RECEIVED:	REVIEWER) 1	TYPE:	APP NO:
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		ABOVE THIS TABLE FOR OCD DIVISION USE O	ONLY

NEW MEXICO OIL CONSERVATION DIVISION



	ZKVANOK BIVISION
- Geological & Engine	
1220 South St. Francis Drive, S	Santa Fe, NM 8/505
ADMINISTRATIVE APPLIC	CATION CHECKLIST
THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE A REGULATIONS WHICH REQUIRE PROCESSING	APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND
REGULATIONS WHICH REQUIRE PROCESSING	AT THE DIVISION LEVEL IN SANTA PE
Applicant: Black River Water Management Company, LLC	OGRID Number: 371287
Well Name: Rustler Breaks SWD 6	API: 30-023-45034
Pool: SWD; Devonian	Pool Code: 96101
SUBMIT ACCURATE AND COMPLETE INFORMATION R	FQUIRED TO PROCESS THE TYPE OF APPLICATION
INDICATED	
1) TYPE OF APPLICATION: Check those which apply f	or [A]
A. Location – Spacing Unit – Simultaneous Dedic	
·	NSP(PRORATION UNIT) SD
B. Check one only for [1] or [1]	
[1] Commingling – Storage – Measurement ☐ DHC ☐ CTB ☐ PLC ☐ PC	□ols □olm
[II] Injection – Disposal – Pressure Increase –	
□ WFX □PMX ■SWD □IPI	□ EOR □ PPR
	FOR OCD ONLY
 NOTIFICATION REQUIRED TO: Check those which of the control of the co	Notice Complete
 A. Offset operators or lease holders B. Royalty, overriding royalty owners, revenu 	e owners — Application
C. Application requires published notice	Application Content
D. Notification and/or concurrent approval I	by SLO Complete
E. 🗌 Notification and/or concurrent approval I	by BLM Complete
F. Surface owner	
G. For all of the above, proof of notification of the H. No notice required	or publication is attached, and/or,
H. No notice required	
3) CERTIFICATION: I hereby certify that the information	on submitted with this application for
administrative approval is accurate and complete	
understand that no action will be taken on this ap	plication until the required information and
notifications are submitted to the Division.	
Note: Statement must be completed by an individu	al with managerial and/or supervisory capacity.
	8-2-18 Date
Brian Wood	Dale
Print or Type Name / ()	505 466-8120
12:11 V	Phone Number
1 Heroch	111011011001100
	brian@permitswest.com
Signature	e-mail Address

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

FORM C-108 Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery Pressure Maintenance XXX Disposal Storage Application qualifies for administrative approval? XXX Yes No
II.	OPERATOR: BLACK RIVER WATER MANAGEMENT COMPANY, LLC
	ADDRESS: 5400 LBJ FREEWAY, SUITE 1500, DALLAS TX 75240
	CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120
III.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
. IV.	Is this an expansion of an existing project? Yes XXX No If yes, give the Division order number authorizing the project:
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. Rustler Breaks SWD 6
VII.	Attach data on the proposed operation, including: 30-015-45034
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: BRIAN WOOD TITLE: CONSULTANT
	SIGNATURE: DATE: JULY 16, 2018
*	E-MAIL ADDRESS: brian@permitswest.com If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:
DISTI	RIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
 - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.
 - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL: BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

INJECTION WELL DATA SHEET

BLACK RIVER WATER MANAGEMENT COMPANY, LLC OPERATOR:

WELL NAME & NUMBER:	r	RUSTLER BREAKS SWD 6				
WELL LOCATION:	2595' FN	FNL & 726' FEL	する人	ഗ	24 S	28 E
	FOOTAGE	BE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
WELL	WELLBORE SCHEMATIC	MATIC		WELL CONSTR Surface Casing	WELL CONSTRUCTION DATA Surface Casing	
ou)	(not to scale)		Hole Size:	26"	Casing Size: 20"	
		200	Cemented with:	1400 sx.	or	ft ³
		\$ • \$ • \$ • \$ • \$ • \$ • • • • • • •	Top of Cement:	SURFACE	Method Determined:	VISUAL
	9 .138 75			Intermediate Casing	e Casing	
99999)	gdi bər		Hole Size: 18.	125" & 14.75"	Casing Size: 16" &	10.75"
	il Del I		Cemented with: 1400	100 & 3900 sx.	or	ft.3
- 97) 77777)		(xx)001	Top of Cement:	SURFACE	Method Determined:	VISUAL
POPOPO) "8.8	10.75" 47# in 14.75" hole @ 10700' 10C (3900 sx) = GL		Production Casing	Casing	
eren	27.27.2		Hole Size:	9.5"	Casing Size: 7.625"	@ 13,925'
<i>9191</i> 2.		7.625" 29.7# & 33.7# in	Cemented with:	1100 sx.	or	ft ³
packer @		9.5" hole @ 13925' TOC (1100 sx/= 10,200' (CBL)	Top of Cement:	10,200'	Method Determined:	CBL
Devonian	_		Total Depth:	14,924'		
6.3 open note 13925' - 14924'				Injection Interval	nterval	
	 TD 14924'		13,92	925' feet	to	14,924'
				(Derforated or Onen H	ole: indicate which)	
				(relibrated of Open more, indicate winch)	ole, illuicate willeil)	

INJECTION WELL DATA SHEET

Tut	Tubing Size: 5.5" Lining Material: IPC
Ty_{I}	Type of Packer: STAINLESS STEEL &/OR NICKEL
Рас	Packer Setting Depth: 13, 875
Ott	Other Type of Tubing/Casing Seal (if applicable):
	Additional Data
	Is this a new well drilled for injection?
	If no, for what purpose was the well originally drilled?
5.	Name of the Injection Formation: DEVONIAN
ω.	Name of Field or Pool (if applicable): SWD; DEVONIAN (POOL CODE 96101)
4.	Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.
	NO
5.	Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
	OVER: DELAWARE (2554'), BONE SPRING (6153'), WOLFCAMP (9373'), ATOKA (11597'), & MORROW (12116')
	UNDER: none

BLACK RIVER WATER MANAGEMENT COMPANY, LLC RUSTLER BREAKS SWD 6 2595' FNL & 726' FEL SEC. 5, T. 24 S., R. 28 E., EDDY COUNTY, NM

30-015-45034

I. Goal is to drill a 14,924' deep commercial saltwater disposal well. Proposed disposal interval will be 13,925' – 14,924' in the SWD; Devonian (96101). See Exhibit A for C-102 and map.

II. Operator: Black River Water Management Company, LLC [OGRID 371287]

Operator phone number: (972) 371-5420

Operator address: 5400 LBJ Freeway, Suite 1500

Dallas TX 75240

Contact for Application: Brian Wood (Permits West, Inc.)

Phone: (505) 466-8120

III. A. (1) Lease name: Rustler Breaks SWD (fee)
Well name and number: Rustler Breaks SWD 6
Location: 2595' FNL & 726' FEL Section 5, T. 24 S., R. 28 E.

A. (2) Surface casing (20", 94#, K-55, BTC) will be set at 610' in a 26" hole and cemented to GL with 1,400 sacks.

First intermediate casing (16", 84#, K-55, BTC) will be set at 2,600' in an 18.125" hole and cemented to GL with 1,400 sacks

Second intermediate casing (10.75", 47#, P-110 HC) will be set at 10,700' in a 14.75" hole and cemented to GL with 3,900 sacks.

Production casing (7.625", 29.7# P-110 HC, BTC from GL to 9400' and 7.625", 33.7# P110 EC, BTC from 9400' to 13,925') will be set at 13,925' in a 9.5" hole and cemented to 10,200' (CBL) with 1,100 sacks.

A 6.5" open hole will be drilled to 14,924'.

A. (3) Tubing will be IPC lined, 5.5", 20#, P-110, IC, BTC. Setting depth will be $\approx 13,875$ '. (Disposal interval will be 13,925' to 14,924'.)



BLACK RIVER WATER MANAGEMENT COMPANY, LLC RUSTLER BREAKS SWD 6 2595' FNL & 726' FEL SEC. 5, T. 24 S., R. 28 E., EDDY COUNTY, NM

30-015-45034

- A. (4) A stainless steel and/or nickel packer will be set at $\approx 13,875$ ' (or ≤ 100 ' above the top of the open hole which will be at 13,925').
- B. (1) Disposal zone will be the Devonian (SWD; Devonian (96101) pool). Estimated fracture gradient is ≈ 0.62 to ≈ 0.68 psi per foot. Variation depends on whether limestone or dolomite.
- B. (2) Disposal interval will be open hole from 13,925' to 14,924'.
- B. (3) Well has not been drilled. It will be drilled as a saltwater disposal well.
- B. (4) No perforated intervals are in the well.
- B. (5) Only zones currently producing in the area of review and above the Devonian (13,924') are the Wolfcamp (9373') and Atoka (11,597'). Morrow (12,116') produced in the past. Bone Spring (6153') will probably be tested. Four approved, but not yet spudded, Bone Spring wells are within a mile radius. No oil or gas zone is below the Devonian in the area of review.
- IV. This is not an expansion of an existing injection project. It is disposal only.
- V. Exhibit B shows and tabulates the 11 existing wells (8 gas + 3 P&A) and 8 approved, but not yet spudded, wells within a mile radius. Exhibit C shows all 106 existing wells (57 oil or gas wells + 26 water wells + 18 P & A wells + 5 disposal wells) within a two-mile radius.

All leases within a half-mile radius are fee. Exhibit D show all the leases within a half-mile and lessors within a two-mile radius. Two-mile radius leases are BLM, fee, or NMSLO.

VI. No Devonian penetrators are within a mile. Deepest (13,030' TVD) well (30-015-22184) within a mile bottomed in the Morrow, 894' above the Devonian.



BLACK RIVER WATER MANAGEMENT COMPANY, LLC RUSTLER BREAKS SWD 6 2595' FNL & 726' FEL SEC. 5, T. 24 S., R. 28 E., EDDY COUNTY, NM

30-015-45034

- VII. 1. Average injection rate will be ≈40,000 bwpd. Maximum injection rate will be 45,000 bwpd.
 - 2. System will be open and closed. Water will both be trucked and piped.
 - Average injection pressure will be ≈2,500 psi
 Maximum injection pressure will be 2,785 psi (= 0.2 psi/foot x 13,925' (top of open hole)).
 - 4. Disposal water will be produced water, mainly from Bone Spring and Wolfcamp wells. There are 193 approved Bone Spring wells and 573 approved Wolfcamp wells in T. 23 S., R. 27 & 28 E. and T. 24 S., R. 27 & 28 E. The well will take other Permian Basin waters (e. g., Delaware). A summary of water analyses follows. Their abstracts are in Exhibit E.

Parameter	Devonian	Delaware	Bone Spring	Wolfcamp	Morrow
Bicarbonate	1260	122	1,955	1,026	611
Chloride	34,400	130,543	100,110	67,273	33,036
Sulfate	3,600	940	180	88	0
TDS	63,260	211,635	165,550	111,226	54,903

Black River has not experienced any compatibility problems from its 3 operating Devonian disposal wells. The 12,591,116 barrels that have been disposed to date include Delaware, Bone Spring, Strawn, Atoka, and Morrow waters.

