HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 1
Oakdale, IL
MP 604.98 - MP 647.73

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 1 (H1) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Metallurgical root cause failure analysis was performed on the four ERW seam failures in this section. Their date, location, and calculated failure pressures at their location were as follows:

11/5/05, MP-638.5, 1126 psig. 11/6/05, MP-629.3, 1204 psig. 11/11/05, MP-637.3, 1149 psig. 11/20/05, MP-624.7, 1131 psig.

Results of the analysis indicated all to be caused by original factory/mill defects that failed after being tested to higher pressures than they had ever seen before. No fatigue, selective corrosion, or other time dependant defects were observed.

There were two pin hole leaks in girth welds found during testing at MP-635.8 (sta-33572+38 ft, ILI Odometer-865057.44 ft & GW# -19809) and MP-629.2 (sta.-33221+83 ft, ILI Odometer-829868.88 ft & GW# - 19087). Cause of the pin holes was inadequate penetration of the weld bead at the 6:00 o'clock position where the two weld passes overlapped creating an internal pocket where corrosive elements could accumulate. Both were repaired in place with a permanent weld sleeve. Review of the 2001 ILI log did not reveal any tell-tale signs of internal or external metal loss/corrosion at these welds.

Chris D. Gorman

Pipeline Risk & Integrity Specialist Exxon Mobil Pipeline Company

One Joman

1604 South 15th St. Corsicana, TX 75110 903-654-5323 903-654-5302 fax 903-654-1324 cell

647 Miles /20" Crude Line, Patoka, IL to Corsicana, TX Test Section 1 MP 604.98 - MP 647.73

Date and Time:

Nov 23, 2005, from 7:45 AM to 11:45 AM. (Strength Test) Nov 23, 2005, from 2:00 PM to 6:00 PM. (Leak Test)

Facility Tested:

The test section consisted of 42.75 miles of 20" x 0.312" W.T., X-42 ERW pipe

Personnel Present:

Conducted by: S.C. Hong - Test Engineer - BJ Process & Pipeline Services Witnessed by: M.E. Marshall - Inspector - EMPCO Representative

Procedure:

The piping was filled with water and the air was allowed to bleed through 2" valves. The test section was pressurized to approximately 600 psig with BJ's positive-displacement pump at a rate of 15 psi / minute, and was allowed to stabilize over night. The test manifold, pressure recorder, and deadweight tester were connected to the test section as shown in the attached sketch.

The test section was pressurized at a rate of 10 psi / minute with a positive-displacement pump. Pressurization was halted for 15 minutes to allow for stabilization and to check for leaks. The test section was then pressurized at a rate of 5 Psi/min to test pressure. The pressure stabilized.

Conclusion:

The strength test started at 7:45 PM on Nov 23, 2005 and was held for 4 hours starting at a pressure of 1005 psi. Over the duration of the strength test, there was no pressure drop. The leak test started at 14:00 PM on Nov 23, 2005 and was held for 4 hours starting at a pressure of 906 psi. Over the duration of the leak test, there was a 1 psig pressure drop attributable to compressed air cooling in the line from the previous test breaks. At this point the leak test was deemed successful. Overnight T & P charts from the previous 2 days also support the test section to be leak free.

The pressure trends over the duration of the leak test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The tests were deemed successful.

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

David T. Edge

BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 1 - Strength Test	DATE 11/23/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION IN PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PROPERTY.	DESCRIBED BELOW WAS HYDROSTATICALLY OCEDURE:
PIPE LINE 20" Crude	FROM Patoka IL TO Corsidana, TX
DESCRIPTION OF FACILITY TESTE Test Section 1 MP 604.98	
SECTION LENGTH 42.75 miles PIPE O.D. 20" WALL THIC	
LOCATION OF TEST PRESSURE RECORDER CONNECT MP 604.9	8 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 604.9	8 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 1005 psig	TIME 7 45 AM
INITIAL TEMPERATURE OF TEST SECT. 49 °F ELEV. AT I	POINT OF TEST 520 ft MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTIO	N <u>1048 3</u> PSIG;
ELEVATION 420 ft MSL; MP. 625.9 THE PRESSURE WA	MEASURED X CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	984.2 PSIG ;
ELEVATION 566 ft MSL; MP. 610.8 THE PRESSURE WA	MEASURED X CALCULATED
FINAL PRESSURE AT POINT OF TEST 1005 PSIG	TIME 11.45 AM
FINAL TEMPERATURE OF TEST SECT. 49 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	DRAWN N/A GAL.
NET CHANGE IN VOLUME OF THE TEST SEC1 N/A GAL.	(20
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUI[Water	SPEC GVTY. 1.00 TEMP. HYAT °F
INITIAL PRESSURE 77 % OF SMYS AT THE TEST SITE 75 % AT	HIGH POINT 80 % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PER	RIOD (TEST PRESSURE) 1005 PSIG
MAXIMUM ALLOWABLE OPERATING PRESSURE 804 PSIG. OR 80% of minimum test pressure at the test site	at test site BASED ON % SMYS
WERE THERE ANY LEAKS? YES X NO; IF YES, E MP 638 7 MP 637 3, MP 629 3 and MP 624 7 in the ERW seam which we will be a sea of the sea of the transfer of the tr	XPLAIN There were previous test breaks at were replaced with new pipe.
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SYS	STEM WORKING PRESSURE
HYDROSTATICALLY TESTED? X YES NO; IF NO, E	XPLAIN
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25601	ITT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NCITT Barton	242E-51492 ITT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195 S	ubpart E.
COMPRIOTED BY	
CONDUCTED BY Sam Hong CERTIFIED BY Sam Hong	TITLE BUPPS Test Engineer
MITHEOGER	TITLE EARCO RULL & Integrity - pour
WITNESSED BY Mark Marshall	TITLE EMPCO Test Site Inspector
NOTE: SEE DOT LIQUIDS MANUAL or interest & to know the second & 2	TITLE REFER
A CONTRACTOR OF THE PROPERTY O	

CARRIER NAME Mobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 1 - Leak Test	DATE 11/23/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION IN PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PRO	
PIPE LINE 20° Crude	FROM Patoka, IL TO Corsicana, TX
DESCRIPTION OF FACILITY TESTE Test Section 1 MP 604.98	- MP 647.73
SECTION LENGTH 23 73 miles PIPE O.D. 20" WALL THIC	CKNESS 0.312" GR. X-42 TYPE ERW
LOCATION OF TEST PRESSURE RECORDER CONNECT_MP 604.98	8 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 604 98	8 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 906 psig	TIME 2:00 PM
INITIAL TEMPERATURE OF TEST SECT. 49 °F ELEV. AT F	POINT OF TEST N/A It MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	N N/A PSIG;
ELEVATION N/A ft MSL; MP. N/A THE PRESSURE WAS	MEASURED CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	N/A PSIG ;
ELEVATION N/A ft MSL; MP. N/A THE PRESSURE WAS	MEASURED CALCULATED
FINAL PRESSURE AT POINT OF TEST 905 PSIG	TIME 6 00 PM
FINAL TEMPERATURE OF TEST SECT. 49 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	DRAWN N/A GAL.
NET CHANGE IN VOLUME OF THE TEST SEC1N/AGAL.	4.0
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIC Water	SPEC GVTY. 100 TEMP. NAME °F
INITIAL PRESSURE $\underline{\ \ N/A\ \ }$ % OF SMYS AT THE TEST SITE $\underline{\ \ N/A\ \ }$ % AT	HIGH POINT N/A % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PER	RIOD (TEST PRESSURE) 906 PSIG
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	BASED ON % SMYS e during 4 hour strength test
WERE THERE ANY LEAKS? YES X NO; IF YES, E	XPLAIN
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SYS	STEM WORKING PRESSURE
HYDROSTATICALLY TESTED? X YES NO; IF NO, E	XPLAIN
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25601	ITT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NO ITT Barton	242E-51492
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195 S	Subpart E.
CONDUCTED BY Sam Hong	TITLE BJ PPS Test Engineer
CERTIFIED BY Journal	TITLE EMPCO Rick & Integrity yours
WITNESSED BY Mark Marshall WITNESSED BY Jamas	TITLE EMPCO Test Site Inspector
NOTE: SEE DOT LIQUIDS MANUAL on the and the conference	TITLE RAIS

CERTIFICATION OF PIPE LINE HYDROSTATIC PRESSURE TEST PRESSURE RECORDER CALIBRATION

CALIBR	RATION	\ COMP	ARISON	/	COMPA	RISON
BEFOR	E TEST	DURIN	IG TEST		AFTER	TEST
PRESSURE	DEADWEIGHT	PRESSURE	DEADWE	ј G НТ		DEADWEIGHT
RECORDER	TESTER	RECORDER	TEST	R	RECORDER	TESTER
200	205				200	205
300	305				300	305
400	400				400	405
500	505		/		500	505
600	605	\	X		600	600
700	700				700	700
800	800				800	800
900	900				900	900
1000	1000			•	1000	1000
			\	<u> </u>		
				<u> </u>		
CALIBRATED		CHECKED		<u> </u>	CHECKED	
BY Sam Hong		BY	 -		BY <u>Sam Hon</u>	1
DEADWEIGHT	TESTER MAKE	SERIAL NUMBER	Chandler	25601		
	in.	JECTION AND WIT	HDRAWAL	_ DATA		
FLUID INJE	CTED, GAL.	TIME	`	FLUID WITH	IDRAWN, GAL.	TIME
			•			
		<u></u>	•			
			•			/
			•			
			-		$\overline{}$	17-11-11-11-11-11-11-11-11-11-11-11-11-1
			•		/	
			-		/	
			•			
			-			
·			4	<u>/</u>		
TOTAL INJECT		GAL.		TOTAL WITH	IDRAWAL	N/A GAL.
NET CHANGE	IN VOLUME OF T	HE TEST SECT.		N/A	GAL.	
CONDUCTED		g	TITLE	BJ PPS Test	Engineer	
CERTIFIED BY	Mark Mar	shall	TITLE	EMPCO Test	Site Inspector	

