



Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
 (For Pipeline Facilities Designed to Operate over 100 PSIG)

62-4921 (12/2012)
 Use in Accordance with
 Numbered Document A-34, A-37,
 and GO 112-E
Sheet 1 of 2
Test Number 1 of 1
STPR Revision Number 1

PART 1 – TEST DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER/ESTIMATOR)

Test Description												
Line Number or Station Name <u>L-306</u>					Division/District <u>KETTLEMAN</u>		Job Number <u>30959338</u>					
Purpose of Test <u>RETIRE MLV-43.30 & REPLACE WITH 28' OF PIPE</u>					MAOP to be Established by this Test <u>840</u> PSIG							
Description of Pipe being Tested (include reference drawings, field stationing, and mile points) <u>PRETEST 28' TIE-IN PIECE OF 20" OD PIPE TO REPLACE MLV-43.30, TO BE FABRICATED PER DWG #30959338, SHT 03 OF 04, DETAIL 2</u>												
<input checked="" type="checkbox"/> New Facility (no spike test required) <input type="checkbox"/> Existing Facility Will spike test be performed? <input type="checkbox"/> Yes <input type="checkbox"/> No (explain on right)					If no spike test for existing facility, explain:							
Static Head Calculation												
Maximum Elevation <u>1034</u> FT					For Water <u>0</u> (Elev. Diff.) x 0.433 = <u>0</u> PSIG							
Minimum Elevation <u>1034</u> FT					For Other Test Medium _____							
Elevation Difference <u>0</u> FT					Contact the responsible engineer for guidance on completing this field.							
Pipe to be Tested												
Size		API or ASTM Spec	SMYS (psi)	Long Seam (ERW, DSAW, SMLS etc.)	JF (E)	Footage to be Tested	Actual Footage	Location Class	Most Restrictive Design Factor	% of SMYS		
OD (in.)	WT (in.)									At MAOP	At Min. Test Press.	At Max. Test Press.
20.000	0.375	API 5L	65000	HFW	1.0	<u>30'-0"</u>	<u>47.6'</u>	3	0.5	34.46	51.69	59.90
20.000	0.375	MSS-SP-75	60000	CAP	1.0	2 EA	<u>2 Ea</u>	3	0.5	37.33	56.00	64.89
All fittings included in the test (except those listed above) are the same wall thickness and grade as the pipe <input type="checkbox"/>												
Pipe specs verified in field <input checked="" type="checkbox"/> Signature of person supervising test <u>Curran EXT</u>												
Component(s) limiting test pressure/Control Point exceptions												
Test Specifications (include a spike test when testing existing facilities)												
Test Factor <u>1.50</u>		[1A] Min. Test Pressure at Max. Elev. <u>1260</u> PSIG	[1B] Max. Test Pressure at Min. Elev. <u>1460</u> PSIG									
Spike Test (complete only for spike test)	[1C] Spike Factor _____	[1D] Spike Pressure at Max. Elev. Box [1A] x [1C] = _____ PSIG										
	[1E] Spike Pressure at Min. Elev. _____ PSIG	[1F] Max. Post-Spike Pressure at Min. Elev. Box [1E] x 0.95 = _____ PSIG										
Test Medium to be Used <u>WATER</u>		Minimum Test Duration <u>8</u> Hours										
<ul style="list-style-type: none"> Under 30% SMYS: 1 hour minimum 30% SMYS and over: 8 hours minimum Pre-installation Test: Refer to A-34, Attachment A Spike Test: 30 minutes minimum (included in test) 												
Signatures												
Prepared by (signature) <u>Ali Ganji</u>		Print Name and Phone Number ALI GANJI (925) 330-3350										
Date 04/02/2014		LAN ID A2GF										
Approved by (signature) <u>Johnna L. Quin</u>		Print Name JOHNNA L. QUIN, P.E.										
Date 04/02/2014		LAN ID JXQB										
Test Supervised by (signature) <u>Curran</u>		Time and Date Test Pressure Reached (from Part 2) <u>0806 5-8-2014</u>										
Time and Date Test Ended (from Part 2) <u>1621 5-8-2014</u>		Actual Duration of Test (from Part 2) <u>8 hr 15 min</u>										