5. Closest Devonian producer (30-015-29252) is >21 miles ESE. It is P&A.

VIII. The Devonian (estimated 1,110' thick) is comprised of limestone and dolomite. It dips to the east at approximately 1°. Estimated porosity is 2-6%. Average permeability is 150 md. Closest possible underground source of drinking water above the proposed disposal interval is the Quaternary at the surface. According to State Engineer records (Exhibit F), four water wells are within a mile, deepest of which is 80'. No active water wells were found within a mile during a May 22-23, 2018 field inspection. Expansion of the Loving water system has



LEEWLLZ MEZL INC

BLACK RIVER WATER MANAGEMENT COMPANY, LLC RUSTLER BREAKS SWD 6 2595' FNL & 726' FEL SEC. 5, T. 24 S., R. 28 E., EDDY COUNTY, NM PAGE 4

30-015-45034

allowed water well owners to abandon their water wells. No underground source of drinking water is below the proposed disposal interval.

Formation tops are:

Quaternary = 0'Rustler anhydrite = 300' Lamar (base of salt) = 2535' Bell Canyon = 2554' Cherry Canyon = 3439' Brushy Canyon = 4569' Bone Spring limestone = 6153' Wolfcamp = 9373'Strawn = 11389' Atoka = 11597'Morrow = 12116Barnett = 13319Mississippian limestone = 13374' -Woodford shale = 13771' Devonian carbonate = 13924' disposal interval = 13925' - 14924' TD = 14924'(Montoya = 15034')

Four water wells are within a 1-mile radius according to State Engineer records (Exhibit F), deepest of which is 80'. There will be >2 miles of vertical separation and shale, salt, and anhydrite intervals between the bottom of the only likely underground water source (Quaternary) and the top of the Devonian.

- IX. The well will be stimulated with acid.
- X. A CBL will be run from production casing setting depth to TOC. GR log will be run from the second intermediate to TD.

LEEWLLZ MEZL'"

BLACK RIVER WATER MANAGEMENT COMPANY, LLC RUSTLER BREAKS SWD 6 2595' FNL & 726' FEL SEC. 5, T. 24 S., R. 28 E., EDDY COUNTY, NM

C. Collier letter

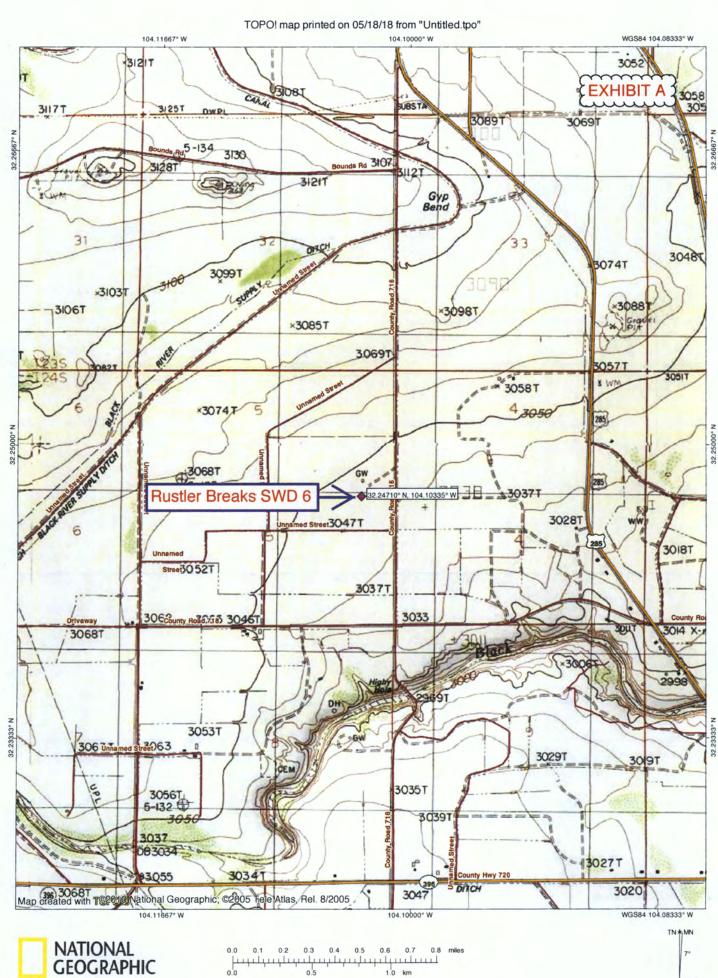
PAGE 5

30-015-45034

XI. No active water wells were found within a mile during a May 22-23, 2018 field inspection.

Black River (Exhibit G) is not aware of any geologic or engineering data that may indicate the Devonian is in hydrologic connection with any underground sources of water. Deepest water well within a 2-mile radius is 2575'. This appears to be the now P&A 30-015-02488 which reported a water flow of 300 gallons per hour. Otherwise, deepest water well within 2-miles is 400'. There are 203 approved Devonian SWD wells and 11 approved Devonian water injection wells in New Mexico. Closest Ouaternary fault is ≈53 miles southwest (Exhibit G).

XIII. A legal ad (see Exhibit H) was published on July 15, 2018. Notice (this application) has been sent (Exhibit I) to the surface owner (Valdez Family 2006 Irrevocable Trust) and all operators, lessees, and unleased mineral interest owners within a mile.





NM OIL CONSERVATION ARTESIA DISTRICT



FORM C-102

District I 1625 N. French Dr., Hobbs, NM 88240 Phone (575) 393-6161 Fax (575) 193-0720 District II Bi 1 S First St , Artesis, NM 88210 Phone: (575) 748-1283 Fax (575) 748-9720 1000 Rio Brazos Road, Aztro, NM 87410 Phone: (505) 334-6178 Fax (505) 334-6170 District IV 1220 S St Francia Dr , Sante Fe. NM 87505 Phone: (505) 476-3460 Fax (505) 476-3462

JUL 1 2 2018 State of New Mexico

Energy, Minerals & Natural Resources
RECEIVED Submit one copy to appropriate

OIL CONSERVATION DIVISION

District Office

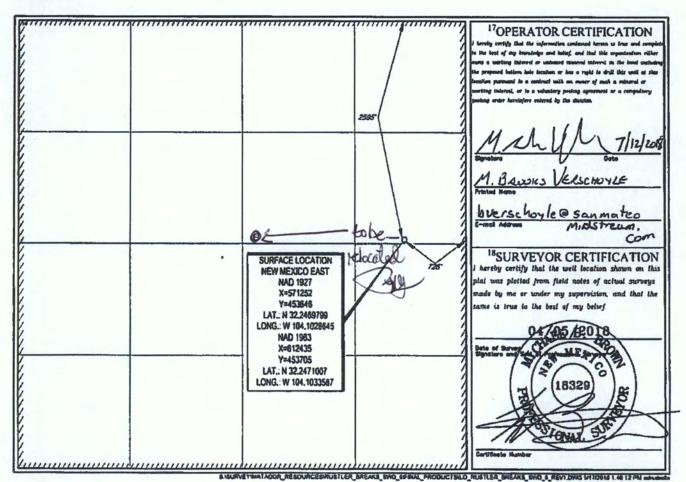
1220 South St. Francis Dr. Sante Fe, NM 87505

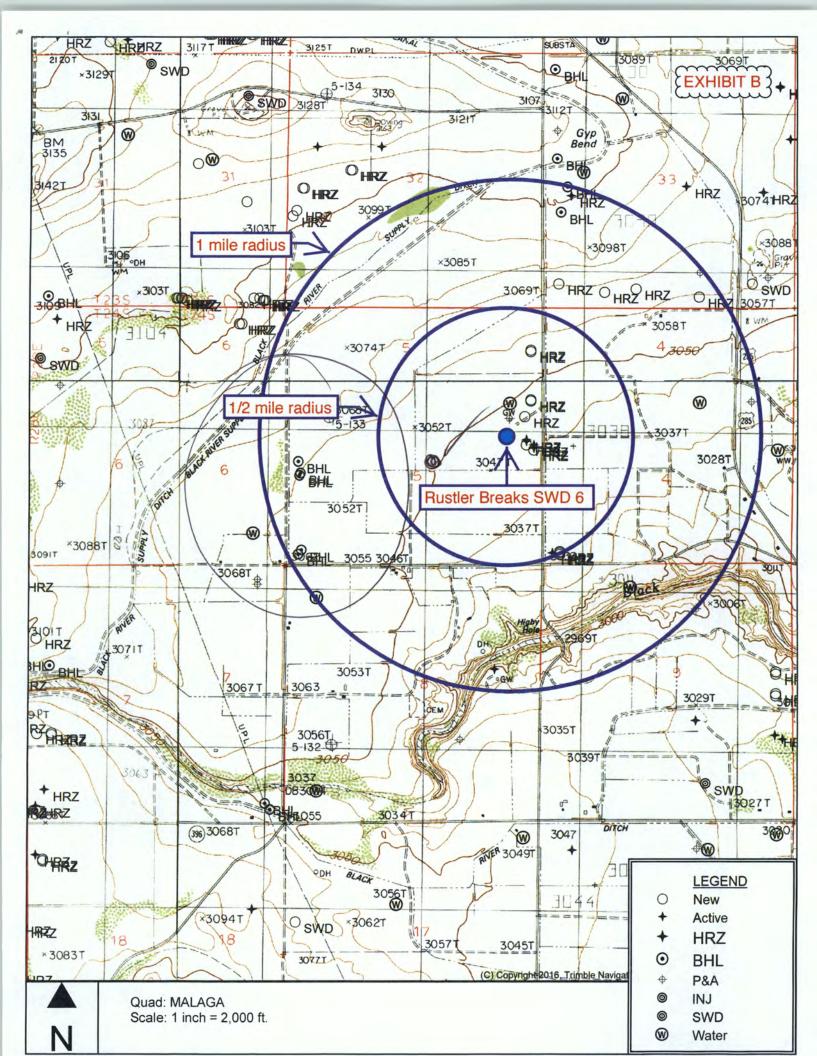
AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT API Number 30-015-45034 96101 3WD; Devonian Well Number 318050 RUSTLER BREAKS SWD #6 OGRID No. Operator Name Elevation 371287 BLACK RIVER WATER MANAGEMENT COMPANY, LLC 3045

10 Surface Location Feet from th UL or lot no. 2595 H 24-S 5 28-E NORTH 726 EAST EDDY Feet from th East/West lin Dedicated Acre Order Na. 640.22