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 1

Cherokee Pass, MO

MP 604.98 - MP 629.20

Leaks - MP 635.80 & MP 629.20



PRESSURISATION REPORT (AIR INCLUSION)

				Page	ot	
Project: C	CGC LINE#:	Job#:	C0316-05	W.T.:		0.312
Client :	Mobil Pipeline (EMPCO)	Date :	12-Nov-0	Gal./Ft.:		15.317442
Location : MP 604.98 (Test Section 1)		Nominal [Diameter :		20 "	
Length:	225,720 Feet	Volume :	3,457,450	3 Gallons		

TIME	PRESSURE	TOTAL	VOLUME	TIME	PRESSURE	TOTAL	VOLUME
	PSI	VOLUME	DIFF		PSI	VOLUME	DIFF
		GALLONS	GALLONS			GALLONS	GALLONS
	0		0	8:28	285	7233	516
	15		0	8:30	300	7758	525
	30		0	8:32	315	8204	446
	45		0	8:34	330	8709	505
	60		0	8:38	345	9461	752
	75		0		360		-9461
	90		0	8:40	375	9994	9994
	105		0	8:41	390	10399	405
7:52	120	57	57	8:43	405	10768	369
7:58	135	1082	1025	8:44	420	11171	403
8:00	150	1398	316	8:46	435	11560	389
8:07	165	2516	1118	8:47	450	11937	377
8:14	180	3411	895	8:49	465	12312	375
8:15	195	3914	503	8:50	480	12662	350
8:16	210	4086	172	8:51	495	13012	350
8:19	225	4829	743				
8:21	240	5501	672				
8:24	255	6152	651				
8:25	270	6717	565				

Calculations: 0.3257 $Va = (AVp-TVp) \times 100$ Va Calc.= -1.0036 Va Extr.= AVp is Actual volume to pressurize / FV is fill volume TVp is Theoretical volume to pressurize / Va is % of air. Acceptance : Name \$ignature Date BJ-PPS: Clint Jackson 1/8/2005 EMPCO: MAKKEMAKS. ove Gland



PRESSURISATION REPORT (To Test Pressure)

Page of Project: CCGC LINE#: Job#: C0316-05 W.T.: 0.312 Mobil Pipeline (EMPCO) Client: Date: 12-Nov-05 Gal./Ft.: 15.317442 20 " Location: MP 604.98 (Test Section 1) Nominal Diameter: Length: 225,720 Feet Volume : 3,457,453 Gallons

Lengin.	225,720	геец		volume :	3,457,453	Gallons	
					····		
TIME	PRESSURE	TOTAL	VOLUME	TIME	PRESSURE	TOTAL	VOLUME
	PSI	VOLUME	DIFF		PSI	VOLUME	DIFF
		GALLONS	GALLONS			GALLONS	GALLONS
8:53	510	13394	13394	12:06	870	21728	286
8:54	525	13701	307	12:08	885	22019	291
8:56	540	14,055	354	12:10	900	22306	287
8:57	550	14407	352	12:14	915	22668	362
9:22	565	15101	694	12:18	930	22979	311
9:24	580	15427	326	12:21	945	23302	323
9:26	595	16838	1411	12:25	960	23583	281
9:29	610	16142	-696	12:28	975	23871	288
9:31	625	16446	304	12:32	990	24190	319
9:34	640	16766	320	12:35	1000	24467	277
9:36	655	17135	369		1030	* ***	-24467
9:38	670	17381	246		1045		0
9:40	685	17675	294		1060		0
9:43	700	17994	319		1075		0
9:45	715	18300	306		1090		0
9:47	730	18617	317		1105		0
9:50	745	18916	299				0
9:51	755	19133	217				0
11:50	765	19701	568				0
11:53	780	20012	311				0
11:55	795	20264	252			······································	0
11:57	810	20552	288				0
11:59	825	20850	298				0
12:01	840	21153	303				0
12:04	855	21442	289				0
Acceptance	ce :						
	L	Name		8ignature		Date	
BJ-PPS:		Clint Jackson		200	e- 200	11-19-05	
ExxonMob	il: MARKE	Marshall	SR M	LE V	Waldler.	11-19-0.	5
			-	-			
		<u>D</u>	N +5'	Spare	BRANGO		



PRESSURISATION REPORT (To Test Pressure)

Page of Project: CCGC LINE#: Job#: C0316-05 W.T.: 0.312 Client: 13-Nov-05 Gal./Ft.: .: Mobil Pipeline (EMPCO) Date: 15.317442 Location: MP 604.98 (Test Section 1) 20 " Nominal Diameter:

	MP 604.98 (16			Nominal [Jiameter :	20	
Length:	225,720			Volume:	3,457,453		
		tion of pipeline					
TIME	PRESSURE	TOTAL	VOLUME	TIME	PRESSURE	TOTAL	VOLUME
	PSI	VOLUME	DIFF		PSI	VOLUME	DIFF
		GALLONS	GALLONS			GALLONS	GALLONS
8:55		24467	24467		1000		-31780
8:57	645	24546	79				(
8:58	 	24,896	350				
9:01	675	25250	354				(
9:03	690	25609	359				C
9:05	705	25956	347				C
9:07	720	26287	331				C
9:09	735	26607	320				C
9:10	750	26823	216				C
9:12	765	27137	314				C
9:14	780	27463	326				C
9:16	795	27789	326				C
9:18	810	28112	323				C
9:20	825	28439	327				C
9:22	840	28754	315				C
9:24	855	29041	287				
9:25	870	29333	292				C
9:27	885	29603	270				C
9:29	900	29920	317			<u> </u>	C
9:33	915	30326	406			:	C
9:37	930	30608	282				C
9:40	945	31012	404				C
9:44	960	31352	340				C
9:48	975	31660	308				C
9:50	980	31780	120				C
Acceptan	ice :						
		Name		Signature		Date	
BJ-PPS:		Clint Jackson	(220	L	1711-19-0	5
ExxonMol	oil: MARK F	MERSHAL	158 7	Make.	Markell	,	9-05
		R)LD	7 +51	Alsax	GPaxiD		
							



PRESSURISATION REPORT (AIR INCLUSION)

						Page 1 of	3
Project :	CCGC	LINE#:	TS#1	Job#:	C0316-05	W.T.:	0.312
Client :	Mobil Pi	peline (EMPC	O)	Date :	14-Nov-05	Gal./Ft.:	15.317442
Location:	MP 604.98 (Te	est Section 1)		Nominal [Diameter :	20) "
Length:	225,720	Feet		Volume :	3,457,453	Gallons	
	Line pressure	start @ 30 psi	· · · · · · · · · · · · · · · · · · ·	<u> </u>			
TIME	PRESSURE	TOTAL	VOLUME	TIME	PRESSURE	TOTAL	VOLUME
	PSI	VOLUME	DIFF		PSI	VOLUME	DIFF
	4-	GALLONS	GALLONS	40.04	222	GALLONS	GALLONS
40.57	15		0	18:01	300	21446	
16:57	30	***************************************	0	18:05	315	21925	-
	45		0	18:07	330	22473	
	60		0	18:08	345	22932	
	75		0	18:09	360	23420	488
	90		0	18:11	375	23826	406
	105		0	18:12	390	24205	379
17:27	120	9115	9115	18:13	405	24520	315
	135	11238	2123	18:14	420	24876	356
	150	13135	1897	18:15	435	25356	480
	165	14633	1498	18:16	450	25694	338
	180	15750	1117	18:17	465	26111	417
	195	16782	1032	18:18	480	26490	-
17:45	210	17811	1029	18:19	495	26841	
17:48	225	18472	661	18:20	510	27131	
17:51	240	19161	689				
17:54	255	19845	684		<u> </u>		
17:57	270	20445	600				
17:59	285	20833	388				
Calculatio	ns:				***	<u> </u>	
Va = (AVp-TVp)	X 100		Va Cal	c.=	0.7340	
		FV			1		J
				Va Ext	r.=	0.4342	
AVp is Ac	tual volume to	pressurize /	FV is fill volun		_ [_1
	eoretical volum						
Acceptar							_
		Name		Signature		Date	J
BJ-PPS:		Clint Jackson		Kalpe	~ 9.477	-11/14/200 5	11-14-05
EMPCO:	MARKE n	PARSHALL SK	2 27	EXE M	calles.	11-19-	-05
				-			
		1/ -	١ سر ١	M	12-015		



PRESSURISATION REPORT (To Test Pressure)

						Page 2	of	3
Project:	_ccgc	LINE#:	TS#1	Job#:	C0316-05	W.T.:		0.312
Client:	Mob	il Pipeline (EMPC	D)	Date :	14-Nov-0)5 Gal./Ft.:		15.317442
Location : MP 604.98 (Test Section 1)			Nominal	Diameter :		20 "		
Length:	225,	720 Feet		Volume	3,457,45	3 Gallons		

