



CUSTOMER LEASE INSPECTION CHECKLIST

NEW WELL STARTUP
 EXISTING LEASE
 FACILITY

Company: _____
UWI or LSD of Site: _____ **Field Inspection Date:** _____
Inspected by: _____ **Follow up Inspection Date:** _____
Phone number: _____ **Pipeline System:** _____
Specific T/I Point: _____

A. CONTACT INFORMATION

	Contact	Phone Number	E-mail Address
Producer BD / JV:			
Producer Foreman:			
Producer Operator:			
Producer PA:			
SemCAMS BD:			
SemCAMS MIS:			

B. AGREEMENTS

	Yes	No	Comments
Transportation Agreement in place	<input type="checkbox"/>	<input type="checkbox"/>	
Processing Agreement in place	<input type="checkbox"/>	<input type="checkbox"/>	
NW Information Summary Received	<input type="checkbox"/>	<input type="checkbox"/>	

C. DOCUMENTATION

	Yes	No	Comments
PHA/Drawing Review Completed	<input type="checkbox"/>	<input type="checkbox"/>	
PHA Recommendations Completed	<input type="checkbox"/>	<input type="checkbox"/>	
MOC Pre-startup Compliance Review Completed	<input type="checkbox"/>	<input type="checkbox"/>	
P&ID received and current	<input type="checkbox"/>	<input type="checkbox"/>	
Startup notification process discussed	<input type="checkbox"/>	<input type="checkbox"/>	
ERP Manual updated, if required	<input type="checkbox"/>	<input type="checkbox"/>	
Producer nomination in place	<input type="checkbox"/>	<input type="checkbox"/>	
Process for receiving daily production numbers finalized	<input type="checkbox"/>	<input type="checkbox"/>	
Copy of Well analysis received	<input type="checkbox"/>	<input type="checkbox"/>	(Gas and Condensate)
Copy of Liquid Meter Proving Report	<input type="checkbox"/>	<input type="checkbox"/>	
Copy of Calibration Report received	<input type="checkbox"/>	<input type="checkbox"/>	(Performance Evaluation Included)

D. INSTRUMENTATION/ELECTRICAL:

	Yes	No	Comments
Calibration completed (gas meter)	<input type="checkbox"/>	<input type="checkbox"/>	Transmitter: <input type="checkbox"/> Chart Recorder: <input type="checkbox"/>
Proving complete (liquid meter)	<input type="checkbox"/>	<input type="checkbox"/>	Condensate: <input type="checkbox"/> Water: <input type="checkbox"/>
Dew point analyzer calibrated	<input type="checkbox"/>	<input type="checkbox"/>	S/D Setting:
BS&W calibrated	<input type="checkbox"/>	<input type="checkbox"/>	S/D Setting:
SCADA functional	<input type="checkbox"/>	<input type="checkbox"/>	
Facility ESD functional/calibrated	<input type="checkbox"/>	<input type="checkbox"/>	SP High: SP Low:
T/I ESD functional/calibrated	<input type="checkbox"/>	<input type="checkbox"/>	SP High: SP Low:
H2S/LEL functional	<input type="checkbox"/>	<input type="checkbox"/>	

E. PIPELINE MANAGEMENT:

	Yes	No	Comments
CP Review Completed with Operator.	<input type="checkbox"/>	<input type="checkbox"/>	
CP insulation kit installed	<input type="checkbox"/>	<input type="checkbox"/>	
Jumper cable in place	<input type="checkbox"/>	<input type="checkbox"/>	
Pipe supports insulated	<input type="checkbox"/>	<input type="checkbox"/>	
Chemical Injection operational	<input type="checkbox"/>	<input type="checkbox"/>	Methanol: <input type="checkbox"/> Inhibited Methanol: <input type="checkbox"/> Corrosion Inhibitor: <input type="checkbox"/>
Chemical Inventory type	<input type="checkbox"/>	<input type="checkbox"/>	
Chemical Rates determined	<input type="checkbox"/>	<input type="checkbox"/>	
Corrosion Coupon in place	<input type="checkbox"/>	<input type="checkbox"/>	

