	""	Squaw	2	MO.
Eastern States	Thompson #1	47-015-2543	""	Squaw	2	MO.
Eastern States	H. E. Sladle #3	47-015-2539	""	Big Linjun, Squaw	2	MO.
			Fayette			
Eastern States	Brown #1	47-019-0834	""	Big Lime, Injun	1	MO.
Eastern States	Brown #2	47-019-0835	""	Big Lime, Injun	1	MO.
Eastern States	Brown #3	47-019-0839	""	Big Lime, Injun	1	MO.
Eastern States	Brown #4	47-019-0837	""	Big Lime, Injun	1	MO.
Eastern States	Hess #1	47-019-0551	""	Big Lime, Injun	1½	MO.
Eastern States	Peyton #6	47-019-0504	""	Weir, BE, DS, Gordon	2	MO.
Eastern States	Eastern Gas & Fuel #37	47-019-0142	""	Weir	2	MO.
Eastern States	Eastern Gas & Fuel #29	47-019-1980	""	Maxson, Weir	2	MO.
Eastern States	Pocahontas #30	47-019-0248	""	Weir	20	MO.
Eastern States	Pocahontas #33	47-019-0293	""	Weir	8	MO.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY Kanawha	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Eastern States	Eastern Gas	47-039-1569		Gordon, B, Weir	3	MO.
	& Fuel #118					
Eastern States	Eastern Gas	47-039-05170 ""		D.S., B, Weir,	25	MO.
	& Fuel #119			Big Lime		
Eastern States	Eastern Gas	47-039-0874 ""		Gordon, Brier,	20	MO.
	& Fuel #126			Weir, L.M.		
Eastern States	Eastern Gas	47-039-0879 ""		U.S. 1.Weir, UWe	20	Mo.
	& Fuel #129					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^6 PROD	PER
Eastern States	Flynn #31	47-067-0743	Nichols	Weir, B.	2	MO.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Rowland Land #43	005-1329	Boone	Weir	5	Mo.
Eastern States	Rowland Land #44	005-1330	""	Weir	2	Mo.
Eastern States	Rowland Land #47	005-1481	""	Ravencliff, Weir	10	Mo.
Eastern States	Rowland Land #61	005-1501	""	Weir	5	Mo.
Eastern States	Southern Land #13	005-1363	""	Maxton, Berea	4	Mo.
Eastern States	Southern Land #17	005-1490	""	Weir	2	Mo.
Eastern States	Southern Land #3	005-1057	""	Weir	4	Mo.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Eastern States	Eastern Gas & Fuel #94	039-4833	Kanawha	Weir	7	Mo.
Eastern States	Eastern Gas & Fuel #23	039-1848	""	Weir	10	Mo.
Eastern States	Eastern Gas & Fuel #16	039-1767	""	Weir	8	Mo.
Eastern States	Eastern Gas & Fuel #26	039-1869	""	Big Lime, Weir	11	Mo.
Eastern States	Lafollette #2	039-3991	""	Weir, Berea	3	Mo.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H2' PROD	PER
Eastern States	Christian	019-0468	Fayette	Weir	10	Mo.
	Colliery #3					
Eastern States	Christian	019-0666	""	Big Lime	10	Mo.
	Colliery #8					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Penn-Va.	Loop Creek	109-1592	Wyoming	Gordon	60	MO.
	#153					
Penn-Va.	Loop Creek	109-1584	""	Preston, Raven,	10	MO.
	#129			Gordon		
Penn-Va	Loop Creek	109-1634	""	Weir, Gordon	25	MO.
	#174					
Penn-Va.	Loop Creek	109-1593	""	Preston, Lime,	5	MO.
	#154			Berea		
Penn-Va.	Loop Creek	109-1438	""	Raven, Lime,	10	MO.
	#24			Gordon		
Penn-Va.		109-1420				
Penn-Va.	George	109-1559	""	Lime, Gordon,	15	MO.
	Pacific			Weir		
	W.P. 315					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Penn-Va.	Price #4	081-1029	Raleigh	Maxson, Lime, Raven	20	MO.
Penn-Va.	Glade Creek #8	081-1033	""	Big Lime	15	MO.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Base Petroleum	C.N.G.	053-0415	Mason	Berea	7	Mo.
Base Petroleum	C.N.G.	053-0414	""	Berea	4	Mo.
Base Petroleum	Old Town Farm	053-0408	""	Berea	3	Mo.
Base Petroleum	Rayburn	053-0193	""	Shale	4	Mo.
Base Petroleum	Weaver	053-[illegible]	""	Shale	5	Mo.
Base Petroleum	W.B. Huffman	053-0278	""	Shale	5	Mo.
Base Petroleum	Old Town Farm	053-0403	""	Berea	7	Mo.
Base Petroleum	Old Town Farm	053-0401		Berea	6	Mo.
Base Petroleum	Old Town Farm	053-0404	""	Berea	7	Mo.
Base Petroleum	Old Town Farm	053-0384	""	Berea	7	MO.
Base Petroleum	Old Town Farm	053-0385	""	Berea	7	MO.
Base Petroleum	Thompson	053-0409	""	Berea	12	MO.
Base Petroleum	New Berry	053-0255	""	Shale	8	MO.
Base Petroleum	L. New Berry	053-0277	""	Shale	9	MO.
Base Petroleum	C.N.G.	053-0412	""	Berea	6	MO.
Base Petroleum	C.N.G.	053-0413	""	Berea	4	MO.

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DANIELS
47-081-0281-
GLEN DANIELS WELL

COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Exploration	Imperial	019-0864	Fayette	Pocono, Big Lime	300	MO.
Partner	Colliery 434					
Exploration	Imperial	019-0863	""	Pocono, Big Lime	100	MO.
Partners	Colliery 433					
Exploration	Imperial	019-0855	""	Pocono, Big Lime	200	MO.
Partner	Colliery $25					
Exploration	Midvale	019-00827	""	Pocono, Weir	50	MO.
Partner	#E-400					
Exploration	Midvale	019-00828	""	Pocono, Weir	50	MO.
Partner	#E-401					
Exploration	Midvale	019-00839	""	Pocono, Weir	50	MO.
Partners	#407					
Exploration	Nuttall #2	019-0515	""	Weir, Big Lime	50	MO.
Exploration	Nuttall #14	019-0623	""	Weir, Big Lime	10	MO.
Exploration	Elkem B-66	019-0702	""	Lime	25	MO.
Exploration	Elkem B-67	019-0703	""	Lime	25	MO.
Exploration	Elkem B-68	019-0701	""	Lime	25	MO.
Exploration	Sheets E-81	019-0715	""	Lime	25	MO.
Exploration	Sheets #2		""	Lime	25	MO.
Exploration	Imperial		""	Pocono, Big Lime	50	MO.
Partners	Coal #35					
Exploration	Imperial		""	Pocono, Big Lime	100	MO.
Partners	Colliery #435					
Exploration	Imperial		""	Pocono, Big Lime	200	MO.
Partners	Colliery #436					

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NCE IBM #		BLUE CREEK WELLS	PERMIT #	PUMPER
205859		BLOSS, PJ 1	47-39-4178	Roger Holcomb
205860		BLOSS, PJ 2	47-39-4735	Roger Holcomb
205861		BOOKER, WC 2	47-39-4647	Rick Ash
205862		BOOKER, WC 3	47-39-4731	Rick Ash
205863		CARNES SALISBURY 1	47-39-2765	Mike Murphy
205864		CARNES SALISBURY 2	47-39-3606	Mike Murphy
205865		CARNES SALISBURY 3	47-39-4263	Mike Murphy
205866		CARNES SALISBURY 4	47-39-4490	Mike Murphy
205867		CARNES, L 01	47-39-2761	Mike Murphy
205868		CARTE, G 02	47-39-2766	Roger Hersman
205869		CARTE, G 03	47-39-4661	Roger Hersman
205870		CARTE, JH 01	47-39-2132	Mike Murphy
205871		CARTE, JH 02	47-39-2500	Paul Wilson
205872		CARTE, JH 03	47-39-2501	Paul Wilson
205873		CARTE, JH 04	47-39-2530	Paul Wilson
205874		CARTE, JH 05	47-39-2634	Mike Murphy
205875		CARTE, JH 06	47-39-2635	Mike Murphy
205876		CARTE, JH 07	47-39-2636	Mike Murphy
205877		CARTE, JH 08	47-39-2637	Mike Murphy
205878		CARTE, JH 09	47-39-2638	Mike Murphy
205879		CARTE, JH 10	47-39-3483	Mike Murphy
205880		CARTE, JH 11	47-39-3602	Mike Murphy
205881		CARTE, JH 12	47-39-3811	Mike Murphy
205882		CARTE, JH 13	47-39-3812	Mike Murphy
205883		CARTE, JH 14	47-39-3944	Mike Murphy
205884		CARET, JH 15	47-39-4246	Paul Wilson
205885		CARTE, JH 16	47-39-4257	Paul Wilson
205886		CARTE, JH 17	47-39-4475	Mike Murphy
205887		CARTE, SB 1	47-39-2360	Roger Hersman
205888		CASTO, A 01	47-39-3852	Mike Murphy
205889		CHANDLER, C 1	47-39-3939	Roger Holcomb
205890		CHANDLER, C 2	47-39-4283	Roger Holcomb
205891		CHANDLER, C 3	47-39-4282	Roger Holcomb
205892		CHANDLER, C 4	47-39-4491	Roger Holcomb
205893		CHANDLER, C 5	47-39-4646	Roger Holcomb
205894		CHANDLER, C 6	47-39-4732	Roger Holcomb
205895		CHENOWETH, DP 1	47-39-2332	Roger Hersman
205896		CHENOWETH, DP 2	47-39-2514	Roger Hersman
205897		CHENOWETH, DP 3	47-39-4025	Roger Hersman
205898		COPENHAVER, JH 01	47-39-2126	Paul Wilson
205899		COPENHAVER, JH 02	47-39-3382	Paul Wilson
205900		COPENHAVER, JH 03	47-39-2148	Paul Wilson
205901		COPENHAVER, JH 04	47-39-2247	Paul Wilson

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205902		COPENHAVER, JH 05	47-39-2281	Paul Wilson
205903		COPENHAVER, JH 06	47-39-2490	Paul Wilson
205904		COPENHAVER, JH 07	47-39-2491	Paul Wilson
205905		COPENHAVER, JH 08	47-39-2492	Paul Wilson
205906		COPENHAVER, JH 09	47-39-2494	Paul Wilson
205907		COPENHAVER, JH 10	47-39-3394	Paul Wilson
205908		COPENHAVER, JH 11	47-39-3395	Paul Wilson
205909		COPENHAVER, JH 12	47-39-3478	Paul Wilson
205910		COPENHAVER, JH 13	47-39-3479	Paul Wilson
205911		COPENHAVER, JH 14	47-39-3582	Paul Wilson
205912		COPENHAVER, JH 15	47-39-3583	Paul Wilson
205913		COPENHAVER, JH 16	47-39-3584	Paul Wilson
205914		COPENHAVER, JH 17	47-39-3813	Paul Wilson
205915		COPENHAVER, JH 18	47-39-3814	Paul Wilson
205916		COPENHAVER, JH 19	47-39-3815	Paul Wilson
205917		COPENHAVER, JH 20	47-39-4024	Paul Wilson
205918		COPENHAVER, JH 21	47-39-4286	Paul Wilson
205919		COPENHAVER, JH 22	47-39-4287	Paul Wilson
205920		COPENHAVER, JH 23	47-39-4599	Paul Wilson
205921		COPENHAVER, JH 24	47-39-4587	Paul Wilson
205922		COPENHAVER, JH 25	47-39-4604	Paul Wilson
205923		COPENHAVER, JH 26	47-39-5003	Paul Wilson
205924		CULPEPPER, O 1	47-39-2153	Mike Murphy
205925		CULPEPPER, O 2	47-39-4584	Mike Murphy
205926		DICK, O 1	47-39-3847	Paul Wilson
205927		DICK, O 2	47-39-3848	Paul Wilson
205928		DICK, O 3	47-39-4219	Roger Holcomb
205929		DODD, CC 1	47-39-2239	Roger Hersman
205930		DODD, CC 2	47-39-4480	Roger Hersman
205931		DODD, CC 3	47-39-4594	Roger Hersman
205932		DOUGLAS, CL 1	47-39-3940	Roger Hersman
205933		DOUGLAS, E 1	47-39-2300	Rick Ash
205934		DOUGLAS, E 2	47-39-2633	Rick Ash
205935		DOUGLAS, E 3	47-39-2824	Rick Ash
205936		DOUGLAS, E 4	47-39-4862	Rick Ash
205937		DOUGLAS, V 1	47-39-2361	Roger Hersman
205938		DOUGLAS, V 2	47-39-3587	Roger Hersman
205939		DOUGLAS, V 3	47-39-4586	Roger Hersman
205940		DRAKE, O 1	47-39-2170	Roger Hersman
205941		DRAKE, O 2	47-39-3383	Roger Hersman
205942		DUNBAR, AL 1	47-39-2171	Roger Hersman
205943		DUNBAR, AL 2	47-39-3384	Roger Hersman
205944		DUNBAR, AL 3	47-39-4517	Roger Hersman
205945		DUNBAR, AL 4	47-39-4748	Roger Hersman
205946		DUNBAR, AL 5	47-39-4881	Roger Hersman
205947		EWING, WH 1	47-39-2136	Mike Murphy

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206034		MARLOWE, BF 2	47-39-2529	Mike Murphy
206035		MASON UNIT 1	47-39-3961	Mike Murphy
206036		MCCABE, B 1	47-39-2236	Roger Holcomb
206037		MCCABE, B 2	47-39-3734	Roger Holcomb
206038		MCCABE, B 3	47-39-4519	Roger Holcomb
206039		MCCABE, B 4	47-39-4585	Paul Wilson
206040		MCCABE, B 5	47-39-4662	Paul Wilson
206041		MCELWEE 1	47-39-4657	Rick Ash
206042		MILLS, S 1	47-39-2238	Paul Wilson
406043		MILLS, S 2	47-39-2479	Paul Wilson
206044		MILLS, S 3	47-39-2511	Paul Wilson
206045		MILLS, S 4	47-39-4804	Paul Wilson
206046		MILLS, S 5	47-39-4986	Paul Wilson
206047		MILLS, S 7	47-39-5074	Paul Wilson
206048		MOHLER LUMBER CO 1	47-39-2142	Roger Holcomb
206049		MOHLER LUMBER CO 2	47-39-2417	Roger Holcomb
206050		MOHLER LUMBER CO 3	47-39-2480	Roger Holcomb
206051		MOHLER LUMBER CO 4	47-39-2642	Roger Holcomb
206052		MOHLER LUMBER CO 5	47-39-3388	Roger Holcomb
206053		MOHLER LUMBER CO 6	47-39-3477	Roger Holcomb
206054		MOHLER LUMBER CO 7	47-39-3489	Roger Holcomb
206055		MOHLER LUMBER CO 8	47-39-4473	Roger Holcomb
206056		MOHLER LUMBER CO 9	47-39-4806	Roger Holcomb
207086		MOHLER LUMBER CO 10	47-39-5827	Roger Holcomb
206057		MOLES, E 1	47-39-2404	Rick Ash
206058		NEWHOUSE, AE 1	47-39-2177	Roger Hersman
206059		NEWHOUSE, AE 3	47-15-2524	Mike Murphy
206060		NEWHOUSE, AE 4	47-39-2526	Mike Murphy
206061		NEWHOUSE, AE 5	47-39-4865	Mike Murphy
206062		NUNLEY, W 1	47-39-2631	Rick Ash
206063		NUNLEY, W 2	47-39-2822	Rick Ash
206064		NUNLEY, W 3	47-39-2833	Mike Murphy
206065		NUNLEY, W 4	47-39-2834	Rick Ash
206066		NUNLEY, W 5	47-39-4489	Rick Ash
206067		NUNLEY, W 6	47-39-4868	Rick Ash
206068		O'DELL, M 1	47-39-2168	Mike Murphy
206069		O'DELL, M 2	47-39-2643	Mike Murphy
206070		O'DELL, M 3	47-39-2644	Mike Murphy
206071		O'DELL, M 4	47-39-2645	Mike Murphy
206072		O'DELL, M 5	47-39-4150	Mike Murphy
206073		O'DELL, M 6	47-39-4863	Mike Murphy
206074		O'DELL, WH 1	47-39-2381	Mike Murphy
206075		O'DELL, WH 2	47-39-3590	Mike Murphy
206076		OSBORNE, B 02	47-39-2496	Paul Wilson
206077		OSBORNE, B 03	47-39-2497	Paul Wilson
206078		OSBORNE, B 04	47-39-2498	Mike Murphy

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206079		OSBORNE, B 05	47-39-2499	Mike Murphy
206080		OSBORNE, B 06	47-39-2826	Mike Murphy
206081		OSBORNE, B 07	47-39-2827	Mike Murphy
206082		OSBORNE, B 08	47-39-3485	Paul Wilson
206083		OSBORNE, B 09	47-39-4660	Mike Murphy
206084		OSBORNE, B 10	47-39-4702	Paul Wilson
206085		PAULEY, WL 1	47-39-2288	Roger Hersman
206086		PAXTON, HL 1	47-39-3850	Rick Ash
206251		PEAKE ENERGY 1	47-05-1511	Jeff Hammons
206087		PETERS, L 1	47-39-2353	Rick Ash
206088		PETERS, L 2	47-39-4589	Rick Ash
206089		PRICE, AS 2	47-39-2305	Paul Wilson
206090		PRICE, AS 3	47-39-3481	Paul Wilson
206091		PRICE, AS 4	47-39-4012	Paul Wilson
206092		PRICE, L 2	47-39-2763	Roger Hersman
206093		PRICE, L 3	47-39-4600	Roger Hersman
206094		QUAKER STATE OIL REF 1	47-39-4002	Roger Hersman
206095		RAY, J 1	47-39-3389	Mike Murphy
206096		RAY, J 2	47-39-3581	Mike Murphy
206097		RAY, J 3	47-39-3821	Mike Murphy
206098		RAY, J 4	47-39-4240	Mike Murphy
206099		RAY, J 6	47-39-2119	Mike Murphy
206100		RAY, J 7	47-39-4206	Mike Murphy
206101		RENNICK, D 1	47-39-2140	Mike Murphy
206102		RENNICK, D 2	47-39-3390	Mike Murphy
206103		REXROAD, W 1	47-39-2256	Roger Hersman
206104		REXROAD, W 2	47-39-2398	Roger Hersman
206105		REXROAD, W 3	47-39-2527	Roger Hersman
206106		REXROAD, W 4	47-39-3486	Roger Hersman
206107		REXROAD, W 5	47-39-4492	Roger Hersman
206108		REXROAD, W 6	47-39-4591	Roger Hersman
206109		REXROAD, W 7	47-39-4830	Roger Hersman
206110		REYNOLDS, CG 1	47-39-4073	Rick Ash
206111		ROBERTSON, U 1	47-39-4035	Roger Holcomb
206112		ROBERTSON, U 2	47-39-4141	Mike Murphy
206113		RUNYON, I 1	47-39-3503	Mike Murphy
206114		SALISBURY, C 1	47-39-2402	Rick Ash
206115		SALISBURY, C 2	47-39-2406	Rick Ash
206116		SALISBURY, CG 1	47-39-3605	Rick Ash
206117		SALISBURY, CG 2	47-39-4013	Rick Ash
206118		SALISBURY, CG 3	47-39-4139	Rick Ash
206119		SALISBURY, CG 4	47-39-4239	Rick Ash
206120		SAMPSON, SD 1	47-39-3730	Mike Murphy
206126		SHAFFER CARTE DODD 1	47-39-2432	Paul Wilson
206122		SHAFFER, E 1	47-39-2312	Paul Wilson
206123		SIDERS, N 1	47-39-2145	Paul Wilson

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206168		WITHROW, C 01	47-39-2760	Rick Ash
208169		WITHROW, C 02	47-39-4014	Rick Ash
206170		WOODALL, AE 1	47-39-2365	Rick Ash
206171		YOUNG, WT HRS 1	47-39-3851	Roger Holcomb
206172		YOUNG, WT HRS 2	47-39-4016	Roger Holcomb
206173		YOUNG, WT HRS 3	47-39-4015	Roger Holcomb
206174		AKERS UNIT 1	47-07-2022	Nathen Hendershot
206175		AKERS UNIT 2	47-07-2039	Nathen Hendershot
206176		ARMSTRONG UNIT 1	47-07-2137	Nathen Hendershot
206177		BEULAH BROWN NEAL	47-67-0742	Nathen Hendershot
206178		BEULAH LAND	47-67-0726	Nathen Hendershot
206252		BRECKENRIDGE 1	47-67-0770	Nathen Hendershot
206253		BRECKENRIDGE 2	47-67-0807	Nathen Hendershot
206254		BRECKENRIDGE 3	47-67-0810	Nathen Hendershot
206255		BRECKENRIDGE 4	47-67-0821	Nathen Hendershot
206256		BRECKENRIDGE 5	47-67-0824	Nathen Hendershot
206179		BROWN 1	47-07-2078	Nathen Hendershot
206180		BUTCHER 1	47-07-2101	Nathen Hendershot
206181		CAMPANELLA 1	47-07-2080	Nathen Hendershot
206182		CAMPANELLA 2	47-07-2081	Nathen Hendershot
206183		CLIFTON 1	47-67-0795	Nathen Hendershot
206184		CLIFTON 2	47-67-0805	Nathen Hendershot
206185		COOK, NF 1	47-07-2139	Nathen Hendershot
206186		CROWLEY 1	47-07-2120	Nathen Hendershot
206187		DEMOSS 1	47-07-2091	Nathen Hendershot
206188		DOTSON 1	47-07-2140	Nathen Hendershot
206189		DOTSON 2	47-07-2146	Nathen Hendershot
206190		FRAME 1	47-67-0822	Nathen Hendershot
206191		FRAME 2	47-67-0823	Nathen Hendershot
206192		GOLDSMITH 1	47-07-2056	Nathen Hendershot
206193		HAMRICK HRS 1	47-07-2123	Nathen Hendershot
206194		HAMRICK HRS 2	47-07-2131	Nathen Hendershot
206195		HAMRICK HRS 3	47-07-2132	Nathen Hendershot
206196		HOME NATIONAL BANK 1	47-07-2065	Nathen Hendershot
206197		HOME NATIONAL BANK 2	47-07-2066	Nathen Hendershot
206198		HOUGHTON 1	47-07-2164	Nathen Hendershot
206199		KEENER 1	47-07-2054	Nathen Hendershot
206200		MCMORROW 1	47-07-2087	Nathen Hendershot
206201		MITCHELL 1	47-07-2082	Nathen Hendershot
206202		MITCHELL 2	47-07-2102	Nathen Hendershot
206203		MORTON 1	47-67-0725	Nathen Hendershot
206204		NEAL 1	47-67-0722	Nathen Hendershot
206205		NEAL 2	47-67-0715	Nathen Hendershot
206206		O'DELL 1	47-07-2116	Nathen Hendershot
206207		O'DELL 2	47-07-2117	Nathen Hendershot
206208		PINE MOUNTAIN 1	47-67-0757	Nathen Hendershot

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206209		PINE MOUNTAIN 2	47-67-0758	Nathen Hendershot
206210		PINE MOUNTAIN 4	47-67-0762	Nathen Hendershot
206211		SIMERS 1	47-07-2144	Nathen Hendershot
206212		SIMOLA 1	47-07-2105	Nathen Hendershot
206213		STARKEY 1	47-67-0682	Nathen Hendershot
206214		STARKEY 2	47-07-2042	Nathen Hendershot
206215		STARKEY 3	47-67-0716	Nathen Hendershot
206216		STARKEY 4	47-67-0761	Nathen Hendershot
206217		TRIO PETROLEUM 1	47-07-2055	Nathen Hendershot
206218		WALKER 1	47-67-0808	Nathen Hendershot
206219		WHITE 1	47-07-2106	Nathen Hendershot
205815		EAKLE 1-A	47-15-2248	Nathen Hendershot
205816		EAKLE 2-A	47-15-2250	Nathen Hendershot
205817		EAKLE 3-A	47-15-2247	Nathen Hendershot
205818		EAKLE 4-A	47-15-2246	Nathen Hendershot
205767		MCMILLIAN, 34	47-67-0177	Nathen Hendershot
205768		MCMILLIAN, 57	47-67-0196	Nathen Hendershot
205769		MCMILLIAN, 60	47-67-0200	Nathen Hendershot
205770		MCMILLIAN, 64	47-67-0206	Nathen Hendershot
206563		BLUE CREEK C & L 01	47-39-1039	Jeff Hammons
206564		BLUE CREEK C & L 02	47-39-1040	Jeff Hammons
206565		BLUE CREEK C & L 03	47-39-1064	Jeff Hammons
206566		BLUE CREEK C & L 04	47-39-1065	Jeff Hammons
206567		BLUE CREEK C & L 05	47-39-1080	Jeff Hammons
206568		BLUE CREEK C & L 06	47-39-1081	Jeff Hammons
206569		BLUE CREEK C & L 07	47-39-1089	Jeff Hammons
206570		BLUE CREEK C & L 08	47-39-1090	Jeff Hammons
206571		BLUE CREEK C & L 09	47-39-1105	Jeff Hammons
206572		BLUE CREEK C & L 10	47-39-1112	Jeff Hammons
206573		BLUE CREEK C & L 11	47-39-1139	Jeff Hammons
206574		BLUE CREEK C & L 12	47-39-1136	Jeff Hammons
206575		BLUE CREEK C & L 14	47-39-1157	Jeff Hammons
206576		BLUE CREEK C & L 15	47-39-1158	Jeff Hammons
206577		BLUE CREEK C & L 16	47-39-1731	Jeff Hammons
206578		BLUE CREEK C & L 18	47-39-1887	Jeff Hammons
206579		BLUE CREEK C& L 19	47-39-1906	Jeff Hammons
206580		BLUE CREEK C & L 20	47-39-1928	Jeff Hammons
206581		BLUE CREEK C & L 21	47-39-1938	Jeff Hammons
206582		BLUE CREEK C & L 23	47-39-2821	Jeff Hammons
206585		DICKERSON TRUST 1	47-39-2018	Jeff Hammons
206586		DICKERSON TRUST 2	47-39-2023	Jeff Hammons
206587		DICKERSON TRUST 3	47-39-2056	Jeff Hammons
206591		KHCC BLK 1 01	47-39-2471	Jeff Hammons
206592		KHCC BLK 1 03	47-39-2482	Jeff Hammons
206593		KHCC BLK 1 4	47-39-2507	Jeff Hammons
206767		KHCC BLK 2 2	47-39-2488	Jeff Hammons

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206768		KHCC BLK 2 5	47-39-2522	Jeff Hammons
206769		KHCC BLK 3 08	47-39-2655	Jeff Hammons
206770		KHCC BLK 3 09	47-39-2690	Jeff Hammons
206771		KHCC BLK 3 10	47-39-2692	Jeff Hammons
206772		KHCC BLK 4 6	47-39-2541	Jeff Hammons
206594		AMHERST COAL BLK 1 4	47-39-2495	Jeff Hammons
206595		AMHERST COAL BLK 1 5	47-39-2531	Plugged 2006
206596		AMHERST COAL BLK 1 6	47-39-2534	Clayton Taylor
206772		AMHERST COAL BLK 2 7	47-39-2676	Clayton Taylor
206773		AMHERST COAL BLK 2 8	47-39-2697	Clayton Taylor
206774		AMHERST COAL BLK 2 9	47-39-2696	Clayton Taylor
206588		DICKERSON, JQ 1	47-39-2033	Plugged 2006
206589		DICKERSON, JQ 2	47-39-0246	Jeff Hammons
206598		MCMELLON, CORA 1	47-43-2345	Jeff Hammons
206562		HAGER, LOUISA 1	47-43-0452	Jeff Hammons
206583		HUNTINGTON DEVEL. 2	47-43-0540	Jeff Hammons
206624		PORTER, NETTIE 1	47-43-2615	Jeff Hammons
206590		SANSON, HASSELL 1	47-43-1425	Jeff Hammons
206637		BERWIND 1	47-15-2274	Rick Webb
206638		BERWIND 2	47-15-2283	Rick Webb
206639		BERWIND 3	47-15-2467	Rick Webb
206640		BERWIND 4	47-15-2469	Rick Webb
206641		JONES 1	47-15-2284	Rick Webb
206642		JONES 2	47-15-2448	Rick Webb
205788		ENNIS 1A	47-39-3853	Jeff Hammons
205789		GRIFFITH 2A	47-39-4044	Jeff Hammons
205790		HOY 1A	47-39-3982	Jeff Hammons
205791		JOHNSON 1A	47-39-3895	Jeff Hammons
205792		KING 1A	47-39-2549	Jeff Hammons
205793		MARTIN 1A	47-39-3905	Jeff Hammons
205794		MARTIN 2A	47-39-3906	Jeff Hammons
205795		MORRIS 1A	47-39-3864	Jeff Hammons
205796		PAULEY 1A	47-39-3887	Jeff Hammons
205820		PEARSON 1A	47-39-3854	Jeff Hammons
205797		ROGERS 1A	47-39-3859	Jeff Hammons
205798		ROGERS 2A	47-39-3892	Jeff Hammons
205799		ROGERS 3A	47-39-3893	Jeff Hammons
205800		STEELE 2A	47-39-3894	Jeff Hammons
205801		TAYLOR 1A	47-43-2554	Jeff Hammons
205802		WALKER 1A	47-39-3966	Jeff Hammons
205803		WISMAN 1A	47-39-3897	Jeff Hammons
205804		WISMAN 2A	47-39-3907	Jeff Hammons
205805		WOOD 1A	47-39-3881	Jeff Hammons
205806		YODER 1A	47-39-3882	Jeff Hammons
207382		ALDERSON, AB 001A	47-39-02778	Jeff Hammons

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207381		BERRY ODELL	47-39-00585	Jeff Hammons
207367		TIGNOR	47-45-01681	Jeff Hammons
207383		BONHAM 001	47-39-00519	Jeff Hammons
207364		C.P. WILSON 001	47-15-00555	Rick Webb
207365		C.P. WILSON 003	47-15-02721	Rick Webb
207366		C.P. WILSON 004	47-15-02722	Rick Webb
207369		WITCHSI 001	47-67-00869	Rick Webb
207370		WITCHSI 002	47-67-00870	Rick Webb
207368		BAUGHMAN 001	47-67-00871	Rick Webb

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Disclaimer:

Per §22-6-6. Permit required for all well work; permit fee; application; soil erosion control plan.
(a) It is unlawful for any person to commence any well work, including site preparation work, which involves any disturbance of land, without first securing a well work permit from the director of the WVDEP Office of Oil and Gas.