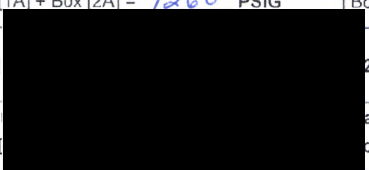
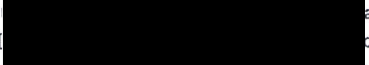

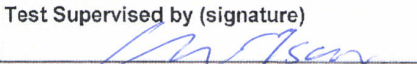

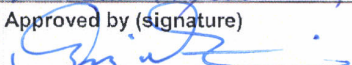


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Sheet 2 of 2
Test Number 1 of 1
STPR Revision Number 1

PART 2 – TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

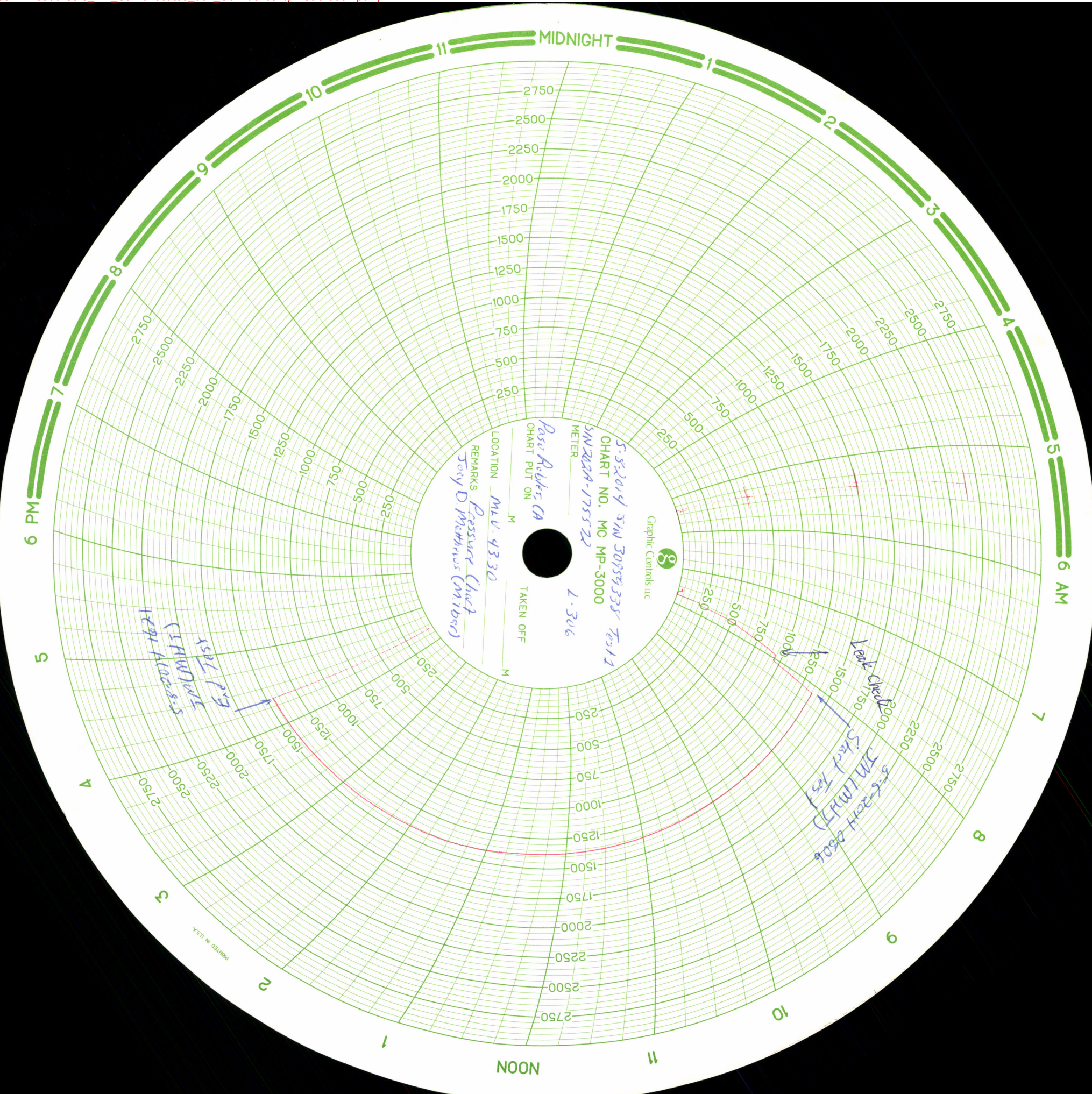
Test Elevation			
Elevation at Test Point <u>0</u> FT	Max. Elevation in Test Section <u>0</u> FT	Min. Elevation in Test Section <u>0</u> FT	
[2A] Static Head b/t Test Point and Max. Elev. <u>0</u> PSIG	[2B] Static Head b/t Test Point and Min. Elev. <u>0</u> PSIG		
No Spike Test: Calculations and Test Results (complete for strength test without a spike test)			
Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = <u>1260</u> PSIG	Max. Allowable Test Pressure at Test Point Box [1B] – Box [2B] = <u>1460</u> PSIG	Pressure Range During Test <u>200</u> PSIG	
[2C] 	[2D] Max. Test Pressure Indicated <u>1441</u> PSIG		
Calc.  Calculated Max. Test Pressure at Min. Elev. Box [2D] + Box [2B] = <u>1441</u> PSIG			
Spike Test: Calculations and Test Results (complete for strength test with a spike test)			
Spike Pressure at Test Point Box [1E] – Box [2B] = _____ PSIG	Min. Required Test Pressure at Test Point Box [1A] + Box [2A] = _____ PSIG	Max. Post-Spike Pressure at Test Point Box [1F] – Box [2B] = _____ PSIG	Pressure Range After Spike Test _____ PSIG
[2E] Spike Pressure Indicated _____ PSIG	[2F] Min. Test Pressure Indicated _____ PSIG	[2G] Max. Post-Spike Test Pressure Indicated _____ PSIG	
Calculated Spike Pressure at Min. Elev. Box [2E] + Box [2B] = _____ PSIG	Calculated Min. Test Pressure at Max. Elev. Box [2F] – Box [2A] = _____ PSIG	Calculated Max. Post-Spike Pressure at Min. Elev. Box [2G] + Box [2B] = _____ PSIG	
Test Acceptance			
Were Leaks Observed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, explain:	
Acceptable Strength Test? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Report strength test failures to Regulatory Compliance		If no, explain:	
			