F. VALVES AND EQUIPMENT: (Direct Only)

	Yes	No	Comments
ESD, Check and Block valves at Tie-in conforms to SemCAMS Specifications.	<input type="checkbox"/>	<input type="checkbox"/>	
Spec Blind in place	<input type="checkbox"/>	<input type="checkbox"/>	Immediately upstream of Block Valve
Future T/I point in place	<input type="checkbox"/>	<input type="checkbox"/>	
Vent/Drain points in place	<input type="checkbox"/>	<input type="checkbox"/>	
PI/TI in place	<input type="checkbox"/>	<input type="checkbox"/>	Transmitter <input type="checkbox"/> Gauge <input type="checkbox"/>
PSV set to design pressure	<input type="checkbox"/>	<input type="checkbox"/>	Fuel Gas Sep. Dehy
Pigging Facilities in place	<input type="checkbox"/>	<input type="checkbox"/>	
If yes, vapor handling			Vented <input type="checkbox"/> Scrubber <input type="checkbox"/> Flared <input type="checkbox"/>

G. OPERATIONS: (Direct Only)

	Yes	No	Comments
Hydro test completed	<input type="checkbox"/>	<input type="checkbox"/>	
Pipeline startup procedure in place	<input type="checkbox"/>	<input type="checkbox"/>	
Leak checked	<input type="checkbox"/>	<input type="checkbox"/>	Tested Pressure: Medium used:
O2 purge completed	<input type="checkbox"/>	<input type="checkbox"/>	N2 <input type="checkbox"/> Well Gas <input type="checkbox"/> Fuel Gas <input type="checkbox"/>
Pipeline batched	<input type="checkbox"/>	<input type="checkbox"/>	Chemicals used:
Batch chemical recovered	<input type="checkbox"/>	<input type="checkbox"/>	

Form TIP 104 - Customer Lease Inspection Checklist

H. MEASUREMENT - GAS

- 1. Is the meter run the appropriate AGA configuration for the installed condition? Yes No
- 2. Is the orifice run installed in the vertical position? Yes No
- 3. Is the orifice fitting a "senior" style fitting? Yes No
- 4. Does the meter run meet AGA specifications? (answer below first)
 - Are the upstream (U/S) straight lengths sufficient? Yes No
 - Are the downstream (D/S) straight lengths sufficient? Yes No
 - Is the thermowell located immediately D/S of the orifice? (4.5 to 18 Id's) Yes No
 - Does the meter run have an ID tag attached? Yes No
- 5. Is the recorder / transmitters properly installed? (answer below first)
 - Are the sensing line lengths appropriate? (<1 m for transmitter, <3 m for recorder and approximately same length for high and low sides) Yes No
 - Are sensing lines constructed of 1/2 inch tubing? Yes No
 - Do sensing lines have appropriate slope to allow for self draining? Yes No
 - Are the sensing lines free from disturbances such as tees or liquid knock outs? Yes No
 - Does the installation include a 5 valve manifold? Yes No
 - Are the sensing line block valves full port valves? Yes No
 - If the installation combines two measurement systems (a recorder and EFM) are the devices connected to opposite sides of the orifice fitting? Yes No NA
- 6. Are the secondary elements operated so as normal indication is above 10% of devices calibrated span? (Charts 30%) Yes No
- 7. Does the installed orifice plate fall within the beta ratio limits of 0.15 to 0.7 for AGA3-1985 installations and 0.10 to 0.75 for AGA3-1990 installations? (Ideally .2 to .6) Yes No
- 8. Is the sample point properly located and labeled? Yes No NA
- 9. Does the site have a sample probe? Yes No NA
- 10. If site is a group allocation point does the sample point include a proportional sampler? Yes No NA
- 11. Have the devices used for gas volume determination been calibrated / verified in the last year (calibrated once yearly)? Yes No
- 12. EFM Performance evaluation and fixed data confirmed. Yes No