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



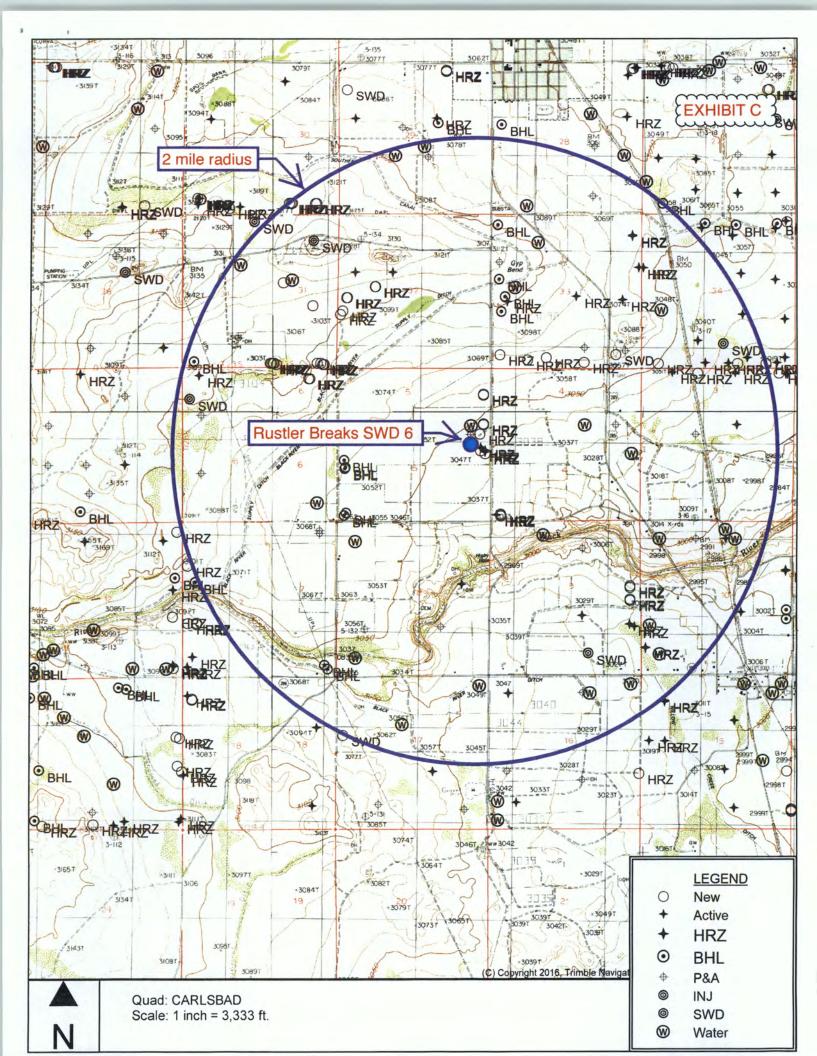


SORTED BY DISTANCE FROM RUSTLER BREAKS SWD 6

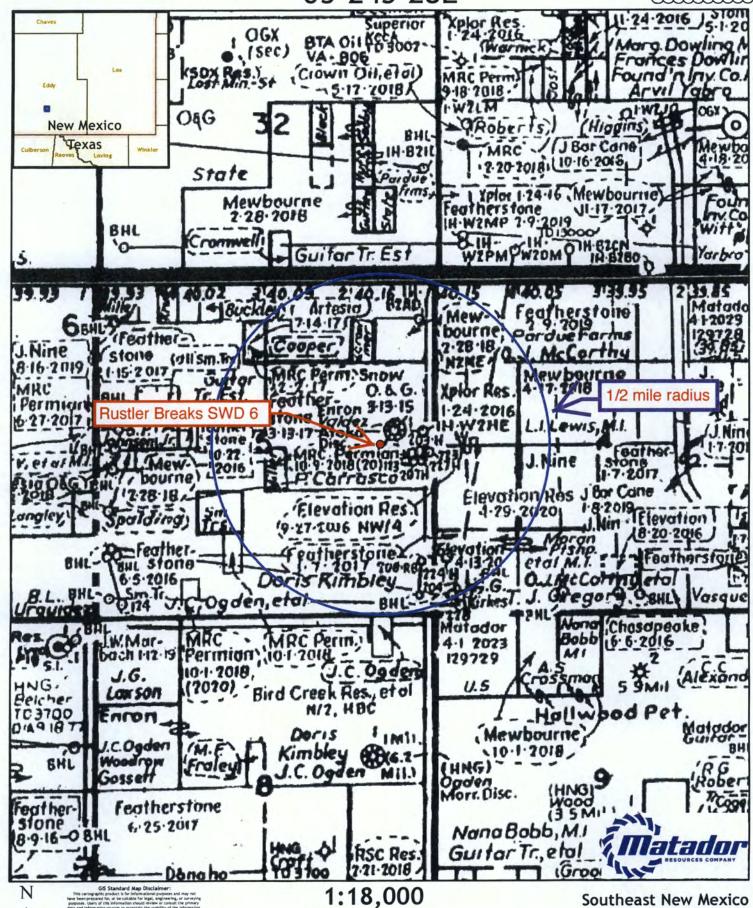
FEET FROM RUSTLER BREAKS SWD 6	316	483	498	513	637	862	886	1775	1804	2015	2814	3519	4029	4848	4858
STATUS	P&A	New	New	New	New	ona	onc	ona	onc	New	Active	New	New	Active	New
WELL	0	G	9	G	G	G	G	9	9	0	g	9	0	ŋ	0
WELL	Valdez 5 Com 001	Jimmy Kone 05 24S 28E RB 203H	Jimmy Kone 05 24S 28E RB 226H	Jimmy Kone 05 24S 28E RB 223H	Zeppelin 5 W2HE Fee 001H	Jimmy Kone 05 24S 28E RB 202H	Jimmy Kone 05 24S 28E RB 215H	Jimmy Kone 05 24S 28E RB 201H	Jimmy Kone 05 24S 28E RB 221H	Zeppelin 5 B2AD Fee 001H	Jimmy Kone 05 24S 28E RB 228H	Foreigner 4 W2DM Fee 001H	Foreigner 4 B2CN Fee 001H	Ogden 8 Com 001	Foreigner 4 B2BO Fee 001H
۵۷T	13030	9338	10359	10349	no report	9394	9402	9414	9416	no report	10376	no report	no report	12920	no report
ZONE	Atoka	Wolfcamp	Wolfcamp	Wolfcamp	Wolfcamp	Wolfcamp	Wolfcamp	Wolfcamp	Wolfcamp	Bone Spring	Wolfcamp	Wolfcamp	Bone Spring	Atoka	Bone Spring
TOWNSHIP	24.05	24.05	24.05	24.05	24.0S	24.05	24.05	24.0S	24.05	24.05	24.05	23.05	23.05	24.05	23.05
SECTION	2	5	2	5	5	5	5	5	5	5	4	33	33	8	33
In I	工	_	_	_	Ŧ	ェ	I	∢	∢	∢	Σ	Σ	Z	I	0
RANGE	28E	28E	28E	28E	28E	28E	28E	28E	28E	28E	28E	28E	28E	28E	28E
OPERATOR	9 N H	Matador	Matador	Matador	Mewbourne	Matador	Matador	Matador	Matador	Mewbourne	Matador	Mewbourne	Mewbourne	Chevron	Mewbourne
API	3001522184	3001543475	3001543958	3001543477	3001543030	3001544658	3001544744	3001544596	3001544595	3001543166	3001543542	3001543146	3001543144	3001522066	3001543145

SORTED BY DISTANCE FROM RUSTLER BREAKS SWD 6

3001543389	Matador	28E	Σ	2	24.05	Wolfcamp	9367	Jimmy Kone 05 24S 28E RB 208H	9	Active	4989
3001523497	9NH	28E	I	4	24.05	Morrow	13000	Vasquez 4 Com 001	0	P&A	5136
3001523586 Manzano	Manzano	28E	0	33	23.05	Morrow	13000	Pardue Farms 001	0	P&A	5184
3001543494	3001543494 Mewbourne	28E		33	23.05	Wolfcamp	10520	Foreigner 33 4 W2LM Fee 001H	ŋ	Active	5186







1 inch = 1,500 feet Feet 6,000

3,000

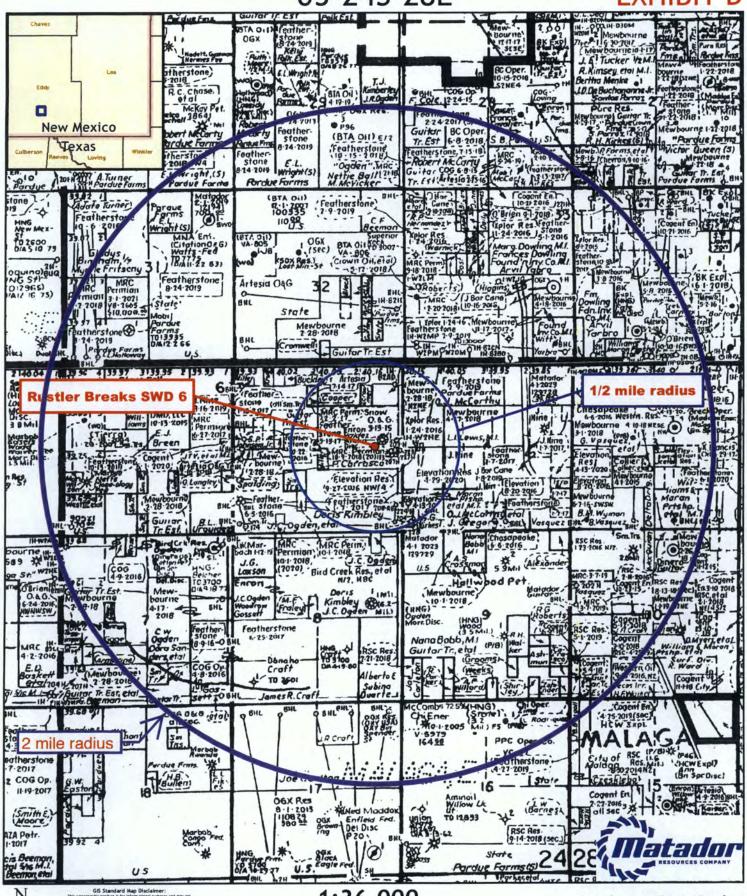
4,500

750

1,500

Map Prepared by: AGreen Date: July 2, 2018 Filename: matadorSWDLseMap 05-24S-28E

FXHIBIT D



GIS Standard Map Disclaimer:
This cartographic product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

1:36,000 1 inch = 3,000 feet

Feet

12,000

Southeast New Mexico

Map Prepared by: AGreen Date: July 11, 2018
Filename: matadorSWDLseMap Coordinate System: NAD 1927 StatePlane New Mexico East FIPS 3001 in: Transverse Mercator; Datum: North American 1927; Units: Foot US Course: IMS: Foot

