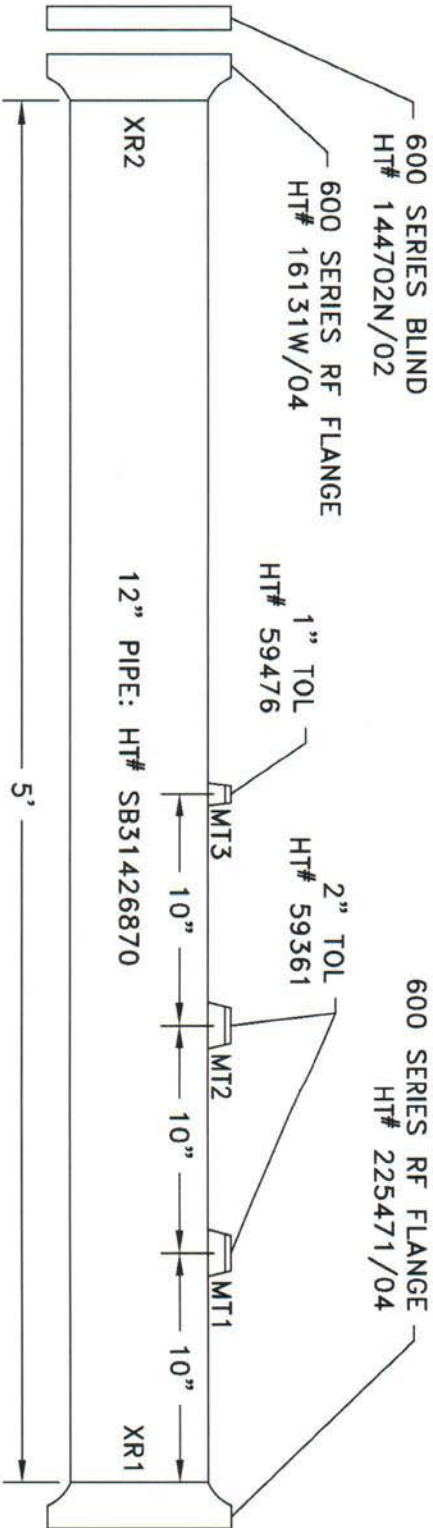


SN# 12TEST02



PIPE OD: 12.750"
 PIPE WALL THICKNESS: 0.375"
 PIPE GRADE: X-52

REV	DATE	DESCRIPTION	INITIAL RELEASE	APPROVED
00	5/1/2015			
THIS DRAWING CANNOT BE REPRODUCED WITHOUT PRIOR CONSENT OF RIDGE RUNNER PIPELINE SERVICES, LLC				
FLANGED TEST HEADER RIDGE RUNNER REFERENCE DRAWING			DESIGN FACTOR:	600 SERIES
MAX. HYDROSTATIC TEST PRESSURE:				2215 PSI
SCALE:	N.T.S.	SHEET	1	OF 1



CERTIFICATE OF TESTING

IPSCO TUBULARS (KY) INC

Charpy

Certificate Number: **262684-1**
 Friday, September 26, 2014, 4:16:50 PM

Diameter: **12.75 in** | Gauge: **0.375 in** | Grade: **X52M** | Mill Order No. _____ | Customer PO _____
 Specification: **API 5L FORTY-FIFTH EDITION GRADES X52 PSL2** | Customer: _____