I. MEASUREMENT - FUEL GAS

- 13. Is all fuel gas for the site supplied from an external source? Yes No
- 14. Is fuel gas take off U/S or D/S of the meter run? U/S D/S NA
- 15. Is fuel gas meter installed? Yes No NA
- 16. If 15 = "Yes" and the fuel gas meter is a PD meter, is the meter automatically pressure and temperature compensated? Yes No NA
- 17. If 15 = "Yes" and the fuel gas meter is a PD meter, is the meter manually pressure and temperature compensated? Yes No NA
- 18. If 15 = "Yes" and the fuel gas meter is an orifice meter, does the meter meet all the criteria detailed in 4? Yes No NA
- 19. If 15 = "No" is an accurate fuel estimate provided? Yes No NA

J. MEASUREMENT – GAS LIFT

20. Is Gas Lift supplied to this well? Yes No
21. Is Gas Lift supplied by a SemCAMS System? Yes No

Complete the following if 21 = ‘YES’

22. Is the meter run the appropriate AGA configuration for the installed condition? Yes No
23. Is the orifice run installed in the vertical position? Yes No
24. Is the orifice fitting a “senior” style fitting? Yes No
25. Does the meter run meet AGA specifications? (answer below first) Yes No
- Are the upstream (U/S) straight lengths sufficient? Yes No
 - Are the downstream (D/S) straight lengths sufficient? Yes No
 - Is the thermowell located immediately D/S of the orifice? (4.5 to 18 ID’s) Yes No
 - Does the meter run have an ID tag attached? Yes No
26. Is the recorder / transmitters properly installed? (answer below first) Yes No
- Are the sensing line lengths appropriate? (<1 m for transmitter, <3 m for recorder and approximately same length for high and low sides) Yes No
 - Are sensing lines constructed of ½ inch tubing? Yes No
 - Do sensing lines have appropriate slope to allow for self draining? Yes No
 - Are the sensing lines free from disturbances such as tees or liquid knock outs? Yes No
 - Does the installation include a 5 valve manifold? Yes No
 - Are the sensing line block valves full port valves? Yes No
 - If the installation combines two measurement systems (a recorder and EFM) are the devices connected to opposite sides of the orifice fitting? Yes No NA
27. Are the secondary elements operated so as normal indication is above 10% of devices calibrated span? (Charts 30%) Yes No
28. Does the installed orifice plate fall within the beta ratio limits of 0.15 to 0.7 for AGA3-1985 installations and 0.10 to 0.75 for AGA3-1990 installations? (Ideally .2 to .6) Yes No
29. Is the sample point properly located and labeled? Yes No
30. Have the devices used for gas volume determination been calibrated / verified in the last year (calibrated once yearly)? Yes No

K. MEASUREMENT - FLARED / VENTED GAS

31. Is there a flare / vent take off point downstream of site gas measurement? Yes No
32. If 31 = “Yes” than is the flared / vented volume metered? Yes No NA
33. If 31 = “No” is there an appropriate engineering estimating tool in place to estimate flared / vented volumes? Yes No NA