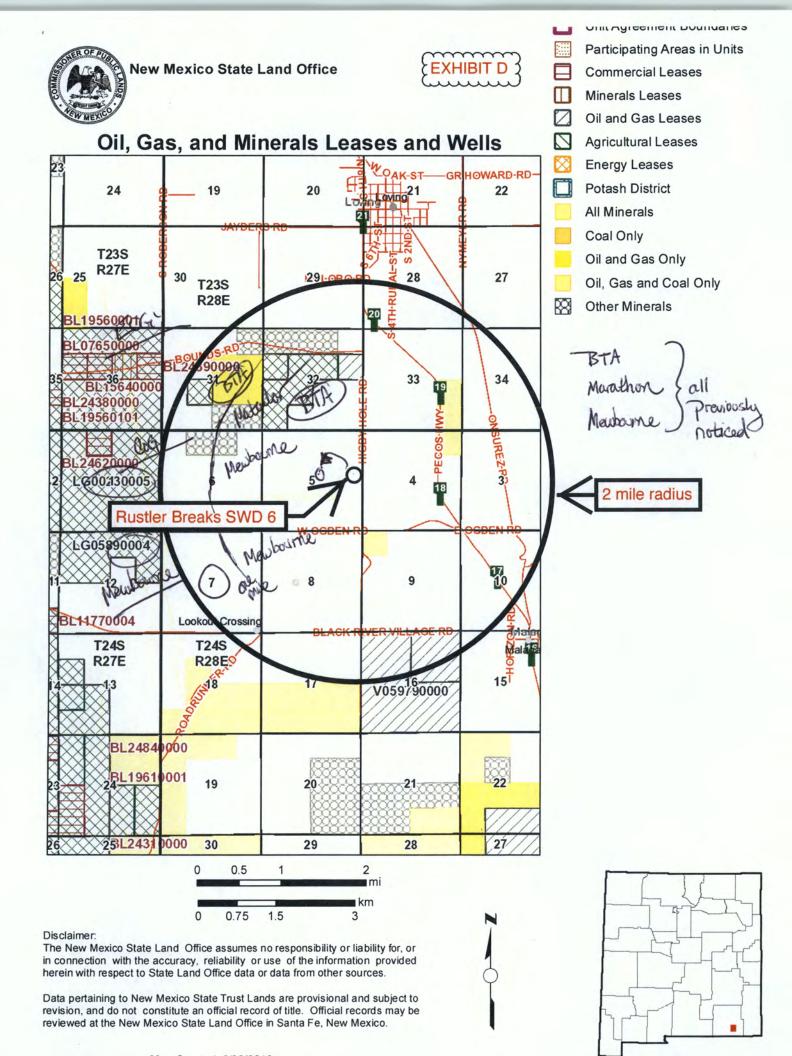


EXHIBIT E

NM WAIDS

DATA

MAPS

HOME

SCALE

"CORROSION

	General Informatio	n About: Sample 5	199
	SQUARE LAK	E DEEP UNIT 001	
API	3001503979	Sample Number	
Unit/Section/ Township/Range	J / 33 / 16 S / 30 E	Field	
County	Eddy	Formation	DEV
State	NM	Depth	
Lat/Long	32.87982 / -103.97885	Sample Source	DST
TDS (mg/L)	63260	Water Type	
Sample Date(MM/DD/YYYY)		Analysis Date(MM/DD/YYYY)	
Remarks/Description			
Cation	n Information (mg/L)	Anior	Information (mg/L)
Potassium (K)		Sulfate (SO)	3600
Sodium (Na)		Chloride (Cl)	34400
Calcium (Ca)		Carbonate (CO ₃)	
Magnesium (Mg)		Bicarbonate (HCO ₃)	1260
Barium (Ba)		Hydroxide (OH)	
Manganese (Mn)		Hydrogen Sulfide (H ₂ S)	
Strontium (Sr)		Carbon Dioxide (CO ₂)	
Iron (Fe)		Oxygen (O)	







2638 Faudree Odessa, Texas 79765-8538 561-5579

WadeCo Specialties, LLC Company:

Santa Fe Fed 4 WH 30-015-27030

H-35-22s-28e

Well Number: Lease: RKI

Location: WC20874

4/8/2014 Date Run:

Lab Ref #: 14-apr-h14284 K=1,289.47 ppm

70 Sample Temp:

Date Sampled:

3/18/2014 Wade Havens

Sampled by: Employee #:

Analyzed by:

GR

			Dissolved (Gases			
			2100011011		Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	e (H2S)				.00	16.00	.00
Carbon Dioxide	(CO2)				60.00	22.00	2.73
Dissolved Oxyge	n (O2)		NOT ANA	LYZED			
			Cations				
Calcium	(Ca++)		25	5,342.08	20.10	1,260.80
Magnesium	(Mg++	-)		1	,698.24	12.20	139.20
Sodium	(Na+)			52	2,917.44	23.00	2,300.76
Barium	(Ba++)	NOT ANAI	LYZED			
Manganese	(Mn+)				7.87	27.50	.29
Strontium	(Sr++)	NOT ANAI	LYZED			
			Anions				
Hydroxyl	(OH-)				.00	17.00	.00
Carbonate	(CO3=	:)			.00	30.00	.00
BiCarbonate	(HCO3	-)			122.20	61.10	2.00
Sulfate	(SO4=)			940.00	48.80	19.26
Chloride	(CI-)			130	,543.44	35.50	3,677.28
Total Iron	(Fe)				4.19	18.60	.23
Total Dissolved S	Solids			211	,635.46	_	
Total Hardness a	s CaCO3			70	,317.98		
Conductivity MIC	CROMHOS/CN	1			220,000		
рН	6.180			Specific Gr	avity 60/60	F.	1.147
CaSO4 Solubility	@ 80 F.	8.4	44MEq/L,	CaSo4 scale	is likely		
CaCO3 Scale Index							
70.0	1.164	100.0	1.764	130.0	3.284		
80.0	1.294	110.0	2.214	140.0	3.284		
90.0	1.764	120.0	2.214	150.0	3.284	ļ	

RKI Exploration & Prod., LLC

C-108: Longview Fed 12 SWD No. 5 from SWD-1489 30-015-43596

Delaware Produced Water

WadeCo Specialties, LLC

2638 Faudree Odessa, Texas 79765-8538 561-5579

Company:	WadeCo	Specialties,	LLC
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Pinnacle State 36-32H 30-015-41587 Well Number:

C-36-22s-28e **RKI** Lease:

WC20910 Location:

Date Run: 4/8/2014 Sample Temp:

Date Sampled:

70 3/30/2014 Sampled by:

Wade Havens

Employee #:

Lab Ref #: 1 K=1,033.30 ppm	4-apr-h14273			Ar	nalyzed by:	GR .	
			Dissolved (Gases			
					Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H2S)				5.00	16.00	.31
Carbon Dioxide	(CO2)				170.00	22.00	7.73
Dissolved Oxyge	n (O2)		NOT ANA	LYZED			
			Cations				
Calcium	(Ca++))			9,945.48	20.10	494.80
Magnesium	(Mg++)			1,459.12	12.20	119.60
Sodium	(Na+)			5	51,717.70	23.00	2,248.60
Barium	(Ba++))	NOT ANAI	YZED			
Manganese	(Mn+)				1.35	27.50	.05
Strontium	(Sr++)		NOT ANA	LYZED			
			Anions				
Hydroxyl	(OH-)				.00	17.00	.00
Carbonate	(CO3=))			.00	30.00	.00
BiCarbonate	(HCO3-	·)			1,955.20	61.10	32.00
Sulfate	(SO4=))			180.00	48.80	3.69
Chloride	(CI-)			. 10	00,110.00	35.50	2,820.00
Total Iron	(Fe)				6.9	18.60	.37
Total Dissolved S	Solids			16	55,550.75	-	
Total Hardness a	s CaCO3			3	30,846.09		
Conductivity MIC	ROMHOS/CM				202,000		
рН	6.660			Specific G	Gravity 60/60) F.	1.115
CaSO4 Solubility	@ 80 F.	23.	81MEq/L,	CaSO4 sca	ile is unlikely	,	
CaCO3 Scale Index							
70.0	1.662	100.0	2.012	130.0	2.64	2	
80.0	1.762	110.0	2.322	140.0	2.64	2	
90.0	2.012	120.0	2.322	150.0	3.01	2	



2638 Faudree Odessa, Texas 79765-8538 561-5579

Company:	Wade	Co Spe	ecialti	es, LLC				
Well Number: Lease: Location: Date Run:	Longviev RKI WC2090 4/8/201	7	Fed 31-	31 ³⁰⁻⁰¹⁵⁻³ L-31-22s	37604 s-29e	Sample Temp: Date Sampled Sampled by: Employee #:		
Lab Ref #: K=516.70 ppm	14-apr-l					Analyzed by:	GR	
				Dissolved G	Gases			
			•			Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulf	fide ((H2S)				5.00	16.00	.31
Carbon Dioxid	le ((CO2)				300.00	22.00	13.64
Dissolved Oxy	gen ((02)		NOT ANAI	LYZED			
				Cations				
Calcium	((Ca++)				5,427.00	20.10	270.00
Magnesium	((Mg++)				1,127.28	12.20	92.40
Sodium	((Na+)				35,916.64	23.00	1,561.59
Barium	((Ba++)		NOT ANAL	YZED			
Manganese	((Mn+)				3.59	27.50	.13
Strontium	((Sr++)		NOT ANAL	YZED			
				Anions				
Hydroxyl	((OH-)				.00.	17.00	.00
Carbonate	((CO3=)				.00	30.00	.00
BiCarbonate	((HCO3-)				1,026.48	61.10	16.80
Sulfate	(SO4=)				88.00	48.80	1.80
Chloride	((CI-)				67,273.92	35.50	1,895.04
Total Iron	((Fe)				58.7	18.60	3.16
Total Dissolve	d Solids					111,226.61-	_	
Total Hardnes	s as CaCC	03				18,189.35		
Conductivity N	MICROMH	OS/CM				152,700		
pH	6.890				Specif	ic Gravity 60/	60 F.	1.077
CaSO4 Solubility @ 80 F. 36.35MEq/L, CaSO4 scale is unlikely								
CaCO3 Scale Inc	dex							
70.0	.94	4 9	100.0	1.249	130.	.0 1.8	39	
80.0	1.03	39	110.0	1.519	140.	.0 1.8	39	
90.0	1.24	1 9	120.0	1.519	150.	.0 2.1	79	



2638 Faudree Odessa, Texas 79765-8538 561-5579

	-							
Company:	Wad	deCo Sp	ecialti	es, LLC				
Well Number: Lease: Location: Date Run: Lab Ref #: K=101.49 ppn	RKI WC20 4/8/2 14-a _l		Fed 6-4	130-015-3 M-6-23s-		Sample Temp: Date Sampled: Sampled by: Employee #: Analyzed by:	70 3/30/20 Wade H GR	
				Dissolved (Gases			
						Mg/L	Eq. Wt.	MEq/L
Hydrogen Sul		(H2S)				5.00	16.00	.31
Carbon Dioxid		(CO2)				150.00	22.00	6.82
Dissolved Oxy	/gen	(02)		NOT ANA	LYZED			
				Cations				
Calcium		(Ca++)				1,608.00	20.10	80.00
Magnesium		(Mg++))			517.28	12.20	42.40
Sodium		(Na+)				18,971.44	23.00	824.85
Barium		(Ba++)		NOT ANA	LYZED			
Manganese		(Mn+)				2.55	27.50	.09
Strontium		(Sr++)		NOT ANAI	LYZED			
				Anions				
Hydroxyl		(OH-)				.00	17.00	.00
Carbonate		(CO3=)				.00	30.00	.00
BiCarbonate		(HCO3-	-			611.00	61.10	10.00
Sulfate		(SO4=)				.00	48.80	.00
Chloride		(CI-)				33,036.30	35.50	930.60
Total Iron Total Dissolve Total Hardnes Conductivity I	s as C	aCO3			(54,903.06 6,140.85 84,500	18.60	.08
рН	6.83	10			Specifi	ic Gravity 60/6	0 F.	1.038
CaSO4 Solubil	ity @ 8	0 F.	53.4	18MEq/L,	CaSO4	scale is unlikely	<i>(</i>	
CaCO3 Scale Inc	dex							
70.0		035	100.0	.285	130.	0 .90)5	
80.0		.085	110.0	.545	140.	0 .90	5	

