KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
NOVEMBER, 1995

Oil production was 789 barrels, 26.3 barrels per day versus 24.4 barrels per day last month. Water production was 12,525 barrels, 417.5 barrels per day, an increase of 38.9 barrels per day over last month.

Water injection averaged 778.1 barrels per day, 23,342 barrels total versus 20,268 barrels, 653.8 barrels per day, last month.

Water testing and treating continued as a major focus during the month. Mixing and circulating the make-up and produced waters prior to feeding the air flotation unit continues to show promise. The bleach treatment to convert iron compounds is being continued. A brief test was run by discontinuing the bleach treatment but it was decidedly unsuccessful. On November 2, 1995, a new treatment was initiated using National Petrochem #661 Compound to inhibit barium scale. This chemical is being added at the AFU clear water discharge. Coupon testing is favorable. A new meter was installed in an injection line to be used as a scale coupon. After two weeks exposure, there was no scale formation on the meter. Water samples were taken for additional polymer testing.

Modification work on the AFU continues. Several design variations of the slop weir were tested. A new bubble wiper blade and a 4-rpm motor were installed. A strip chart has been installed to monitor the length of time the AFU actually operates. Modifications have been made which allow the unit to operate more continuously. Most of the incremental changes have improved AFU operations.

Monthly Report

November, 1995

(Nelson Lease, continued)

Sixteen injection wells were treated with acid: HW-1, HW-18, HW-23, H-29, HW-31, KCW-1, KW-6, KW-7, KW-8, KW-9, KW-11, RW-1, RW-2, RW-3, RW-7 and RW-13. Well Nos. KW-11 and HW-31 received two treatments each. The treatments were placed with the coil tubing unit and consisted of 50 gallons 28% hydrochloric acid plus additives. Well No. RW-6 had an injection line leak repaired.

There were five producing well servicing jobs during November: H-25, H-20, K-43 and 0-1 (twice).

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH November YEAR: 1995

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611		
6	0	0.0	7206		
7 (Lowe)	0	0.0	4356		
9	0	0.0	11905		
10	0	0.0	24599		
11	0	0.0	7315		
12	0	0.0	23461		
HW-1	876	29.2	182408	670	Chem. treatment w/acid 11-14
H-2	0	0.0	1119		
H-5	1063	35.4	9583	200	
HW-8	0	0.0	9229		
H-12	551	18.4	239316	700	
H-14	1613	53.8	8167	130	
HW-18	634	21.1	202485	700	Chem. treatment w/acid 11-11
HW-23	176	5.9	193002	700	Chem. treatment w/acid 11-9
H-29	984	32.8	170770	670	Chem. treatment w/acid 11-10
HW-31	484	16.1	121400	700	Chem. treatment w/acid 11-14
K-50	2057	68.6	34764	570	
KCW-1	537	17.9	185647	670	Chem. treatment w/acid 11-22
KCW-2	0	0.0	108349		
KCW-3	0	0.0	111543		
KCW-4	0	0.0	105432		
KCW-5	0	0.0	75285		
KEW-1	0	0.0	71047		
KW-6	1245	41.5	201881	660	Chem. treatment w/acid 11-21
KW-7	603	20.1	179050	670	Chem. treatment w/acid 11-21
KW-8	886	29.5	201341	680	Chem. treatment w/acid 11-21
KW-9	991	33.0	217539	660	Chem. treatment w/acid 11-9
KW-10	978	32.6	129006	670	
KW-11	951	31.7	192685	670	Chem. treatment w/acid 11-6
KW-51	159	5.3	214205	700	
RW-1	1199	40.0	164303	550	Chem. treatment w/acid 11-14
RW-2	576	19.2	79024	660	Chem. treatment w/acid 11-16
RW-3	883	29.4	192152	680	Chem. treatment w/acid 11-14

* HW-31 - A second chemical treatment on 11/9

** KW-11 - A second chemical treatment on 11/9

WELL TEST DATA

MONTH: November
YEAR: 1995

FIELD: Savonburg N.E.
LEASE: Nelson

WELL NO.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-15	11-21	6.8	109.7	116.5	94		
H-21	11-21	6.8	89.1	95.9	93		
H-17	11-21	5.1	51.4	56.5	91		
H-16	11-21	5.1	47.9	53.0	90		
K-44	11-21	3.4	60.0	63.4	95		
H-30	11-21	2.2	31.9	34.1	94		
H-22	11-21	2.2	27.4	29.6	93		
H-13	11-21	1.7	51.4	53.1	97		
K-45	11-21	1.1	44.5	45.6	98		
K-54	11-21	1.1	36.5	37.6	97		
K-43	11-21	1.1	35.4	36.5	97		
H-9	11-21	0.7	27.4	28.1	98		
H-10	11-21	0.5	21.7	22.2	98		
H-26	11-21	0.5	21.7	22.2	98		
H-20	11-21	0.5	21.1	21.6	98		
K-41	11-21	Tr	33.1	33.1	100		
H-3	11-21	Tr	29.7	29.7	100		
K-46	11-21	Tr	14.8	14.8	100		
H-1						Off	Needs serviced
H-5							Converted to Injection
H-6						S.I.	
H-7						S.I.	
H-11						S.I.	
H-14							Converted to Injection
H-24						S.D.	
H-25						P.T.	
H-27						S.I.	Needs Fished
H-28						S.I.	
K-39						S.I.	
O-1							
7						S.I.	
8						S.I.	
TOTALS		38.8	754.7	793.5	95		

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH November YEAR: 1995

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24869		
RW-5	0	0.0	70150		
RW-6	781	26.0	127935	650	
RW-7	963	32.1	96021	650	Chem. treatment w/acid 11-14
RW-8	945	31.5	311922	690	
RW-9	660	22.0	115474	690	
RW-10	0	0.0	20906		
RW-11	0	0.0	31094		
RW-12	694	23.1	150591	690	
RW-13	928	30.9	158131	640	Chem. treatment w/acid 11-16
RW-14	925	30.8	138522	700	
RW-15	0	0.0	72052		
RW-16	0	0.0	9362		
RW-17	0	0.0	20542		
RW-18	0	0.0	1448		
RW-19	0	0.0	3550		
502	0	0.0			
503	0	0.0			
NELSON PROJECT AREA (Gross)					
TOTAL	23342	778.1	5085754		

%					
INJECTION ALLOCATED OUTSIDE OF PROJECT					
KCW-1 75	403	13.4	139235	670	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE PROJECT AREA					
TOTAL	403	13.4	375063		

NELSON PROJECT AREA (Net)					
TOTAL	22939	764.6	4710691		

AVERAGE PLANT PRESSURE: 700 Psi
PLANT DOWNTIME: None

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH November YEAR: 1995

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611		
6	0	0.0	7206		
7 (Lowe)	0	0.0	4356		
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10	0	0.0	24599		
11	0	0.0	7315		
12	0	0.0	23461		
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H-12	551	18.4	239316	700	
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K-50	2057	68.6	34764	570	
KCW-1	537	17.9	185647	670	Chem. treatment w/acid 11-22
KCW-2	0	0.0	108349		
KCW-3	0	0.0	111543		
KCW-4	0	0.0	105432		
KCW-5	0	0.0	75285		
KEW-1	0	0.0	71047		
KW-6	1245	41.5	201881	660	Chem. treatment w/acid 11-21
KW-7	603	20.1	179050	670	Chem. treatment w/acid 11-21
KW-8	886	29.5	201341	680	Chem. treatment w/acid 11-21
KW-9	991	33.0	217539	660	Chem. treatment w/acid 11-9
KW-10	978	32.6	129006	670	
** KW-11	951	31.7	192685	670	Chem. treatment w/acid 11-6
KW-51	159	5.3	214205	700	
RW-1	1199	40.0	164303	550	Chem. treatment w/acid 11-14
RW-2	576	19.2	79024	660	Chem. treatment w/acid 11-16
RW-3	883	29.4	192152	680	Chem. treatment w/acid 11-14

* HW-31 - A second chemical treatment on 11/9

** KW-11 - A second chemical treatment on 11/9

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH November YEAR: 1995

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24869		
RW-5	0	0.0	70150		
RW-6	781	26.0	127935	650	
RW-7	963	32.1	96021	650	Chem. treatment w/acid 11-14
RW-8	945	31.5	311922	690	
RW-9	660	22.0	115474	690	
RW-10	0	0.0	20906		
RW-11	0	0.0	31094		
RW-12	694	23.1	150591	690	
RW-13	928	30.9	158131	640	Chem. treatment w/acid 11-16
RW-14	925	30.8	138522	700	
RW-15	0	0.0	72052		
RW-16	0	0.0	9362		
RW-17	0	0.0	20542		
RW-18	0	0.0	1448		
RW-19	0	0.0	3550		
502	0	0.0			
503	0	0.0			
NELSON PROJECT AREA (Gross)					
TOTAL	23342	778.1	5085754		

%	INJECTION ALLOCATED OUTSIDE OF PROJECT				
KCW-1 75	403	13.4	139235	670	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE PROJECT AREA					
TOTAL	403	13.4	375063		

NELSON PROJECT AREA (Net)					
TOTAL	22939	764.6	4710691		

AVERAGE PLANT PRESSURE: 700 Psi
PLANT DOWNTIME: None

WELL TEST DATA

MONTH: November
YEAR: 1995

FIELD: Savonburg N.E.
LEASE: Nelson

WELL NO.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-15	11-21	6.8	109.7	116.5	94		
H-21	11-21	6.8	89.1	95.9	93		
H-17	11-21	5.1	51.4	56.5	91		
H-16	11-21	5.1	47.9	53.0	90		
K-44	11-21	3.4	60.0	63.4	95		
H-30	11-21	2.2	31.9	34.1	94		
H-22	11-21	2.2	27.4	29.6	93		
H-13	11-21	1.7	51.4	53.1	97		
K-45	11-21	1.1	44.5	45.6	98		
K-54	11-21	1.1	36.5	37.6	97		
K-43	11-21	1.1	35.4	36.5	97		
H-9	11-21	0.7	27.4	28.1	98		
H-10	11-21	0.5	21.7	22.2	98		
H-26	11-21	0.5	21.7	22.2	98		
H-20	11-21	0.5	21.1	21.6	98		
K-41	11-21	Tr	33.1	33.1	100		
H-3	11-21	Tr	29.7	29.7	100		
K-46	11-21	Tr	14.8	14.8	100		
H-1						Off	Needs serviced
H-5							Converted to Injection
H-6						S.I.	
H-7						S.I.	
H-11						S.I.	
H-14							Converted to Injection
H-24						S.D.	
H-25						P.T.	
H-27						S.I.	Needs Fished
H-28						S.I.	
K-39						S.I.	
O-1							
7						S.I.	
8						S.I.	
TOTALS		38.8	754.7	793.5	95		

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
DECEMBER, 1995

Oil production was 791 barrels, 25.5 barrels per day versus 26.3 barrels per day last month. Water production was 17,287 barrels, 557.6 barrels per day, an increase of 140.1 barrels per day over November.

Water injection averaged 859.5 barrels per day, 26,640 barrels total versus 23,342 barrels, 778.1 barrels per day, last month.

Water testing and treating continue to require major attention. Mixing and circulating the make-up and produced waters prior to feeding the air flotation unit still appears to be a major improvement. Bleach treatment to convert iron compounds is being continued along with the use of National Petrochem #661 Compound to inhibit barium scale. Treatments appear to be effective in the short term.

The program to optimize the air flotation unit continues. On December 13th another test was conducted utilizing the Consolidated Electro-Floc process. Results are being evaluated. Another new design of slop weir was installed on December 15th. This one extends the entire width of the air flotation unit. Its use, along with the new bubble wiper installed in November, appears to improve solids removal. The greatest improvement has been achieved by operating the unit more continuously.

On December 1st the pumping equipment was pulled from No. K-46 and the well was shut-in for uneconomic production. The line was run in No. K-44 and it was it found to be clear to bottom. A special long-stroke pump with extension tube was installed to allow the well to be pumped from the bottom of the perforated interval. Well No. K-32 was cleaned by foam-jet washing and chemically treated. It

was then reactivated for a pump test. Well No. K-42 was cleaned by foam-jet washing, a packer set, and converted for injection testing. Well No. H-15 was cleaned by foam-jet washing, chemically treated, and placed back on pump. This well had 17' of perforations covered by solids. Well No. RW-9 was treated by the coil tubing unit with 50 gallons 28% hydrochloric acid plus additives.

A surface leak developed at an old plugged well in the northwest portion of the field. The well is located between No. K-47 and RW-4. A program was started to determine the source of this leak. Green fluorescein dye and 50 gallons of acid were placed in Well No. KW-9 by coil tubing on December 12th. A treatment of blue fluorescein and 50 gallons of acid plus additives were placed in Well No. KW-10 on December 13th. The green dye surfaced at the breakout well twelve days later on December 24th. Plans have been made to lower the packer in Well No. KW-9 and further isolate the leak.

The following wells were serviced: K-44, H-9, K-43, H-3, H-20, H-25 (twice), K-54 (twice), K-41.

Mechanical Integrity Tests were run on Nelson (Lowe) 5, Nelson (Cox) 502, 2, 3, 7 and Nelson K-50.

A new injection well, No. RW-20, was drilled in the south-central portion of the field. The purpose was to increase injection coverage in the B3 Reservoir. The well was cored through the pay zones, drilled to a T.D. of 815', and had an open-hole gamma ray neutron log run. Casing of 4 1/2" diameter was run and cemented. Completion awaits evaluation of the core data.

WELL TEST DATA

MONTH: December
YEAR: 1995

FIELD: Savonburg N.E.
LEASE: Nelson

WELL NO.	Date of Test	Barrels Per Day Oil	Wtr.	T.F.	Water Cut	Status:SI,SD PT,Flowing	Remarks:
H-17	12-14-95	8.5	51.4	59.9	86	Line PSI 70#	
K-44	12-14-95	5.1	61.7	66.8	92	Line PSI 70#	Pulled 12-7; Special Pump
H-21	12-14-95	3.4	75.4	78.8	96		
H-15	12-14-95	3.4	99.4	102.8	97	Line PSI 70#	12-5;Foam Jet Wash
K-43	12-14-95	2.2	36.5	38.7	94	Line PSI 70#	Pulled 12-13
H-16	12-14-95	2.2	37.7	39.9	94		
H-13	12-14-95	1.7	65.1	66.8	97	Line PSI 70#	
H-20	12-14-95	1.1	21.7	22.8	95		Pulled 12-20
H-26	12-14-95	1.1	21.7	22.8	95		
H-10	12-14-95	1.1	25.1	26.2	96		
H-22	12-14-95	1.1	31.9	33.0	97		
H-30	12-14-95	1.1	30.8	31.9	97		
K-45	12-14-95	1.1	34.2	35.3	97		
K-54	12-14-95	1.1	39.9	41.0	97		Pulled 12-20 & 12-26
H-3	12-14-95	1.1	41.1	42.2	97		Pulled 12-14
0-1	12-14-95	TR	6.8	6.8	100		
K-41	12-14-95	TR	31.9	31.9	100	Line PSI 80#	Pulled 12-26
H-9	12-14-95	TR	38.8	38.8	100		Pulled 12-13
K-32	12-14-95	TR	41.1	41.1	100	Line PSI 65#	12-6 FM.J.WA.;12-8 S.T. Pump
							12-21 S.I.
H-24							
H-25							Pulled 12-20 & 12-26
H-27							
H-28							
H-29							
K-33							
K-34							
K-35							
K-36							
K-38							
K-39							
K-40							
K-42							12-6 Foam Jet Wash
K-46						12-1 S.I.	12-1 Pull 1" & Pump
K-47							
K-48							
K-49							
K-59							
H-1							
H-6							
H-7							
H-11							
0-2							
0-3							
0-4							
1							
3							
4							
8							

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH December YEAR: 1995

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	12-29 MIT
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	1436	46.3	183844	670	
H-2	0	0.0	1119	0	
H-5	972	31.4	10555	210	
HW-8	0	0.0	9229	0	
H-12	596	19.2	239912	700	
H-14	2250	72.6	10417	160	
HW-18	653	21.1	203138	700	
HW-23	118	3.8	193120	700	
H-29	781	25.2	171551	700	
HW-31	555	17.9	121955	700	
K-50	826	26.6	35590	530	12-29 MIT
KCW-1	436	14.1	186083	670	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75286	0	
KEW-1	0	0.0	71047	0	
KW-6	1330	42.9	203211	680	12-12 Line Leak Repaired
KW-7	987	31.8	180037	670	
KW-8	1012	32.7	202353	680	
KW-9	1253	40.4	218792	700	12-12 ACLTJB & Green Dye
KW-10	1368	44.1	130374	670	12-13 CHMCLTJB & Blue Dye
KW-11	1124	36.3	193809	700	
KW-51	434	14.0	214639	700	
RW-1	1308	42.2	165611	560	
RW-2	616	19.9	79640	700	
RW-3	1221	39.4	193373	680	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH December YEAR: 1995

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24869	0	
RW-5	0	0.0	70150	0	
RW-6	997	32.2	128932	700	
RW-7	1165	37.6	97186	660	
RW-8	1350	43.6	313272	640	
RW-9	768	24.8	116242	700	12-14 CHMCLTJB
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	630	20.3	151221	700	
RW-13	1105	35.6	159236	640	
RW-14	1349	43.5	139871	700	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9362	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
502	0	0.0			12-29 MIT
503	0	0.0			
NELSON PROJECT AREA (Gross)					
TOTAL	26640	859.5	5112392		

%			INJECTION ALLOCATED OUTSIDE OF PROJECT		
KCW-1 75	327	10.5	139889	670	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE PROJECT AREA					
TOTAL	327	10.5	375719		

NELSON PROJECT AREA (Net)					
TOTAL	26313	849.0	4736673		

AVERAGE PLANT PRESSURE: 700 Psi
PLANT DOWNTIME: None

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
FEBRUARY, 1996

Oil production was 846 barrels, 29.2 barrels per day, compared with 28.5 barrels per day in January. Water production was 16,844 barrels, 580.8 barrels per day versus 684.6 barrels per day last month. Production was hampered by extreme weather and two main line oil leaks during the month.