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Base Petroleum

Displaying rows 1 thru 100 of (227 total rows) [Next 101 - 200]

API	Last Permit Issue Date for Well	Farm Name	Well Number	Current Operator	Well Status	Well Type
005-00206	06/09/1933	McKINNEY, J. W.	1	BASE PETROLEUM, INC.	Active Well	Gas Well
005-00211	06/07/1965	McKINNEY, J. W.	2	BASE PETROLEUM, INC.	Active Well	Gas Well
005-01321	07/25/1926	COON HEIRS	2	BASE PETROLEUM, INC.	Active Well	Gas Well
005-01322	12/31/1925	COON HEIRS	1	BASE PETROLEUM, INC.	Active Well	Gas Well
005-01542	01/23/1992	BROUN, E. FONTAINE, ETAL	UNOCAL/BROUN/1	BASE PETROLEUM, INC.	Active Well	Gas Well
~~007-02526~~	~~[illegible]/09/2003~~	~~ROSE, MARION ALVIN~~	~~L'ENGLE 12~~	~~BASE PETROLEUM, INC.~~	~~Never Drilled~~	~~Not Available~~
007-02529	05/09/2003	WEBSTER WOODLANDS, INC.	L'ENGLE 99	BASE PETROLEUM, INC.	Never Drilled	Not Available
~~007-02630~~	~~10/15/2003~~	~~COASTAL COAL WV, LLC~~	~~CUCTIS 4~~	~~BASE PETROLEUM, INC.~~	~~Never Drilled~~	~~Not Available~~
~~007-02608~~	~~[illegible]~~	~~NICHOLS, ARNETT~~	~~L'ENGLE 13~~	~~BASE PETROLEUM, INC.~~	~~Never Issued~~	~~Not Available~~
011-00276	07/10/1937	RITTER, C. L., ETAL	2-28	BASE PETROLEUM, INC.	Active Well	Gas Well
011-00674	05/23/1925	SWANN	1	BASE PETROLEUM, INC.	Active Well	Gas Well
011-00694	11/20/1981	SPURLOCK, GEORGE	1-1733	BASE PETROLEUM, INC.	Active Well	Gas Well
011-00794	12/20/1984	VARNEY, EUGENE M.	VARNEY 1-A	BASE PETROLEUM, INC.	Active Well	Gas Well
011-00810	10/24/1985	WINTZ, WILLIAM E.	2195	BASE PETROLEUM, INC.	Active Well	Gas Well
011-00811	10/17/1985	LANGDON, MABEL K.	2196	BASE PETROLEUM, INC.	Active Well	Not Available
011-00961	03/26/2008	CLAGG, TIMMY & SHARON	CLAGG 1	BASE PETROLEUM, INC.	Active Well	Gas Well
~~011-00963~~	~~03/31/2008~~	~~CLAGG, ROBERT K.~~	~~ROBERT CLAGG 1~~	~~BASE PETROLEUM, INC.~~	~~Never Drilled~~	~~[illegible]~~
019-00469	02/08/1982	NICASTRO, ANGELA V.	4	BASE PETROLEUM, INC.	Active Well	Gas Well
019-00470	12/13/1981	NICASTRO, ANGELA V.	1	BASE PETROLEUM, INC.	Active Well	Gas Well
019-00472	02/16/1982	NICASTRO, ANGELA V.	3	BASE PETROLEUM, INC.	Active Well	Gas Well
019-00476	01/30/1982	NICASTRO	2	BASE PETROLEUM, INC.	Active Well	Gas Well
035-01194	02/24/1970	SHOCKEY, EDNA, ETAL	9540	BASE PETROLEUM, INC.	Active Well	Gas Well
035-01200	05/01/2007	WHITE, CHARLES D.	STARCHER 9571	BASE PETROLEUM, INC.	Active Well	Not Available
035-01208	06/01/1970	LANE, LEWIS	A1 (798)	BASE PETROLEUM, INC.	Abandoned Well	Gas Well
035-01213	06/26/1970	ROGERS, M. O., ETAL	9541	BASE PETROLEUM, INC.	Active Well	Gas Well
035-01224	08/17/1970	CABOT CORP., ETAL	9572	BASE PETROLEUM, INC.	Active Well	Gas Well
035-01247	12/01/1970	CABOT, G. L.	1-9653	BASE PETROLEUM, INC.	Active Well	Gas Well
035-01525	06/25/1980	GERLACH, ROSS	1-80-018	BASE PETROLEUM, INC.	Active Well	Gas Well
039-00111	11/20/1931	BURDETTE, S. M.	1	BASE PETROLEUM, INC.	Active Well	Gas Well
~~039-00654~~	~~[illegible]/1939~~	~~PARSONS, H. H.~~	~~A-1~~	~~BASE PETROLEUM, INC.~~	~~Active Well~~	~~Brine Disposal Well~~
039-00656	07/07/1951	PARSONS, H. H.	B-1	BASE PETROLEUM, INC.	Plugged	Not Available
039-00719	10/26/1940	HARBERT, M. A.	A-1	BASE PETROLEUM, INC.	Active Well	Oil Well
~~039-00799~~	~~06/[illegible]/1941~~	~~JONES, HOWER C.~~	~~A-2D GW-478~~	~~BASE PETROLEUM, INC.~~	~~Active Well~~	~~Brine Disposal Well~~
039-00834	09/26/1941	JONES, H. C., ETAL	3	BASE PETROLEUM, INC.	Active Well	Oil Well
039-00869	10/26/1941	JONES, H. C., ETAL	A-4	BASE PETROLEUM, INC.	Active Well	Oil Well
039-00883	11/26/1941	JONES, H. C., ETAL	A-5	BASE PETROLEUM, INC.	Active Well	Oil Well
039-00903	09/12/1968	JONES	A6	BASE PETROLEUM, INC.	Plugged	Not Available
039-00927	04/26/1942	JONES, H. C., ETAL	A-7	BASE PETROLEUM, INC.	Active Well	Oil Well
039-00939	07/26/1942	JONES, H. C., ETAL	A-9	BASE PETROLEUM, INC.	Active Well	Oil Well
039-00954	08/26/1942	JONES, H. C., ETAL	A-10	BASE PETROLEUM, INC.	Active Well	Oil Well
039-00977	11/26/1942	JONES, H. C., ETAL	A-13	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01287	10/26/1946	PARSONS, H. H.	A-2	BASE PETROLEUM, INC.	Active Well	Gas Well
039-01331	01/26/1947	PARSONS, H. H.	B-2	BASE PETROLEUM, INC.	Active Well	Gas Well
039-01348	02/26/1947	PARSONS, H. H.	B-3	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01354	04/26/1947	PARSONS, H. H.		BASE PETROLEUM, INC.	Active Well	Oil Well
039-01355	04/26/1947	PARSONS, H. H.	A-4	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01365	06/30/1965	PARSONS, H. H.	B-4	BASE PETROLEUM, INC.	Plugged	Not Available
039-01366	10/26/1947	PARSONS, H. H.	B-5	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01385	01/26/1948	PARSONS, H. H.	B-6	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01386	11/26/1947	PARSONS, H. H.	B-7	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01406	02/21/1948	PAXTON, H. BROOKS	PARSONS B-8	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01416	05/29/1948	PAXTON, H. BROOKS	B-9 GW-1052	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01419	04/26/1948	PARSONS, H. H.	B-10	BASE PETROLEUM, INC.	Active Well	Oil Well
039-01797	09/26/1961	STRICKER, M. W., ETAL	1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-01803	10/10/1961	CONNER, FLOYD B., ETAL	1	BASE PETROLEUM, INC.	Active Well	Gas Well

Base Petroleum

039-02021	02/08/1965	SUNDAY CREEK CO.	V-2030	BASE PETROLEUM, INC.	Active Well	Gas Well
039-02917	12/01/1925	BAILEY, B. D.	1-376	BASE PETROLEUM, INC.	Active Well	Gas Well
039-02919	09/13/1925	ROBSON, GEORGE	1-374	BASE PETROLEUM, INC.	Active Well	Gas Well
039-02921	07/21/1925	STONE, S. M.	1-360	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03055		WARD, DAVID	2449	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03057		WARD, DAVID	2454	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03559	10/01/1920	SUNDAY CREEK COAL CO.	1135	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03560	05/10/1919	BURKE, THOMAS	5-1717	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03561	05/16/1919	THOMAS, W. H.	1716	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03562		THOMAS, W. H.	1711	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03563	12/17/1918	WARD, DAVID	2462	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03564	10/03/1915	SUNDAY CREEK COAL CO.	689	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03565	11/10/1919	SUNDAY CREEK COAL CO.	1071	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03566	09/07/1919	SUNDAY CREEK COAL CO.	1065	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03567	05/06/1917	WARD, DAVID	2447	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03641	08/25/1917	MONTGOMERY HEIRS	1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-03909	08/28/1995	HAID, KENNETH C.	WANNER 2	BASE PETROLEUM, INC.	Active Well	Not Available
[illegible]	[illegible]	HIVELY, [illegible]	[illegible]	BASE PETROLEUM, INC.	Active Well	Commercial Brine Disposal Well
039-04220	12/20/1985	KARICKHOFF, JAMES	SMITH 2	BASE PETROLEUM, INC.	Active Well	Oil Well
039-04221	12/14/1985	KARICKHOFF, JAMES	SMITH 1	BASE PETROLEUM, INC.	Active Well	Oil Well
039-04798	09/19/1995	CONNER, ARTHUR	CONNER 3	BASE PETROLEUM, INC.	Active Well	Gas Well
039-04819	08/08/1991	MONK, BASIL	MONK 1	BASE PETROLEUM, INC.	Active Well	Not Available
039-04843	01/17/1992	MONK, JAMES E. - HEIRS	MONK 3	BASE PETROLEUM, INC.	Active Well	Not Available
039-04846	01/02/1992	MONK, BASIL	MONK 7	BASE PETROLEUM, INC.	Active Well	Not Available
039-04886	12/11/1992	SIMERL, JAMES H.	GRISHABER 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-04888	09/28/1995	CONNER, ARTHUR	CONNER 4	BASE PETROLEUM, INC.	Active Well	Gas Well
039-04912	07/14/1993	DAWSON, WILLIAM	WANNER 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-04957	11/07/1994	IGO, VADA ARBOGAST	KENDALL 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-04962	12/09/1994	BANK ONE TRUST	CORK 1-A	BASE PETROLEUM, INC.	Active Well	Gas Well
039-05369	02/21/2001	KARICKHOFF, JAMES G.	MINNIE SMITH 3	BASE PETROLEUM, INC.	Never Drilled	Not Available
039-06017	09/04/2007	WILCOX, JOHN	BYRD 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06021	09/04/2007	WILCOX, JOHN	BYRD 2	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06040	09/07/2007	WILCOX, JOHN	BEACH 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06041	09/07/2007	WILCOX, JOHN & TIM	LEETY 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06042	09/07/2007	WILCOX, JOHN & TIM	LEETY 2	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06044	09/13/2007	YOUNG, LARRY	YOUNG 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06122	04/15/2008	WV DEPT. OF HIGHWAYS	HUDDLESTON 1	BASE PETROLEUM, INC.	Active Well	
039-06154	07/01/2008	ROBERTS, PAUL D.	ROBERTS 1	BASE PETROLEUM, INC.	Abandoned Well	Gas Well
039-06191	10/20/2008	COLLIAS, ANTHONY & SOUSAN	COLLIAS 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06192	10/20/2008	MARTIN, GENE G.	MARTIN 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06193	11/05/2008	WILCOX, JOHN B.	PAULEY 1	BASE PETROLEUM, INC.	Never Drilled	
039-06194	11/06/2008	WILCOX, JOHN B.	PAULEY 2	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06197	11/07/2008	SMITH, ROBERT W.	SMITH 1	BASE PETROLEUM, INC.	Active Well	Gas Well
039-06198	11/10/2008	COLLIAS, ANTHONY & SUSAN	COLLIAS 2	BASE PETROLEUM, INC.	Never Drilled	
039-06213	12/10/2008	COLLIAS, ANTHONY & SUSAN	COLLIAS 3	BASE PETROLEUM, INC.	Active Well	Gas Well

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API	Last Permit Issue Date for Well	Farm Name	Well Number	Current Operator	Well Status	Well Type
005-00124	10/31/1930	MILLER HEIRS	3	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-00126	09/24/1930	MILLER, MARY J. - HEIRS	5	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-00127	05/18/1963	MILLER, MARY J.	6	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01281	12/09/1923	SHIELDS, W. H.	681	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01283		MILLER, MARY J.	705	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01284		SHIELDS, W. H.	680	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01293	10/01/1928	HILL, J. C.	716	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01346	02/04/1930	AMHERST CO.	714	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01416	10/20/1926	WHITE, ELLA	BR-72	SIMCON OIL AND GAS CORPORATION	Active Well	Not Available
005-01554	12/26/1929	HOPKINS, J. M.	565	SIMCON OIL AND GAS CORPORATION	Abandoned Well	Gas Well
005-01556	12/26/1929	HILL, J. C. - HEIRS	715	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
005-01557	12/26/1929	HILL, J. C. - HEIRS	717	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00014	10/06/1930	BLEDSOE, H. K.	F-11	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00017	09/26/1930	MARKIN, R. T., JR.	F-13	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00019	12/26/1930	HASSIE, EFFIE C.	F-16	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00020	11/13/1930	CHAPMAN, E.	P-82	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00023	11/26/1930	SUNDERLAND, WILLIAM	Z-52	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00026	01/26/1931	HANDLEY, NIDE	P-85	SIMCON OIL AND GAS CORPORATION	Abandoned/Ordered	Not Available
011-00029	09/26/1931	SWANN, A. A.	P-86	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00037	05/26/1931	BAUMGARDNER, A. L. & G.	2, MC-8	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00040		ACRE LAND CO.	1, MC-10	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00052		MT. TERRACE LAND CO.	1, MC-14	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00053	12/24/1937	ACRE LAND CO.	2, MC-13	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00056		SHANK AND BEARD	2, MC-16	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00057		ACRE LAND CO.	3, MC-17	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00071		C. & O. RAILWAY CO.	2	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00085		HUNTINGTON SAND & GRAVEL	1	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00099		BIG FOUR REALTY CO.	1	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00116		C. & O. RAILWAY CO.	3	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00196		HANS WATTS REALTY CO.	1	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00286	02/19/1937	CARTER, FRED	1	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00352	08/01/1990	FOX, DAVID, III	MC 30	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00365		BRALEY, ADA E.	1-31	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00398	03/26/1941	ARNOLD, A.	MC-35	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00404	07/26/1941	JEFFERSON, C. J.	MC-36	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00415	01/26/1942	ELWELL, MARIE	MC-40	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00417	07/26/1942	RILEY, C. B. & P. J.	MC-41	SIMCON OIL AND GAS CORPORATION	Active Well	Not Available
011-00418	10/26/1942	RILEY, C. B. & P. J.	MC-42	SIMCON OIL AND GAS CORPORATION	Active Well	Not Available
011-00425	04/26/1945	DUNKLE, H. G.	MC-43	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00431	10/26/1945	STATE POOR FARM	MC-44	SIMCON OIL AND GAS CORPORATION	Active Well	Not Available
011-00540	05/01/1972	WV BOARD OF CONTROL	2, MC-45	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00541	09/01/1972	ACRE LAND CO.	4-MC-46	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00542	02/01/1973	ACRE LAND CO.	5, MC-47	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00544	05/01/1973	CLARK, C. C.	2	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00545	08/01/1973	CLARK, C. C., ETAL	3-S-CP-816	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00546	10/01/1973	CLARK, C. C., ETAL	4-CP-817	SIMCON OIL AND GAS CORPORATION	Abandoned Well	Gas Well
011-00547	08/01/1974	RICKETTS, JOHN G.	2-MC-48	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00548	04/01/1974	ACRE LAND CO.	6-MC-49	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00613	02/21/1925	McKENY, J. E.	P-53	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00614	02/23/1925	McCULLOUGH, F. F.	P-29	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00615	06/22/1925	HYMAN, S. J.	P-31	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00616		DUTY, T. H.	P-50	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00617	09/09/1923	GERLACH, HENRY	P-13	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00618	11/20/1929	HATFIELD, G. H.	P-57	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well
011-00619	09/26/1924	JOHNSON, W.	A.G.JOHNSON Z15	SIMCON OIL AND GAS CORPORATION	Active Well	Gas Well

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021-01312	10/01/1961	MCQUAIN, RUSSELL	1	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
021-05370	08/23/2004	FRANCIS, STEVEN	MARSHALL 6	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
035-00984	01/01/1959	BEVER, T.	10183	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
035-01073	09/18/1998	FRANCIS,STEPHEN,JOHN,PAUL	F. BROWN 2	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
035-01254	03/01/1971	HARTLEY, T. I.	4	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-01016	08/26/1943	BOARD, BESSIE	1	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-02689	12/01/1974	BLUE CREEK TRACT	64	MCKOWN, C.I. & SON, INC.	Abandoned Well	Oil Well
039-02723	11/06/1975	BLUE CREEK COAL & LAND	66	MCKOWN, C.I. & SON, INC.	Abandoned Well	Oil Well
039-02726	11/01/1975	BLUE CREEK C & L CO.	67	MCKOWN, C.I. & SON, INC.	Abandoned Well	Oil Well
039-02807	07/25/1979	BLUE CREEK COAL & LAND	68	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03227	02/25/1913	WOODY, LOUISA	1	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03228	12/13/1916	WOODY, LOUISA	3	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03229	12/27/1916	WOODY, LOUISA	4	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03230	05/30/1917	WOODY, LOUISA	5	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03232		MORLEY, M. E.	1	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03234	07/10/1996	SHINN, SARAH Y.	JACKSON-MYERS 1	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03235		McCORKLE, W. A.	3	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03236	11/10/1915	McCORKLE, W. A.	4	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03237	12/08/1915	McCORKLE, W. A.	5	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03238		McCORKLE, W. A.	7	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03239	06/14/1999	McCORKLE, MARION	W.A. McCORKLE 8	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03240	08/07/1916	McCORKLE, W. A.	12	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03241	07/23/1999	SKINNER, CHARLES W.	A.C. SKINNER 3	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03242	07/14/1999	SKINNER, C. W., JR.	SKINNER 4	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03243	09/10/1999	SKINNER, C. W.	A. C. SKINNER 5	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03244		SKINNER, ANNA C.	7	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03245	08/23/1999	SKINNER, C. W.	A.C. SKINNER 8	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03246	08/13/1999	SKINNER, CHARLES W.	A. C. SKINNER 9	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03247		SKINNER, ANNA C.	11	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03248		SKINNER, ANNA C.	13	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03249		SKINNER, ANNA C.	15	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03250		SKINNER, ANNA C.	17	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03251		SKINNER, ANNA C.	19	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03252	07/25/2000	SKINNER, CHARLES W.	22	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
[illegible]	[illegible]	SKINNER, CHARLES W. JR.	SKINNER 1	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03254	08/26/1997	SKINNER, CHARLES W. JR.	JV&AC. SKINNER2	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03258	10/24/1996	SKINNER, CHARLES W. JR.	SKINNER 6	MCKOWN, C.I. & SON, INC.	Plugged	Secondary Recovery Well
039-03260		SKINNER, J. V. R.	2	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well
039-03261	07/01/1998	SKINNER, CHARLES W. JR.	JVR SKINNER 4	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03262	06/24/1998	SKINNER, CHARLES W. JR.	JVR SKINNER 5	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03264	07/01/1998	SKINNER, CHARLES W. JR.	JVR SKINNER 8	MCKOWN, C.I. & SON, INC.	Plugged	Not Available
039-03267	08/11/1915	SKINNER, J. V. R.	15	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03268	05/27/1914	SKINNER, R. P.	1	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03269	05/26/1915	SKINNER, ROBERT P.	4	MCKOWN, C.I. & SON, INC.	Active Well	Oil Well
039-03275		THABET, FRED	1	MCKOWN, C.I. & SON, INC.	Active Well	Gas Well

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DANIELS
47-081-0281
GLEN DANIELS WELL

COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Rowland #B-19	081-0768	Raleigh	Shale	3	MO.
Eastern States	Rowland #B-20	081-0769	""	Shale	2	MO.
Eastern States	Rowland #B-23	081-0751	""	Weir	1	Mo.
Eastern States	Rowland #B-32	081-0794	""	Shale	1	Mo.
Eastern States	Rowland #B-35	081-0793	""	Shale	3	Mo.
Eastern States	Rowland #B-36	081-0766	""	Weir	3	Mo.
Eastern States	Rowland #B-37	081-0767	""	Shale	5	Mo.
Eastern States	Rowland #B-39	081-0828	""	Weir	3	Mo.
Eastern States	Rowland #B-42	081-0819	""	Gordon	2	Mo.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Rowland	081-0822	Raleigh	Big Lime Weir	3	MO.
	A-51					
Eastern States	Rowland	081-0841	""	Weir, Shale	3	MO.
	A-60					
Eastern States	Rowland	081-0949	""	Weir, Shale,	4	MO.
	A-91			Gordon		
Eastern States	Rowland	081-1012	""	Big Lime, Maxton	10	MO.
	A-96R					
Eastern States	Rowland 99	081-1002	""	Shale	3	MO.
Eastern States	Rowland	081-0996	""	Weir, Big Lime	2	MO.
	#101					
Eastern States	Rowland	081-0948	""	Weir, Big Lime	5	MO.
	#102					
Eastern States	Rowland	081-0950	""	Weir, Gordon,	6	MO.
	#103			Shale		
Eastern States	Rowland	081-0985	""	Maxton, Gordon,	7	MO.
	#104			Shale		
Eastern States	Rowland	081-0985	""	Gordon, Shale	10	MO.
	#106					
Eastern States	Rowland	081-0951	""	Gordon, Shale	5	MO.
	#107					
Eastern States	Rowland	081-0964	""	Shale	5	MO.
	#110					
Eastern States	Rowland	081-0968	""	Big Lime	6	MO.
	#112					
Eastern States	Rowland	081-0808	""	Big Lime	2	MO.
	#B-9					
Eastern States	Rowland	081-0756	""	Weir	2	MO.
	#B-11					
Eastern States	Rowland	081-0750	""	Weir	2	MO.
	#b-13					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY Clay	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Thompson #2	47-015-2527	""	Big Injun, Squaw	5	MO.
Eastern States	Thompson #6	47-015-2532	""	Squaw	2	MO.
Eastern States	Thompson #5	47-105-2531	""	Squaw	2	MO.
Eastern States	Thompson #1	47-015-2543	""	Squaw	2	MO.
Eastern States	H. E. Sladle	47-015-2539	""	Big Linjun, Squaw	2	MO.
	#3		Fayette			
Eastern States	Brown #1	47-019-0834	""	Big Lime, Injun	1	MO.
Eastern States	Brown #2	47-019-0835	""	Big Lime, Injun	1	MO.
Eastern States	Brown #3	47-019-0839	""	Big Lime, Injun	1	MO.
Eastern States	Brown #4	47-019-0837	""	Big Lime, Injun	1	MO.
Eastern States	Hess #1	47-019-0551	""	Big Lime, Injun	1½	MO.
Eastern States	Peyton #6	47-019-0504	""	Weir, BE, DS,	2	MO.
				Gordon		
Eastern States	Eastern Gas	47-019-0142	""	Weir	2	MO.
	& Fuel #37					
Eastern States	Eastern Gas	47-019-1980	""	Maxson, Weir	2	MO.
	& Fuel #29					
Eastern States	Pocahontas Gas	47-019-0248	""	Weir	20	MO.
	#30					
Eastern States	Pocahontas	47-019-0293	""	Weir	8	MO.
	#33					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY Kanawha	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Eastern States	Eastern Gas	47-039-1569		Gordon, B, Weir	3	MO.
	& Fuel #118					
Eastern States	Eastern Gas	47-039-05170 ""		D.S., B, Weir,	25	MO.
	& Fuel #119			Big Lime		
Eastern States	Eastern Gas	47-039-0874 ""		Gordon, Brier,	20	MO.
	& Fuel #126			Weir, L.M.		
Eastern States	Eastern Gas	47-039-0879 ""		U.S. l.Weir, UWe	20	Mo.
	& Fuel #129					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Flynn #31	47-067-0743	Nichols	Weir, B.	2	MO.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Rowland	005-1329	Boone	Weir	5	Mo.
	Land #43					
Eastern States	Rowland	005-1330	""	Weir	2	Mo.
	Land #44					
Eastern States	Rowland	005-1481	""	Ravencliff,	10	Mo.
	Land #47			Weir		
Eastern States	Rowland	005-1501	""	Weir	5	Mo.
	Land #61					
Eastern States	Southern	005-1363	""	Maxton, Berea	4	Mo.
	Land #13					
Eastern States	Southern	005-1490	""	Weir	2	Mo.
	Land #17					
Eastern States	Southern	005-1057	""	Weir	4	Mo.
	Land #3					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Eastern States	Eastern Gas	039-4833	Kanawha	Weir	7	Mo.
	& Fuel #94					
Eastern States	Eastern Gas	039-1848	""	Weir	10	Mo.
	& Fuel #23					
Eastern States	Eastern Gas	039-1767	""	Weir	8	Mo.
	& Fuel #16					
Eastern States	Eastern Gas	039-1869	""	Big Lime, Weir	11	Mo.
	& Fuel #26					
Eastern States	Lafollette	039-3991	""	Weir, Berea	3	Mo.
	#2					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL E2' PROD	PER
Eastern States	Christian	019-0468	Fayette	Weir	10	Mo.
	Colliery #3					
Eastern States	Christian	019-0666	""	Big Lime	10	Mo.
	Colliery #8					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Penn-Va.	Loop Creek	109-1592	Wyoming	Gordon	60	MO.
	#153					
Penn-Va.	Loop Creek	109-1584	""	Preston, Raven,	10	MO.
	#129			Gordon		
Penn-Va	Loop Creek	109-1634	""	Weir, Gordon	25	MO.
	#174					
Penn-Va.	Loop Creek	109-1593	""	Preston, Lime,	5	MO.
	#154			Berea		
Penn-Va.	Loop Creek	109-1438	""	Raven, Lime,	10	MO.
	#24			Gordon		
Penn-Va.		109-1420				
Penn-Va.	George	109-1559	""	Lime, Gordon,	15	MO.
	Pacific			Weir		
	W.P. 315					

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Penn-Va.	Pride #4	081-1029	Raleigh	Maxson, Lime, Raven	20	MO.
Penn-Va.	Glade Creek #8	081-1033	""	Big Lime	15	MO.

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COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H_2^0 PROD	PER
Base Petroleum	C.N.G.	053-0415	Mason	Berea	7	Mo.
Base Petroleum	C.N.G.	053-0414	""	Berea	4	Mo.
Base Petroleum	Old Town	053-0408	""	Berea	3	Mo.
	Farm					
Base Petroleum	Rayburn	053-0193	""	Shale	4	Mo.
Base Petroleum	Weaver	053-[illegible]	""	Shale	5	Mo.
Base Petroleum	W.B.	053-0278	""	Shale	5	Mo.
	Huffman					
Base Petroleum	Old Town	053-0403	""	Berea	7	Mo.
	Farm					
Base Petroleum	Old Town	053-0401		Berea	6	Mo.
	Farm					
Base Petroleum	Old Town	053-0404	""	Berea	7	Mo.
	Farm					
Base Petroleum	Old Town	053-0384	""	Berea	7	MO.
	Farm					
Base Petroleum	Old Town	053-0385	""	Berea	7	MO.
	Farm					
Base Petroleum	Thompson	053-0409	""	Berea	12	MO.
Base Petroleum	New Berry	053-0255	""	Shale	8	MO.
Base Petroleum	L. New	053-0277	""	Shale	9	MO.
	Berry					
Base Petroleum	C.N.G.	053-0412	""	Berea	6	MO.
Base Petroleum	C.N.G.	053-0413	""	Berea	4	MO.

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GLEN DANIELS WELL

COMPANY	PROPERTY NAME	API NUMBER	COUNTY	PRODUCING FORMATION	APPROX AVG. BBL H2O PROD	PER
Exploration	Imperial	019-0864	Fayette	Pocono, Big Lime	300	MO.
Partner	Colliery 434					
Exploration	Imperial	019-0863	""	Pocono, Big Lime	100	MO.
Partners	Colliery 433					
Exploration	Imperial	019-0855	""	Pocono, Big Lime	200	MO.
Partner	Colliery 425					
Exploration	Midvale	019-00827	""	Pocono, Weir	50	MO.
Partner	#E-400					
Exploration	Midvale	019-00828	""	Pocono, Weir	50	MO.
Partner	#E-401					
Exploration	Midvale	019-00839	""	Pocono, Weir	50	MO.
Partners	#407					
Exploration	Nuttall #2	019-0515	""	Weir, Big Lime	50	MO.
Exploration	Nuttall #14	019-0623	""	Weir, Big Lime	10	MO.
Exploration	Nuttall #17					
Exploration	Elkem B-66	019-0702	""	Lime	25	MO.
Exploration	Elkem B-67	019-0703	""	Lime	25	MO.
Exploration	Elkem B-68	019-0701	""	Lime	25	MO.
Exploration	Sheets E-81	019-0715	""	Lime	25	MO.
Exploration	Sheets #2		""	Lime	25	MO.
Exploration	Imperial		""	Pocono, Big Lime	50	MO.
Partners	Coal #35					
Exploration	Imperial		""	Pocono, Big Lime	100	MO.
Partners	Colliery #435					
Exploration	Imperial		""	Pocono, Big Lime	200	MO.
Partners	Colliery #436					

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SECTION 5: Desciption of the injection zone

A. Injection Zone - Weir Sand

1. General Desciption - The Weir Sand is part of the Mississippian Pocono Series.

The Weir Sand immediately underlies the McCrady Shale and consist of fine to medium grain well rounded quartzitic sand grains.