120.0

.285

90.0

150.0

1.235

.545



New Mexico Office of the State Engineer

EXHIBIT F

Water Column/Average Depth to Water

(A CLW#### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

POD

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

		Sub-		O	Q	n									Water
POD Number	Code		County				Sec	Tws	Rng	X	Y	DistanceI) DepthWellD	epthWater (
<u>C 01731</u>		C	ED				05	24S	28E	584483	3568367*		80	30	50
C 03703 POD1		С	ED	1	2	1	09	24S	28E	585259	3567225	1239	74	15	59
C 02306		С	ED		3	2	04	24 S	28E	585690	3568382*	1239	75	25	50
<u>C 00406</u>	1 mile =	C	ED		1	1	80	24S	28E	583270	3567142*	1583	78	50	28
C 03706 POD1	1610 m	С	ED	3	4	4	22	2 1S	27 E	584939	3569812	1701	200	•••••	••••••
C 03831 PODI		C	ED	4	3	1	33	23S	28E	584939	3569812	1701	300	52	248
<u>C 00573</u>		CUB	ED	2	2	4	04	24 S	28E	586188	3568087*	1723	250	35	215
<u>C 01244</u>		C	ED		4	4	06	24S	28E	582860	3567543*	1727	109	70	39
<u>C 00481</u>		С	ED	3	2	1	33	23S	28E	585182	3570283* 🌡	2223	225	190	35
<u>C 00570</u>		CUB	ED		1	1	10	24S	28E	586490	3567195*	2249	100	28	72
C 01240		C	ED		1	3	34	23S	28E	586494	3569592*	2471	125	25	100
<u>C_00232</u>		CUB	ED	1	3	2	07	24S	28E	582362	3566826*	2501	160		
<u>C 00648</u>		C	ED	2	2	2	17	24S	28E	584593	3565644*	2537	96	58	38
C 04037 POD1		С	ED	4	3	2	31	23S	28E	582576	3569872	2539	99	60	39
C 00361	С	CUB	ED		3	3	08	24 S	28E	583283	3565926*	2544	2575		
C 04202 POD1		С	ED	4	3	3	28	23S	28E	585054	3570669	2559	400	60	340
<u>C 00764</u>		CUB	ED	3	1	3	10	24S	28E	586399	3566292*	2699	118	25	93
C 01232		C	ED	2	3	1	34	23S	28E	586592	3570095*	2861	150		
<u>C 01237</u>		C	ED	1	1	2	10	24S	28E	587197	3567298*	2868	123		
C 03824 POD1		CUB	ED	4	1	2	16	24S	28E	585770	3565578	2907	290	60	230
<u>C 00962</u>		C	ED		3	3	10	24S	28E	586505	3565992*	2988	63	9	54
C 01442		C	ED		1	2	10	24 S	28E	587298	3567199*	2995	100		
<u>C_00365</u>		CUB	ED	2	4	1	17	24S	28E	583791	3565226*	3028	238	26	212
<u>C 02836</u>		C	ED	2	2	2	16	24S	28E	586203	3565676*	3045		15	
C 04085 POD1		CUB	ED	1	4	1	31	23S	28E	582039	3570027	3051	250	200	50
C 01648		C	ED		2	3	29	23 S	28E	583667	3571184*	3110	65	15	50
<u>C 02037</u>		С	ED		2	3	29	23S	28E	583667	3571184*	3110	260		
C 00108		CUB	ED	1	1	4	29	23S	28E	583974	3571285*	3145	152	10	142

Average Depth to Water:

50 feet 9 feet

Minimum Depth:

Maximum Depth:

200 feet

Record Count: 28

UTMNAD83 Radius Search (in meters):

Easting (X): 584467

Northing (Y): 3568178

Radius: 3220

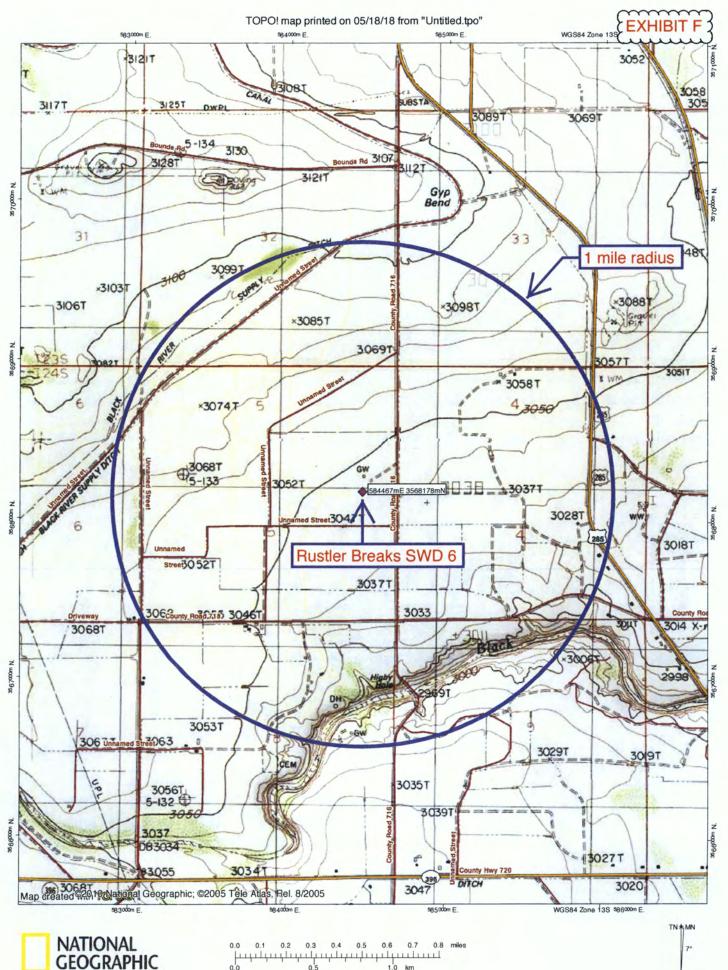


*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

5/18/18 2:04 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER





0.0 0.5 1.0 km

05/18/18



Black River Water Management Company, LLC

One Lincoln Centre • 5400 LBJ Freeway • Suite 1500 • Dallas, Texas 75240 Voice 972.371.5454 • Fax 214.866.4832 ccollier@matadorresources.com

Clark Collier Geologist

May 22, 2018

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505 David.Catanach@state.nm.us

Re: Geology Statement

Rustler Breaks SWD #6 ("the Well")

Section 5, Township 24 South, Range 28 East, N.M.P.M.

Eddy County, New Mexico

To whom it may concern:

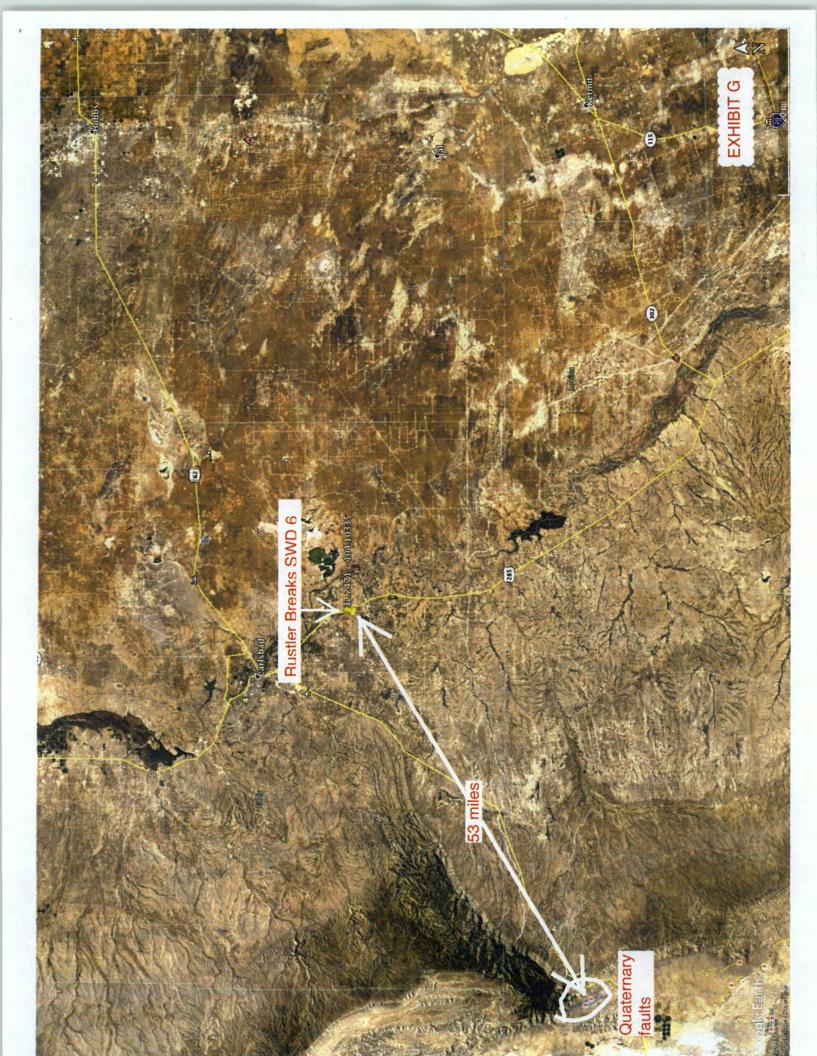
Available geologic and engineering data related to the proposed Well has been thoroughly reviewed, and no evidence for a hydrological connection between the proposed deep Devonian injection zone, located at approximately 13,924', and any underground sources of drinking water has been found.

Sincerely,

Black River Water Management

Company, LLC

Clark Collier



CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No. 0001255016

PERMITS WEST, INC. 37 VERANO LOOP

SANTA FE NM 87508

I, a legal clerk of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

07/18/18

Legal Clerk

Subscribed and sworn before me this 18th of July 2018.

State of WI, County of Brown
NOTARY PUBLIC

My Commission Expires

To Ruth Ott Hopkins, whose last known address is unknown, or her devisees; and to Jeanette Huffer, whose last known address is unknown, or her devisees; Black River Water Management Company, LLC is applying to drill the Rustler Breaks SWD 6 as a saltwater disposal well. The well is staked at 2595 FNL & 726 FEL Sec. 5, T. 24 S., R. 28 E., Eddy County and is 2.4 miles northwest of Malaga, NM and 2-2/3 miles south of Loving, NM. Disposal will be in the Devonian from 13,500' to 15,000'. Maximum disposal pressure will be 2,700 psi. Maximum disposal rate will be 45,000 bwpd. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days of the publication of this ad. Additional information can be obtained by contacting: Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.