Test Instruments			
Make, Range, and Serial No. of Pressure Recording Device <u>Barton, 0-3000 psi, 202A-17572</u>		Date Last Calibrated <u>1-8-2014</u>	
Make, Range and Serial No. of Dead Weight Tester A dead weight tester and/or an electronic pressure recorder is required for tests of any pipe segment equal to or greater than 90% of SMYS. <u>Chandler, 50-3000 psi, 16293</u>		Date Last Calibrated <u>1-10-2014</u>	
Signatures			
Test Supervised by (signature) 		Date <u>5/8/14</u>	LAN ID <u>EXTD</u>
Testing Contractor (if third party) <u>Milbar Hydro test, Inc.</u>			
Approved by (signature) 	Print Name <u>AZIZA TARIN</u>	Date <u>5-18-14</u>	LAN ID <u>AXTB</u>

Attachments

- Test chart
- Schematic piping sketch
- Test log with pressure noted every 15 minutes

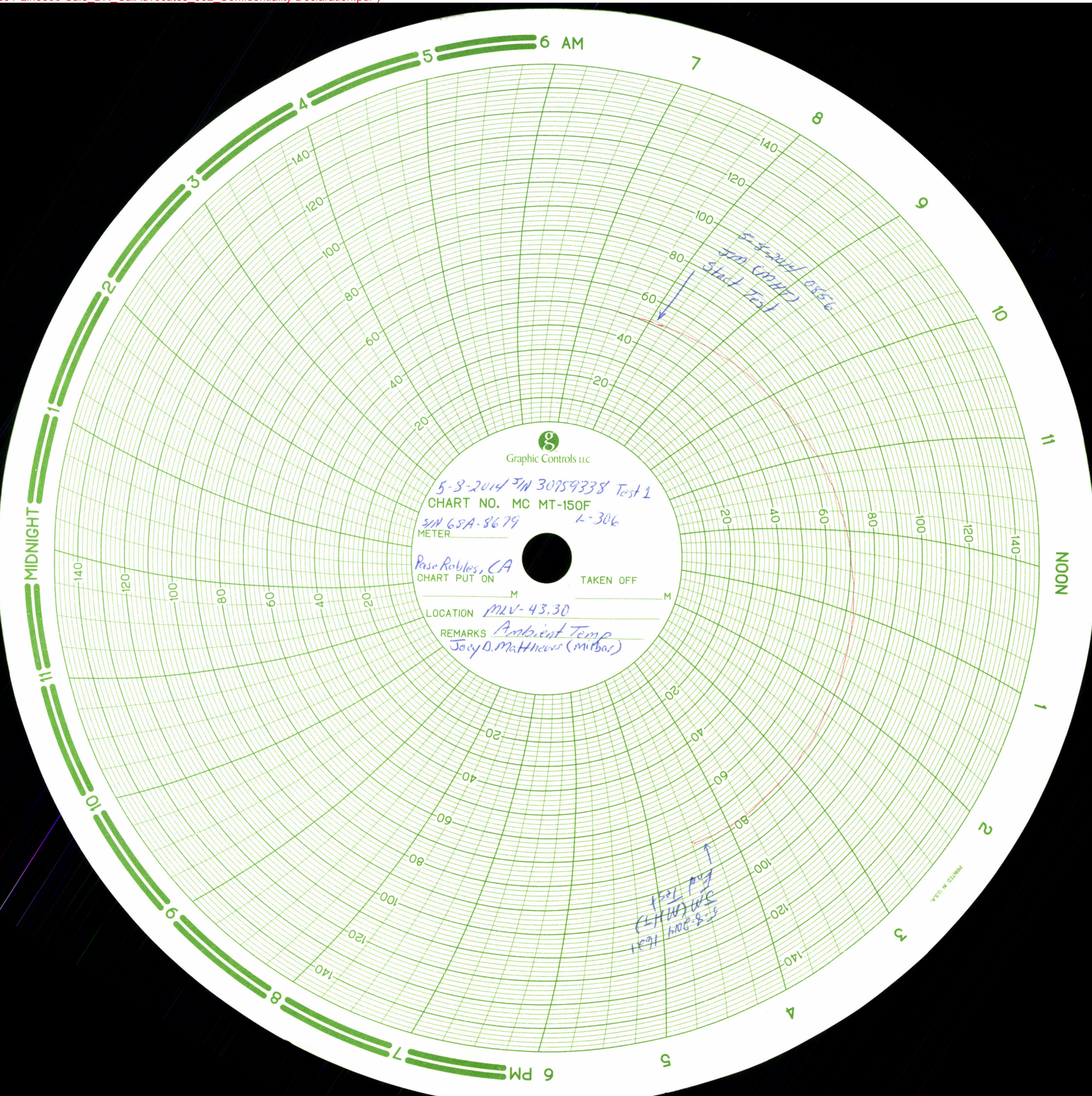
Distribution

- Gas Job Closeout Desk, 6121 Bollinger Canyon Road, Building Z1, San Ramon, CA 94583



