

NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

PDEV0020600734

CF 3059

R-2708

CF 3769

R-3420

WFX.734

March 16, 1998

Devon Energy Corporation 20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102-8260

Attn: Mr. E.L. Buttross, Jr.

RE: Injection Pressure Increase, East Shugart Unit Waterflood Project, Eddy County, New Mexico

Reference is made to your request dated February 12, 1998, to increase the surface injection pressure on a field-wide group of wells in the above referenced waterflood project. This request is based on fracture pressure gradient data obtained on several offseting wells. The data has been reviewed by my staff. At this time, we feel an increase in injection pressure on the wells contained in your request is justified.

You are therefore authorized to increase the surface injection pressure on the following wells:

Well Name and Number	ULSTR	Pressure Gradient	Top Perf	Authorized Pressure
East Shugart Unit Well No.2	B-34-18S-27E	.39 psi/ft	3298'	1286 PSIG
East Shugart Unit Well No.9	H-35-18S-27E	.45 psi/ft	3404'	1532 PSIG
East Shugart Unit Well No.20	L-35-18S-27E	.48 psi/ft	3416'	1640 PSIG
East Shugart Unit Well No.24	N-35-18S-27E	.50 psi/ft	3355'	1678 PSIG
East Shugart Unit Well No.33	K-34-18S-27E	.44 psi/ft	3400'	1496 PSIG
East Shugart Unit Well No.41	G-34-18S-27E	.46 psi/ft	3634'	1672 PSIG
East Shugart Unit Well No.42	A-34-18S-27E	.46 psi/ft	3641'	1675 PSIG
East Shugart Unit Well No.52	B-35-18S-27E	.34 psi/ft	3701'	1258 PSIG
East Shugart Unit Well No.76	F-35-18S-27E	.41 psi/ft	3525'	1445 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely. Writenberry, Director

Injection Pressure Increase Devon Energy Corporation March 16, 1998 Page 2

LW/BES/kv

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cc: Oil Conservation Division - Artesia File: Case File Nos.3059, 3769; WFXs-734; PSI-X 3rd QTR 98



April 16, 1998

CORRECTED ISSUE

Devon Energy Corporation 20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102-8260

Attn: Mr. E.L. Buttross, Jr.

RE: Injection Pressure Increase, East Shugart Unit Waterflood Project, Eddy County, New Mexico

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East Shugart Unit Well No.20	L-35-18S-31E	.48 psi/ft	3416'	1640 PSIG
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You are therefore authorized to increase the surface injection pressure on the following wells:

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely. rotenberg Lori/Wrotenbery, Director

Injection Pressure Increase Devon Energy Corporation March 16, 1998 Page 2

LW/BES/kv

cc: Oil Conservation Division - Artesia File: Case File Nos.3059, 3769; WFXs-734; PSI-X 3rd QTR 98 ×.

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	NEW MEXIC	CO OIL CONSERVAT - Engineering Bureau -	TION DIVISION	
	ADMINISTRAT	IVE APPLICATIO	N COVERSHEET	Γ
тна с Application Acronym [DH	SOVERSHEET IS MANDATORY FOR ALL AU s: [NSP-Non-Standard [DD-Directions C-Downhole Commingling] [PC-Pool Commingling] [OI [WFX-Waterflood Expa [SWD-Salt Water R-Qualified Enhanced Oil Pa-	Proration Unit] [NSL-No al Drilling] [SD-Simultane [CTB-Lease Commingling] LS - Off-Lease Storage] [ansion] [PMX-Pressure M Disposal] [IPI-Injection F	DICEPTIONS TO DIVISION RULES AN on-Standard Location] bous Dedication] [PLC-Pool/Lease Comr [OLM-Off-Lease Measuren laintenance Expansion] Pressure Increase]	ID REGULATIONS mingling] nent]
[1] TYPE OF [A]	APPLICATION - Check Location - Spacing Un	Those Which Apply for it - Directional Drilling DD DSD	r [A]	
Chec [B]	ck One Only for [B] or [C] Commingling - Storage DHC CTB] e - Measurement PLC PC	OIL CONSERVATIO	DN DIVISION
[C]	Injection - Disposal - P	ressure Increase - Enha	nced Oil Recovery EOR PPR	
[2] NOTIFICA [A]	TION REQUIRED TO:	- Check Those Which A Overriding Royalty Int	Apply, or Does Not Apply, or Doe	Apply
[B]	Giffset Operators, Le	aseholders or Surface C)wner	
[C]	Application is One W	Which Requires Publishe	ed Legal Notice	*
[D]	U.S. Bureau of Land Mana	Concurrent Approval by agement - Commissioner of Public Li	BLM or SLO ands, State Land Office	
[E]	Given Bor all of the above, I	Proof of Notification or	Publication is Attache	d, and/or,
[F]	U Waivers are Attached	I		

INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding [3]

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action

Note: Statement must be completed by an individual with supervisory capacity.

E, L. Buttross

Print or Type Name

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Rithoso Signature

District Engineer

Title

2/11/98

Devou ENERGY CORPORATION

20 North Broadway, Suite 1500 Oklahoma City, Oklahoma 73102-8260 Telephone 405/235-3611 FAX 405/552-4550

February 11, 1998

Certified Mail No. Z 397 639 542

STATE OF NEW MEXICO Energy, Minerals and Natural Resources Dept. Oil Conservation Division, District II 2040 South Pacheco Santa Fe, NM 87505

ATTN: Ben Stone

RE: Injection Pressure Increase East Shugart Unit # 2, 9, 20, 24, 33, 41, 42, 52, & 76 Sections 34 and 35 of T18S-R31E Eddy County, New Mexico

Gentlemen:

Devon Energy Corporation requests that the maximum injection pressures for the above referenced wells be increased. This request is based on the data in Table 1, which shows the frac gradients obtained from stimulation treatments on wells in the area. Figure I is a map showing the location of the proposed injectors and the wells used in this study. The wells were grouped into two areas, east and west.

The frac gradient is used to calculate the maximum surface injection pressure (injection wellhead pressure gradient x depth to the uppermost perforation = maximum surface injection pressure) that can be attained without fracturing the formation. Provided the calculated wellhead pressure gradient is not exceeded, the formation cannot be fractured and injection fluids will be contained in the formation. This had been confirmed through injection surveys run on existing injection wells in the unit.

Based on the attached information, Devon respectfully requests that the maximum wellhead pressure gradient for the subject injection wells be increased to .44 psi per foot of depth to the uppermost perforation. This is the average for the wells in each area of interest.

New Mexico Oil Conservation Division February 11, 1998 Page 2

The injection wells and the requested increased maximum injection pressures are as follows:

Well Name	Location UL-S-T-R	Perfs	Requested Max Injection surf Pressure
East Shugart Unit #2	UL "B" of Section 34-T18S-R27E	3298-3882'	1451
East Shugart Unit #9	UL "H" of Section 35-T18S-R27E	3404-3895'	1498
East Shugart Unit #20	UL "L" of Section 35-T18S-R27E	3416-3862'	1503
East Shugart Unit #24	UL "N" of Section 35-T18S-R27E	3355-3899'	1476
East Shugart Unit #33	UL "K" of Section 34-T18S-R27E	3400-3857'	1496
East Shugart Unit #41	UL "G" of Section 34-T18S-R27E	3634-3813'	1599
East Shugart Unit #42	UL "A" of Section 34-T18S-R27E	3641-3813'	1602
East Shugart Unit #52	UL "B" of Section 35-T18S-R27E	3701-3875'	1628
East Shugart Unit #76	UL "F" of Section 35-T18S-R27E	3525-3902'	1551

We will also periodically run injection surveys to ensure that injection is confined to the Queen formation.

If you have questions, please call me at (405) 552-4509.

Sincerely,

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DEVON ENERGY CORPORATION (NEVADA)