Water injection was 22,642 barrels, 780.8 barrels per day versus 901.3 barrels per day last month. Several wells were shut-in and meters pulled because of freezing.

Additional effort was expended on the air flotation process and equipment during February. A new motor and wiper arm were installed on top of the AFU. A data logger was placed in service to monitor operating time of the Unit. Injection water quality was measured by millipore filtration testing to correlate with turbidity measurements from the new colorimetric testing equipment.

The plant bag filter holders were clogged with scale and were cleaned. The slop tank was also cleaned at the end of February. High winds broke an electrical connection on the power pole for the water supply well.

Well No. KW-9 was taken off injection, in preparation for a workover. Well No. K-42 was cleaned by means of a lubricator acid chemical treatment. The following injection lines were flushed: RW-6, KW-11, RW-12, H-12.

The following producing wells were serviced: 0-1, H-3 (twice), K-41 (twice), H-25 and K-54 (twice).

WELL TEST DATA

MONTH: February
YEAR: 1996

FIELD: Savonburg N.E.
LEASE: Nelson

WELL NO.	Date of Test	Barrels Per Day Oil	Wtr.	T.F.	Water Cut	Status:SI,SD PT,Flowing	Remarks:
H-17	2-22	3.4	25.1	28.5	88		
K-44	2-21	3.4	42.2	45.6	93		
K-43	2-22	3.4	54.8	58.2	94		
H-22	"	2.2	26.2	28.4	92		
H-21	2-21	1.7	80.5	82.2	97		
H-15	"	1.7	106.2	107.9	98		
H-26	2-22	1.1	17.1	18.2	94		
H-13	2-21	1.1	28.5	29.6	97		
H-16	"	1.1	28.5	29.6	96		
K-45	"	1.1	37.7	38.8	97		
H-25	2-22	0.5	10.8	11.3	96		2/6 Pull to hole in 1" pipe
H-20	2-21	0.5	19.9	20.4	98		
K-30	"	0.5	21.1	21.6	98		
H-10	"	0.5	21.7	22.2	98		
K-54	2-22	0.5	38.8	39.3	99		2/6 Replace pump string
H-3	"	0.5	45.7	46.2	99		2/5 Pull Pump - Ran SLM
							2/13 - Hole in 1"
O-1	"	0.3	14.2	14.5	98		2/22-Pulled;clnd.&serv.pump
K-41	"	TR	23.4	23.4	100		2/6&2/13-Pull to hole in 1"
H-9	"	TR	28.5	28.5	100		
K-32	2-22	TR	29.7	29.7	100		

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH FEBRUARY YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	1242	42.8	186568	700	
H-2	0	0.0	1119	0	
H-5	1130	39.0	12998	240	
HW-8	0	0.0	9229	0	
H-12	408	14.1	240852	700	Flushed line 2-21
H-14	1998	68.9	14633	140	
HW-18	315	10.9	203886	700	
HW-23	295	10.2	193415	700	
H-29	281	9.7	173070	700	
HW-31	424	14.6	122697	700	
K-42	1428	49.3	2258	510	Reset Pkr.2/8;Lube Acid 2/20
K-50	1445	49.8	38264	540	
KCW-1	289	10.0	186372	550	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	919	31.7	205675	700	Unplugged line 2-22
KW-7	517	17.8	181303	700	
KW-8	650	22.4	203870	700	
KW-9	1123	38.7	221541	650	Shut-in 2-23
KW-10	1163	40.1	133019	670	
KW-11	383	13.2	195107	700	
KW-51	298	10.3	215331	700	
RW-1	1237	42.7	168025	700	
RW-2	266	9.2	80408	700	
RW-3	1239	42.7	195763	700	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH FEBRUARY YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	426	14.7	130534	700	Flushed line 2-21
RW-7	926	31.9	99246	700	
RW-8	1427	49.2	316423	700	
RW-9	670	23.1	118119	700	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	288	9.9	151868	700	Flushed line 2-21
RW-13	639	22.0	161229	700	
RW-14	1219	42.0	142440	700	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9362	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
502	0	0.0			
503	0	0.0			
NELSON PROJECT AREA (Gross)					
TOTAL	22642	780.8	5162969		

%		INJECTION ALLOCATED OUTSIDE OF PROJECT			
KCW-1 75	217	7.5	139779	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE PROJECT AREA					
TOTAL	217	7.5	375609		

NELSON PROJECT AREA (Net)					
TOTAL	22425	773.3	4787360		

AVERAGE PLANT PRESSURE: 700 Psi
PLANT DOWNTIME: None

Lanny

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
MARCH, 1996

Oil production was 844 barrels, 27.2 barrels per day, compared with 29.2 barrels per day in February. Water production was 17,692 barrels, 570.7 barrels per day versus 580.8 barrels per day last month. Production was again hampered by extreme cold weather and high winds during the month. The high winds blew power lines loose and caused problems on our secondary electrical distribution system.

Water injection was 22,775 barrels, 785.3 barrels per day compared with 780.8 barrels per day in February. Plant downtime totaled nine hours, primarily for repacking and refurbishing the injection pump.

Development work continued on the air flotation equipment. It was completely rewired for greater safety and functionality. It was cleaned and the air turbines replaced from the inside, without removing the motors. A four-inch drain line was changed to PVC piping and a valve installed for greater access. Longer wiper brushes were installed to remove the solids. The flotation aid chemical pump was moved from the AFU building to the transfer pump station. Quality continues to improve and suspended solids are dropping. Turbidity is being monitored by use of the new Hach Dr-700 measuring device.

The need to better measure flow rate of the various plant water streams has been previously defined. A series of tests were conducted using externally-applied Doppler flow meters at various locations. These meters were found unsatisfactory for this application. The censors require a reflection from either particulates or air bubbles in the water, and it was concluded that the water is too clean for them to work consistently. Other metering devices are being investigated. Mike Michnick of TORP worked with us constantly on this evaluation.

New injection Well No. RW-20 was completed and hooked up during the month. Fluid was swabbed from the casing and 110 gallons of acid with chemical additives was spotted over the completion interval. Two intervals totaling 15' were perforated. Additional treatment will be performed to initiate injection.

A workover was performed on Well No. KW-9 to limit injection fluid leak-off. A packer was run on 2" tubing and set at 638'. A head was installed and tubing and casing pressures are being monitored. Well No. HW-23 was washed and jetted with an acid/chemical mixture. Well No. RW-12 was treated with an acid/chemical mixture by use of the coil tubing unit.

The following producers were serviced: H-3 (twice), H-25 (twice), H-9, and K-45.

A meeting was held with Lance Cole and Merle Grabhorn of BDM/Oklahoma. They were gathering information for a newsletter article about the project.

A meeting for project review and planning was held with all TORP personnel on March 14, 1996. It was decided to conduct these meetings once per month in the future.

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH March YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	1227	42.3	187795	700	
H-2	0	0.0	1119	0	
H-5	1092	37.7	14090	240	
HW-8	0	0.0	9229	0	
H-12	423	14.6	241275	700	
H-14	1859	64.1	16492	140	
HW-18	650	22.4	204536	670	
HW-23	1250	43.1	194665	550	Chem Acid Jet 3-5-96
H-29	347	12.0	173417	700	
HW-31	434	15.0	123131	700	
K-42	1502	51.8	3760	480	
K-50	1741	60.0	40005	570	
KCW-1	735	25.3	187107	660	
KCW-2	0	0.0	108340	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1145	39.5	206820	700	
KW-7	365	12.6	181668	700	
KW-8	770	26.6	204640	700	
KW 9	0	0.0	221541	130	
KW-10	1579	54.4	134598	670	
KW-11	248	8.5	195355	700	
KW-51	213	7.3	215544	700	
RW-1	1027	35.4	169052	700	
RW-2	267	9.2	80675	700	
RW-3	1572	54.2	197335	700	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH March YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	130	4.5	130664	700	
RW-7	908	31.3	3	700	
RW-8	1115	38.4	317538	700	
RW-9	611	21.1	118730	700	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	301	10.4	152169	700	Coil tubing Acid Chem 3/28/96
RW-13	245	8.4	161474	700	
RW-14	1008	34.7	143448	700	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9362	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1	0.0	1	700	
502	0	0.0			
503	0	0.0			
NELSON P					
TOTAL	22775	785.3	5185744		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	551	19.0	140330	660	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	551	19.0	376160		

NELSON P					
TOTAL	22224	766.3	4809584		

AVERAGE PLANT PRESSURE: 700 PSI
PLANT DOWNTIME: 9 Hours

WELL TEST DATA

March
1996

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-17	3-27	3.4	35.4	38.8	91		
K-43	"	3.4	49.6	53.0	94		
H-21	"	3.4	77.1	80.5	96		
H-22	"	2.2	22.8	25.0	91		
K-44	"	2.2	33.1	35.3	94		
H-15	"	1.7	106.2	107.9	98		
H-26	"	1.1	11.4	12.5	91		
H-16	"	1.1	25.1	26.2	96		
K-45	"	1.1	43.4	44.5	98		
H-13	"	1.1	46.8	47.9	98		
H-20	"	0.5	17.1	17.6	97		
H-10	"	0.5	21.1	21.6	98		
H-3	"	0.5	35.4	35.9	99		
K-54	"	0.5	43.4	43.9	99		
H-25	"	0.2	6.2	6.4	97		
H-30	"	0.2	19.9	20.1	99		
0-1	"	TR	12.5	12.5	100		
H-9	"	TR	22.8	22.8	100		
K-41	"	TR	25.1	25.1	100		
K-32	"	TR	29.7	29.7	100		

Lanny

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
APRIL, 1996

Oil production was 801 barrels, 26.7 barrels per day, compared with 27.2 barrels per day in March. Water production was 14,606 barrels, 486.9 barrels per day, a decrease of 84 barrels per day.

Water injection was 23,692 barrels, 789.7 barrels per day versus 785.3 barrels per day last month.

Development work on the flotation process consisted primarily of testing various combinations of chemicals. The chemicals being tested as flotation aids consist of polymers, surfactants, and wetting agents. Various adjustments were made to the slop weir and wiper brushes. The AFU discharge tank was also cleaned during the month.

Plant downtime of 28 hours was necessitated by replacement of the injection pump. All field injection lines and manifolds were cleaned by chemical flushing and all field filters were changed.

Additional completion work was done on new injection Well No. RW-20. Acid chemical mixture was spotted by coil tubing and pumped in with the pump truck to initiate injection. The well is now taking water satisfactorily.

Acid/chemical stimulation jobs were performed by coil tubing on the following injection wells: RW-1, RW-2, RW-6, RW-8, RW-9, RW-12, KW-7, KW-8, KW-11, HW-18. Tubing and packers were pulled and Differential Temp Surveys were conducted on converted Well Nos. H-5 and H-14. Both wells indicate some degree of water channeling problem. Tubing and packers were reinstalled and injection resumed. Channelblock jobs are being planned for both wells.

Well No. H-25 was pulled for a hole in the 1" pump string. Pumping equipment was removed from Well Nos. K-32 and K-41, and the wells were shut down as uneconomical. Both are edge wells in the northern portion of the field.

Our review and planning session with TORP personnel was held on April 18, 1996. Key personnel attended the Improved Oil Recovery Symposium in Tulsa April 21-24, 1996. The technical paper on our project entitled Development of an Improved Waterflood Optimization Program in the North East Savonburg Waterflood, was presented.

WELL TEST DATA

April
1996

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-21	4-16	3.4	56.5	59.9	94		
K-43	"	3.4	60.0	63.4	95		
H-15	"	3.4	99.4	102.8	97		
H-22	"	2.8	31.9	34.7	92		
H-16	"	2.2	37.7	39.9	94		
K-45	"	2.2	41.1	43.3	95		
H-17	"	2.2	45.7	47.9	95		
K-44	"	1.7	58.2	59.9	97		
H-26	4-17	1.1	7.4	7.4	87		
H-13	4-16	1.1	53.7	54.8	98		
K-30	"	0.5	19.9	20.4	98		
H-10	"	0.5	22.8	23.3	98		
H-20	"	0.5	24.5	25.0	98		
K-54	4-17	0.5	31.9	32.4	98		
H-3	"	0.5	41.1	41.6	99		
H-9	"	0.3	15.9	16.2	98		
H-25	"	TR	7.4	7.4	100		Pulled Hole;Repl.Jt 4/19/96
0-1	4-16	TR	10.2	10.2	100		
K-32	4-8						Shut down; removed equipment
K-41	"						Shut down; removed equipment

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH April YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	720	24.0	188515	700	
H-2	0	0.0	1119	0	
H-5	540	18.0	14630	200	Ran Delta Temp Log 4/9/96
HW-8	0	0	9229	0	
H-12	292	9.7	241567	690	Washed Jetted & Set Packer 4/2/96
H-14	1057	35.2	17549	100	Ran Delta Temp Log 4/9/96
HW-18	791	26.4	205327	640	Washed & Acidized 4/17/96
HW-23	1300	43.3	195976	530	
H-29	168	5.6	173585	690	
HW-31	235	7.8	123366	690	
K-42	1447	48.2	5207	490	Packer Leak 4/21/96
K-50	1123	37.4	41128	590	
KCW-1	343	11.4	187450	680	
KCW-2	0	0.0	108340	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1215	40.5	208035	670	
KW-7	925	30.8	182593	650	Coil Tubing Acid 4/12/96
KW-8	935	31.2	205575	650	Coil Tubing Acid 4/12/96
KW-9	0	0.0	221541	130	
KW-10	1506	50.2	136104	610	
KW-11	893	29.8	196248	660	Coil Tubing Acid 4/10/96
KW-51	238	7.9	215782	700	
RW-1	1121	37.4	170173	450	Coil Tubing Acid 4/10/96
RW-2	631	21.0	81306	680	Coil Tubing Acid 4/15/96
RW-3	1534	51.1	198869	680	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH April YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	916	30.5	131580	650	Coil Tubing Acid 4/10/96
RW-7	1290	43.0	101444	640	
RW-8	1062	35.4	318600	540	Coil Tubing Acid 4/17/96
RW-9	706	23.5	119436	670	Coil Tubing Acid 4/17/96
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1558	51.9	153727	590	Coil Tubing Acid 4/17/96
RW-13	89	3.0	161563	700	
RW-14	695	23.2	144143	700	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9362	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	351	11.7	352	530	Start Injection 4/11/96
502	0	0.0			
503	0	0.0			
NELSON P					
TOTAL	23692	789.7	5209436		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	257	8.6	140588	680	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	257	8.6	376418		

NELSON P					
TOTAL	23435	781.1	4833018		

AVERAGE PLANT PRESSURE: 700 PSI
PLANT DOWNTIME: 28 Hours

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KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
MAY, 1996

Oil production was 823 barrels, 26.6 barrels per day, unchanged from April. Water production at 15,888 barrels, 512.5 barrels per day, increased 25.6 barrels per day over last month. Some producer downtime was caused by electrical storms.

Water injection was 23,706 barrels, 764.7 barrels per day versus 7,897 barrels per day in April. There was no plant downtime during the month.

Testing various combinations of chemicals continued as a means of optimizing the air flotation process. Major electrical control work was done during the month to further integrate the air flotation unit with the water plant control functions.

Three major workovers were performed last month. Well Nos. H-29 and HW-31 were washed, cleaned, and acid-jetted with emphasis on the B-3 zone. Well No. H-12 was washed, cleaned, and acid-jetted. Plastic-lined tubing and packer were then run to isolate injection to the B-3 zone. Coil tubing acid/chemical treatments were performed on Well Nos. HW-1, KW-9, and RW-13.

Well Nos. H-26 and K-45 were pulled and pumps repaired.

A review and planning session with TORP personnel was held on May 21, 1996. The TORP Advisory Board Meeting was attended in Wichita on May 29, 1996.

WELL TEST DATA

May
1996

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-16	5-28	3.4	28.5	31.9	89		
H-17	"	3.4	38.8	42.2	92		
K-44	"	3.4	46.8	50.2	93		
H-22	"	2.2	35.4	37.6	94		
K-45	5-29	2.2	41.1	43.3	95		Pulled & repaired pump 5/22
K-43	5-28	2.2	49.1	51.3	96		
H-21	"	1.7	65.1	66.8	97		
H-15	"	1.7	70.2	71.9	98		
H-26	5-29	1.1	10.2	11.3	90		Pulled & repaired pump 5/22
H-10	"	0.5	18.8	19.3	97		
K-54	"	0.5	30.8	31.3	98		
H-20	"	0.5	22.8	23.3	98		
H-13	5-28	0.5	31.9	32.4	98		
H-3	5-29	0.5	41.1	41.6	99		
H-25	"	TR	5.1	5.1	100		
0-1	5-28	0.0	10.2	10.2	100		
H-30	"	TR	14.8	14.8	100		
H-9	5-29	TR	22.2	22.2	100		

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH May YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	769	24.8	189284	650	Coil Tubing Acid 5/16/96
H-2	0	0.0	1119	0	
H-5	791	25.5	15421	160	
HW-8	0	0	9229	0	
H-12	1084	35.0	242651	440	Washed Jetted & Set Packer 5/2/96
H-14	890	28.7	18439	100	
HW-18	897	28.9	206224	530	
HW-23	960	31.0	196939	490	
H-29	282	9.1	173867	550	Wshd & Acidized 5/15; On Inj. 5/21
HW-31	497	16.0	123863	570	Washed & Acidized 5/8/96
K-42	665	21.5	5872	310	
K-50	827	26.7	41955	560	
KCW-1	148	4.8	187598	650	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1043	33.6	209078	650	
KW-7	914	29.5	183507	620	
KW-8	782	25.2	206357	620	
KW-9	706	22.8	222247	620	Coil Tubing Acid; Hooked up 5/21
KW-10	1235	39.8	137339	610	
KW-11	1013	32.7	197261	600	
KW-51	162	5.2	215944	640	
RW-1	1214	39.1	171387	380	
RW-2	670	21.6	81976	650	
RW-3	818	26.4	199687	650	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH May YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1175	37.9	132755	600	
RW-7	1196	38.6	102640	560	
RW-8	1405	45.3	320005	380	
RW-9	889	28.7	120325	620	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1210	39.0	154937	570	
RW-13	349	11.3	161912	550	Coil Tubing Acid 5/16/96
RW-14	562	18.1	144705	660	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	553	17.8	905	550	
502	0	0.0			
503	0	0.0			
NELSON P					
TOTAL	23706	764.7	5233142		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	111	3.6	140699	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	111	3.6	376528		

NELSON P					
TOTAL	23595	761.1	4856614		

AVERAGE PLANT PRESSURE: 650

PLANT DOWNTIME: 0

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
JUNE, 1996

Oil production was 746 barrels, 24.9 barrels per day versus 26.6 barrels per day in May. Water production at 13,402 barrels, 446.7 barrels per day, decreased 65.8 barrels per day. There was no plant downtime during June.