STRENGTH TEST INFORMATION REV. I

1. JOB # 30959338 Test 1
2. LOCATION Paso Robles, CA L-306 MLV-43.30
3. DATE 5-8-2014 MIN. PRESSURE 1358psi
4. TIME 0806-1621 DURATION 8hr 15min
5. RECORDING GA. MFG. Barton SER.# 202A-175572
6. RANGE 0-3000psi LAST CALIBRATED 1-8-2014
7. DEAD WGT MFG. Chandler SER.# 16293
8. RANGE 50-3000psi LAST CALIBRATED 1-10-2014
9. TEST FLUID Water
10. SIZE 20" W.T. .375" PIPE SPEC. API 5L, 65,000, HFW LENGTH 47.6'
11. SIZE 20" W.T. .375" PIPE SPEC. MSS-SP-75, 60,000 CAP LENGTH 2ea.
12. SUPERVISED [Signature]
13. APPROVED [Signature] DATE 5-8-14
AXTB DATE 5-18-14



PM# 30959338

Line # 306

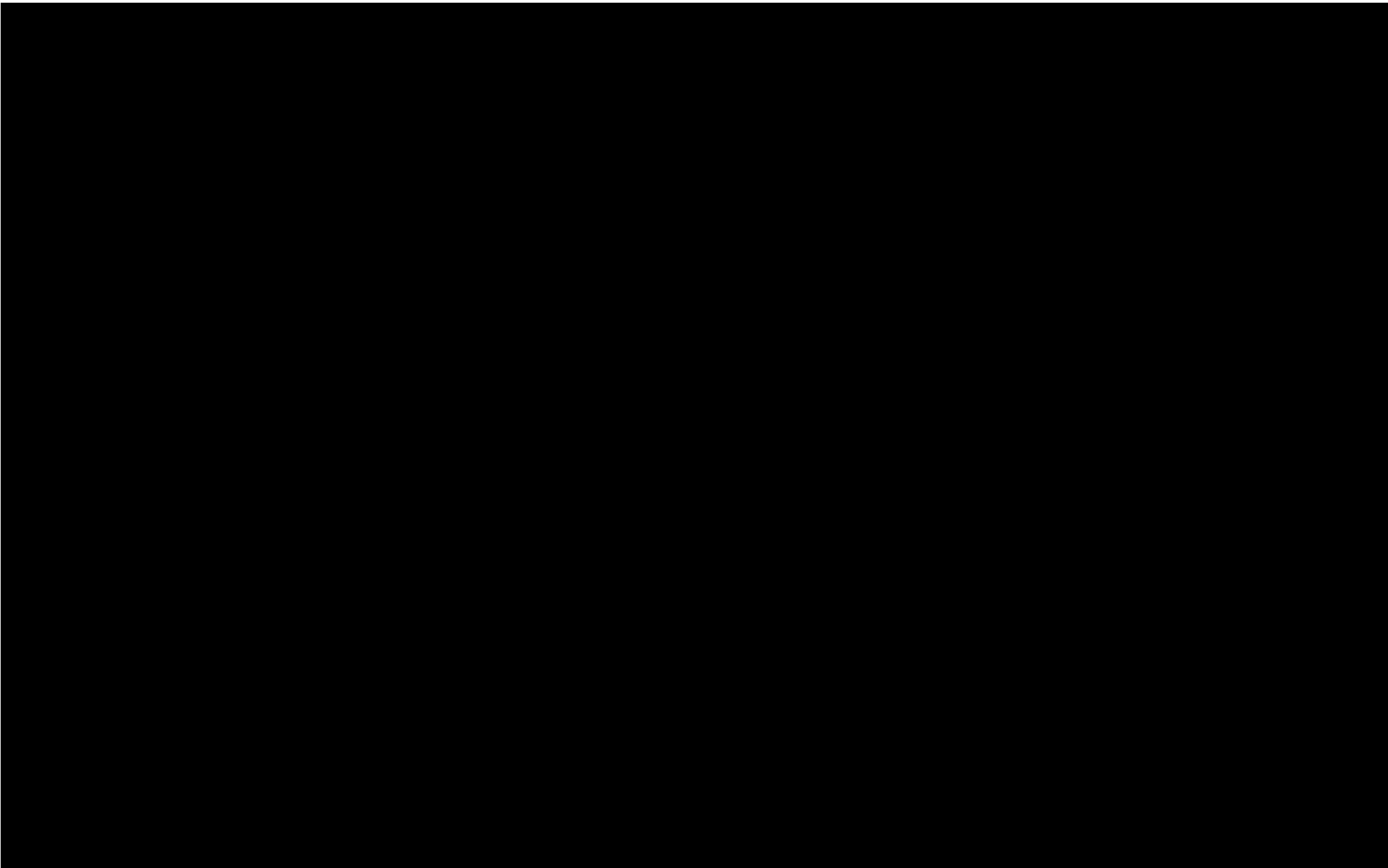
MP 43.30

Date 5/8/14

Time 8:00

Name ERIC TSAI

ID# EXT D


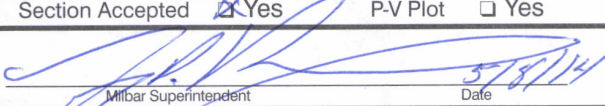

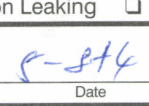


Item #	Length/QTY	Pipe Specification
1	47.6	20"x0.375"WT X65
2		
3		
4		
5		
6		
7		
8		
9		
10		