The Weir must be fraced, usually by hyro-fracturing and results have been good in certain areas. The Weir has a strong production history in West Virginia, but in this area the Weir is wet.

2. Formation Thickness - Weir Sand
a. Total Thickness - 64' from 3178' to 3242'.
b. Thickness of injection area that was perforated in 4 1/2 casing - 7' from 3190' to 3196', see attached record.
c. See attached electric logs for correlation.

3. Permiability - Weir Sand
a. Permiability for the Weir Sand in this area can be estimated to be in the range from less than 0.1 to 2.0 millidarcys. This is a typical permiability range for a producing sandy siltstone.
b. Permiability can also be determined by a pressure build up test or by coring the formation and examining the pore space characteristics via thin section.
c. The permiability of the Weir Sand in this area is caused by the pore space characteristics of the pores themselves and also the pore interconnections. The interconnections determine the passageway thickness and thus the permiability.
d. Permiability can also be caused by fracturing. The fracturing of the Weir in this area is very minimal. Because of this, the Weir would make a very good disposal candidate as the disposed fluid is less likely to migrate to other formations.

4. Porosity - As the attached electric log indicates, the porosity of the Weir interval ranges from 2% to 24%.

5. Water Saturation - The attached Induction log indicates a water saturation of 40%. Also the completion report indicated the Weir was wet.

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B. Injection Pressure.

The maximum bottom-hole injection pressure (MBHIP) will not

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exceed 2552#. This was determined by multiplying .8 psi/ft. by the top injection zone perforation which is 3190'. This MBHIP will allow for a maximum wellhead injection pressure of 1059#. This will allow for a hydrostatic weight of 1492#.

All well test performed to date indicate that the well will not need any horsepower to inject, that the hydrostatic weight will be sufficient by itself to inject into the formation. The well is anticipated to take fluid on a vacuum.

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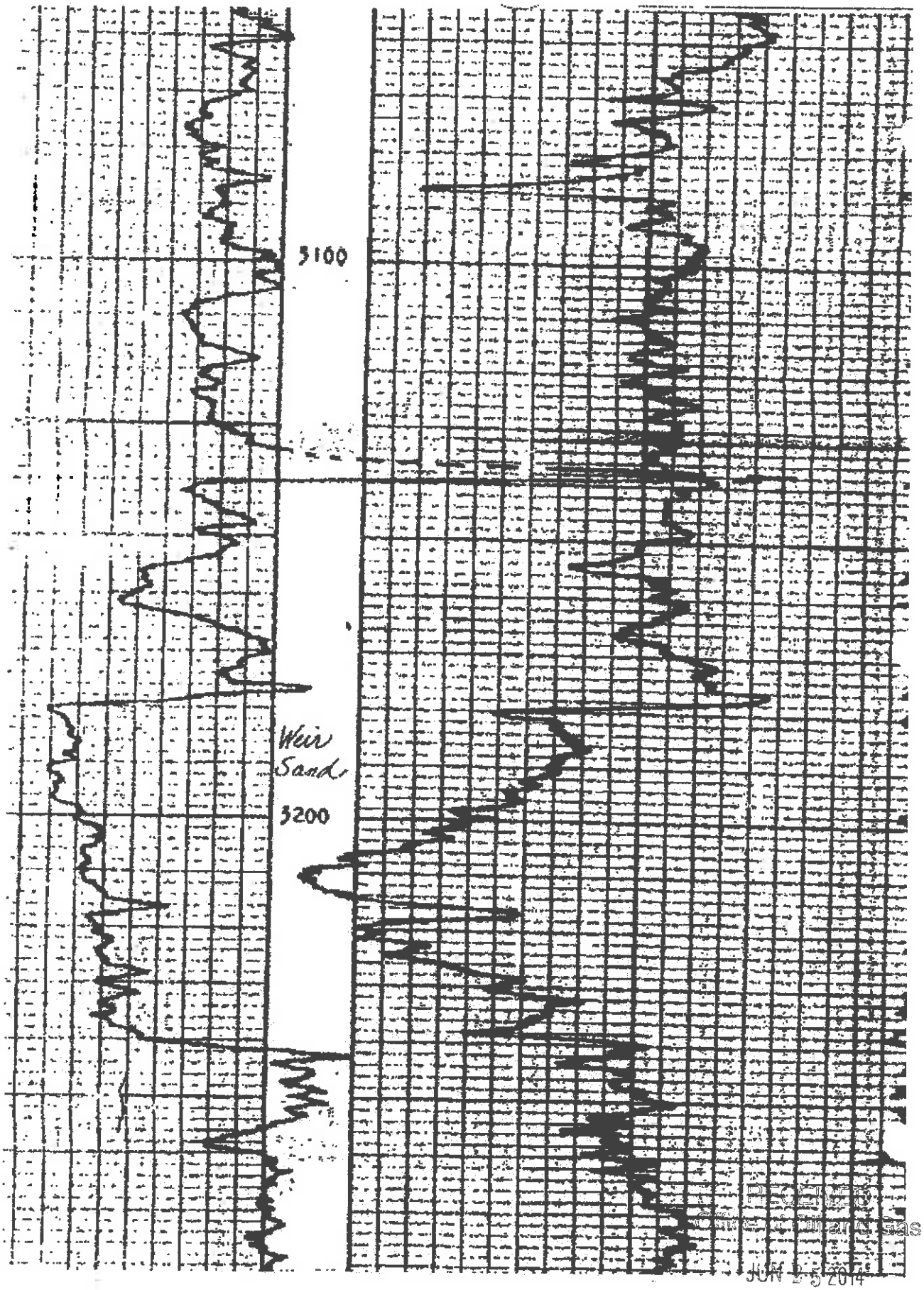

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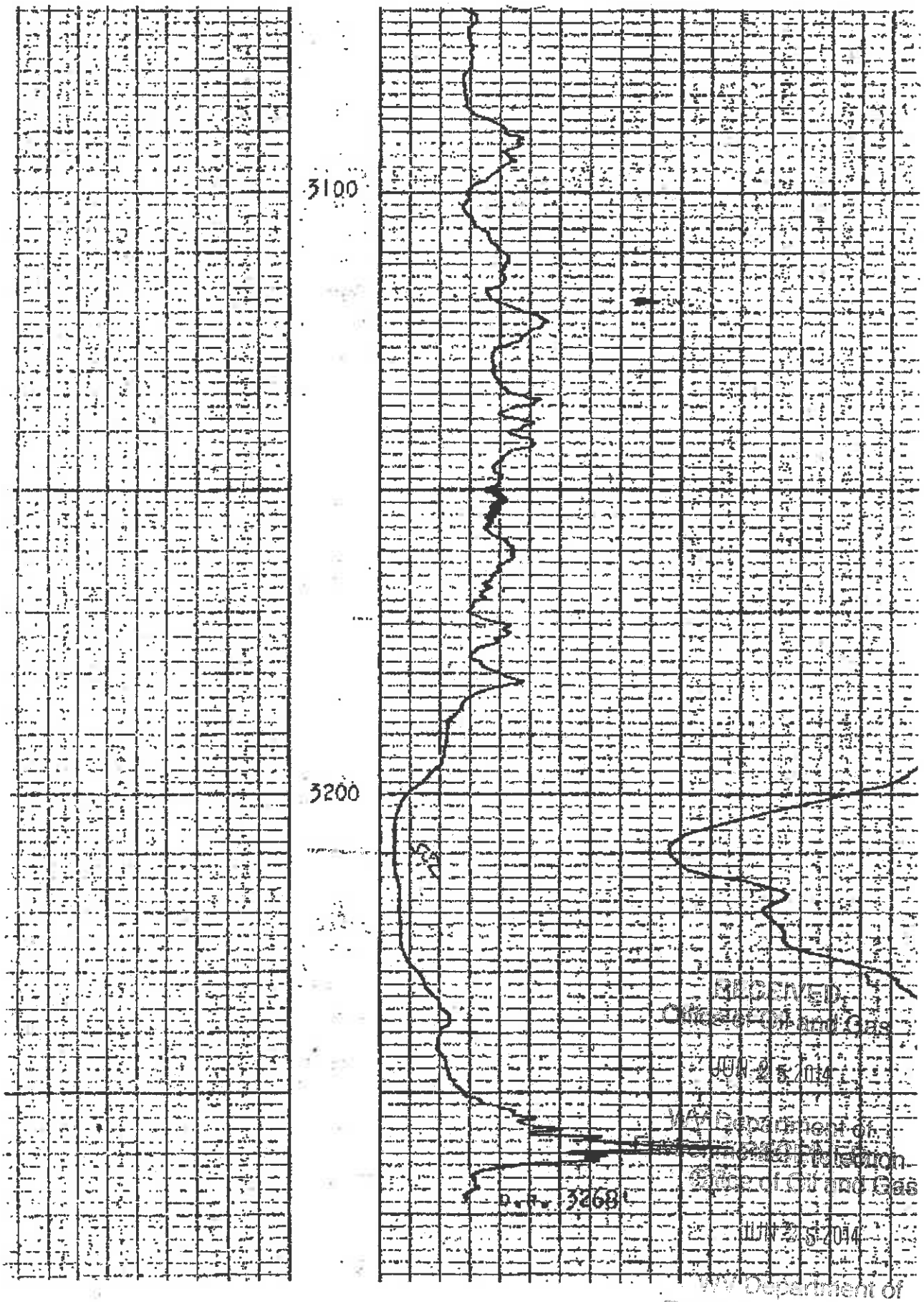

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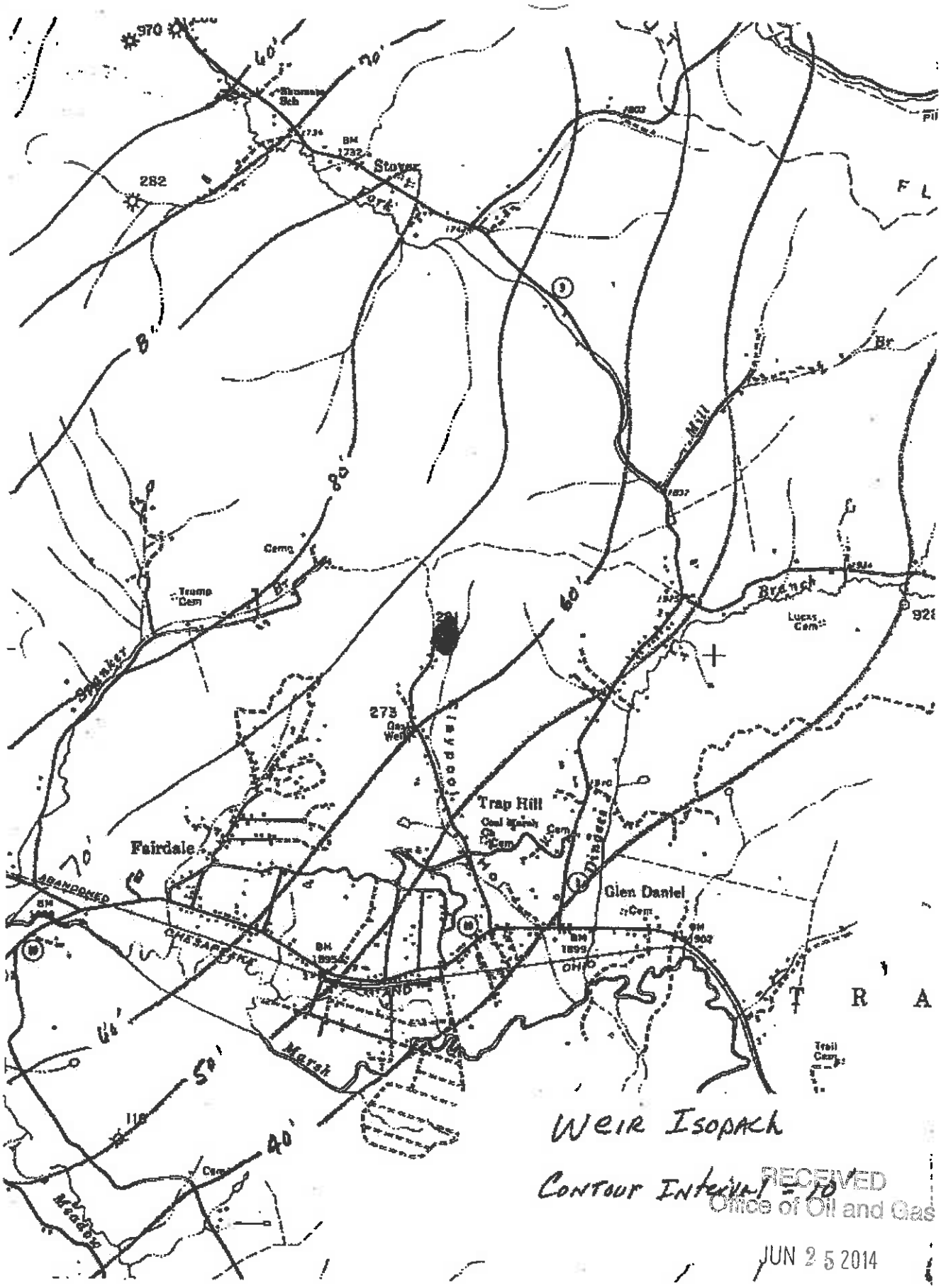

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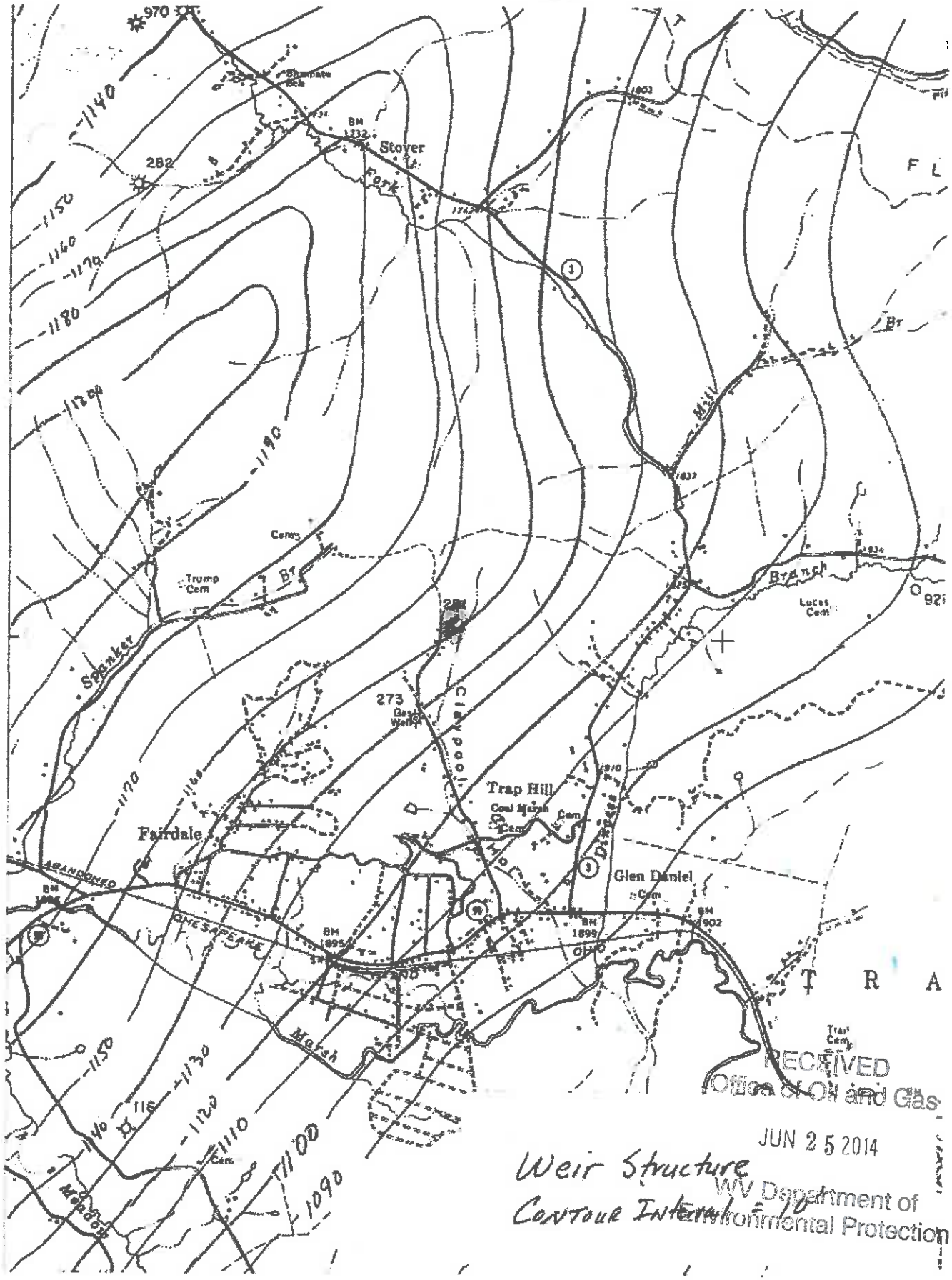

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Weir Structure
Contour Interval = 10

The following is information on the general faulting trends in the Claypool Branch area of Raleigh County WV as it relates to the re-permitting of the Daniel No. 2 disposal well by Base Petroleum Inc.

The formation being utilized for disposal in the Daniel No.2 well is the Weir Sandstone which is at an average depth of 3200' in the area. A review of well records for a number of wells drilled in the general area does not give any indication of faults in the area as the formation depths throughout the area are very consistent with no significant deviations noted, a fact further supported by a review of the structure and isopach maps submitted with the original UIC permit application. Research of geologic maps and reports was also conducted in order to determine the presence of any faults in the area that may have been identified by such data in the Weir or any other formations for which data existed. Mapping of the Weir - Sandstone in West Virginia by the West Virginia Geological Survey does not show the presence of any known faults which have been mapped in the state. As no faults were identified in the Weir, research was conducted to look at faults in other formations which could be used to identify faulting trends in the area.

A structure map of the Ordovician Section for the Appalachian Basin is provided on the following page in which faults are identified and mapped. This map does not indicate the presence of faults anywhere in the Raleigh County and surrounding areas. The faults identified on this map represent a general southwest/northeast trend with all mapped faults being well north of the Raleigh County area. The second map provided is for the Marcellus Shale with faults in the Onondaga' Limestone mapped and showing a similar southwest/northeast trend in the northern part of the state in the same general locations of the Ordovician mapped faults. Finally in an effort to locate mapping information and data from a formation shallower than the Ordovician and Marcellus, the report from the

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Appalachian Tight Gas Reservoirs Project conducted by the WVGES was researched. This project evaluated well logs and data to extensively map a number of shallow gas plays in the state creating an interactive mapping system which was used to create the final two maps provided. These maps show folds and faults throughout the state with the same general fault trends and locations as previously noted.

In summary, a variety of data in the form of well records, maps and reports were researched to determine the presence of or the absence thereof any faults in the area which could be possibly affected by the injection operations of the Daniel No. 2 disposal well. Data was found indicating the presence of faults in the state and that mapping efforts had been undertaken but that all faults identified are at significant distance from the Raleigh County area and should have no impacts on continued injection operations at the Daniel No. 2 disposal well.

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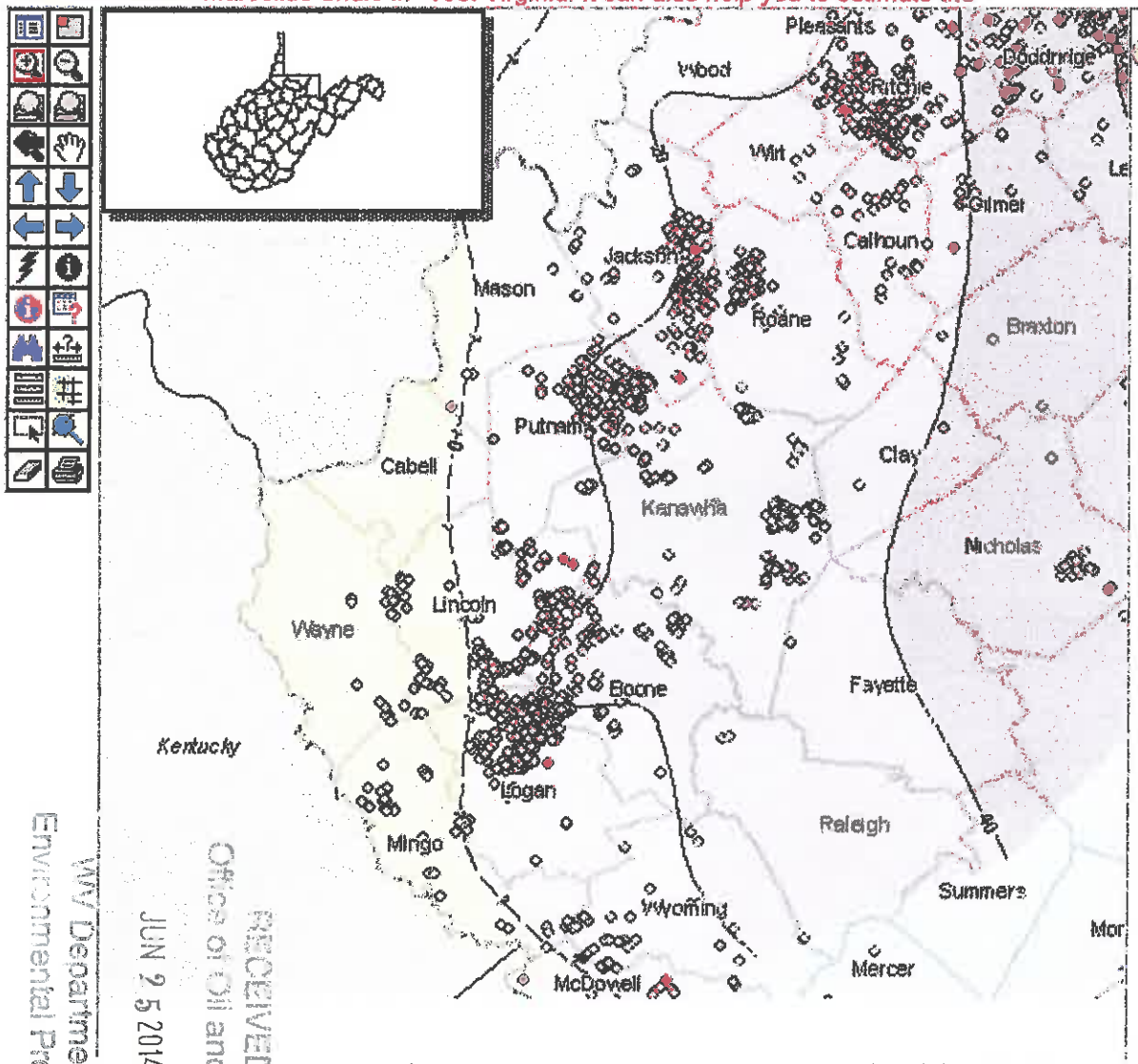
WVGES: Marcellus Shale Mapping System

This system can enable you to locate wells completed and permitted in the Marcellus Shale in West Virginia. It can also help you to estimate the

Disclaimer | Marcellus Main Page | Marcellus FAQ | IMS Help Desk



Zoom In

LAYERS

- All Layers
  - Data
    - Geologic Data
      - Completed Marcellus Wells*, 03/201
      - Permitted Marcellus Wells*, 03/2014
      - Scanned E-Logs**, 03/2014
      - Marcellus Outcrop
      - Marcellus Thickness*** (20-ft. CI)
      - Marcellus Thickness*** Polygons
      - Onondaga**** Fold Axes
      - Onondaga**** Faults
      - Onondaga**** Structure
    - Base Map Layers
      - States
      - Counties
      - Counties (with Labels)
      - Cities and Towns
      - Roads
      - Lakes and Rivers
      - Streams
      - Tax Districts
      - 7.5 Minute Quadrangles
      - Topographic Maps

Refresh Map ☑ Auto Refresh

Explanations:

* Marcellus Wells
A completed Marcellus well has one or more zones in the Marcellus that have been prepared for production--the well may or may not be producing currently; a permitted Marcellus well is one with a Marcellus/Devonian shale or deeper target. Obtain additional data for a well by making certain that the

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This project was originally funded in part by RDS Agreement 41817M4160 and the U.S. Department of Energy Contract DE-AC26-04NT41817.630.01.14. The support is appreciated greatly.

Appalachian Tight Gas

Refresh Map ☐ Auto Refresh

LAYERS

- General Geography Layers
- General Geology Layers
  - All Gas and Oil Wells
  - Folds (WV Only)
  - Faults (WV Only)
  - Aeromagnetic Data (WV Only)
  - Gravity Data (WV Only)
  - Basic Stratigraphy
- Play-Specific Layers and Documents
  - Berea/Murrysville (BERE)
  - Venango (VNNG)
  - Bradford (BDFD)
  - Elk (ELK)
  - Medina/"Clinton" (MDIN)
  - Tuscarora (TCRR)

Refresh Map ☐ Auto Refresh

Help:

- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.
- Indicates a hyperlink to further information.

Pan

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Changes | User Essentials

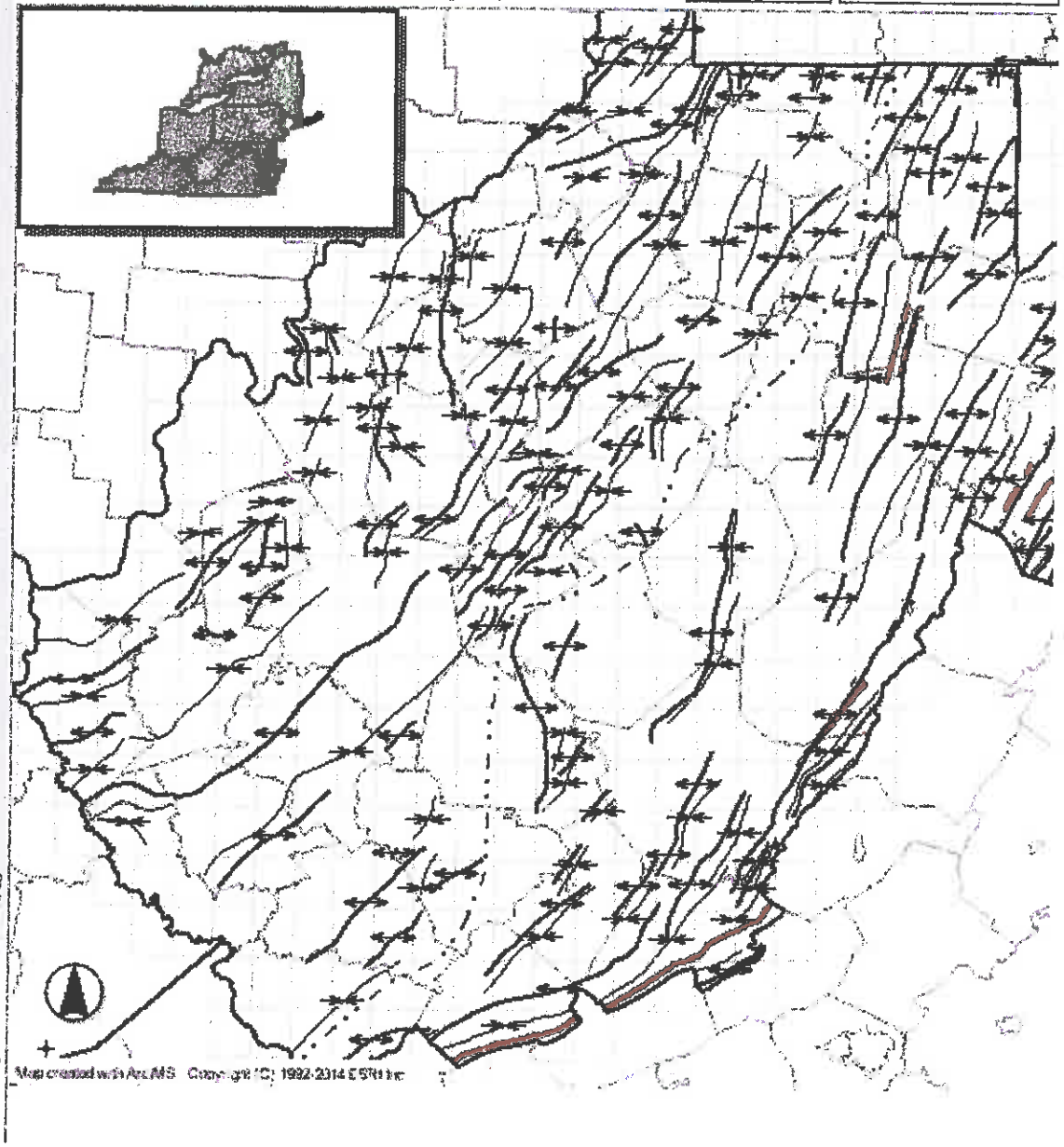
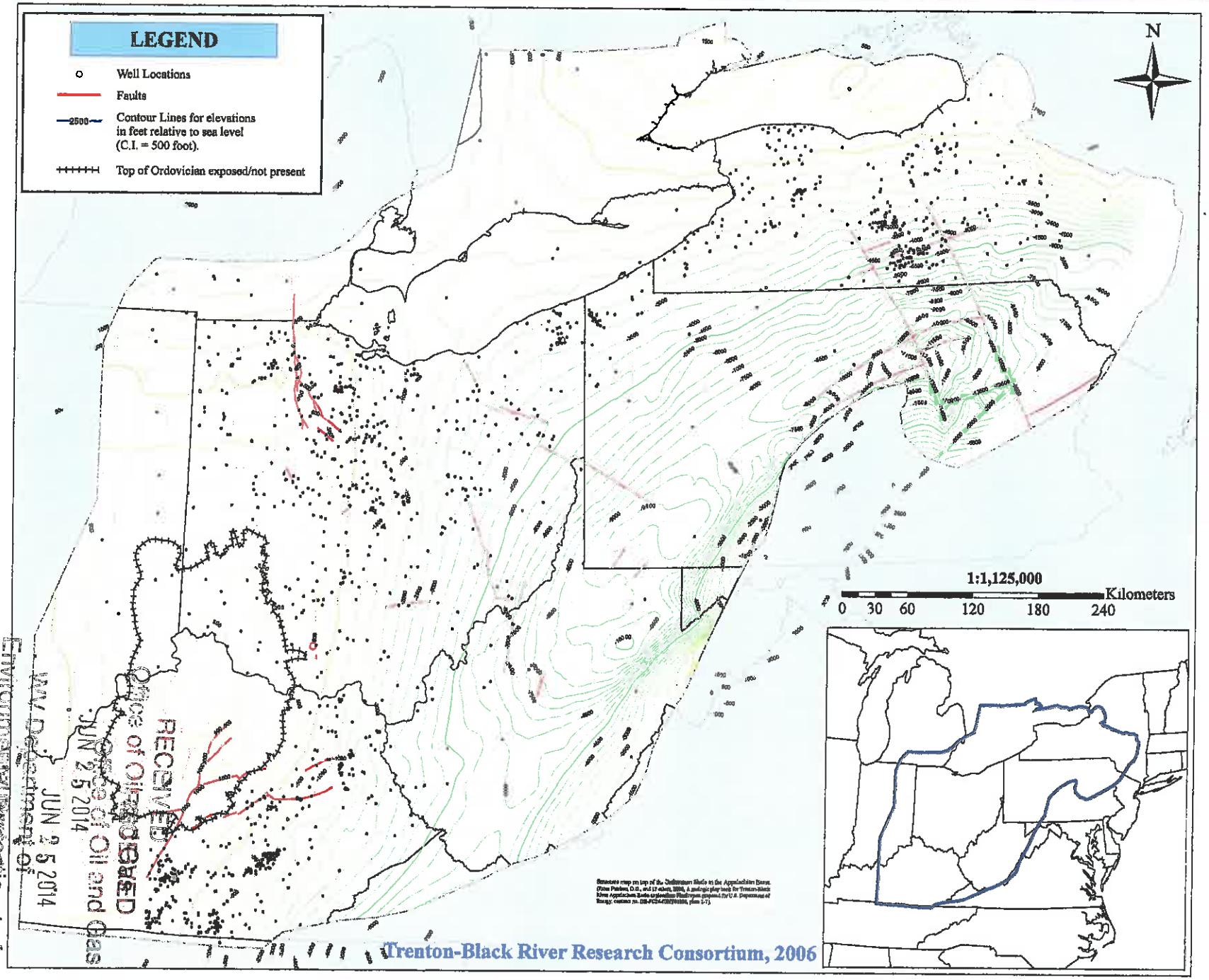


Plate 2-7 : Structure of the Top of the Ordovician Section



Trenton-Black River Research Consortium, 2006

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This memo is being provided in response to your request to provide calculations for estimating the extent of fluid migration in the Weir Sandstone formation from injection into the zone in the Daniel disposal well.