Water injection at 22,077 barrels, 735.9 barrels per day, decreased 28.8 barrels per day.

Optimization work on the air flotation process continues. This consists primarily of testing various combinations of chemicals and altering the operational parameters of the unit.

A new transfer pump was installed with a larger (1 1/2 HP) motor. Most of the other plant work was cleaning and maintenance. Two of the air turbines from the flotation unit were cleaned. The water transfer line was cleaned with chemicals and flushed with the pump truck. The slop tank was cleaned. Materials have been procured and preparations made to install a turbine meter on the injection pump discharge.

Differential Temperature Surveys were conducted on Well Nos. HW-23 and HW-31. Results from No. HW-31 were generally satisfactory, but No. HW-23 showed a major anomaly at a depth of approximately 480'. The log indicates a problem with the casing which will require a workover.

A major workover was performed on producing Well No. H-30. An anchor was fished from the hole and the well was cleaned to bottom by jetting with an air/foam mixture. The well was treated with chemicals and placed back on production.

A workover program was initiated on Well No. 0-1. The pumping equipment was removed and very little fluid found in the casing. The T.D. was checked by wireline measurement at 746'. Several attempts were made to set a packer in the 4 1/2" casing and isolate the Lower, B-3 perforations. Mechanical problems were encountered with the packer, and operations were temporarily suspended.

Considerable time was spent in laboratory testing, planning, and field preparations to begin channelblocking. Converted producing Well No. H-14 received two 60-barrel batches of crosslinked polymer channelblock material late in the month. Results are being evaluated, but do not appear favorable.

The following wells were serviced: H-20 (twice), K-43, K-45, H-15, and H-17. Some problems were experienced with the pump anchor on Well No. H-20

Our review and planning session with TORP personnel was held on June 13, 1996.

WELL TEST DATA

June
1996

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-17	6-26	3.4	41.1	44.5	92		Pulled 6/21 - Rebuilt pump
K-44	"	3.4	49.6	53.0	94		
H-16	"	2.8	19.9	22.7	88		
K-43	6-28	2.2	33.1	35.3	94		Pulled 6/10 - Rebuilt pump
K-45	"	1.7	51.4	53.1	97		Pulled 6/21;hole-replaced jt.
H-15	6-27	1.7	66.8	68.5	98		Pulled 6/24 - Rebuilt pump
H-21	6-28	1.7	70.2	71.9	98		
H-22	6-27	1.6	31.9	33.5	95		
H-13	"	1.1	36.5	37.6	97		
H-10	6-28	1.1	42.2	43.3	97		
H-30	"	1.1	47.9	49.0	98		W.O.comp 6/14; air/foam jet
H-26	"	0.5	22.8	23.3	98		
H-20	"	0.5	25.1	25.6	98		Pulled 6/3 & 6/19 - Rebuilt pump - new holdown
K-54	"	0.5	31.9	32.4	98		
H-3	"	0.5	35.4	35.9	99		
H-25	"	TR	5.6	5.6	100		
H-9							Pld. 6/17-Left out for w.o.
0-1							W.O. in progress-Shut down

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH June YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	713	23.8	189997	640	
H-2	0	0.0	1119	0	
H-5	908	30.3	16329	210	
HW-8	0	0	9229	0	
H-12	1184	39.5	243835	490	
H-14	663	22.1	19102	20	Channelblock - 2 batches
HW-18	692	23.1	206916	560	
HW-23	70	2.3	197009	400	Delta Temp Log - 6/3
H-29	658	21.9	174525	640	
HW-31	1038	34.6	124901	540	Delta Temp Log - 6/3
K-42	665	21.5	5872	310	
K-50	397	13.2	42352	570	
KCW-1	128	4.3	187726	650	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	787	26.2	209865	640	
KW-7	955	31.8	184462	640	
KW-8	779	26.0	207136	640	
KW-9	921	30.7	223168	640	
KW-10	1391	46.4	138730	590	
KW-11	1042	34.7	198302	640	
KW-51	844	28.1	216788	640	
RW-1	943	31.4	172330	520	
RW-2	473	15.8	82449	650	
RW-3	522	17.4	200209	610	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH June YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	754	25.1	133509	630	
RW-7	714	23.8	103354	540	
RW-8	1655	55.2	321660	410	
RW-9	867	28.9	121192	650	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	958	31.9	155895	600	
RW-13	1004	33.5	162916	580	
RW-14	472	15.7	145177	650	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	545	18.2	1450	600	
502	0	0.0			
503	0	0.0			
NELSON P					
TOTAL	22077	735.9	5255219		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	96	3.2	140795	650	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	96	3.2	376624		

NELSON P					
TOTAL	21981	732.7	4878595		

AVERAGE PLANT PRESSURE: 700
PLANT DOWNTIME: None

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
JULY, 1996

Oil production was 787 barrels, 25.4 barrels per day, a slight increase over the average of 24.9 barrels per day in June. Water production at 10,837 barrels, 349.6 barrels per day decreased 97.1 barrels per day. Water production has been decreasing over the last several months.

Water injection at 22,154 barrels, 714.6 barrels per day, decreased 21.3 barrels per day. The injection plant was down for 12 1/2 hours during the month. The downtime was caused by flushing injection lines, meter installation, and two electrical storms. Injection was also down because of the extended channelblock and tracer work performed on Well No. H-14.

Testing chemicals and altering operational modes for the air flotation process continues. Quality water has been maintained, but at a somewhat elevated cost for chemicals and filters.

Other important plant changes were made during the month. A Halliburton turbine meter was installed at the injection pump discharge. The new Ecosol digital meter was installed in the transfer line. We continue to experience scaling problems with the meter and transfer pump on the raw water side. All injection trunk lines and headers were flushed and cleaned. The produced water tank was also cleaned. One turbine unit was pulled from the AFU for cleaning, and left out of service. Corrosion coupons were installed at various points in the injection system.

A major workover was performed on Well No. H-9. This well has 2 3/8" casing in poor repair. A steel measuring line and weight were fished from the hole and it was circulated and cleaned to bottom. The well then received a light acid/chemical treatment, and was placed back on pump. Additional work was accomplished on No. HW-23 which received the Differential Temperature Survey last month. This was the well without completion data. The well was washed down and a Gamma-ray Neutron Log conducted. We are awaiting Tony Walton's correlation to determine if the B-3 Zone justifies further expenditures on this well.

The initial two-batch channelblock job performed on No. H-14 last month was not found to be effective. A tracer test was conducted on the well by injecting 300 pounds of sodium nitrate dissolved in two barrels of injection water. Although injection of the tracer was at an inordinately high rate, tracer was detected at Well No. H-15 in 16 hours, and Well No. H-16 in 19 hours. It was agreed to repeat the channelblock treatment, and the job was in progress at month's end.

The following wells were serviced because of holes in the 1" pump strings: No. H-3 (twice), No. H-17.

Our review and planning session with TORP personnel was held in Lawrence on July 19, 1996.

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH July YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	425	13.7	133934	660	
RW-7	950	30.6	104304	580	
RW-8	1526	49.2	323186	460	
RW-9	664	21.4	121856	660	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1001	32.3	156896	640	
RW-13	1199	38.7	164115	610	
RW-14	479	15.5	145656	670	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	975	31.5	2425	610	
502	0	0.0			
503	0	0.0			
NELSON P					
TOTAL	22154	714.6	5277373		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	68	2.2	140863	650	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	68	2.2	376692		

NELSON P					
TOTAL	22086	3.0	4900681		

AVERAGE PLANT PRESSURE: 700
PLANT DOWNTIME: 12 1/2 Hrs.

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH July YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	738	23.8	190735	670	
H-2	0	0.0	1119	0	
H-5	802	25.9	17131	250	
HW-8	0	0	9229	0	
H-12	1349	43.5	245184	600	
H-14	817	26.4	19919	50	Tracer test;started x-block 7/28
HW-18	1048	33.8	207964	580	
HW-23	0	0.0	197009	0	Washed, logged, shut down 7/29
H-29	380	12.3	174905	670	
HW-31	930	30.0	125831	600	
K-42	536	17.3	6408	350	
K-50	1033	33.3	43385	600	
KCW-1	91	2.9	187817	670	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	257	8.3	210122	660	
KW-7	839	27.1	185301	640	
KW-8	532	17.2	207668	660	
KW-9	974	31.4	224142	630	
KW-10	3	41.0	140002	580	
KW-11	912	29.4	199214	660	
KW-51	355	11.5	217143	580	
RW-1	1121	36.2	173451	570	
RW-2	371	12.0	82820	660	
RW-3	578	18.6	200787	660	

WELL TEST DATA

July
1996

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
K-44	7-31	4.5	38.8	43.3	90		
H-17	"	3.4	46.2	49.6	93		Pulled 7/26
K-43	"	3.4	51.4	54.8	94		
H-21	"	3.4	82.2	85.6	96		
H-16	"	2.2	25.1	27.3	92		
H-22	"	2.2	31.9	34.1	94		
H-30	"	1.7	53.1	54.8	97		
H-15	"	1.7	66.8	68.5	98		
K-45	"	1.7	68.5	70.2	98		
H-26	"	1.1	21.7	22.8	95		
H-20	"	1.1	28.5	29.6	96		
K-54	"	1.1	36.5	37.6	97		
H-13	"	1.1	37.7	38.8	97		
H-10	"	1.1	41.1	42.2	97		
H-25	"	TR	5.6	5.6	100		
H-9	"	TR	34.2	34.2	100		Fishing job done; back on
H-3							Pulled 7/16 & 7/17; left off

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
JANUARY, 1996

Oil production was 885 barrels, 28.5 barrels per day compared with 25.5 barrels per day last month. Water production was 21,223 barrels, 684.6 barrels per day versus 557.6 barrels per day in December.

Extreme weather caused some freezing and power outage. High winds broke the come-over line at the gunbarrel. A leak in the main production line was repaired.

Water injection averaged 901.3 barrels per day, 27,935 barrels total versus 26,640 barrels in December.

Differential Temperature Logs were run on Well Nos. K-47, RW-4, KW-9, and RW-20. The log on Well No. RW-20 was taken to provide background information prior to completion. A Differential Temperature Log was taken on Well No. K-39 and a packer was run to isolate the leak. A Differential Temperature Log was run on Well No. K-42 and tubing and a packer were installed. Injection line was laid and the well was placed on injection temporarily for testing.

Testing continues to optimize operation of the air flotation equipment. However, most of the time was used to maintain operations during the extreme weather. The AFU was shut down and cleaned during the month. The polymer pump used for the flotation aid chemical was overhauled. It was found necessary to dilute the chemical with kerosene in order to keep pumping at the low rates.

The following producing wells were serviced during the month: Nos. H-3, H-15, H-25, H-41. The pumping unit broke on No. H-15 and was replaced.

WELL TEST DATA

MONTH: January
YEAR: 1996

FIELD: Savonburg N.E.
LEASE: Nelson

WELL NO.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-16	1-16	3.4	28.5	31.9	89		
H-17	"	3.4	39.3	42.7	92		
K-44	"	3.4	58.2	61.6	94		
H-21	"	3.4	75.4	78.8	96		
H-16	"	3.4	109.7	113.1	97		
H-22	"	2.2	26.2	28.4	92		
K-43	"	2.2	42.2	44.4	95		
H-13	"	1.7	49.6	51.3	97		
H-26	"	1.1	23.4	24.5	96		
K-30	"	1.1	37.7	38.8	97		
K-54	"	1.1	39.9	41.0	97		
H-3	"	1.1	43.4	44.5	98		Pulled 1-22;hole in 1"
K-45	"	1.1	44.5	45.6	98		
H-9	"	0.5	17.1	17.6	97		
H-10	"	0.5	21.1	21.6	98		
H-20	"	0.5	21.1	21.6	98		
O-1	"	TR	14.2	14.2	100		
K-41	"	TR	24.0	24.0	100		Pulled 1-8;hole in 1"
H-15	1-1						Pulled;hole in 1"
H-25	1-3						Pulled;hole in 1"

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON

MONTH January YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	1482	47.8	185326	700	
H-2	0	0.0	1119	0	
H-5	1313	42.4	11868	290	
HW-8	0	0.0	9229	0	
H-12	532	17.2	240444	700	
H-14	2218	71.5	12635	150	
HW-18	433	14.0	203571	700	
HW-23	0	0.0	193120	700	
H-29	238	7.7	171789	700	
HW-31	318	10.3	122273	700	
K-42	830	26.8	830	340	Ran Delta Temp.;on inj. 1-11-96
K-50	1829	59.0	36819	510	
KCW-1	0	0.0	186083	670	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1545	49.8	204756	690	
KW-7	749	24.2	180786	700	
KW-8	897	28.9	203220	700	
KW-9	1626	52.5	220418	670	Delta Temp. Log run on 1-11-96
KW-10	1482	47.8	131856	630	
KW-11	915	29.5	194724	700	
KW-51	394	12.7	215033	700	
RW-1	1177	38.0	166788	630	
RW-2	502	16.2	80142	700	
RW-3	1151	37.1	194524	700	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH January YEAR: 1996

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	Delta Temp Log run on 1-11-96
RW-5	0	0.0	70150	0	
RW-6	1176	37.9	130108	700	
RW-7	1134	36.6	98320	700	
RW-8	1724	55.6	314996	650	
RW-9	1207	38.9	117449	700	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	359	11.6	151580	700	
RW-13	1354	43.7	160590	690	
RW-14	1350	43.6	141221	700	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9362	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
502	0	0.0			
503	0	0.0			
NELSON PROJECT AREA (Gross)					
TOTAL	27935	901.3	5140327		

%			INJECTION ALLOCATED OUTSIDE OF PROJECT		
KCW-1 75	0	0.0	139889	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55772	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE PROJECT AREA					
TOTAL	0	0.0	375719		

NELSON PROJECT AREA (Net)					
TOTAL	27935	901.3	4764608		

AVERAGE PLANT PRESSURE: 700 Psi
PLANT DOWNTIME: None

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
JANUARY, 1998

Oil production was 590 barrels, 19.0 barrels per day versus 21.7 barrels per day last month. Water production at 15,192 barrels, 490.1 barrels per day, decreased 64 barrels per day from December. Oil production was again diminished by poor field conditions, low injection volumes, and leaks in the main flow line.

Water injection was 17,784 barrels, 573.8 barrels per day, a decrease of 50 barrels per day from last month. Water injection was reduced by delays in accomplishing field work and some testing.

Additional testing of the AFU system was carried out using the newly-acquired flotation aid chemical FLW-162, along with the ESA-67 oil wetting compound, and the Triton X-100 surfactant. It was established that acceptable water quality could be obtained over a short period of time. At a meeting with TORP it was decided to establish base-line data by again cutting off all chemicals and testing the water under current conditions.

An attempt was made to take a fluid build-up test on Well No. 0-1 using the Echometer. Our overall plan was to do pulse testing by measuring the reaction of offset injection wells. Unfortunately, the test could not be completed due to Echometer malfunctions. The machine was returned to the manufacturer for repairs.

Well No. RW-8 was placed back on injection into the B-2 Zone January 21st with the plug back still in place. Surprisingly, the well took water at a low rate with pressure gradually increasing from 650-700 PSI, when injection stopped. Ran SLM and confirmed bottom at 676'. Channelblock results now appear favorable. Will plan to wash out the plug back material and open the B-3 Zone to injection.

Producer No. H-15 was shut-in January 7th as being uneconomic. The casing was repaired at surface and shut-in pressures are being taken. The pressure had increased to 50 PSI at month's end.

Producing well servicing included: H-20 (twice), K-44, and K-45.

Our joint TORP/JERPI review meeting was held in Lawrence on January 22, 1998.