Heat	Product ID	Test Type	Orientation	Temp of	Energy (ft lbs)				Percent Shear			Test Position	Size	Flat	
					#1	#2	#3	Avg	#1	#2	#3				Avg
11410570	WL-U02	445 MILL CONTROL	PIPE TPA	32	157	144	123	141	100	100	100	100	90	3/4	
11427230	WL-U02	436 MILL CONTROL	PIPE TPA	32	240	242	239	240	100	100	100	100	90	3/4	
11427240	WL-U02	435 MILL CONTROL	PIPE TPA	32	238	240	235	238	100	100	100	100	90	3/4	
11427250	WL-U02	434 MILL CONTROL	PIPE TPA	32	243	252	252	249	100	100	100	100	90	3/4	
11428060	WL-U02	433 MILL CONTROL	PIPE TPA	32	130	67	78	92	100	100	100	100	90	3/4	
21410270	WL-U02	443 MILL CONTROL	PIPE TPA	32	162	142	198	167	100	100	100	100	90	3/4	
	WL-U02	445 MILL CONTROL	PIPE TPA	32	157	144	123	141	100	100	100	100	90	3/4	
21426970	WL-U02	432 MILL CONTROL	PIPE TPA	32	201	206	228	212	100	100	100	100	90	3/4	
21426980	WL-U02	430 MILL CONTROL	PIPE TPA	32	241	239	239	240	100	100	100	100	90	3/4	
21426990	WL-U02	431 MILL CONTROL	PIPE TPA	32	237	239	58	178	100	100	100	100	90	3/4	
21427000	WL-U02	429 MILL CONTROL	PIPE TPA	32	249	258	255	254	100	100	100	100	90	3/4	
21427780	WL-U02	428 MILL CONTROL	PIPE TPA	32	235	231	232	233	100	100	100	100	90	3/4	
31410480	WL-U02	448 MILL CONTROL	PIPE TPA	32	250	249	249	249	100	100	100	100	90	3/4	
31410490	WL-U02	442 MILL CONTROL	PIPE TPA	32	136	220	188	181	100	100	100	100	90	3/4	
31426860	WL-U02	427 MILL CONTROL	PIPE TPA	32	148	185	105	146	100	100	100	100	90	3/4	
31426870	WL-U02	449 MILL CONTROL	PIPE TPA	32	236	232	238	235	100	100	100	100	90	3/4	
31426880	WL-U02	425 MILL CONTROL	PIPE TPA	32	221	237	241	233	100	100	100	100	90	3/4	
31426890	WL-U02	426 MILL CONTROL	PIPE TPA	426	148	185	105	146	100	100	100	100	90	3/4	

Steel Supplier: **Steel Dynamics Inc. - 4500 Country Rd 59 Butler, IN 46721**

TPA - Transverse Pipe Axis
 LPA - Longitudinal Pipe Axis
 TWA - Transverse Weld Axis
 FST - Full Section Testing
 FBN - Full Body Normalized
 OAT - Quenched and Tempered
 SR - Stress Relief
 Form CR1R3004

WAZ - Weld Metal Zone
 HAZ - Heat Affected Zone
 90 - 90 Degrees
 180 - 180 Degrees
 FS - Full Size

Milled and Manufactured in the USA
 Flattening Test Acceptable
 Ultrasonic Weld Line Inspection Acceptable
 Deoxidization Practice: Aluminum Fully Killed
 Maximum allowable PGM-0.25
 UT Cal to N10 ID/OD Notches
 TYPE: HEV

Hydrostatic Test Pressure: 2920 PSI for 5 secs
 Minimum Weld Seam Heat Treatment Temperature: 1600 (F)

We certify that the product described above has been manufactured, sampled, inspected, and tested in accordance to the referenced specification. The product has been found to be in compliance with all requirements.

Andrew Fischbach
 QA Coordinator

FSE Acceptance Criteria: Body: 20 WMAZ 0 HAZ: 0
 Minimum Energy: 15
 Friday, September 26, 2014, 4:11:44 PM

MILL ADDRESS - 100 STEEL PLANT RD | WILDER, KY 41071



CERTIFICATE OF TESTING IPSCO TUBULARS (KY) INC

Diameter: 12.75 in Gauge: 0.375 in Grade: X52M Mill Order No. Customer PO: Friday, September 26, 2014, 4:16:50 PM

Specification: API 5L FORTY-FIFTH EDITION GRADES X52 PSL2 Customer: Customer PO: Friday, September 26, 2014, 4:16:50 PM