Pub: July 18, 2018 #1255016

TARA MONDLOCH Notary Public State of Wisconsin





July 12, 2018

Valdez Family 2006 Irrevocable Trust 4204 Thomason Road Carlsbad NM 88220 TYPICA

TYPICAL LETTER

Black River Water Management Company, LLC is applying (see attached application) to drill the Rustler Breaks SWD 6 well as a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: Rustler Breaks SWD 6 (fee lease)

Proposed Disposal Zone: Devonian (from 13,925' to 14,924')

Location: 2595' FNL & 726' FEL Sec. 5, T. 24 S., R. 28 E., Eddy County, NM Approximate Location: ≈2-2/3 miles south of Loving, NM Applicant: Black River Water Management Company, LLC (972) 371-5420

Applicant's Address: 5400 LBJ Freeway, Suite 1500, Dallas TX 75240

<u>Submittal Information:</u> Application for a saltwater disposal well will be filed with the NMOCD. If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Phone is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood





	THE	6126	7211321VILLIGATIFEE	1719
	Quinoco Consolidated Partners, LP P.OBox 9378111 Deriver CO 80237 Russler SWO 6.	1149 0000 6413	Sara Elisabeth Huffer Hobart	0680 0001 6411
		8.05	3 Jan 5	2018
	CERTIFIED WAITE RECEIPT	L 6133	CENTIFE D MARS RECEPT Amenda and day freedom a managem and on which of amenda and only	
י נטטט ווייס היי	RKI Exploration & Production, LEC .939 RKI Exploration & Center Suite 3500 Fulsa OK 74177	8 0680 0	Section Petroleum, Inc. Silverton Petroleum, Inc. Silverton Petroleum, Inc. Silverton Petroleum, Inc. Russi Possage and Year P.O. Box 28 Graham TX 76450 Russiler SWO. 5 Russiler SWO. 5	
ĵ	August SWD 6	(- :	Her da XVV in As 41 in.	==
	GERTIFIED EARLY RECEIPT TO THE SALE OF THE CEIPT ROSS Duncan Properties, LEC 51,99 THE SALE OF THE CEIPT O		US Provide Service BEHTUTED MAIL'S RECEIPT Company of the service	
/nra 0688 8001 6411 6182	RSC Resources, LP 5824 Island Circle Middand TX 79707	TTHE TOOM REST. No. 15	GOZ PATR Point Dr. Suite 200 Golden CO 80401 Rustler SWD 6	and a
የሀታው ህወብ መህወ ከተፈል ከ119	Santo Petroleum, LLC P.O. 80x 1020 Artesia NM 0 Rustler SWD 6	ንፀጊዳ ፀ680 ፀፀፀኔ ६५ጌ% ይገ ራ ዓ	Tura Homan Brown 1205 Angelique Street Saint Joseph MO 64501 Rustler SWD 6	
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6171	HEAT STATE EATHER EXH
6411 E	7. T. S.
	The second secon
0680 0001	Valdez Family 2006 Irrevocable Trust
2018	Sec. 25 Rustler SWD 6.

so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Adoressan to: Bird Creek Resources Inc. 1437 South Boulder Avenue #930 Tulsa 0K 74119 Rustler Breaks SWD 6	B. Received by (Pinited Name) D. la delivery address different from item 1? Yes If Yes, anter delivery address below. No	Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mairpiece, or on the front if space permits. Article Addressed to: Chevron USA, Inc. 1400 Smith Street Houston TX 77002 Rustler Breaks SWD 6	B. Received by (Printed Name) O. Date of Delivery O. Is delivery acidness different from item 17 Ves If YES, anter delivery acidness below:
9599 9402 3720 7335 0599 79 7018 0580 0001 5411 583 9 Form 3811, July 2015 PSN 7330-02-000-9033	Chick Signature Restricted Dollary Respicted Maj Restricted Dollary Respicted Maj Restricted Dollary Respicted Maj Restricted Dollary Restricted Maj Restricted Dollary Restricted Dollary Restricted Confernation* Restricted Dollary Restricted	9590 9402 3720 7335 0588 94 2. Antich Number (Transfer from service history 7018 0580 0001 6411 5891 PS Form 3811, July 2015 PSN 7530-02-000-9053	3. Service Type Admit Synature Admi
ENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the malipiece, or on the front if space permits. Article Addressed to: BP Oil and Gas Company 50 I Westlake Park Blvd. Houston TX 77079 Rustler Breaks SWD 6	A. Signiarium A. Signiarium A. Signiarium A. Signiarium A. Signiarium A. Signiarium Adjenster Addressee B. Received by Rivintad Native) C. Date of Districty D. Is delivery address different from item 17	SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Aridia Addressed to: Aradria Csercsevits 1402 Carlson Drive Orlando FL 32804 Rustler Breaks SWD 6	COMPLETE THIS SECTION ON DELIVERY A. Signature X. D. Addressen B. Received by (Printed Name) C. Date of Delivery 7/20/1/ D. to delivery address different from Bern 17 U. Yes If YES, enter delivery address below:
9590 9402 3720 7335 0589 82 Article Number (Transfer from service laber) 7018 0580 0001 5411 582 3 realm 3811, 30ly 2015 PSN 7530-02-000-903		9590 9402 3720 7335 0596 34	Service Type Priority Mell Energies
ENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Brazos Petroleum, Inc. 2010 Lindy St. Graham TX 76450 Rustler Breaks SWD 6	A Signature A Signature A Signature A Signature A Agent Addressee B. Received by (Printed Name) C. Date of Defivery C. is delivery address different from item 17 If YES, enter defivery address below: No	SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Ross Duncan Properties, LLC P.O. Box 647 Artesia NM 6 13211 Rustler Breaks SWD 6	COMPLETE THIS SECTION ON DELIVERY A Signature X
9590 9-102 3720 7305 0589 55 Article Number (franser from service label) 7 01-8 06-8 0 0001 6-411 58 S Form 3811, July 2015 PSN 7530-02-000-3033	3 1 Heavisia Delivery (Hassician Station)	9590 9402 3720 7335 0574 15	Service Type
RENDERS COMPLETE THIS SECTION Complete items 1, 2, and 3, Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: BTA Oil Producers 104 South Pecos Street Midland TX 79701 Rustler Breaks SWD 6	A. Signature A. Signature A. Signature D. Agent A Stdressee B. Received by Printed Name) C. Data of Defivery This printed Name if you have a state of the	SENDERS COMPLETE THIS SECTION. Complete items 1, 2, and 3. Print your name and address on the raverse so that we can return the card to you. Attach this card to the back of the malpiece, or on the front it space permits. Article Addressed for Featherstone Development Corporation P.O. Box 429 Roswell NM 88202 Rustler Breaks SWD 6	A Signature X
9590-9402-3720-7335-0589-48 1. Article Number (Transfer from service label)	2 4 by stricted Dustvery reconciled Districted	9590 9402 3720 7235 0588 50	Service Type Priorry Mel Eurose/2
ENDER: COMPLETE THIS SECTION: Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Chevron Midcontinent, LP 1400 Smith Street Houston TX 77002 Rustler Breaks SWD 6	Agent Addresses B. Received by Philipa Name C. Date of Delivery C. Date of Delivery D. is delivery address different from ison 17 Vas	SENDER: COMPLETE THIS SECTION © Complete Items 1, 2, and 3. Print your name and address on the reverse so that we can return the eard to you. Attach this card to the back of the mailplece, or on the front if space permits. 1. Article Addressed to: Kaiser-Francis Oil Co. 6733 S. Yale Ave. Tulsa OK 74172	A. Signature M. Grant Garden Addressase B. Racelved by (Printog Name) C. Date of Delivery 7-7-7-7 O. In delivery address deferrant from item 12 Ves If YES, enter delivery address below:
9590 9400 5780 7335 6589 00	Adult Signature Asstricted Delivery Adult Signature Asstricted Delivery Certified Maxi8 Certif	Rustler Breaks SWD 6 9590-9402-9720-7935-0591-35 Aniel Number (Fransfer from service labou) 7018-0580-0001-5411-5454	Service Type Adul Signature Adul Signature Resortand Delivory Carridde Mass Propositive Mail Evotops Described Mass Propositive Mail Restricted Delivory Carridde Mass Propositive Mail Restricted Delivory Carridde Mass Propositive Mail Restricted Delivory Carridde Mass Propositive Mail Resortance Delivery Carridde Mass Propositive Mail Resortance Delivery Carridde Mass Propositive Mass Delivery Proposi

7018 0530 0001 5411 5354 S Form 3811, July 2015 PBN 7530-02-000-0053

Comestic Return Receipt ...

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Betty Ellen McCammar 243 Norwood Drive Branson MO 65616	If YES, enter delivery address below:	Ogden Living Trust 159 W. Ogden Road Loving NM 88256	If YES, enter delivery address below:
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. Aricle Addressed to: Matador Production Company 5400 LBJ Freeway, Suite 1500 Dallas TX 75240	Is delivery address different from item 17: If Yes If YES, enter delivery address below: No	RKI Exploration & Production, LLC 3500 One Williams Center Suite 3500 Tulsa OK 74172	If YES, anter delivery address ballow:
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P.O.Box S270 Hobbs NM 8824 L Rustler Breaks SWD 6		P.O. Box 1020 Artesia NM のぐセン/ Rustler Breaks SWD 6	
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E Complete itams 1, 2, and 3. E thirt your name and address on the reverse so that we can return the card to you. Attach this cord to the back of the malloiece, or on the front it space permits. Article Addressed to:	Agont Addressee 9. Received by (Printed Name) 1. Date of Delevery 1. 2-9 % 1. a delivery address different from ram 1? 1. b delivery address different from ram 1?	Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits,	A Signature A Signature A Signature A Signature A Signature A Addresses G Addresses G Addresses G C Date of Delivery
MRC Permian Company \$400 LBJ Freeway, Suite 1500 Dallas TX 75240 Rustler Breaks SWD 6	If YES, anter delivery address below:	1. Avticle Addressed to: Silverton Petroleum, Inc. P.O. Box 26 Graham TX 76450	Is delinery address different from item 17: If Yes, enter delinery address below: No
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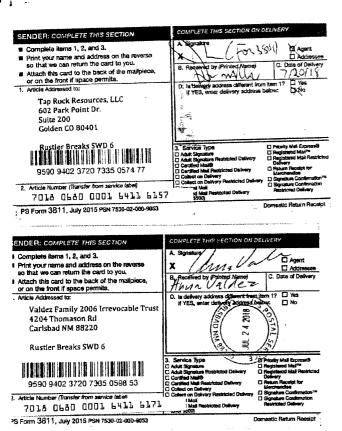