WELL TEST DATA

January
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-22	1-28	3.4	51.4	54.8	94		
K-44	"	2.8	41.1	43.9	94		1/3: Pulled; hole in 1"
H-21	"	2.8	47.9	50.7	94		
H-16	"	2.2	22.8	25.0	91		
H-17	"	2.2	37.7	39.9	94		
K-45	"	1.7	60.0	61.7	97		1/22: Pulled; hole in 1"
K-43	"	1.6	43.4	45.0	96		
H-20	"	1.4	21.7	23.1	94		1/20 & 1/29: Pulled; holes in 1". Dressed pump
K-54	"	0.5	16.5	17.0	97		
H-26	"	0.5	18.2	18.7	97		
O-1	"	0.5	26.2	26.7	98		
H-30	"	0.5	30.8	31.3	98		
H-3	"	0.3	33.1	33.4	99		
H-10	"	0.0	65.1	65.1	100		
H-15							1/7: Well shut-in;uneconomic Will monitor pressure

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH January YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	179	5.8	202966	700	
H-2	0	0.0	1119	0	P & A
H-5	1017	32.8	30012	660	
HW-8	0	0	9229	0	
H-12	898	29.0	264259	690	
H-14	724	23.4	35637	650	
HW-18	730	23.5	225726	620	
HW-23	777	25.1	203228	650	
H-29	397	12.8	185534	700	
HW-31	172	5.5	133794	700	
K-42	861	27.8	23279	540	
K-50	166	5.4	60770	550	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	419	13.5	227650	700	
KW-7	455	14.7	198742	690	
KW-8	0	0.0	211374	0	
KW-9	1144	36.9	245860	690	
KW-10	0	0.0	159781	0	
KW-11	893	28.8	219059	700	
KW-51	852	27.5	226293	680	
RW-1	984	31.7	191691	610	
RW-2	1056	34.1	97479	680	
RW-3	895	28.9	222664	700	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH January YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	452	14.6	151586	680	
RW-7	764	24.6	116023	690	
RW-8	206	6.6	345321	650	1/21: Back on injection
RW-9	600	19.4	133098	690	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	728	23.5	169277	680	
RW-13	903	29.1	178623	640	
RW-14	0	0.0	148903	0	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1512	48.8	13632	580	
502	0	0.0	0		
503	0	0.0	0		
NELSON P					
TOTAL	17784	573.8	5678428		
INJECTION ALLOCATED OUTSIDE OF PROJECT					
%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		
NELSON P					
TOTAL	17784	573.8	5301511		

AVERAGE PLANT PRESSUR 700
PLANT DOWNTIME: None

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
FEBRUARY, 1998

Oil production was 522 barrels, 18.6 barrels per day versus 19.0 barrels per day last month. Water production at 13,239 barrels, 472.8 barrels per day, decreased 17 barrels per day from January. Unfavorable field conditions and low injection volumes were again responsible for poor production.

Water injection was 16,270 barrels, 581.1 barrels per day, compared with 573.8 barrels per day last month.

As mentioned last month, a new base-line test of the AFU system was started by cutting off all chemicals and operating with air addition only. A new compressor was installed for water aeration. A new electronics package and recording head were installed on the water supply well meter. The slop tank and filter suction tanks were cleaned.

The plug-back material was washed from Well No. RW-8, followed by jetting and cleaning the B-3 Zone. The well was placed back on injection at a satisfactory rate and pressure. A Delta Temperature Log will be taken as soon as possible.

After removing sub-surface equipment, injection Well No. KW-51 and producer No. H-9 were plugged on February 13th. Another attempt was made to fish the pump from Well No. H-27.

The following wells were serviced: Nos. H-16 (twice), H-22, H-30 (twice), K-54 (twice).

A review meeting was held with Dwayne Mcune of TORP on February 19th.

WELL TEST DATA

February
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
K-44	2-24	2.8	33.1	35.9	92		
H-17	"	2.5	47.9	50.4	95		
H-22	"	2.5	49.6	52.1	95		2/16: Pulled; hole in 1"
H-16	"	2.2	29.7	31.9	93		2/6: Pulled; hole in 1" 2/19: Pulled; hole in 1"
H-21	"	2.2	63.4	65.6	97		
H-20	"	1.7	17.6	19.3	91		
K-43	"	1.7	53.1	54.8	97		
K-45	"	1.7	60.0	61.7	97		
H-30	"	1.1	30.8	31.9	97		2/11: Pulled; hole in 1" 2/27: Pulled; hole in 1"
H-26	"	0.8	13.1	13.9	94		
H-10	"	0.8	33.1	33.9	98		
O-1	"	0.5	28.5	0.0	3		2/4: Build-up test Echometer failed
H-3	"	0.3	29.7	30.0	99		
K-54	" "	TR	26.2	0.0	100		2/9: Pulled; hole in 1" 2/23: Pulled; hole in 1"
H-27							2/11 & 2/12: Fishing job
H-9						P & A	2/13: Plugged bottom part of well - 2/19: Finished filling w/6 sxs. cement

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH February YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	39	1.4	203005	700	
H-2	0	0.0	1119	0	P & A
H-5	885	31.6	30897	660	
HW-8	0	0	9229	0	
H-12	993	35.5	265252	690	
H-14	495	17.7	36132	700	
HW-18	1198	42.8	226924	640	
HW-23	257	9.2	203485	580	
H-29	531	19.0	186056	700	
HW-31	103	3.7	133897	700	
K-42	969	34.6	24248	620	
K-50	893	31.9	61663	510	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	690	24.7	228340	700	
KW-7	377	13.5	199119	700	
KW-8	0	0.0	211374	0	
KW-9	392	14.0	246252	690	
KW-10	0	0.0	159781	0	
KW-11	764	27.3	219823	700	
KW-51	125	4.5	226418	700	Plugged & abandoned 2/13
RW-1	1010	36.1	192701	650	
RW-2	1022	36.5	98501	690	
RW-3	1017	36.3	223681	690	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH February YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	665	23.7	152251	690	
RW-7	470	16.8	116493	690	
RW-8	1115	39.8	346436	500	2/4: Washed & acidized 2/12:Pld. 1"; placed back on inj.
RW-9	589	21.0	133687	700	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	345	12.3	169622	690	
RW-13	622	22.2	179245	650	
RW-14	0	0.0	148903	0	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	704	25.2	14336	570	
502	0	0.0	0		
503	0	0.0	0		
NELSON P					
TOTAL	16270	581.1	5694698		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		

NELSON P					
TOTAL	16270	581.1	5317781		

AVERAGE PLANT PRESSUR 700
PLANT DOWNTIME: None

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
MARCH, 1998

Oil production was 585 barrels, 18.9 barrels per day versus 18.6 barrels per day in February. Water production at 15,697 barrels, 506.4 barrels per day, increased 34 barrels per day over last month. Oil producing wells were shut down for four hours to repair a riser leak.

Water injection was 19,618 barrels, 632.8 barrels per day compared with 581.1 barrels per day in February.

The base-line test of the AFU system continued during the month with regular filtration testing to determine solids content of the water at all critical points. The addition of bleach to the filter tank was started by pump on March 2nd. The FLW-162 flotation aid chemical was started on March 18th and the chemical breaker was begun on March 30th. New venturis and hoses were installed in the AFU on March 17th.

Delta Temperature Logs were taken on Well Nos. RW-3 and RW-8 on March 25th. Mechanical Integrity Tests were taken at the same time on Well Nos. RW-8 and RW-11.

The following wells were serviced: Nos. H-10, H-16 (twice), H-22.

Our joint JERPI/TORP meeting was held at the project on March 11th.

WELL TEST DATA

March
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-17	3-30	2.2	54.8	57.0	96		
H-22	"	2.2	49.6	51.8	95		3/24: Pulled; hole in 1"; dressed pump
K-44	"	2.2	36.5	38.7	94		
H-21	"	1.7	78.8	80.5	97		
K-43	"	1.7	47.9	49.6	97		
K-45	"	1.7	30.8	32.5	95		
H-20	"	1.7	15.9	17.6	90		
H-10	"	1.1	33.1	34.2	96		3/27: Pulled to pump; replaced cups
H-30	"	0.5	33.1	33.6	99		
H-3	"	0.5	29.7	30.2	98		
O-1	"	0.5	21.7	22.2	98		
H-26	"	0.5	6.8	7.3	93		
K-54	"	0.3	23.9	24.2	99		
H-16							3/23: Pulled; hole in 1" 3/30: Pulled, rethreaded

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH March YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	804	25.9	203809	700	
H-2	0	0.0	1119	0	P & A
H-5	1296	41.8	32193	650	
HW-8	0	0	9229	0	
H-12	430	13.9	265682	700	
H-14	405	13.1	36537	700	
HW-18	893	28.8	227817	620	
HW-23	1091	35.2	204576	630	
H-29	386	12.5	186442	700	
HW-31	300	9.7	134197	700	
K-42	1019	32.9	25267	660	
K-50	1679	54.2	63342	560	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	437	14.1	228770	700	
KW-7	353	11.4	199472	700	
KW-8	0	0.0	211374	0	
KW-9	597	19.3	246849	640	
KW-10	1714	55.3	161485	520	
KW-11	569	18.4	220392	700	
KW-51	0	0	226418	0	P & A
RW-1	1094	35.3	193795	610	
RW-2	682	22	99183	700	
RW-3	1224	39.5	224905	690	3/25: Ran Delta Temp Log

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH March YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	257	8.3	152508	700	
RW-7	963	31.1	117456	660	
RW-8	1415	45.6	347851	530	3/25: Ran Delta Temp Log & MIT
RW-9	713	23.0	134418	700	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	3/25: Ran MIT
RW-12	421	13.6	170043	700	
RW-13	163	5.3	179408	700	
RW-14	0	0.0	148903	0	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	713	23	15049	600	
502	0	0.0	0		
503	0	0.0	0		
NELSON P					
TOTAL	19618	632.8	5714316		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		

NELSON P					
TOTAL	19618	632.8	5337399		

AVERAGE PLANT PRESSUR 700
PLANT DOWNTIME: None

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KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
APRIL, 1998

Oil production was 540 barrels, 18.0 barrels per day versus 18.9 barrels per day in March. Water production at 15,702 barrels, 523.4 barrels per day, increased 17 barrels per day over last month.

Water injection was 19,259 barrels, 642.0 barrels per day compared with 632.8 barrels per day in March.

The base-line test of the AFU system continued during the month with regular filtration testing to determine solids content of the water at all critical points. A scale has been installed to more accurately meter the daily usage of the FLW-162 chemical. This system has functioned well and the amount of daily chemical usage is being reduced. The new venturies and hoses have improved operations. However, there is a need for greater pump volume in order to increase the air throughput to the venturies. A new centrifugal pump has been ordered for this purpose.

Delta Temperature Logs were taken on Well Nos. RW-1 and RW-6 on April 15, 1998.. A high bottom was encountered in Well No. RW-1, necessitating a clean-out job. Another log will be scheduled next month. Mechanical Integrity Tests were taken on Well Nos. RW-9, RW-12, RW-13, RW-16, and RW-18. Coil tubing acid treatments were performed on Well Nos. RW-6, RW-9, RW-12, RW-13, KW-6, and KW-11.

Well No. HW-18 was washed to TD and a Gamma Ray Neutron Log run. The log clearly defined both sets of perforations and appeared to tie in with our core data.

The following wells were serviced: H-10, H-16, H-21 (twice), H-22, H-26 (twice), H-30. Most of the servicing continues to be caused by failures in the 1" pump strings. The pump string in Well No. H-30 was replaced.

A review meeting with Dwayne McCune was held on April 1, 1998, at both the field and office locations.

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH April YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	441	14.7	204250	700	
H-2			1119		P & A
H-5	1247	41.6	33440	650	
HW-8	0	0	9229	0	
H-12	508	16.9	266190	700	
H-14	369	12.3	36906	700	
HW-18	754	25.1	228571	600	4/22: Washed well 4/24: Ran GR/N Log
HW-23	1251	41.7	205827	650	
H-29	337	11.2	186779	700	
HW-31	154	5.1	134351	700	4/22: Ran SLM to 668'
K-42	974	32.5	26241	660	
K-50	1533	51.1	64875	550	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	229	7.6	228999	690	4/24 & 4/28: SLM-722'; coil tubing acid treatments
KW-7	343	11.4	199815	700	4/24: Ran SLM to 688'
KW-8	0	0.0	211374	0	
KW-9	1266	42.2	248115	580	
KW-10	1421	47.7	162906	510	
KW-11	359	12	220751	680	4/24 & 4/28: SLM-676'; coil tubing acid treatments
KW-51			226418		P & A
RW-1	676	22.5	194471	590	4/15: Ran Delta Temp Log 4/22: Washed & Acidized
RW-2	649	21.6	99832	700	
RW-3	1392	46.4	226297	690	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH April YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	656	21.9	153164	620	4/15: Ran Delta Temp Log 4/16 & 4/17: Coil Tubing Acid Treatments
RW-7	505	16.8	117961	690	
RW-8	1645	54.8	349496	540	
RW-9	609	20.3	135027	690	4/14: Ran MIT 4/16 & 4/17: Coil Tubing Acid Treatments
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	694	23.1	170737	600	4/14: Ran MIT 4/16 & 4/17: Coil Tubing Acid Treatments
RW-13	591	19.7	179999	670	4/14: Ran MIT 4/16 & 4/17: Coil Tubing Acid Treatments
RW-14	0	0.0	148903	0	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	4/14: Ran MIT
RW-17	0	0.0	20542	0	
RW-18					4/14: Ran MIT
RW-19	0	0.0	3550	0	
RW-20	656	21.9	15705	630	
502	0	0.0	0		
503	0	0.0	0		
NELSON P					
TOTAL	19259	642.0	5733575		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		

NELSON P					
TOTAL	19259	642.0	5356658		

Average Plant Pressure: 700
Plant Downtime: None

33.3

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
MAY, 1998

Oil production was 603 barrels, 19.5 barrels per day versus 18.0 barrels per day in April. Water production at 20,191 barrels, 651.3 barrels per day, increased 128 barrels per day.

Water injection was 25,029 barrels, 807.4 barrels per day compared with 642.0 barrels per day last month. Previous remedial work and improving water quality are having a positive impact on injection rates.

Comprehensive testing and adjustment of the AFU system continued. Piping was again re-vamped to provide improved suction for the venturi pumps. A new centrifugal pump was added on May 5. The chemical breaker solution was discontinued on May 7, leaving the FLW-162 as the only flotation aid chemical being utilized. Water lines and tanks need to be cleaned and centrifugal pumps serviced.

Delta Temperature Logs were taken on Well Nos. RW-1 and RW-8. Mechanical Integrity Tests were conducted on Wells Nos. KW-9, HW-18 and HW-23. A coil tubing acid treatment was performed on Well No. KW-7. Well No. HW-31 was washed, jetted, and acidized. The same treatment was performed on Well No. RW-14, and it was reactivated as an injector. The lower perforations on Well No. HW-18 were cleaned and treated. Tubing and packer were then installed to isolate the B-3 perforations. Subsequent injection into the zone appears satisfactory.

The following wells were serviced: H-16, H-20, H-22, H-26, K-54. The 1" pump string was replaced in Well No. H-16.

Considerable work was required for a breakout well on the Shirley Lease, located southwest of the Nelson project. Tubing and packer were fished from the well and it was plugged under State supervision.

A work session with Dwayne McCune was held on May 19, and a full TORP review meeting on May 27.

WELL TEST DATA

May
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
K-44	5-27	3.4	63.4	66.8	95		
H-17	"	3.4	65.1	68.5	95		
H-22	"	2.5	53.1	55.6	96		5/8: Pulled & repaired
H-21	"	2.5	71.9	74.4	97		
H-20	"	2.2	30.8	33.0	93		5/19: Pulled to hole
H-16	"	2.2	39.9	42.1	95		5/4: Fishing job; dressed pump;replaced 1"pump string
K-43	"	1.6	39.9	41.5	96		
H-10	"	1.3	71.9	73.2	98		
K-45	"	0.8	61.7	62.5	99		
0-1	"	0.5	19.9	20.4	98		
H-26	"	0.5	26.2	26.7	98		5/19: Pulled; dressed pump; new bbl.
H-3	"	0.5	42.2	42.7	99		
H-30	"	0.1	35.4	35.5	100		
K-54	"	0.1	37.7	37.8	100		5/4: Pulled; hole in 1"
		21.6	659.1	680.7	96.8	WOR = 31.5	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH May YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	274	8.8	204524	700	
H-2	0	0.0	1119	0	P & A
H-5	1161	37.5	34601	670	
HW-8	0	0	9229	0	
H-12	405	13.0	266595	690	
H-14	277	8.9	37183	680	
HW-18	842	27.2	229413	540	5/5 & 5/6:Washed, Jetted, Acidized 5/7: Reamed casing; set packer & treated lower perforations 5/13: Ran MIT
HW-23	1042	33.6	206869	670	5/13: Ran MIT
H-29	270	8.7	187049	690	
HW-31	1333	43	135684	550	5/1: Wash, jet, acidize 5/4: Coil tubing acid treatment
K-42	702	22.6	26943	640	
K-50	1539	49.7	66414	560	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1113	35.9	230112	680	
KW-7	663	21.4	200478	480	5/4: Coil tubing acid treatment (2nd batch)
KW-8	0	0.0	211374	0	
KW-9	1402	45.2	249517	600	5/13: Ran MIT
KW-10	1302	42.0	164208	510	
KW-11	1469	47.4	222220	650	
KW-51	0	0	3	0	P & A
RW-1	755	24.4	195226	610	5/26: Delta Temp Log
RW-2	1134	36.6	100966	640	
RW-3	722	23.3	227019	690	

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH May YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1538	49.6	154702	590	
RW-7	219	7.1	118180	680	
RW-8	1340	43.2	350836	540	5/26: Delta Temp Log
RW-9	1265	40.8	136292	650	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1090	35.2	171827	610	
RW-13	1401	45.2	181400	620	
RW-14	994	32.1	149897	570	5/8: Washed & Acidized 5/11: Pumped final 50-gal. acid treatment; reactivated
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	777	25.1	16482	640	
502	0	0.0	0		
503	0	0.0	0		
NELSON					
TOTAL	25029	807.4	5758604		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		

NELSON					
TOTAL	25029	807.4	5381687		

AVERAGE PLANT PRESSUR 700
PLANT DOWNTIME: None

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
JUNE, 1998

Oil production was 564 barrels, 18.8 barrels per day versus 19.5 barrels per day in May. Water production at 17,724 barrels, 590.8 barrels per day, decreased 60 barrels per day from May.

Water injection was 21,977 barrels, 732.6 barrels per day compared with 807.4 barrels per day last month. The plant was down for a total of 16 hours, caused primarily by an electrical storm.

Adjustment and testing of the AFU operation continues. Bench filtration tests are being conducted weekly at each critical point. The new centrifugal pump installed last month has improved performance of the venturis. All tanks in the plant system have been cleaned and flushed except the clear water tanks. All of the lines have been soaked and flushed in an attempt to remove scale. A temporary transfer line was installed to alleviate the restriction problem. The transfer and circulating pumps were repaired and fitted with new impellers.