Heat	Product ID	Test Type		Orientation					Width (in)					YS (psi)					UTS (psi)					Elongation (in)					Y/T	PCM
		Wgt (%)	C	Min	P	S	SI	Cu	Ni	Cr	Mo	Sn	Al	V	Cb	TI	B													
31410480	WL-U02	448	Product	0.01	0.85	0.011	0.005	0.03	0.08	0.08	0.04	0.06	0.020	0.005	0.020	0.002	0.045	0.030	0.0001	0.06										
	WL-U02	448B	Product	0.01	0.85	0.012	0.006	0.03	0.08	0.08	0.04	0.06	0.020	0.005	0.019	0.002	0.045	0.003	0.0001	0.06										
	WL-U02	442	MILL CONTROL																											
31410490	WL-U02	442C	MILL CONTROL																											
	WL-U02	442B	Product	0.06	0.83	0.010	0.003	0.03	0.09	0.09	0.04	0.07	0.020	0.004	0.036	0.003	0.042	0.003	0.0001	0.11										
	WL-U02	442W	MILL CONTROL																											
31426860	WL-U02	442	Product	0.03	0.83	0.012	0.004	0.03	0.08	0.08	0.04	0.06	0.020	0.005	0.035	0.001	0.045	0.002	0.0000	0.08										
	WL-U02	442B	Product	0.06	0.82	0.012	0.004	0.03	0.08	0.08	0.04	0.06	0.020	0.005	0.035	0.002	0.040	0.002	0.0001	0.11										
	WL-U02	427	MILL CONTROL																											
31426870	WL-U02	427W	MILL CONTROL																											
	WL-U02	427	Product	0.04	0.79	0.010	0.007	0.02	0.11	0.11	0.04	0.04	0.020	0.006	0.028	0.002	0.044	0.002	0.0002	0.09										
	WL-U02	427B	Product	0.02	0.80	0.007	0.009	0.02	0.10	0.10	0.05	0.04	0.020	0.005	0.025	0.002	0.042	0.002	0.0001	0.07										
31426880	WL-U02	449	MILL CONTROL																											
	WL-U02	449W	MILL CONTROL																											
	WL-U02	449	Product	0.04	0.78	0.011	0.004	0.02	0.10	0.10	0.04	0.06	0.010	0.005	0.025	0.002	0.041	0.001	0.0000	0.09										
31426880	WL-U02	449B	Product	0.02	0.79	0.010	0.007	0.02	0.09	0.09	0.04	0.06	0.020	0.005	0.027	0.002	0.038	0.002	0.0001	0.07										
	WL-U02	425	MILL CONTROL																											
	WL-U02	425W	MILL CONTROL																											

Steel Supplier: Steel Dynamics Inc. - 4500 Country Rd 59 Butler, IN 46721

TPA - Transverse Pipe Axis
 LPA - Longitudinal Pipe Axis
 90° of Weld
 TWA - Transverse Weld Axis
 FST - Full Section Testing
 FBW - Full Body Normalized
 OAT - Quenched and Tempered
 SR - Stress Relieve
 form CRTR:001

Milled and Manufactured in the USA

Flattening Test Acceptable
 Ultrasonic Weld Line Inspection Acceptable
 Decarburization Practice: Aluminum Fully Killed
 Maximum allowable PCM: 0.25
 UT Cal. to N10 ID/OD Notches
 TYPE: HFW
 Hydrostatic Test Pressure: 2920 PSI for 5 secs
 Minimum Weld Seam Heat Treatment Temperature: 1600 (F)

We certify that the product described above has been manufactured, sampled, inspected, and tested in accordance to the referenced specification. The product has been found to be in compliance with all requirements.

Andrew Fischbach
 Andrew Fischbach
 QA Coordinator

Friday, September 26, 2014, 4:11:44 PM

MILL ADDRESS - 100 STEEL PLANT RD | WILDER, KY 41071



GALPETI, INC.
 160 Southbelt Industrial Drive
 Houston, Texas 77047
 Ph. 713-433-0700 - FAX 713-433-5580
 Email: galpmail@galpeti-am.com

MCJUNKIN RED MAN CORPORATION
ATTN: INVOICE AUDITING DEPT.
P. O. BOX 513
CHARLESTON WV 25322-2513

TEST/CERTIFICATE EN 10204 INTERNAL JOB
3.1 **141940**

M.T. CERTIFICATE N. 032612 DATE 09/30/2014 YOUR P.O. S 8ZF 753857 DATE 07/18/2014

ITEM	DESCRIPTION	QUANTITY	B/P	MATERIAL	HEAT N°	#
003/003	12" 600 WN RF STD F52 B1 F	272	A	ASTM A694F52 08ed	16131W/04	A
003/003	12" 600 WN RF STD F52 B1 F	3	B	ASTM A694F52 08ed	225471/04	B
013/013	2" 600 WN RF XS F52 B1 F	39	B	ASTM A694F52 08ed	1241015/04	C
016/016	6" 900 WN RF STD F52 B1 F	15	B	ASTM A694F52 08ed	15525W/04	D