Max Elev.= 0

Min Elev.= 0

Test Point Elev.= 0

		TEST LOG				Date: <u>5/8/14</u>			
						Page: <u>1</u> of <u>1</u>			
Company & Contractor: <u>PG&E / Underground</u>				Project: <u>PG&E Hydro-test 5N 30959338 Test 1</u>					
Contract Number: <u>F415-105</u>		Location: <u>Paso Robles, CA</u>		Pipe Description: <u>20" O.D. .375" W.T. X-65 Grade</u>					
Section Number(s): <u>L-306</u>		From: <u>MP/STA</u>		To: <u>MP/STA</u>		Length: <u>47.6'</u>			
Pressure Unit		Pressure Unit #: <u>Pressure Washer</u>		Gallons/Stroke:		Strokes/10psi:			
Location:									
Test Pressure Maximum: <u>1460</u>		Test Pressure Minimum: <u>1260</u>		Test Medium: <u>Water</u>		Weather: <u>Clear</u>			
Instruments	Dead Weight Gauge	Pressure	Temperature (Ambient)	Temperature (Pipe / Ground)	(Other)	(Other)			
Range	<u>50-3000psi</u>	<u>0-3000psi</u>	<u>0-150°F</u>	<u>0-150°F</u>					
Manufacturer	<u>Chandler</u>	<u>Barton</u>	<u>Bristol</u>	<u>Barton</u>					
Serial #	<u>16293</u>	<u>202A-175372</u>	<u>68A-8679</u>	<u>242E-45545</u>					
Certification	<u>1/10/14</u>	<u>1/8/14</u>	<u>1/8/14</u>	<u>1/8/14</u>	<u>1/1</u>	<u>1/1</u>			
Date & Time Test Started: <u>5/8/14 08:06</u>				Date & Time Test Ended: <u>5/8/14 11:21</u>					
<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM				<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM					
Time	Pressure (psig)	Temperature (°F)		Remarks	Time	Pressure (psig)	Temperature (°F)		Remarks
		Ambient	Pipe / Ground				Ambient	Pipe / Ground	
<u>0742^{AM}</u>	<u>0</u>	<u>50</u>	<u>56</u>	<u>Start Pumping</u>	<u>1245</u>	<u>1383</u>	<u>72</u>	<u>55</u>	
<u>0745</u>	<u>207</u>	<u>50</u>	<u>56</u>	<u>Leak Check</u>	<u>1300</u>	<u>1388</u>	<u>73</u>	<u>55</u>	
<u>0747</u>	<u>207</u>	<u>50</u>	<u>56</u>	<u>Pumping</u>	<u>1315</u>	<u>1391</u>	<u>74</u>	<u>56</u>	
<u>0756</u>	<u>946</u>	<u>51</u>	<u>56</u>	<u>Leak Check</u>	<u>1330</u>	<u>1394</u>	<u>74</u>	<u>56</u>	
<u>0801</u>	<u>945</u>	<u>51</u>	<u>56</u>	<u>Pumping</u>	<u>1345</u>	<u>1399</u>	<u>76</u>	<u>56</u>	
<u>0806</u>	<u>1361</u>	<u>51</u>	<u>56</u>	<u>On Test</u>	<u>1400</u>	<u>1402</u>	<u>76</u>	<u>56</u>	
<u>0815</u>	<u>1360</u>	<u>52</u>	<u>56</u>		<u>1415</u>	<u>1406</u>	<u>76</u>	<u>56</u>	
<u>0830</u>	<u>1359</u>	<u>53</u>	<u>56</u>		<u>1430</u>	<u>1410</u>	<u>77</u>	<u>56</u>	
<u>0845</u>	<u>1358</u>	<u>53</u>	<u>56</u>		<u>1445</u>	<u>1416</u>	<u>77</u>	<u>58</u>	
<u>0900</u>	<u>1358</u>	<u>54</u>	<u>55</u>		<u>1500</u>	<u>1419</u>	<u>78</u>	<u>58</u>	