PSI	7122							
GALLONS GALLONS GALLONS 18:21 525 27472 27472 19:27 900 35859 267	TIME	PRESSURE	TOTAL	VOLUME	TIME	PRESSURE	TOTAL	VOLUME
18:21		P31	l			PSI		
18:22 540 27960 488 19:28 905 36083 224 18:23 555 28,134 174 920 -36083 18:59 565 28782 648 935 0 19:00 580 28954 172 950 0 19:01 595 29469 515 965 0 19:02 610 29641 172 980 0 19:03 625 30114 473 995 0 19:04 640 30341 227 1010 0 19:06 670 30906 189 1040 0 19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 120 0 19:15 775 33373 345 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:24 865 35315 305 0 19:25 880 35592 277 0 Name Signature Date U-PPS: Clint Jackson	18:21	525			10:27	000		
18:23						***************************************		
18:59					19:20		36083	
19:00	 	·						
19:01								
19:02 610 29641 172 980 0 19:03 625 30114 473 995 0 19:04 640 30341 227 1010 0 19:05 655 30717 376 1025 0 19:06 670 30906 189 1040 0 19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 0 19:15 775 33373 345 0 19:16 790 33595 222 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:21 835 34714 290 0 19:23 850 35010 296 0 19:25 880 35592 277 0 Output Date Name Signature Date								······
19:03 625 30114 473 995 0 19:04 640 30341 227 1010 0 19:05 655 30717 376 1025 0 19:06 670 30906 189 1040 0 19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 0 19:15 775 33373 345 0 19:16 790 33595 222 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:21 835 34714 290 0 19:23 850 35010 296 0 19:25 880 35592 277 0 CCCEPTANCE: Name Signature Date U-PPS: Clint Jackson								
19:04 640 30341 227 1010 0 19:05 655 30717 376 1025 0 19:06 670 30906 189 1040 0 19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 0 19:15 775 33373 345 0 19:16 790 33595 222 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:21 835 34714 290 0 19:23 850 35010 296 0 19:25 880 35592 277 0 0 0 10:25 880 35592 277 0 0 0 10:25 880 35592 277 0 0 0 10:25 880 35592 277 0 0 0 10:25 880 35592 277 0 0 0 10:25 Signature Date	·							
19:05 655 30717 376 1025 0 19:06 670 30906 189 1040 0 19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 0 19:15 775 33373 345 0 19:16 790 33595 222 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:21 835 34714 290 0 19:23 850 35010 296 0 19:25 880 35592 277 0 0 0 19:25 880 35592 277 0 0 0 19:26 CCeptance : Name Signature Date								····
19:06 670 30906 189 1040 0 19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 0 19:15 775 33373 345 0 19:16 790 33595 222 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:21 835 34714 290 0 19:23 850 35010 296 0 19:24 865 35315 305 0 19:25 880 35592 277 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0								
19:07 685 31300 394 1055 0 19:08 700 31499 199 1070 0 19:10 715 32073 574 1085 0 19:11 730 32456 383 1100 0 19:12 745 32725 269 1115 0 19:14 760 33028 303 0 19:15 775 33373 345 0 19:16 790 33595 222 0 19:17 805 33971 376 0 19:19 820 34424 453 0 19:21 835 34714 290 0 19:23 850 35010 296 0 19:24 865 35315 305 0 19:25 880 35592 277 0 0 INDICATE TO THE POSITION IN THE	 							
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J-PPS: Clint Jackson (1) 1905	Acceptan	ce:						
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exxonMobil: MARKE MARSHALLE WILLEMAN 11-15-05				- Jan 6	Jul 900	2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	//	

BJ-PPS: Clint Jackson

ExxonMobil: MARSHAUSA WORL Manh 11-19-05

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 2
Oakdale, IL
MP 604.98 - MP 572.28

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 2 (H2) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Chris D. Gorman

Pipeline Risk & Integrity Specialist Exxon Mobil Pipeline Company

The Lamer

1604 South 15th St. Corsicana, TX 75110 903-654-5323

903-654-5302 fax 903-654-1324 cell

647 Miles / 20" Crude Line, Patoka, IL to Corsicana, TX
Test Section 2 MP 572.28 - MP 604.98

Date and Time:

Nov 2, 2005, from 1:15 PM to 9:15 PM.

Facility Tested:

The test section consisted of 32.70 miles of 20" x 0.312" wt., X-42 ERW pipe

Personnel Present:

Conducted by: S. C. Hong - Test Engineer - BJ Process & Pipeline Services Witnessed by: M.E. Marshall-Inspector - EMPCO Representative

Procedure:

The piping was filled with water and the air was allowed to bleed through 2" valves.

The test section was pressurized at a rate of 10 psi / minute by injecting water with a positive-displacement pump. Pressurization was halted to allow for stabilization and to check for leaks. The test section was then pressurized at a rate of 5 Psi/min to test pressure of 1128 Psi.

Conclusion:

The test started at 1:15 PM on November 2, 2005 and was held for 8 hours starting at a pressure of 1128 psi. Over the duration of the test, there was a pressure drop to 1122.5 psi. The 3 temperatures and pressure remained unchanged from 13:15 to 15:00. At 15:00 the ambient temperature began to drop as did the pressure. At 15:50 the ground temperature begins to rise from 59 to 61. The pipe temperature begins to drop at 15:50. The ambient and pipe temperature continue to drop until the end of the test at 21:15. During the test the ground temperature should not show a gain and the buried pipe temperature should not vary 4.50 degrees. The ground temperature appears irrelevant. The pressure was unchanged at 5 points during the test and appears to be influenced by the ambient temperature.

The pressure trends over the duration of the test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The test was deemed successful.

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

David T. Edge

BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeli	ne Company		
TESTING COMPANY NAME	BJ Process & Pipeline Services		remove a second
PRESSURE TEST NUMBER	Test Section 2 - Strength Test		DATE 11/2/2005
THIS IS TO CERTIFY THAT THI PRESSURE TESTED IN ACCO	E PIPE LINE OR PIPELINE SECTION ROBING IN THE FOLLOWING IN THE FOLLOWING IN THE FOLLOWING IN THE FOLLOWING IN THE POLLOWING I	N DESCRIBED BELOW WPROCEDURE:	AS HYDROSTATICALLY
PIPE LINE 20° Crude		FROM Patoka, IL.	TO Corsicana, TX
	ESTE Test Section 2 MP 572		
SECTION LENGTH 32.7	miles PIPE O.D. 20° WALL T	HICKNESS 0.312" GR	. <u>X-42</u> TYPE ERW
LOCATION OF TEST PRESSUR	RE RECORDER CONNECT_MP 60	4 98 (See attached sketch)	
	RECORDER BULB MP 60		
INITIAL PRESSURE AT POINT	OF TEST 1128 psig	TIME 1:15	<u>PM</u>
INITIAL TEMPERATURE OF TE	ST SECT. 64.5 °F ELEV. A	T POINT OF TEST 520	ft_MSL
INITIAL PRESSURE AT LOWE	EST ELEVATION POINT IN SECT	TON 1193.0	_PSIG;
ELEVATION 370 ft MSL;	MP. 579.14 THE PRESSURE V	VASMEASURED	X CALCULATED
INITIAL PRESSURE AT HIGHES	ST ELEVATION POINT IN SECTION	1096 8	_PSIG;
ELEVATION 592 ft MSL;	MP. 576 34 THE PRESSURE V	VASMEASURED	X CALCULATED
FINAL PRESSURE AT POINT O		TIME 9:15	<u>PM</u>
FINAL TEMPERATURE OF TES			
	GAL. TOTAL FLUID WI		_GAL.
	THE TEST SECT N/A GA		60
LENGTH OF TEST 8 HRS.	0 MIN; TESTING FLUIT Wate	SPEC GVTY. 10	<u>0</u> TEMP. <u>→ ₩</u> ~ °F
INITIAL PRESSURE 86 % OF	SMYS AT THE TEST SITE 84 % A	AT HIGH POINT 91	_% AT LOW POINT.
MINIMUM TEST PRESSURE DU	IRING A SELECTED 8 HOUR I	PERIOD (TEST PRESSUR	E) <u>1123</u> PSIG
MAXIMUM ALLOWABLE OPERA OR 80% of minimum	ATING PRESSURE 898 PS test pressure at the test site	G. at test site. BASED ON	% SMYS
WERE THERE ANY LEAKS?	YES X NO; IF YES	, EXPLAIN	
14/4 O EVEDY COMPONENT TO 1			
	AT WILL BE SUBJECTED TO THE S		SURE
HYDROSTATICALLY TESTED?	X YES NO; IF NO	, EXPLAIN	
PRESSURE RECORDER MAKE	AND SERIAL N_Chandler 25601	ITT Barton	242E-51492
TEMPERATURE RECORDER M.	AKE AND SERIAL NCITT Barton	242E-51492 ITT Bai	ton 242E-41526
	ce with D.O.T. CFR Title 49 Part 19		
			······································
CONDUCTED BY Clint Jackson	n 9	TITLE BJ PPS Test E	
CERTIFIED BY Sheet	Jonnson.	TITLE EMPCO RIS	Lo Integraty Special
	Jonnson.	***************************************	Lo Integraty Special

CERTIFICATION OF PIPE LINE HYDROSTATIC PRESSURE TEST PRESSURE RECORDER CALIBRATION - SECTION 2

CALIBRATION	٧	COMPARISON /			COMPARISON		
BEFORE TES	Γ	DURIN	IG TEST		AFTE	R TEST	
PRESSURE DEADY	VEIGHT	PRESSURE	DEADW	EIGHT	PRESSURE	DEADWEI	GH
RECORDER TES	STER	RECORDER	TEST	<u>ER</u>	RECORDER	TESTE	R
	18.00		/		200	200	
			/		300	300	
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			/		1000	1000	
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CALIBRATED		CHECKED	L		CHECKED	<u> </u>	
BY Clint Jackson		BY			BY Clint Jack	eon	
	— ED MAKE 6 CI					.5011	
DEADWEIGHT TEST	EK MAKE & SE	EKTAL NOWRE	<u>R</u>	Chandler 25	601		
	INJECT	TION AND WIT	HDRAWA	AL DATA			
SHIP INTECTED	CAL ++++	_/		\		1	,
FLUID INJECTED,	GAL. TIM	<u>K</u>		FLUID WIT	HDRAWN, GAL	TIME	_
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7		abla		/			_
TOTAL INJECTED	N/A	GAL.		TOTAL MOT	T IPP AVAIAL		
				TOTAL WIT	UNKAWAL	N/A GA	۱L.
NET CHANGE IN VOL	.UME OF THE	TEST SECT.		N/A	GAL.		
CONDUCTED BY	Clint Jackson	·	TITLE	BJ PPS Test	Engineer		
CERTIFIED BY	Mark Marshal	<u> </u>	TITLE	EMPCO Tes	t Site Inspector		