CHEMICAL ANALYSIS

#	C %	MN %	SI %	P %	S %	CR %	NI %	MO %	CU %	V %	SN %	AL %	NB %	TI %	N %	B %	CA %	CE %
A	0.170	1.160	0.210	0.011	0.005	0.080	0.080	0.037	0.150	0.022		0.031	0.002	0.0007		0.0005	0.0026	0.40
A C	0.160	1.180	0.220	0.016	0.010	0.100	0.050	0.047	0.180	0.017		0.044	0.002	0.0007		0.0005	0.0026	0.40
B	0.166	1.226	0.247	0.011	0.009	0.120	0.162	0.034	0.178	0.020		0.022	0.004	0.0100		0.0004	0.0010	0.42
B C	0.156	1.245	0.257	0.016	0.004	0.140	0.192	0.024	0.208	0.015		0.032	0.004	0.0100		0.0004	0.0010	0.42
C	0.185	1.200	0.225	0.018	0.002	0.150	0.026	0.009	0.052	0.021		0.029	0.002	0.0021		0.0002	0.0014	0.42
C C	0.175	1.220	0.235	0.023	0.002	0.130	0.026	0.009	0.082	0.016		0.036	0.002	0.0021		0.0002	0.0014	0.41
D	0.160	1.160	0.190	0.013	0.003	0.100	0.120	0.060	0.220	0.024		0.024	0.002	0.0005		0.0002	0.0019	0.41
D C	0.160	1.210	0.190	0.013	0.003	0.100	0.130	0.060	0.210	0.024		0.024	0.001	0.0010		0.0003	0.0020	0.42

NOTES
 CE=LONG FORMULA

C = CHECK ANALYSIS

MECHANICAL PROPERTIES

#	TENSILE								CHARPY TEST						
	TYPE	Ø DIAMETER mm	AREA mm²	LENGTH mm	TEMP.	TENSILE	YIELD	ELONG	REDUCT.	TYPE	TEMP.	VALUES			HB HARDNESS (AVERAGE)
					F	PSI	PSI	%	%		KV	F	FT-LBS		
A S		12.50	122.70	50.00	68	66,000	52,000	20.0			-50	Min. 12 Med. 15	15	237	
A O		12.50	122.70	50.00	68	82,160	54,946	27.0	68.0		-50	52 - 53 - 57		180	
B S		12.50	122.70	50.00	68	66,000	52,000	20.0			-50	Min. 12 Med. 15	15	237	
B O		12.50	122.70	50.00	68	81,461	55,172	26.0	67.0		-50	62 - 66 - 70		180	
C S		12.50	122.70	50.00	68	66,000	52,000	20.0			-50	Min. 12 Med. 15	15	237	
C C		12.50	122.70	50.00	68	82,015	53,300	28.7	66.1		-50	63 - 64 - 65		172	
D S		12.50	122.70	50.00	68	66,000	52,000	20.0			-50	Min. 12 Med. 15	15	237	
D O		12.50	122.70	50.00	68	82,602	54,093	29.0	69.0		-50	60 - 61 - 64		178	

NOTES
 Lateral Exp/Shear Area (Average)
 A = 1n 0.04/ 45% B = 1n 0.04/ 55% C = 1n 0.03/ 25% D = 1n 0.05/ 55%

O = OBTAINED
 S = STANDARD

HEAT TREATMENT

A	Quenched	at 900 dgr.C for	3 h.-Cooling from 900 dgr.C in water
A	Tempered	at 620 dgr.C for	3 h.-Cooling from 620 dgr.C in still air
B	Quenched	at 900 dgr.C for	3 h.-Cooling from 900 dgr.C in water
B	Tempered	at 620 dgr.C for	3 h.-Cooling from 620 dgr.C in still air
C	Quenched	at 900 dgr.C for	1 h.-Cooling from 900 dgr.C in water
C	Tempered	at 620 dgr.C for	1 h.-Cooling from 620 dgr.C in still air
D	Quenched	at 900 dgr.C for	2 1/2 h.-Cooling from 900 dgr.C in water
D	Tempered	at 620 dgr.C for	2 1/2 h.-Cooling from 620 dgr.C in still air

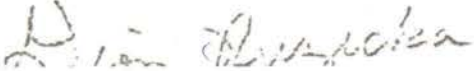
GENERAL NOTES

ROUGHNESS
 F -STOCK FINISH 125-250 microinch

 STANDARD
 B1 = ASME B16.5 INCH STD

NOTES
 MATL I.A.W NACE MR-0175 ISO15156-2-09 & MSS-SP44

TRADE MARK / LOGO INT. INSPECT DATE INT. INSPECTOR
 Stamped on product  09/30/2014 D. Ruzicka

INSPECTION AUTHORITY


GALPETI, INC
 An ISO 9001/2008 certified company.
 Certification issued by:
 Lloyds register quality assurance
 Certificate No. UQA 0110391