EXHIBIT I

FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]									
DATE RECORD: First Rec: 8/2/18 Admin Complete: 8/2/18 or Suspended: L8/2/19 JAdd Request/Reply 2									
ORDER TYPE: WFX / PMX (SWD) Number: 1808 Order Date: 10/26/18 Legacy Permits/Orders:									
Well No. 6 Well Name(s): Rustler Breaks Swo									
API: 30-0 15-45034	Spud Da	ate: TBD	New or Old ((EPA): Nau (UIC C	lass II Primacy 03/07/1982)				
Footages 2515 FNL 223	O FEL Lot	o <u>r Unit </u>	_ тsp 2	4S _{Rge} 28 <i>E</i>	County Eddy				
General Location: 2 mi Soirth of Malasa Praving Highman) SiuD; Devonia Pool No. 96101,									
BLM 100K Map: Curls bad	Footages 2515 FNL 2230 FEL Lot or Unit G Sec 5 Tsp 245 Rge 28 County Eddy General Location: ~ 2 mi sovern of Malaser Laving Higher Sub; Devariate Pool No. 96101. BLM 100K Map: Curls bad Operator: Black River Water Management GRID: 371287 Contact: 5. Wood Permit West								
COMPLIANCE RULE 5.9: Total Well	COMPLIANCE RULE 5.9: Total Wells: Inactive: Fincl Assur: OK Compl. Order? 10 IS 5.9 OK? 18 Date: 10/16/19								
WELL FILE REVIEWED (Current	Status: APO	filed.							
WELL DIAGRAMS: NEW: Proposed	or RE-ENTER:	: Before Conv.	onv. L	ogs in Imaging:					
Planned Rehab Work to Well:									
Well Construction Details	Sizes (in)	Setting		Cement	Cement Top and				
Planned or Existing _Surface	Borehole / Pipe	Depths (ft) 0 to 6/0	Stage Tool	Sx or Cf	Determination Method				
Planned Vor ExistingIntern / Prod		0 to 2600	Stage 1001	/400 (uo)	Cir. to surpre				
Planned_or_Existing_Interp/Prod	1-5.114	0 to 10700		1400 3900	Cir. to surface				
Planned_or Existing /ProdyLiner	111,1011	040 13925	_	1100	16L CBL				
Planned_or Existing Liner	1.0	<u> </u>		1,00	-10L 1 GOL				
Planned or Existing OH PERF		1200 110011	Inj Length	Completion	On and an Patrilla				
rained_or Existing _OTF PERF		13 925 - 14924 Injection or Confining			/Operation Details:				
Injection Lithostratigraphic Units:	Depths (ft)	Units	Tops		PBTD				
Adjacent Unit: Litho Struc. Per		Mississippian	13374						
Confining Unit Litho. Struc. Po. Proposed In Interval TOP:	30 13925	Wood ford	1377(or NEW Perfs				
Proposed Inj Interval BOTTOM:		Devouar	13925	Proposed Packer De	in. Inter Coated? Yes				
Confining Unit: Litho. Struc. (Por.)	0	Silvian	2		13825 (100-ft limit)				
Adjacent Unit: Litho. Struc. Por.		Montaya	15034	Proposed Max. Surface Press2785_ psi					
AOR: Hydrologic and Geologic Information Admin. Inj. Press. 2785 (0.2 psi per ft)									
POTASH: R-111-P Noticed? NA BLM Sec Ord WIPP Noticed? NASalt/Salado T: B:2522 NW: Cliff House fm									
FRESH WATER: Aquifer Allow	al Rootler	Max Depth_ < 380 '	HYDRO	AFFIRM STATEMEN	IT By Qualified Person				
NMOSE Basin: Carlsbad CAP					FW Analysis?				
Disposal Fluid: Formation Source(s) DMG BS w Penn Analysis? Ves On Lease Operator Only Or Commercial O									
Disposal Interval: Inject Rate (Avg/Max BWPD): 40,000/45,000 Protectable Waters? No Source: Historical System: Closed of Open									
HC Potential: Producing Interval? No Formerly Producing? No Method: Logs/DST/P&A/Other 2-Mi Radius Pool Map 2									
AOR Wells: 172-M Radius Map and Well List? Yes No. Penetrating Wells: [AOR Horizontals: AOR SWDs:]									
Penetrating Wells: No. Active Wells Num Repairs? on which well(s)? Diagrams?									
Penetrating Wells: No. P&A Wells_	Num Repairs?	on which well(s)?			Diagrams?				
NOTICE: Newspaper Date 07/18	Mineral 6	OwnerFee	Surface O	wner Voldez Fam. Image					
RULE 26.7(A): Identified Tracts?			notice	Tive	N. Date 0/11/18				
	7-1100								
Additional COAs: Mudlog pi	cks; emt 1	og for 15/8-in c	asha; c	mt notice to d	istrict; BH pressure				

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD

Sent: Monday, August 27, 2018 11:45 AM

To: 'Adam Rankin'

Cc: Jones, William V, EMNRD; McMillan, Michael, EMNRD; Riley, Heather, EMNRD; Brian

Wood (brian@permitswest.com)

Subject: Status of Rustler Breaks SWD No. 6 C-108 Application **Attachments:** Delaware Bear Wells Expanded AOR - One Mile.pdf

RE: Rustlers Break SWD No. 6 (30-015-45034) Black River Water Management Co, UL H; Sec 5, T24S, R28E, NMPM

Adam:

At this point, the issue is not the administrative completeness but whether the Division will be moving this process any further. This application is being denied for approval through an administrative review due to the overlapping radius of influence based on current approved SWD wells in proximity (see attachment) and, more importantly, the significant overlapping with the application of Delaware Energy for their Kodiak SWD No. 1. Interestingly enough, the Delaware Energy well is the subject of Case 16261 to be heard at a special docket on September 11th and the Division would not consider issuing any SWD order for this area until the case is resolved.

Give me call with any questions on the situation. PRG

Phillip Goetze, PG

Engineering Bureau, Oil Conservation Division, NM EMNRD 1220 South St. Francis Drive, Santa Fe, NM 87505

Direct: 505.476.3466

E-mail: phillip.goetze@state.nm.us

From: Adam Rankin < AGRankin@hollandhart.com>

Sent: Monday, August 27, 2018 8:51 AM

To: Goetze, Phillip, EMNRD < Phillip.Goetze@state.nm.us> **Subject:** Rustler Breaks SWD No. 6; administratively complete?

Phil,

I have an inquiry about whether the RB SWD No. 6 well application has been deemed administratively complete. The application was submitted by Brian Wood, not us, but I think everything has been filed. Whenever you have a chance if you could let me know in the next day or two, I would appreciate it.

All best, Adam

Adam G. Rankin

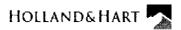
Holland & Hart LLP 110 North Guadalupe Suite 1 P.O. Box 2208 Santa Fe, NM 87504

Office: (505) 988-4421 Direct: (505) 954-7294 Cell: (505) 570-0377 Fax (505) 983-6043

E-mail: agrankin@hollandhart.com

Download vCard

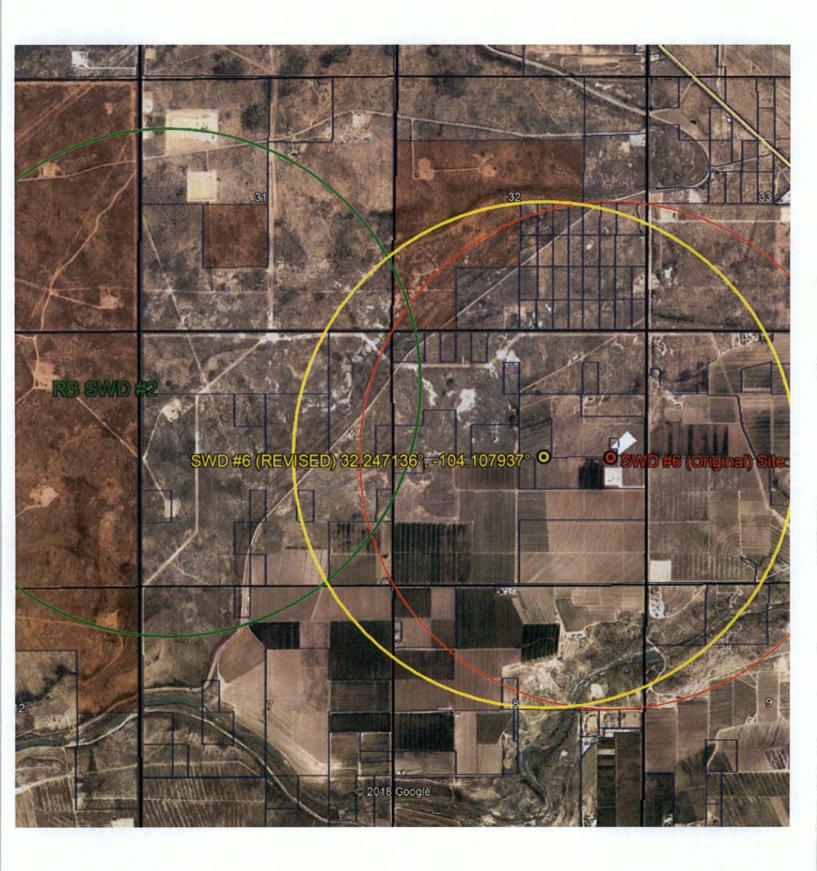
Web Bio



CONFIDENTIALITY NOTICE: This message is confidential and may be privileged. If you believe that this email has been sent to you in error, please reply to the sender that you received the message in error; then please delete this e-mail. Thank you.

30-015-2 830-015-43463 630-015-0 30-015-4332430-015-43919 30-015-02495 30-015-44129 30-015-22855 30-015 Rabigt 30-015-4 -30=015=44468 *** 30-015 30-015-262-49 30-01 30-015-30-015-43743 30-015-26415 30-015-24300 ☆ 30-015-27449 30-015-26813 36 12 5 30-015-43846 30-015-41184 SWD-1733-0 0-015-24945 0-015-23907 0-015-23880 30-015-4130930-p15-3641030-015-4021030-015-42353 30-015-42407. E 30-015-42406 30-015-42406 30-015-42406 30-015-43949 30-015-43949 -015-23696 015-23733 30-015-44571 Harroun Ry 30-015-32409 3.0-01/5-02 30-015-43756 County F30-015-2103030-015-02487 30€015-23850 30-015-40245 30-015-43925 030-015-23612 30-015-33545 30-015-33018 30-015-22954 26 30-015-23752 30-015-439661 30-015-43940 #330-015-43940 30-015-44514 * 30-015-21786 30-015-23613 5-26122 30-016-36023 30-015-32 432 30-015-43842 (##: 1-0-17-31 30-015-33513-015-22902 30-015-23819 0-015-43693 30-015-44561 0-A **30-015-44257All3020115-14237. 1 30-015-22638 30-015-23036 15 ☆ 285 30-015-23300 30-91-72358 SWD 100.1 30-91-72358 SWD 100.1 30-015-26798 30-015-2384330-015-28980 30-015-27419 55 30-015-23797 0-015-23099 Onsure Z 30-015-2384 30-015-44421 SWD-1660-A 730-015-44 G0130-015-442 623 0-015-44515 30-015-43306 Striker 3 SWD No. 1 30-015-44407 23S 28E 30-015-43899 248 28E Caldron Farms SWD No. 1 30-015-44262 30-015-44260 SWD-1690 30-015-44138 015-41 8497 30-015-44516 SWD-1660-A 30-015-25257 230-015-23522 30-015-21223 30-015-22353 30-015-4347730015-20245 30015-43494 30-015-16 30-015-43146-30-015-43144 \$30-015-44596 30-015-44744 S 4th Rural St 30-015-44241 \$\phi\$ 02485 30-015-43542 30 0015 44595 30-0%-43475 1-mile AOR and %-mile ROI 30-015-2206 30-015-45210 from original No. 6 30-015-23288 30-015-30163 715 29 Lobo Rd application. 30-015 30-015-22206 30-015-44341730-015-44339 0.5 3100 ft 11 Carleton SWD No. 1 30-015-44419 30-015-34931 SWB -1689-0 FIX 00:015:44419. 1 30-015-22172 SWD-1689 30-015-43695 Black30-015-4413930-015-44503 30-015-3589930-01543165 * 30-015 30-015-24640 Pardsq-0-15-7-0842No.-1 30-015-4402230-015-30-015-23489 910 30-015-35898 15-32818 SWD-1682-0 Rustlers Break SWD No. 30-015-43802 River to relocate the No. 6 so there is no overlap with three surrounding non-Black River SWD wells on the %-mile ROI? for Black SWD-1625 a 30-015-35778 30 90 • 430-015-44870 43 30-015-43194 \$\\$\\$30-015-41775 15-44742 R-1430-015-4156 20.045.424.5 30-015-23729s'30:015:242240lo. 2 QUESTION: Is it possible \$ 10.00 Calland -015-32640 ☆ 43095 Southern Cana 30-015-44682 30-015-45225 ● 韓3 30-015-44597 lei 30-015-3306 30-0 Southern Ca 30-015-228 30-015-21643 A Bd 30-015 30-015-43774 30-015-24476 03830-015-32446 Break SWD No. SWD-1682-0 -015-011/730-015-33084 30-015-43828 / 30-015-43827 -3275130-015-24352 30-015-24429 \$ 30-015-01124 30-015-24176 25 36 2 30-015-43418 30-015-25004 5-42769 015-4448.4 257030 499 2817 529

Pending Application for High-Volume Devonian Disposal Well C-108 Applications for Rustler Breaks SWD No. 6 – Black River Water Management Company



Fault-Slip Probability Assessment for the Rustler Breaks SWD #6, Malaga Area, Eddy County New Mexico

Dr. Edmund L Frost III, Vice President—Geoscience, Matador Resources Company

In order to minimize the potential risk of induced seismicity associated with deep waste water disposal, Matador Resources Company ("Matador") has undertaken a study to characterize the fault-slip potential for the Rustler Breaks SWD #6 in Eddy County, New Mexico. This document presents the results of a five well model, which investigates the impact of waste water injection at a rate of 40,000 bbl/day until 2049 (Figure 1a, Table 1). This study utilizes a mix of public and proprietary data in conjunction with the Stanford Center for Induced and Triggered Seismicity's (SCITS) Fault Slip Potential (FSP; Walsh et al., 2017) code (Table 2).