MOBIL PIPE LINE COMPANY FROM TO HYDROSTATIC PRESSURE TEST DATA SHEET DATE: 11/2/2005 11/2/2005 TEST NUMBER: Test Section 2 TIME: 1:15 PM 9:15 PM DESCRIPTION: 647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX MP 604.98 - MP 572.28 Strength Test DEADWEIGHT TESTER NO. Chandler 25601 PRESSURE RECORDER NO. ITT Barton 242E-51492 TEMPERATURE RECORDER NO. ITT Barton 242E-41526 **AMBIENT** PIPE **GALLONS** GALLONS TIME PRESSURE TEMP **TEMP** INJECTED BLED OFF **COMMENTS** (PSIG) (°F) (°F) (GAL) (GAL) 01:15 PM 1128.0 69.0 N/A N/A Start 8 hour Strength Test 64.5 01:45 PM 1128.0 69.3 64.5 Reading 02:00 PM 1128.0 69.0 64.5 02:30 PM 1128.0 69.0 64.5 03:00 PM 1128.0 69.0 64.5 03:30 PM 1127.0 68.6 64.5 04:00 PM 1126.0 68.0 64.0 04:30 PM 1126.0 66.3 63.0 05:00 PM 1125.5 63.0 63.0 05:30 PM 1125.0 62.5 11 62.0 06:00 PM 1125.0 62.0 61.0 06:30 PM 1124.5 60.5 61.0 07:00 PM 1124.0 58.0 60.0 07:30 PM 1124.0 58.5 60.0 08:00 PM 1124.0 57.0 60.0 08:30 PM 1123.0 57.0 59.0 09:00 PM 1123.0 57.0 59.0 09:15 PM **1122.5 56.5 58.0 End 8 hour Strength Test A temperature change of 6.5. deg. F is an excessive temp **NOTE drop for buried pipe. Temp. Round to 1123 psig Deadweight tester was in the Test Trailer probe is being affected by approximately 5 feet above ground and approximately 10 feet ambient temp drop and by above top of buried pipeline. So actual final test pressure injection water being warmer in the line was 4.3 psi higher - cdq than test section water. All subsequent tests show that pipe temp should not vary more than a degree or two over the duration of the test Overnight temp, chart for Sec 2 also supports this, as does the chart on the other end of the test section. - cdg

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 3
Oakdale, IL
MP 554.52 - MP 572.28

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 3 (H3) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Chris D. Gorman

Pipeline Risk & Integrity Specialist ExxonMobil Pipeline Company

Mar Joman

1604 South 15th St. Corsicana, TX 75110 903-654-5323

903-654-5302 fax 903-654-1324 cell

647 Miles / 20" Crude Line, Patoka, IL to Corsicana, TX Test Section 3 MP 554.52 - MP 572.28

Date and Time:

Nov 8, 2005, from 7:23 AM to 4:23 PM

Facility Tested:

The test section consisted of 17.76 miles of 20" x 0.312" wt., X-42 ERW pipe

Personnel Present:

Conducted by: Clint Jackson - Test Engineer - BJ Process & Pipeline Services

Witnessed by: M.E. Marshall-Inspector - EMPCO Representative

Procedure:

The piping was filled with water and the air was allowed to bleed through 2" valves. The test manifold, pressure recorder and deadweight tester were connected to the test section as shown in the attached sketch

The test section was pressurized at a rate of 10 psi / minute to approximately 80% of strength test pressure by injecting water with a positive-displacement pump. Pressurization was halted for 15 minutes to allow for stabilization and to check for leaks. The test section was then pressurized at a rate of 5 Psi/min to test pressure of 1105 Psi.

Conclusion:

The test started at 7:23 AM on November 8, 2005 and was held for 9 hours starting at a pressure of 1105 psi. Over the duration of the strength test, there was no pressure drop. At this point the test was deemed successful. The ground temperature had a 4.50 degree decrease followed by a 3.5 degree increase. The pipe temperature dropped 0.20 degrees and then increased 7.20 degrees. The ambient temperature had an 18 degree increase. It appears that the pipeline pressure was not affected by the temperature and that some of the temperature readings were not accurate. The inaccurate temperature readings are assumed to be due to the location of the recorder sensing bulb.

The pressure trends over the duration of the test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The test was deemed successful.

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

David T. Edge

BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 3 - Strength Test	DATE 11/8/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING P	
PIPE LINE 20° Crude	FROM Patoka IL TO Corsidana, TX
DESCRIPTION OF FACILITY TESTE Test Section 3 MP 554.5	52 - MP 572.28
SECTION LENGTH 17 76 miles PIPE O.D. 20" WALL TH	HICKNESS 0.312" GR. X-42 TYPE ERW
LOCATION OF TEST PRESSURE RECORDER CONNECT MP 554	52 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 554	52 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 1105 psig	TIME 7.23 AM
INITIAL TEMPERATURE OF TEST SECT. 60 °F ELEV. AT	POINT OF TEST 560 ft MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	ON <u>1190</u> PSIG;
ELEVATION 364 ft MSL; MP. 572 18 THE PRESSURE W	AS MEASURED X CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	1048.7 PSIG ;
ELEVATION 690 # MSL; MP. 557 19 THE PRESSURE W.	AS MEASURED X CALCULATED
FINAL PRESSURE AT POINT OF TEST 1105 PSIG	TIME 4:23 PM
FINAL TEMPERATURE OF TEST SECT. 48 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	HDRAWNN/AGAL.
NET CHANGE IN VOLUME OF THE TEST SEC1 N/A GAL	
LENGTH OF TEST <u>8</u> HRS. <u>0</u> MIN; TESTING FLUIL Water	SPEC GVTY1_00TEMP \frac{G0}{N/A} °F
INITIAL PRESSURE 84 % OF SMYS AT THE TEST SITE 80 % A	T HIGH POINT 91 % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 8 HOUR PI	ERIOD (TEST PRESSURE) 1105 PSIG
MAXIMUM ALLOWABLE OPERATING PRESSURE 884 PSIGOR 80% of minimum test pressure at the test site.	G. at test site. BASED ON % SMYS
WERE THERE ANY LEAKS? YES X NO; IF YES,	EXPLAIN
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE S'	VOTEM WORKING DRESSURE
THE NO, IF NO,	EXPLAIN
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25601	ITT Barton 242E-47061
TEMPERATURE RECORDER MAKE AND SERIAL NO ITT Barton	242E-47061 ITT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	Subpart E
COMPUNITE DV	
CONDUCTED BY Clint Jackson CERTIFIED BY Roman	TITLE BUPPS Test Engineer
	TITLE EMPCO ENKY Integrity species
WITNESSED BY Mark Marshall WITNESSED BY With Hormon	TITLE EMPCO Test Site Inspector TITLE <u>パキエン</u>
WITNESSED BY Arie James NOTE: SEE DOT LIQUIDS MANUAL on the to trace interested	IIILE // · ~ _

CERTIFICATION OF PIPE LINE HYDROSTATIC PRESSURE TEST PRESSURE RECORDER CALIBRATION - TEST SECTION 3

CALIBR	RATION	, COMP	ARISON	1	COMPA	ARISON
BEFOR	E TEST	\DURIN	IG TEST		AFTER	RTEST
PRESSURE	DEADWEIGHT	PRESSURE	DEADWE	IGHT .	PRESSURE	DEADWEIGHT
RECORDER	TESTER	RECORDER	TEST	ÉR	RECORDER	TESTER
250	250				250	250
500	500				500	500
1000	1000				1000	1000
					1200	1200
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CALIBRATED		CHECKED			CHECKED	
BY Clint Walk	er	BY			BY Clint Wall	ker
DEADWEIGHT	T TESTER MAK	Œ & SERIAL NUMBE	:R	Chandler 256	601	
	1	INJECTION AND WIT	HDRAWA	J DATA		
_				LDAIA		
FLUID INJE	CTED, GAL.	TIME		FLUID WITH	IDRAWN, GAL	TIME /
						<u> </u>
TOTAL INJECT	TED N	/A GAL.		TOTAL WIT	HDRAWAL	N/A GAL.
NET CHANGE	IN VOLUME O	F THE TEST SECT.		N/A	GAL.	
CONDUCTED			TITLE	BJ PPS Test		
CERTIFIED BY	Mark I	Marshall	TITLE	EMPCO Test	Site Inspector	

MOBIL PIPE LINE COMPANY **FROM** TO HYDROSTATIC PRESSURE TEST DATA SHEET DATE: 11/8/2005 11/8/2005 TEST NUMBER: Test Section 3 TIME: 7:23 AM 4:23 PM DESCRIPTION: 647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX MP 554.52 - MP 572.28 Strength Test DEADWEIGHT TESTER NO. Chandler 25601 PRESSURE RECORDER NO. ITT Barton 242E-47061 TEMPERATURE RECORDER NO. ITT Barton 242E-41526 **AMBIENT** PIPE GALLONS **GALLONS** TIME **PRESSURE TEMP TEMP** INJECTED **BLED OFF** COMMENTS (PSIG) (°F) (°F) (GAL) (GAL) 07:23 AM 1105 59.5 Start 8 hour Strength Test 60.0 N/A N/A 07:53 AM 1105 60.0 60.0 08:23 AM 1105 63.0 59.8 08:53 AM 1105 63.0 60.0 09:23 AM 1105 65.5 60.0 09:53 AM 1105 66.0 60.0 10:23 AM 1105 69.0 60.3 10:53 AM 1105 71.0 +1 61.5 11:23 AM 1105 73.0 62.0 ** 11:53 AM 1105 73.0 63.0 12:23 PM 1105 73.0 64.0 12:53 PM 1105 74.0 64.0 01:23 PM 1105 75.0 64.0 01:37 PM 1105 75.0 11 11 64.5 Instrumentation and Test Line 01:42 PM 1105 75.0 65.0 Depressured and flushed. 01:47 PM 1105 75.0 65.0 02:31 PM 1105 77.0 11 66.0 Repressured Test Instrumentation 02:36 PM 1105 77.0 66.0 02:41 PM 1105 77.0 66.0 02:53 PM 1105 77.5 11 66.0 03:23 PM 1105 77.5 66.0 03:53 PM 1105 77.5 67.0 04:23 PM 1105 77.0 67.0 Pipewall & ground temps located 5' from exposed section and do not reflect true test section temperatures. Pipe temperature is being driven by ambient temp, changes more than by actual test water or ground temp, changes Subsequent hydrotest had little or no temp, changes due to water having been stabilized for weeks to buried pipe temperature - cdg

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 4

Perryville, MO

MP 554.52 - MP 544.50

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 4 (H4) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Chris D. Gorman

Pipeline Risk & Integrity Specialist Exxon Mobil Pipeline Company

Jus Jonas

1604 South 15th St. Corsicana, TX 75110 903-654-5323

903-654-5302 fax 903-654-1324 cell

647 Miles /20" Crude Line, Patoka, IL to Corsicana, TX Test Section 4 MP 554.52 - MP 544.50

Date and Time:

Nov 9, 2005, from 3:00 PM to 11:00 PM.