L. MEASUREMENT - CONDENSATE

34. Are the hydrocarbon liquids recombined with the gas stream? Yes No
- Complete the following if 34 = "YES"**
35. Does the liquid meter meet the API specification (answer below first)? Yes No NA
- If the meter is a turbine or vortex meter, is there minimum 10 straight lengths of pipe U/S of the meter? Yes No NA
 - If the meter is a turbine or vortex meter, is there minimum 5 straight lengths of pipe D/S of the meter? Yes No NA
 - Is there a strainer installed? Yes No NA
36. Is separator liquid level control snap acting? Yes No NA
37. Is meter installed below the minimum liquid level in the separator? Yes No NA
38. Are the meter proving taps D/S of the level control valve? Yes No NA
39. Are the meter proving taps the same size as the meter as a minimum? Yes No NA
40. Is the sample point properly located between the separator and the meter and labeled? Yes No NA
41. Does the sample point include a sample probe? Yes No NA
42. If the site is a group allocation point does the sample point include a proportional sampler? Yes No NA
43. Do the recombined liquids remain in the line all the way to a SemCAMS gas plant (liquids not removed at a downstream compressor station or other facility)? Yes No NA
44. Is the meter proven at least once every twelve months? Yes No NA

M. MEASUREMENT - WATER

45. Is the water production recombined with the gas stream? Yes No
- Complete the following if 45 = "YES"**
46. Does the water meter meet the API specification (answer below first)? Yes No NA
- If the meter is a turbine or vortex meter, is there minimum 10 straight lengths of pipe U/S of the meter? Yes No NA
 - If the meter is a turbine or vortex meter, is there minimum 5 straight lengths of pipe D/S of the meter? Yes No NA
 - Is there a strainer installed? Yes No NA
47. Is separator water level control snap acting? Yes No NA
48. Is meter installed below the minimum water level in the Separator? Yes No NA
49. Are the meter proving taps D/S of the level control valve? Yes No NA
50. Are the meter proving taps the same size as the meter as a minimum? Yes No NA
51. Does the recombined water remain in the line all the way to a SemCAMS gas plant (water not removed at a downstream compressor station or other facility)? Yes No NA
52. Is the meter proven at least once every twelve months? Yes No NA

N. MEASUREMENT – PHYSICAL METER DATA

<u>Orifice Meter – ID Plate Data</u>		<i>Bore Size</i>	<i>Meter Run Make</i>
U/S ID		D/S ID	AGA Config.
<u>Orifice Meter – Other Data</u>			
Orifice Size		Chart Cycle	
U/S meter run length	Plate to Flow conditioner	D/S Meter run length	

<u>Device Calibrated Ranges</u>			
Static Pressure and transmitter model	_____	<input type="checkbox"/> Gauge	<input type="checkbox"/> Absolute
		<input type="checkbox"/> U/S	<input type="checkbox"/> D/S
Differential Pressure and transmitter model	_____	Temperature and transmitter model	_____
EFM Calculation Device	_____	EFM volume	_____
		Flow Check Volume	_____
		Volume within + - 0.25%	<input type="checkbox"/> Yes <input type="checkbox"/> No

<u>Fuel Gas Meter</u>		<i>Bore Size</i>	<i>Meter Run Make</i>
<i>If PD Meter</i>	Meter Factor _____	Calibration Date: _____	
<i>If Orifice Meter</i>			
U/S ID _____	D/S ID _____	AGA Config _____	
Orifice Size _____	Chart Cycle _____		

U/S meter run length	Plate to Flow conditioner	D/S Meter run length	
Static Pressure and transmitter model	_____	<input type="checkbox"/> Gauge	<input type="checkbox"/> Absolute
		<input type="checkbox"/> U/S	<input type="checkbox"/> D/S
Differential Pressure and transmitter model	_____	Temperature and transmitter model	_____
EFM Calculation Device	_____	_____	

<u>Liquid Meter</u>	
Meter Factor _____	K-Factor _____
<u>Water Meter</u>	
Water Meter _____	K-Factor _____

NOTE: SPECIFIC OPERATIONAL CONDITIONS REQUIRED ARE NOTED IN THE NWT MANUAL APPENDIX.

O. METERING SCHEMATIC

53. Is facility a standard configuration?

Yes No

54. If number 53 is "Yes" what configuration

M F R MT

55. If not a standard configuration then MIS to draw applicable meter schematic.

56. Does the metering schematic exist and is it correct?

Yes No

Metering Schematic (or attach):