E. J. Baltions fr.

E. L. Buttross, Jr. District Engineer

EB/dk

Enclosures

copy: well files

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		TABL	EI.				
IN	JECTION WE	LLHEAD P	RESSU	RE GRADIEN	TS		
	EAST SHUGART UNIT (west)						
PROPOSED	OFFSET WELLS	TREATMENT	TOP	FRAC GRADIENT	WELLHEAD PRESSURE		
INJECTOR		ISIP	PERF	PSI/FT	GRADIENT PSI/FT		
East Shugart Unit #41	ESU #41	1350	3634	0.81	0.34		
	ESU #43	1616	2664	1.04	0.57		
	ESU #42	1511	3641	0.85	0.38		
	ESU #40	1360	2736	0.93	0.46	46	
	ESU #54	1450	2670	0.98	0.51		
	ESU #36	1602	2634	1.04	0.57		
	ESU #2	1650	3759	0.87	0.40		
	ESU #33	1418	2606	0.98	0.51		
	ESU #14	1400	3341	0.85	0.38		
PROPOSED	OFESET WELLS	TREATMENT	TOP				
INJECTOR		ISIP	PERF	PRAC GRADIENT PSI/FT	GRADIENT PSI/FT		
East Shugart Unit #33	ESU #33	1418	3400	0.85	0.38		
	ESU #54	1450	2670	0.98	0.51		
	ESU #36	1602	2634	1.04	0.57		
	ESU #41	1400	3760	0.81	0.34	44	
	ESU #14	1400	3341	0.85	0.38		
					0.00		
PROPOSED	OFFSET WELLS	TREATMENT	TOP	FRAC GRADIENT	WELLHEAD PRESSURE		
INJECTOR		ISIP	PERF	PSI/FT	GRADIENT PSI/FT		
East Shugart Unit #2	ESU #2	NA					
	ESU #42	1511	3641	0.85	0.38	-	
	ESU #41	1350	3634	0.81	0.34	,39	
	ESU #40	1360	2736	0.93	0.46		
PROPOSED		TOPATHENE					
INJECTOR	OFFSET WELLS		DEDE	FRAC GRADIENT	WELLHEAD PRESSURE		
Foot Churgert Unit #40	F011 #40	151P	PERF	PSI/F1	GRADIENT PSI/FT		
East Shugart Unit #42	ESU #42	1511	3641	0.00	0.40		
	ESU #40	1360	2/36	0.93	0.46	11	
	ESU #43	1616	2664	1.04	0.57	.16	
	ESU #41	1350	3634	0.81	0.34		
	Average			0.91	0.44		