Facility Tested:

The test section consisted of 10.08 miles of 20" x 0.312" W.T., X-42 ERW pipe

Personnel Present:

Conducted by: Clint Jackson- Test Engineer - BJ Process & Pipeline Services Witnessed by: M.E. Marshall - Inspector - EMPCO Representative

Procedure:

The piping was filled with water and the air was allowed to bleed through 2" valves. The test manifold, pressure recorder, and deadweight tester were connected to the test section as shown in the attached sketch.

The test section was pressurized at a rate of 10 psi / minute to approximately 80% of strength test pressure by injecting water with a positive-displacement pump. Pressurization was halted for 15 minutes to allow for stabilization and to check for leaks. The test section was then pressurized to test pressure of 1189 Psi.

Conclusion:

The test started at 15:00 AM on November 9th, 2005 and ended at 2300 hour with no pressure loss. The test began at 1189-psig and maintained this pressure for the test period. The ground temperature had a 4-degree drop from 68 to 64. The pipe temperature had a 5-degree drop from 69-to 64 and from 15:30 to 23:00 the end of the test, mirrored the ground temperature. The ambient temperature dropped from 60 to 51 during the test period.

The pressure trends over the duration of the test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The test was deemed successful.

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

David T. Edge

BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	April 10 10 10 10 10 10 10 10 10 10 10 10 10
PRESSURE TEST NUMBER Test Section 4 - Strength Test	DATE 11/9/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PR	
PIPE LINE 20" Crude	FROM Patoka IL TO Corsicana, TX
DESCRIPTION OF FACILITY TESTE Test Section 4 MP 544.52	2 - MP 544 60
SECTION LENGTH 10.08 miles PIPE O.D. 20" WALL TH	CKNESS <u>0 312"</u> GR. <u>X-42</u> TYPE <u>ERW</u>
LOCATION OF TEST PRESSURE RECORDER CONNECT_MP 544 5	52 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 544.5	62 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 1189 psig	TIME3:00 PM
INITIAL TEMPERATURE OF TEST SECT. 69? °F ELEV. AT	POINT OF TEST 560 ft MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTIO	DN <u>1189.0</u> PSIG;
ELEVATION 560 ft MSL; MP. 554.52 THE PRESSURE WA	MEASURED X CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	1019 3 PSIG ;
ELEVATION 952 ft MSL; MP. 544.61 THE PRESSURE WA	MEASURED X CALCULATED
FINAL PRESSURE AT POINT OF TEST 1189 PSIG	TIME 11:00 PM
FINAL TEMPERATURE OF TEST SECT. 64 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	IDRAWN 1.50 GAL.
NET CHANGE IN VOLUME OF THE TEST SECT1 50 GAL.	(DO)
LENGTH OF TEST 8 HRS. 0 MIN; TESTING FLUIC Water	
INITIAL PRESSURE 91 % OF SMYS AT THE TEST SITE 78 % AT	HIGH POINT 91 % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 8 HOUR PE	RIOD (TEST PRESSURE) 1189 PSIG
MAXIMUM ALLOWABLE OPERATING PRESSURE 943 PSIG OR can not use 80% of minimum test pressure (0.8 x 1189 =	
WERE THERE ANY LEAKS? YES X NO; IF YES,	EXPLAIN
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SY	
HYDROSTATICALLY TESTED? X YES NO; IF NO, I	EXPLAIN
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25601	HTT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NO ITT Barton	242E-51492 ITT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	Subpart E.
CONDUCTED BY Clint Jackson	TITLE BJ PPS Test Engineer
CERTIFIED BY Journal	TITLE EMPCO Risk + Integerty - pornts
WITNESSED BY Mark Marshall	TITLE EMPCO Test Site Inspector
NOTE: SEE DOT LIQUIDS MANUAL ON SITE + follows formal	TITLE K+IS

PRESSURE RECORDER CALIBRATION - TEST SECTION 3

CALIBR	RATION	, COMP.	ARISON	,	COMPA	ARISON
BEFOR	E TEST	\ DURIN	IG TEST		AFTER	TEST
PRESSURE	DEADWEIGHT	PRESSURE	DEADW	EIGHT	PRESSURE	DEADWEIGHT
RECORDER	TESTER	RECORDER	TEST	ÉR_	RECORDER	TESTER
250	250				60	100
500	500		T 7		210	200
1000	1000				305	300
			17		400	400
			Y		500	500
			Λ		600	600
					700	700
					800	800
		/			900	900
					1000	1000
				$\overline{}$		_
				$\overline{}$		
CALIBRATED		CHECKED			CHECKED	
BY Clint Walk	er	BY			BY Clint Wall	ker
DEADWEIGHT	T TESTER MAK	E & SERIAL NUMBE	R	Chandler 2	25601	
	!	INJECTION AND WIT	HDRAWA	AL DATA		
FLUID INJE	CTED GAL	TIME		Burn wr	THDRAWN, GAL	. TIME /
TEOLD INDE	CTED, GAL.	11112		LEGID MI	I NUKAWIN, GAL	TIME
		/			.	 /
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	L					
TOTAL INJEC	TED N	<u>/A</u> GAL.		TOTAL W	THDRAWAL	N/A GAL.
NET CHANGE	IN VOLUME O	F THE TEST SECT.		N/A	GAL.	
CONDUCTED	BY Clint V	Valker	TITLE	BJ PPS Te	st Engineer	
CERTIFIED BY	Y Mark M	Marshall	TITLE	EMPCO Te	est Site Inspector	

		MOI	BIL PIPE L	INE COMP	PANY		
						FROM	ТО
HYDROSTATIC	PRESSURE T	FST DATA	SHEET		DATE:	11/9/2005	11/9/2005
	· · · · · · · · · · · · · · · · · · ·	201 27(17(OTTELT		DATE.	1 1/3/2000	117072000
						1	
TE	EST NUMBER:	Test Section	n 4		TIME:	3:00 PM	11:00 PM
	ESCRIPTION:	647 Miles /	20" Crude Pi	ipe Line, Patol	ka, IL to Cors	sicana, TX	
			- MP 544.50	-			
		Strength Te	st				
DE	ADWEIGHT T	ESTER NO.	Chandler		25601		
PR	ESSURE RECO	DRDER NO.	ITT Barton		242E-51492		
TEMPER	RATURE RECO	ORDER NO.	ITT Barton		242E-41526	S	
		AMBIENT	PIPE	GALLONS	GALLONS		
TIME	PRESSURE	TEMP	TEMP	INJECTED	BLED OFF	COM	MENTS
	(PSIG)	(°F)	(°F)	(GAL)	(GAL)		
03:00 PM	1189.0	68.0	69.0	N/A	N/A	Start 8 hour Str	rength Test
03:30 PM	1189.0	67.5	68.0	"	"		
04:00 PM	1189.0	66.0	68.0	"	11		
04:30 PM	1189.0	63.0	68.0	"	**		
05:00 PM	1189.0	60.0	68.0	"	"		
05:30 PM	1189.0	60.0	68.0	17	"		
06:00 PM	1189.0	60.0	68.0	11	11		
06:30 PM	1189.0	57.0	68.0	11	Ħ		
07:00 PM	1189.0	57.0	68.0	11	11		
07:30 PM	1189.0	56.0	68.0	11	H		
08:00 PM	1189.0	54.0	67.0	"	"		
08:30 PM	1189.0	53.5	67.0	11	1)		
09:00 PM	1189.0	53.5	66.0	11	11		
09:30 PM	1189.0	53.5	66.0	14	"		
10:00 PM	1189.0	53.5	65.0	"	11		
10:30 PM	1189.0	51.0	65.0	**	11		
11:00 PM	1189.0	51.0	64.0	11	11	End 8 hour Stre	ength Test
Pipe and groun		~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
the test water s							
tests support t	hat little or no	temperatur	e variation s	should occur	over the wh	iole	
test section. T)	
and do not refle	ect actual pipe	ground ter	nperature tr	ends cdg	3/17/06		
				<u> </u>			
	_						
<u> </u>							· · · · · · · · · · · · · · · · · · ·

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 5

Cherokee Pass, MO

MP 529.84 - MP 544.44

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 5 (H5) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Chris D. Gorman

Pipeline Risk & Integrity Specialist ExyonMobil Pipeline Company

chew Joman

1604 South 15th St. Corsicana, TX 75110 903-654-5323 903-654-5302 fax 903-654-1324 cell

647 Miles /20" Crude Line, Patoka, IL to Corsicana, TX Test Section 5 MP 529.84 - MP 544.44

Date and Time:

Nov 29, 2005, from 7:45 AM to 11:15 AM. (Strength Test) Nov 29,2005, from 1:15 PM to 5:15 PM. (Leak Test)

Facility Tested:

The test section consisted of 14.60 miles of 20" x 0.312" W.T., X-42 ERW pipe

Personnel Present:

Conducted by: S.C. Hong - Test Engineer - BJ Process & Pipeline Services Witnessed by: M.E. Marshall - Inspector - EMPCO Representative

Procedure:

On Jan 29, 2006, the piping was filled with water and the air was allowed to bleed through 2" valves. The test section was pressurized and was allowed to stabilize. The test manifold, pressure recorder, and deadweight tester were connected to the test section as shown in the attached sketch.