<u>0915</u>	<u>1358</u>	<u>56</u>	<u>55</u>		<u>1515</u>	<u>1424</u>	<u>78</u>	<u>56</u>	
<u>0930</u>	<u>1358</u>	<u>56</u>	<u>55</u>		<u>1530</u>	<u>1429</u>	<u>78</u>	<u>56</u>	
<u>0945</u>	<u>1359</u>	<u>57</u>	<u>54</u>		<u>1545</u>	<u>1433</u>	<u>79</u>	<u>57</u>	
<u>1000</u>	<u>1360</u>	<u>58</u>	<u>54</u>		<u>1600</u>	<u>1436</u>	<u>78</u>	<u>58</u>	
<u>1015</u>	<u>1361</u>	<u>60</u>	<u>55</u>		<u>1615</u>	<u>1440</u>	<u>78</u>	<u>58</u>	
<u>1030</u>	<u>1362</u>	<u>61</u>	<u>55</u>		<u>1621</u>	<u>1441</u>	<u>77</u>	<u>59</u>	<u>End Test</u>
<u>1045</u>	<u>1364</u>	<u>62</u>	<u>55</u>						
<u>1100</u>	<u>1365</u>	<u>64</u>	<u>55</u>						
<u>1115</u>	<u>1367</u>	<u>65</u>	<u>55</u>						
<u>1130</u>	<u>1369</u>	<u>66</u>	<u>55</u>						
<u>1145</u>	<u>1371</u>	<u>67</u>	<u>55</u>						
<u>1200^{PM}</u>	<u>1374</u>	<u>69</u>	<u>55</u>						
<u>1215</u>	<u>1376</u>	<u>70</u>	<u>55</u>						
<u>1230</u>	<u>1380</u>	<u>70</u>	<u>55</u>						
Log Continued: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Remarks:									
Section Accepted <input checked="" type="checkbox"/> Yes P-V Plot <input type="checkbox"/> Yes Section Ruptured <input type="checkbox"/> Yes Section Leaking <input type="checkbox"/> Yes									
 Milbar Superintendent				 Company Representative		 Date			
Date: <u>5/8/14</u>									
White - Company				Yellow - Milbar					

Northwest Metrology
3040 H Street
Bakersfield 93301
1-800-828-6297



Certificate of Calibration

Certificate # S138004
Date: Jan/10/2014
Next Due: Jan/10/2015

Certified For: A-C Electric Company
Site: 2921 Hangor Way, Bakersfield, California 93308
Location: Maintenance

Manufacturer: Chandler Engineering Co. Model: 5-1
Serial #: 16293 Asset #:
Description: Dead Weight Tester
As Found: Seals Leaking As Left: In Tolerance +/- .5%
Procedure: NAVAIR 17-20MP-02
Temperature: 75 Humidity: 33 Voltage: 120

Northwest Metrology Laboratories certifies the above instrument meets or exceeds all published specifications and has been calibrated using standards and instruments whose accuracies are traceable to the National Institute of Standards and Technology (NIST). The policies and procedures at this facility comply with ANSI/NCSL Z-540-1, ISO 9001-2008, ISO-10012-1 and ISO 17025:2005. This certificate shall not be reproduced except in full without the written approval of Northwest Metrology. Meets Requirements for FAR Part 43 Appendix E. Uncertainties have been estimated at a 95 percent confidence level ($k=2$).