To make this estimation I used the volumetric method of determining reservoir fill up from injection operations. This method requires the number of barrels of fluid injected over time so I have therefore supplied the calculations and extent of fluid movement estimates for a few different total fluid volumes that may be expected over the wells life. As you are aware, this well had been previously operated for injection purposes several years ago and I do not have that volume information available. The calculations are based upon total volumes over the life of the well and therefore take into account any previous volumes.

Calculations are as follows:

$$R = \sqrt{\frac{\left(Q \times 5.625 \left(\frac{ft3}{bbl}\right)\right)}{(\pi \, x \, \theta \, x \, h \, x \, Sd}}$$

Where: R = Lateral Distance of Fluid Bank From Wellbore
Q = Cumulative Volume (bbls)
θ = Porosity Average (%)
h = Reservoir Height (ft)
Sd= Saturation Displacement (%)

V=

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Values used for calculations are:

Cumulative Volume = variable
Porosity Average = 18%
Reservoir Height = 64 ft
Saturation Displacement = 40%

The calculation is provided below for a cumulative injection volume of 100,000 bbls only with other volumes and the respective R values listed below the calculation:

$$R = \sqrt{\frac{100{,}000\ bbls\ x\ 5.615\ ft3/bbl}{3.14\ x\ .18\ x\ 64\ x\ .40}}$$

R = 295 ft.

Q = 250,000 bbls	*R = 467 ft.*
Q = 500,000 bbls	*R = 661 ft.*
Q = 1,000,000 bbls	*R = 934 ft.*

As you can see, the lateral distance of the fluid bank from the wellbore is fairly minimal for a large volume of water being injected in the well. While these calculations provide an estimate only, I believe this type of estimation is most likely the best that can be made with the information which is available.

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(4/25)

APPENDIX E
Water Sources

Operator: Base Petroleum, Inc. Year 2014 UIC Permit # UIC2D0810281

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		Source # 1	Source # 2	Source #	Source #
Water Source Name		Daniels #1 Well	Daniels #1 Well Creek Sample		
Northing		4182868.15	4182868.15		
Easting		469282.92	469282.92		
Parameter	Units				
TPH - GRO	mg/L				
TPH - DRO	mg/L				
TPH - ORO	mg/L				
BTEX	mg/L				
Chloride	mg/L	135000.	187.		
Sodium	mg/L	57370.	67.2		
Total Dissolved Solids (TDS)	mg/L	256500	467		
Aluminum	mg/L	<2.00	.92		
Arsenic	mg/L				
Barium	mg/L	507.	.461		
Iron	mg/L	73.1	1.77		
Manganese	mg/L	4.07	3.27		
pH	SU	5.1	4.9		
Calcium	mg/L				
Sulfate	mg/L				
MBAS	mg/L				
Dissolved Methane	mg/L				
Dissolved Ethane	mg/L				
Dissolved Butane	mg/L				
Dissolved Propane	mg/L				
Bacteria (Total Coliform)	c/100mL				

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APPENDIX C

Wells within the Area of Review

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API #	Well Type	Well Status (Active, Abandoned, Shut-in, Plugged)	Northing (UTM NAD 83 Meters)	Easting (UTM NAD 83 Meters)	Penetrate Injection Zone (Y or N)	Penetrate Confining Zone (Y or N)	Total Vertical Depth	Surface Elevation
No wells in AOR								

Make as many copies as necessary and include page numbers as appropriate.

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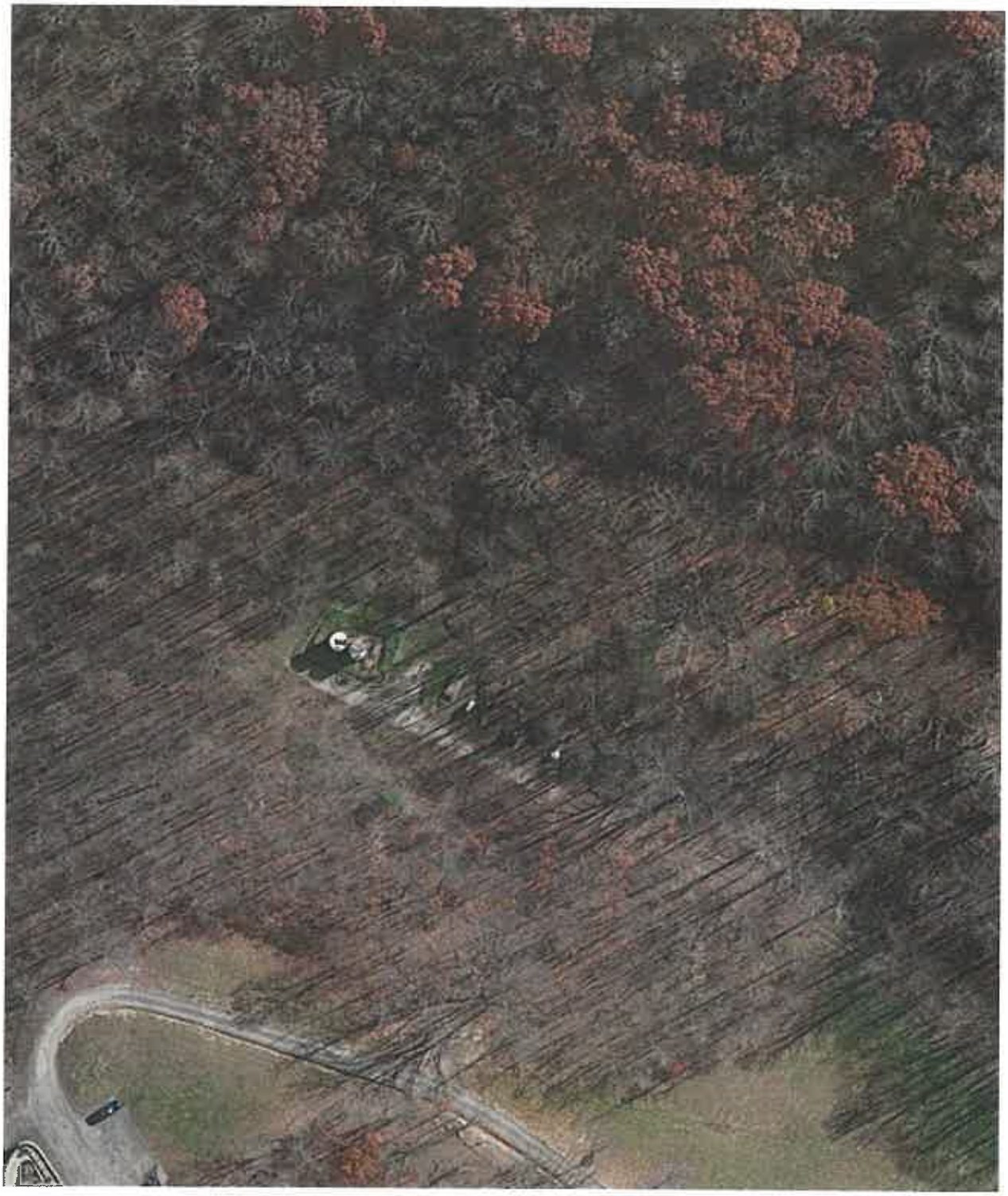

APPENDIX B
Storage Tank Inventory

API #	Tank ID	Tank Location (UTM NAD 83 Meters)		Installation Date	Tank Age (Months)	Construction Material (Steel, plastic, etc.)	Capacity (gallons)	Type of Fluid Stored	Volume of Fluid Stored (gallons)	Tank Type Single/Double Wall
		Northing	Easting							

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APPENDIX H

GROUNDWATER PROTECTION PLAN

Facility Name: Base Petroleum Daniel #2

County: Raleigh

Facility Location:

Postal Service Address:	Claypool area of Claypool branch watershed	
Latitude and Longitude:	37.792662 -81.348883	

Contact Information:

Person:	John Wilcox
Phone Number:	304-756-2827
E-mail Address:	Jhnwilcox@aol.com

Date: 6/23/14

1. A list of all operations that may contaminate the groundwater.

Storage of produced fluids until pumped into disposal will and the operation of the disposal well.

2. A description of procedures and facilities used to protect groundwater quality from the list of potential contaminant sources above.

The storage tanks have secondary containment and are visited by well operator daily and checked. The disposal well is constructed, tested, operated and monitored to assure protection of groundwater.

3. List procedures to be used when designing and adding new equipment or operations.

No new equipment or operations are anticipated for this facility.

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4. Summarize all activities at your facility that are already regulated for groundwater protection.

UIC regulations are applicable to the disposal well and oil and gas laws and regulations are applicable to all associated operations.

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

Little information exists for the general area due to the lack of water supply wells. Historical information and limited water samples from the area indicate fair water quality due the typical higher iron concentrations that exist throughout many areas of the state.

6. Provide a statement that no waste material will be used for deicing or fill material on the property unless allowed by another rule.

No waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

Employees will be given instruction and training in the recognition of groundwater contamination and the potential sources of contamination. Training will also be provided in the methods of preventing contamination and methods for dealing with potential sources of contamination.

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8. Include provisions for inspections of all GPP elements and equipment. Inspections must be made quarterly at a minimum.

Date Person making inspection Any finding of contamination sources Actions taken to eliminate sources Status and condition of water contamination prevention structures Any findings of required further actions

Signature: _____

Date: 6/23/14

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APPENDIX I

Requirement for Financial Responsibility to Plug/Abandon an Injection Well

To: WV Department of Environmental Protection
Office of Oil and Gas
601 57th Street, SE
Charleston, West Virginia 25304-2345
ATTN: Underground Injection Control Program

From: John B. Wilcox
Base Petroleum, Inc
100 Wilcox Farm Lane
South Charleston, WV 25309

Date: _____

Subject: Underground Injection Control (UIC) Permit Application
UIC2D0810281
Requirement for Financial Responsibility

I, John B. Wilcox, verify in accordance with 47CSR13-13.7.g., that I will maintain financial responsibility and resources to close, plug, and abandon underground injection wells(s) in a manner prescribed by the Chief of the Office of Oil and Gas.

Name: John B. Wilcox

Signature: John B. Wilcox

Date: 6/23/14

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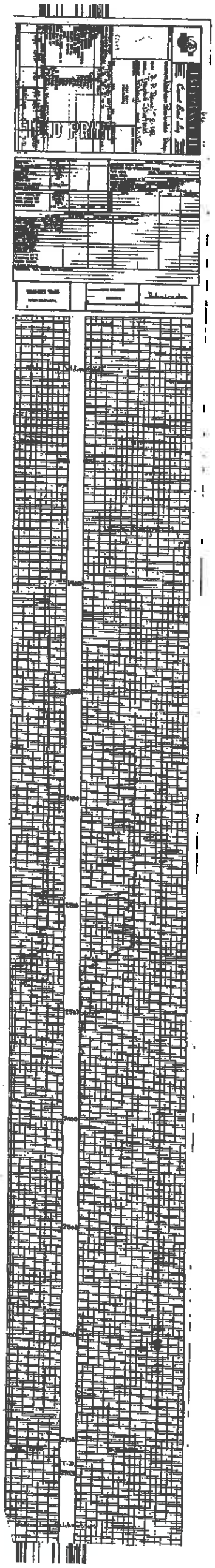
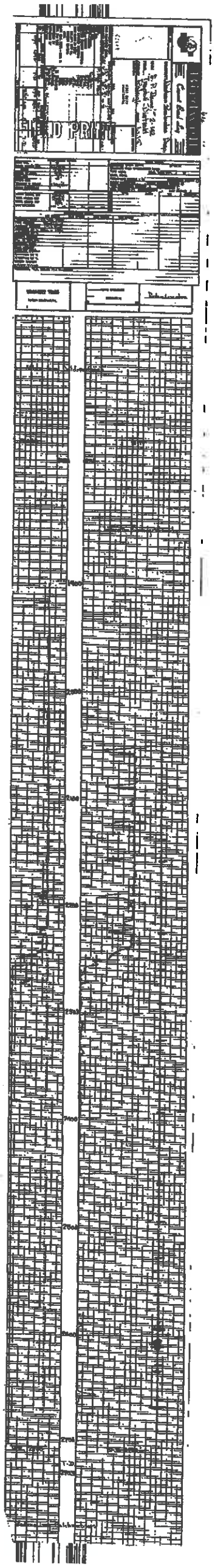


Rol 281



Rol 281

September 8, 2014

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SEP 09 2014
WV Department of
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Mr. Zachary Stevison, ERS
WVDEP
Office of Oil and Gas
602 57th Street. SE
Charleston, WV 25304

Dear Mr. Stevison:

This letter is in response to your request to address the deficiencies for the Daniels #2 permit # UIC2D08100281 renewal application.

1. Section 5 has been updated to address the current operations and activities to be conducted at the facility.
2. An aerial map as well as a drawing of the facility has been provided in order to show the on the ground conditions at the site.
3. Appendix B is provided.
4. An affidavit and Map showing the ¼ mile radius of the well was sent to the Glen White Trap Hill PSD but have not been able to get any response from them. A copy of the emails sent to them numerous times before are attached. Earlier studies show no USDW's are within the ¼ mile radius as public drinking water is supplied in the area.
5. A drawing of the secondary containment and calculations of the secondary containment is provided.
6. A discussion of the mechanical integrity is addressed in attachment A.
7. Laboratory data reports are provided for the stream sample in appendix E. There are no USDW's in the area.
8. Appendix G is provided.
9. Corrections to the GPP have been made. A GPP inspection form is attached and will be used for quarterly inspections of all elements of the GPP.
10. Section 12 has been completed to provide plugging details of the injection well.
11. A site security plan has been provided in appendix J.
12. Attached is information on the injection zone and the confining zone which was submitted previously and on file and available to the OOG along with log sections showing the injection zone and points of contact in blue and the confining zone in pink. Sufficient information for constructing a isopach and structure map is not available.
13. Attached is a copy of the log sections printed out in order with the header information.
14. The structure and isopach map have the orientation and scale information added.
15. Provided
16. Information on the Weir and porosity data is provided in the discussion and on the log data provided in section 12 above.
17. A description of the annulus is provided in attachment B
18. The hydrostatic head pressure is addressed in attachment C
19. There are no wells in the area of review as indicated on appendix C.

20. The tank appearing in the aerial view in empty and is used by the land owner at other locations. There are no potable water wells in the area.
21. Appendix G has been provided

Sincerely,

Michael W. Lewis

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CHECKLIST FOR FILING A UIC PERMIT APPLICATION

Please utilize this checklist to ensure you have prepared, completed, and enclosed all required documentation and payment to ensure a timely review of your submittal.

Operator	Base Petroleum, Inc.		
Existing UIC Permit ID Number	UIC2D0810281	UIC Well API Number	47-081-00281

Office of Oil and Gas Office Use Only	
Permit Reviewer	
Date Received	
Administratively Complete Date	
Approved Date	
Permit Issued	

Please check the fees and payment included.

Fees		Payment Type	
UIC Permit Fee: $500	✓	Check	✓
Groundwater Protection Plan (GPP) Fee: $50.00	☐	Electronic	☐
		Other	☐

Please check the items completed and enclosed.

- ✓ Checklist
- ✓ UIC-1
  - ✓ Section 1 – Facility Information
  - ✓ Section 2 – Operator Information
  - ✓ Section 3 – Application Information
  - ✓ Section 4 – Applicant/Activity Request and Type
  - ✓ Section 5 – Brief description of the Nature of the Business
  - ☐ CERTIFICATION
- ✓ Section 6 – Construction
  - ✓ Appendix A Injection Well Form
  - ✓ Appendix B Storage Tank Inventory
- ✓ Section 7 – Area of Review
  - ✓ Appendix C Wells Within the Area of Review

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- [x] Appendix D Public Service District Affidavit
- [x] Appendix E Water Sources
- [ ] Appendix F Area Permit Wells
- [x] Section 8 – Geological Data on Injection and Confining Zones
- [x] Section 9 – Operating Requirements / Data
  - [x] Appendix G Wells Serviced by Injection Well
- [x] Section 10 – Monitoring
- [x] Section 11 – Groundwater Protection Plan (GPP)
  - [x] Appendix H Groundwater Protection Plan (GPP)
- [x] Section 12 – Plugging and Abandonment
- [x] Section 13 – Additional Bonding
- [x] Section 14 – Financial Responsibility
  - [x] Appendix I Financial Responsibility
- [x] Section 15 – Site Security Plan
  - [x] Appendix J Site Security for Commercial Wells
- [x] Section 16 – Additional Information
  - [x] Appendix K Other Permit Approvals

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NOTE: For all 2D wells an additional bond in the amount of $5,000 is required.

Reviewed by (Print Name): _____

Reviewed by (Sign): _____

Date Reviewed: _____

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Section 3. Applicant Information

Ownership Status: ■ PRIVATE ☐ PUBLIC ☐ FEDERAL ☐ STATE
☐ OTHER (explain):

SIC code: ■ 1311 (2D, 2H, 2R) ☐ 1479 (3S) ☐ OTHER (explain):

Section 4. Applicant / Activity Request and Type:

A. Apply for a new UIC Permit: ☐ 2D ☐ 2H ☐ 2R ☐ 3S
B. Reissue existing UIC Permit: ■ 2D ☐ 2H ☐ 2R ☐ 3S
C. Modify existing UIC Permit: ☐ 2D ☐ 2H ☐ 2R ☐ 3S
(Submit only documentation pertaining to the modification request)

2D COMMERCIAL FACILITY: ■ YES ☐ NO

Section 5. Briefly describe the nature of business and the activities to be conducted:

Base Petroleum, Inc operates the Daniels #2 disposal well in Raleigh County, West Virginia as a limited use commercial disposal facility for a few established operators in the southern West Virginia area. The facility receives produced brine water and pit fluids from these limited operators by truck. All trucking operations are hauled by Kermit Tyree Contracting who also operates the disposal facility for Base Petroleum. Kermit Tyree Contracting will maintain the facility as well as keep the facility secured against public access. Safety training and groundwater protection measures will also be provided for all employees by Kermit Tyree Contracting.

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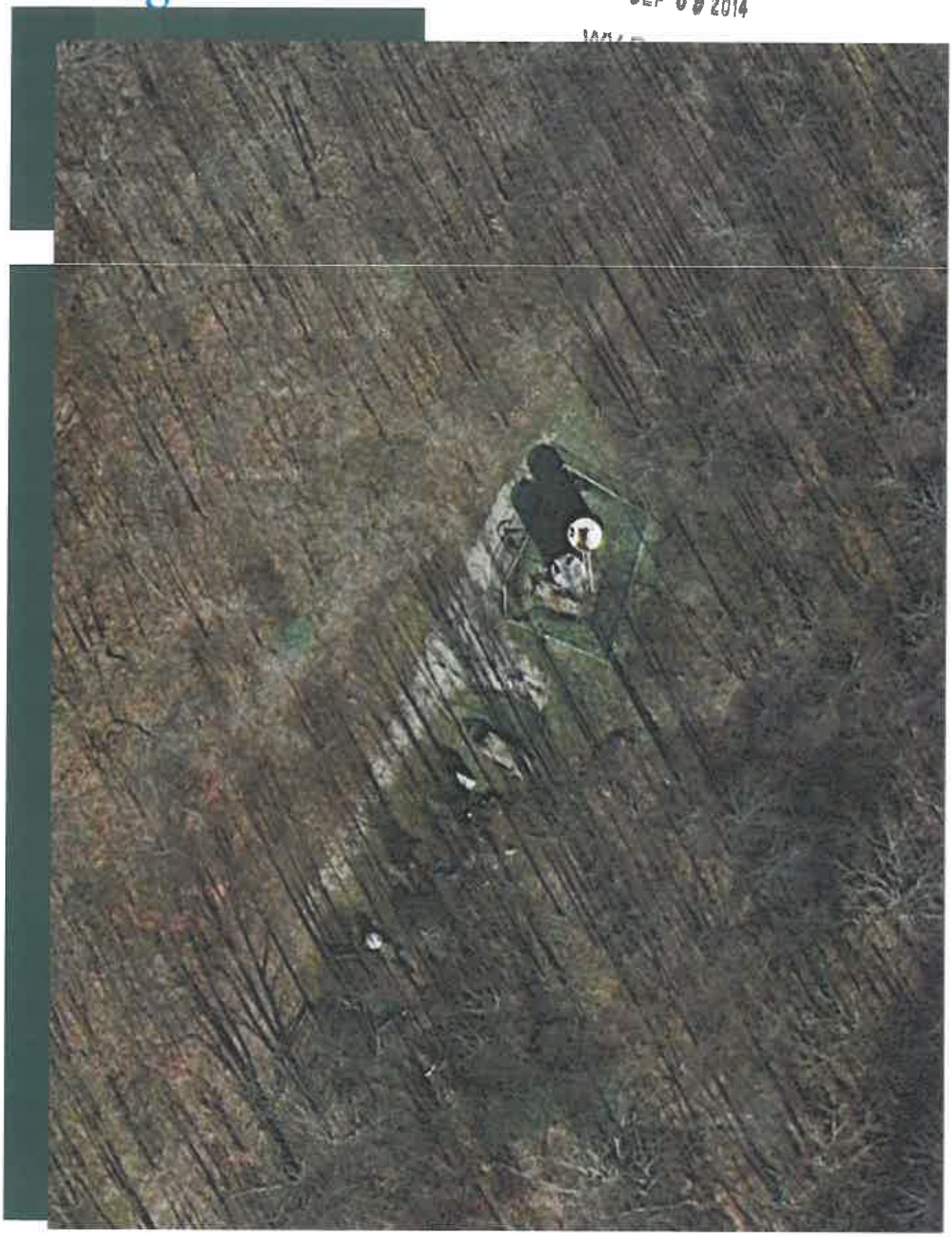

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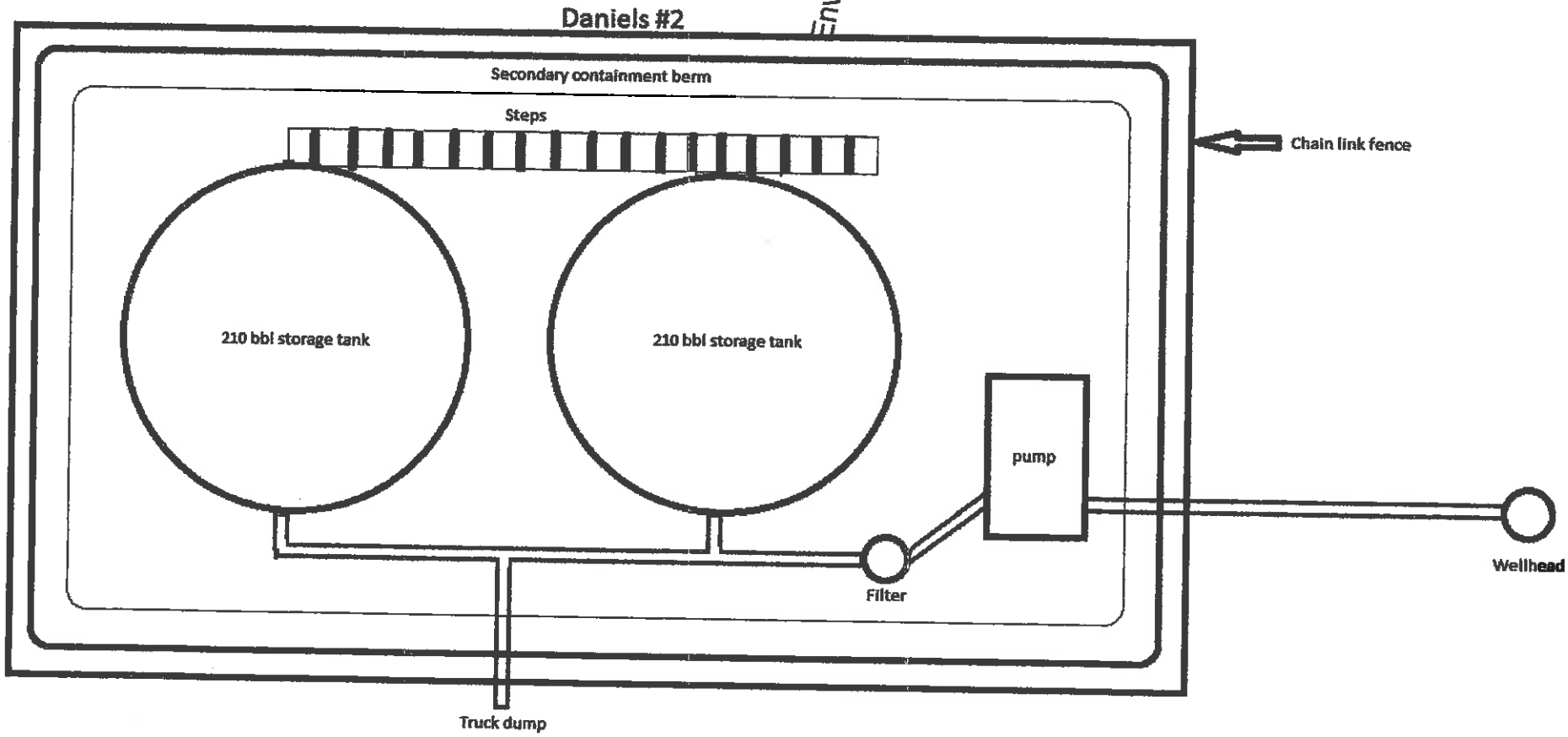

APPENDIX B
Storage Tank Inventory

API #	Tank ID	Tank Location (UTM NAD 83 Meters)		Installation Date	Tank Age (Months)	Construction Material (Steel, plastic, etc.)	Capacity (gallons)	Type of Fluid Stored	Volume of Fluid Stored (gallons)	Tank Type Single/Double Wall
		Northing	Easting							
47-081-00281	1	4182868.1	469282.9	pre 2000	168	Steel	8,400	Brine	8,400	Single
47-081-00281	2	4182868.1	469282.9	pre 2000	168	Steel	8,400	Brine	8,400	Single

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Lewis, Patrick E

From: Lewis, Patrick E
Sent: Wednesday, July 23, 2014 3:01 PM
To: 'glenwhitetraphill@outlook.com'
Subject: USDW's
Attachments: SBizhub 65414072314470.pdf

Please find attached a topo map with a one mile radius of a proposed UIC well. Would you please provide the location and depth of all Underground Sources of Drinking Water within the one mile radius. If there are no known USDW's in the area, please sign and notarize the attached affidavit and return to me.

Thank you in advance for your cooperation in this matter.