Another Delta Temperature Log was taken on Well No. RW-1 after one week shut-in time. A coil tubing acid treatment was performed on Well No. RW-3. Well No. RW-20 was treated with five gallons of surfactant, followed by a coil tubing acid treatment. Subsequent injection has been satisfactory. Well No. H-5 developed a tubing leak and was pulled. A Delta Temperature Log was run for the MIT. The well will need to be washed and the tubing string replaced. Tubing and packer were installed in Well No. RW-8 to limit injection to the B-3 Zone.

The following wells were serviced: H-3 (twice), H-22, K-54. The pump string was replaced in Well No. 0-1.

Work sessions were held with Dwayne McCune of TORP on June 4 and June 25, 1998.

WELL TEST DATA

June
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-17	6-25	3.4	70.2	73.6	95		
H-22	"	2.5	63.4	65.9	96		6/24: Pulled to hole
K-44	"	2.5	77.1	79.6	97		
H-21	"	1.7	42.8	44.5	96		
K-43	"	1.7	44.5	46.2	96		
H-16	"	1.7	47.9	49.6	97		
H-10	"	1.7	54.8	56.5	97		
H-20	"	1.6	34.2	35.8	96		
K-45	"	0.8	61.7	62.5	99		
O-1	"	0.5	23.9	24.4	98		6/16: Pulled;hole in 1"; broken holdown 6/17: Replaced 1" & holdown
H-26	"	0.5	27.4	27.9	98		
H-3	"	0.5	39.9	40.4	99		6/4 & 6/29: Pulled to hole
K-54	"	0.5	54.8	55.3	99		6/12: Pulled to hole
H-30	"	0.1	34.2	34.3	100		

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH June YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	55	1.8	204579	700	6/4: Ran SLM to 664'
H-2			1119		P & A
H-5	200	6.7	34801	660	6/5: Stretched tubing to slow leak 6/8: Pulled pkr., ran SLM to 665' 6/9: Ran Delta Temp Log to 661.4'
HW-8	0	0	9229	0	
H-12	930	31.0	267525	690	
H-14	217	7.2	37400	690	
HW-18	1111	37.0	230524	600	
HW-23	1159	38.6	208028	690	
H-29	185	6.2	187234	690	
HW-31	1334	44.5	137018	590	
K-42	810	27.0	27753	620	
K-50	170	5.7	66584	580	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	888	29.6	2310000	680	
KW-7	863	28.8	201341	660	
KW-8	0	0.0	211374	0	
KW-9	1077	35.9	250594	600	
KW-10	1175	39.2	165383	510	
KW-11	1046	34.9	223266	670	
KW-51			226418		P & A
RW-1	802	26.7	196028	620	6/2: Re-log after one week shut-in time
RW-2	1065	35.5	102031	650	
RW-3	1022	34.1	228041	680	6/10 & 6/11: Ran SLM to 691.5' (2) coil tubing treatments

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH June YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1352	45.1	156054	640	
RW-7	71	2.4	118251	690	6/5: Ran SLM to 652'
RW-8	1395	46.5	352231	530	6/10: Ran SLM to 729.5' 6/15: Ran in 1" packer @ 660'
RW-9	1108	36.9	137400	660	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1277	42.6	173104	660	
RW-13	1265	42.2	182665	650	
RW-14	1309	43.6	151206	620	
RW-15	0	0.0	72052	0	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	91	3.0	16573	670	6/4: Ran SLM to 702' 6/5: Ran coil tubing w/5 gals. surfactant 6/26: (2) coil tubing treatments
502	0	0.0	0		
503	0	0.0	0		
NELSON					
TOTAL	21977	732.6	5780581		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		

NELSON					
TOTAL	21977		5403664		

AVERAGE PLANT PRESSUR 700
PLANT DOWNTIME: 16 Hrs.

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
JULY, 1998

Oil production was 657 barrels, 21.2 barrels per day versus 18.8 barrels per day in June. Water production at 20,417 barrels, 658.6 barrels per day, increased 70 barrels per day over last month.

Water injection was 27,394 barrels, 883.7 barrels per day compared with 732.6 barrels per day in June. Total field injectivity continues to improve.

More progress was made in fine-tuning the AFU operation. Different positioning of the venturies has been tried, along with varying the pump selections. Discharge of the air compressor was moved away from the water supply well and an additional check valve was installed. The change should result in more reliable metering of the water supply stream. Both clear water tanks were cleaned and flushed. Plans are being made to flush all field injection lines.

Coil tubing acid treatments were performed on Well Nos. HW-1 and H-29. Acid treatments were performed on Well Nos. H-14 and K-42 by use of a pump truck. The following wells were washed, jetted and acidized: H-5, RW-7, and RW-15. Well No. H-5 had new tubing and packer installed, and was placed back on injection. Well No. RW-15 was cleaned to be reactivated as an injector.

Only Well No. H-22 required servicing. This was caused by a hole in the pump string and the string was replaced. There is no doubt that the cleaner injection water has resulted in reduced maintenance on the pumping wells.

Work has begun to replace a major segment of the flow line system.

A work session was held with Dwayne McCune on July 9, 1998. The TORP review meeting was conducted in Lawrence on July 31, 1998.

WELL TEST DATA

July
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
K-44	7-30	5.1	102.8	107.9	95		
* H-22	"	3.4	75.4	78.8	96		7/10: Pulled to hole
H-17	"	3.4	77.1	80.5	96		
H-20	"	2.2	27.4	29.6	93		
H-16	"	1.7	44.5	46.2	96		
K-43	"	1.7	61.7	63.4	97		
H-10	"	1.7	71.9	73.6	98		
K-45	"	1.7	73.6	75.3	98		
H-30	"	1.1	34.2	35.3	97		
H-21	"	0.8	65.1	65.9	99		
O-1	"	0.5	20.5	21.0	98		
H-26	"	0.5	27.4	27.9	98		
H-3	"	0.5	46.8	47.3	99		
K-54	"	TR	38.8	38.8	100		

* #H-22 - Pump string was replaced on 7/13/98.

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH July YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5	0	0.0	53611	0	
6	0	0.0	7206	0	
7 (Lowe)	0	0.0	4356	0	
9	0	0.0	11902	0	
10	0	0.0	24599	0	
11	0	0.0	7315	0	
12	0	0.0	23461	0	
HW-1	960	31.0	205539	640	7/2: Washed well 7/6&7/7:Coil tbg. acid treatments
H-2			1119		P & A
H-5	788	25.4	35589	480	7/9: Washed, jetted, acidized 7/10: Ran tubing & packer
HW-8	0	0	9229	0	
H-12	826	26.6	268351	680	
H-14	486	15.7	37886	690	* 7/3 & 7/6: Acid treatments
HW-18	1045	33.7	231569	620	
HW-23	1150	37.1	209178	700	
H-29	380	12.3	187614	660	
HW-31	1394	45.0	138412	620	
K-42	1235	39.8	28988	550	* 7/3 & 7/6: Acid treatments
K-50	0	0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1237	39.9	232237	680	
KW-7	914	29.5	202255	680	
KW-8	0	0.0	211374	0	
KW-9	1210	39.0	251804	600	
KW-10	1403	45.3	166786	510	
KW-11	1096	35.4	224362	670	
KW-51			226418		P & A
RW-1	1062	34.3	197090	610	
RW-2	1335	43.1	103366	650	
RW-3	1233	39.8	229274	680	

* Acid treatments by pump truck

WATER INJECTION

FIELD SAVONBURG NORTHEAST LEASE NELSON
MONTH July YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIVE BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1525	49.2	157579	660	
RW-7	481	15.5	118732	620	7/20 & 7/21: Washed & Acidized
RW-8	1499	48.4	353730	540	
RW-9	1124	36.3	138524	670	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1027	33.1	174131	680	
RW-13	1414	45.6	184079	670	
RW-14	1168	37.7	152374	630	
RW-15	0	0.0	72052	0	7/22 & 7/23: Washed & Acidized
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1402	45.2	17975	470	
502	0	0.0	0		
503	0	0.0	0		
NELSON					
TOTAL	27394	883.7	5807975		
INJECTION ALLOCATED OUTSIDE OF PROJECT					
%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524		
OUTSIDE					
TOTAL	0	0.0	376917		
NELSON					
TOTAL	27394	883.7	5431058		

AVERAGE PLANT PRESSUR 700
PLANT DOWNTIME: None

Dwayne

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
AUGUST, 1998

Oil production was 651 barrels, 21.0 barrels per day, down slightly from the 21.2 barrels per day last month. Water production at 24,022 barrels, 774.9 barrels per day, increased 116 barrels per day.

Water injection was 31,152 barrels, 1004.9 barrels per day, an increase of 121 barrels per day. Water quality continues to improve, which has allowed a higher injection rate to be maintained. The plant has operated continuously on 10-micron filters since August 14th.

The injection plant was only down one and one-half hours due to a power supply failure. However, we continue to experience random, intermittent power interruptions. Producing wells were down again due to the electrical storm.

The plant centrifugal pumps were cleaned and serviced. The transfer pump was changed and a closed impeller filter pump installed. The filter pump manifold was rebuilt so that pumps could be switched. A time clock was installed for the filter pump. The air compressor was shut down for servicing and installation of a new switch box, and was left down for a period of 52 hours. Water quality was negatively affected during the shut down. The air flotation polymer pump was cleaned, serviced, and had new balls and seats installed.

All field injection lines were flushed, cleaned and filters were changed. Work was completed on replacement of the flow line segment. Lease production was shut down for six hours during the replacement.

Nelson-Lowe Nos. 9 & 12 were repaired and had MITs conducted. A second stimulation treatment was performed on Nelson No. RW-15 and it was reactivated.

The following wells were serviced: 0-1, K-43, K-44, K-45 (twice), K-54 (twice).

A work session was conducted with TORP personnel during the KIOGA meeting in Wichita on August 24, 1998.

WELL TEST DATA

August
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-22	8-27	3.4	66.8	70.2	96		
K-44	"	3.4	99.4	102.8	97		8/25: Pulled; leak in pump cage
H-17	"	2.5	63.4	65.9	96		
H-16	"	2.2	47.9	50.1	96		
H-10	"	1.7	53.1	54.8	97		
K-43	"	1.7	77.1	78.8	98		8/11: Pulled to hole
K-45	"	1.7	77.1	78.8	98		8/7: Pulled to hole 8/13: Pulled to pump
H-20	8-28	1.5	31.9	33.4	96		
H-26	8-27	1.1	26.2	27.3	96		
H-30	8-28	0.8	51.4	52.2	98		
H-21	8-27	0.8	70.2	71.0	99		
O-1	"	0.5	30.8	31.3	98		8/21: Pulled to pump
H-3	"	0.5	46.8	47.3	99		
K-54	"	0.3	45.7	46.8	99		8/14: Pulled to pump (hole in changeover) 8/31: Pulled to hole

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: August YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5 (Lowe)	0	0.0	53611	0	
6 "	0	0.0	7206	0	
7 "	0	0.0	4356	0	
9 "	0	0.0	11902	0	8/26: Ran MIT
10 "	0	0.0	24599	0	
11 "	0	0.0	7315	0	
12(Lowe)	0	0.0	23461	0	8/26: Ran MIT
HW-1	1226	39.5	206765	680	
H-2			1119		P & A
H-5	1335	43.7	36944	560	
HW-8	0	0.0	9229	0	
H-12	1344	43.3	269695	680	
H-14	739	23.8	38625	690	
HW-18	1494	48.2	233063	660	
HW-23	1396	45.0	210574	700	
H-29	828	26.7	188442	690	
HW-31	998	32.2	139410	620	
K-42	1550	50.0	30538	510	
K-50	0	0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	714	23.0	232951	680	
KW-7	790	25.5	203045	700	
KW-8	0	0.0	211374	0	
KW-9	1374	44.3	253178	630	
KW-10	415	13.4	167201	670	
KW-11	1264	40.8	225626	690	
KW-51			226418		P & A
RW-1	1422	45.9	198512	620	
RW-2	1427	46.0	104793	650	
RW-3	1500	48.4	230774	680	

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: August YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1558	50.2	159137	630	
RW-7	1600	51.6	120332	570	
RW-8	1740	56.1	355470	540	
RW-9	1176	37.9	139700	690	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	904	29.1	175035	690	
RW-13	1553	50.1	185632	660	
RW-14	1479	47.7	153853	640	
RW-15	5	0.2	72057	340	8/14: W & A - 2nd Treatment
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1301	42.0	19276	560	
502	0	0.0	0	0	
NELSON					
TOTAL	31152	1004.9	5839127		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSID					
TOTAL	0	0.0	376917	0	

NELSON					
TOTAL	31152	1004.9	5462210		

AVERAGE PLANT PRESS 700 PSI
PLANT DOWNTIME: 1 1/2 Hrs.

Paul/Don
Dwayne
File

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
SEPTEMBER, 1998

Oil production was 671 barrels, 22.4 barrels per day, versus 21.0 barrels per day in August. Water production was 21,618 barrels, 720.6 barrels per day, a decrease of 54 barrels per day from August.

Water injection at 31,089 barrels, 1036.3 barrels per day, increased 31 barrels per day over last month. Water quality has remained excellent. After one-month's continuous run on 10-micron filters, the plant was switched to 5-micron filters on September 16, 1998. Only minor plant down time was caused a broken bypass valve. Some problems were experienced with low water availability. The water supply well pump needs to be pulled and replaced.

Two new venturies were installed in the AFU and were mounted at a higher position in the tank. Otherwise, only minor cleaning and adjustments to the AFU were required during the month. Extensive filtration and water testing continues, with current emphasis on the barium problem. Plans are being made for a test to react and remove the barium. During this test a small daily injection of sulfuric acid will be used.

Tubing and packer were removed from Nelson (Lowe) No. 7 and the well was plugged and abandoned. Also plugged and abandoned were Nelson (Lowe) No. 6, Nelson (Cox) Nos. 1, 5, 502, and Shirley No. 506. Some wells required extensive fishing and reaming of scale in preparation for plugging. The tubing and packers were removed from Nelson (Lowe) Nos. 10 and 11 and casing repairs made to prepare for mechanical integrity tests. All of the foregoing activity was required by the KCC regulatory authorities.

The following wells were serviced: H-10, K-45. The pump string and pump were removed from No. H-7, a shut-in well.

A review session with TORP personnel was held September 18, 1998.

WELL TEST DATA

September
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-22	9-28	2.5	65.1	67.6	96		
H-17	9-25	2.5	73.6	76.1	97		
K-45	9-28	2.5	77.1	79.6	97		9/28: Pulled; hole in 1"
K-44	"	2.5	82.2	84.7	97		
H-20	9-25	2.1	26.5	28.6	93		
H-16	"	1.7	51.4	53.1	97		
K-43	9-28	1.7	61.7	63.4	97		
H-21	9-25	1.7	70.2	71.9	98		
H-10	"	1.7	70.3	72.0	98		9/9: Pulled; hole in 1"
H-26	9-28	0.8	30.3	31.1	97		
K-54	9-25	0.8	51.4	52.2	98		
H-3	"	0.5	46.8	47.3	99		
H-30	9-28	0.5	51.4	51.9	99		
O-1	9-25	0.4	30.8	31.2	99		

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: September YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5 (Lowe)	0	0.0	53611	0	
6 "	0	0.0	206	0	9/11: Cleaned out to plug 9/29: P & A
7 "	0	0.0	4356	0	9/18: Cleaned out to plug 9/29: P & A
9 "	0	0.0	11902	0	
10 "	0	0.0	24599	0	
11 "	0	0.0	7315	0	9/18: " "
12 (Lowe)	0	0.0	23461	0	
HW-1	1148	38.3	207913	700	
H-2(Lowe)			1119		P & A
H-5	1262	42.1	38206	504	
HW-8	0	0.0	9229	0	
H-12	1018	33.9	270713	670	
H-14	648	21.6	39273	690	
HW-18	1364	45.5	234427	660	
HW-23	1283	42.8	211857	690	
H-29	961	32.0	189403	700	
HW-31	1172	39.1	140582	660	
K-42	1120	37.3	31658	530	
K-50	0	0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	875	29.2	233826	690	
KW-7	747	24.9	203792	690	
KW-8	0	0.0	211374	0	
KW-9	1413	47.1	254591	640	
KW-10	218	7.3	167419	680	
KW-11	1235	41.2	226861	690	
KW-51			226418		P & A
RW-1	1295	43.2	199807	610	
RW-2	1459	48.6	106252	650	
RW-3	1382	46.1	232156	690	

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: September YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1697	56.6	160834	680	
RW-7	1439	48.0	121771	570	
RW-8	1762	58.7	357232	550	
RW-9	1520	50.7	141220	690	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	780	26.0	175815	690	
RW-13	1383	46.1	187015	680	
RW-14	1249	41.6	155102	640	
RW-15	1430	47.7	73487	400	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1229	41.0	20505	580	
1 (Cox)	0	0.0	0	0	9/4: P & A
5 (Cox)					9/4: P & A
502 (Cox)					9/4: P & A
NELSON					
TOTAL	31089	1036.3			

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE					
TOTAL	0	0.0	376917	0	

NELSON					
TOTAL	31089	1036.3			

AVERAGE PLANT PRESS 700 PSI
PLANT DOWNTIME: 1 1/2 Hrs.

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
OCTOBER, 1998

Oil production was 674 barrels, 21.7 barrels per day versus 22.4 barrels per day in September. Water production was 22,247 barrels, 717.6 barrels per day, a decrease of three barrels per day from last month. Production was hampered by unfavorable weather and some delays in well servicing. The lease was also shut down to repair producing well risers and two flow line leaks.

Water injection at 30,310 barrels, 977.7 barrels per day, decreased about 60 barrels per day from September. Excellent water quality has been maintained. After 21 day's continuous run on five-micron filters, the plant was switched to one-micron filters on October 8th. No unusual problems were experienced.