GALPFIL, INC.
 180 Southbelt Industrial Drive
 Houston, Texas 77047
 PH: 713-433-0700 • FAX: 713-433-8880
 Email: galpfil@galpfil-ent.com
 WEB: GALPFIL.COM

MCJUNKIN RED MAN CORPORATION
ATTN: INVOICE AUDITING DEPT.
P. O. BOX 513
CHARLESTON WV 25322-2513

M.T. CERTIFICATE N. **3.1**

DATE **10/31/2014**

YOUR P.O. **S 162 776000**

DATE **09/16/2014**

ITEM	DESCRIPTION	QUANTITY	U/P	MATERIAL	HEAT N°	#
006/006	12" 600 BL RF A105 81 F		S/B	ASTM A/SA105N 10ed	144702N/02	A

CHEMICAL ANALYSIS																			
	C %	MN %	SI %	P %	S %	CR %	NI %	MO %	CU %	V %	SN %	AL %	MB %	TI %	N %	B %	CA %	CE %	
A	0.160	1.150	0.180	0.009	0.004	0.150	0.090	0.028	0.200	0.020		0.023	0.002	0.001			0.0002	0.0003	0.41
C	0.150	1.170	0.160	0.012	0.007	0.140	0.080	0.038	0.210	0.015		0.028	0.002	0.001			0.0002	0.0003	0.40

NOTES
 CE-LONG FORMULA

C - CHECK ANALYSIS

MECHANICAL PROPERTIES													
TENSILE										CHARPY TEST			
#	TYPE	Ø DIAMETER IN.	AREA IN²	LENGTH IN.	TEMP. F	TENSILE PSI	YIELD PSI	ELONG %	REDUCT. %	TYPE	TEMP.	VALUES	HV HARDNESS (AVERAGE)
A	S	12.50	122.70	50.00	68	70,000	36,000	22.0	30.0				187
A	O	12.50	122.70	50.00	68	77,605	46,468	28.0	69.0				159

NOTES

0 = OBTAINED
 S = STANDARD

HEAT TREATMENTS
 A Normalized at 900 dgr.C for 3 h.-Cooling from 900 dgr.C in still air

GENERAL NOTES

ROUGHNESS
 F - STOCK FINISH 125-250 microinch
 STANDARD
 B1 = ASME B16.5 INCH STD

NOTES
 Material I.A.W. Nace MR-0175/ISO 15156-2-09

TRADE MARK / LOGO Stamped on product	INT. INSPECT DATE 10/31/2014	INT. INSPECTOR D. Ruzicka
INSPECTION AUTHORITY <i>D. Ruzicka</i>		

GALPFIL, INC.
 An ISO 9001/2008 certified company.
 Certification issued by:
 Lloyds register quality assurance
 Certificate No. UQA 0110391



MILL TEST REPORTS

Bonney Forge
 14496 Croghan Pike
 Mt. Union, PA 17066

CERTIFIED MILL TEST REPORT

MRC 2/2/2015

LOT NO.
 59476

CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

18->12 X 1" 3M A105 Thredolet™ Threaded

C	0.200	MN	1.010	P	0.009	S	0.018	SI	0.220
NI	0.030	CR	0.060	MO	0.008	CU	0.070	CO	0.003
V	0.004	AL	0.032	N	0.003	Nb	0.012		
CE(LONG FORMULA) = 0.389									
T/S(PSI) 76411 Y/S(PSI) 53792 EL(%) 36.050 RA(%) 60.030									
BRINELL HARDNESS 139, 139									

[Click here for Original Steel Mill Certification](#)

1. CERTIFYING ASTM A105-10 / ASME SA105-10 EDITION.
2. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF NACE MRO175/ISO 15156-2.
3. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SUBMITTED.



MILL TEST REPORTS

Bonney Forge
 14496 Croghan Pike
 Mt. Union, PA 17066

CERTIFIED MILL TEST REPORT

MRC 2/2/2015

LOT NO.
 59361

CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

18->12 X 2" 3M A105 Thredolet™ Threaded

C	0.200	MN	1.000	P	0.006	S	0.020	SI	0.230
NI	0.020	CR	0.030	MO	0.011	CU	0.060	CO	0.005
V	0.004	AL	0.031	N	0.004	Nb	0.013		
CE(LONG FORMULA) = 0.381									
T/S(PSI) 77341 Y/S(PSI) 53860 EL(%) 34.800 RA(%) 57.660									
BRINELL HARDNESS 137, 137									

[Click here for Original Steel Mill Certification](#)

1. CERTIFYING ASTM A105-10 / ASME SA105-10 EDITION.
2. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF NACE MRO175/ISO 15156-2.
3. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SUBMITTED.