Pat Lewis

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Lewis, Patrick E

From: Lewis, Patrick E
Sent: Tuesday, July 29, 2014 11:38 AM
To: Glen White Trap Hill PSD
Subject: RE: USDW's

You can reach me at 304-533-3768

-----Original Message-----
From: Glen White Trap Hill PSD [mailto:glenwhitetraphill@outlook.com]
Sent: Tue 7/29/2014 7:49 AM
To: Lewis, Patrick E
Subject: Re: USDW's

Patrick, will you please send me your phone number? we have questions

Thanks,

Joe Perdue

Sent from Windows Mail

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From: Lewis, Patrick E
Sent: ?Wednesday?, ?July? ?23?, ?2014 ?3?:?01? ?PM
To: Glen White Trap Hill PSD

Please find attached a topo map with a one mile radius of a proposed UIC well. Would you please provide the location and depth of all Underground Sources of Drinking Water within the one mile radius. If there are no known USDW's in the area, please sign and notarize the attached affidavit and return to me.

Thank you in advance for your cooperation in this matter.

Lewis, Patrick E

From: Lewis, Patrick E
Sent: Wednesday, August 20, 2014 9:45 AM
To: 'glenwhitetraphill@outlook.com'
Subject: USDW's

Joe Perdue

I recently requested some information concerning water wells within a 1 mile radius of an underground injection well at the head of Claypool hollow. I have not heard back from you at this point and was wondering if there was any other information that you needed in order to determine if any wells were in the area.

Thanks...Pat

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Lewis, Patrick E

From: Lewis, Patrick E
Sent: Wednesday, September 03, 2014 9:01 AM
To: 'glenwhitetraphill@outlook.com'
Subject: USDW's
Attachments: SBizhub 65414090309040.pdf

I recently requested some information concerning water wells within a 1 mile radius of an underground injection well at the head of Claypool hollow. I have not heard back from you at this point and was wondering if there was any other information that you needed in order to determine if any wells were in the area. The lat/lon for the site is 37.792662 / -81.34883.

Thanks...Pat

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Lewis, Patrick E

From: Glen White Trap Hill PSD <glenwhitetraphill@outlook.com>
Sent: Tuesday, July 29, 2014 7:50 AM
To: Lewis, Patrick E
Subject: Re: USDW's

Patrick, will you please send me your phone number? we have questions

Thanks,
Joe Perdue

Sent from Windows Mail

From: Lewis, Patrick E
Sent: Wednesday, July 23, 2014 3:01 PM
To: Glen White Trap Hill PSD

Please find attached a topo map with a one mile radius of a proposed UIC well. Would you please provide the location and depth of all Underground Sources of Drinking Water within the one mile radius. If there are no known USDW's in the area, please sign and notarize the attached affidavit and return to me.

Thank you in advance for your cooperation in this matter.

Pat Lewis

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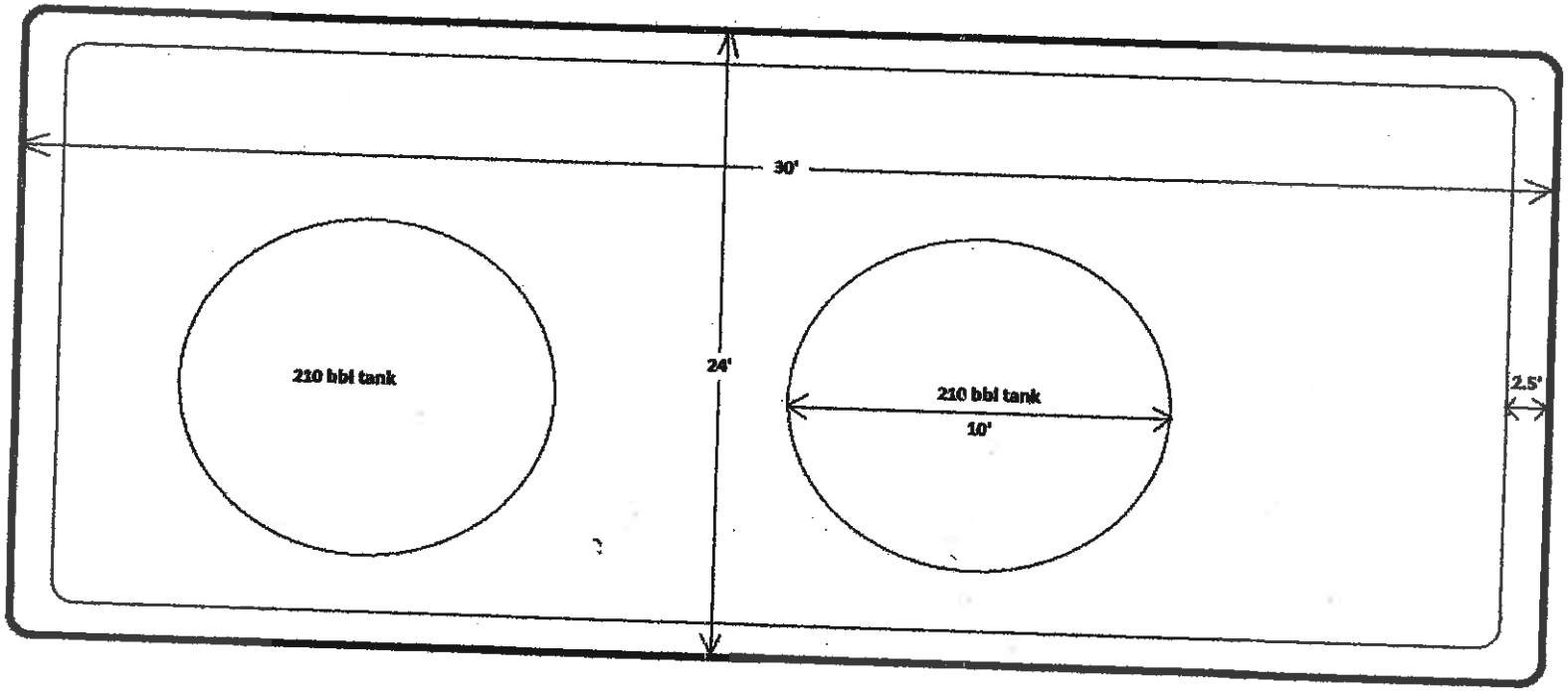
Daniels Secondary Containment



Calculations

LxWxHx7.48 gallons per cubic ft.

30'x24x2.5 x7.48 = 13,464 gallons

Tank Displacement 3.14x5x2.5x7.48 = 293.5 gallons x 2 =587 gallons

Total secondary containment = 12,877 gallons

210 bbl x 40 gpb = 8,400 gallons tank capacity

8,400 gallons x 1.1 = 9,240 gallons required capcity

Attachment A

Base Petroleum Inc. conducted a Mechanical Integrity Test on the annulus and cement record review test on the Daniels #2 well on 1/17/2014. All tests passed within the required guidelines.

Base Petroleum Inc. will conduct annual mechanical integrity test of all pipe at 1.5 times the maximum injection pressure. Copies of all tests will be maintained at Base Petroleum's office.

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Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: MICHAEL LEWIS

DATE/TIME SAMPLED:* 10-17-13 1530

SAMPLE ID: BASE PETROLEUM

DATE/TIME RECEIVED: 10-22-13 1655

SAMPLED BY:

SAMPLE ID	pH units	Cl⁻ mg/L	TDS mg/L	Na mg/L	Fe mg/L	Ba mg/L	Mn mg/L	Al mg/L	TOC mg/L	SPEC GRAV calc.
DANIELS #1 WELL	5.1	135000.	256500	57370.	73.1	507.	4.07	[1]<2.00	33.3	1.1673

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*Client Provided

**See Attached. The following results meet or exceed requirements and standards set forth by the certifying authority except where noted.

[1]RAN AT X100 DILUTION.

D. Bennett
APPROVED

MAIN OFFICE—POST OFFICE BOX 650 • BRIDGEPORT, WEST VIRGINIA 26330 • (304) 623-6549
CHARLESTON BRANCH—POST OFFICE BOX 8337 • SOUTH CHARLESTON, WEST VIRGINIA 25303-0337 • (304) 744-9864

Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: MICHAEL LEWIS

SAMPLE ID: BASE PETROLEUM

SAMPLED BY:

DATE/TIME SAMPLED:* 10-17-13 1500

DATE/TIME RECEIVED: 10-22-13 1655

SAMPLE ID	pH units	Cl^- mg/L	TDS mg/L	Na mg/L	Fe mg/L	Ba mg/L	Mn mg/L	Al mg/L	TOC mg/L
DANIELS #1 WELL CREEK SAMPLE	4.9	187.	467	67.2	1.77	.461	3.27	.92	2.91

*Client Provided

**See Attached. The following results meet or exceed requirements and standards set forth by the certifying authority except where noted.

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Daniels & Hurley

APPENDIX G

Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-00016	Jackson Resources CO.	Weir
039-00016	Jackson Resources Co.	Weir
039-00046	Jackson Resources Co.	Weir
039-00046	Jackson Resources Co.	Weir
039-00047	Jackson Resources Co	Salt Sand
039-00047	Jackson Resources Co.	Salt Sand
019-00672	Harper, Hayden Energy KA, LLC	Weir
019-00660	Harper, Hayden Energy KA, LLC	Weir
019-00692	Harper, Hayden Energy KA, LLC	Big injun
019-00693	Harper, Hayden Energy KA, LLC	Weir
019-00707	Harper, Hayden Energy KA, LLC	Big injun
019-00716	Harper, Hayden Energy KA, LLC	Big injun
019-00717	Harper, Hayden Energy KA, LLC	Weir
019-00725	Harper, Hayden Energy KA, LLC	Weir
019-00726	Harper, Hayden Energy KA, LLC	Big injun
019-00727	Harper, Hayden Energy KA, LLC	Big injun
019-00728	Harper, Hayden Energy KA, LLC	Big injun
019-00729	Harper, Hayden Energy KA, LLC	Big injun
019-00732	Harper, Hayden Energy KA, LLC	Big injun
019-00733	Harper, Hayden Energy KA, LLC	Big injun
019-00738	Harper, Hayden Energy KA, LLC	Weir
019-00740	Harper, Hayden Energy KA, LLC	Weir
019-00741	Harper, Hayden Energy KA, LLC	Weir
019-00742	Harper, Hayden Energy KA, LLC	Big injun
019-00745	Harper, Hayden Energy KA, LLC	Big injun
019-00746	Harper, Hayden Energy KA, LLC	Big injun
019-00747	Harper, Hayden Energy KA, LLC	Big injun

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
019-00748	Harper, Hayden Energy KA, LLC	Weir
019-00749	Harper, Hayden Energy KA, LLC	Weir
019-00750	Harper, Hayden Energy KA, LLC	Weir
019-00762	Harper, Hayden Energy KA, LLC	Weir
019-00770	Harper, Hayden Energy KA, LLC	Big injun
019-00771	Harper, Hayden Energy KA, LLC	Weir
019-00772	Harper, Hayden Energy KA, LLC	Big injun
019-00773	Harper, Hayden Energy KA, LLC	Big injun
019-00774	Harper, Hayden Energy KA, LLC	Big injun
019-00775	XTO Energy, INC	Weir
019-00776	Harper, Hayden Energy KA, LLC	Weir
019-00777	Harper, Hayden Energy KA, LLC	Weir
019-00778	Harper, Hayden Energy KA, LLC	Big injun
039-01040	Exco Resources (PA), LLC	Weir
039-01064	Exco Resources (PA), LLC	Weir
039-01080	Exco Resources (PA) LLC	Keener
039-01090	Exco Resources (PA) LLC	Shale
039-01136	Exco Resources (PA) LLC	Shale
039-02046	Exco Resources (PA) LLC	Big injun
039-02103	Exco Resources (PA) LLC	Big injun
039-02104	Exco Resources (PA) LLC	Big injun
039-02124	Exco Resources (PA) LLC	Big injun
039-02138	Exco Resources (PA) LLC	Big injun
039-02150	Exco Resources (PA) LLC	Big injun
039-02158	Exco Resources (PA) LLC	Big injun
039-02168	Exco Resources (PA) LLC	Big injun
039-02170	Exco Resources (PA) LLC	Big injun

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-02238	Exco Resources (PA) LLC	Big injun
039-02288	Exco Resources (PA) LLC	Big injun
039-02312	Exco Resources (PA) LLC	Big injun
039-02327	Exco Resources (PA) LLC	Big injun
039-02329	Exco Resources (PA) LLC	Big injun
039-02350	Exco Resources (PA) LLC	Big injun
039-02353	Exco Resources (PA) LLC	Big injun
039-02365	Exco Resources (PA) LLC	Big injun
039-02367	Exco Resources (PA) LLC	Big injun
039-02368	Exco Resources (PA) LLC	Big injun
039-02383	Exco Resources (PA) LLC	Big injun
039-02406	Exco Resources (PA) LLC	Big injun
039-02419	Exco Resources (PA) LLC	Big injun
039-02432	Exco Resources (PA) LLC	Big injun
039-02435	Exco Resources (PA) LLC	Big injun
039-02436	Exco Resources (PA) LLC	Big injun
039-02471	Exco Resources (PA) LLC	Big injun
039-02479	Exco Resources (PA) LLC	Big injun
039-02494	Exco Resources (PA) LLC	Big injun
039-02497	Exco Resources (PA) LLC	Big injun
039-02503	Exco Resources (PA) LLC	Big injun
039-02507	Exco Resources (PA) LLC	Weir
039-02514	Exco Resources (PA) LLC	Big injun
039-02642	Exco Resources (PA) LLC	Big injun
039-02648	Exco Resources (PA) LLC	Big injun
039-02766	Exco Resources (PA) LLC	Big injun
039-02820	Exco Resources (PA) LLC	Big injun

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-02823	Exco Resources (PA) LLC	Big injun
039-02825	Exco Resources (PA) LLC	Big injun
039-02827	Exco Resources (PA) LLC	Big injun
039-03381	Exco Resources (PA) LLC	Big injun
039-03391	Exco Resources (PA) LLC	Big injun
039-03394	Exco Resources (PA) LLC	Big injun
039-03395	Exco Resources (PA) LLC	Big injun
039-03396	Exco Resources (PA) LLC	Big injun
039-03478	Exco Resources (PA) LLC	Big injun
039-03606	Exco Resources (PA) LLC	Big injun
039-03607	Exco Resources (PA) LLC	Big injun
039-03811	Exco Resources (PA) LLC	Weir
039-03821	Exco Resources (PA) LLC	Big injun
039-03847	Exco Resources (PA) LLC	Big injun
039-03863	Exco Resources (PA) LLC	Big injun
039-03864	Exco Resources (PA) LLC	Shale
039-03881	Exco Resources (PA) LLC	Shale
039-03892	Exco Resources (PA) LLC	Shale
039-03897	Exco Resources (PA) LLC	Shale
039-03907	Exco Resources (PA) LLC	Shale
039-03945	Exco Resources (PA) LLC	Big injun
039-04014	Exco Resources (PA) LLC	Big injun
039-04044	Exco Resources (PA) LLC	Shale
039-04138	Exco Resources (PA) LLC	Big injun
039-04147	Exco Resources (PA) LLC	Big injun
039-04150	Exco Resources (PA) LLC	Big injun
039-04178	Exco Resources (PA) LLC	Big injun

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-04206	Exco Resources (PA) LLC	Big injun
039-04214	Exco Resources (PA) LLC	Big injun
039-04257	Exco Resources (PA) LLC	Big injun
039-04519	Exco Resources (PA) LLC	Big injun
039-04596	Exco Resources (PA) LLC	Big injun
039-04646	Exco Resources (PA) LLC	Big injun
039-04648	Exco Resources (PA) LLC	Big injun
039-04662	Exco Resources (PA) LLC	Big injun
039-04804	Exco Resources (PA) LLC	Big injun
039-04806	Exco Resources (PA) LLC	Big injun
039-04862	Exco Resources (PA) LLC	Big injun
039-04863	Exco Resources (PA) LLC	Big injun
039-04865	Exco Resources (PA) LLC	Big injun
039-04868	Exco Resources (PA) LLC	Big injun
039-04892	Exco Resources (PA) LLC	Big injun
039-04984	Exco Resources (PA) LLC	Big injun
039-04986	Exco Resources (PA) LLC	Big injun
039-05003	Exco Resources (PA) LLC	Big injun
039-05073	Exco Resources (PA) LLC	Big injun
039-05074	Exco Resources (PA) LLC	Big injun
039-05075	Exco Resources (PA) LLC	Big injun
039-05250	Exco Resources (PA) LLC	Shale
039-05467	Exco Resources (PA) LLC	Shale
039-05616	Exco Resources (PA) LLC	Oriskany
039-05666	Exco Resources (PA) LLC	Shale
039-05720	Exco Resources (PA) LLC	Shale
039-05826	Exco Resources (PA) LLC	Big injun

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-05827	Exco Resources (PA) LLC	Big injun
039-05828	Exco Resources (PA) LLC	Big injun
039-05829	Exco Resources (PA) LLC	Big injun
039-05861	Exco Resources (PA) LLC	Shale
039-06063	Exco Resources (PA) LLC	Shale
005-00206	Base Petroleum, Inc.	Berea Ss
011-00694	Base Petroleum, Inc.	Big White Slate
011-00811	Base Petroleum, Inc.	Shale
019-00469	Base Petroleum, Inc.	Weir
019-00470	Base Petroleum, Inc.	Weir
019-00476	Base Petroleum, Inc.	Weir
035-01224	Base Petroleum, Inc.	Newburg
039-00927	Base Petroleum, Inc.	Big Lime
039-00939	Base Petroleum, Inc.	Big Lime
039-00954	Base Petroleum, Inc.	Big Lime
039-00977	Base Petroleum, Inc.	Big Lime
039-01287	Base Petroleum, Inc.	Big Lime
039-01386	Base Petroleum, Inc.	Big Lime
039-01419	Base Petroleum, Inc.	Big Lime
039-01803	Base Petroleum, Inc.	Big Lime
039-02917	Base Petroleum, Inc.	Berea Ss
039-02919	Base Petroleum, Inc.	Weir
039-02921	Base Petroleum, Inc.	Weir
039-04798	Base Petroleum, Inc.	Weir
039-04843	Base Petroleum, Inc.	Big Lime
039-04898	Base Petroleum, Inc.	Weir
039-04898	Base Petroleum, Inc.	Weir

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-04912	Base Petroleum, Inc.	Weir
039-04957	Base Petroleum, Inc.	Weir
039-04962	Base Petroleum, Inc.	Weir
039-06017	Base Petroleum, Inc.	Shale
039-06021	Base Petroleum, Inc	Shale
039-06040	Base Petroleum, Inc.	Shale
039-06041	Base Petroleum, Inc.	Shale
039-06042	Base Petroleum, Inc.	Shale
039-06044	Base Petroleum, Inc.	Shale
039-06191	Base Petroleum, Inc.	Shale
039-06192	Base Petroleum, Inc.	Shale
039-06194	Base Petroleum, Inc.	Shale
039-06197	Base Petroleum, Inc.	Shale
039-06213	Base Petroleum, Inc	Shale
039-06217	Base Petroleum, Inc.	Shale
047-00562	Base Petroleum, Inc.	Berea ss
053-00092	Base Petroleum, Inc.	2nd Berea
053-00102	Base Petroleum, Inc.	2nd Berea
053-00103	Base Petroleum, Inc.	2nd Berea
053-00128	Base Petroleum, Inc.	2nd Berea
053-00141	Base Petroleum, Inc.	Shale
053-00142	Base Petroleum, Inc.	2nd Berea
053-00160	Base Petroleum, Inc.	Shale
053-00192	Base Petroleum, Inc.	Java: Hanover
053-00228	Base Petroleum, Inc.	Sonyea Group
053-00230	Base Petroleum, Inc.	2nd Berea
053-00245	Base Petroleum, Inc.	Shale

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
053-00253	Base Petroleum, Inc.	Shale
053-00254	Base Petroleum, Inc.	Shale
053-00273	Base Petroleum, Inc.	Shale
053-00275	Base Petroleum, Inc.	Sonyea Group
053-00278	Base Petroleum, Inc.	Shale
053-00284	Base Petroleum, Inc.	Shale
053-00286	Base Petroleum, Inc.	Shale
053-00364	Base Petroleum, Inc.	2nd Berea
053-00394	Base Petroleum, Inc.	2nd Berea
053-00395	Base Petroleum, Inc.	2nd Berea
053-00400	Base Petroleum, Inc.	2nd Berea
053-00403	Base Petroleum, Inc.	2nd Berea
053-00404	Base Petroleum, Inc.	2nd Berea
053-00405.	Base Petroleum, Inc.	2nd Berea
053-00408	Base Petroleum, Inc.	2nd Berea
053-00409	Base Petroleum, Inc.	2nd Berea
053-00413	Base Petroleum, Inc.	2nd Berea
053-00414	Base Petroleum, Inc.	2nd Berea
053-00473	Base Petroleum, Inc.	Rhinestreet Sh
053-00474	Base Petroleum, Inc.	Shale
053-00476	Base Petroleum, Inc.	Shale
053-00479	Base Petroleum, Inc.	Shale
053-00481	Base Petroleum, Inc.	Rhinestreet Sh
053-00486	Base Petroleum, Inc.	Rhinestreet Sh
053-00493	Base Petroleum, Inc.	Shale
053-00495	Base Petroleum, Inc.	Shale
053-00496	Base Petroleum, Inc.	Shale

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
053-00500	Base Petroleum, Inc.	Pennsylvanian System
053-00501	Base Petroleum, Inc.	Shale
067-00867	Base Petroleum, Inc.	Fifth
067-00875	Base Petroleum, Inc.	Big Lime
079-01041	Base Petroleum, Inc.	Rhinestreet Sh
079-01173	Base Petroleum, Inc.	Shale
081-00281	Base Petroleum, Inc.	Weir
005-01557	Simcon Oil and Gas Corporation	Weir
011-00052	Simcon Oil and Gas Corp.	Shale
011-00053	Simcon Oil and Gas Corp.	Shale
011-00071	Simcon Oil & Gas Corp.	Weir
011-00348	Simcon Oil + Gas Corp.	Shale
011-00417	Simcon Oil + Gas Corp.	Shale
011-00545	Simcon Oil + Gas Corp.	Salt Sand
011-00548	Simcon Oil + Gas Corp.	Shale
011-00631	Simcon Oil + Gas Corp.	Berea Ss
011-00637	Simcon Oil + Gas Corp.	Greenbrier Group
011-00639	Simcon Oil + Gas Corp.	Berea Ss
011-00652	Simcon Oil + Gas Corp.	Berea Ss
011-00653	Simcon Oil + Gas Corp.	Shale
011-00655	Simcon Oil + Gas Corp.	Weir
011-00658	Simcon Oil + Gas Corp.	Weir
011-00667	Simcon Oil + Gas Corp.	Berea Ss
011-00850	Simcon Oil + Gas Corp.	Weir
011-00873	Simcon Oil + Gas Corp.	Berea Ss
011-00874	Simcon Oil + Gas Corp.	Shale
011-00875	Simcon Oil + Gas Corp.	Berea Ss

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
011-00876	Simcon Oil + Gas Corp.	Berea Ss
011-00878	Simcon Oil + Gas Corp.	Berea Ss
011-00879	Simcon Oil + Gas Corp.	Shale
011-00880	Simcon Oil + Gas Corp.	Shale
011-00881	Simcon Oil + Gas Corp.	Shale
011-00883	Simcon Oil + Gas Corp.	Berea Ss
011-00885	Simcon Oil + Gas Corp.	Berea Ss
011-00886	Simcon Oil + Gas Corp.	Berea Ss
035-01206	Simcon Oil + Gas Corp.	Newburg
035-01206	Simcon Oil + Gas Corp.	Newburg
035-01206	Simcon Oil + Gas Corp.	Newburg
035-01215	Simcon Oil + Gas Corp.	Newburg
035-01223	Simcon Oil + Gas Corp.	Newburg
035-01226	Simcon Oil + Gas Corp.	Newburg
039-00234	Simcon Oil + Gas Corp.	Oriskany
039-02948	Simcon Oil + Gas Corp.	Big injun
039-03708	Simcon Oil + Gas Corp.	Weir
043-02382	Simcon Oil + Gas Corp.	Berea Ss
043-02398	Simcon Oil + Gas Corp.	Berea Ss
043-02905	Simcon Oil + Gas Corp.	Berea Ss
043-02906	Simcon Oil + Gas Corp.	Berea Ss
043-02910	Simcon Oil + Gas Corp.	Berea Ss
043-02911	Simcon Oil + Gas Corp.	Berea Ss
043-02912	Simcon Oil + Gas Corp.	Berea Ss
079-00403	Simcon Oil + Gas Corp.	Berea Ss
079-01003	Simcon Oil + Gas Corp.	Berea Ss
079-01172	Simcon Oil + Gas Corp.	Berea Ss

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
079-01216	Simcon Oil & Gas Corp.	Berea Ss
079-01217	Simcon Oil & Gas Corp.	Berea Ss
079-01218	Simcon Oil & Gas Corp.	Berea Ss
079-01219	Simcon Oil & Gas Corp.	Berea Ss
079-01220	Simcon Oil & Gas Corp.	Berea Ss
099-00200	Simcon Oil & Gas Corp.	Keefer Ss
105-00416	Simcon Oil & Gas Corp.	Java Fm
039-03238	McKown Cl. & Son, Inc.	Weir
039-03239	McKown Cl. & Son, Inc.	Weir
039-03240	McKown Cl. & Son, Inc	Weir
039-03241	McKown Cl. & Son, Inc.	Weir
039-03241	McKown Cl. & Son, Inc	Weir
039-03242	McKown Cl. & Son, Inc	Weir
039-03242	McKown Cl. & Son, Inc	Weir
039-03243	McKown Cl. & Son, Inc	Weir
039-03243	McKown Cl. & Son, Inc	Weir
039-03245	McKown Cl. & Son, Inc	Weir
039-03245	McKown Cl. & Son, Inc	Weir
039-03246	McKown Cl. & Son, Inc	Weir
039-03246	McKown Cl. & Son, Inc	Weir
039-03250	McKown Cl. & Son, Inc	Weir
039-03252	McKown Cl. & Son, Inc	Weir
039-03253	McKown Cl. & Son, Inc	Weir
039-03254	McKown Cl. & Son, Inc	Weir
039-03258	McKown Cl. & Son, Inc	Weir
039-03261	McKown Cl. & Son, Inc	Weir
039-03262	McKown Cl. & Son, Inc	Weir

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Wells Serviced by Injection Wells

API #	Operator	Producing Formation
039-03264	McKown Cl. + Son, Inc	Weir
039-03268	McKown Cl. + Son, Inc	Weir
039-03315	McKown Cl + Son, Inc	Weir
039-03327	McKown Cl. + Son, Inc	Weir
039-03330	McKown Cl + Son, Inc	Weir
039-03332	McKown Cl. + Son, Inc	Weir
039-03409	McKown Cl. + Son, Inc	Weir
039-04987	McKown Cl. + Son, Inc	Weir
039-04987	McKown Cl. + Son, Inc	Weir
039-04000	McKown Cl. + Son, Inc	Weir
039-04000	McKown Cl. + Son, Inc	Weir

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APPENDIX H

GROUNDWATER PROTECTION PLAN

Facility Name: Base Petroleum Daniels #2 SWD

County: Raleigh

Facility Location:

Postal Service Address:	Claypool area of the Claypool Branch Watershed	
Latitude and Longitude:	37.792662 / -81.348883	

Contact Information:

Person:	John Wilcox
Phone Number:	304-756-2827
E-mail Address:	jhnwilcox@aol.com

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Date: 8/23/4

1. A list of all operations that may contaminate the groundwater.

There is one transfer point where tanker trucks operated by Kermit Tyree Contracting are able to dump produced fluids from various wells as indicated in Appendix G into a series of two 210 bbl. storage tanks. Fluids are then pumped approximately 50 feet to the salt water disposal well.

2. A description of procedures and facilities used to protect groundwater quality from the list of potential contaminant sources above.

Tanker trucks are backed onto the site to the transfer point which is located directly above the tank battery and the secondary containment. The transfer point has a plastic tub lined with absorbent pads to collect any drippings from the transfer. Any line breaks in the transfer would be contained in the secondary containment. The secondary containment provides 12,877 gallons of storage capacity which is significantly more than the 9,240 gallons of required capacity by law. An illustration of the secondary containment is provided. Mechanical integrity tests were conducted and passed all requirements on the facility on 1/17/14.

3. List procedures to be used when designing and adding new equipment or operations.

No new equipment or operations are anticipated for this facility at this time.

4. Summarize all activities at your facility that are already regulated for groundwater protection.

UIC regulations are applicable to the disposal well and oil and gas laws and regulations are applicable to all associated operations.

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

Little information exists for the general area due to the lack of water supply wells. Historical information and limited water samples from the area indicate fair water quality due to typical higher iron concentrations throughout many areas of the state.

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6. Provide a statement that no waste material will be used for deicing or fill material on the property unless allowed by another rule.

No waste material will be used for deicing or fill material on the property.

7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

Kermit Tyree Contracting currently operates this well for Base Petroleum Inc. and will provide employees instruction and training in the recognition and prevention of groundwater contamination and the potential sources of contamination on quarterly basis. Employees will be trained on proper procedures for filling tanker trucks at the producing well locations in order to eliminate contamination at other sites as well as transportation of those fluids. Once the tanker truck enters the disposal facility, employees will be given instruction as to the proper procedures for connecting to the transfer station and pumping of the fluids into the storage tanks. Employees will be instructed on measures to be taken in the event of a spill and will be provided with materials in order to begin clean up of any spills. The proper procedures and contacts for the reporting of any spills will be provided to all employees. Instruction and training for employees will be updated as conditions and requirements change.

8. Include provisions for inspections of all GPP elements and equipment. Inspections must be made quarterly at a minimum.

Base Petroleum will conduct quarterly inspections using the attached form. All GPP elements and equipment will inspected and documented and copies will be maintained at Base Petroleum's office. Mechanical integrity test will be conducted every five years.