Both clear water tanks were treated for algae with copper sulfate. A month-long test was conducted to removed barium from the water. This was accomplished by adding a small quantity of sulfuric acid to the mixed water. It was demonstrated that barium could be reduced to 5 ppm by the addition of less than two gallons sulfuric acid per day. The test was suspended. The AFU continues to operate with only minor maintenance and adjustments.

Dual injection was initiated in Well No. RW-8 by injecting through the annulus into the upper zone. Well No. 0-1 was converted to injection service on October 21st. Coil tubing acid jobs were performed on Well Nos. KW-11 and RW-12. After a very long clean-out job, Nelson No. 2 was finally plugged. This was an old cable tool hole. Successful MITs were conducted on Nelson No. 0-1 and Nelson-Lowe Nos. 10 and 11. Well No. KW-10 was reamed and washed before installing 2" tubing and packer.

Shut-in Well Nos. H-27 and K-48 were connected for flowing tests. Larger pumping units were installed on Well Nos. H-10 and H-30. A shallow casing leak was dug out and repaired on Well No. RW-9.

The following wells were serviced: H-6 (pulled equipment, shut-in), H-10, H-20, H-22, H-30, K-43, K-44.

Review meetings were held with field personnel and Dwayne McCune of TORP.

WELL TEST DATA

October
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-22	10-21	2.9	57.3	60.2	95		10/26: Pulled to hole
H-17	"	2.5	60.0	62.5	96		
H-10	"	2.1	80.5	82.6	97		10/22: Pulled to hole 10/23: Set jack & new hanger joint
K-45	10-28	1.7	46.2	47.9	96		
H-16	10-21	1.7	47.9	49.6	97		
H-30	"	1.7	61.7	63.4	97		10/2: Pulled to hole 10/23: Set jack & hanger jt.
K-43	10-28	1.7	65.1	66.8	97		10/22: Pulled to hole
K-44	"	1.7	85.7	87.4	98		10/27: Pulled to hole
H-20	10-21	1.2	25.7	26.9	96		10/8: Pulled to hole
H-21	"	1.2	85.7	86.9	99		
H-26	"	1.1	15.4	16.5	93		
K-54	10-19	0.8	35.1	35.9	98		
H-3	"	0.8	49.1	49.9	99		
K-48	"	TR	7.4	7.4	100		Flowing for test
H-27	"	TR	109.7	109.7	100		Flowing for test

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: October YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5 (Lowe)	0	0.0	53611	0	
6 "	0	0.0	206	0	
7 "	0	0.0	4356	0	
9 "	0	0.0	11902	0	
10 "	0	0.0	24599	0	10/14: Ran MIT
11 "	0	0.0	7315	0	10/14: Ran MIT
12 (Lowe)	0	0.0	23461	0	
HW-1	920	29.7	208833	690	
H-2(Lowe)			1119		P & A
H-5	1250	40.3	39456	540	
HW-8	0	0.0	9229	0	
H-12	1444	46.6	272157	670	
H-14	687	22.2	39960	680	
HW-18	1409	45.5	235836	650	
HW-23	1480	47.8	213337	700	
H-29	827	26.7	190230	700	
HW-31	1293	41.7	141875	680	
K-42	1354	43.7	33012	510	
K-50		0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	505	16.3	234331	690	
KW-7	501	16.2	204293	700	
KW-8	0	0.0	211374	0	
KW-9	1110	35.8	255701	640	
KW-10	1039	33.5	168458	670	10/28: Reamed & washed; set packer @ 643'
KW-11	1077	34.7	227938	680	10/21 & 23: Coil tubing acid treatments
KW-51			226418		P & A
O-1	308	9.9	308	0	10/21: Injection Started
RW-1	878	28.3	200685	630	
RW-2	1255	40.5	107507	650	
RW-3	1123	36.2	233279	670	

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: October YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1527	49.3	162361	680	
RW-7	1257	40.5	123028	570	
RW-8	1627	52.5	358859	550	(Lower)
RW-8	1099	35.5	1099	540	(Annulus)
RW-9	631	20.4	141851	660	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	850	27.4	176665	660	10/21 & 23: Coil tubing acid treatments
RW-13	1000	32.3	188015	660	
RW-14	1302	42.0	156404	620	
RW-15	1315	42.4	74802	440	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1242	40.1	21747	580	
1 (Cox)	0	0.0	0	0	
5 (Cox)					
502 (Cox)					
NELSON					
TOTAL	30310	977.7			

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE					
TOTAL	0	0.0	376917	0	

NELSON					
TOTAL	30310	977.7			

AVERAGE PLANT PRESS 700 PSI
PLANT DOWNTIME: 2 Hrs.

NELSON LEASE
Daily Plant Report
Date 11-11-98 sTep 13. gained ½ step.

WATER BALANCE: Time 7:00

Triplex Pump: Pressure 700 Cumulative barrels 33364 Rate 1126 bpd

Comments

Supply Well: Hours on 12 Cumulative barrels 32231 Rate 418 bpd

Comments

Produced Water: 28.5# vessel 11# Cumulative barrels 314020 Rate 42.2 bpd

Comments

Filters: 28# North South

Time 1:30 1 micron 1 micron 38# ↓ 9# pressure

Time ____ micron ____ micron ____ pressure

Comments ran 14.9 hrs. in 21.5 hrs.

WATER QUALITY: Time 7:15 AFU. (15)? Filter (12)

Clear water tank 11 mg/L Feed water 83 mg/L

55 sec slope = 187 BBL day

Air flotation unit: Hours on 23.7 Cumulative barrels ____ Rate ____ bpd

Bleach	2½ gallons	Pump settings		Sp	St (New only)
4.31 Polymer 3.82	.49 quarts	Pump settings	1	Sp	St (New only)
Wetting agent	quarts	Pump settings		Sp	St (New only)
Other chemical 661-	2 quarts	Pump settings		Sp	St (New only)

Comments excellent suds & swirl.

OTHER PLANT PROBLEMS:

S 23.5# 2.1 .5 Transfer. + have some bypass

N 28.5 2.3-2.4

7:45 slowed slope rate.

9:00 AFU. (18) Trans overflow (42) flakes already formed.

* cleaned slope Tank, + put in 7 gal cl. when done.

opened Transfer by-pass fully 43.4 gpm.

-1440 BBL Transfer
-1130 in
-187 slope.
123 To Tank. not showing up like this

NELSON LEASE
Daily Plant Report
Date 11-10-98

STEP 14

WATER BALANCE: Time 7:00
Triplex Pump: Pressure 0 Cumulative barrels 32288 Rate _____ bpd
Comments Looks like Triplex just shut down. Out of water Lightning must have shut down Transfer Line (not running 7:40 Tripler Kicked on.

Supply Well: Hours on 8 Cumulative barrels 32013 Rate _____ bpd
Comments _____

Produced Water: pump 29# / 10# Venturi Line Cumulative barrels 254530 Rate 39.4 bpd
Comments Air pump running 7:00 Turned Transfer on hand, get running. 6 SCFH

Filters: 17# North South 17#/90
Time 9:30 1 micron 1 micron _____ pressure
Time _____ _____ micron _____ micron _____ pressure
Comments _____

WATER QUALITY: Time 7:45 AFU. (13?) Filter (23)
Clear water tank 13 mg/L Feed water 82 mg/L
4/min 16sec slope, from start up.
Air flotation unit: Hours on 13.9 Cumulative barrels ↓ Rate _____ bpd

Bleach		4 gallons	Pump settings	50	Sp ____	St ____ (New only)
4/90 Polymer	4.3l	.59 quarts	Pump settings	____	Sp ____	St ____ (New only)
Wetting agent		____ quarts	Pump settings	____	Sp ____	St ____ (New only)
Other chemical		661-2 quarts	Pump settings	____	Sp ____	St ____ (New only)

Comments _____

OTHER PLANT PROBLEMS:
S. 25.5# 2.2
N 27.5 2.3-2.4
8:00 adjusted slope higher rate.
9:00 AFU. (9) Turning polymer pump back down To 1 flow rate. 40.4 slope rate. 84 sec. change Venturi screens. Filter (19) 9:30 change To 1 min.
10:30 AFU. (8) still plenty of suds. Filter (4) pulled well 14-17 got pumping.
2:00 AFU. (6)

NELSON LEASE
Daily Plant Report
Date 11-9-98 Step 5-6

WATER BALANCE: Time 7:00
Triplex Pump: Pressure 700 Cumulative barrels 31263 Rate 1046 bpd
Comments

Supply Well: Hours on 14 Cumulative barrels 31866 Rate _____ bpd
Comments

Produced Water: 28½# / 9# Cumulative barrels 22188 Rate 41 bpd
Comments pump. Line. .6 SCFH

Filters: 16#
Time _____ North _____ micron South _____ micron _____ pressure
Time _____ _____ micron _____ micron _____ pressure
Comments

S venturi 25# 2.3 N 28# 2.3. AFU. (5) Filters (12)

WATER QUALITY: Time 7:45
Clear water tank 7 mg/L Feed water 51 mg/L
47 sec. Slop.
Air flotation unit: Hours on 23 Cumulative barrels _____ Rate _____ bpd
Bleach 2½ gallons Pump settings _____ Sp _____ St (New only)
5,76 Polymer 4,90 .86 quarts Pump settings 2 Sp _____ St (New only)
Wetting agent _____ quarts Pump settings _____ Sp _____ St (New only)
Other chemical 661-2 quarts Pump settings _____ Sp _____ St (New only)
Comments white suds. & foam.

OTHER PLANT PROBLEMS:
* Installed new pump in Transfer Line.
put 1" venturi by passt over main ventur. 35 gpm. Tops.
put another 1" venturi over other ventur. 42,2 gpm.
slowed down To 40 gpm.
a lot more air Turbulence in Transfer Line. (coming out 3" overflows)
put new batteries Hach meter. even then I ? readings
AFU. (6)

pulled K-44 well

NELSON LEASE
Daily Plant Report
Date 11-9-98

WATER BALANCE: Time 8:00
Triplex Pump: Pressure 700 Cumulative barrels 30253 Rate 1044 bpd
Comments

Supply Well: Hours on 15 Cumulative barrels 31627 Rate 418 bpd
Comments

Produced Water: Cumulative barrels 166090 Rate 39.8 bpd
Comments

30# DOWN TO 15#

Filters:
Time ____ North 5 micron South 5 micron ____ pressure
Time ____ ____ micron ____ micron ____ pressure
Comments
CHANGE OUT BOTH

WATER QUALITY: Time 8:00
Clear water tank 9 mg/L Feed water 52 mg/L AFM-12

Air flotation unit: Hours on 24.7 Cumulative barrels ____ Rate ____ bpd
Bleach ____ gallons Pump settings ____ Sp ____ St (New only)
Polymer 5.76 quarts Pump settings ____ Sp ____ St (New only)
Wetting agent ____ quarts Pump settings ____ Sp ____ St (New only)
Other chemical ____ quarts Pump settings ____ Sp ____ St (New only)
Comments

OTHER PLANT PROBLEMS:

NELSON LEASE
Daily Plant Report
Date 11-7-97

WATER BALANCE: Time 7:20
Triplex Pump: Pressure 700 Cumulative barrels 29161 Rate 1053 bpd
Comments

Supply Well: Hours on 14 Cumulative barrels 31360 Rate 421 bpd
Comments

Produced Water: Cumulative barrels 106130 Rate 39.2 bpd
Comments

35# DOWN TO 15#

Filters: North South
Time 7:20 5 micron 5 micron _____ pressure
Time 7:20 _____ micron _____ micron _____ pressure
Comments
change out Both put in 5 Micron

WATER QUALITY: Time 7:20 AFW-14
Clear water tank 10 mg/L Feed water 62 mg/L

Air flotation unit: Hours on 24.1 Cumulative barrels _____ Rate _____ bpd
Bleach _____ gallons Pump settings _____ Sp _____ St (New only)
Polymer 6.58 quarts Pump settings _____ Sp _____ St (New only)
Wetting agent _____ quarts Pump settings _____ Sp _____ St (New only)
Other chemical _____ quarts Pump settings _____ Sp _____ St (New only)
Comments

OTHER PLANT PROBLEMS:

NELSON LEASE
Daily Plant Report
Date 11-6-98

Step 8

WATER BALANCE: Time 7:00
Triplex Pump: Pressure 700 Cumulative barrels 28080 Rate 1083 bpd
Comments

Supply Well: Hours on 12 Cumulative barrels 31110 Rate 416 bpd
Comments

Produced Water: 28# Venturi Cumulative barrels 48842 Rate 40.5 bpd
Comments pump 9# line .6 - .7 SCFM
cir. 35# 1.7

Filters: 46# Both (8) South (5)
Time 7:00 North / micron South / micron 46# ↓ 11# pressure Both (8)
Time 2:45 / micron / micron 24# ↓ 12# pressure
Comments

WATER QUALITY: Time 2:15 OFU (13) Filters (8)
Clear water tank 9 mg/L Feed water 69 mg/L
Slope (80 secs.)
Air flotation unit: Hours on 23 Cumulative barrels _____ Rate _____ bpd
Bleach 2¼ gallons Pump settings _____ Sp _____ St (New only)
7,96 Polymer 7, 24 .52 quarts Pump settings _____ Sp _____ St (New only)
Wetting agent _____ quarts Pump settings _____ Sp _____ St (New only)
Other chemical 661-2 quarts Pump settings _____ Sp _____ St (New only)
Comments clean suds excellent swirl.
Brown tint

OTHER PLANT PROBLEMS:
S vent 26# 2.3 - 2.4
N 28# 2.3

2:30 AFU (11) Both Filters (4). 24# changed Filters. (5)
gained 6" in Main Tanks.

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
OCTOBER, 1998

Oil production was 674 barrels, 21.7 barrels per day versus 22.4 barrels per day in September. Water production was 22,247 barrels, 717.6 barrels per day, a decrease of three barrels per day from last month. Production was hampered by unfavorable weather and some delays in well servicing. The lease was also shut down to repair producing well risers and two flow line leaks.

Water injection at 30,310 barrels, 977.7 barrels per day, decreased about 60 barrels per day from September. Excellent water quality has been maintained. After 21 day's continuous run on five-micron filters, the plant was switched to one-micron filters on October 8th. No unusual problems were experienced.

Both clear water tanks were treated for algae with copper sulfate. A month-long test was conducted to removed barium from the water. This was accomplished by adding a small quantity of sulfuric acid to the mixed water. It was demonstrated that barium could be reduced to 5 ppm by the addition of less than two gallons sulfuric acid per day. The test was suspended. The AFU continues to operate with only minor maintenance and adjustments.

Dual injection was initiated in Well No. RW-8 by injecting through the annulus into the upper zone. Well No. 0-1 was converted to injection service on October 21st. Coil tubing acid jobs were performed on Well Nos. KW-11 and RW-12. After a very long clean-out job, Nelson No. 2 was finally plugged. This was an old cable tool hole. Successful MITs were conducted on Nelson No. 0-1 and Nelson-Lowe Nos. 10 and 11. Well No. KW-10 was reamed and washed before installing 2" tubing and packer.

Shut-in Well Nos. H-27 and K-48 were connected for flowing tests. Larger pumping units were installed on Well Nos. H-10 and H-30. A shallow casing leak was dug out and repaired on Well No. RW-9.

The following wells were serviced: H-6 (pulled equipment, shut-in), H-10, H-20, H-22, H-30, K-43, K-44.

Review meetings were held with field personnel and Dwayne McCune of TORP.

WELL TEST DATA

October
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-22	10-21	2.9	57.3	60.2	95		10/26: Pulled to hole
H-17	"	2.5	60.0	62.5	96		
H-10	"	2.1	80.5	82.6	97		10/22: Pulled to hole 10/23: Set jack & new hanger joint
K-45	10-28	1.7	46.2	47.9	96		
H-16	10-21	1.7	47.9	49.6	97		
H-30	"	1.7	61.7	63.4	97		10/2: Pulled to hole 10/23: Set jack & hanger jt.
K-43	10-28	1.7	65.1	66.8	97		10/22: Pulled to hole
K-44	"	1.7	85.7	87.4	98		10/27: Pulled to hole
H-20	10-21	1.2	25.7	26.9	96		10/8: Pulled to hole
H-21	"	1.2	85.7	86.9	99		
H-26	"	1.1	15.4	16.5	93		
K-54	10-19	0.8	35.1	35.9	98		
H-3	"	0.8	49.1	49.9	99		
K-48	"	TR	7.4	7.4	100		Flowing for test
H-27	"	TR	109.7	109.7	100		Flowing for test

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: October YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5 (Lowe)	0	0.0	53611	0	
6 "	0	0.0	206	0	
7 "	0	0.0	4356	0	
9 "	0	0.0	11902	0	
10 "	0	0.0	24599	0	10/14: Ran MIT
11 "	0	0.0	7315	0	10/14: Ran MIT
12 (Lowe)	0	0.0	23461	0	
HW-1	920	29.7	208833	690	
H-2(Lowe)			1119		P & A
H-5	1250	40.3	39456	540	
HW-8	0	0.0	9229	0	
H-12	1444	46.6	272157	670	
H-14	687	22.2	39960	680	
HW-18	1409	45.5	235836	650	
HW-23	1480	47.8	213337	700	
H-29	827	26.7	190230	700	
HW-31	1293	41.7	141875	680	
K-42	1354	43.7	33012	510	
K-50		0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	505	16.3	234331	690	
KW-7	501	16.2	204293	700	
KW-8	0	0.0	211374	0	
KW-9	1110	35.8	255701	640	
KW-10	1039	33.5	168458	670	10/28: Reamed & washed; set packer @ 643'
KW-11	1077	34.7	227938	680	10/21 & 23: Coil tubing acid treatments
KW-51			226418		P & A
O-1	308	9.9	308	0	10/21: Injection Started
RW-1	878	28.3	200685	630	
RW-2	1255	40.5	107507	650	
RW-3	1123	36.2	233279	670	

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: October YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1527	49.3	162361	680	
RW-7	1257	40.5	123028	570	
RW-8	1627	52.5	358859	550	(Lower)
RW-8	1099	35.5	1099	540	(Annulus)
RW-9	631	20.4	141851	660	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	850	27.4	176665	660	10/21 & 23: Coil tubing acid treatments
RW-13	1000	32.3	188015	660	
RW-14	1302	42.0	156404	620	
RW-15	1315	42.4	74802	440	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1242	40.1	21747	580	
1 (Cox)	0	0.0	0	0	
5 (Cox)					
502 (Cox)					
NELSON					
TOTAL	30310	977.7			

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE					
TOTAL	0	0.0	376917	0	

NELSON					
TOTAL	30310	977.7			

AVERAGE PLANT PRESS 700 PSI
PLANT DOWNTIME: 2 Hrs.