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INJECTION WELLHEAD PRESSURE GRADIENTS EAST SHUGART UNIT (east) PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT East Shugart Unit #52 ESU #52 GRADIENT WELLEAD PRESSURE East Shugart Unit #52 ESU #7 1460 3740 0.82 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ESU #74 1380 3457 1460 3740 0.83 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT INJECTOR ISIP PERF			TABL	EI			
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ESU #72 2124 3182 1.10 0.63 ESU #71 1910 3152 1.04 0.57 ESU #58 1580 3363 0.90 0.43 ESU #57 1890 3348 1.00 0.53 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT ESU #60 1760 3652 0.91 0.44 ESU #50 1760 3692 0.91 0.44 ESU #78 1247 3460 0.79 0.32 ESU #47 1516 2731 0.99 0.52 INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT ISIE 1460 3740		ESU #74	1300	3457	0.81	0.34)
ESU #71 1910 3152 1.04 0.57 ESU #58 1580 3363 0.90 0.43 ESU #57 1890 3348 1.00 0.53 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PS//FT GRADIENT PS//FT Est Shugart Unit #76 ESU #76 1670 3525 0.91 0.44 ESU #78 1280 3676 0.78 0.31 4 ESU #78 1247 3460 0.79 0.32 5 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PS//FT GRADIENT PS//FT 3 INJECTOR ISIP PERF PS//FT GRADIENT PS//FT INJECTOR ISIP PERF PS//FT GRADIENT PS//FT Isst Shugart Unit #9 ESU #49 1180 3712 0.75 0.28 ESU		ESU #72	2124	3182	1.10	0.63	(
ESU #58 1580 3363 0.90 0.43 ESU #57 1890 3348 1.00 0.53 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PS//FT GRADIENT PS//FT GRADIENT PS//FT East Shugart Unit #76 ESU #76 1670 3525 0.91 0.44 ESU #50 1760 3692 0.91 0.44 ESU #78 1247 3460 0.79 0.32 ESU #47 1516 2731 0.99 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PS//FT GRADIENT PS//FT East Shugart Unit #9 ESU #49 1180 3712 0.75 0.28 ESU #45 1480 3740 0.82 0.35 .45 ESU #50 1760 3692 0.91 0.44 PROPOSED OFFSET W		ESU #71	1910	3152	1.04	0.57	7 :
ESU #57 1890 3348 1.00 0.53 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSUFT GRADIENT PSUFT GRADIENT PSUFT ESU #76 1670 3525 0.91 0.44 0.44 ESU #76 1760 3692 0.91 0.44 0.44 ESU #76 1760 3692 0.91 0.44 0.32 ESU #77 1516 2731 0.99 0.52 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSUFT GRADIENT PSU/FT GRADIENT PSU/FT East Shugart Unit #9 ESU #9 NA		ESU #58	1580	3363	0.90	0.43	
PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSU/FT GRADIENT PSU/FT GRADIENT PSU/FT East Shugart Unit #76 ESU #76 1670 3525 0.91 0.44 ESU #69 1280 3676 0.78 0.31		ESU #57	1890	3348	1.00	0.53)
PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT GRADIENT PSI/FT isat Shugart Unit #76 ESU #76 1670 3525 0.91 0.44 ESU #50 1760 3692 0.91 0.44 ESU #50 1760 3692 0.91 0.44 ESU #78 1247 3460 0.79 0.32 ESU #78 1247 3460 0.79 0.32 ESU #47 1516 2731 0.99 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT GRADIENT PSI/FT East Shugart Unit #9 ESU #9 NA							
INJECTOR ISIP PERF PSUFT GRADIENT PSUFT aast Shugart Unit #76 ESU #76 1670 3525 0.91 0.44 ESU #69 1280 3676 0.78 0.31	PROPOSED	OFFSET WELLS	TREATMENT	TOP	FRAC GRADIENT	WELLHEAD PRESSURE	
Aast Shugart Unit #76 ESU #76 1670 3525 0.91 0.44 ESU #69 1280 3676 0.78 0.31 4 ESU #50 1760 3692 0.91 0.44 ESU #78 1247 3460 0.79 0.32 ESU #77 1516 2731 0.99 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT GRADIENT Unit #9 ESU #9 NA	INJECTOR		ISIP	PERF	PSI/FT	GRADIENT PSI/FT	
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ESU #50 1760 3692 0.91 0.44 ESU #78 1247 3460 0.79 0.32 ESU #78 1247 3460 0.79 0.32 ESU #47 1516 2731 0.99 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT ESU #49 1180 3712 0.75 0.28 ESU #51 2050 3563 1.01 0.54 ESU #56 2400 3591 1.10 0.63 ESU #56 2400 3591 1.10 0.63 ESU #50 1760 3692 0.91 0.44 ESU #50 1760 3591 1.10 0.63		ESU #69	1280	3676	0.78	0.31	. 41
ESU #78 1247 3460 0.79 0.32 ESU #47 1516 2731 0.99 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT GRADIENT PSI/FT iast Shugart Unit #9 ESU #9 NA		ESU #50	1760	3692	0.91	0.44	•