STANDARDS USED

<u>Manufacturer</u>	<u>Model</u>	<u>Serial #</u>	<u>Cal Date</u>	<u>Cal Due</u>
Mansfield and Green	10-10525A	766-11	Jun/01/2012	Jun/01/2014
Shimadzu	UX6200H	D446800202	Aug/30/2013	Aug/30/2014
Rice Lakes Weighing	.001L-101b	110712	Oct/16/2012	Oct/16/2017

1 - ISO 9001-2008 Certified

2 - ANSI/NCSL Z-540.3 - 2006

3 - ISO-10012-1

4 - IEST-STD-CC1246D

5 - MIL-C45662A

6 - API-6D

7 - API-Q1

Certified By: Sharon Jalving

Signature:

Sharon Jalving



INSTRUMENT CALIBRATION CERTIFICATE

CUSTOMER NAME

Milbar Hydro-test Inc.

DATE

01/08/14

LOCATION

A-C Bakersfield

EQUIPMENT NAME

PR - 95

TEST TIME

7:30 AM

SERIAL NUMBER

202A-175572

INSTRUMENT TYPE

Pressure Chart Recorder

RANGE

0-3000 psi

MODEL NUMBER

202A

TEST EQUIPMENT USED

MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION STATUS
Crystal	XP2i	S1241	Current

CALIBRATION AS FOUND

INPUT LOW	INPUT HIGH
0 psi input	3000 psi input
25 psi displayed	2975 psi displayed

PASSED

Yes

CALIBRATION AS LEFT

INPUT LOW	INPUT HIGH
0 psi input	3000 input
0 psi displayed	3000 displayed

FAILED**COMMENTS**

Calibrated to within +/- 1%

TECHNICIAN

Tim Teasley

REVIEW BY

TJB



INSTRUMENT CALIBRATION CERTIFICATE

CUSTOMER NAME

Milbar Hydro-test Inc.

DATE

01/08/14

LOCATION

A-C Bakersfield

EQUIPMENT NAME

TR - 36

TEST TIME

8:00 AM

SERIAL NUMBER

68A-8679

INSTRUMENT TYPE

Temperature Chart Recorder

RANGE

0-150F

MODEL NUMBER

202E

TEST EQUIPMENT USED

MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION STATUS
Fluke	28II	B2111	Current

CALIBRATION AS FOUND

INPUT LOW	INPUT HIGH
32F input	150F input
28F displayed	146F displayed

PASSED

Yes

CALIBRATION AS LEFT

INPUT LOW	INPUT HIGH
32F input	150F input
32F displayed	150F displayed

FAILED**COMMENTS**

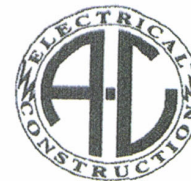
CALIBRATED TO +/- 1%

TECHNICIAN

Tim Teasley

REVIEW BY

TJB



INSTRUMENT CALIBRATION CERTIFICATE

CUSTOMER NAME

Milbar Hydro-test Inc.

DATE

01/08/14

LOCATION

A-C Bakersfield

EQUIPMENT NAME

TR 43

TEST TIME

1:30 PM

SERIAL NUMBER

242E-45545

INSTRUMENT TYPE

Temperature Chart Recorder

RANGE

0-150F

MODEL NUMBER

242E

TEST EQUIPMENT USED

MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION STATUS
Fluke	28II	B2111	Current

CALIBRATION AS FOUND

INPUT LOW	INPUT HIGH
32F input	150F input
Non-Operational	Non-Operational

PASSED

Yes

CALIBRATION AS LEFT

INPUT LOW	INPUT HIGH
32F input	150F input
32F displayed	150F displayed

FAILED**COMMENTS**

Replaced bare temperature element with armored element more suitable for the application. CALIBRATED TO +/- 1%

TECHNICIAN

Tim Teasley

REVIEW BY

TJB