KANSAS OPERATIONS REPORT
NELSON LEASE
SAVONBURG FIELD
ALLEN COUNTY, KANSAS
NOVEMBER, 1998

Oil production was 707 barrels, 23.6 barrels per day, an increase of 1.9 barrels per day over last month. Water production was 25,029 barrels, 834.3 barrels per day, an increase of 117 barrels per day. Record rains and flooding hampered field operations during the first half of the month.

Water injection was 30,889 barrels, 1029.6 barrels per day compared to 977.7 barrels per day last month. Minor plant downtime was caused by power outage from the electric company. The plant continued to operate on one-micron filters satisfactorily for most of the month.

New venturies were installed and re-positioned seeking further efficiency. A new centrifugal transfer pump was installed. Addition point for the #661 Barium chemical was changed back to the AFU. A test was made by adding this chemical at the circulating tank but it did not achieve the desired effect. The overhead water line between the circulating tank and the produced water tank was replaced because of scaling. The slop tank was cleaned. Work on piping and controls for the polymer mixing equipment is progressing.

Well Nos. K-32, K-33, K-34, K-35, K-36 were plugged and abandoned. The wells were inactive and had experienced chronic fluid leaks along the east side of the field. Temperature logs were conducted on Well Nos. H-14 and RW-20. Both wells had high bottoms and were washed, jetted, treated and placed back on injection. Well No. H-1 was washed, treated, equipped and reactivated as a producer. Well No. KW-10 was washed, reamed, treated and had tubing and packer installed. Coil tubing acid jobs were performed on Well Nos. KW-6 and KW-7. Well No. H-15 had 1" tubing and blind bottom installed to prevent leakage.

The following wells were serviced: H-16, H-17, K-43, K-44 (twice), K-45, and K-54. Well No. H-22 was pulled twice for holes in the 1" tubing, and the entire string was replaced.

A meeting was held with TORP personnel in Lawrence on November 9th.

WELL TEST DATA

November
1998

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-1	12-1	5.9	102.8	108.7	95		11/25: Washed, jetted, ran tubing & acidized 11/27: Placed on production
H-30	11-30	4.2	109.7	113.9	96		
K-43	12-1	3.4	94.7	98.1	97		11/23: Pulled to hole
H-17	11-30	2.5	56.5	59	96		11/10: Pulled & repaired dressed pump; failed collar fishing job
K-45	11-30	2.5	71.1	73.6	97		11/25: Pulled-thread failure; fishing job
H-22	11-30	2.1	53.1	55.2	96		11/16: Pulled to hole 11/19: Repaired hole in hanger joint 11/24: Pulled; replaced 1"
H-20	11-30	1.7	29.1	30.8	94		
H-10	11-30	1.7	56.5	58.2	97		
K-44	11-30	3.0	73.6	75.3	98		11/9: Pulled to hole
H-16	12-1	1.7	78.8	80.5	98		11/2: Pulled to hole
H-21	11-30	1.7	80.5	82.2	98		
H-26	11-30	1.1	18.2	19.3	94		
K-54	12-1	0.8	47.9	48.7	98		11/24: Pulled to hole
H-3	11-30	0.3	49.5	49.8	99		
K-32							11/23: P & A
K-33							11/24: P & A
K-34							11/23: P & A
K-35							11/23: P & A
K-36							11/24: P & A

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: November YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5 (Lowe)	0	0.0	53611	0	
6 "	0	0.0	206	0	P & A
7 "	0	0.0	4356	0	P & A
9 "	0	0.0	11902	0	
10 "	0	0.0	24599	0	
11 "	0	0.0	7315	0	
12 (Lowe)	0	0.0	23461	0	
HW-1	1037	34.6	209870	700	
H-2(Lowe)			1119		P & A
H-5	1179	39.3	40635	540	
HW-8	0	0.0	9229	0	
H-12	1452	48.4	273609	650	
H-14	953	31.8	40913	640	11/18: Ran Delta Temp Log; washed & jetted perfs.; ran 1" tubing & packer; acidized perfs.
HW-18	1162	38.7	236998	650	
HW-23	1245	41.5	214582	700	
H-29	428	14.3	190658	670	
HW-31	853	28.4	142728	700	
K-42	1222	40.7	34234	490	
K-50	0	0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	825	27.5	235156	640	11/6 & 11/9: Coil tubing treatments
KW-7	471	15.7	204764	450	11/6 & 11/9: Coil tubing treatments
KW-8	0	0.0	211374	0	
KW-9	1345	44.8	257046	660	
KW-10	971	32.4	169429	580	11/13 & 11/16: Washed, jetted, acidized
KW-11	1336	44.5	229274	640	
KW-51			226418		P & A

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: November YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
O-1	1337	44.6	1645	0	
RW-1	1231	41.0	201916	660	
RW-2	1278	42.6	108785	650	
RW-3	1456	48.5	234735	680	
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1086	36.2	163447	630	
RW-7	1186	39.5	124214	550	
RW-8	1369	45.6	2468	550	(Lower)
RW-8	1264	42.1	~~143115~~	650	(Annulus)
RW-9	631	20.4	141851	660	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	1058	35.3	177723	620	
RW-13	1177	39.2	189192	670	
RW-14	819	27.3	157223	640	
RW-15	1224	40.8	76026	450	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	626	20.9	~~22373~~	570	11/18: Ran Delta Temp Log 11/20: Washed, jetted perfs. 11/25: Coil tbg. acid job
1 (Cox)	0	0.0	0	0	P & A
5 (Cox)					P & A
502 (Cox)					P & A
NELSON					
TOTAL	30889	1029.6	5931415		

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: November YEAR: 1998

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
INJECTION ALLOCATED OUTSIDE OF PROJECT					
%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE					
TOTAL	0	0.0	376917	0	
NELSON					
TOTAL	30889	1029.6	5554498		

AVERAGE PLANT PRESS 700 PSI
PLANT DOWNTIME:

KANSAS OPERATIONS REPORT

NELSON LEASE

SAVONBURG FIELD

ALLEN COUNTY, KANSAS

DECEMBER, 1998

Oil production was 735 barrels, 23.7 barrels per day, little changed from 23.6 barrels per day last month. Water production was 23,938 barrels, 772.2 barrels per day, compared with 834.3 barrels per day last month.

Water injection at 33,314 barrels, 1074.6 barrels per day, increased 45 barrels per day over November.

New motors were installed on the circulating pump and the slop pump, and the slop pump was repaired. All new 3" lines were installed to handle water transfer and slop water operations. Electrical conduit to the AFU was replaced and the wiring improved. The slop tank was cleaned. Work continued on piping and controls for the polymer mixing equipment.

Some disruption in water quality was caused by freezing equipment and well servicing, making it necessary to revert to five-micron filters at month's end.

The water supply well was pulled and a new pump and motor installed. Coil tubing acid treatments were performed on injection well nos. RW-1, RW-3, RW-13, and HW-31. Well No. H-3, an uneconomic producer, had pumping equipment removed and the well shut-in. The tubing was removed from Nelson-Lowe No. 8, an inactive well.

Since injection rates have increased, there has been some difficulty in keeping wells pumped down. A larger pumping unit was installed on Well No. H-16. Well No. K-43 had the casing reamed and a larger pump, 2" diameter, installed.

The following wells were serviced: H-10 (twice), H-30, K-45 (twice). Well No. H-16 was pulled three times, and the entire pump string replaced.

A review meeting was held with Dwayne McCune of TORP on December 10, 1998.

KANSAS OPERATIONS REPORT

NELSON LEASE

SAVONBURG FIELD

ALLEN COUNTY, KANSAS

JANUARY, 1999

Oil production was 718 barrels, 23.2 barrels per day, versus 23.7 barrels per day last month. Water production was 20,501 barrels, 661.3 barrels per day compared with 772.2 barrels per day in December.

Water injection at 29,440 barrels, 949.7 barrels per day, decreased 125 barrels per day from last month.

A 3" water line parted in early January resulting in a low-water shut down. This shut down resulted in freezing with considerable repairs and a major loss of meters and filters. The water quality was disrupted and the plant was consequently operated on five-micron filters during January.

The top portion of the casing was repaired on Well Nos. H-6 and H-11. This was done in order to prevent surface leakage.

A ceiling and insulation were installed in the plant building. The polymer mixing equipment has been placed in the building and piping installed. The next step is to install electrical wiring and controls.

The following wells were serviced: H-10, H-20, H-21, H-26 (twice), K-44, K-45. Well No. H-30 was serviced three times; the casing was reamed and the well washed, jetted and acidized. The pumping string was replaced with new 1" 10RD pipe.

WELL TEST DATA

January
1999

FIELD: Savonburg N.E.
LEASE: Nelson

Well No.	Date of Test	Barrels Per Day			Water Cut	Status:SI,SD PT,Flowing	Remarks:
		Oil	Wtr.	T.F.			
H-30	2-9	6.8	128.5	135.3	95		1/6: Pulled to hole 1/19: Pulled to hole, re-thread pipe 1/28 & 1/29: Pulled pump, reamed and washed
H-17	1-27	3.8	55.6	59.8	93		
H-22	"	3.4	56.5	59.9	94		1/18: Replaced motor
K-44	2-3	3.4	99.4	102.8	97		1/25: Pump problem; hole in pull tube
H-10	1-27	2.5	82.2	84.7	97		1/18: Pulled to hole
K-43	"	2.5	83.9	86.4	97		
H-20	"	2.2	30.2	32.4	93		1/16: Pulled to hole
H-1	"	2.1	56.5	58.6	96		
K-45	"	1.7	53.1	54.8	97		1/13: Pulled to hole
H-16	"	1.7	55.6	56.3	99		
H-26	"	0.9	24.0	24.9	96		1/15 & 18: Pulled to hole
K-54	"	0.8	47.9	48.7	98		
H-21	"	0.8	106.2	107.0	99		1/25: Dressed Pump

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: January YEAR: 1999

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
5 (Lowe)	0	0.0	53611	0	
6 "	-	-	206	0	P & A
7 "	-	-	4356	0	P & A
9 "	0	0.0	11902	0	
10 "	0	0.0	24599	0	
11 "	0	0.0	7315	0	
12 (Lowe)	0	0.0	23461	0	
HW-1	906	29.2	211791	690	
H-2(Lowe)	-	-	1119		P & A
H-5	973	31.4	42954	540	
HW-8	0	0.0	9229	0	
H-12	1382	44.6	276210	650	
H-14	1046	33.8	43463	620	
HW-18	1089	35.1	239413	640	
HW-23	1025	33.1	216570	630	
H-29	563	18.2	191648	690	
HW-31	918	29.6	144230	690	
K-42	1129	36.4	36764	470	
K-50	0	0.0	66584	0	
KCW-1	0	0.0	188117	0	
KCW-2	0	0.0	108349	0	
KCW-3	0	0.0	111543	0	
KCW-4	0	0.0	105432	0	
KCW-5	0	0.0	75285	0	
KEW-1	0	0.0	71047	0	
KW-6	1380	44.5	237703	620	
KW-7	910	29.4	206490	630	
KW-8	0	0.0	211374	0	
KW-9	708	22.8	259042	620	
KW-10	807	26.0	171545	660	
KW-11	1030	33.2	231511	650	
KW-51	-	-	226418	-	P & A
O-1	1357	43.8	4156	0	
RW-1	869	28.0	203530	620	
RW-2	966	31.2	111325	620	
RW-3	1462	47.2	237410	640	

WATER INJECTION

FIELD: SAVONBURG LEASE: NELSON
MONTH: January YEAR: 1999

WELL NO.	BARRELS PER MONTH	AVERAGE BARRELS PER DAY	CUMULATIV BARRELS	WELLHEAD PRESSURE PSI	STATUS OR REMARKS
RW-4	0	0.0	24867	0	
RW-5	0	0.0	70150	0	
RW-6	1184	38.2	165904	660	
RW-7	1235	39.8	126875	570	
RW-8	1051	33.9	362975	530	(Lower)
RW-8	1431	46.2	5376	550	(Annulus)
RW-9	1037	33.4	144994	650	
RW-10	0	0.0	20906	0	
RW-11	0	0.0	31094	0	
RW-12	992	32.0	179973	670	
RW-13	1139	36.7	191534	630	
RW-14	916	29.5	159298	650	
RW-15	825	26.6	78276	570	
RW-16	0	0.0	9360	0	
RW-17	0	0.0	20542	0	
RW-18	0	0.0	1448	0	
RW-19	0	0.0	3550	0	
RW-20	1227	39.6	23600	530	
NELSON					
TOTAL	33314	1074.6	5964729		

INJECTION ALLOCATED OUTSIDE OF PROJECT

%					
KCW-1 75	0	0.0	141088	0	
KCW-2 50	0	0.0	54175	0	
KCW-3 50	0	0.0	55771	0	
KCW-4 50	0	0.0	52716	0	
KCW-5 50	0	0.0	37643	0	
KEW-1 50	0	0.0	35524	0	
OUTSIDE					
TOTAL	0	0.0	376917	0	

NELSON					
TOTAL	29440	949.7	5617252		

AVERAGE PLANT PRESS 700 PSI
PLANT DOWNTIME: 1 Hour

NELSON LEASE
Daily Plant Report
Date 2-11-99

STep 2 Don/Paul

WATER BALANCE: Time 7:30

Supply well: Hours on 3 Cumulative barrels 50948 (*Rate* _____ *optional*)

Triplex pump: Pressure 700 Cumulative barrels 30016 (*Rate* 998 *optional*)

Feed water pump: Pressure 275 Cumulative barrels 5614234 (*Rate* 42.4 *optional*)

Slop water: 46 seconds per 5 gallon. (*75 sec = 137, 85 = 121, 100 = 103 BPD*)

Filters: 28"	North	South	Before	After
Time 1:30	5 micron	5 micron	30 psig	14 psig
Time _____	_____ micron	_____ micron	_____ psig	_____ psig

Comments: _____

WATER QUALITY: Time _____

South venturi: Water pressure _____, SCFM air 2.9

North venturi: Water pressure _____, SCFM air 2.8

Feed water 103. mg/L Comments: _____

AFU water 10 mg/L _____

Triplex water 10 mg/L _____

Filter water 12 mg/L _____

AIR FLOTATION UNIT: Hours on 22.3

Bleach in filter tank 1½ gal, Scale inhibitor _____

11.17 Polymer FLW-162 10.78 39 Other 661 - 3/4 ct

Comments: _____

OTHER PLANT PROBLEMS: _____

MJM 09/04/98

NELSON LEASE
Daily Plant Report
Date 2-12-99

STEP 2-3

WATER BALANCE: Time 7:30

Supply well: Hours on 4 Cumulative barrels 51088 (Rate _____ optional)

Triplex pump: Pressure 200 Cumulative barrels 31027 (Rate 1000 optional)

Feed water pump: Pressure 26/9 Cumulative barrels 5670750 (Rate 43 optional)

Slop water: 41 seconds per 5 gallon. (*75 sec = 137, 85 = 121, 100 = 103 BPD*)

Filters: 15	North	South	Before	After
Time _____	_____ micron	_____ micron	_____ psig	_____ psig
Time _____	_____ micron	_____ micron	_____ psig	_____ psig

Comments: _____

WATER QUALITY: Time _____

South venturi: Water pressure _____, SCFM air 2.9

North venturi: Water pressure _____, SCFM air 2.7

Feed water 110 mg/L Comments: _____

AFU water 19 mg/L _____

Triplex water 13 mg/L _____

Filter water 11 mg/L _____

AIR FLOTATION UNIT: Hours on 23

Bleach in filter tank reprime. Scale inhibitor _____

10,78 Polymer FLW-162 10,40 .38 Other 661 - 1 gt

Comments: bubbles gone. small oily suds.

