Form 3160-5 (April 2004)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

HOBBS OCD

FORM APPROVED OM B No 1004-0137 Expires: March 31, 2007

CHNDDA	NOTICES AND RE	DODTE ON WE	30-	4LC 032952A				
	his form for proposals vell. Use Form 3160-3 (LL3	ndian, Allottee or Tribe Name				
SUBMIT IN TR	RIPLICATE- Other inst	ructions on reve	rse side. 7. If U	Init or CA/Agreement, Name and/or No.				
1. Type of Well ☐ ☐ ☐	Gas Well□□		Q We	Il Name and No.				
2. Name of Operator		e Attached List						
2. Name of Operator Range Oper	rating New Mexico, LLC	Т		PI Well No.				
3a Address 100 Throckmorton St., Ste. 12	e area coae,	e Attached List						
4 Location of Well (Footage, Sec.,	T, R, M, or Survey Description)		Lo	ving; Brushy Canyon East				
See Attached List			11. Co	11. County or Parish, State				
			Ec	ldy				
12. CHECK A	PPROPRIATE BOX(ES) TO	INDICATE NATU	RE OF NOTICE, REPORT	OR OTHER DATA				
TYPE OF SUBMISSION		TY	PE OF ACTION					
	Acidize	Deepen	Production (Start/Resum	e) Water Shut-Off				
Notice of Intent	Alter Casing	Fracture Treat	Reclamation	Well Integrity				
Subsequent Report	Casing Repair Change Plans	New Construction	Recomplete	Other New disposal method for				
Final Abandonment Notice	Convert to Injection	Plug and Abandon Plug Back	ndon Temporarily Abandon method for Water Disposal produced					
following completion of the in testing has been completed. Fi determined that the site is read	volved operations. If the operation inal Abandonment Notices shall be	results in a multiple comfiled only after all require	oletion or recompletion in a new in ments, including reclamation, hav	tent reports shall be filed within 30 days sterval, a Form 3160-4 shall be filed once e been completed, and the operator has				
14. I hereby certify that the fore Name (Printed/Typed)	going is true and correct							
Paula Hale		Title S	r. Reg. Sp.					
Signature	2 Hal	Date	07/18/201	t 				
	THIS SPACE FOR I	FEDERAL OR S	TATE OFFICE USE					
Approved by		PET	PLEM ENSINEER	Date 3UL 2 7 2011				
Conditions of approval, if any, are a certify that the applicant holds legal which would entitle the applicant to	or equitable title to those rights in	and a substance to	ffice	/ 				

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Lease No.: NMLC 032592A	AP! No. Well Name & No. 30-025-37452 Trantula 3 Federal #001	Legal Description / Pool Names Sec. 3-A-T25S-R37E Justis, Tubb-Drinkard	County Lea
NMLC 032592A	30-025-37516 Trantula 3 Federal #002	Sec. 3-H-T25S-R37E Justis, Tubb-Drinkard	Lea
NMLC 032592A	30-025-38208 Trantula 3 Federal #003	Sec. e-I-T25S-R37E Justis, Tubb-Drinkard	Lea
NMLC 032592A	30-025-38401 Truntula 3 Federal #004	Sec. 3-P-T25S-R37E /ustis, Tubb-Drinkard/Blinebry Oil & Gas	Lea

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Range Operating New Mexico, LLC Tarantula 3 Lease Changes in Method of Produced Water Disposal

1. Name of formation(s) producing water on the lease:

Blinebry, Tubb and Drinkard

2. Amount of water produced from all formation in bbls/day:

The lease averages 280 bwpd.

- 3. Water Analysis included in Sundry packet.
- 4. How water is stored on lease:

3-500 bbl fiberglass tanks

5. How water is moved to the disposal facility:

3" poly flowline

6. Primary disposal facility:

Rice Operating Company (19174)
Justis SWD System, Well B-12, SWD
API #30-025-24761
Sec. 12, T25S, R37E
880' FNL & 2310' FEL
Lea County, New Mexico

7. Copy of Underground Injection Control Permit included in Sundry packet.



Catalyst Oilfield Services 11999 E Hwy 158 Gardendale, TX 79758 (432) 563-0727 Fax: (432) 224-1038

Water Analysis Report

Customer:	Range Resources Company		Sample #:	5269
Area:	Loving		Analysis ID #:	7418
Lease:	Tarantula			
Location:	Battery	0		
Sample Point:				

Sampling Date:	6/17/2011	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	6/22/2011	Chloride:	70659.4	1993.04	Sodium:	42220.0	1836.47
Analyst:	Catalyst	Bicarbonate:	536.0	8.78	Magnesium:	1429.4	117.59
TD0 (116866 4	Carbonate:			Calcium:	624.8	31.18
TDS (mg/l or g/m3):	1.081	Sulfate:	400.0	8.33	Potassium:	851.6	21.78
Density (g/cm3):	1.001				Strontium:	145.2	3.31
					Barium:	0.0	0.
Hydrogen Sulfide.	68	,			Iron:	0.0	0.
. •					Manganese:	0.000	0.
Carbon Dioxide	240	•					
		pH at time of sampling.	•	7.5			
Comments.		pH at time of analysis:					
		pH used in Calculatior	1 :	7.5			407000
		Temperature @ lab conditions (F): 75			Conductivity (micro-ohms/cm): Resistivity (ohm meter):		167200 .0598

Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl											
Temp °F	Calcite CaCO ₃		Gypsum CaSO ₄ *2H ₂ 0		Anhydrite CaSO ₄		Celestite SrSO ₄		Barite BaSO ₄		
	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	
80	0 70	23 76	-1 53	0.00	-1 54	0 00	-0.40	0.00	0.00	0 00	
100	0 67	27.82	-1 59	0 00	-1 54	0.00	-0 42	0.00	0.00	0 00	
120	0 66	32.82	-1.64	0 00	-1.51	0 00	-0 43	0.00	0.00	0.00	
140	0.66	38.14	-1.68	0 00	-1 46	0 00	-0 44	0 00	0 00	0 00	• .
160	0.67	44.39	-1.71	0.00	-1 38	0 00	-0.43	0.00	0 00	0.00	, ;
180	0.69	51.58	-1.74	0.00	-1 30	0 00	-0 42	0 00	0.00	0.00	,
200	0 72	59.40	-1.76	0 00	-1 20	0.00	-0.41	0 00	0 00	, 0.00	
220	0.77	67 52	-1.78	0.00	-1 09	0 00	-0 39	0 00	0.00	* 0.00	

Order No. SWD-179

-2-

set in a packer located at approximately 4200 feet.

IT IS FURTHER ORDERED:

That the operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

That the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That water disposed of into this well will be by gravity flow, and in no event shall injection pressures exceed 850 pounds per square inch.

That the operator shall notify the supervisor of the Commission's Hobbs District Office before injection is commenced through said well.

That the operator shall immediately notify the supervisor of the Commission's Hobbs District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

PROVIDED FURTHER:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection

of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing, the Commission may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operation in accordance with Rule

Schlumberger BlueView .

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