Signature: _____

Date: _____

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Base Petroleum Inc. Groundwater Protection Inspection Form

Date _____ Facility Name _____ API Number _____

Tank Condition _____

_____

Pipeline Condition _____

_____

Transfer Point and Hose Condition _____

_____

Secondary Containment Condition _____

_____

Filter Condition _____

Any Findings of Contamination _____

_____

Actions Taken to Eliminate Sources _____

_____

Other Findings _____

_____

Person Conducting Inspection _____

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Base Petroleum
Plugging Procedure
47-081-00281 Daniels # 1 Disposal Well

Rig up the rig

Run the tubing down the hole to 3,200'

Gel the hole

Cement from 3,200' to 3,000'

Cement from 2,700' to 2,500'

Pull the tubing from the hole

Free point and cut the 4 ½" casing at 2,100'

Pull the 4 ½" casing from the hole

Run tubing in the hole to 2,150'

Gel the hole

Cement from 2,150' to 2,050'

Cement from 1,600' to 1,500'

Pull the tubing from the hole

Free point and cut the 9 5/8" casing at 1,300'

Pull the 9 5/8" casing from the hole

Run tubing in the hole to 1,350'

Cement from 1,350' to 1,250'

Cement from 1,100' to 950'

Cement from 850' to 750'

Cement from 400' to 300'

Cement from 100' to the surface

Pull the 13 3/8" conductor casing from the hole

Erect a monument with the API number attached

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APPENDIX J

Site Security for Commercial Facilities

Provide a detailed description of the method(s) utilized at the facility to restrict or prohibit illegal dumping of unauthorized waste or vandalism at the facility.

1. Complete enclosure of all wells, holding tank/pits and manifold assemblies within a chain link or other suitable fencing; and

2. Require that all gates and other entry points be locked when the facility is unattended; or

3. Providing tamper-proof seals for the master valve on each well (a "lock-out" or chain & padlock system would be more secure; however, these devices could create a potential safety hazard if the well needed to be quickly shut in due to an emergency); and

4. Installing locking caps on all valves and connections on holding tanks, unloading racks, and headers.

Base Petroleum Inc. will maintain site security at the disposal facility starting at the main haulroad entrance with a locked metal gate with tamper proof lock access. The disposal facility and all holding tanks are secured with a fully enclosed chain link fence with the entrance being locked with heavy metal chain and padlock. Alltanks and valves will be secured with padlocks as well as any groundwater protection supply containers. Cameras may also be used to deter vandalism.

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SECTION 5: Desciption of the injection zone

A. Injection Zone - Weir Sand

1. General Desciption - The Weir Sand is part of the Mississippian Pocono Series.

The Weir Sand immediately underlies the McCrady Shale and consist of fine to medium grain well rounded quartzitic sand grains.

The Weir must be fraced, usually by hyro-fracturing and results have been good in certain areas. The Weir has a strong production history in West Virginia, but in this area the Weir is wet.

2. Formation Thickness - Weir Sand
a. Total Thickness - 64' from 3178' to 3242'.
b. Thickness of injection area that was perforated in 4 1/2 casing - 7' from 3190' to 3196', see attached record.
c. See attached electric logs for correlation.

3. Permiability - Weir Sand
a. Permiability for the Weir Sand in this area can be estimated to be in the range from less than 0.1 to 2.0 millidarcys. This is a typical permiability range for a producing sandy siltstone.
b. Permiability can also be determined by a pressure build up test or by coring the formation and examining the pore space characteristics via thin section.
c. The permiability of the Weir Sand in this area is caused by the pore space characteristics of the pores themselves and also the pore interconnections. The interconnections determine the passageway thickness and thus the permiability.
d. Permiability can also be caused by fracturing. The fracturing of the Weir in this area is very minimal. Because of this, the Weir would make a very good disposal candidate as the disposed fluid is less likely to migrate to other formations.

4. Porosity - As the attached electric log indicates, the porosity of the Weir interval ranges from 2% to 24%.

5. Water Saturation - The attached Induction log indicates a water saturation of 40%. Also the completion report indicated the Weir was wet.

B. Injection Pressure.

The maximum bottom-hole injection pressure (MBHIP) will not

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exceed 2552#. This was determined by multiplying .8 psi/ft. by the top injection zone perforation which is 3190'. This MBHIP will allow for a maximum wellhead injection pressure of 1059#. This will allow for a hydrostatic weight of 1492#.

All well test performed to date indicate that the well will not need any horsepower to inject, that the hydrostatic weight will be sufficient by itself to inject into the formation. The well is anticipated to take fluid on a vacuum.

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SECTION 9: Electric log data

The following logs are attached herewith.

A. Compensated Density Log
   1. Weir Sand section is highlighted in yellow.
   2. Thickness is 64' from 3178' - 3242'.
   3. Subsea elevation is -1154.
   4. Average porosity is 18%.

B. Induction Log - Wier Sand 5 ohms.

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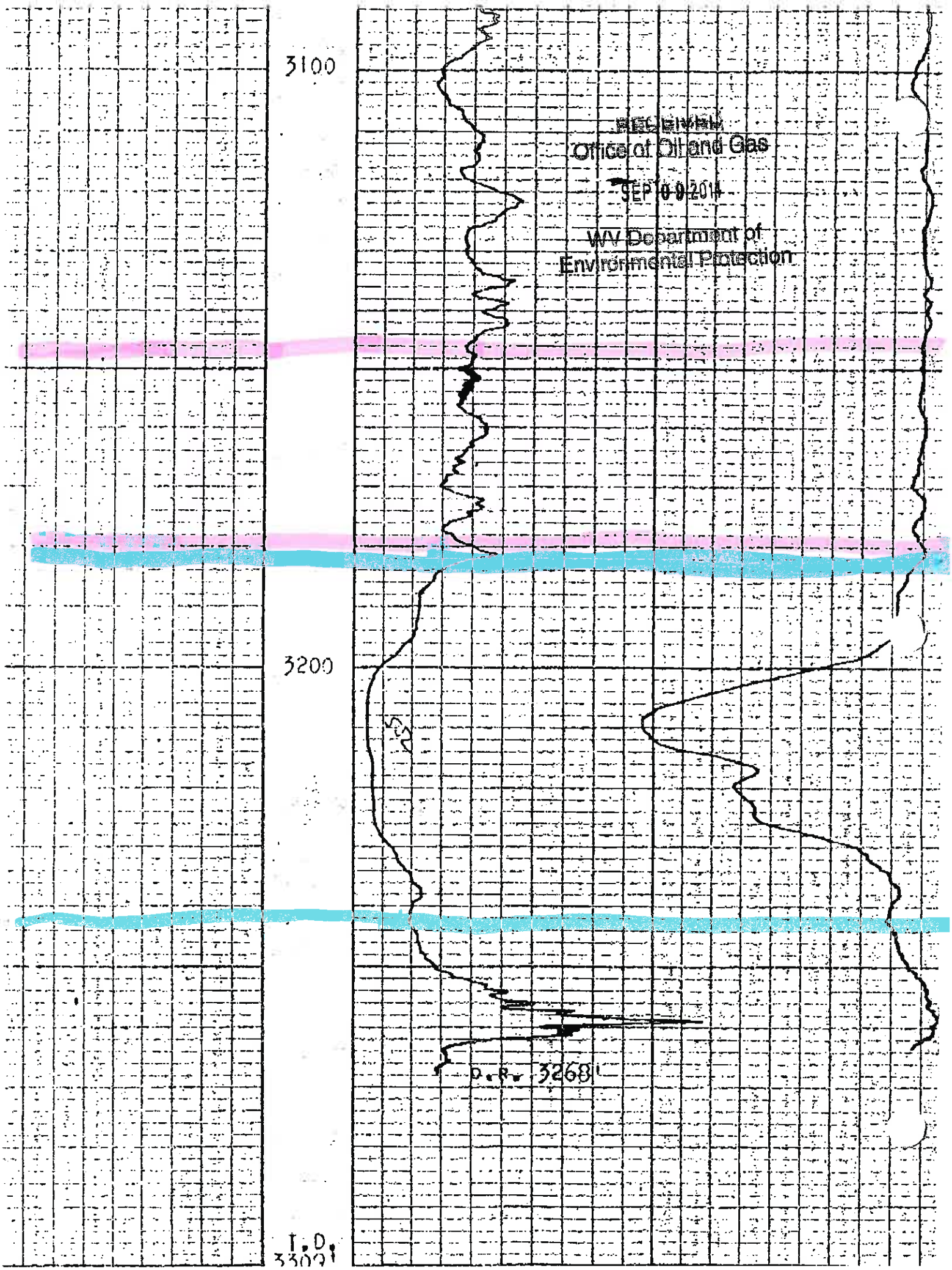
The logs indicate that the McCrady Shale will be the confining layer which would prevent the upward migration of injected fluids out of the proposed Weir Sand disposal zone. This shale section which is embedded with sand stringers is an excellent formation to have as the cap formation primarily due to its low permiability. Unless the McCrady is fractured via stimulation, then it essentialy has no permiability. The McCrady does not indicate any fractures and since it was not stimulated there is no permiabilty that would allow fluid travel.

This best indication of the ecellent nature of the McCrady Shales a cap rock is that the Weir is currently wet. This indicates that the McCrady has performed well as a cap rock by restricting the upward migration of the already naturally occuring fluid in the Weir.



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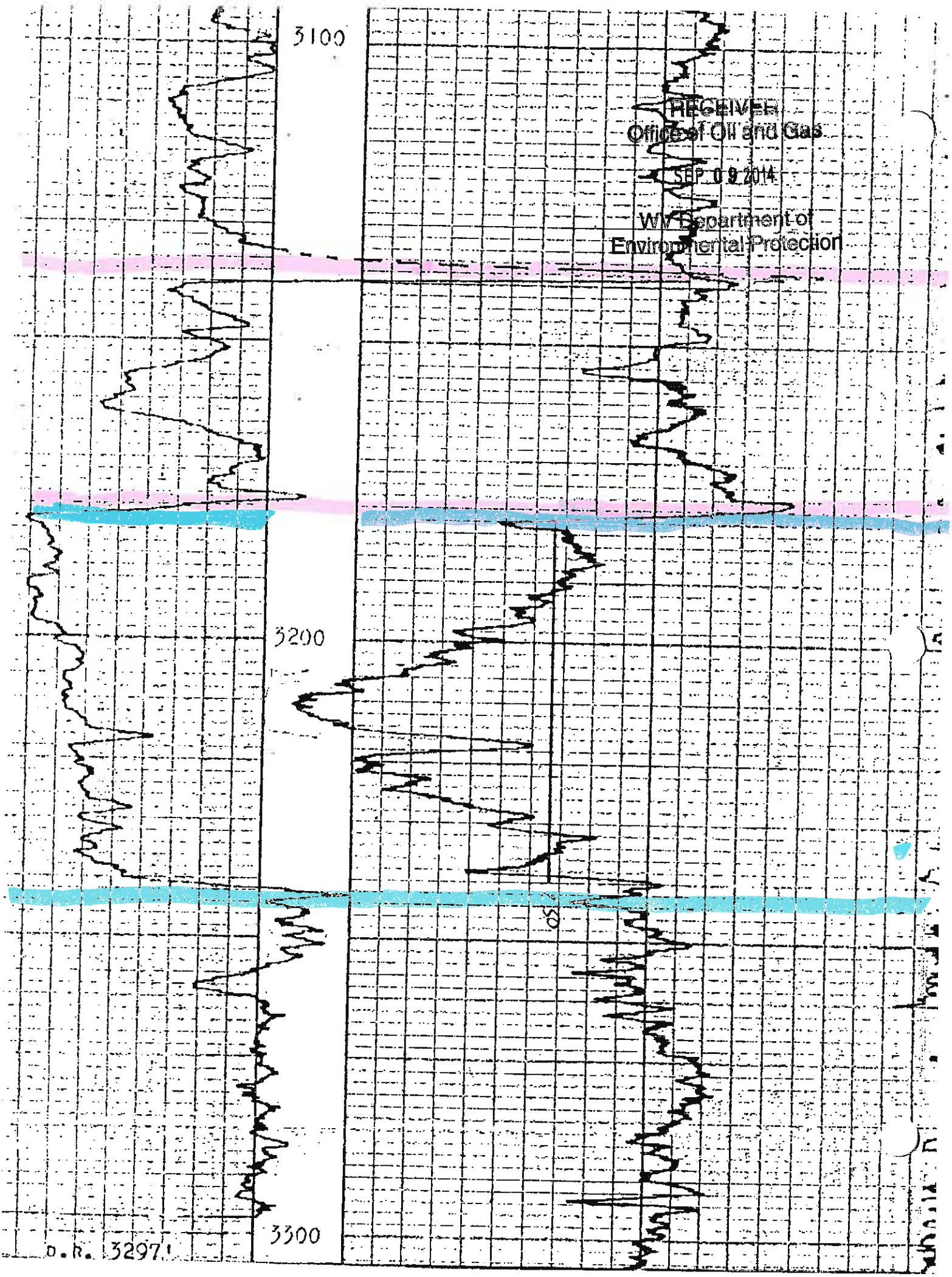

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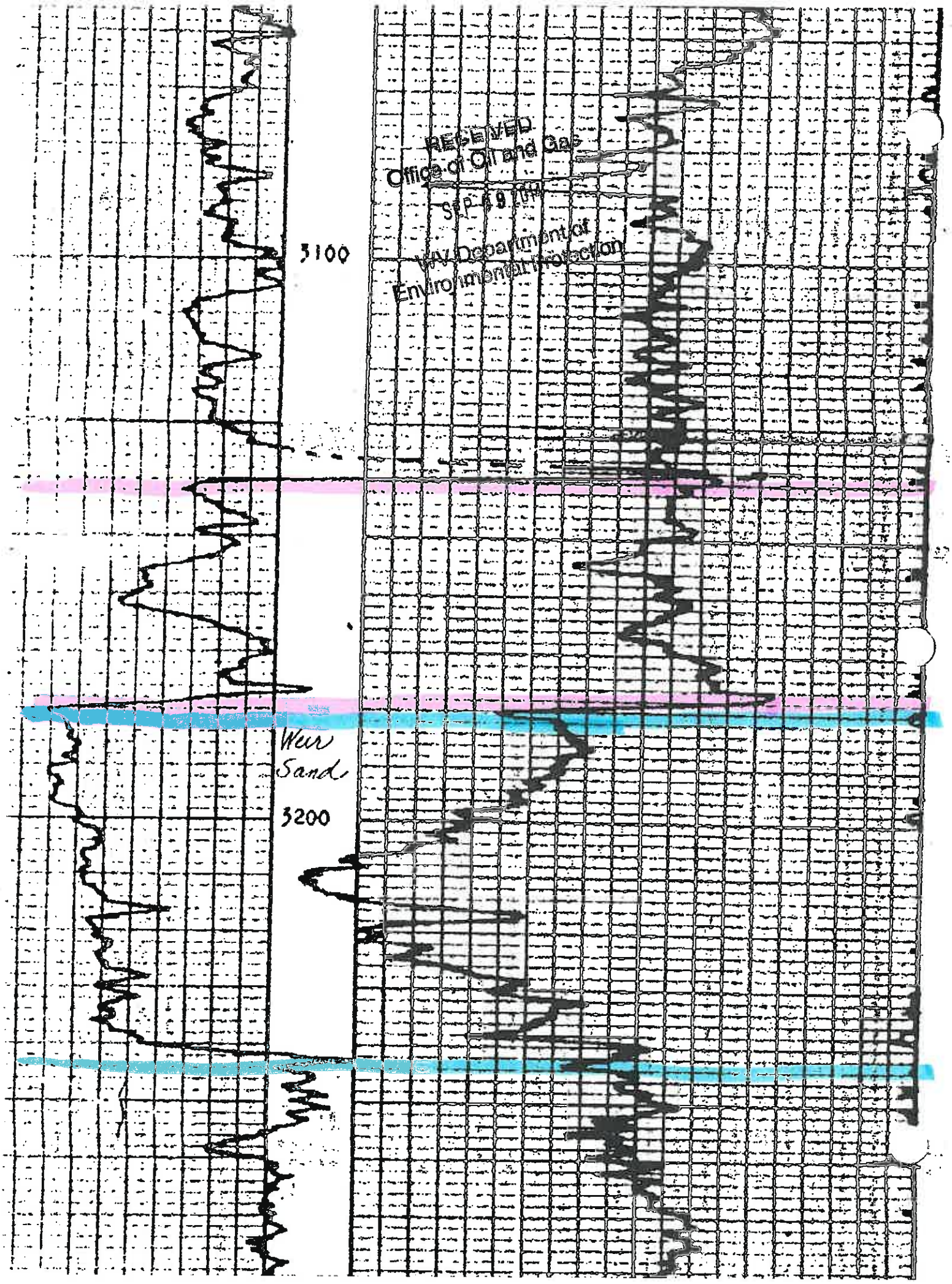

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THIS WORK WAS PERFORMED UNDER EMP/GRM/GRM of BY-PRODUCT MATERIAL LICENSE # 35-5651-1.
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Birdwell

Density Log
AND GAMMA RAY LOG

COMPANY WESTERN POCAHONTAS CORPORATION

WELL DR. ROSS P. DANIEL # 2

FIELD TRAP HILL DISTRICT

COUNTY RALEIGH 281 STATE WEST VA.

LOCATION:

BEST COPY available

SEC. ____ TWP. ____ RGE. ____

OTHER SERVICES
TEMP
NEUTRON
INDUCTION

ELEVATIONS:
KB. 2035.7'
DF. 2034.7'
GL. 2023.7'

PERMANENT DATUM GROUND LEVEL, ELEV. 2023.7'
LOG MEASURED FROM K.B., 12 ft. above perm. datum
DRILLING MEASURED FROM K.B., 12 FT. A.B.G.L.

DATE	12 JAN 1966	12 JAN 1966
RUN NO.	ONE	ONE
TYPE LOG	GAMMA	DENSITY
DEPTH - DRILLER	3300'	3300'
DEPTH - LOGGER	3309'	3309'
BOTTOM LOGGED INTERVAL	3297'	3309'
TOP LOGGED INTERVAL	2490'	2500'
TYPE FLUID IN HOLE	WATER	WATER
SALINITY PPM CL.	NA	NA
DENSITY LB./GAL.	NA	NA
LEVEL	3304'	3304'
MAX. REC. TEMP. - DEG. F	84.25°	84.25°
OPERATING RIG TIME	1.5HOURS	TOTAL TIME
RECORDED BY	MULLINS	MULLINS
WITNESSED BY	MR. SUPCOE	MR. SUPCOE
LOCATION	#7, SO. CHARLESTON, WEST VIRGINIA	

RUN NO.	BORE HOLE RECORD BIT	FROM	TO	CASING RECORD SIZE	WGT.	FROM	TO
1	6¾"	2504'	TD	9-5/8	NA	0	1498'
				7"	NA	0	2504'

EQUIPMENT DATA

	GAMMA-GAMMA	GENERAL
RUN NO.	ONE	
TOOL MODEL NO.	1 ARC	
DIAMETER	3-5/8"	
DETECT. MODEL NO.	MG-70	
TYPE	GM	
HOIST TRUCK NO.		2039
DRT. TRUCK NO.		2039
TOOL SERIAL NO.		5
LOCATION		#7

LOGGING DATA

RUN NO.	GENERAL DEPTHS FROM	TO	SPEED FT/MIN	GAMMA-GAMMA CALIBRATION DATA	T.C. SEC.	SENS. SETTINGS	ZERO DIV. 1 OR 2	COUNTS PER MIN. PER LOG DIV.
1	2493'	3297'	30	BLOCK TYPE ALUM.	2	20K	0	16.5 API UN
1	2500'	3309'	30	DENSITY - GMS/CC 2.62	2	60K	GR	1000
				K COUNTS PER MINUTE - BLOCK 15K				
				CONTROLLER DRIVE				
				GENERATOR FREQUENCY				

REFERENCE OTHERWISE WELL RECORDS

REMARKS: SURVEY RUN FOR PURPOSE OF FORMATION CORRELATION AND EVALUATION.
NAI INFORMATION NOT AVAILABLE.

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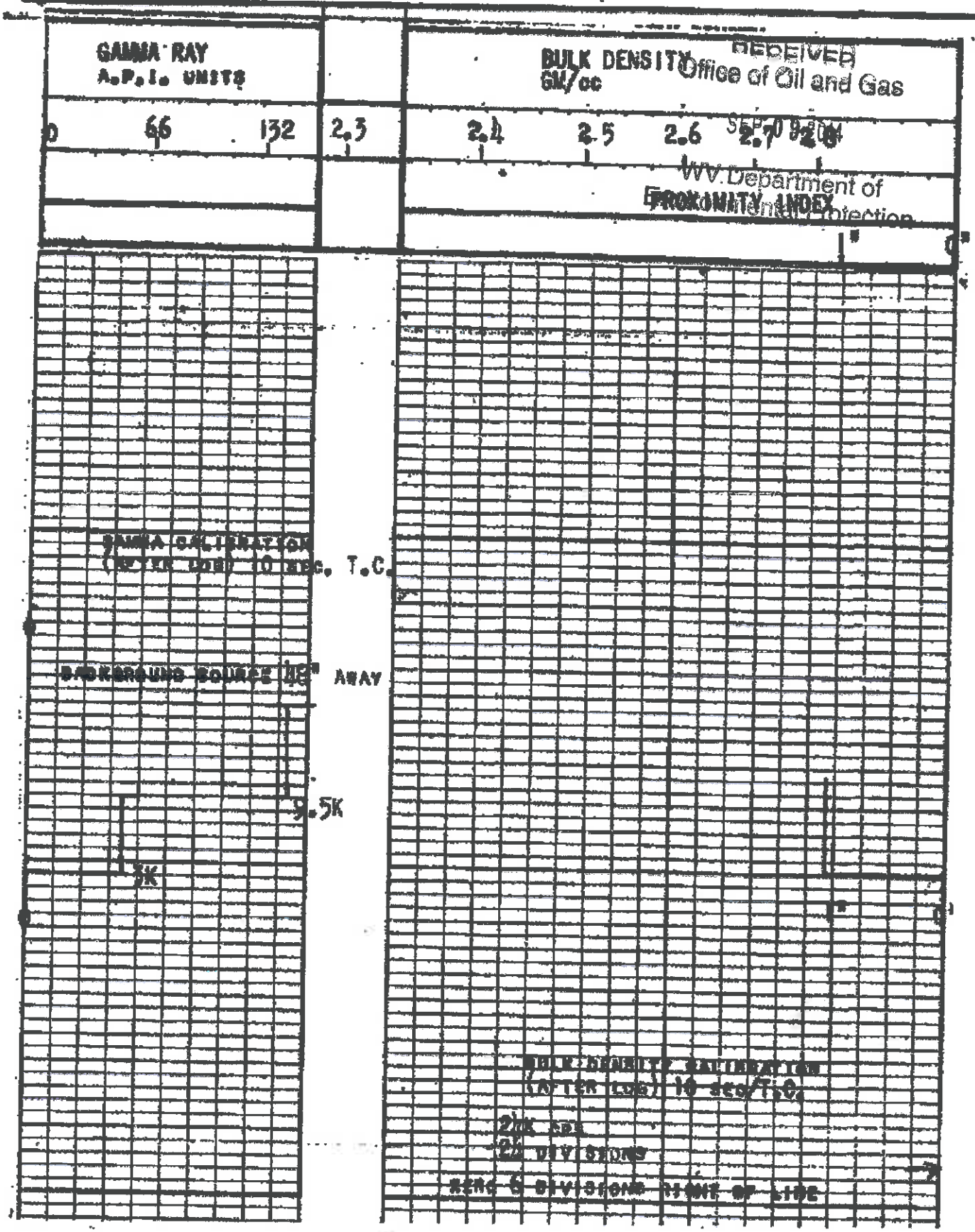

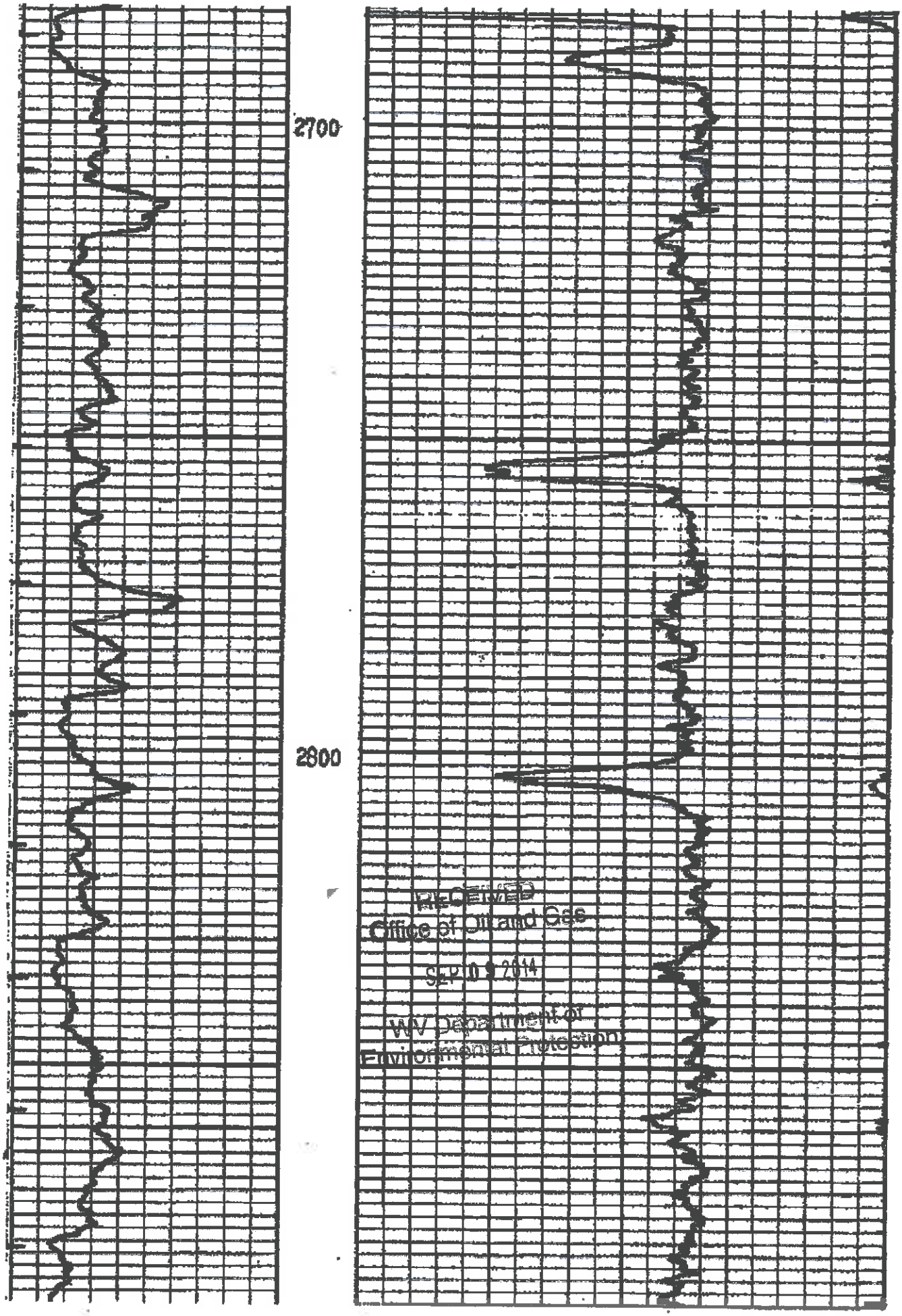

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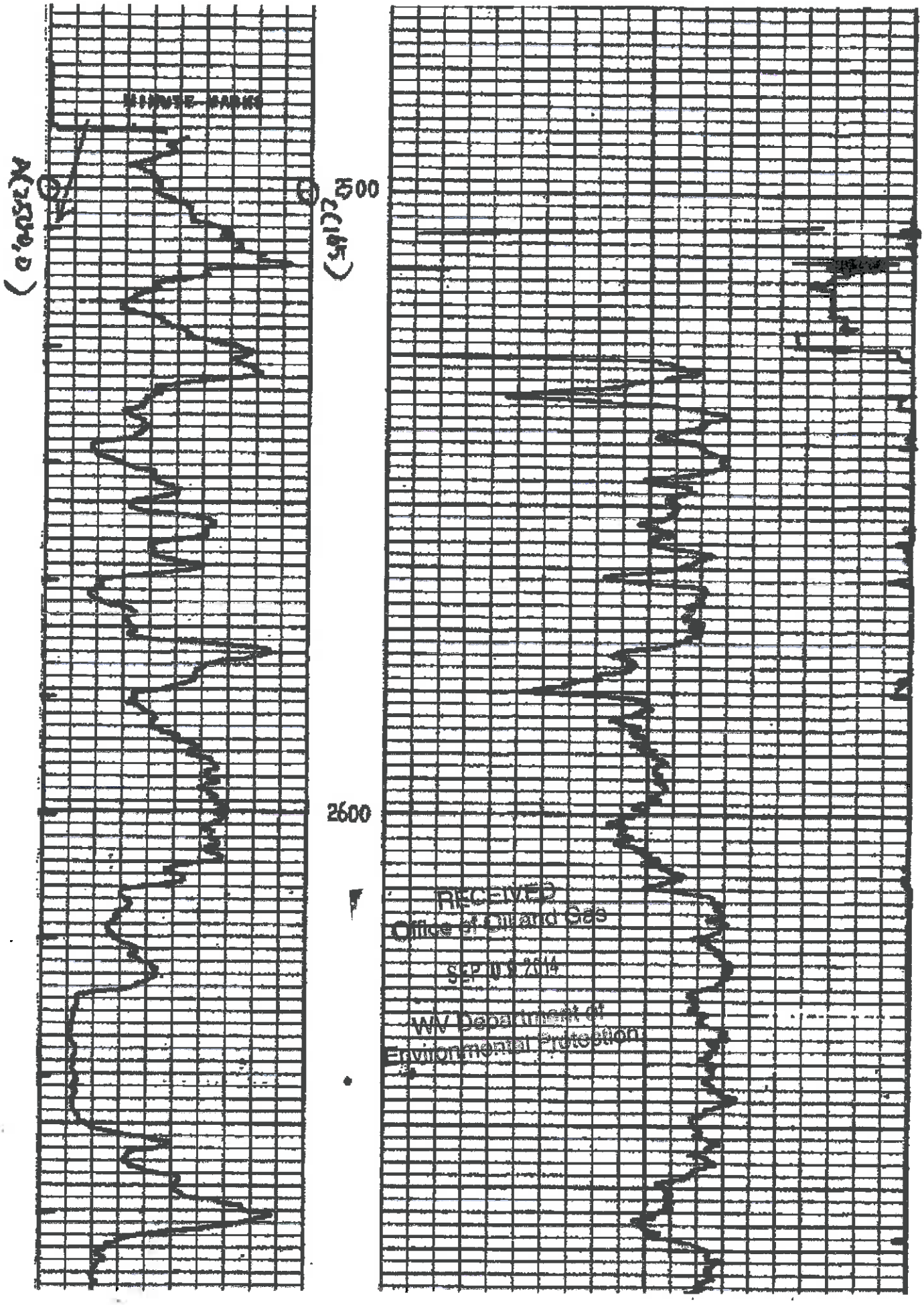