The test section was pressurized at a rate of 10 psi per minute. Pressurization was halted for 15 minutes to allow for stabilization and to check for leaks. The test section was then pressurized at a rate of 5 Psi/min. The pressure stabilized.

Conclusion:

The strength test started at 7:45 AM on January Nov-29th, 2005 and was held for 4 hours starting at a pressure of 1113 psi. Over the duration of the strength test, there was a pressure loss of O-psi.

The leak test started at 13:15 PM on Nov-29, 2005 and was held for 4 hours starting at a pressure of 10 14 psi. Over the duration of the leak test, there was no pressure change. At this point the leak test was deemed successful.

The pressure trends over the duration of the leak test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The tests were deemed successful.

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

David T. Edge

BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 5 - Strength Test	DATE 11/29/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PR	
PIPE LINE 20" Crude	FROM Patoka, IL TO Corsicana, TX
DESCRIPTION OF FACILITY TESTE Test Section 5 MP 529.8	4 - MP 544 44
SECTION LENGTH 14.6 miles PIPE O.D. 20" WALL TH	ICKNESS 0.312" GR. X-42 TYPE ERW
LOCATION OF TEST PRESSURE RECORDER CONNECT_MP 529	84 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 529 8	84 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 1113 psig	TIME 7 39 AM
INITIAL TEMPERATURE OF TEST SECT. 49 °F ELEV. AT	POINT OF TEST 740 ft MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	DN <u>1159 8</u> PSIG;
ELEVATION 632 th MSL; MP. 538.2 THE PRESSURE WA	MEASURED X CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	<u>980 9</u> PSIG ;
ELEVATION 1045 ft MSL; MP. 533.17 THE PRESSURE WA	MEASURED X CALCULATED
FINAL PRESSURE AT POINT OF TEST 1113 PSIG	TIME 11 45 AM
FINAL TEMPERATURE OF TEST SECT. 49.5 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	HDRAWN N/A GAL.
NET CHANGE IN VOLUME OF THE TEST SECT N/A GAL.	(sQ
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIL Water	
INITIAL PRESSURE 85 % OF SMYS AT THE TEST SITE 75 % AT	HIGH POINT 89 % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PE	ERIOD (TEST PRESSURE) 1113 PSIG
MAXIMUM ALLOWABLE OPERATING PRESSURE 890 PSIGOR 80% of the minimum test pressure at the test site	at test site BASED ON % SMYS
WERE THERE ANY LEAKS? YES X NO; IF YES,	EXPLAIN
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SY	STEM WORKING PRESSURE
HYDROSTATICALLY TESTED? X YES NO; IF NO,	EXPLAIN
PRESSURE RECORDER MAKE AND SERIAL N Chandler 25602	ITT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NCITT Barton	242E-51492 ITT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	Subpart E
CONDUCTED BY Sam Hong	TITLE BJ PPS Test Engineer
CERTIFIED BY Chrus Journes	TITLE EMPCO Rick + Interpr ty James
WITNESSED BY Mark Marshall	TITLE EMPCO Test Site Inspector
WITNESSED BY Chris Journal	TITLE RELIGION TO THE MISPECTOR
NOTE: SEE DOT LIQUIDS MANUAL VIA falacon for once	······································

CARRIER NAME Mobil Pipeline Company	AND
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 5 - Leak Test	DATE 11/29/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING P	
PIPE LINE 20" Crude	FROM Patoka, IL TO Corsicana, TX
DESCRIPTION OF FACILITY TESTE Test Section 5 MP 529 8	34 - MP 544 44
SECTION LENGTH 14.6 miles PIPE O.D. 20" WALL TH	HICKNESS 0.312" GR. X-42 TYPE ERW
LOCATION OF TEST PRESSURE RECORDER CONNECT MP 529	.84 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 529	84 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 1014 psig	TIME 1:15 PM
INITIAL TEMPERATURE OF TEST SECT. 49.8 °F ELEV. A	T POINT OF TEST 740 ft MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	ON N/A PSIG;
ELEVATION N/A ft MSL; MP. N/A THE PRESSURE W	/AS MEASURED CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	N/A PSIG;
ELEVATION N/A t MSL; MP. N/A THE PRESSURE W	MEASURED CALCULATED
FINAL PRESSURE AT POINT OF TEST 1014 PSIG	TIME 5 15 PM
FINAL TEMPERATURE OF TEST SECT. 498 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WIT	HDRAWN N/A GAL.
NET CHANGE IN VOLUME OF THE TEST SECTN/AGAL	
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIL Water	SPEC GVTY. 1 00 TEMP. N/A °F
INITIAL PRESSURE $_{\rm N/A}$ % OF SMYS AT THE TEST SITE $_{\rm N/A}$ % A	T HIGH POINT N/A % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR P	ERIOD (TEST PRESSURE) 1014 PSIG
MAXIMUM ALLOWABLE OPERATING PRESSURE 890 PSIGNATURE OR 80% of the minimum test pressure of 1113 psig at the te	······································
WERE THERE ANY LEAKS? YES X NO; IF YES	EXPLAIN
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE S	
HYDROSTATICALLY TESTED? X YES NO; IF NO.	, EXPLAIN
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25602	ITT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NC ITT Barton	242E-51492 ITT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	5 Subpart E
CONDUCTED BY Sam Hong	TITLE 6J PPS Test Engineer
CERTIFIED BY Chru Johnson	TITLE Rick and Integrity Specialist
WITNESSED BY Mark Marshall	TITLE EMPCO Test Site Inspector
WITNESSED BY Chus Jorman	TITLE R+IS
NOTE: SEE DOT LIQUIDS MANUAL VIG to la sonformace	

CERTIFICATION OF PIPE LINE HYDROSTATIC PRESSURE TEST PRESSURE RECORDER CALIBRATION - TEST SECTION 5

	RATION	COMPAR	/	COMPA	RISON
	E TEST	\ DURING		AFTER	TEST
	DEADWEIGHT	PRESSURE DI	EADWEIGHT	PRESSURE	DEADWEIGHT
RECORDER	TESTER	RECORDER	TESTER	RECORDER	TESTER
205	200			210	200
305	300			310	300
405	400			410	400
510	500		<u>/</u>	495	500
600	600	<u> </u>		610	600
700	700			700	700
800	800	7		800	800
900	900	7	\	900	900
1000	1000			1000	1000
		7			
		/		· · · · · · · · · · · · · · · · · · ·	
CALIBRATED		CHECKED	·	CHECKED	
BY Sam Hong	1	BY		BY Clint Walk	er
		T 0 CEDIAL AUGADED	• • •	**************************************	
DEADWEIGH	I IESIEK MAK	E & SERIAL NUMBER	Chandler 2	5601	
	1	NJECTION AND WITHE	DRAWAL DATA		
FLUID INJE	CTED, GAL.	TIME	FNJID WE	THDRAWN, GAL	TIME /
			13(3) 112		
		/			
					
	\times	******		\longrightarrow	
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		\			
/			_/		
	L				
TOTAL INJEC	TED N	/A GAL.	TOTAL WI	THDRAWAL	N/A GAL.
NET CHANGE	IN VOLUME O	F THE TEST SECT.	N/A	GAL.	
CONDUCTED	BY Sam H	iona -	TITLE BJ PPS Te	st Engineer	
			<u>-</u>	or mignificer	

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 6

Cherokee Pass, MO

MP 529.84 - MP 496.30

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 6 (H6) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Metallurgical root cause failure analysis was performed on the ERW seam failure in this section. The date, location, and calculated failure pressure at it's location was as follows:

12/2/05, MP-528.2, 1031 psig.

Results of the analysis indicate the failure was caused by original factory/mill defects that failed after being tested to a higher pressure than they had ever seen before. No fatigue, selective corrosion, or other time dependant defects were observed.

There was one pin hole leak in a girth weld found during testing at MP-526.7 (sta-27810+13 ft, ILI Odometer-286749.34 ft & GW# -7035). Cause of the pin hole was inadequate penetration of the weld bead at the 6:00 o'clock position where the two weld passes overlapped creating an internal pocket where corrosive elements could accumulate. Weld was repaired in place with a permanent weld sleeve. Review of the 2001 ILI log did not reveal any tell-tale signs of internal or external metal loss/corrosion at this weld.

Chris D. Gorman

Pipeline Risk & Integrity Specialist Faxon Mobil Pipeline Company

Chou Jamas

1604 South 15th St. Corsicana, TX 75110

903-654-5323

903-654-5302 fax

903-654-1324 cell

647 Miles /20" Crude Line, Patoka, IL to Corsicana, TX Test Section 6 MP 529.84 – MP 496.30

Date and Time:

Dec 10, 2005, from 8:15 AM to12:15 PM. (Strength Test) Dec 10, 2005, from 1:30 PM to 5:30 PM. (Leak Test)

Facility Tested:

The test section consisted of33.54 miles of20" x 0.312" W.T., X-42 ERW pipe

Personnel Present:

Conducted by: S.C. Hong - Test Engineer - BJ Process & Pipeline Services Witnessed by: M.E. Marshall- Inspector - EMPCO Representative

Procedure:

The piping was filled with water and the air was allowed to bleed through 2" valves. The test section was filled with water by moving water from previously hydrotested sections. The test section was pressurized with BJ's positive-displacement pump at a rate of 15 psi / minute, and was allowed to stabilize over night. The test manifold, pressure recorder, and deadweight tester were connected to the test section as shown in the attached sketch.