OTHER PLANT PROBLEMS: _____

MJM 09/04/98

NELSON LEASE
Daily Plant Report
Date 2-17-99

WATER BALANCE: Time 7:30

Supply well: Hours on 5 Cumulative barrels 5124 (*Rate* 750 *optional*)

Triplex pump: Pressure 60 Cumulative barrels 32039.9 (*Rate* 1010 *optional*)

Feed water pump: Pressure — Cumulative barrels N/o Running (*Rate* _____ *optional*)

Slop water: _____ seconds per 5 gallon. (*75 sec = 137, 85 = 121, 100 = 103 BPD*)

Filters:	North	South	Before 16	After 12
Time _____	_____ micron	_____ micron	_____ psig	_____ psig
Time _____	_____ micron	_____ micron	_____ psig	_____ psig

Comments: _____
Change out Both

WATER QUALITY: Time _____
South venturi: Water pressure _____ , SCFM air _____
North venturi: Water pressure _____ , SCFM air _____
Feed water 108 mg/L Comments: _____
AFU water 17 mg/L _____
Triplex water 15 mg/L _____
Filter water 12 mg/L _____

AIR FLOTATION UNIT: Hours on 22.8
Bleach in filter tank _____ Scale inhibitor _____
Polymer FLW-162 _____ Other _____
Comments: _____

OTHER PLANT PROBLEMS: _____

MJM 09/04/98

NELSON LEASE
Daily Plant Report
Date 2-14-99

WATER BALANCE: Time 8:00

Supply well: Hours on 5½ Cumulative barrels 51434 (Rate NOT RUNNING optional)

Triplex pump: Pressure 700 Cumulative barrels 33123 (Rate 1007 optional)

Feed water pump: Pressure 26 Cumulative barrels 578788 (Rate 42.7 optional)

Slop water: _____ seconds per 5 gallon. (*75 sec = 137, 85 = 121, 100 = 103 BPD*)

Filters:	North	South	Before 16 #	After
Time _____	_____ micron	_____ micron	_____ psig	_____ psig
Time _____	_____ micron	_____ micron	_____ psig	_____ psig

Comments: _____
DID NOT CHANGE OUT

WATER QUALITY: Time _____
South venturi: Water pressure _____ , SCFM air _____
North venturi: Water pressure _____ , SCFM air _____
Feed water 111 mg/L Comments: _____
AFU water 17 mg/L _____
Triplex water 14 mg/L _____
Filter water 12 mg/L _____

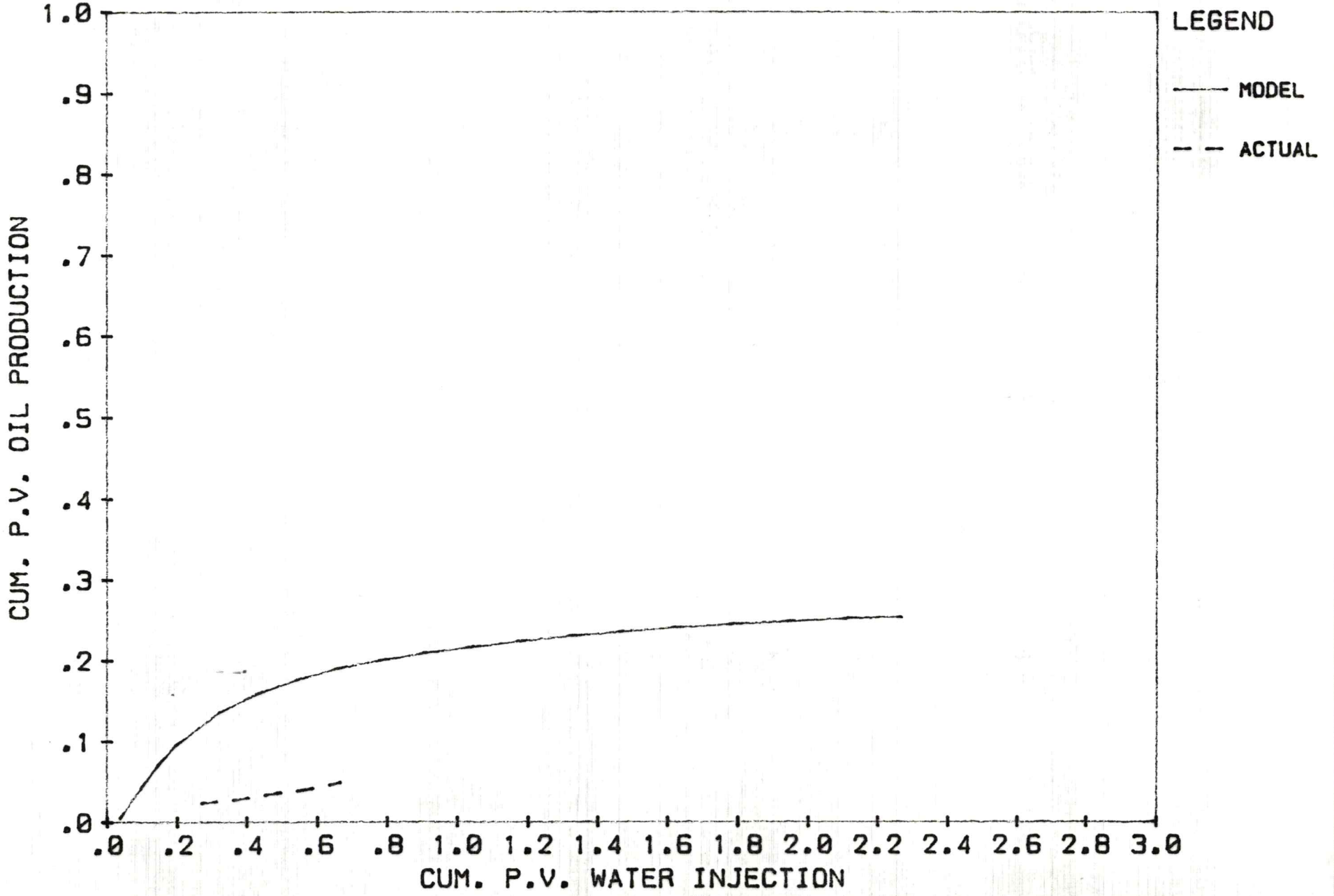
AIR FLOTATION UNIT: Hours on 23.1
Bleach in filter tank _____ Scale inhibitor _____
Polymer FLW-162 9.60 Other _____
Comments: _____

OTHER PLANT PROBLEMS: _____

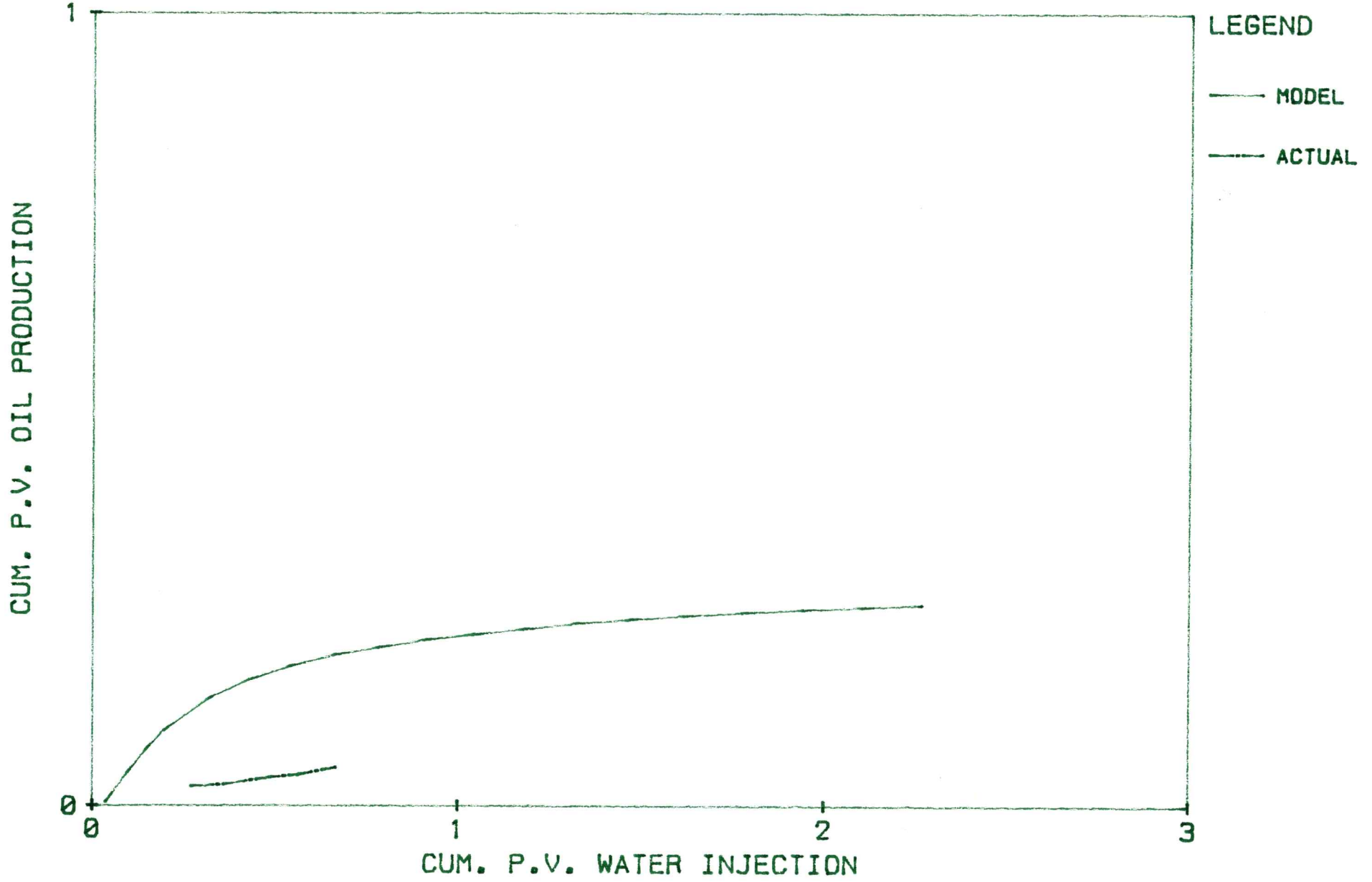
MJM 09/04/98

CUM. P.V. OIL PRODUCTION VERSUS CUM P.V

WATER INJECTION (NELSON LEASE)(WELL RW2)



:UM. P.V. OIL PRODUCTION VERSUS CUM P.V
ATER INJECTION (NELSON LEASE)(WELL RW2)



At 7:00 p.m. the water discharge weir was reset as it had been operating for the last three weeks. The sludge discharge weir was set as previously operated. The chemical amount being pumped into the unit was reduced, and the chemical pump is setting on a speed operation of 50 strokes speed.

During the day, Well No. H-30 was pulled. There was a hole in 1" down to second joint just above the pump. The pump was removed from the well, recupped and ran back. The well was very dirty and no total depth was established because the measuring line was not run to determine where the sediment had collected in the wellbore./To Abilene/TORP/Delmer/Jeff 8-3-94

August 3, 1994

9:20 a.m. - OFU was shut down.

Water supply well had run a total of five hours.

Polish water filter was at 12 lbs.; changed out.

Took samples of water and sludge discharge. Water sample was slightly cloudy and no sediment was seen in the bottom of the sample bottle. The sludge sample had reddish-brown sediment suspended throughout the sample bottle, and a small amount of reddish-brown sediment on the bottom of the sample container.

The OFU was working very good with a foam and froth doing an excellent job. Shut down at 11:25 a.m. At 12:02 p.m., the unit was running and had a good foam and froth of bubbles. The sludge carry-over consisted of reddish-brown sediments.

The water supply well went on at 11:50 a.m.

The OFU shut down at 1:15 p.m. There was no flow and no fluid movement through the unit at this time.

4:00 p.m. - Removed the sludge weir section from inside the OFU. Measured the sludge weir and took pictures in order to establish the size and dimensions of this piece of equipment that works inside the OFU. Reinstalled this equipment, re-established fluid level, and set both water and sludge weirs. Pumped slop tank fluids into the supply tank for the OFU. The unit was operating without proper foam and froth and the speed of the chemical pump was increased to 50 strokes.

Water supply well shut off at 6:30 p.m. Samples were taken from the water and sludge discharge and brought to the Chanute office. The water sample was very clear with no sediment in the bottom of the jar. The sludge sample had blackish sediments suspended throughout the bottle and some blackish sediments in the bottom of the bottle. When I had reached the office, most of the fluid had leaked out of the bottle. Very little fluid remained in the bottle.

Continued to monitor the unit until after 7:00 p.m. There was adequate foam and froth and the unit seemed to be operating fine. Installed the sliding section of the water weir and reset the sludge discharge weir so that there was a small water flow going into the sludge tank.

NELSON WATER PLANT

DAILY FIELD OPERATIONS REPORT

August 4, 1994

9:20 a.m. - OFU was down. There was no fluid flow from either discharge.

The water supply well had operated for five hours during the last 24-hour period.

The polish water filter had 12 lbs. pressure; changed out.

12:10 p.m. - Lowered sludge discharge weir. Flow of foam, froth and sediment started over the sludge weir. When Delmer arrived at the project earlier, he found there was no flow out of the discharge line. Upon examining the froth and foam in the afternoon, we found it was very concentrated and a great deal of sludge had been deposited on the walls inside the OFU. Delmer and I discussed the operation and fluid flows from the various components of the water plant system. We decided to leave the water weir sliding gate in the weir box at its lowest level setting. Delmer told me that they had adjusted the valve that controlled the discharge of the centrifugal transfer pump which moved the fluid from the 300-bbl. tank into the supply tank of the OFU. Closing this valve slightly will decrease the flow rate through the system of the OFU.

Decreased the stroke setting on the chemical pump to 55 strokes at 1:45 p.m.

1:50 p.m. - Took samples of the water and sludge discharge outlets. Water discharge sample had a slight, cloudy tint. The sludge discharge sample was a very reddish brown and had suspended solids throughout the container.

1:00 p.m. - Water supply well was running and the OFU was not running. At 1:30 the water supply well shut off. At 1:45 p.m. the OFU started and ran fluid out the water discharge for at least eight minutes before any fluids and sludge was discharged over the weir of the sludge discharge section.

1:50 p.m. - Hauled 80 bbls. water out of the clear tank to the producing well, O-1, for washing the fishing tools down the wellbore.

2:55 p.m. - OFU was running. Collected samples from the water and sludge discharge outlets. The water sample was very clear and was brought with the sludge sample, which contained a great deal of reddish-brown sediment, into the Chanute office so that Bob Barnett could observe the results being obtained by the OFU.

August 5, 1994

7:30 a.m. - OFU is shut down.

The water supply well is running. It had run a total of eight hours during the last 24-hour period.

Pumped the slop water sludge back into the OFU supply tank. During the night this tank had filled approximately one-half of its capacity, which is almost twice the amount of water that we have normally let flow the OFU sludge discharge outlet. Although the unit was shut down, there was alot of foam and froth, very black in color, still on top of the fluid inside the unit. The sludge weir box was completely full of black sediments. Foam and sludge being black is an indication that the amount of water produced by the water supply well has increased in volume during the last 24 hours. The water supply well had run longer during the last 24 hours because we hauled 80 bbls. of water from the plant to wash Well No.O-1 on the fishing job. In addition to this, we changed a number of filters on injection wells in the field. When this is done, the wells generally take more water than previously had been experienced.

9:30 a.m. - The OFU was running. Samples of water and sludge discharge were taken. The water sample was very clear with no sediment in the container. The sludge sample had black suspended solids and some black sediment on the bottom of the container.

The chemical seems to make a better froth and foam when treating larger volumes from the water supply well. The chemical seems to produce larger bubbles that could carry more suspended fine solids when we are pumping a larger proportion from the water supply well.

We are amazed as to how much crap and sludge can be carried in slow-flowing water.

Bob Arbuckle said when he trucked the crappy-looking sludge water from the sludge tank, that he was suprised of how clear and clean the water was when it came out of the vacuum truck. This indicates to me the sonic effect of trucking this water causes the suspended solids to fall out of the major portion of the trucked water.

2:30 p.m. - OFU running. Water supply well running. Froth and foam on top of the fluid inside the unit is a reddish-brown color. Bubbles are not as large as when the color was dark gray or black earlier in the morning.

Water samples were taken from the water and sludge discharge outlets. The water sample was clear with a very slight cloudy effect, and no sediments were observed in the bottom of the container. The sludge sample collected was very dark, reddish-brown, with sediments suspended in the fluid. There was a large amount of dark, reddish-brown sediments in the bottom of the jar.

The unit seems to be operating properly. However, there has been a definite change in the reaction of the chemical to the present water condition as described above.

NELSON WATER PLANT

DAILY FIELD OPERATIONS REPORT

August 6, 1994

8:00 a.m. - OFU running and appears to be doing a good job. Mixed 15 gallons of chemical and put in supply drum; 1 1/2 pints per five gallons.

Polish sock filter operating at 10 lbs. and was changed out.

The water supply well had run eight hours, because there was a leak on the wellhead of Well No. RW-9. Plant pressure was at 600 lbs.

Samples were taken on the water and sludge outlets at 8:10 a.m. Pumped slop tank water from sludge fluids back to supply tank for OFU. The water sample was clear with no sediment on bottom of the container. The sludge sample had some brown, suspended sediments and lots of dark brown sediments on the bottom of the bottle.

August 7, 1994

10:30 a.m. - OFU was running.

Samples from the water and sludge discharge outlet were taken. The water sample was clear with no sediment in the bottom of the container. The sludge sample was reddish-brown sediment in suspension, and a reddish-brown sediment in the bottom of the container.

The water supply well had run 5 1/2 hours. Changed out polish sock filter.

August 8, 1994

8:00 a.m. - OFU was running. Pumped slop water from sludge tank into OFU supply tank.

The water supply well had run for five hours. The polish sock filter was running at 12 lbs. and was changed out.

At 9:45 a.m. installed a 1/4" piece of lumber, approximately 4" wide and 10" long. This board was installed from the weir box outward as an extension to collect more froth, and at the same time not to stop the circulation of the fluid and froth. The board was extended towards the left of the main center of the swirl so the froth could be directed almost immediately into the weir box.

Samples were taken at 9:00 a.m. from the water and sludge outlets. The water sample was clear with no sediment in the bottom of the container. The sludge sample was reddish-brown with sediments in suspension and considerable sludge in the bottom of the container.

The OFU shut down at 10:02 a.m. and restarted at 10:22 a.m. At 10:28 a.m. froth started over on the sludge weir into the weir box. At 10:42 a.m. a very small amount of water started over the sludge weir into the weir box. At 10:45 a.m., there was a good froth and an adequate amount of water going over the sludge weir into the sludge box.

Caught samples at 10:50 a.m. Water sample was clear. Sludge sample had alot of suspended sediments in the bottom of the container and a fair amount of sediments in the bottom of the sample bottle.

10:55 a.m. - loaded 80 barrels of water from the clear tank to wash Well No. 0-1. Water supply well was not running.

Measured the size and opening of the top of the OFU - 14 3/4" in length, 11 1/2" in width.

12:00 - Took samples. The water sample was extremely clear. The sludge sample had solids suspended in the fluid; some fair size. Sediments in the bottom of the container had larger pieces than normally acquired. There was a good flow of fluids out of the sludge discharge outlet.

Much larger bubbles were coming into the weir with a froth. Some of these bubbles were 1" in diameter. The extended board is guiding larger amounts of froth into the sludge stream and the weir box being discharged by water into the sludge tank.

12:15 p.m. - Water supply well was running.