Waggoner & Associates

Daily Radiographic Log

P.O. Box 307 West Monroe, La 71294 Phone 1-800-894-3230 Fax 318-324-8816 Email: waggonermdt@waggonermdt.com				PAGE <u>1</u> OF <u>1</u> REPORT # <u>PS#1</u> RIG # <u>8497</u>				TERMS AND ABBREVIATIONS I.P. -Inadequate Penetration P. -Porosity I.F. -Incomplete Fusion H.B. -Hollow Bead B.T. -Burn Through C.R. -Crack B.T.A. - Burn Through Areas I.U. -Internal Undercut S.I. -Slag Inclusions O.U. -Outside Undercut S.L. -Slag Line(s) I.C. -Internal Concavity							
JOB DESCRIPTION <u>RRPS FAB</u>								LOCATIONS R.S. -RIGHT OF WAY Side B. -Bottom D.S. -Ditch Side T.Q. -Top Quarter T. -Top B.Q. -Bottom Quarter							
JOB, WO, AFE #, PO # ETC. <u>RRPS TH contact# Daniel Stumbo 606-791-7968</u>				CUSTOMER NAME <u>Western Construction</u> DAY <u>Mon</u> DATE <u>2/9/15</u>				BILLING ADDRESS <u>PO Box 727</u> LOCATION <u>Auxier</u>							
CITY <u>Prestonsburg</u> STATE <u>KY</u> ZIP <u>41653</u>				STATE <u>Kentucky</u>				ATTN: <u>Daniel Stumbo</u>							
X-RAY NO.	WITHIN CODE	PIPE SIZE	FILM SIZE	INSP. TYPE	NO. EXP.	WALL THICK.	GAMMA/ X-RAY	REMARKS							
1.	XR-1	YES 12.75 in	70 mm	RT	3	0.375 in	GAMMA	12" TH-1							
2.	XR-2	YES 12.75 in	70 mm	RT	3	0.375 in	GAMMA	12" TH-1							
3.	MT-1	YES 2.375 in		MT				12" TH-1							
4.	MT-2	YES 2.375 in		MT				12" TH-1							
5.	MT-3	YES 1 in		MT				12" TH-1							
6.	XR-1	YES 12.75 in	70 mm	RT	3	0.375 in	GAMMA	12" TH-2							
7.	XR-2	YES 12.75 in	70 mm	RT	3	0.375 in	GAMMA	12" TH-2							
8.	MT-1	YES 2.375 in		MT				12" TH-2							
9.	MT-2	YES 2.375 in		MT				12" TH-2							
10.	MT-3	YES 1 in		MT				12" TH-2							
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X <u>Paul Scarborough</u> NAME: <u>Paul Scarborough</u> BADGE #: <u>1329</u> TECHNICIAN LEVEL: <u>Level II</u> ASST NAME: <u>Trent Burchett</u> ASST NAME: _____ ASST NAME: _____	PIPELINE <input type="checkbox"/> STATION <input checked="" type="checkbox"/> JOB COMPLETE <u>Yes</u> DISPOSITION OF FILM <u>Turned In</u> GRADED ACCORDING TO <u>API 1104</u> PROCEDURES TURNED IN <u>Yes</u> TECH. CERTIFICATION TURNED IN <u>Yes</u> RT <u>Yes</u> MT <u>Yes</u> UT _____ PT _____	ATV <u>No</u> ATV# _____ Crawler <u>No</u> Pulling Mach <u>No</u> B. Hardness <u>No</u> WT Trailer <u>No</u> UNIT SIZE <u>2</u> UNITS REMAINING OVERNIGHT <u>No</u> FROM <u>Office</u> TO <u>Jobsite</u> MILEAGE DESCRIPTION <u>Round Trip</u> MILEAGE <u>45</u> TOTAL HRS UTILIZED <u>10</u>
---	---	--

REFERENCE # _____ Jacob McAlpin X [Signature] 2/9/15
 PRINT NAME (APPROVED BY) SIGNATURE (APPROVED BY) DATE

We assume no responsibility for losses of any kind due to our interpretation of the quality of the materials submitted (All data and information will be held strictly confidential)
 Rev. 2/14