

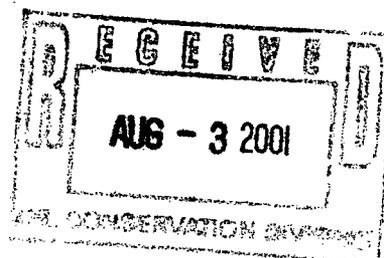
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1 P1-159

N/R

**KCS Resources, Inc.**  
7130 South Lewis Avenue  
Suite 700  
Tulsa, OK 74136-5489

(918) 488-8283 phone  
(918) 488-8182 fax



31 July 2001

David Catanach  
New Mexico Energy Minerals & Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87504

RE: Administrative Order SWD- 747, West Shugart "19" Federal Well No. 2 SWD (30-015-~~00000~~) <sup>30501</sup>

Dear Mr. Catanach,

We request an injection pressure increase for this well based on the information enclosed. Due to an increase in reservoir pressure we are no longer able to inject all of our produced water into this well with-in the existing pressure limitation.

A step rate injection test was conducted on July 19th with the assistance of Pacific Process Systems Inc. to establish the present fracture gradient in this well. Gerry Guye with Oil Conservation Division of the state New Mexico was present to witness this test. As you can see from the enclosed data, injection rates and pressures were increased from .45 BPM (19.8 gal/min) and 560 PSI to 5 BPM (211.1 gal/min) and 1236 PSI with no break in the curve. In this indicates that fracture gradient of this well is above the present 789 PSI limit.

When this existing interval was first completed in this well the shut-in tubing pressure was 525 PSI with 2% KCl in the hole. This calculates to a pressure of 2253 PSI at the top perforation. In June 2001 the shut-in tubing pressure was 623 PSI with the 1.149 specific gravity produced fluid in the hole. This calculates to a pressure of 2586 PSI at the top perforation. This indicates an increase in reservoir pressure of 345 PSI.

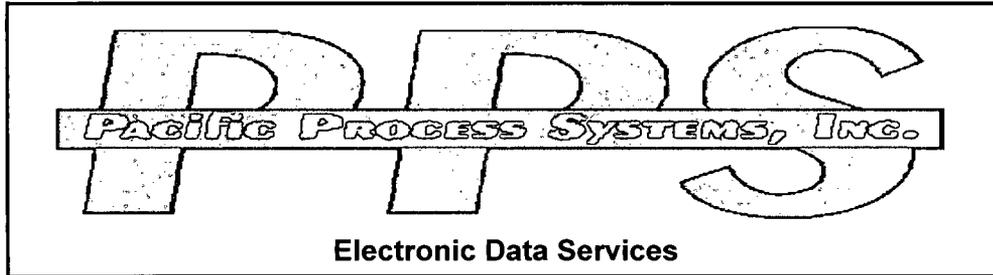
With our existing maximum allowable injection pressure of 789 PSI we are able to inject only about 20 percent our of produced water into this well. At present we're having to truck off a significant volumes of fluid. This water hauling represents a significant cost to the project and increased environmental risk during loading and unloading and the increased truck traffic.

We appreciate your help and consideration and based on the results of the recent step rate test we request an injection pressure increase. If there's anything else I can provide to assist you in processing of this request, please call me at (918) 491 - 4166.

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard E. Alexander". The signature is written in black ink and is positioned above the typed name.

Richard E. Alexander, P.E.  
Senior Production Engineer



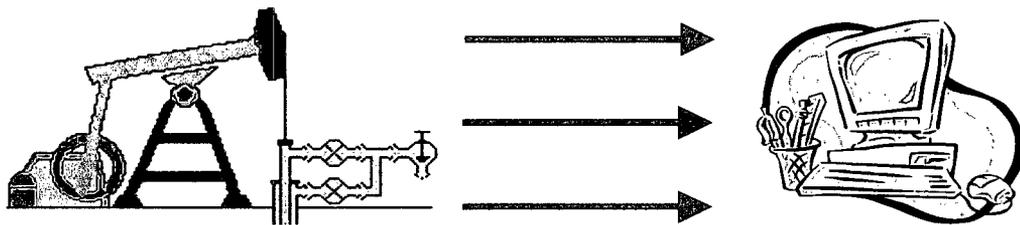
# *Step Rate Injection Test Report*

*for*

***KCS Medallion***

***W. Shugart #19-2 SWD***

***7/19/01***



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COMPANY : KCS Medallion  
WELL: W. Shugart #19-2 SWD  
COMPANY REP: Richard Alexander/Robert Albright  
PERFORATIONS: 3946' - 5490'