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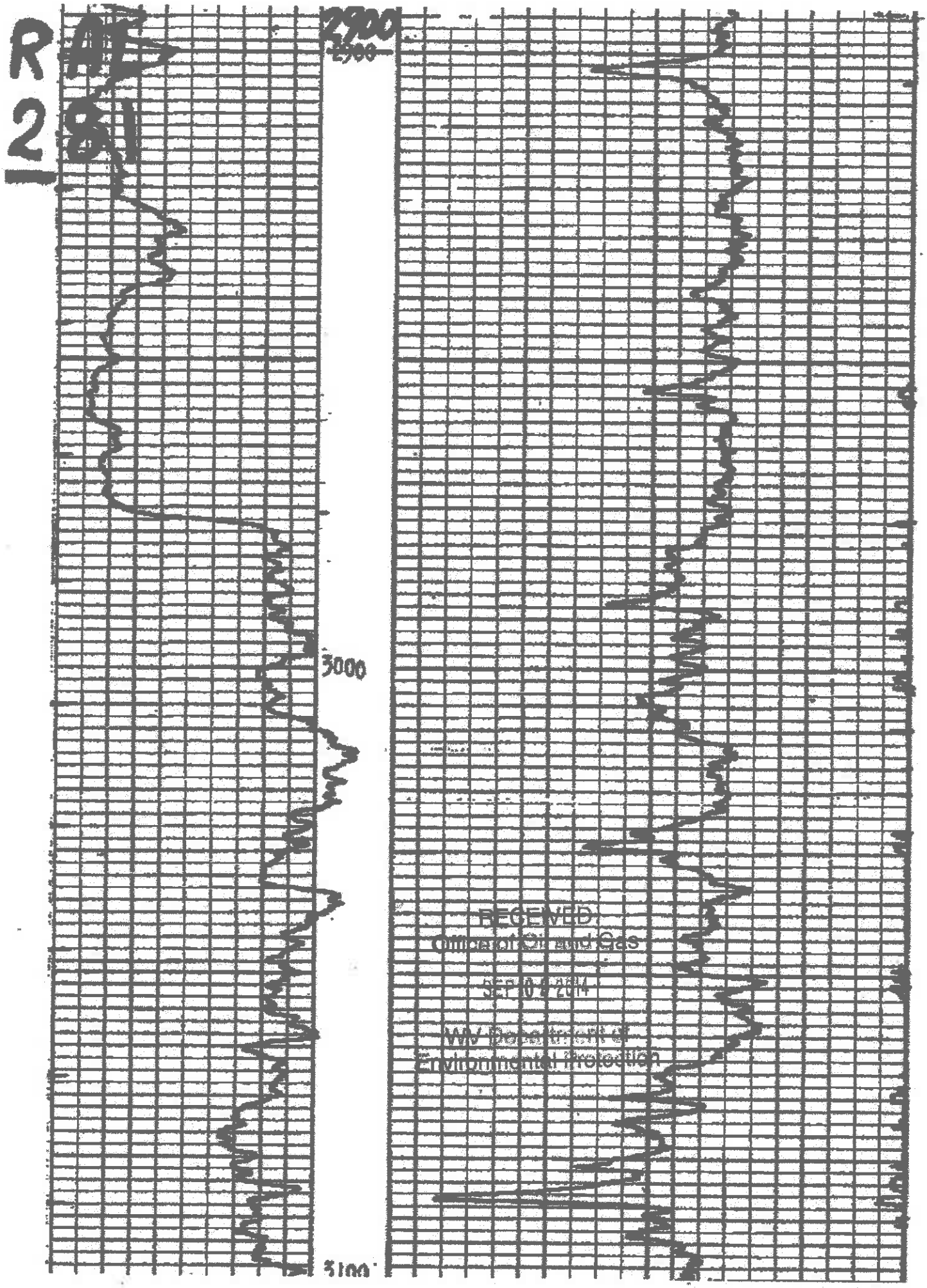

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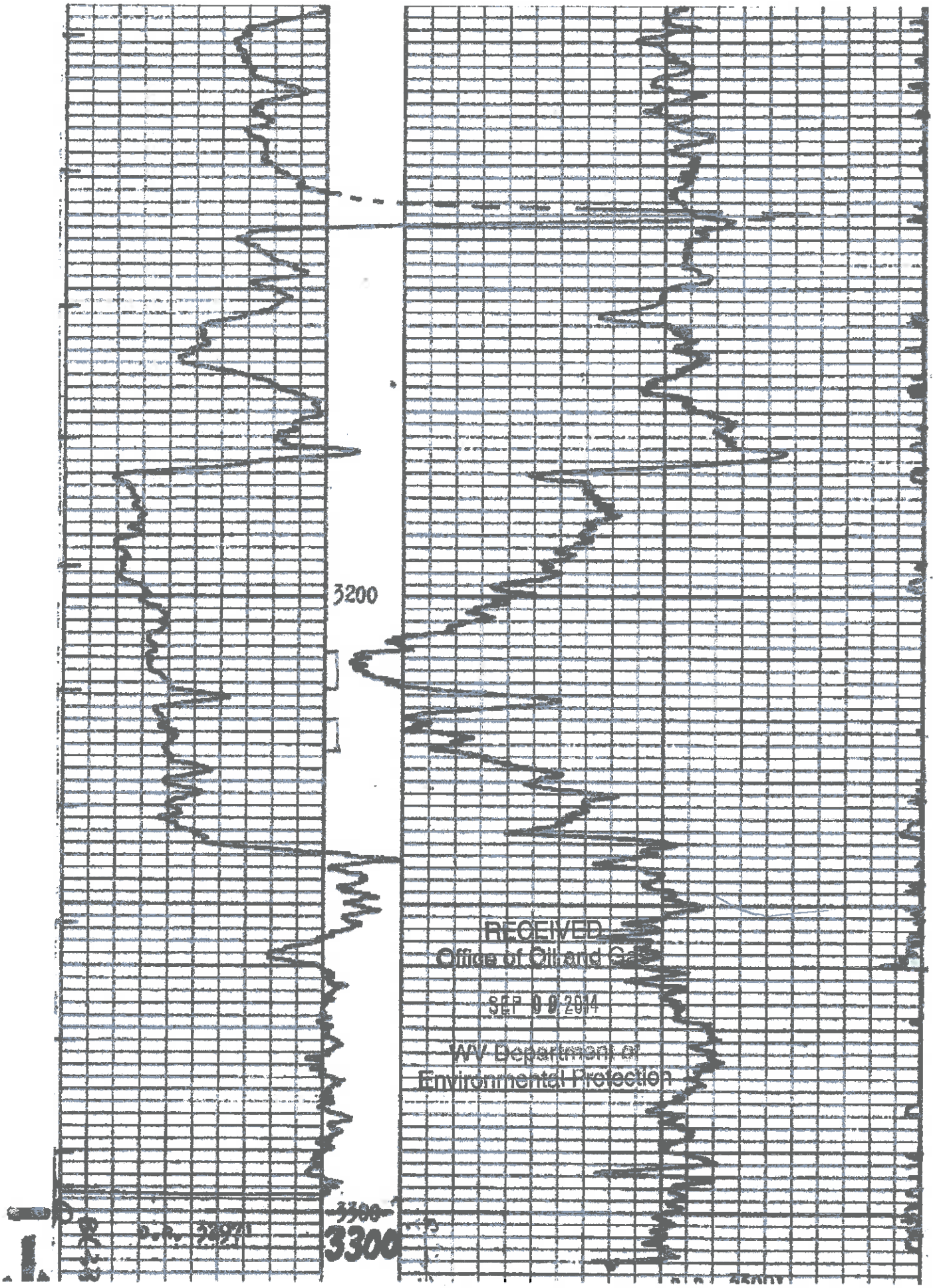

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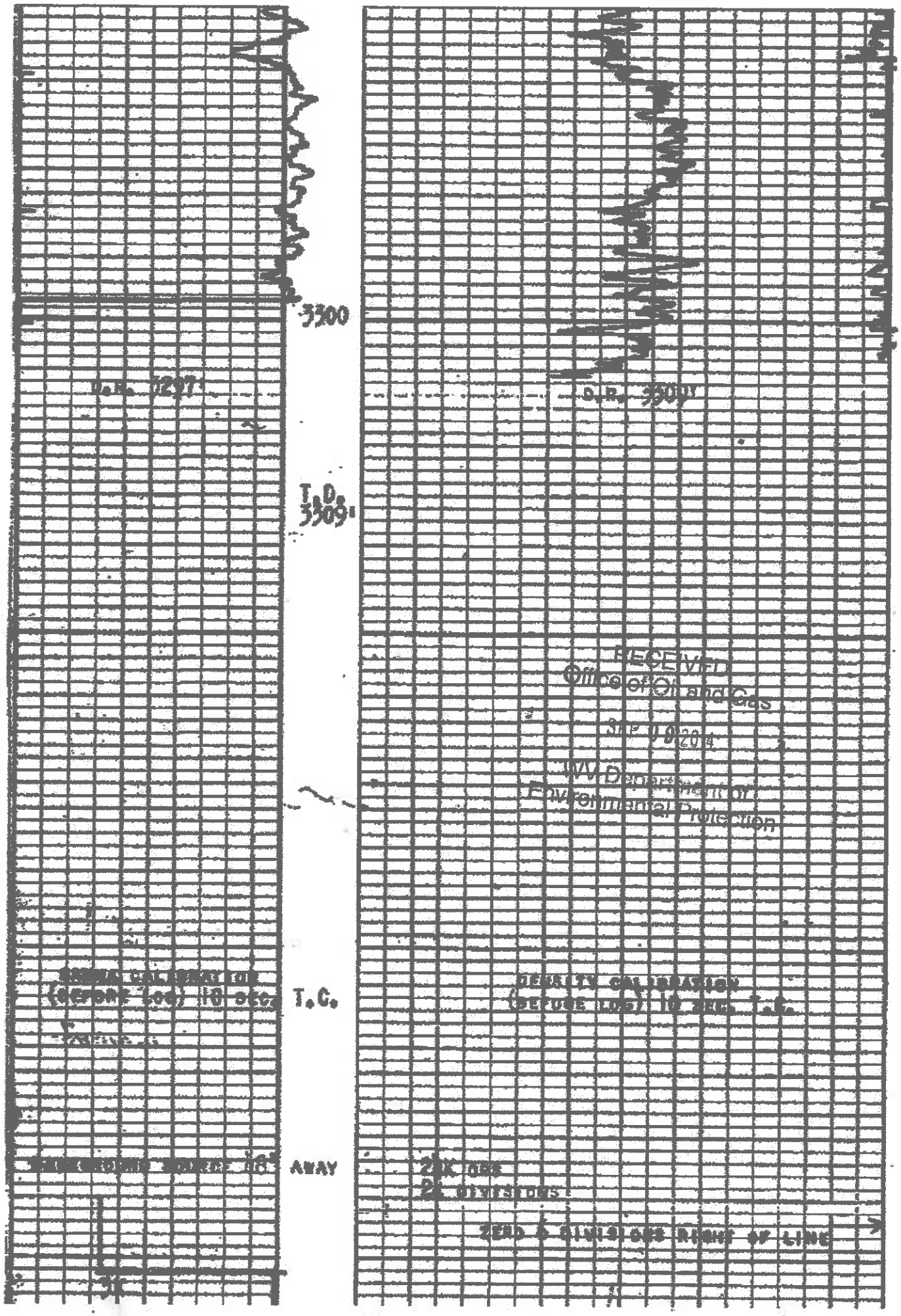

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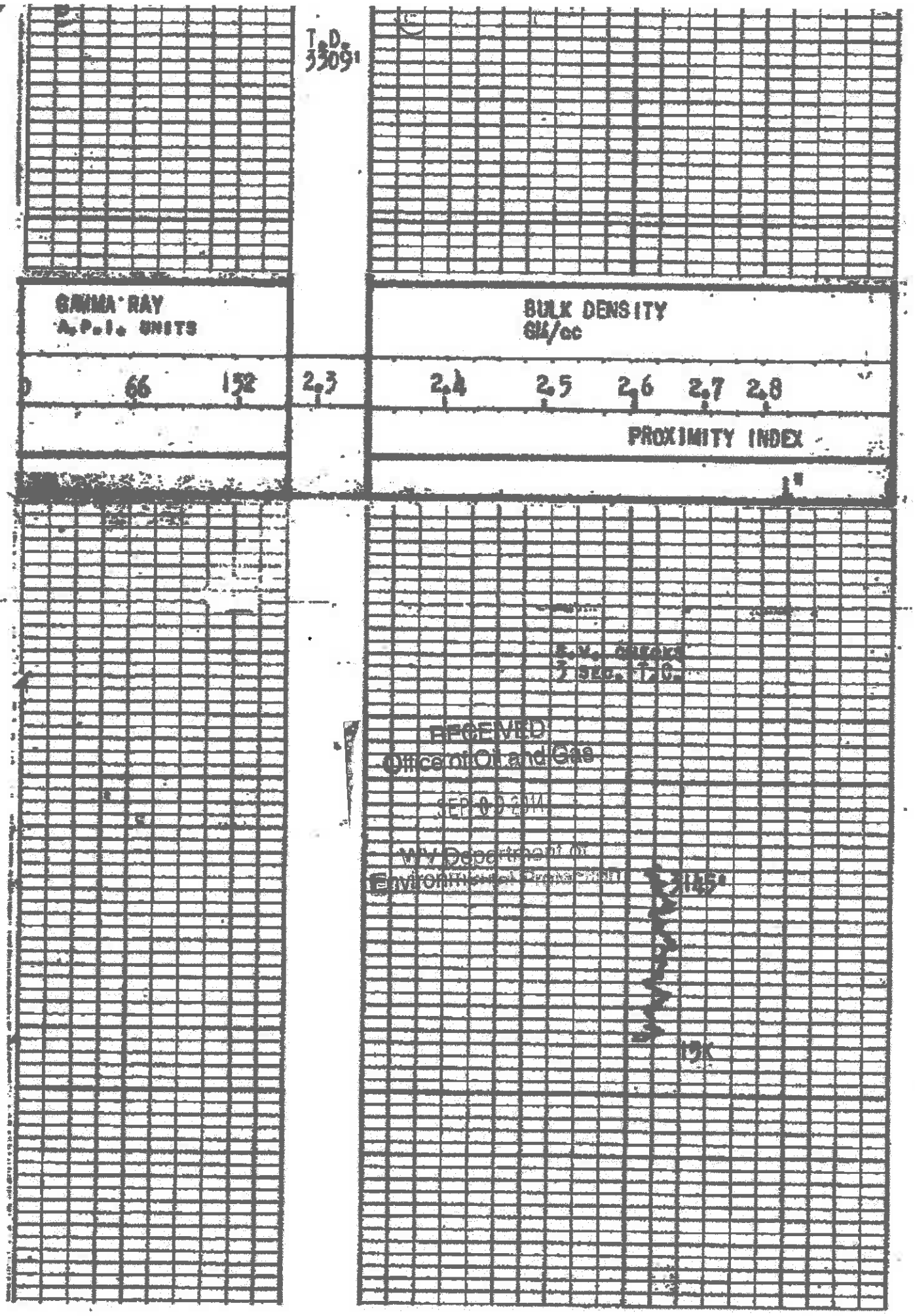

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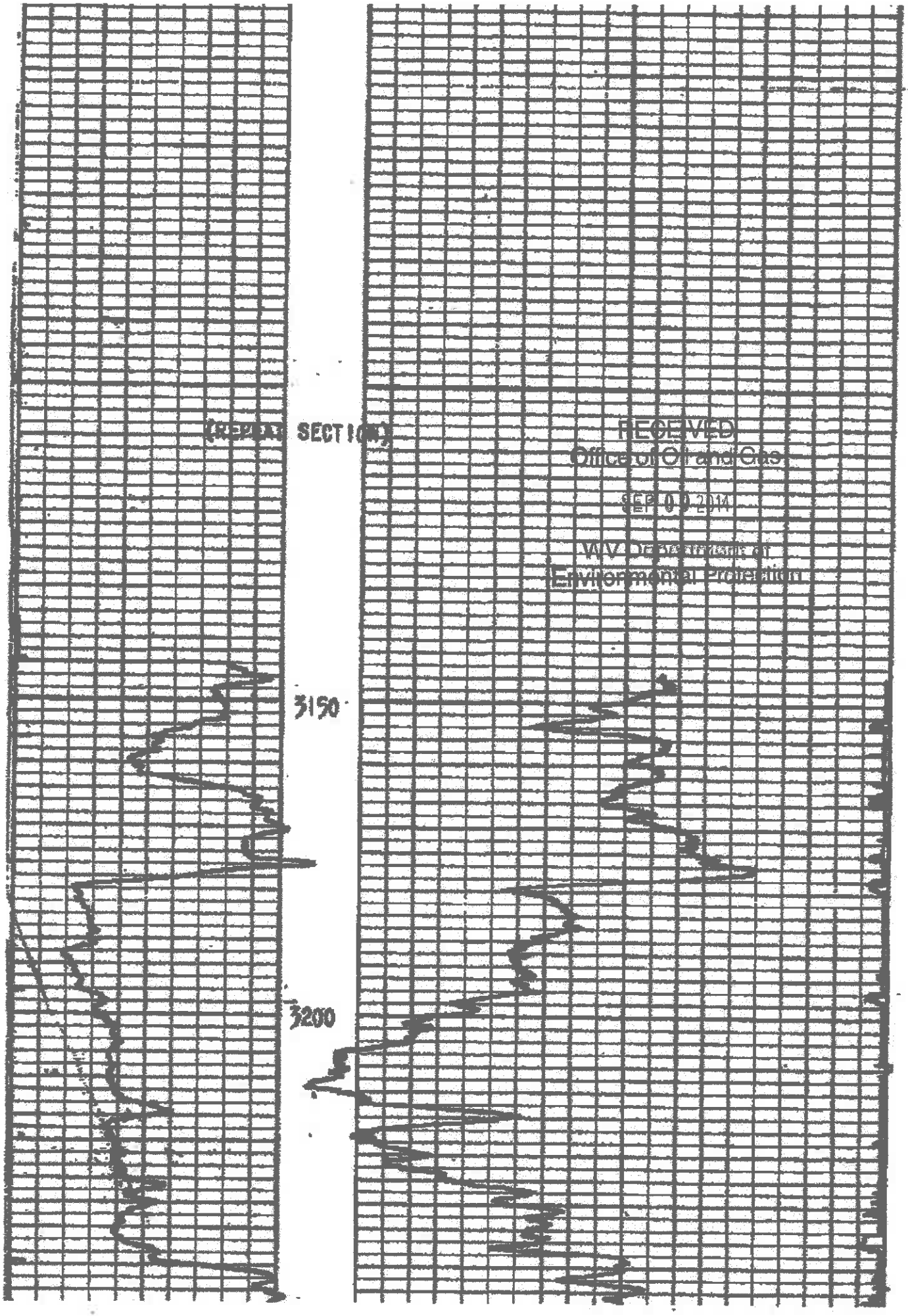

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9.5K

QUANTITATIVE INTERPRETATION

ZONE INTERVAL	HYDROGEN INDEX %	BULK DENSITY GM/CC	GRAIN DENSITY GM/CC	REG. Ω/M²/M	TRUE POROSITY %	WATER SATURATION %
COAL SEAM						
836' to 842'						
BIG LIME						
2678' to 2682' *	8.0	CAVING EFFECT				
2687' to 2698' *	2.5	2.52	2.74	65	8.5	30
2752' to 2757' *	3.0	CAVING				
[illegible] to 2806' *	5.0	CAVING				
[illegible] SAND						
3180' to 3190'	7.0	2.54	2.68	25	7.0	46
3190' to 3198'	5.5	2.49	2.68	20	9.0	40
3198' to 3206'	8.8	2.42	2.68	5.7	12.5	57
3206' to 3216'	8.8	2.31	2.68	3.8	17.2	54
3218' to 3226'	9.6	2.35	2.68'	5.7	16.0	48
to						
to						
to						

* POSSIBLE GAS PAY

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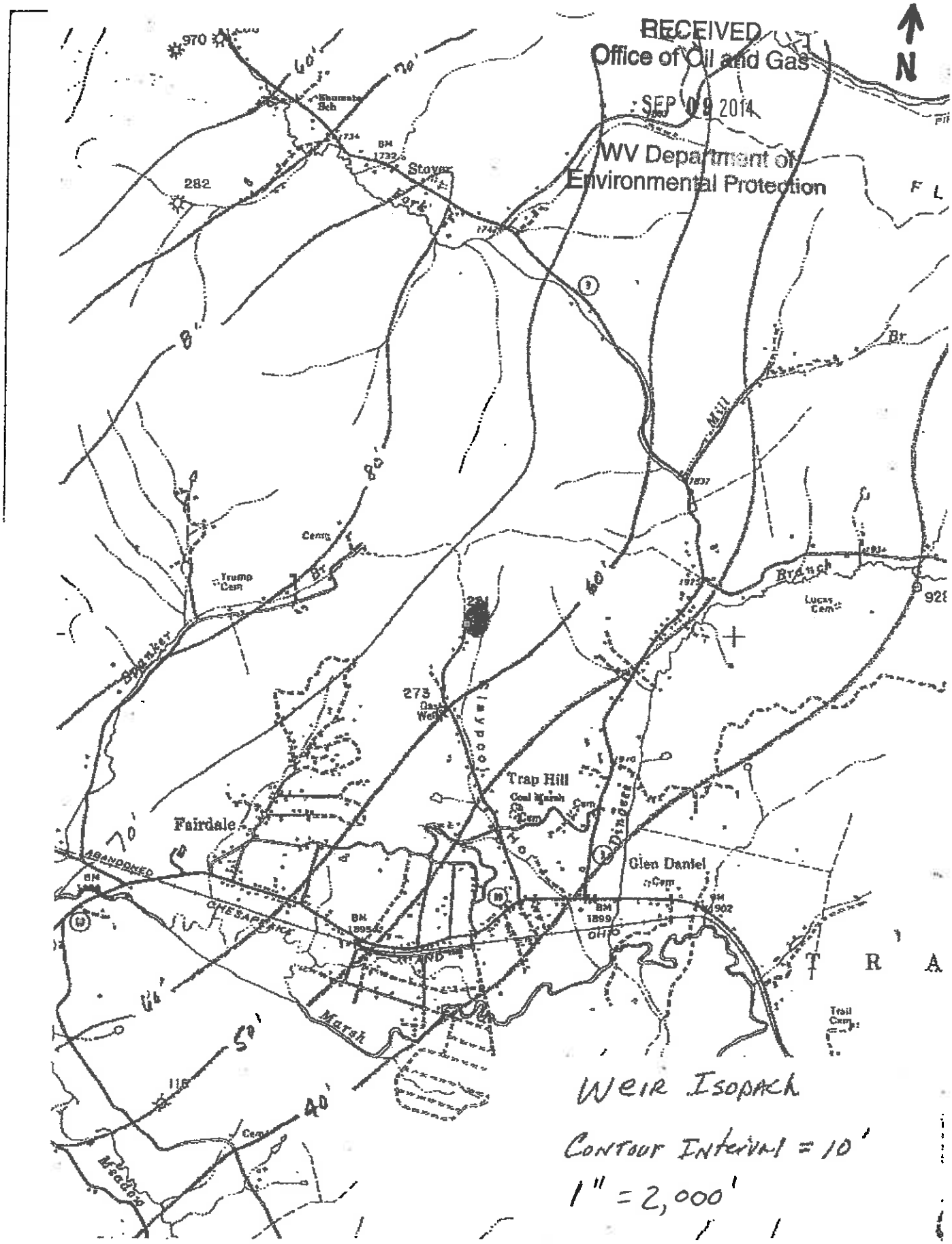
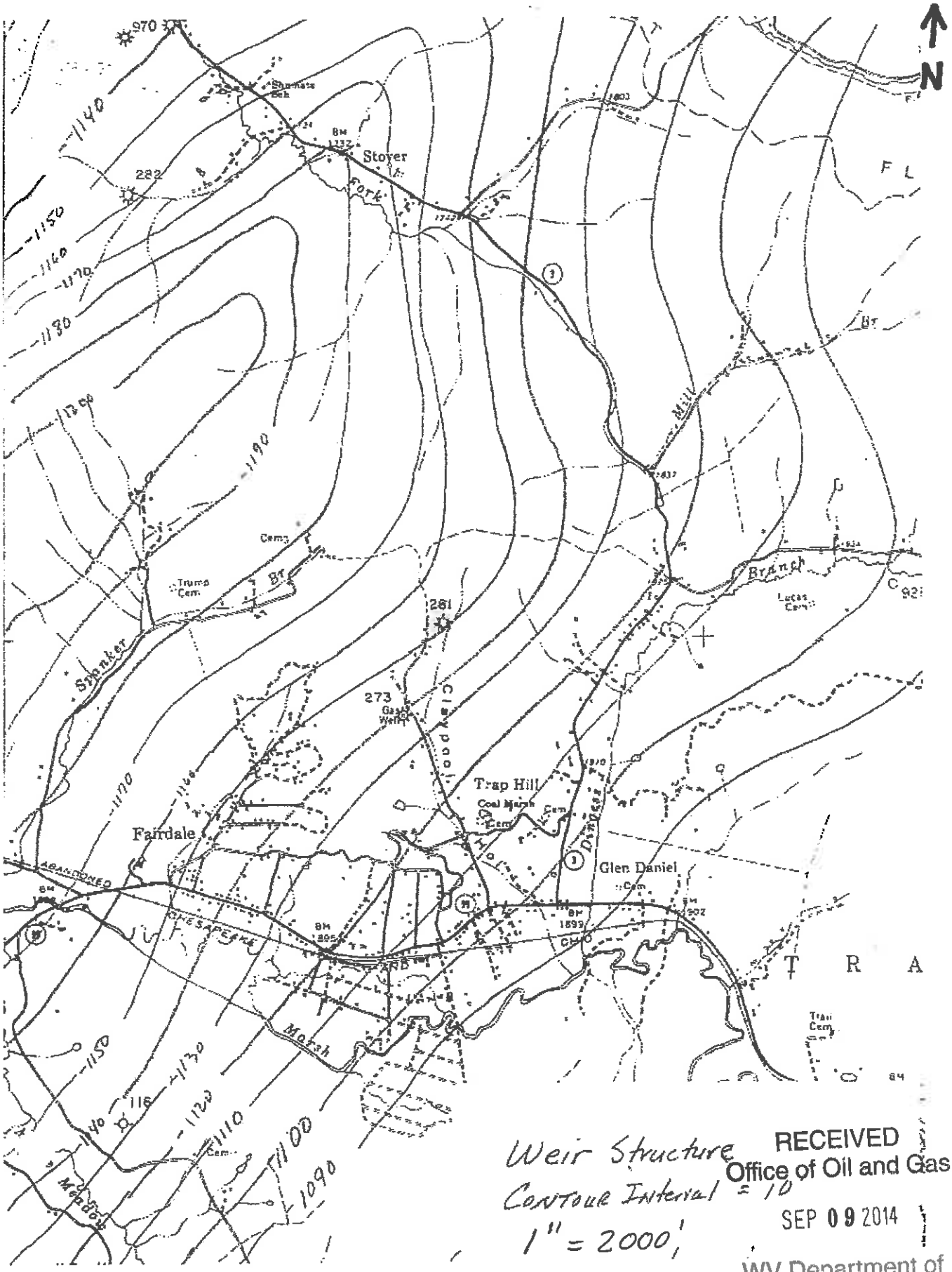


Weir Isopach

Contour Interval = 10'

1" = 2,000'



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Attachment B

The total feet of annulus between the 2 3/8 tubing and the 4 ½ casing is filled with fresh water during the mechanical integrity test. Corrosion protectors are added to the fresh water during the test.

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Attachment C

The hydrostatic head level is determined by multiplying the density of the fluid times the depth to the perforations multiplied by the conversion factor of 0.052 for units of pounds per square inch.

P=MW x depth x 0.052

P=8.3 x 3,190 x 0.052

P= 1376 psi

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APPENDIX C

Wells within the Area of Review

API #	Well Type	Well Status (Active, Abandoned, Shut-in, Plugged)	Northing (UTM NAD 83 Meters)	Easting (UTM NAD 83 Meters)	Penetrate Injection Zone (Y or N)	Penetrate Confining Zone (Y or N)	Total Vertical Depth	Surface Elevation
No wells in AOR								

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Make as many copies as necessary and include page numbers as appropriate.

Promoting a healthy environment.

dep

Michael W. Lewis, LLC
Independent Petroleum, Regulatory and Environmental Consultants
12 Jonsen Drive, Charleston WV 25312
304-382-5804
mikelewis@michaelwlewisllc.com

October 25, 2014

Mr. Zachary Stevison, ERS
WVDEP
Office of Oil and Gas
602 57th Street. SE
Charleston, WV 25304

Dear Mr. Stevison:

This letter is in response to your request to address the deficiencies for the Daniels #2 permit # UIC2D08100281 renewal application.