The test section was pressurized at a rate of 10 psi / minute (approximately 80% of strength test pressure) by injecting water with a positive-displacement pump. Pressurization was halted for 15 minutes to allow for stabilization and to check for leaks. The test section was then pressurized at a rate of 5 psi/minute to the test pressure of 1009 Psi.

Conclusion:

The strength test started at 8:15 AM on Dec 10, 2005 and was held for 4 hours starting at a pressure of 1009 psi. Over the duration of the strength test, there was a pressure loss of 1 psi, believed to be attributable to compressed air cooling in the pipeline from the previous test break and colder injection water temperature equalizing with the warmer test water temperature.

The leak test started at 13:30 PM on Dec 10, 2005 and was held for 4 hours starting at a pressure of 910 psi. Over the duration of the leak test, there was no pressure change. At .this point the leak test was deemed successful

The pressure trends over the duration of the leak test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The tests were deemed successful

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

Samuel C. Hong
Testing
Engineer
BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 6 - Strength Test	DATE 12:10/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PR	
PIPE LINE 20" Crude	FROM Patoka, IL TO Corsicana, TX
DESCRIPTION OF FACILITY TESTE Test Section 6 MP 529.8	4 - MP 496.30
SECTION LENGTH 33.54 miles PIPE O.D. 20" WALL TH	CKNESS 0.312" GR. X-42 TYPE ERW
LOCATION OF TEST PRESSURE RECORDER CONNECT_MP 529.8	34 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 529.8	34 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 1009 psig	TIME <u>8:15 AM</u>
INITIAL TEMPERATURE OF TEST SECT. 33.9 °F ELEV. AT	POINT OF TEST 740 H MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	DN 1163.1 PSIG;
ELEVATION 384 ft MSL; MP. 5083 THE PRESSURE WA	MEASURED X CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	952.7 PSIG ;
ELEVATION 870 ft MSL; MP. 523.25 THE PRESSURE WA	MEASURED X CALCULATED
	TIME 12:15 PM
FINAL TEMPERATURE OF TEST SECT. 34 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	IDRAWN N/A GAL.
NET CHANGE IN VOLUME OF THE TEST SECT N/A GAL.	(50)
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIC Water	SPEC GVTY. 1 00 TEMP. 44/A °F
INITIAL PRESSURE 77 % OF SMYS AT THE TEST SITE 73 % AT	HIGH POINT 89 % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PE	
MAXIMUM ALLOWABLE OPERATING PRESSURE 806 PSIG OR 30% of minimum test pressure at the test site.	. at test site. BASED ON % SMYS
WERE THERE ANY LEAKS? X YES NO: IF YES, MP 528 6 in the ERW seam which was replaced with new pipe.	EXPLAIN There was a previous test break at
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SY	STEM WORKING PRESSURE
HYDROSTATICALLY TESTED? X YES NO: IF NO. I	EXPLAIN
PRESSURE RECORDER MAKE AND SERIAL N Chandler 25601	tTT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NCITT Barton	242E-51492 (TT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	Subpart E
COMPUSTED ON A STATE OF THE STAT	
CONDUCTED BY Sam Hong	TITLE BJ PPS Test Engineer
CERTIFIED BY Made Marghall	TITLE Rock + Introp ty special Tiesdo
WITNESSED BY Chry Jonness Witnessed By Chry Jonness	TITLE EMPCO Test Site Inspector
NOTE: SEE DOT LIQUIDS MANUAL VIS 4-18 SIM FOR SIME	TITLE $\frac{\cancel{k} + \cancel{I}\cancel{C}}{}$

CARRIER NAME Mobil Pipeline Company			
TESTING COMPANY NAME BJ Process & Pipeline Services			
PRESSURE TEST NUMBER Test Section 6 - Leak Test	DATE 12/10/2005		
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PI			
PIPE LINE 20" Crude	FROM Patoka IL TO Corsicana, TX		
DESCRIPTION OF FACILITY TESTE Test Section 6 MP 529 8	34 - MP 496.30		
SECTION LENGTH 33.54 miles PIPE O.D. 20" WALL TH	HICKNESS 0.312" GR. X-42 TYPE ERW		
LOCATION OF TEST PRESSURE RECORDER CONNECT_MP 529.	.84 (See attached sketch)		
LOCATION OF TEMPERATURE RECORDER BULB MP 529	84 (See attached sketch)		
INITIAL PRESSURE AT POINT OF TEST 910 psig	TIME 1:30 PM		
INITIAL TEMPERATURE OF TEST SECT. 37 °F ELEV. AT	FPOINT OF TEST 740 ft MSL		
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	ON <u>1064.1</u> PSIG;		
ELEVATION N/A tr MSL; MP. N/A THE PRESSURE W	AS MEASURED CALCULATED		
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	853 7 PSIG ;		
ELEVATION N/A ft MSL; MP. N/A THE PRESSURE W	AS MEASURED CALCULATED		
FINAL PRESSURE AT POINT OF TEST 910 PSIG	TIME 5 30 PM		
FINAL TEMPERATURE OF TEST SECT. 38 °F			
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WIT	HDRAWN N/A GAL.		
NET CHANGE IN VOLUME OF THE TEST SEC1N/AGAL			
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIL Water	SPEC GVTY. 100 TEMP. N/A °F		
INITIAL PRESSURE N/A % OF SMYS AT THE TEST SITE N/A % A	THIGH POINT N/A % AT LOW POINT.		
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PR	ERIOD (TEST PRESSURE) 910 PSIG		
MAXIMUM ALLOWABLE OPERATING PRESSURE 806 PSIC OR 80% of minimum test pressure of 1008 psig at the test			
WERE THERE ANY LEAKS? YES X NO; IF YES, EXPLAIN			
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE ST	YSTEM WORKING PRESSURE		
HYDROSTATICALLY TESTED? X YES NO: IF NO.	EXPLAIN		
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25602	ITT Barton 242E-51492		
TEMPERATURE RECORDER MAKE AND SERIAL NC iTT Barton	242E-51492 ITT Barton 242E-41526		
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	Subpart E.		
Washington and the second of t			
CONDUCTED BY Sam Hong	TITLE BJ PPS Test Engineer		
CERTIFIED BY Cher Jonnon	TITLE RISK + Integer ty - pac off		
WITNESSED BY Mark Marshall	TITLE EMPCO Test Site Inspector		
WITNESSED BY Chris Johnson	TITLE R+IJ		
NOTE: SEE DOT LIQUIDS MANUAL vir to le em formed	MANAGEMENT AND		

PRESSURE RECORDER CALIBRATION - TEST SECTION 6

DURING TEST		RATION	COMPA		/	PARISON
RECORDER TESTER RECORDER TESTER 210 200		***				····
205 200 210 200		I	\ 1	, ,		1
305 300 320 300 405 400 420 400 510 500 600 600 600 600 700 700 700 700 700 7			RECORDER	TESTER		
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CONDUCTED BY Sam Hong TITLE BJ PPS Test Engineer	TOTAL INJECT	TED N/A	_GAL.	тот	TAL WITHDRAWAL	N/A GAL.
CEDITIES DV	NET CHANGE	IN VOLUME OF THI	E TEST SECT	N/A	A GAL.	
CERTIFIED BY Mark Marshall TITLE EMPCO Test Site Inspector	CONDUCTED I	Sam Hong	-	TITLE BUF	PPS Test Engineer	
	CERTIFIED BY	Mark Marsh	all	TITLE EMP	CO Test Site Inspecto	Г

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 7

Doniphan, MO

MP 472.70 - MP 496.30

Memorandum

Date: 3/17/06 Subject: Hydrotest Review & Endorsement

To: <Hydrotest Report and HCA cc: <>

Baseline Assessment File>

From: <Chris Gorman>

I've completed the review of the hydrostatic test report for Test Section - 7 (H7) for the Corsicana to Patoka Crude Line. It is consistent with my knowledge of the testing operations and facility and confirms we had a good test. The hydrotest and report documentation are accurate and thorough and will satisfy our needs for Data Integration, Risk & Threat Analysis, and Preventive & Mitigative Measures Analysis needed to comply with the HCA regulations and the testing requirements of DOT CFR Title 49, Part 195, Subpart E.

Chris D. Gorman

Pipeline Risk & Integrity Specialist ExxonMobil Pipeline Company

Ine Gorman

1604 South 15th St. Corsicana, TX 75110 903-654-5323

903-654-5302 fax 903-654-1324 cell

647 Miles /20" Crude Line, Patoka, IL to Corsicana, TX
Test Section 7 MP 472.70 - MP 496.30

Date and Time:

Dec 17, 2005, from 5:15 PM to 9:15 PM. (Strength Test) Dec 17/18, 2005, from 11:15 PM to 03:15 AM. (Leak Test)

Facility Tested:

The test section consisted of 23.73 miles of 20" x 0.312" W.T., X-42 ERW pipe

Personnel Present:

Conducted by: S.C. Hong - Test Engineer - BJ Process & Pipeline Services Witnessed by: M.E. Marshall - Inspector - EMPCO Representative

Procedure:

On December 15, 2005, the piping was filled with water and the air was allowed to bleed through 2" valves. The test section was filled with water by moving water from previously hydrotested sections. The test section was pressurized to approximately 600 psig with BJ's positive-displacement pump at a rate of 15 psi / minute, and was allowed to stabilize over night. The test manifold, pressure recorder, and deadweight tester were connected to the test section as shown in the attached sketch.