SERVICE DATES : 7/19/01  
TEST TYPE : Step Rate Injection  
PTS TECHNICIANS : D. Ginanni  
BHP GAUGE DEPTH: N/A

DATE	TIME	REMARKS
07/19/01	10:15	Start pumping @ .5 BPM
07/19/01	10:20	
07/19/01	10:25	
07/19/01	10:30	Increase to 1 BPM
07/19/01	10:35	
07/19/01	10:40	
07/19/01	10:45	Increase to 1.5 BPM
07/19/01	10:50	
07/19/01	10:55	
07/19/01	11:00	Increase to 2 BPM
07/19/01	11:05	
07/19/01	11:10	
07/19/01	11:15	Increase to 2.5 BPM
07/19/01	11:20	
07/19/01	11:25	
07/19/01	11:30	Increase to 3 BPM
07/19/01	11:35	
07/19/01	11:40	
07/19/01	11:45	Increase to 3.5 BPM
07/19/01	11:50	
07/19/01	11:55	
07/19/01	12:00	increase to 4 BPM
07/19/01	12:05	
07/19/01	12:10	
07/19/01	12:15	Stop pumping, start falloff



COMPANY : KCS Medallion  
 WELL: W. Shugart #19-2 SWD  
 COMPANY REP: Richard Alexander/Robert Albright  
 PERFORATIONS: 3946' - 5490'

SERVICE DATES : 7/19/01  
 TEST TYPE : Step Rate Injection  
 PTS TECHNICIANS : D. Ginanni  
 BHP GAUGE DEPTH: N/A

STEP NO.	TIME	SURFACE TUBING PRESS. (psig)	CUMULATIVE VOL INJECTED (bbls)	INJECTION RATE (bbls/day)	INJECTION RATE (gpm) (3)/34.2857	MEASURED BHP (psi)
	10:15	635.3				
	10:20	552.7	2.3	669.4	19.52	
	10:25	563.9	4.7	679.1	19.81	
1	10:30	556.9	7.0	681.1	19.86	
	10:35	583.1	12.2	1475.8	43.04	
	10:40	583.2	17.6	1555.9	45.38	
2	10:45	601.5	22.9	1547.7	45.14	
	10:50	685.0	30.0	2037.6	59.43	
	10:55	571.0	37.5	2152.6	62.78	
3	11:00	663.5	44.9	2143.9	62.53	
	11:05	713.4	55.1	2934.9	85.60	
	11:10	720.3	65.2	2904.8	84.72	
4	11:15	745.6	75.3	2910.0	84.88	
	11:20	785.8	87.8	3594.6	104.84	
	11:25	780.6	100.6	3696.7	107.82	
5	11:30	795.5	113.5	3701.5	107.96	
	11:35	813.5	128.7	4384.3	127.87	
	11:40	773.1	144.0	4402.0	128.39	
6	11:45	834.5	158.9	4291.5	125.17	
	11:50	926.3	177.1	5238.1	152.78	
	11:55	958.3	194.8	5104.5	148.88	
7	12:00	915.1	212.5	5080.8	148.19	
	12:05	978.5	232.1	5662.8	165.17	
	12:10	973.7	252.3	5812.8	169.54	
8	12:15	992.2	272.6	5837.9	170.27	
	12:20	1100.7	294.5	6314.8	184.18	
	12:25	1057.3	317.3	6556.0	191.22	
9	12:30	1066.3	340.0	6553.0	191.13	
	12:35	1196.7	364.8	7126.6	207.86	
	12:40	1169.0	389.9	7239.2	211.14	
10	12:45	1236.5	414.4	7054.6	205.76	
Falloff	12:46	1127.9				
	12:47	818.1				
	12:47	808.4				



**COMPANY : KCS Medallion**  
**WELL: W. Shugart #19-2 SWD**  
**COMPANY REP: Richard Alexander/Robert Albright**  
**PERFORATIONS: 3946' - 5490'**

**SERVICE DATES : 7/19/01**  
**TEST TYPE : Step Rate Injection**  
**PTS TECHNICIANS : D. Ginanni**  
**BHP GAUGE DEPTH: N/A**

STEP NO.	TIME	SURFACE TUBING PRESS. (psig)	CUMULATIVE VOL INJECTED (bbls)	INJECTION RATE (bbls/day)	INJECTION RATE (gpm) (3)/34.2857	MEASURED BHP (psi)
	12:48	675.7				
	12:49	705.2				
	12:50	702.8				
	12:55	695.8				
	13:00	691.3				

# Pacific PROCESS SYSTEMS, INC.

## Step Rate Injection Test