Fault orientations (strike, dip) were obtained from 118 basement faults mapped in a proprietary 88 mi² prestack depth migrated (PSDM) 3D seismic volume. Fault orientations were calculated at multiple points along the trace of each fault in the injection interval from Matador's structural framework model. These points were exported directly from Petrel into the FSP program. Stress data was derived from borehole image log data in Matador's Black River #1 SWD, where the maximum horizontal stress (SHmax) orientation was observed as N42°E. This orientation agrees with published regional stress orientations for Southern Eddy County of N35°E by Lund Snee and Zoback (2018). Horizontal stress magnitudes were not modeled explicitly by Matador, instead the published Aø value of 0.52 (Lund Snee and Zoback 2018; Table 2) for southern Eddy County, New Mexico was used, which implies a pure normal faulting environment.

The impact of high-rate injection in the five-well case can be seen as a modest regional increase in pore pressure with time (Figure 1b). At the Rustler Breaks SWD #6, the model predicts a reservoir pressure increase of 232 psi by year 2048. At the modelled depth of 13,500 ft, this translates to a pore pressure gradient increase of 0.017 psi/ft. Results of the geomechanical modeling show that all faults have a "distance to failure" of greater than 750 psi; meaning that aquifer pore pressure would need to be increased by greater than 750 psi to potentially induce failure. The results of the model case presented here are well below this limit. Based on the simulation run by this study, the overall probability of fault slip is less than 10% well into the future (2048), even with multiple high-volume injectors spaced roughly one mile apart. However, caution still needs to be exercised to avoid injection near unstable features. In order to minimize risk, Matador screens all of its SWD locations, including the Rustler Breaks SWD #6, against its 3D seismic to avoid injection near faults.

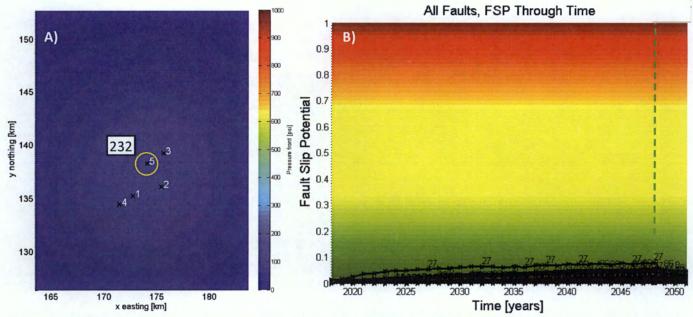


Figure 1: A) Modeled reservoir pressure for the five-well case at year 2048. A maximum pressure of 232 psi is observed at Rustler Breaks SWD #6. B) Fault slip potential (FSP) for the five-well case. On all faults FSP remains below 10%. The green dashed line marks year 2048, the black lines and numbers denote the slip probability of individual faults.

Well #	Well Name	Injection rate	Start	End
1	Carleton SWD	40,000 bbl/d	2018	2048
2	Calderon Farms SWD #001	40,000 bbl/d	2018	2048
3	Striker 3 SWD #001	40,000 bbl/d	2018	2048
4	Goodbye Toby	40,000 bbl/d	2019	2049
5	Rustler Breaks SWD #006	40,000 bbl/d	2019	2049

Table 1: Well Data for FSP Modeling. Well numbers correspond to wells in Figure 1.

Parameter	Input Value	Variability (+/-)	Data Source
Vertical Stress Gradient	1.05 psi/ft	0.05 psi/ft	Pilot Hole
Shmax	N 42 E	5°	Pilot Hole
Fault Strike	variable	5°	3D Seismic
Fault Dip	variable	15°	3D Seismic
Reference Depth	13500 ft	na	Pilot Hole, 3D Seismic, Regional Mapping
Initial Reservoir Pressure Gradient	0.43 psi/ft	0.03 psi/ft	Pilot Hole
A Phi Parameter	0.52	0.03	Lund Snee and Zoback 2018
Reference Friction Coefficient	0.6	0.01	Standard Value
Aquifer Thickness	1000 ft	200	Pilot Hole, Regional Mapping
Porosity	6%	2%	Pilot Hole
Permeability	150 mD	100 mD	Pilot Hole, Step-Rate Tests
Fluid Density	1000 kg/m ³	50 kg/m ³	Assumed value
Dynamic Viscosity	0.0004 Pa. S	0.0001 Pa. S	Calculated value corrected for reservoir temperature

Table 2: Model Inputs, Variance, and Source.

District I
1625 N, French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S, First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S, St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

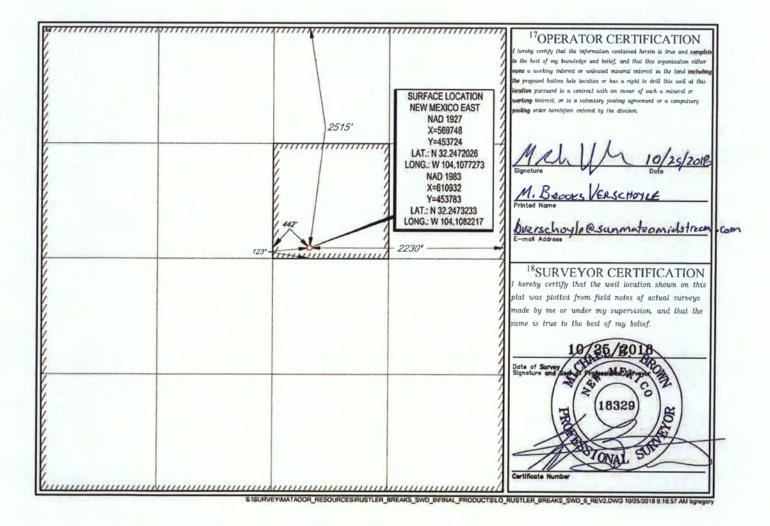
State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

FORM C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

AMENDED REPORT

5Dunnauti N				
	⁵ Property Name			#6
*Operator Name CK RIVER WATER MANAGEMENT COMPANY, LLC				Clevation 053'
10 Surface Lo	cation			
Lot Idn Feet from the 2515'	North/South line NORTH	Feet from the 2230'	East/West line EAST	EDDY
ottom Hole Location If D	ifferent From Surf	ace		1000
Lot idn Feet from the	North/South line	Feet from the	East/West Ifine	County
	VER WATER MANA 10 Surface Lo Lot Idn Feet from the 2515' Ottom Hole Location If D Lot Idn Feet from the	*Operator Name VER WATER MANAGEMENT COM **To Surface Location Lot Idn Feet from the North/South line NORTH **Ottom Hole Location If Different From Surface Lot Idn Feet from the North/South line North/South line — — — — — — — — — — — — — — — — — — —	VER WATER MANAGEMENT COMPANY, LLC 10 Surface Location	**Operator Name VER WATER MANAGEMENT COMPANY, LLC 10 Surface Location Lot Idn Feet from the North/South line Feet from the 2515' NORTH 2230' EAST ottom Hole Location If Different From Surface Lot Idn Feet from the North/South line Feet from the East/West line Feet from the East/West line Feet from the Fe

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



30-015-2 Rabiat 30,015-4 30-015-30-015-4332430-015-43919 30-015-295, 30-015-44129 30-015-44119 30-015 30-015-2285 30-015-4 30-015-30-01 -30=015=44468 ** 30-015-26249 30-015-43743 30-015-24300 30-015-26415 30-015-23779 36 30-015-27449 30-015-26813 12 5 30-015-43846 30-015-4341930-015-43845 30-015-41184 SWD-1733-0 F830-015-43463 30-015-28793 0-015-238793 0-015-40496
30-015-26738
30-015-367038
30-015-31308
30-015-41308
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Pending Application for High-Volume Devonian Disposal Well C-108 Applications for Rustler Breaks SWD No. 6 – Black River Water Management Company

Goetze, Phillip, EMNRD

From: Goetze, Phillip, EMNRD

Sent: Wednesday, October 24, 2018 4:13 PM

To: 'Adam Rankin'

Cc: McMillan, Michael, EMNRD; Jones, William V, EMNRD; Podany, Raymond, EMNRD; Klein,

Ranell, EMNRD

Subject: RE: Black River's Rustler Breaks SWD No. 6 Application - Request

Importance: High

RE: Rustler Breaks SWD No. 6; 30-015-45034; Sec. 5 T24S, R28E, NMPM

Adam:

Based on the white paper provided by Dr. Frost and this new proposed location (approx. 32.247136° and -104.107937°), the Division will recommend the approval of this application to the Director. The Division will recognize the notification for this application as being adequate in response to the applicant's effort to address the Division's concerns. Please tell Black River Water Management to prepare an amended C-102 and file with the District as to expedite the approval of the draft order. Please contact me with any questions and thank the applicant for their additional efforts in this particular case. PRG

Phillip Goetze, PG

Engineering Bureau, Oil Conservation Division, NM EMNRD 1220 South St. Francis Drive, Santa Fe, NM 87505

Direct: 505.476.3466

E-mail: phillip.goetze@state.nm.us

From: Adam Rankin < AGRankin@hollandhart.com>

Sent: Monday, October 22, 2018 6:02 PM

To: Goetze, Phillip, EMNRD < Phillip.Goetze@state.nm.us>

Subject: [EXT] RE: Black River's Rustler Breaks SWD No. 6 Application - Request

Phil,

Attached for your consideration.... the yellow radius represents the proposed move to 1-mile radius. The move is about 1,200 feet or so to the west, as I understand.

From: Goetze, Phillip, EMNRD < Phillip.Goetze@state.nm.us

Sent: Thursday, October 18, 2018 2:53 PM

To: Adam Rankin < AGRankin@hollandhart.com>

Cc: Jones, William V, EMNRD < William V.Jones@state.nm.us >; McMillan, Michael, EMNRD

<Michael.McMillan@state.nm.us>

Subject: Black River's Rustler Breaks SWD No. 6 Application - Request

Adam:

A request. Before rendering a final disposition on the No. 6's C-108 application, would you inquire of Black River if they are willing to move the well as shown in the attached diagram. Ask and see what they can do to optimize the distance

with regards to the three SWDs (one NGL and two Delaware) in proximity of the current surface location. It would save some aggravation and make it even more acceptable for administrative approval. Call or e-mail with any questions. Thanks. PRG

Phillip Goetze, PG

Engineering Bureau, Oil Conservation Division New Mexico Energy, Minerals and Natural Resources Department 1220 South St. Francis Drive, Santa Fe, NM 87505

Direct: 505.476.3466

E-mail: phillip.goetze@state.nm.us