The test section was pressurized at a rate of 10 psi / minute to 862 psi (approximately 80% of strength test pressure) by injecting water at MP 472.70 with a positive-displacement pump. Pressurization was halted for 15 minutes to allow for stabilization and to check for leaks. The test section was then pressurized at a rate of 5 Psi/min to test pressure of 1081 Psi. The pressure stabilized at 17:15 of Dec 17, 05 to 1081 psi at the test point corresponding to 100.47% of the specified minimum Test Head Pressure.

Conclusion:

The strength test started at 5:15 PM on December 17th, 2005 and was held for 4 hours starting at a pressure of 1081 psi. Over the duration of the strength test, there was no pressure drop.

The leak test started at 11:15 PM on December 17th, 2005 and was held for 4 hours starting at a pressure of 982 psi. Over the duration of the leak test, there was no pressure change. At this point the leak test was deemed successful.

The pressure trends over the duration of the leak test are within the accuracy of the instrumentation or within calculated fluctuations caused by temperature changes. The tests were deemed successful.

Therefore, in my judgment, this constitutes a valid pressure test meeting the requirements of the Department of Transportation Code of Federal Regulations Title 49, Part 195 Subpart E.

Samuel C. Hong Testing Engineer BJ Process & Pipeline Services

CARRIER NAME Mobil Pipeline Company			
TESTING COMPANY NAME BJ Process & Pipeline Services			
PRESSURE TEST NUMBER	DATE 12/17/2005		
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PR	DESCRIBED BELOW WAS HYDROSTATICALLY COCEDURE:		
PIPE LINE 20" Crude	FROM Patoka, IL TO Corsicana, TX		
DESCRIPTION OF FACILITY TESTE Test Section 7 MP 472.70) - MP 496.30		
SECTION LENGTH 23 73 miles PIPE O.D. 20" WALL THI	CKNESS 0 312" GRX-42_ TYPEERW		
LOCATION OF TEST PRESSURE RECORDER CONNECT MP 472.	70 (See attached sketch)		
LOCATION OF TEMPERATURE RECORDER BULB MP 472.	70 (See attached sketch)		
INITIAL PRESSURE AT POINT OF TEST 1081 psig	TIME 5 15 PM		
INITIAL TEMPERATURE OF TEST SECT. 43.8 °F ELEV. AT	POINT OF TEST 597 ft MSL		
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTIO	N 1164 1 PSIG;		
ELEVATION 405 ft MSL; MP. 495.86 THE PRESSURE WA	MEASURED X CALCULATED		
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	1006_1 PSIG ;		
ELEVATION 770 ft MSL; MP. 482.25 THE PRESSURE WA	MEASURED X CALCULATED		
FINAL PRESSURE AT POINT OF TEST 1081 PSIG	TIME 9 15 PM		
FINAL TEMPERATURE OF TEST SECT. 438 °F			
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	DRAWN N/A GAL.		
NET CHANGE IN VOLUME OF THE TEST SECT N/A GAL.	€ ∞		
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIL Water	SPEC GVTY. 100 TEMP. AHA °F		
INITIAL PRESSURE 82 % OF SMYS AT THE TEST SITE 77 % AT	HIGH POINT 89 % AT LOW POINT.		
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PE	RIOD (TEST PRESSURE) 1081 PSIG		
MAXIMUM ALLOWABLE OPERATING PRESSURE 865 PSIG. OR 80% of the minimum test pressure at test site.	at test site BASED ON % SMYS		
WERE THERE ANY LEAKS? YES X NO; IF YES, EXPLAIN			
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SY	STEM WORKING PRESSURE		
HYDROSTATICALLY TESTED? X YES NO; IF NO, E	EXPLAIN		
PRESSURE RECORDER MAKE AND SERIAL N Chandler 25601	ITT Barton 242E-51492		
TEMPERATURE RECORDER MAKE AND SERIAL NOTE Barton	242E-51492 ITT Barton 242E-41526		
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195 Subpart E.			
CONDUCTED BY Sam Hong	TITLE BJ PPS Test Engineer		
CERTIFIED BY Source	TITLE ENGRO - East + Int age to grandle		
WITNESSED BY Mark Marshall	TITLE EMPCO Test Site Inspector		
NOTE: SEE DOT LIQUIDS MANUAL US FELERAN TOURS	TITLE RETS		

CARRIER NAME ExxonMobil Pipeline Company	
TESTING COMPANY NAME BJ Process & Pipeline Services	
PRESSURE TEST NUMBER Test Section 7 - Leak Test	DATE 12/17.18/2005
THIS IS TO CERTIFY THAT THE PIPE LINE OR PIPELINE SECTION PRESSURE TESTED IN ACCORDANCE WITH THE FOLLOWING PRESSURE TESTED THE PROPERTY OF THE PROPE	
PIPE LINE 20" Crude	FROM Patoka, JL TO Corsidana, TX
DESCRIPTION OF FACILITY TESTE Test Section 7 MP 472.7	0 - MP 496.30
SECTION LENGTH 23.73 miles PIPE O.D. 20" WALL TH	HCKNESS 0.312" GR. X-42 TYPE ERW
LOCATION OF TEST PRESSURE RECORDER CONNECT MP 472	70 (See attached sketch)
LOCATION OF TEMPERATURE RECORDER BULB MP 472	.70 (See attached sketch)
INITIAL PRESSURE AT POINT OF TEST 982 psig	TIME11:15 PM
INITIAL TEMPERATURE OF TEST SECT. 43.9 °F ELEV. AT	POINT OF TEST 597 ft MSL
INITIAL PRESSURE AT LOWEST ELEVATION POINT IN SECTION	ON <u>1065.1</u> PSIG;
ELEVATION 405 ft MSL; MP. 495 86 THE PRESSURE WA	AS MEASURED X CALCULATED
INITIAL PRESSURE AT HIGHEST ELEVATION POINT IN SECTION	<u>907 1</u> PSIG ;
ELEVATION 770 ft MSL; MP. 482.25 THE PRESSURE WA	AS MEASURED X CALCULATED
FINAL PRESSURE AT POINT OF TEST 982 PSIG	TIME 3.15 AM
FINAL TEMPERATURE OF TEST SECT. 43.9 °F	
TOTAL FLUID INJ. N/A GAL. TOTAL FLUID WITH	
NET CHANGE IN VOLUME OF THE TEST SEC1 N/A GAL	6 0
LENGTH OF TEST 4 HRS. 0 MIN; TESTING FLUIL Water	SPEC GVTY. 1 00 TEMP. N/A °F
INITIAL PRESSURE $\underline{\text{N/A}}$ % OF SMYS AT THE TEST SITE $\underline{\text{N/A}}$ % AT	THIGH POINT N/A % AT LOW POINT.
MINIMUM TEST PRESSURE DURING A SELECTED 4 HOUR PE	ERIOD (TEST PRESSURE) 982 PSIG
MAXIMUM ALLOWABLE OPERATING PRESSURE 865 PSIGOR 80% of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the term $\frac{80\%}{2}$ of the minimum test pressure of 1081 pigg at the test pigg at the test pigg at	S. at test site BASED ON % SMYS st site during the 4 hour strength test
WERE THERE ANY LEAKS? YES X NO; IF YES,	EXPLAIN
WAS EVERY COMPONENT THAT WILL BE SUBJECTED TO THE SY	YSTEM WORKING PRESSURE
HYDROSTATICALLY TESTED? X YES NO; IF NO,	EXPLAIN
PRESSURE RECORDER MAKE AND SERIAL N_Chandler 25601	ITT Barton 242E-51492
TEMPERATURE RECORDER MAKE AND SERIAL NO ITT Barton	242E-51492 ITT Barton 242E-41526
REMARKS: Tested in accordance with D.O.T. CFR Title 49 Part 195	Subpart E.
CONDUCTED BY Sam Hong	TITLE DIEDO Langua
CERTIFIED BY Sam Hong CERTIFIED BY	TITLE BJ PPS Test Engineer
CENTO IED UT	TITLE EMPCO-RISK & INTEGRITY SPECIALIS
WITNESSED BY Mark Marchall	TITLE EMOCO Tool Site france
WITNESSED BY Mark Marshall WITNESSED BY Journal	TITLE EMPCO Test Site Inspector TITLE RFIS

CERTIFICATION OF PIPE LINE HYDROSTATIC PRESSURE TEST PRESSURE RECORDER CALIBRATION - TEST SECTION 6

CALIBRATION BEFORE TEST		1	ARISON	/	COMPA	
PRESSURE DEADY	······································	PRESSURE	IG TEST	TCUT	AFTER	DEADWEIGH
l l	TER	RECORDER	1	/	RECORDER	TESTER
RECORDER 12	TLK .	KEGOKDEK	157	ER	210	200
			 		320	300
	·		 / 		420	400
	-		 / 		510	500
			/		610	600
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CALIBRATED		CHECKED	L.,,,,		CHECKED	L
BY Sam Hong		BY			BY Sam Hong	
DEADWEIGHT TEST	— 'ER MAKE & SE	RIAL NUMBE	R	Chandler 25		
	INJECT	ION AND WIT	HDRAWA	AL DATA		
FLUID INJECTED,	GAL. TIME			FLUID WITH	HDRAWN, GAL	TIME /
						
						
						•
TOTAL INJECTED	N/A(GAL.		TOTAL WIT	HDRAWAL	N/A GAL.
NET CHANGE IN VOI	LUME OF THE	TEST SECT.		N/A	GAL.	
CONDUCTED BY	Sam Hong	•	TITLE	BJ PPS Test	Engineer	
CERTIFIED BY	Mark Marshall		TITLE	EMPCO Test	Site Inspector	

HYDROSTATIC PRESSURE TEST

647 Miles / 20" Crude Pipe Line, Patoka, IL to Corsicana, TX

Test Section 8

Doniphan, MO

MP 472.57 - MP 437.74