ESU #47 1516 2731 0.99 0.52 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT isast Shugart Unit #9 ESU #9 NA		ESU #78	1247	3460	0.79	0.32	
PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT East Shugart Unit #9 ESU #9 NA		ESU #47	1516	2731	0.99	0.52	
PROPOSED OFPSET WELLS TREATMENT TOP PRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT East Shugart Unit #9 ESU #9 NA	PROPOSED	OFFRET WELLS	TREATMENT	TOD			
INDECTOR ISIP PERP PSI/F1 GRADIENT PSI/F1 East Shugart Unit #9 ESU #9 NA	INJECTOR	OFFSET WELLS		DEDE	PRAC GRADIENT	WELLHEAD PRESSURE	
ESU #3 NA 0.75 0.28 ESU #49 1180 3712 0.75 0.28 ESU #61 2050 3563 1.01 0.54 ESU #75 1460 3740 0.82 0.35 ESU #56 2400 3591 1.10 0.63 ESU #50 1760 3692 0.91 0.44 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT Stast Shugart Unit #20 ESU #20 NA	act Shugart Unit #0	EQU #0	ISIF NA	FENF	P31/F1	GRADIENT PSI/FT	
LS0 #35 1100 3712 0.75 0.28 ESU #61 2050 3563 1.01 0.54 ESU #75 1460 3740 0.82 0.35 ESU #75 1460 3591 1.10 0.63 ESU #56 2400 3591 1.10 0.63 ESU #50 1760 3692 0.91 0.44 ESU #50 1760 3692 0.91 0.44 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT cast Shugart Unit #20 ESU #71 1910 3152 1.04 0.57 ESU #72 2124 3182 1.10 0.63 0.42 ESU #67 1517 3406 0.88 0.41 4 ESU #78 1247 3460 0.79 0.32 4	aar onugar onit #9	ESU #9	1100	2710	0.75	0.00	
ESU #01 2030 3363 1.01 0.54 ESU #75 1460 3740 0.82 0.35 4.5 ESU #56 2400 3591 1.10 0.63 4.5 ESU #50 1760 3692 0.91 0.44 4.4 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT GRADIENT PSI/FT East Shugart Unit #20 ESU #71 1910 3152 1.04 0.57 East Shugart Unit #20 ESU #72 2124 3182 1.10 0.63 ESU #72 2124 3182 1.10 0.63 4.4 ESU #72 2124 3182 1.10 0.63 4.4 ESU #67 1517 3406 0.88 0.41 4.4 ESU #45 1483 2710 0.98 0.51 4.4 ESU #78 1247 3460 0.79 0.32 <		ESU #49	2050	3/12	0.75	0.28	
LOG #7.5 1400 3740 0.82 0.35 4.5 ESU #56 2400 3591 1.10 0.63 4.5 ESU #50 1760 3692 0.91 0.44 4.4 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT ESU #71 1910 3152 1.04 0.57 ESU #72 2124 3182 1.10 0.63 ESU #75 1600 3535 0.89 0.42 ESU #87 1483 2710 0.98 0.51 ESU #78 1247 3460 0.79 0.32 AVERAGE 0.91 0.44 0.44		E00 #01	1460	27/0	0.00	0.54	
ESU #50 LTOC SUST 1.10 0.63 ESU #50 1760 3692 0.91 0.44 PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT ESU #20 NA		ESU #56	2400	3501	1 10	0.35	. 45
PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT East Shugart Unit #20 ESU #20 NA		ESU #50	1760	3692	0.91	0.03	
PROPOSED OFFSET WELLS TREATMENT TOP FRAC GRADIENT WELLHEAD PRESSURE INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT tast Shugart Unit #20 ESU #20 NA				COOL	0.01	0.77	
INJECTOR ISIP PERF PSI/FT GRADIENT PSI/FT iast Shugart Unit #20 ESU #20 NA	PROPOSED	OFFSET WELLS	TREATMENT	TOP	FRAC GRADIENT	WELLHEAD PRESSURE	
East Shugart Unit #20 ESU #20 NA Control of the contro of the control of the control of the control of the con	INJECTOR		ISIP	PERF	PSI/FT	GRADIENT PSI/FT	
ESU #71 1910 3152 1.04 0.57 ESU #72 2124 3182 1.10 0.63 ESU #25 1600 3535 0.89 0.42 ESU #67 1517 3406 0.88 0.41 ESU #45 1483 2710 0.98 0.51 ESU #78 1247 3460 0.79 0.32	ast Shugart Unit #20	ESU #20	NA				
ESU #72 2124 3182 1.10 0.63 ESU #25 1600 3535 0.89 0.42 ESU #67 1517 3406 0.88 0.41 ESU #45 1483 2710 0.98 0.51 ESU #78 1247 3460 0.79 0.32		ESU #71	1910	3152	1.04	0.57	
ESU #25 1600 3535 0.89 0.42 ESU #67 1517 3406 0.88 0.41 4 ESU #45 1483 2710 0.98 0.51 4 ESU #78 1247 3460 0.79 0.32 4		ESU #72	2124	3182	1.10	0.63	
ESU #67 1517 3406 0.88 0.41 4 ESU #45 1483 2710 0.98 0.51 4 ESU #78 1247 3460 0.79 0.32 4 AVERAGE 0.91 0.44 0.41 4		ESU #25	1600	3535	0.89	0.42	
ESU #45 1483 2710 0.98 0.51 ESU #78 1247 3460 0.79 0.32		ESU #67	1517	3406	0.88	0.41	10
ESU #78 1247 3460 0.79 0.32		ESU #45	1483	2710	0.98	0.51	.70
AVERAGE 0.91 0.44		ESU #78	1247	3460	0.79	0.32	
AVERAGE 0.91 0.44							
		AVERAGE			0.01	0.44	