1. An aerial map has been submitted to show the pipeline between the tank battery and the injection well. The drawing of the tank battery also shows the pipeline leaving the site to the wellhead.
2. The Glen White Trap Hill PSD has contacted on numerous occasions in order to obtain the affidavit and they refuse to submit the required information. No water wells exist in the AOR. The Beckley Water Company has an abandoned mine within 6 miles of the injection well and should not be effected by the injection activities. A Sample from the creek below the injection well was tested and the results for that sample are provided along with the chain of custody.
3. The laboratory quality control data reports and the chain of custody have been provided.
4. The information you are asking for is in Kanawha County and this well is in Raleigh County. There are no wells within the AOR.
5. A signature page for the GPP has been provided.
6. All well log headers have been provided.
7. The annulus of the Daniels #2 well consists of 2 3/8" tubing with the backside being 4.5" casing which is enclosed at the surface with gauges to monitor any pressure buildup that may occur. The tubing backside is filled with freshwater to surface and monitored during injection operations at which time the annulus maintains a zero pressure with varying positive pressures on the tubing. Any leakage in the injection tubing will result in a change in the annulus conditions.

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8. A letter from operator Kermit Tyree is provided explaining the hydrostatic fluid level.
9. The tank identified in the aerial review is not used at this location and was addressed on line 20 in the last set of corrections.

Sincerely,

Michael W. Lewis

Michael W. Lewis

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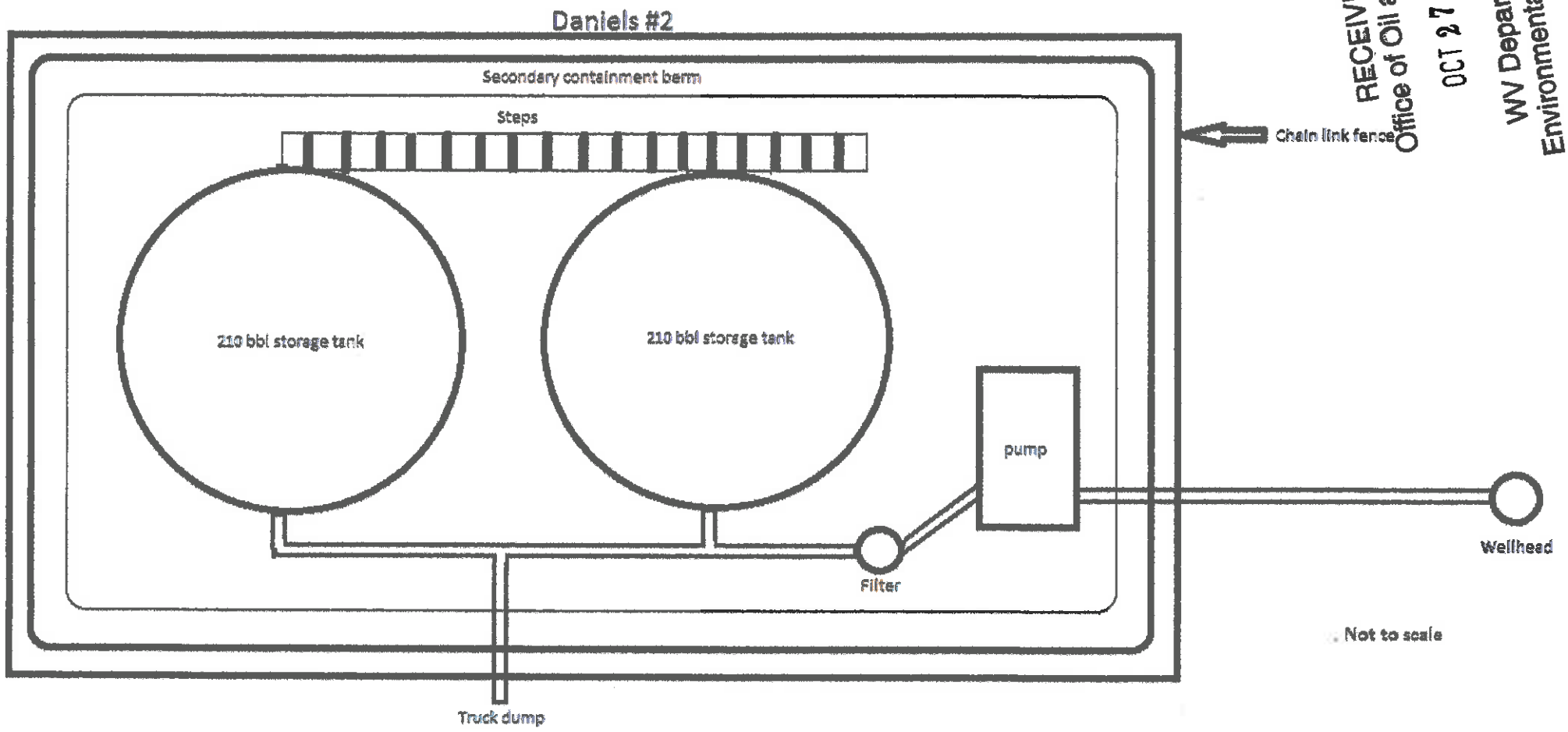

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Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: MICHAEL LEWIS

DATE/TIME SAMPLED:* 10-17-13 1530

SAMPLE ID: BASE PETROLEUM

DATE/TIME RECEIVED: 10-22-13 1655

SAMPLED BY:

SAMPLE ID	pH units	Cl^- mg/L	TDS mg/L	Na mg/L	Fe mg/L	Ba mg/L	Mn mg/L	Al mg/L	TOC mg/L	SPEC GRAV calc.
DANIELS #1 WELL	5.1	135000.	256500	57370.	73.1	507.	4.07	[1]<2.00	33.3	1.1673

*Client Provided

**See Attached. The following results meet or exceed requirements and standards set forth by the certifying authority except where noted.

[1]RAN AT X100 DILUTION.

D. Burns

APPROVED

MAIN OFFICE—POST OFFICE BOX 650 • BRIDGEPORT, WEST VIRGINIA 26330 • (304) 623-6549
CHARLESTON BRANCH—POST OFFICE BOX 8337 • SOUTH CHARLESTON, WEST VIRGINIA 25303-0337 • (304) 744-8864

Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: MICHAEL LEWIS

DATE/TIME SAMPLED:* 10-17-13 1500

SAMPLE ID: BASE PETROLEUM

DATE/TIME RECEIVED: 10-22-13 1655

SAMPLED BY:

SAMPLE ID	pH units	Cl⁻ mg/L	TDS mg/L	Na mg/L	Fe mg/L	Ba mg/L	Mn mg/L	Al mg/L	TOC mg/L
DANIELS #1 WELL CREEK SAMPLE	4.9	187.	467	67.2	1.77	.461	3.27	.92	2.91

*Client Provided

**See Attached. The following results meet or exceed requirements and standards set forth by the certifying authority except where noted.

D. Burnito

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Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: MICHAEL LEWIS

PARAMETER	DATE ANALYZED	ANALYST INITIALS	METHOD	DETECTION LIMITS (mg/L)
Antimony			SM22nd 3113 B	.0007
Arsenic			SM22nd 3113 B	.0005
Beryllium			SM22nd 3113 B	.0001
Dissolved Beryllium			SM22nd 3113 B	.0001
Cadmium			SM22nd 3113 B	.0001
Dissolved Cadmium			SM22nd 3113 B	.0001
Copper			SM22nd 3113 B	.0006
Dissolved Copper			SM22nd 3113 B	.0006
Lead			SM22nd 3113 B	.0005
Dissolved Lead			SM22nd 3113 B	.0005
Silver			SM22nd 3113 B	.0002
Dissolved Silver			SM22nd 3113 B	.0002
Thallium			SM22nd 3113 B	.0003
Dissolved Thallium			SM22nd 3113 B	.0003
Mercury			CVAA/EPA 245.1 Rev 3.0-1994	.0002
Barium	10-25-13	TD	EPA 200.7 Rev 4.4-1994	.002
Beryllium			EPA 200.7 Rev 4.4-1994	.001
Dissolved Beryllium			EPA 200.7 Rev 4.4-1994	.001
Boron			EPA 200.7 Rev 4.4-1994	.03
Cadmium			EPA 200.7 Rev 4.4-1994	.001
Dissolved Cadmium			EPA 200.7 Rev 4.4-1994	.001
Cobalt			EPA 200.7 Rev 4.4-1994	.01
Copper			EPA 200.7 Rev 4.4-1994	.003
Dissolved Copper			EPA 200.7 Rev 4.4-1994	.003
Molybdenum			EPA 200.7 Rev 4.4-1994	.005
Nickel			EPA 200.7 Rev 4.4-1994	.03
Potassium			EPA 200.7 Rev 4.4-1994	.01
Dissolved Potassium			EPA 200.7 Rev 4.4-1994	.01
Silica			EPA 200.7 Rev 4.4-1994	.02
Dissolved Silicon			EPA 200.7 Rev 4.4-1994	.02
Silver			EPA 200.7 Rev 4.4-1994	.001
Dissolved Silver			EPA 200.7 Rev 4.4-1994	.001
Strontium			EPA 200.7 Rev 4.4-1994	.001
Tin			EPA 200.7 Rev 4.4-1994	.005
Titanium			EPA 200.7 Rev 4.4-1994	.001
Vanadium			EPA 200.7 Rev 4.4-1994	.003
Bromide			EPA 300.0 Rev 2.1-1993	.10
Chlorine Residual			SM22nd 4500CL G	.05
Dissolved Oxygen			SM22nd 4500 O G	1
Volatile Suspended Solids			EPA 160.4	1
Total Solids			SM22nd 2540 B	.01
% Solids			EPA 160.3	1.0
Ferrous Iron			SM22 3500 Fe-D	.02
Ferric Iron			Calculation	.05
Chloride			SM22nd 4500-Cl-E	.05
Nitrite			EPA 353.2 Rev 2.0-1993	.05
Nitrate			EPA 353.2 Rev 2.0-1993	.05
Nitrite-Nitrate			EPA 353.2 Rev 2.0-1993	
Specific Gravity	10-25-13	DS	Calculation	
Total Nitrogen			Calculation	

EPA-United States Environmental Protection Agency, "Method for the Chemical Analysis of Water and Waste," EPA 600/4-79-020, March 1983
SM-Standard Methods for the Examination of Water and Wastewater, 22nd Edition.

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Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: MICHAEL LEWIS

PARAMETER	DATE ANALYZED	ANALYST INITIALS	METHOD	DETECTION LIMITS (mg/L)
pH (ROTH)	10-24-13	KH	SM22nd 4500 HB	.1 S.U
Hot Acid			SM22nd 2310 B (4a)	1
Mineral Acid			SM22nd 2310, Titrimetric	1
Alkalinity			SM22nd 2320 B	1
NH_3N			SM22nd 4500NH_3B + SM22th 4500 NH_3C	.10
Settleable Solids			SM 22nd 2540 F	.1 ml/L
Turbidity			SM22nd 2130 B	.05 NTU
Conductivity			EPA 120.1 Rev-1982	1 µmhos
TKN			SM22nd 4500 N org + SM22nd 4500 NH_3C	.10
TSS – Total Suspended Solids			SM22nd 2540 D	2
TDS – Total Dissolved Solids	10.23.13	LF	SM22nd 2540 C	2
Sulfate			EPA 300.0 Rev 2.1-1993	1.0
Chloride	10-24-13	MM	EPA 300.0 Rev 2.1-1993	.50
Nitrate			EPA 300.0 Rev 2.1-1993	.01
Nitrite			EPA 300.0 Rev 2.1-1993	.01
Fluoride			EPA 300.0 Rev 2.1-1993	.01
Nitrate-Nitrite			EPA 300.0 Rev 2.1-1993	.01
Ortho-Phosphate			EPA 300.0 Rev 2.1-1993	.05
Aluminum	10-25-13	AD	EPA 200.7 Rev 4.4-1994	.02
Dissolved Aluminum			EPA 200.7 Rev.4.4-1994	.02
Calcium			EPA 200.7 Rev 4.4-1994	.10
Dissolved Calcium			EPA 200.7 Rev 4.4-1994	.10
Chromium			EPA 200.7 Rev 4.4-1994	.003
Dissolved Chromium			EPA 200.7 Rev 4.4-1994	.003
Hardness (calc)			SM22nd 2340B+EPA 200.7 Rev 4.4-1997	1
Iron	10-25-13	AD	EPA 200.7 Rev 4.4-1994	.02
Dissolved Iron			EPA 200.7 Rev 4.4-1994	.02
Magnesium			EPA 200.7 Rev 4.4-1994	.01
Dissolved Magnesium			EPA 200.7 Rev 4.4-1994	.01
Manganese	10-25-13	AD	EPA 200.7 Rev 4.4-1994	.002
Dissolved Manganese			EPA 200.7 Rev 4.4-1994	.002
Sodium	10-25-13	AD	EPA 200.7 Rev 4.4-1994	.03
Zinc (ICP)			EPA 200.7 Rev 4.4-1994	.004
MBAS			SM22nd 5540C	.01
Cyanide			EPA 335.4 Rev 1.0-1993	.005
Ortho-Phosphate			SM22nd 4500P B.5 + 4500PE	.02
Phenol			EPA 420.4 1983	.010
Sulfide			SM22nd 4500 S2 F	.50
Hexavalent Chromium			SM22nd 3500 – Cr-B	.02
TPO_4			SM22nd 4500 P E + SM22th 4500 P B.5	.02
Oil & Grease			EPA 1664A Gravimetric Extraction	5.0
BOD			SM22nd 5210B	2.0
COD			HACH 8000	6.0
TOC	10-30-13 (1402)	MW	SM22nd 5310B	1.0
Selenium (furnace)			SM22nd 3113 B	.0006
Dissolved Selenium			SM22nd 3113 B	.0006
Total Recoverable Selenium			SM22nd 3113 B	.0006
Chromium			SM22nd 3113 B	.0002
Dissolved Chromium			SM22nd 3113 B	.0002
Selenium (AFS)			SM22nd 3114B	.0006
Total Recoverable Selenium			SM22nd 3114B	.0006
Dissolved Selenium			SM22nd 3114B	.0006

EPA-United States Environmental Protection Agency, "Method for the Chemical Analysis of Water and Waste," EPA 300/4-79-020, March 1983.
SM-Standard Methods for the Examination of Water and Wastewater, 22nd Edition.

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STURM ENVIRONMENTAL SERVICES
P.O. BOX 650 BRIDGEPORT, WV 26330
(304) 623-6549
FAX: (304) 623-6552

STURM ENVIRONMENTAL SERVICES
CHAIN OF CUSTODY RECORD

CHARLESTON OFFICE
321 4TH AVENUE P.O. BOX 8337
SO CHARLESTON, WV 25308
(304) 744-9864

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CLIENT: Michael Lewis
ADDRESS: 12 Jansen Drive
CITY / STATE / ZIP: Charleston, WV 25312
PERMIT NUMBER: 304 382-5904

CONTACT: Same
TELEPHONE / FAX:
E-MAIL:
SAMPLER:

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	GRAB/ COMP	Analysis Requested	FLOW (gpm)	FIELD pH	FIELD TEMP	FIELD COND UMHOS	FIELD TRC	FIELD DO
Base Petroleum Daniels #1 Well Creek Sample	10/17/13	3:00pm	G	Chloride, Sodium, TDS, Iron, PH, TOC, Barium, Mg & Alum, No Spec Grav.						
Base Petroleum Daniels #1 Well Basic Sample	10/17/13	3:30pm	G	Same + Spec Grav.						

Relinquished by: Rod Dillon Date/Time 10/16/13 10:00AM Received by: Brenda Z Date/Time 10-16-13 10:0
Relinquished by: Brenda Z Date/Time 10-22-13 1655 Received by: L Hu Date/Time 10-22-13 1655
Relinquished by: Date/Time Received by: Date/Time
Temp upon arrival: 6-8 Turn around time: Reg. Rush (CALL FOR LAB APPROVAL)(fees will be charged) Non-conformance sheet attached
Sample Chlorinated: SES pickup collection Hand Delivered Courier Sample on ice: Y or N

Preservative Codes: 0 – no preservative, 1- HCL, 2- HNO_3, 3-H_2SO_4, 4-$Na_2S_2O_3$, 5-NaOH, 6-other

8. Include provisions for inspections of all GPP elements and equipment. Inspections must be made quarterly at a minimum.

Representatives for Base Petroleum will conduct quarterly inspections using the attached form. Employees will visually inspect the tank for any signs of material damage or leakage. Any pipelines will be walked and checked for leaks. All transfer points and hoses associated with the disposal well will be checked for flaws or areas of weakness. Secondary containment berms will be checked for any signs of weakness and any standing water will be removed. The filter will be checked and cleaned if necessary. Any findings of possible contamination will be noted on the inspection form and the remedial measures to address these concerns will be documented on the inspection form. All inspection forms will be maintained at Base Petroleum's office for a minimum of three years. Mechanical integrity test will be conducted every five years.

Signature: John B Wilcox

Date: 10/25/14

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Ral 281

Birdwell

Density Log
AND GAMMA RAY LOG

THIS WORK WAS PERFORMED UNDER U. S. A. E. C. BY-PRODUCT MATERIAL LICENSE # 35-5651-1.

COMPANY WESTERN POCAHONTAS CORPORATION

WELL DR. ROSS P. DANIEL # 2

FIELD TRAP HILL DISTRICT

COUNTY RALEIGH 281 STATE WEST VA.

LOCATION:
BEST COPY available

OTHER SERVICES
TEMP
NEUTRON
INDUCTION

SEC.____ TWP.____ RGE.____

PERMANENT DATUM GROUND LEVEL ELEV. 2023.7'
LOG MEASURED FROM K.B., 12 ft. above perm. datum
DRILLING MEASURED FROM K.B., 12 FT. A.P.D.

ELEVATIONS:
KB. 2035.7'
DF. 2034.7'
GL. 2023.7'

DATE	12 JAN 1966	12 JAN 1966	
RUN NO.	ONE	ONE	
TYPE LOG	GAMMA	DENSITY	
DEPTH – DRILLER	3300'	3300'	
DEPTH – LOGGER	3309'	3309'	
BOTTOM LOGGED INTERVAL	3297'	3309'	
TOP LOGGED INTERVAL	2490'	2500'	
TYPE FLUID IN HOLE	WATER	WATER	
SALINITY PPM CL.	NA	NA	
DENSITY LB./GAL.	NA	NA	
LEVEL	3304'	3304'	
MAX. REC. TEMP. – DEG. F	84.25°	84.25°	
OPERATING RIG TIME	1.5HOURS TOTAL TIME		
RECORDED BY	MULLINS	MULLINS	
WITNESSED BY	MR. SUPCOE	MR. SUPCOE	
LOCATION	#7, SO. CHARLESTON, WEST VIRGINIA		

RUN NO.	BORE HOLE RECORD BIT	FROM	TO	CASING RECORD SIZE	WGT.	FROM	TO
1	6½"	2504'	TD	9-5/8	NA	0	1498'
				7"	NA	0	2504'

SSC 647

EQUIPMENT DATA

GAMMA-GAMMA				GENERAL			
RUN NO.	ONE			HOIST TRUCK NO.	2039		
TOOL MODEL NO.	LAHC			INST. TRUCK NO.	2039		
DIAMETER	3-5/8"			TOOL SERIAL NO.	5		
DETECT. MODEL NO.	MG-70			LOCATION	#7		
TYPE	GM						

LOGGING DATA

RUN NO.	GENERAL DEPTHS FROM	TO	SPEED FT/MIN	GAMMA-GAMMA CALIBRATION DATA		T. C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	COUNTS PER MIN. PER LOG DIV.
1	2490'	3297'	30	BLOCK TYPE	ALUM.	2	20K	0	16.5 API UN.
1	2500'	3309'	30	DENSITY - GMS./CC	2.62	2	60K	6R	1000
				K COUNTS PER MINUTE — BLOCK	15K				
				CONVERSION CURVE					
				GENERATOR FREQUENCY					

REFERENCE LITERATURE:
WELL RECORDS

REMARKS: SURVEY RUN FOR PURPOSE OF FORMATION CORRELATION AND EVALUATION.
NA: INFORMATION NOT AVAILABLE.

GAMMA RAY
A.P.I. UNITS

0 66 132

BULK DENSITY
GM/cc

2.3 2.4 2.5 2.6 2.7 2.8

PROXIMITY INDEX

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Rel 281

Birdwell

Nuclear Log

COMPANY Western Pocahontas Corp.

WELL Dr. Ross P. Daniel #2

FIELD Trap Hill District

COUNTY Raleigh STATE W.Va.

LOCATION:

SEC. TWP. RGE.

BEST COPY available

OTHER SERVICES Temp. Density Induction

ELEVATIONS: KB. 2035.7' DF. 2034.7' GL. 2023.7'

Tulsa

50845

PERMANENT DATUM Ground Level ELEV. 2023.7

LOG MEASURED FROM K.B. 12 ft. above perm. datum

DRILLING MEASURED FROM K.B. 12' A.P.D.

DATE	12 Jan. 1965	12 Jan. 1965
RUN NO.	1	1
TYPE LOG	Gamma	Neutron
DEPTH – DRILLER	3300'	3300'
DEPTH – LOGGER	3309'	3309'
BOTTOM LOGGED INTERVAL	3299'	3308'
TOP LOGGED INTERVAL	0	0
TYPE FLUID IN HOLE	Wtr.	Wtr.
SALINITY PPM CL.	N/A	N/A
DENSITY LB./GAL.	N/A	N/A
LEVEL	3304'	3304'
MAX. REC. TEMP. – DEG. F	84.25°	84.25°
OPERATING RIG TIME	2.5 Hours Total	
RECORDED BY	Mullins	Mullins
WITNESSED BY	Suocoe	Suocoe
LOCATION	#7 South Charleston W.Va.	

BORE HOLE RECORD

RUN NO.	BIT.	FROM	TO
	6¼"	2504'	T.D.

CASING RECORD

SIZE	WGT.	FROM	TO
9 5/8	N/A	0	1408'
7"	N/A	0	2584'

FIELD PRINT

SSC-808-C

THIS HEADING AND LOG CONFORM TO API RP-33

EQUIPMENT DATA

GAMMA RAY			
RUN NO.	1		
TOOL MODEL NO.	LAAB		
DIAMETER	3 5/8"		
DETECT. MODEL NO.	MG-70		
TYPE	GM		
LENGTH	12"		
DIST. TO N. SOURCE	9'		

GENERAL			
HOIST TRUCK NO.	2039		
INST. TRUCK NO.	2039		
TOOL SERIAL NO.	N/A		

NEUTRON			
RUN NO.	1		
LOG TYPE	Neu-Gam		
TOOL MODEL NO.	LABA		
DIAMETER	3 5/8"		
DETECT. MODEL NO.	LG-70		
TYPE	GM		
LENGTH	4"		
SOURCE MODEL NO.	M		
SERIAL NO.	558		
SPACING	24"		
TYPE	Pu. Be		
STRENGTH-N/SEC.	9.35x10⁶		

LOGGING DATA

GENERAL				GAMMA RAY				NEUTRON			
RUN NO.	DEPTHS FROM	DEPTHS TO	SPEED FT/MIN	T.C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	API G.R. UNITS PER LOG DIV.	T.C. SEC.	SENS. SETTINGS	ZERO DIV. L OR R	N. UNITS PER LOG DIV.
1	0	3299'	30	2	20K	0	16.5				
1	0	2490'	30					2	60K	17 L	125 CU
1	2490	T.D.	30					2	60K	27.2 L	125 CU

REFERENCE LITERATURE: Well Records

REMARKS: Survey Run for purpose of formation Correlation And evaluation

N/A Information Not Available

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GAMMA RAY	DEPTHS	NEUTRON
API GAMMA RAY UNITS		

Base Petroleum
47-081-00281
Daniels # 1
Static Fluid level Check
Disposal Well

On 10/6/2014 the Daniels #1 disposal well was shut in. On 10/7/2014 our swab rig was moved in, rigged up, and ran down hole to check the fluid level. The fluid level was found at 2,142'.

Kermit Tyree

Kermit Tyree

Michael W. Lewis, LLC
Independent Petroleum, Regulatory and Environmental Consultants
12 Jonsen Drive, Charleston WV 25312
304-382-5804
mikelewis@michaelwlewisllc.com

Mr. Zachary Stevison, ERS
WVDEP
Office of Oil and Gas
602 57th Street. SE
Charleston, WV 25304

Dear Mr. Stevison:

This letter is in response to your request to address the deficiencies for permit # UIC2D0394202 and UIC2D0810281 renewal applications.

UIC2D0394202

1. Water samples are in the process of being gathered and taken to the lab for analysis. The results will be forwarded to you once we receive them. As a permit condition, the results will be provided prior to injection of fluid.

2. The dimensions for the secondary containment was previously submitted but are being provided again.

UIC2D0810281

1. Water samples are in the process of being gathered and taken to the lab for analysis. The results will be forwarded to you once we receive them. As a permit condition, the results will be provided prior to injection of fluid.

2. A monitoring plan has been provided.

3. A site security plan was previously submitted but is being provided again.

Sincerely,

Michael W Lewis

Mike Lewis

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Section 10 - MONITORING

Monitoring of all injection parameters shall be reported and logged daily consisting of startup/shutdown pressures, total injection volumes, injection rates, average injection pressures and annulus pressures along with the integrity of all tanks, containments, equipment and manifolds/lines. WR-40's shall be completed and filed in accordance with state regulations and kept on file at the facility office and be made available upon request. Fluid manifests shall be completed documenting every load of fluid delivered to the facility for disposal. These manifests shall report the following; Operator, Well Name, Number and API Number, Amount of Fluid, Type of Fluid, Contractor Hauling Fluid, Name of Driver / Truck Number and Fluid Sampling / Testing if required. Records of this information shall be kept at the facilities office and shall be made available upon request.

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APPENDIX J

Site Security for Commercial Facilities

Provide a detailed description of the method(s) utilized at the facility to restrict or prohibit illegal dumping of unauthorized waste or vandalism at the facility.

1. Complete enclosure of all wells, holding tank/pits and manifold assemblies within a chain link or other suitable fencing; and

2. Require that all gates and other entry points be locked when the facility is unattended; or

3. Providing tamper-proof seals for the master valve on each well (a "lock-out" or chain & padlock system would be more secure; however, these devices could create a potential safety hazard if the well needed to be quickly shut in due to an emergency); and

4. Installing locking caps on all valves and connections on holding tanks, unloading racks, and headers.

Base Petroleum Inc. will maintain site security at the disposal facility starting at the main haulroad entrance with a locked metal gate with tamper proof lock access. The disposal facility and all holding tanks are secured with a fully enclosed chain link fence with the entrance being locked with heavy metal chain and padlock. Alltanks and valves will be secured with padlocks as well as any groundwater protection supply containers. Cameras may also be used to deter vandalism.

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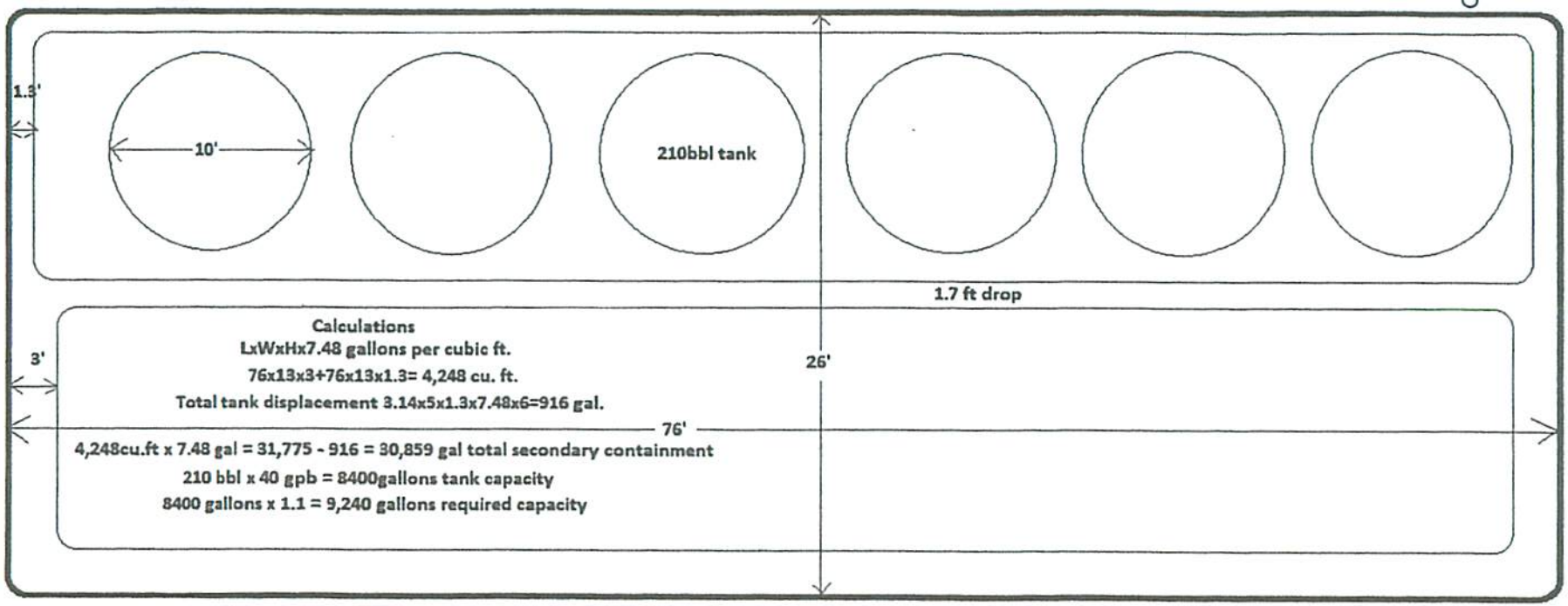
Hively #1 Secondary containment